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BRITISH MEDICAL JOURNAL:

BEING THE

JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EDITED FOR THE ASSOCIATION BY

ERNEST HART.

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VOLUME II FOR 1888.

July to December.

London:

PRINTED AND PUBLISHED BY THE BRITISH MEDICAL ASSOCIATION, AT THEIR OFFICE, 429, STRAND.

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LONDON: SATURDAY, JULY 7, 1888.

AN INVESTIGATION OF AN OUTBREAK OF COW-POX IN WILTSHIRE,

WITH A COMPARATIVE ACCOUNT OF SOME PREVIOUS OUTBREAKS IN ENGLAND, GERMANY, AND FRANCE.

By PROFESSOR EDGAR CROOKSHANK, M.B.,
Of King's College, London.

In the course of an investigation undertaken on behalf of the Agricultural Department of the Privy Council into the micro-pathology of a disease in cows in Wiltshire, and its relation, if any, to scarlet fever in man, I was led, on observing several cases of transmission of this cow-disease to the hands of the milkers, to pursue another line of inquiry—the nature and origin of the disease in question.

In the abstracts of my reports which have been published, I have given a few details of the clinical characters of the disease in the cow and in man. I will now fulfil my intention of giving a complete account of the disease as I observed it by repeated visits to the farms. I will also describe in detail the cases of the milkers and the evidence which has confirmed the statements of experienced persons that the disease was cow-pox, a disease which has existed in Wiltshire from time immemorial. I will give, for purposes of comparison, a short account of some previous outbreaks, described in the writings of Jenner, Ceely, Hering, and others. Having recently conferred with some of the leading veterinary surgeons and authorities on vaccination in France, I have succeeded in obtaining the history of some of the more recent outbreaks of cow-pox in that country, including the Bordeaux cow-pox, which was the source of the lymph supplied to the Medical Department of the Local Government Board, and so largely used in this country. The history of these recent outbreaks throws great light on the characters of the natural disease in the cow, and will serve for future guidance in the detection of the disease and in the mode of raising, if necessary, fresh stocks of lymph.

Locality of the Wiltshire Outbreak.—There is considerable interest attached to the fact that the farms I inspected are situated a few miles from Cricklade. They are close to the borders of Gloucestershire, and about twenty-five miles from Berkeley. They are, therefore, within that district which was easily within Jenner's reach, a district which he described in his day as one in which the cow-pox was particularly prevalent.

Another matter of considerable interest is the statement that the very first case of casual cow-pox which was put to the variolous test came from this neighbourhood, and quite possibly from one of the very farms on which the recent outbreak has occurred, these particular dairy farms having been in existence for several generations.

Dr. Lettsom, in his *Observations on the Cow-pock*, published in 1801, writes as follows: "The Cow-pock.—This eruptive disease of the nipples of the cow which I attempt to elucidate has long existed in various parts of the counties of Gloucester, *Wilts*, Somerset, Buckingham, Devon, Hants, Suffolk, Norfolk, Leicester, Stafford, and the vicinity of London." And then, after eulogising "the name and discovery of Dr. Edward Jenner," he qualifies his praises by the following footnote: "Although the cow-pock has long since been found by incidental experience a security against the small-pox, it had never been applied to any beneficial purpose till the genius of Jenner discriminated its powers and introduced it into practice as a permanent security against the variolous infection. This preventive quality of the vaccine fluid was certainly known, even to scientific professional men many years ago; but, strange as it may now appear, no one, till Jenner promulgated his discovery, had ever improved that knowledge by applying it to the process of inoculation. About twenty years ago, when Dr. Archer was the physician of the hospital for inoculation, Catherine Wilkins, now Titchenor, *from Cricklade in Wiltshire*, who had had the cow-pock in consequence of milking cows, came to her brother in London (where she is now resident), who, being desirous of ascertaining whether this circumstance could be depended upon as preventive of the small-pox, sent her to the hospital for inoculation, when she received the variolous matter from Dr. Archer, against which, however, she was proof, and the small-pox, of course, could not be communicated; but no advantage was derived from the fact."

Time of Year.—The outbreak last year commenced about the end of September, and lasted until about the middle of December. In an outbreak in 1885, a few miles from these farms, but on a separate estate, the disease appeared in June and July.

Climatic and other Conditions.—It has often been previously observed that outbreaks of small-pox and cow-pox have been coincident; it is, therefore, interesting to bear in mind that the outbreak in Wiltshire was, to a certain extent, coincident with a wave of small-pox which passed over this country, and that these outbreaks succeeded an exceptionally dry summer.

Origin of the Outbreak.—I made close inquiries as to the origin of the outbreak, but beyond ascertaining with certainty that the disease appeared first at one farm, and was conveyed from this to the other farms, all evidence was negative. The milkers were unable to say whether it commenced in one particular cow or whether it broke out in several simultaneously.

There were no horses on this farm, nor could I obtain the history of any horses suffering from horse-pox on the neighbouring farms. The only information which could be obtained, which was very suggestive, was that the milkers were in the habit of receiving their friends from neighbouring farms on Sundays. The friends would assist in the milking, to get the work done as quickly as possible on these occasions. As it was reported that the same disease had occurred that summer on a neighbouring farm, it is quite possible that it was introduced by one of the milkers' friends.

Mode of Dissemination.—When the disease made its appearance at farm W, the bailiff, attributing it to the farm being for some reason unhealthy, decided to remove the cows to other farms. The herd was therefore divided into two, and some of the animals were sent to farm X, and the rest to farm Y. From these cows the disease was communicated to the healthy cows, and, as this interchange was repeated, not only of the cows, but of the milkers, the disease was communicated to all the separate farms W, X, Y, and Z.

In all cases the disease was limited to the teats, and was conveyed from the teats of a diseased cow to the teats of a healthy cow by the hand of the milker. In no case was there any evidence of the disease being produced in healthy cows by other means than contact.

Bulls and dry cows remained free from the disease, while the cows in milk, numbering about 120, were all attacked, with the exception of about a dozen, which proved to be entirely refractory.

These facts explain how it is that the disease has been known from time immemorial as the "*cow*-pox." We never read of *cattle*-pox or *bull*-pox. We have not, in other words, to deal with an infectious disease like cattle-plague or pleuro-pneumonia, but with a disease which is communicated solely by contact.

The disease was only observed in the cows in milk, and was limited to the parts which come in contact with the hand of the milker.

But it must not be imagined that we have necessarily to deal with retro-vaccination from the vesicles on a milker's hands. The virus was mechanically transferred from diseased to healthy cows, being communicated to all, or nearly all, the animals in the same shed, whether the milker had vesicles on his hands or not.

Character of the Eruption on the Cow.—After several visits to the farms I was able to obtain a history of the eruption on the cow's teats, and to study more particularly its later stages. It was only on the occasion of my first visit that I had an opportunity of seeing a cow with the early stages of the eruption. The hope of seeing fresh cases on future visits was not fulfilled. In spite of the closest examination, I could find nothing more than the remains of broken and dried vesicles, and the more or less characteristic crusts on the teats.

The animal I refer to was especially pointed out on the occasion of my first visit as the most recent case which had been observed. I had, however, little opportunity of examining her. The cow being, as the cowman described it, "very wild," was approached with extreme caution, and there was no chance of handling the teats. The teats were visibly inflamed, partly red and partly livid in colour. On each teat there were vesicles, some broken, and others appeared to be just forming. At other spots the crusts were already advanced.

After noting these points the idea of further examination was abandoned, and it was resolved to return again to continue the observations, and to make drawings under more favourable circumstances.

On subsequent visits I could only find the later stages of the eruption to study, and I had to rely for the early history on the description given me by the milkers. (Plate I.)

On visiting a byre at the time that the cows were brought in to be milked, it was a striking sight to look along the line and see one animal after another affected with the eruption, and thus one character of the disease was fixed in one's mind—the tendency to spread through a whole herd.

On examining the eruption carefully, the degree of severity was found to differ very much in different animals. In a few cases the condition was most distressing, both to the cow and to the observer. In such cases the teats were encrusted with huge dark-brown or black crusts, which, when handled in milking, were broken and detached, exposing a bleeding, suppurating, ulcerated base. Such ulcers varied in size from a shilling to a florin, and in form were circular, ovoid, or irregular. Weeks afterwards, when the animals had recovered, the site of these ulcers would be marked by irregular scars.

All the milkers agreed as to the general characters of the malady, laying particular stress on the teats being red, swollen, and painful when handled. Vesicles would then appear on the teats, two, three, four, or more on each teat. They were soon broken in milking, and irritated into sores, which became covered with thick crusts. From four to six weeks elapsed before they had entirely healed. Other more observant milkers insisted that before the teats were red and swollen, spots or pimples first appeared which "came to a head like a blind boil." This head increased if it was not broken, which might be the case if it was situated between the bases of the teats, until it formed a "dismal-white blister" of the size of a fourpenny piece, or even larger.

General Symptoms in the Cow.—As to the general condition of the cows nothing abnormal was observed. They appeared in the best of health, and in only one particular was any difference from their condition in health stated to exist. This was, that in the majority of the cases there could be no doubt that the milk was diminished. This might escape notice by inexperienced milkers in any particular animal, but the total amount of milk supplied by the herd was considerably below the average. By a rough estimation the bailiff calculated that the diminished supply of milk, taking all the herds together, had entailed a loss of about £50.

History of the Eruption Communicated to the Milkers.—The most striking characteristic of this outbreak was the communicability of the disease to the milkers. At first I only had the opportunity of studying the characters of the eruption in its later stages, but on a subsequent visit I was fortunate enough to meet with a recent case, and was thus able to follow the successive stages. This milker, with vesicles which presented all the characters which have been described of the casual cow-pox, was taken to London and kept under observation. I will describe this case more fully than the others, but I will first of all enumerate the various cases in the order in which they first presented themselves to me, giving their history as much as possible in their own words.

CASE I.—J. R., milker, informed me that he was the first to catch the eruption from the cows. He states that it came as a hard, painful spot, which formed "matter" and then a "big scab." He had been inoculated about seven weeks ago. He pointed to the scar which remained on his right hand. This scar presented the characters of an irregular cicatrix, indicating considerable loss of substance. He states that he had also two places on his back, where he supposes he had inoculated himself by scratching. He had continued milking ever since, but had had no "fresh places."

CASE II.—W. H., milker. He states that he was inoculated from the cows about the same time as J. R. They were the two milkers of the herd in which the cow-pox first made its appearance. The eruption appeared in one place on each hand. He pointed to two irregular scars as the remains of the eruption.

CASE III.—J. L., milker, states that he also caught the disease from the cows. On his right hand a spot appeared which formed a blister, then discharged matter and produced a bad sore. Lumps formed at the bend of his elbow and in his armpit. He lost his appetite, felt very poorly, and was obliged to leave off work for two or three days and stay at home.

He states that about a fortnight or three weeks afterwards, while milking a very bad case, a sore on his left hand, resulting from a wound with a rusty nail, became inflamed, and another place broke out at the tip of one of his fingers, but he was not poorly, nor did the lumps appear in his left armpit.

CASE IV.—W. K. works on the farms, but was put on as a milker to take the place of one of the others with bad hands. After his fifth or sixth milking, that is to say about three days after first milking the cows, pimples appeared on his hands, which became blistered and then ran on to bad sores. He pointed to three irregular scars on the first and third fingers and palm of the right hand. Lumps appeared in his elbow and in his armpit, but he did not feel very poorly in consequence.

CASE V.—J. F., milker, states that about a month ago he noticed spots which appeared on both hands. His fingers swelled and were painful. He says it came first like a pimple and felt hard. Then it "weeped out" water in four or five days. There were red marks creeping up to his arm. There was a sort of throbbing pain, and he could not sleep at night.

When I saw him, I found on the right hand a scar, but on the left hand there was an ulcer about the size of a shilling covered with a thick black crust. The crust was partially detached and exposed a granulating ulcer. It was in this stage the exact counterpart of the ulcers on the cow's teats.

CASE VI.—W. H., jun., milker, states that he had both hands bad about a month ago. First the index finger of the left hand, and then the right hand on his knuckle and between the first and second fingers.

He says that it came up like a hard pimple, and the finger became swollen and red. After a few days it "weeped out" water and then matter came away. Both his arms were swollen, but his left arm was the worst.

About a fortnight after, he noticed kernels in his armpits, which were painful and kept him awake at night. His arms became worse, he could not raise them, and he had to give up milking. He also had had a "bad place" on the lower lip.

On examination, I found that the axillary glands were still enlarged and tender. He volunteered the statement that the places were just like the sore teats. (Plate II, Fig. 1.)

CASE VII.—J. H., the bailiff's son, also milked the cows. He had a sore on the upper lid of his right eye and on his left hand. In both cases he had been previously scratched by a cat, and the scratches were inoculated from the cow's teats. The right hand also had been inoculated. The eruption broke out a fortnight ago. His hands were swollen, red, and hot. He felt very poorly and went to bed. Little spots like white blisters appeared on the back of his right hand. His mother remarked that they "rose up exactly as in vaccination." Thick dark brown scabs formed. He was very ill for two or three days, but did not send for a doctor. He had painful lumps at the bend of his arm and in the armpit. He gave up milking and had not taken to it since.

On examining him the thick crusts on his right hand were identical with the stage of scabbing in vaccinia. The scabs fell off in about three weeks to a month and left permanent depressed scars.

CASE VIII.—W. P., milker. This case was pointed out to me on

the occasion of my visit on December 2nd, and is the only one in which I was fortunate enough to see the eruption in its earlier stages. The case was of such extreme interest that I took the lad to London on the following day. Dr. Curnow very kindly made arrangements for admitting him as a patient to Greenwich Hospital, so that we might have the advantage of keeping him under observation.

The history of this boy is as follows. He had taken the place of one of the other milkers who had vesicles on his fingers and had been obliged to give up milking. After the seventh time of milking he noticed a small pimple on his right cheek. This occurred on Sunday, November 27th. The pimple became larger and, as he expressed it, "rose up like a blister."

On December 2nd, the date of my visit, I was at once struck by the character of the eruption. It presented a depressed vesicle with a small central yellowish crust and a tumid margin, the whole being surrounded by a well marked areola and considerable surrounding induration.

After making a coloured drawing of the eruption (Plate II, Fig. 2), I punctured the tumid margin and collected clear lymph in a number of capillary tubes.

After this I raised the central incrustation and pointed out to the inspectors who were present the crater-like excavation, from which lymph welled up and trickled down the boy's cheek.

On the following day the crust had re-formed and was studded with coagulated lymph. The areola became more marked, and on pricking the margin of the vesicle the contents were slightly turbid.

From this day the surrounding infiltration increased enormously, the whole cheek was inflamed, and the eyelids so œdematous that the eye was almost closed. There was enlargement of the neighbouring lymphatic glands. The crust which had re-formed thickened day by day, and on December 9th, when I took the boy to Sir James Paget, there was a thick reddish-brown crust, still bearing the character of central depression, situated on a reddened, raised, and indurated base (Plate II, Fig. 3).

From this date the surrounding induration gradually diminished. The crust changed in colour from dark-brown to black, and finally fell off on December 15th, leaving an irregular depressed scar. This scar, when seen several months afterwards was found to be a permanent disfigurement.

Thus the eruption appeared on the fourth day after exposure to infection, and allowing two days for incubation, the vesicle was at its height on the seventh or eighth day, and a typical tamarind-stone crust fell off on the twenty-first day after infection, leaving a depressed, irregular cicatrix.

A vesicle also formed on the thumb of the left hand. Two days after the pimple appeared on his cheek, the lad says that he noticed a pimple on his thumb, and this, on my visit on December 2nd, presented a greyish flattened vesicle, about the size of a sixpence. On the following day its vesicular character was much more marked, and a little central crust had commenced to form. (Plate II, Fig. 4). On the Sunday, especially towards the evening, the margins became very tumid, giving it a marked appearance of central depression. On Monday, December 5th, in the presence of Dr. Curnow and the sister of the ward, I punctured the vesicle at its margin with a clean needle, and from the beads of lymph which exuded I filled a number of capillary tubes. This lymph was used the following morning for retro-vaccinating four calves.

On Wednesday, December 7th, suppuration had commenced; the vesicle contained a turbid fluid, and the areola was well marked. (Plate II, Fig. 5.) On December 9th the crust had assumed a peculiar slate-coloured hue, and, on pressing it, pus welled up through a central fissure. (Plate II, Fig. 6). The areola had increased, and there was considerable inflammatory thickening. The lymphatic glands in the armpit were enlarged and painful. Though there was deep ulceration, which left a permanent scar, the ulceration did not assume quite so severe a character as in some of the other milkers. Possibly this may be accounted for to some extent by the fact that the pock was covered with a simple dressing instead of being subjected to the irritation and injury incidental to working on the farm.

Revaccination of the Milkers.—The bailiff's son (Case VII) was shown at the Pathological Society on January 17th, nine weeks after he had become inoculated from the cows. On the afternoon of the same day (Tuesday), he was vaccinated by Dr. W. J. Collins, in the presence of Mr. Wilson, veterinary surgeon, with lymph taken direct from a child's arm. This child had beautifully correct vesicles, first remove from the calf.

On the second and third days there was topical redness at the places inoculated, but this rapidly subsided.

On the following Monday the boy was shown to Dr. Curnow and Professor Brown, and on the same day he returned to the farm, where he was able to report and demonstrate the failure of the vaccination. The news rapidly spread over the farm, and, as a result, his companion milkers volunteered, and others consented, to be submitted to the same test. The question then arose as to how this could be accomplished. I had intended to take lymph in tubes and vaccinate the men myself, but this idea was dismissed because I felt that as they would be cases of revaccination, it was advisable to obtain the services of a successful public vaccinator; and, secondly, it was necessary to avoid any fallacies which might arise from the use of stored lymph. Under these circumstances, I determined to apply to the local public vaccinator to vaccinate and report on the matter. Mr. Langley, of Cricklade, kindly consented, if I would select seven cases, to vaccinate them direct from children with typical vaccinal vesicles. I will not enter into any details as to the difficulties which had to be encountered in collecting these men from farms two or three miles apart, in arranging for their escort to Cricklade, some five miles distant; but I desire to express my thanks most cordially to Mr. A. and his bailiff for allowing me to make these arrangements, so interrupting to the work of the farms, and to Mr. Langley for undertaking the task of revaccination. The six men available were:—W. P., W. H., J. F., W. K., J. L., and J. R. Lastly, W. W., who had escaped inoculation from the cows accompanied us. The vaccination took place on February 1st, and the results were carefully watched, and are shown in the certificate which I received from Mr. Langley:—

Name.	Age.	Vaccine Cicatrices.	Result of Revaccination.
W. P.	23	1, left arm	None.
J. F.	18	3, right arm	None.
W. H.	17	3, left arm	None.
W. K.	22	3, left arm	None.
J. L.	24	2, left arm 2 (of revaccination at 15), right arm	None.
J. R.	55	3, right arm	None.
W. W.	58	None (states he was vaccinated in infancy)	One place, apparently true vaccine vesicle.

I hereby certify that I vaccinated the above men with the results here stated.

(Signed) NOAH BELDON LANGLEY, Public Vaccinator,
Cricklade District, Cricklade and Wootton Bassett Union.

W. W.'s case is of extreme interest. I had anticipated that, as he had escaped inoculation from the cows, he also would not take. He, however, was vaccinated with success, so that his escape while milking the cows could not be attributed to his having had the cow-pox when a milker twenty years previously. He was one of three who escaped, and one of the remaining two, C. P., attributed his escape to the fact of his having had cow-pox twenty-five years previously, while the third milker, who escaped, F., senior, had never contracted cow-pox at all.

It was not only interesting, under the circumstances, that the vaccination of W. should have taken so well, but it afforded evidence of the active property of the lymph, and he constituted a control experiment to the six milkers who had suffered from the casual cow-pox, and in whom revaccination was without result. To make the experiment of revaccination as complete as possible, I determined to vaccinate the two milkers who had not been able to accompany me to Cricklade. These were W. H., aged 42; C. P., aged 64.

They had both been vaccinated in infancy. W. H. had on his arm three small pigmented patches and C. P. three marks. I employed Dr. Warlomont's lymph from three tubes. There was considerable topical irritation, in W. H. in one place, which gradually disappeared; while in C. P. all three places developed into angry looking wounds with unhealthy discharge, an appearance which at first, considering the age of the patient, caused me considerable anxiety.

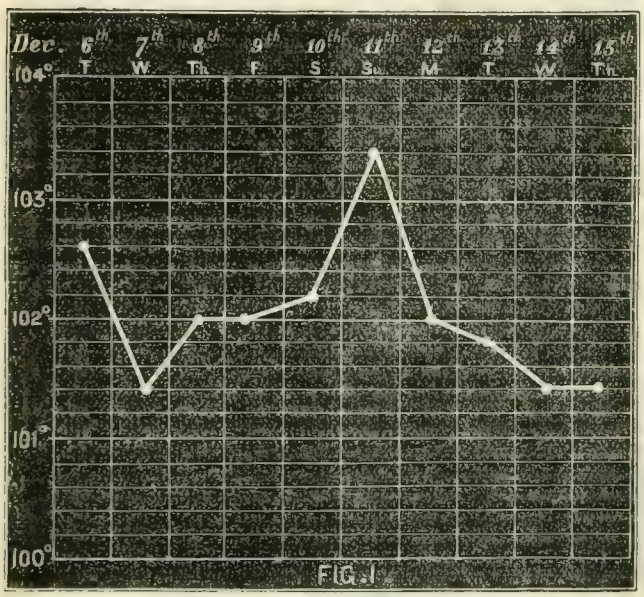
To sum up, there were in all eight milkers, varying in age from seventeen to fifty-five, who had vesicles on their hands from milking the cows. Seven had been vaccinated in infancy, but not since; one had been revaccinated on entering the navy at fifteen. They were all revaccinated after complete recovery from the casual cow-pox (that is to say, from three to

four months afterwards), and were all completely protected. On the other hand, two of the three milkers who had escaped infection from the casual cowpox were also vaccinated, with the result in W. W. of typical revaccination, in C. P. of very considerable local irritation.

Jenner was of opinion that cow-pox did not protect against cow-pox, but there can be no doubt, from these experiments, that cow-pox does protect against itself, for a time, though the duration of that time does not appear, even at the present day, to be satisfactorily determined.[1]

As I have already stated C. P. and W. W. both attributed their escape when the cows were attacked to their having caught the cow-pox, one twenty and the other twenty-five years ago, but as W. W. was re-vaccinated with success, and as F., senior (who had never had the cow-pox) also remained free from the disease, the escape of these men must be attributed to some other cause. Possibly the skin on the hands of these veteran milkers was not in such a favourable condition for receiving the virus.

Retro-vaccination of Calves.—I have mentioned that on Monday, December 5th, I collected lymph from a vesicle on the hand of W. P., and the following morning, without loss of time, I vaccinated four calves. This boy, it will be remembered, stated that he first noticed a pimple on his thumb on Tuesday, so that, allowing two days for incubation, the lymph was taken from his thumb about the eighth day. In all cases, the belly of the calves was shaved, and the skin sponged and cleansed with warm water, and wiped dry with a clean cloth. The vaccination was made by blowing the lymph on the point of a new scalpel. The skin was



Temperature chart of retro-vaccinated calf (No. 2, red calf).

put on the stretch by an assistant, and a number of scratches and cross-scratches were made, as in the ordinary process of vaccination of infants, as superficially as possible, to avoid hæmorrhage.

The following are the details of the results which were obtained:

First Series of Retro-vaccinated Calves.

Calf 1, a small red calf, was vaccinated in six places. Next day a little dried serum had collected at the points of inoculation. The scratches were slightly reddened. The serum rubbed off in the course of a day or two, and there was no result from the retro-vaccination.

Calf 2, a large red calf, was inoculated in six places. On the third day each place was promising. On the fourth day, Friday, December 9th, each place was tumid, reddened, and vesiculating.

[1] Un fait des plus intéressants que le service municipal de la vaccine à Bordeaux a mis le premier en lumière, c'est la nécessité des revaccinations dans les écoles primaires. Chez les écoliers vaccinés avec succès dans la petite enfance, les revaccinations peuvent déjà donner à partir de six ans 38 per cent. de succès; sur près de 8,000 écoliers de six a quatorze ans, la moyenne des succès obtenus a été de 41 per cent. Ces revaccinations d'écoliers comparées aux revaccinations chez des adultes nous ont amené aux remarques suivantes: La durée de l'immunité est variable suivant les individus; elle est variable aussi suivant les âges.—Layet.

The results were shown to Professors Brown and Axe and to Dr. Curnow. On the following day, these appearances were more marked; the areola had considerably increased. There was infiltration extending around the inoculated spot for a distance of half an inch, and the discharge from the vesicle was turbid. On Monday, the 12th, brown crusts had formed, and, on pressure, pus appeared at the edges from underneath the crusts. The temperature of this animal is shown in Chart 1.

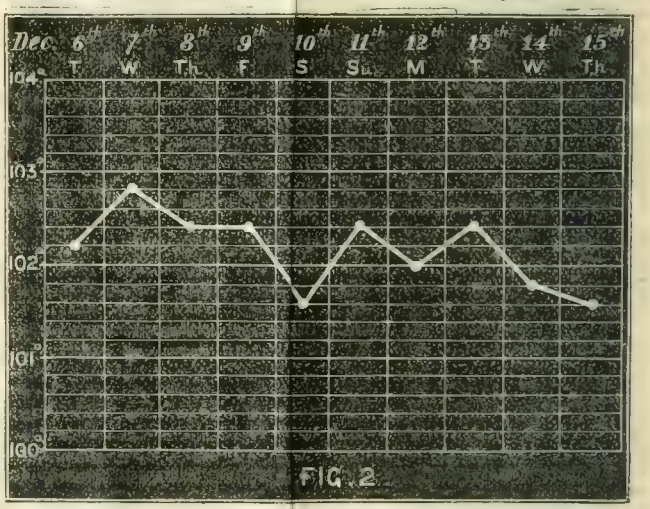
Calf 3 was a small red calf. This calf was vaccinated in six places. No result followed the vaccination except topical irritation.

Calf 4, a blue-roan calf, was suffering from a severe attack of ringworm, consisting of thick eczematous-looking crusts on the side of the face and neck, along the back, and especially at the root of the tail. Similar results to those in Calf 2 occurred in all of ten places which were retro-vaccinated. The temperature is shown in Chart 2.

Thus, in two out of four calves, there were positive results. In both animals the crusts gradually thickened, and, on December 16th, there were still thick dark-brown crusts and some remaining induration.

The large red calf (No. 2), on December 20th, was sent to the Animal Vaccine Station of the Local Government Board, as it had been proposed to ascertain the result of a revaccination with lymph derived from the Bordeaux cow-pox, as soon as the animals had recovered from the retro-vaccination.

On Thursday, December 28th, the places of inoculation were represented by depressed permanent scars. The calf was vaccinated by the Director in three places by linear incisions, two of which bled freely, and by myself in three places, by scarification



Temperature chart of retro-vaccinated calf (blue-roan calf, No. 4).

by the method originally employed. Lymph was taken direct from the arm of a child selected with typical vesicles. The child had been vaccinated with calf-lymph at the institution.

On the second and third day there was slight redness at the three incisions, but no trace of vesiculation. At the three places inoculated by myself there was a collection of dried serum, with similar topical irritation.

On Monday, January 2nd, the incisions had completely dried up, being marked by small, dry linear scabs, and in the scarified places the dry serum crumbled away to the touch. Thus, the revaccination of Calf 2 had totally failed.

On December 30th, the blue-roan calf also presented a number of permanent depressed cicatrices. This calf had been retained at the Royal Veterinary College, and, assisted by Mr. Wilson, I vaccinated the calf with calf-lymph, obtained from Dr. Warlomont, in the presence of Professor Brown. The lymph was copiously applied in three places thoroughly scarified, the contents of two tubes being mixed and rubbed into each scarification.

Professor Brown on this occasion pointed out the extremely contagious character of the cutaneous eruption, and warned me against handling the animal. On the same day we found that the attendant had actually been infected, his left arm being covered with a characteristic rash.

On the next day there was slight topical redness on each place of inoculation.

On the Monday, January 2nd, the serum crumbled away to the touch, and the result of revaccination was a complete failure.

Thus, both calves which had been successfully vaccinated from the boy's thumb were revaccinated without success.

As it was urged that calf-lymph should have been used in vaccinating the first case, and, secondly, that six places were not sufficient, I resolved that this calf should again be vaccinated, and this time with calf-lymph direct from the calf. This was performed by the Director (Dr. Cory) in forty places on Thursday, December 12th; and it was agreed that Dr. Cory, Dr. Klein, and Mr. Murphy, should meet me on Sunday, December 15th, at 3 P.M. On examining the calf, there was no trace of success. Dr. Klein expressed an opinion that the eruption might yet appear. Mr. Murphy thought that the eruption might be retarded by the cold weather; but the following days not the slightest trace of eruption appeared in a single incision, and the animal had to be acknowledged as being completely protected.

It was then urged in the case of the blue-roan calf that as stored lymph had been used, this might be a source of fallacy. I therefore resolved to apply the test again, and to avoid any such fallacy I consented to allow this calf, which had now completely recovered from the ringworm, to be transferred from the Royal Veterinary College to the Animal Vaccine Station. After its arrival the Director stated that he was unable to allow me to vaccinate the animal or to remove it, on the ground that he had not received his instructions from his superior officer. This finally resulted in the animal being kept another fortnight, so that the vaccination was postponed until February 2nd, or nearly two months after the original inoculation. The calf was then vaccinated in thirty incisions by the Director and three scarifications by myself. On the second day, Saturday, most of the incisions presented, instead of the usual faint linear blush, a vivid inflammatory redness with considerable tumidity. On the Monday following a few places showed vesiculation at its height, and there was no doubt that the vaccination had taken with an accelerated course. On the following Thursday I returned to collect lymph and make cultivations, when I found that every incision had completely dried; every place of inoculation was marked by a dry linear scab to which I drew the attention of the Director. In fact a modified result was produced marked by considerable topical irritation, early vesiculation, and complete dessication on the seventh day. The explanation appeared to be that owing to the existence of the ringworm, the local appearances of vaccinia were produced at the time of the original inoculation without affording complete constitutional protection (see Chart 2) and that this limited protection had passed off by the time of the second re-vaccination which, as we have seen, was postponed until two months (fifty-eight days) after the original inoculation.

Second Remove of Calves.—From the calves which had been successfully retro-vaccinated I decided to carry on successive vaccinations, and I applied for some more animals. Unfortunately there were no calves ready for use, but they were ordered for me, and I had to postpone the operation until they were received on Monday, December 12th. On arriving at the Royal Veterinary College I then found that the pocks of the original calves were suppurating; I nevertheless determined to ascertain what the result of inoculation would be. Three calves were therefore inoculated in the following way:—After detaching a brown crust some of the pus was collected on a scalpel and rubbed by scarification into the belly of two of the calves and inoculated by puncture in the vulva of the third.

Calf A., Series 2, was inoculated in six places in the belly. At each place there were positive results, but vesiculation was scarcely visible, and suppuration had commenced very early. On the evening of the fourth day, December 15th, this calf was shown by request at the special meeting of the Pathological Society. Each place of inoculation was pustular and covered with a brown scab. On Friday, December 16th, the crusts were raised, there was a well-marked inflammatory redness, and considerable thickening. On examining the crusts, there was pus underneath and an ulcer, with a slight tendency to bleed at the edges when pressed. On Saturday, December 17th, the inflammatory areola was less marked on each. Monday, December 19th, the crusts were thickening and areola disappearing, and there was a considerable amount of purulent discharge on squeezing the ulcer. On Tuesday, December 20th, this calf was also sent to the Animal Vaccine Station.

Similar results occurred in *Calf B.*, and no result in *Calf C.* Calves A. and B., series 2, were, on recovery, revaccinated with success.

Third Remove of Calves.—Before the departure of Calf A., I inoculated two small steers in some thirty places with pus from one of these pustular pocks. I made linear incisions in the manner employed at the Animal Vaccine Station. On Thursday, 22nd, the third day, there was vivid redness of the incision, and slight tumidity. On December 23rd suppuration had occurred. Thus again we had a similar result of early suppuration. One of the calves looked dull, refused food, and died on January 2nd. From the *post-mortem* examination there could be no doubt that the calf died of septicæmia.

Thus the result of retro-vaccinating calves with humanised lymph was in accordance with the results obtained by Ceely, for two cases out of four succeeded, and an eruption was produced with all the typical characters of vaccinia, but running rather a rapid course, [2] while the result obtained in the second and third series was in accordance with what is well known to occur if lymph is not taken at the right stage for carrying on successive vaccinations.

However disappointing these results may appear, they are intensely instructive. They illustrate what is well known to occur in Animal Vaccine stations—the liability to rapid degeneration of vaccine lymph, if not taken on the right day, for carrying on calf-to-calf vaccination. Thus, starting with perfectly correct vesicles, if the lymph from these vesicles is not taken from selected vesicles at the right stage, in the course of two or three removes the lymph may be entirely lost. It will then become necessary to return to stock in order to start again a fresh series of vaccinations. It is on this account that, in order to carry on calf-to-calf vaccination, typical vesicles are selected, usually on the morning of the fifth day, and well-conditioned animals employed as subjects for the operation.

We learn from this that lymph cannot be trifled with. It must be *nursed*, or, so to speak, *cultivated*, with the greatest care; and if, in spite of these precautions, vesicles develop which have not the right standard of excellence, a return must be made to lymph in stock, which can be relied upon to yield the desired result.

It is much to be regretted that I had no opportunity of inoculating calves direct from the *vesicles* on the cow's teats; but it must be borne in mind that, at the early stage of the inquiry, my attention was completely directed towards ascertaining whether this disease produced scarlet fever or not, and such inoculations as were performed direct from the cow were made, as in Dr. Klein's experiments, with septic matter taken from the ulcers on the teats of a cow which had been sent to the Royal Veterinary College. When the nature of the disease revealed itself by the character of the eruption on the hands of the milkers, the time had not only gone by for collecting lymph from the vesicles on the cow's teats, but even for finding serviceable crusts.

(To be continued.)

[2] Thus corresponding with the experience of Ceely, who has pointed out that in retro-vaccination from the milker's hands the results are doubtful and depend greatly on the animals selected. "Those of a light colour and with thin skins were generally preferred, but often without avail, scarcely one-half of the operations succeeding." Again, in speaking of some of his experiments, Ceely says: "The above experiments will serve to show the greater difficulty of vaccinating the cow with humanised than with primary lymph, and that, when successful, a much milder disease is the result. Take an abundance of lymph from one of the finest and most protective vesicles ever seen, and if you succeed in retro-vaccinating the cow you may perhaps be able to charge only a very few points from a vesicle which excites but trifling topical inconvenience. Vaccine lymph it is obvious, therefore, in passing from the cow to man indicates a change which renders it less acceptable and less energetic on being returned to many individuals of the class producing it; some refuse it altogether." In the case of the second and third remove of calves, the postponement of the carrying on of the successive inoculations was probably the main cause of the production of spurious cow-pox, which is well-known not to be protective. Bryce, in his treatise on the cow-pox, has laid particular stress upon this point: "The fluid contained in the vesicle in the advanced stages of cow-pox has undergone a certain change, whereby it is rendered unfit for propagating this affection so as to give security from true small-pox, and this change is said to be marked by the puriform appearances which the fluid then assumes.....The areola is fully formed, and this is said to be a mark that the virus begins to be less active, therefore improper for use." It must also be remembered that the calves were retro-vaccinated with the lymph of a revaccination.

A NEW MEDICAL PERIODICAL.—According to the *Vratch*, the *Archives Slaves de Biologie*, edited by Dr. M. Mendelsohn, of St. Petersburg, will shortly be replaced by the *Revue Slave des Sciences Médicales*, under the same editorship. The new journal will appear once or twice a month, and will acquaint the West of Europe with the chief matters medical published in Russian and other Sclavonic languages.

ABSTRACT OF THE CROONIAN LECTURES ON ANTIPYRETICS.

Delivered before the Royal College of Physicians, June, 1888.

By DONALD MAC ALISTER, M.A., M.D., F.R.C.P.,
Fellow and Lecturer of St. John's College, Cambridge.

Lecture III.

In the second lecture it had been shown that, when carefully examined, the experimental evidence had failed to prove the proposition that the high temperature of febrile diseases was the efficient cause of the morbid phenomena that accompany it. Both in man and in animals the temperature might be considerably raised, and for considerable periods of time, without permanent danger to the organs or their functions. In discussions on the subject, however, it appeared that the phrase "danger of high temperature" was used in two different senses, which were sometimes confused, and this confusion led to misunderstanding of the issue and ambiguity in the conclusions arrived at. By some the phrase was understood to mean the mischief caused by mere heating up of the body and its tissues. This was the sense in which it was taken by such an authority as Liebermeister, when he said: "A patient whose temperature keeps persistently at 104° or higher will certainly die from this cause alone, either after a few days or after a somewhat longer interval, according as his power of resistance is less or greater." It might, on the other hand, imply that high temperature was an index or sign of the gravity of the disease from which the patient was suffering. In typhoid or pneumonia, for example, we might say as a matter of experience that danger threatened when the temperature rose to 106°, meaning that such a temperature usually indicated that the disease was taking a dangerous course. So long as a certain rough parallelism between temperature and the gravity of the disease was all that was postulated, there was little to object to in this statement; but it must not be pushed too far, as cases constantly occurred in which the parallelism was not observed. Cases were cited where, with the gravest signs of danger in typhoid, the temperature was little, if at all, above the normal, and where improvement took place when the temperature rose nearer to the ordinary level. Wunderlich, who might be called the law-giver of the subject, insisted on this point, and had formulated statements which had been forgotten by some who thought their work was based on his principles. To illustrate some of these, the lecturer gave examples from Dr. Warfvinge's experience at Stockholm, of which accounts had appeared in the *Transactions of the International Medical Congress of 1884*, and elsewhere. From these it appeared that in typhus, in typhoid, in pneumonia, and other specific fevers, it was not the height of the temperature *per se* that made a case dangerous, for high maxima occurred frequently in mild cases, and low maxima in fatal cases. Among the fatal cases of typhoid there were more of the lowest maximal temperatures and fewer of the highest than among the severe cases that recovered. In pneumonia, while very high temperatures were, on the whole, rare, there was no appreciable difference in the maxima reached respectively by favourable cases that recovered and by unfavourable cases that were fatal. In the pneumonia of children especially it was noticeable that, though the temperatures ran unusually high, the prognosis was very favourable. So likewise, on comparing measles with scarlatina, the maxima in the former were higher than in the latter, and the duration of the fever was much the same, yet the latter was on many accounts a graver fever than the former.

Such considerations forced us to consider the other factor in these diseases, namely the infection; it was obvious that if the grave morbid phenomena could not be set down to the pyrexial temperature, we must attribute them in large measure to the action of the specific virus or poison. Experiments were cited to prove that some at least of the textural changes which were thought to be most undoubtedly induced by heat were capable of being produced by infective causes, both in animals and in men. The granular or fatty change in the muscles, and particularly in the heart, was especially referred to, and even the cerebral disturbances and the disorders of the secretions could not be excluded.

Turning then to the question of treatment, it was pointed out that as the chief pathogenic factor in the specific fevers was apparently the specific virus, our first object of search must be for a specific remedy capable of destroying or counteracting the virus. Quinine in malarial fever, salicylic acid and its congeners in rheumatic fever, were of this nature, and their claim to be antipyretics rested largely on their specific action. In other fevers such specifics remained still to be found; though some steps in this direction had been made, and though there was promise of much greater progress in the future, we were at present obliged to be content with less radical, more symptomatic remedies. The ideal febrifuge would allay fever by restoring to healthy function the disordered thermotaxic mechanism, thrown out of gear, like other mechanisms, by the action of the morbid poison. Such a true febrifuge had not yet been found. The next best thing was to discover a mode of treatment which should act vicariously for the thermotaxic mechanism, compensating for its lost control over the thermal functions. A drug might conceivably act by checking thermogenesis simply, or by greatly increasing the inadequate thermolysis of fever. The former might be called an active antipyretic, the latter was properly a refrigerant.

To give a concrete turn to the discussion, it would be well to consider in some detail the physiological properties of a particular drug, so far as they were known, and inquire to which of these classes it might best be referred. Antipyrin had attracted so much notice, and had been so largely used and so closely investigated, that it would serve well as an example.

Some of the effects of antipyrin on the thermolytic processes were then dealt with. It was shown by the data of an actual experiment that a full dose of antipyrin had a marked effect in increasing the rate of radiation from the unexposed skin as measured by Masje with Eichhorst's radiometer. For example, in a case of febrile phthisis, while the temperature fell in two hours from 101° F. to 97.7° F., under antipyrin, the radiation increased rapidly, and was twice as great at the end of the second hour as just before taking the drug. The rate of radiation from the cheek, which, as mentioned in the first lecture, was pretty nearly constant in normal circumstances, increased in the same time from 57 units to 133 units. Antipyrin so modified the physical and chemical properties of the skin as to produce this protracted and steadily rising loss of heat by the single channel of radiation. Nothing but radiant heat was measured, and so nothing would be inferred as to the total heat-discharge.

Next, as to the effect on peripheral temperature as determined by Schwarz. In fever the peripheral temperatures underwent from time to time extremely marked oscillations. If at the time antipyrin was given the peripheral temperature was not very different from the central temperature, no marked differential effect was produced in the former by the drug. After some oscillations, both central and peripheral temperatures began to sink, and at not dissimilar rates. But if the peripheral temperature happened to be low (under 95° F., or so) a remarkable effect was produced. A sudden ascent of its curve was almost invariably observed until it approached or overshot the central curve, and then, after some oscillations, the two again began to fall together.

On thermogenesis also the effect of antipyrin had been much investigated, both by directly physical and by chemical or indirect methods. Dr. Girard, of Geneva, whose investigations on the thermogenic function of the corpus striatum had been mentioned, had induced pyrexia by stimulating that body, and found that a subsequent dose of antipyrin was able to reduce the temperature and to keep it down for a time. He had also first given antipyrin, and then stimulated the thermogenic region, and found that the temperature still rose, but to a less extent. These results, though suggestive and interesting, were not conclusive as to the effect of the drug on heat production, for, in the first place, the rise of temperature obtained was never very great, and, in the second, the experiments were thermometric only. The calorimeter must be used to determine whether the heat actually produced in fever was diminished by antipyrin. Dr. Wood and Dr. Hare had turned their attention to this point, and though their results were at present somewhat incomplete, and laboured under certain outstanding difficulties of interpretation, they appeared to show that heat production was lessened by the drug. The fever they had tested was that induced by injecting a "pyrogenic" agent, espe-

cially an albumose derived from certain specimens of pepsin. Dr. Hare had tested antifebrin on animals suffering from this artificial fever with a similar result. It should be added that in the experiments in which they obtained a reduction in the rate of heat production they also observed a diminution (though a smaller one) in the rate of heat loss. Dr. Wood had, moreover, assured himself that the result was apparently unaccompanied by any measurable effect on the circulation, at least when the antipyrin was given in therapeutic doses.

Lastly, two out of many inquiries into the effect of the drug on metabolism, as evidenced by the excretions, were considered. One by Robin, communicated to the French Academy, was vitiated by faults of method, inasmuch as it did not appear that any precautions were taken to secure nitrogenous equilibrium in the patients observed; still, the results, taken for what they were worth, were suggestive. Robin found, by examination of the urine of healthy and diseased persons before and after taking antipyrin, that the drug in health always diminished the urine, the total urinary solids, the urea, and the chlorides, and that it increased the uric acid. In acute (febrile) diseases these effects were less marked than in health, and varied somewhat with the particular disease. The conclusion he derived from his chemical examination was that antipyrin acted directly on the nervous system, lowering its excitability, and diminishing the catabolic and oxidative changes in the tissues.

A far more careful investigation had been carried out in 1886 by Riess, of Berlin, on typhoid patients. He chose patients in the height of the fever, and, their diet and other circumstances being so regulated as to make the successive days comparable, he measured the entire excretion of nitrogen during nine consecutive days. During three days the fever was left untreated; for the next three the temperature was kept down by antipyrin; and for the last three it was allowed again to rise. The result was, briefly, that the nitrogen excreted during the days under antipyrin, when the fever was suppressed, was less by 15 to 30 per cent. than during the days before and after, when the fever was allowed free course.

ON THE TREATMENT OF HABITUAL CONSTIPATION IN INFANTS.

By EUSTACE SMITH, M.D. F.R.C.P.,
Senior Physician to the East London Children's Hospital, etc.

SLUGGISHNESS of the bowels in infants is a common source of trouble in the nursery, and the derangement is one which it is not always found easy to overcome. Occasional aperients in such a case give only passing relief. The bowels, indeed, are unloaded for the time, but when the action of the aperient is at an end, they are left no less sluggish than before. Habitual constipation is very common in infants who have been brought up by hand; and on inquiry, the trouble will often be found to date from the time at which bottle feeding was begun. Still, infants at the breast are not exempt from this annoying derangement. A deficiency of sugar in the breast-milk, or, as is sometimes seen, a milk the curd of which makes a firmer clot than is common in human milk, will often cause habitual torpor of the bowels which resists treatment with some obstinacy.

It is, no doubt, to improper, or at any rate inappropriate, feeding that the bowel trouble is usually to be referred. An excess of starch in the diet, or any food which overtaxes the child's digestive power and thus burdens the alimentary canal with a large undigested residue, may set up the costive habit. By such means a mild catarrh of the intestinal mucous membrane is excited and maintained. There is excess of mucus, and the fæcal masses, rendered slimy by the secretion, afford no sufficient resistance to the contractions of the muscular coat of the intestine, so that this slips ineffectually over their surface.

Another cause of constipation is dryness of the stools. Even in the youngest infants the evacuations may sometimes be seen to consist of little round hard balls, often the size of sheep droppings, which are passed with difficulty every second or third day. This form of costiveness is generally due to insufficiency of fluid taken. The food is made too thick, or the needs of the system in the matter of water are in some way overlooked. But whether the constipation be due originally to excess of mucus or deficiency of fluid, it cannot continue long without affecting injuriously the peristaltic movement of the bowels. As the colon grows accustomed to be over-loaded, the intestinal contents can no longer exert a sufficiently stimulating influence upon the lining membrane, and the muscular contractions begin to flag. If the infant be poorly fed and badly nourished, this languor of muscular contraction may be aggravated by actual weakness of the muscular walls; and as under these conditions the bowel is apt to be over-distended by accumulation of its fæcal contents, the expulsive force at the disposal of the patient is seriously impaired. Constipation, resulting from the above causes, is often made more obstinate by the infant's own efforts to delay relief. A baby whose motions are habitually costive knows well the suffering which undue distension of the sphincter will entail, and often yields to the desire to go to stool only when it is no longer possible for him to resist it. The pain is sometimes aggravated by the formation of little fissures about the anus, and the violent contraction of the sphincter set up by the presence of those fissures forms an additional impediment to free evacuation.

There is another form of constipation in infants which we should be always vigilant to detect. This is the torpidity of the bowels induced by opium. In well-to-do families the use of soothing syrups and other narcotic preparations is now less common than was at one time the case; but now and then we find a baby drugged for reasons of her own by an unscrupulous nurse, and showing the earlier symptoms of narcotic poisoning. So long as the sedative continues to be given the bowels are costive, the child often vomits, his relish for food in great part disappears, and he lies with pupils firmly contracted in a dull heavy state, from which he cannot easily be roused. In young babies the use of opium seems to lessen the action of the kidneys, the urine is scanty, and on examination of the surface of the body the healthy elasticity of the skin will be found to be seriously impaired. When pinched up between the finger and thumb the skin lies in loose folds on the abdomen or only slowly recovers its smoothness. If this inelasticity of skin be noticed in a baby whose pupils are closely contracted, and who seems habitually heavy and drowsy, with little relish for his food, it is well to remember that these symptoms may possibly be due to the action of a narcotic.

An infant whose bowels are habitually costive is not necessarily injured by the want of a daily relief. Often the child seems perfectly well in health, and, except for occasional local discomfort when he gets rid of an unusually large or hardened mass, may appear to suffer no inconvenience at all. In other cases there is flatulent distension or frequent colicky pain, the child sleeps badly, has a furred tongue, and cares little for his food; the motions are often light coloured from undigested curd, and are passed with violent straining efforts, during which the bowel may prolapse or the navel start. This straining is a not uncommon cause of hernia.

In remedying this condition attention to the feeding and clothing of the baby is of little less moment than the use of drugs. When the infant is at the breast a teaspoonful of syrup given three or four times a day before a meal will often quickly restore the normal regularity of the bowels. If the stools are habitually dry and hard, we should see that the child takes a sufficiency of liquid with his food. In addition, it is useful now and then to make him drink some plain filtered water. In the case of a baby in arms, the possibility that the child may be thirsty and not hungry seems rarely to be entertained; but in warm weather, when the skin is acting freely, the suffering amongst young babies from want of water must often be acute. At such times the urine is apt to be scanty and high-coloured, and may deposit a streak of uric acid on the diaper. When fluid is supplied, the secretion both from the bowels and the kidneys quickly becomes more healthy; and a dessert-spoonful of some natural saline aperient water, given at night, aids the return of their natural consistence to the stools.

The form of constipation which is due to mild intestinal catarrh is common enough in young babies. This is owing, no doubt, in great measure to over-abundant feeding with starchy matters, or to the giving of cow's milk without taking due precautions to ensure a fine division of the curd. Still it cannot be denied that we sometimes find the same derangement in infants whose diet is regulated with proper care and judgment. In them the intestinal catarrh is frequently the consequence of exposure, for the sudden withdrawal of all protection from the lower limbs and belly which the process known as "short-coating" too commonly involves is a fruitful cause of chill. In children so denuded, the feet and even the legs as high as the knees may be quite clammy to the touch. Under such conditions the susceptibility of the patient to alter-

nations of temperature must be extreme, and the bowels are, no doubt, often kept in a state of continued catarrh from rapidly recurring impressions of cold.

Where the constipation is due to this cause our first care must be to protect the infant's sensitive body so as to put a stop to the series of catarrhs. To do this it will not be sufficient to swathe the belly in flannel. The legs and thighs must also be covered, for a lengthened experience of these cases has convinced me that so long as a square inch of surface is left bare the protection of the child is incomplete. We should next see that the infant's dietary is regulated with due regard to his powers of digestion. Excess of starch must be corrected, and it is best to have recourse to one of the malted foods. Mellin's food is especially valuable in cases where there is this tendency to constipation, as in many children the food has a very gentle laxative effect; but as Mellin's food contains no unconverted starch, and can do nothing to prevent the formation of a dense clot when the curd of milk coagulates in the child's stomach, it is advisable, when giving it with milk, to ensure a fine division of the curd by the addition of some thickening material such as as barley water. A child of six months old will usually digest well a good dessert-spoonful of Mellin's food, dissolved in milk, diluted with a third part of barley water. A certain variety in the diet is of importance in all cases where the digestive power of the infant is temporarily impaired. Therefore, it is advisable to order an additional food to be given alternately with the Mellin and milk. Benger's "self-digesting food" is useful for this purpose, and rarely disagrees. It must be given, like the Mellin, with cow's milk, but without the barley water, for the pancreatine it contains has a digestive action upon the curd, and removes the tendency of the latter to firm coagulation. In addition to the above, if the child has reached the age of ten months, he may take a meal of veal broth or beef-tea once in the day, and with this it is advisable to give some vegetable, such as broccoli or asparagus, thoroughly well boiled. At this age, too, the milk for the morning meal may be thickened with a teaspoonful of fine oatmeal, and sweetened with a teaspoonful of malt extract. In the case of many infants suffering from habitual constipation, the appetite is very poor, and great difficulty is found in persuading them to take a sufficient quantity of nourishment. This indifference to food is almost invariably associated with coldness of the extremities, and usually disappears when measures are taken to supply necessary warmth to the feet and legs.

In all cases where an infant's bowels are habitually costive, it is of the first importance to enter thoroughly into these questions of clothing and diet. In addition, care should be taken that the bowels are regularly stimulated by manipulations from without. The sluggishness of peristaltic action which forms a part of every case of habitual constipation may be very materially quickened by judiciously applied frictions. The nurse should be directed to rub the child's belly every morning after the bath. She should use the palm of the hand and ball of the thumb, and, pressing gently down upon the right side of the abdomen, carry the hand slowly round in a circular direction following the course of the colon. The frictions may be continued for five minutes. In obstinate cases the child may be laid down upon the bed, and the bowels gently kneaded with the thumbs placed side by side; but in this case, too, the movements should follow the course of the larger bowel.

In addition to the above treatment, more special measures have often to be employed. These may be divided into two classes: the class of suppositories and injections, and that of remedies given by the mouth.

The class of suppositories and injections aims at producing an immediate evacuation of the bowel, and in no way tends to promote more regular action in the future. These remedies are, therefore, useful in clearing the way for further treatment, but there their value ends. A suppository of Castile soap introduced into the rectum is a time-honoured method of inciting an evacuation in the child. Another old-fashioned plan has lately been revived, which consists in the injection of forty or sixty drops of pure glycerine into the lower bowel. In each case energetic peristaltic action of the alimentary canal is induced, and the bowel is thoroughly emptied of its contents. Of these applications the action of the glycerine is very rapid, and in a few minutes the effect of the injection is seen. The soap suppository acts more slowly.

Injections of soap and water, or other liquid, have an entirely mechanical action in relieving the patient. To be effectual such injections must be large, consisting of at least half a pint of fluid, and should be thrown very slowly into the bowel. Still, although of service when given only occasionally, the frequent use of large injections is not to be recommended; indeed, this method of treatment is distinctly hurtful in cases where the costiveness has become a habit. Even in young babies great dilatation of the bowel and serious weakening of its muscular coat have often followed the daily use of the enema pump.

For the permanent cure of habitual constipation remedies given by the mouth are greatly to be preferred, but, at the same time, strongly acting purgatives are worse than useless. Our aim should be to find the smallest dose which will awaken a normal degree of energy of peristaltic action, and to give this dose regularly so as to induce a habit of daily evacuation. The daily dose is most efficacious when combined with a remedy which tends to give tone to the muscular coat of the bowel. For this purpose a useful draught is composed of half a drop of tincture of nux vomica combined with ten drops of tincture of belladonna and twenty of infusion of senna, made up to a fluid drachm with infusion of calumba. This draught should be given at first three times a day before food, but soon two doses in the day will be sufficient, and it is rarely long before one dose given at bedtime has a sufficiently laxative effect. Our object is not to excite watery evacuations, but to induce as faithful an imitation as possible of a normal action of the bowels. The liquid extract of cascara is useful in many cases, especially if combined with tincture of belladonna. Twenty, thirty, or more drops of cascara extract, with ten of the belladonna tincture, may be given with a few drops of glycerine in a little water every night. In the west of England a remedy held in high esteem consists of half a grain of sulphur coloured red with cochineal. That this apparently insignificant dose is often efficacious when given regularly every night I can testify from my own experience.

In cases where the motions are drier than natural, as if from imperfect secretion of the intestinal glands, the addition of liquid to the diet, already recommended, may be supplemented by the administration of some saline aperient two or three times a day. This treatment is made more effectual when the saline is combined with small doses of nux vomica and quinine. For a baby of 6 months old five to ten grains of sulphate of soda may be given with one quarter of a grain of quinine, half a drop of tincture of nux vomica, and a minim of aromatic sulphuric acid, in a teaspoonful of water three times a day before food. As in all cases where the remedy prescribed has been chosen with judgment and given in appropriate quantity, the continued administration of this draught, so far from rendering the bowel dependent upon the medicine, stimulates it to act spontaneously, so that the dose has soon to be given less frequently, and in no long time can be discontinued altogether.

By means such as the above the most obstinate case of constipation in the infant can be cured with little difficulty, but to be successful the treatment must not be restricted to mere drug-giving. The food of the child must be regulated with care, his clothing must be inquired into, and his general management passed under review. Where this is done, drugs given in comparatively small doses will act with sufficient energy, and will soon restore their normal regularity to the bowels.

ACUTE SUPPURATION OF THE KNEE-JOINT TREATED BY CONTINUED IRRIGATION.

By FREDERICK TREVES, F.R.C.S.,
Surgeon to, and Lecturer on Anatomy at, the London Hospital.

ACUTE suppuration of a joint, as a result of injury, is becoming a less frequent surgical possibility. An improved method of treating wounds, a more exact acquaintance with the inflammatory process, and, above all, a fuller knowlege of the disposition of serous membranes, have all tended to make this condition comparatively uncommon. Some fifteen years ago it is probable that there were very few large accident wards that could not have provided an example of a joint in a state of acute suppuration. Although the condition is less frequent in occurrence, it is hardly less serious in result, especially where a large articulation is involved, and the inflammation is vigorously established. There may be no great risk to life or even to limb, but there is a prospect of long-continued trouble, and of a joint recovering with much impaired functions.

In the present paper I have described a mode of treatment which had long appeared to me the best adapted theoretically to a large joint acutely inflamed and full of pus, but it was not until recently that I have had opportunities of carrying the theory into practice.

A schoolboy, aged 16, was admitted into the London Hospital under my care, on April 16th, 1886, with hydrops articuli. The lad was well developed and in good health. There was no suggestion of scrofula nor of hereditary syphilis. The joints presented the following conditions. The right knee was greatly distended with fluid. The whole synovial sac was demonstrated. The patella dimpled the swelling, and the ligamentum patellæ formed a groove in it. The swelling extended four fingers' breadth above the knee-cap, and the greatest circumference of the knee was fifteen inches and a half. The articulation was free from pain, tenderness, or thickening. The left knee was in the same condition, but the effusion into the joint was more extensive. The swelling reached five inches above the patella, and the joint measured sixteen inches in circumference. Both ankle-joints were distended with fluid, the effusion in each instance being more obvious on the outer and anterior aspects. There was hydrops of the left elbow, the distended synovial membrane forming a conspicuous projection about the olecranon. All the affected joints were free from pain and tenderness. The patient only complained of feeling tired in the legs if he walked far—if he walked over three miles. His gait was awkward and rolling, but he was not lame. His general muscular condition was fair. No enlarged glands were to be found in any part of the body. The temperature was normal.

The following was the patient's history of himself. He had always lived in Essex, and had enjoyed good health. His father was a little liable to rheumatism in the winter, but, apart from this, there was nothing to note in his family history. In September, 1882, he had rheumatic fever; all his joints were swollen and painful, and he was confined to bed five weeks. In the early part of 1883 he noticed that his right knee was swollen. The swelling increased slowly and painlessly. By June, 1883, the joint had become so large that he sought advice. He was kept in bed nine weeks with the leg on a splint. At the end of this time he wore a Martin's elastic bandage, but the knee had not exhibited any marked improvement. The swelling in the left knee was not noticed until 1885, and the patient was unaware of swelling in other joints.

Between 1882 and 1886 the patient had, in spite of his swollen joints, indulged in vigorous exercise, and had more than once walked a distance of eighteen miles.

On May 8th, 1886, I tapped the right knee-joint under a carbolic spray, and withdrew three ounces and a half of fluid. One ounce of a solution of iodine was then injected into the joint, and allowed to escape at the end of five minutes. The wound was sealed with collodion, and the limb firmly fixed upon a back splint. The fluid removed separated into two strata on standing; the upper was clear, the lower formed a kind of loose yellow coagulum. The specific gravity of the fluid was 1020. It was thick and sticky, faintly alkaline, and solidified by heat. With acetic acid it gave a copious opalescent deposit. It was cleared by liquor potassæ, and slightly clouded by nitric acid. It contained ½ per cent. of urea.

No pain and no rise of temperature followed the little operation. After becoming much swollen, the joint again diminished in size. By May 20th the circumference of the knee was 14¼ inches, and by June 12th, 13¾ inches. The back splint was kept on.

On June 12th the left knee was tapped, and injected with iodine in the same manner; 2¾ ounces of fluid were removed. No pain and no rise of temperature followed the operation. The joint very soon refilled, and attained its original dimensions. The fluid showed no sign of abatement.

As the patient was becoming enfeebled by long confinement to bed, and as the injection of the joint had failed in both instances in effecting a cure, I resolved to open and drain each joint in turn. On June 25th I opened the left knee-joint from in front, making an incision on either side of the patella. A drainage-tube was then passed through the joint under the patella. The operation was performed under the spray. The splint was retained. A dressing of carbolised gauze and iodoform was applied. No disturbance and no rise of temperature followed the operation. The dressing was taken off for the first time on the fifth day, and the drainage-tube removed. No pus had formed. By July 15th the little wounds were entirely healed, and the joint was sound. No fluid appeared in it again.

On August 6th, during my absence from town, the right knee-joint was opened in the same way, and a drain passed through under the patella. The drain was removed on the sixth day, and by that time, through some flaw in the antiseptic appliances, the joint was suppurating. The patient's temperature rose for the first time since his admission. The knee became red and greatly swollen. On August 15th it was necessary to make fresh incisions into the joint, and to introduce two drainage-tubes. On August 23rd the patient came again under my care. His temperature was now between 101° and 103°. He had had rigors. He was very feeble, had lost his appetite, and was unable to sleep. For nine days his average temperature had been 102°. His tongue was dry. His general condition had become greatly changed. The whole limb was swollen, and the foot and leg were very œdematous. The joint was the seat of a great deal of pain. Through four openings drainage-tubes passed from the joint, and from these much pus was issuing. Within the last day or so the part had been poulticed. The joint was in a condition of acute suppuration, and so marked a change had taken place in the patient's state that the question of possible amputation was discussed. I resolved to apply continued irrigation according to a method I had already adopted in some other suppurative conditions.

The patient was anæsthetised. The limb was well secured by straps and buckles to a back splint with a foot-piece, and with large bays cut out of the splint on either side of the knee-region. The splint pad was covered with gutta-percha tissue applied with chloroform. The whole limb was then slung from a large cradle. The knee-joint was well washed out with carbolic lotion; the drains were removed, and in their place one fenestrated tube was passed right across the joint under the patella, two of the existing sinuses being made use of. One end of the tube was connected with an india-rubber pipe that passed into a large bath and was made to act as a syphon. This bath was placed at some distance from the bed, and its base was one foot above the level of the patient's limb. The other end of the drain was conducted into an "arm bath" placed below the cradle, and thence the escaping water passed to a reservoir under the bed. A screw clamp was placed on the tube before it entered the knee-joint, and another clamp on the tube after it had left the articulation. By means of these clamps the amount of fluid passing through the joint could be regulated, and also the degree of distension of the joint could be varied. I am much indebted to my house-surgeon, Dr. Perry, now assistant-physician to Guy's Hospital, for the ingenuity and care with which he carried out these arrangements. When the syphon action of the tube was established a stream of water could be made to flow evenly through the joint, and to flush all parts of it. This stream of water ran through the patient's knee-joint, without a moment's cessation night or day, for the period of one month (thirty days). For the first few days some of the fluid escaped through the two sinuses unoccupied by the drainage-tube, but within a week these openings closed, and the skin was soon quite dry. Cold water was employed, to which was added a minute quantity of corrosive sublimate, carbolic acid, or boracic acid. The limb was kept out in the open air of the ward. Twice a day, by closing the lower clamp, the knee-joint was fully distended with water. No trouble was experienced in keeping the apparatus in action. The effect of the irrigation was very pronounced. At once the patient was freed from pain; he slept well, his tongue cleaned, and his appetite returned. His temperature steadily fell and reached the normal line on the third day. During the remainder of his stay in the hospital the temperature never rose to 99°. The swelling of the leg subsided, and the parts assumed their normal appearance.

The irrigation was discontinued on September 22nd. The tube was removed a few days afterwards. The sinuses were healed over by October 5th, and on October 15th the patient left the hospital. At this date both knee-joints were quite free from fluid; both patellæ were movable, and the stiffness existing in the articulations was no more than could be accounted for by the long confinement of the limbs upon splints.

I saw the patient again in June, 1887, seven months after the irrigation. He was in excellent health; his joints were all free from effusion; both knee-joints were of normal appearance, and both exhibited a normal degree of mobility.

It is well known that acute peritonitis is more readily treated when it supervenes upon a chronic form of the trouble, and it is probable that the acute inflammation of the knee-joint in the present case was rendered more amenable to treatment by the

circumstance that the articulation had already been the seat of a chronic inflammation. Even with this possibility before one, it may be questioned whether simple drainage and intermittent irrigation of an acutely inflamed joint would lead not only to the recovery of the limb, but also to the perfect restoration of the functions of the articulation.

In the second case, recorded below, the question of the influence of a previous chronic inflammation did not confuse the issue. The case was a simple one of acute suppuration following injury. The patient, a stoker, a vigorous, healthy man, aged 23, was admitted into the London Hospital on November 7th, 1887, with acute synovitis of the right knee-joint.

On November 1st he had fallen and had received a violent blow upon the knee. He was disabled and was taken home. The joint did not become visibly swollen until the evening, some hours after the accident. There was no wound. The patient had never had any previous joint trouble, nor, indeed, any notable illness.

When seen on admission the patient appeared ill, and was much worn out by pain and want of sleep. The right knee-joint was a little flexed, was extremely distended with fluid, and was the seat of great pain. The skin covering the articulation was red and œdematous, and the œdema had extended some little way beyond the joint district. The temperature was 100° F. The case was evidently one of suppurative synovitis. The limb was fixed upon a straight back splint, and the joint was opened by two lateral incisions, each about one inch in length; through the incisions escaped much synovial fluid mixed with pus and flakes of lymph. A drainage-tube was passed through the joint underneath the patella, and the irrigation apparatus was adjusted precisely as in the case already detailed. Cold water containing a little boracic acid was allowed to run through the joint without intermission night or day for one month. The temperature became normal the day after the operation, and never rose again above 99°. The patient was at once quite easy.

The tube was removed on December 8th, and was replaced by two short tubes for either incision. On December 17th all drains were left off, and the splint was removed. There had been no rise of temperature, no suppuration, and no sign of a relapse. The wounds were now (December 17th) quite healed, and passive movement was commenced. The patient left the hospital on January 8th.

In the following month I exhibited the patient at the Harveian Society. His recovery had been complete. The patella was quite movable, and he could execute a complete range of movements with the right leg; indeed, there was no appreciable difference between the right limb and the left, except that the former presented two cicatrices.

The treatment advocated is exceedingly simple, and would appear to be efficacious. In my previous experience of other methods of treatment I have never seen complete restoration of function to follow an acute suppuration of a large joint.

THE FORMATION AND EXCRETION OF URIC ACID, CONSIDERED WITH REFERENCE TO GOUT AND ALLIED DISEASES:

BEING A THESIS FOR THE DEGREE OF M.D. IN THE UNIVERSITY OF OXFORD.

By A. HAIG, M.A. and M.D.Oxon., M.R.C.P.,

Physician to the Royal Hospital for Children and Women, Waterloo Bridge Road; and Assistant Physician to the Metropolitan Hospital.

SOME researches on the excretion of uric acid, on which I have been engaged for several years, now seem likely to throw new light on the part played by this substance in the causation of disease.

The diseases to which my results more especially apply are gout a certain form of headache (migraine) (*Med. Chi. Trans.*, vol. lxx), some cases of epilepsy (*Neurologisches Centralblatt*, March 1st, 1888), and, lastly, rheumatism, acute and chronic, though the evidence of uric acid causation is not equally strong in all.

My researches show, (1) that the excretion of uric acid (*Journal of Physiology*, vol. viii, Nos. 3 and 4) can be controlled by drugs and foods in a way and to an extent not previously known; that, whatever the amount excreted to-day, it may, within certain limits, be made either greater or less to-morrow.

2. That, when uric acid excretion is diminished relatively to the urea, the diminution is due to retention in the liver and spleen, and possibly in some other organs and tissues, of part of the uric acid which was formed; and, conversely, when uric acid excretion is increased relatively to the urea, such increase is due to a washing out of a store previously accumulated in the above organs and tissues.

3. That the formation of uric acid bears an almost constant relation to that of urea, though its excretion can be varied by food and drugs to a considerable extent.

4. That uric acid is probably never in excess in the blood, except when alkalies or other solvents wash it out in considerable quantities from the stores which have gradually accumulated in the above-mentioned organs.

5. That excess of uric acid in the blood, brought about in this manner, is a sufficient cause of many of the symptoms of the diseases I have mentioned, and probably of others also.

6. That drugs and foods which diminish the solubility of uric acid diminish its excretion and lead to retention and accumulation; and, conversely, foods and drugs which increase its solubility facilitate its excretion and prevent retention.

7. That drugs which diminish the solubility and excretion of uric acid are harmful in the diseases connected with it, while drugs which increase its solubility and excretion are useful in these same diseases.

I began my research by investigating a form of migraine, or, as I now prefer to call it, uric acid headache, from which I had been a sufferer all my life; and my first observation of importance was that leaving off butcher meat (*Practitioner*, Aug., 1884, and March, 1886) produced gradually-increasing immunity from attacks. This and the clinical relationship of the headache to gout led to my examining the urine and finding a very marked rise in uric acid excretion, corresponding to the headache (*Med.-Chir. Trans.*, vol. lxx).

I then began to speculate as to the cause of this uric acid fluctuation; and, having noticed the apparently great gout-producing power of ales, and their strong acid reaction, I was led to test the effects of acids, alkalies, and, finally, of many other drugs, on the excretion of uric acid, obtaining results some of which form the subject of this paper.

The processes used in my experiments are as follows: for urea, the hypobromate test, with the apparatus of Dupré, variations of temperature and pressure being allowed for; for uric acid, Professor Haycraft's process (see JOURNAL, vol. ii, 1885, p. 1100); and for acidity, a solution of phenol-phthaleine with a graduated solution of soda.

I soon found that acids (*Journal of Physiology*, vol. viii, Nos. 3 and 4) always diminished the excretion of uric acid, and alkalies always increased it; and it thus became easy to see that butcher meat, beer, wine, etc., had made my headaches more frequent, because they caused a rise of acidity, prevented the free elimination of uric acid, and accumulated a store of it in the body, which on a future occasion would produce a headache. Alkalies, or a somewhat vegetarian diet, on the other hand, by facilitating the regular excretion of uric acid, would prevent any such troubles; and, in proof of this, I found that by first accumulating uric acid with acids, and then washing it out into the blood with an alkali, I was able to produce the headache in question.

Sir A. Garrod (JOURNAL, vol. i, 1883, p. 653 [Lumelian Lectures]) has discussed the gout-producing powers of wines and beers and puts it down entirely to the unfermented matters they contain. In discussing the matter he says the light wines which contain a considerable quantity of acid vegetable salts do least harm; while the heavy wines, as those of Spain, do most harm and are almost devoid of vegetable salts.

Speaking of acidity he says that fresh fruits diminish acidity, through conversion of their vegetable salts into carbonates, and this I think gives us the key to the whole matter.

Both the above kinds of wines are strongly acid, but in the light wines the acidity is due to vegetable salts which are converted in the body into carbonates and act as alkalies, so that they cause no retention of uric acid, and have, as observed, but little gout-producing power; the heavier wines, on the other hand, have an acidity due to more fixed acids, they act as a dose of acid does, and have great gout-producing power, and the same applies to ales and stout, which are as I have shown (*Med.-Chir. Trans.*, vol. lxx. p. 12 of paper) strongly acid and cause great retention of uric acid; so that the acidity of these beverages explains their action in gout production far better than their unfermented matters, the action

of which is not very clear; and in gouty patients who indulge in these beverages after an interval of care, the rise in acidity they occasion and the increase of arthritic pains can be watched.

Foods, again, influence acidity by the salts they contain (see Sir W. Roberts, *Urinary and Renal Diseases*, ed. iv. p. 56), fruits and vegetables, as we have seen diminishing acidity, and animal foods containing large amounts of phosphates, sulphates and chlorides increasing acidity. Some foods may also contain salts having a special solvent action on uric acid, for example, phosphate of soda.

Sir A. Garrod in the above-quoted lectures gives a very interesting table from Lehmann of the effects of different diets on the excretion of uric acid: thus

	Urea.	Uric Acid.
Mixed Diet	32.4	1.1
Animal Diet	53.1	1.4
Vegetable Diet	22.4	1.0
Non-nitrogenous Diet	15.4	0.7

and he draws the inference from it that uric acid is not so much influenced by the nature of the food as urea is; but if the uric acid excretion is regarded relatively to the urea, this conclusion will, I think, have to be altered; and I now give the table with the addition of my figures, showing the relation of uric acid to urea on each diet:

	Urea.	Uric Acid.	Relation.
Mixed Diet	32.4	1.1	1—29
Animal Diet	53.1	1.4	1—38
Vegetable Diet	22.4	1.0	1—22
Non-nitrogenous Diet	15.4	0.7	1—22

A long series of observations on the relative excretion of uric acid to urea has convinced me that a relation of 1—33, that is, 1 grain of uric acid for 33 grains of urea is about the average or normal; and taking a long period a result somewhat near this is obtained; thus in four months I excreted 41,804 grains of urea and 1,281 grains of uric acid, relation 1—32.6; but daily variations in this period ranged as high as 1—19 or as low as 1—45; but over a long period these more or less balance each other.

To apply this to the above table it will be seen that on mixed diet there was slightly excessive excretion of uric acid; on animal diet considerably diminished excretion (retention), and on vegetable diet excessive excretion, some of the previous retention being washed out. And a continuance of the animal diet would obviously soon produce a store of uric acid sufficient to account for anything from a "bilious" to a gouty attack. The results in these tables are similar to those I have obtained with various diets, and the relation of uric acid to urea are just those I meet with in my every-day work.

I have been led to infer from all these facts, that while the formation of uric acid alters but little from its relation to urea of 1—33 (subject, I have no doubt, to some small variations) its excretion is subject to frequent and great fluctuations, which account for its action in the production of disease.

Iodide of Potassium has in five-grain doses but little action on the excretion of uric acid: in larger doses it acts apparently merely as an alkali. Iodine taken as the tincture has little or no direct effect.

Phosphate of Sodium is a well-known solvent of uric acid, and it does, just as one would expect, greatly increase its excretion: it is probably the chief solvent of uric acid, which is naturally present in the body.

Salicylates have the very important action of rendering the excretion of uric acid independent of acidity, that is, a rise in acidity does not cause retention while salicylates are present in the blood; and this fact may explain much of the value of these salts in diseases connected with uric acid (see discussion on my paper in the *Proceedings of Roy. Med.-Chir. Soc.*, January to March, 1888, p. 325).

Lead and Iron.—The urates of these metals are very insoluble, and they cause, as one would expect, retention of uric acid, which, as we shall see, may explain their action in several diseases (Paper read at Roy. Med. Chi. Soc., April 28th, 1888, reported in JOURNAL, April 28th; and also Sir A. Garrod, JOURNAL, vol. i, 1883, p. 495).

Colchicum.—This indirectly lowers acidity and facilitates the excretion of uric acid. It may also have a direct action on the nerves in relieving the pains of gouty arthritis.

Besides drugs and foods, there are other ways in which the acidity of the blood and tissue fluids may be raised and retention of uric acid brought about, as, for instance, the formation of acids which are known to occur in dyspepsia; but a more important source of acids is probably to be found in the skin, for a large amount of acid is daily eliminated in sensible and insensible perspiration, and Sir A. Garrod (*Gout and Rheumatic Gout*, ed. iii, p. 258) has shown that when this function of the skin is checked by cold the acidity of the urine at once rises, and *vice versâ*, and I have often repeated this experiment, both intentionally and unintentionally, on myself. The application of these facts to the causation of gout by exposure to weather or other sources of chill is sufficiently obvious, and is precisely similar to the case of beer, wine, meat, etc., previously spoken of.

And now to apply some of these results to the explanation of disease.

The causation of the headache of which I have spoken is, I think, fairly well worked out; it can be produced at any time in those subject to it by causing a *plus* excretion of uric acid with alkalies, the *plus* excretion and the headache being, as I believe, the signs of excess of uric acid in the blood. If there is no store of uric acid in the body alkalies will fail to produce either the *plus* excretion or the headache. I have also found an identical uric-acid fluctuation in some cases of epilepsy (*Neurolog. Cent.*, March 1st, 1888), and I think it probable that uric acid may be the cause of the fits in these cases just as it is of the headache of which I have spoken. Sir A. Garrod (*Gout and Rheumatic Gout*, pp. 459-61) pointed out many years ago that he had found blood drawn during fits of epilepsy to contain excess of uric acid, and this observation affords important support to my belief that we may safely argue from excess of uric acid in the urine to its excess in the blood.

Diet and drug action also affords many important parallels between the headache of uric acid and epilepsy. Thus, the value of a vegetarian diet in epilepsy is amply attested, and I believe that not a few of those engaged in its treatment habitually order their patients to abstain from meat.

Iron is believed by many to do harm in epilepsy, and lead poisoning sometimes causes epileptic fits. Iron, so far as I know, does harm in the uric acid headache; and both these metals cause, as we have seen, retention of the uric acid.

In a considerable number of cases the fits have been treated by diet and drugs, intended to influence the uric acid factor, and so far with some apparent success; but, as it is almost impossible to say when a fit has been caused and when it has been prevented, epilepsy presents a problem which is much more difficult to solve than that of the uric acid headache.

I have also been much struck by the large number of cases of epilepsy which have a strong family history of gout, rheumatism, or minor uric acid troubles.

Another result of my research is the conviction that a considerable amount of hypochondriasis, heaviness, depression, and irritability may be produced by causing a rush of uric acid into the blood and its excessive secretion, and that the same conditions may be cured or made to give place to the opposite feeling, by driving the uric acid out of the blood by an acid, or something that causes retention. There is here, again, an important parallel between epilepsy (*Neurologisches Centralblatt*, March 1st, 1888, p. 4) and the uric acid headache; for both are preceded by retention of uric acid, and, preceding both, certain bright and joyous feelings (*loc. cit.*) have been noticed; no doubt corresponding to this retention, just as they correspond to it when it is produced by acids.

And these mental effects of uric acid have led me to think that some forms (especially the paroxysmal ones) of melancholia and mania might yield some results to an investigation of their uric acid connections, though no doubt, in all such diseases, what may be at first functional and due to uric acid, is at last associated with vascular and organic change which is incurable.

In this connection, it is very interesting to note that Dr. Broadbent, in his Croonian Lectures of 1887, says: "An unbroken series of gradations may be traced from the irritability and depression of spirits attending functional disorder of the liver up to complete melancholia with delusions;" and he further says that this is accompanied by *plus* tension (of pulse), which, if not the cause, is at least the index of the condition of the system on which the mental state depends. These observations are of double interest to me—first, because of the unbroken series of gradations traced from conditions I can produce up to serious mental disorder; and, secondly, because they tend to confirm an opinion I have held for some time, that a high tension pulse is, to some extent and in the absence of other obvious causes, an index of excess of uric acid in the blood.

The relation of gout and uric acid is not a matter of doubt; but my researches give, I think, a better explanation of its intimate

pathology than was previously obtainable, by showing the way in which urates come to accumulate in the body, and that this accumulation is for the most part due to acids. We have also seen that acids may be introduced from without in food and drinks, may be formed internally in dyspepsia, or may be retained by deficient skin action; and that the result of the rise of acidity from any such cause is a retention of uric acid.

Sir A. Garrod has shown it to be probable (*Gout and Rheumatic Gout*, p. 292) that the cartilages and ligaments of joints are, not only to some extent extra-vascular, but are also less alkaline than the blood and tissue fluids; so that we can at once see why uric acid, which is brought to these parts in blood less than usually alkaline, should be liable to be thrown out of solution and retained in these parts, beginning generally in the smaller peripheral joints where the circulation is least active; and the same reasoning thus applies to retention of uric acid in the joints as was previously used in regard to its retention in the liver and spleen (*Journal of Physiology*, pp. 213, 214), and we now see how a dose of iron, causing retention, or a rise of acidity however produced, may precipitate an attack of gout. Also, why a uric acid headache, or an attack of melancholia or mania, may promptly clear up on the supervention of a gout attack; for the rise in acidity, which drives uric acid out of the blood and cures either of the first two diseases, drives it into the joint and produces the podagra.

Exercise rather tends to prevent gout, because it increases skin activity, which again reduces acidity, and promotes elimination of uric acid; and the same skin activity, no doubt, explains why those who suffer from the uric acid headache have less of it in summer than in winter. With rheumatism we stand on less firm ground, because uric acid has not been proved to be in excess in the blood in this disease; but I hope I shall be excused for believing, at least till careful investigation has proved the contrary, that with the help of the knowledge we now possess about the excretion of uric acid, it may yet be found to be in excess in the blood in this disease.

The marked effect of salicylates in acute rheumatism seems to me a very strong point in favour of uric acid causation, and in favour of the disease being due to retention of uric acid by acids, the vicious circle being at once cut through by the salicylate, which permits its free excretion. There are, besides, important connections in the matter of family history, and in effects of drugs, meat, beer, weather, and exercise between gout and rheumatism, which are not to be easily disposed of, except on the theory of a similar causation.

Why uric acid should produce in one patient gout, in another rheumatism, in a third headache, and in a fourth epilepsy, may depend to some extent on the time during which it is in excess in the blood,, and the amount of such excess; but, beyond the uric acid, there are no doubt peculiarities in the structure and function of nerves or vessels in each individual which determine the point on which the poison shall act most forcibly, and so to some extent the result it produces; but, in all these diseases alike, such regulation of diet, exercise, clothing, and climate as shall prevent high acidity from bringing about continued retention and accumulation of uric acid will serve to keep off attacks, even though the other factors remain in operation.

"WHAT IS A STONE IN THE BLADDER?" A REJOINDER.

By Surgeon-Major P. J. FREYER, M.A., M.D.,
Bengal Medical Service.

In a paper by Sir Henry Thompson published in the Journal of February 18th, entitled "What is a Stone in the Bladder?" the discussion of a question is introduced, which, till the subtle influence of Sir Henry's pen was brought to bear on it, could scarcely be regarded as admitting but one simple reply. Hitherto the universally accepted definition of stone in the bladder was any calculous formation, no matter of what size, which failed to pass out of the bladder spontaneously, and for the removal of which an operation was necessary. Sir Henry now lays down certain proposals which would have the effect of materially altering the nomenclature.

As Sir Henry has done me the honour of selecting my paper on "A Recent Series of One Hundred Cases of Operation for Stone in the Bladder without a Death" to "point a moral and adorn a tale," and has paraded before the eyes of the profession, in not very complimentary terms, twelve instances of small stone therein contained, I hope it will not be considered presumptuous in me if I venture to criticise the position which he now assumes.

In order to illustrate this change of position I will take the liberty of referring to former utterances of Sir Henry on the same subject. So recently as 1884, in his lectures at the College of Surgeons, I find that the chief portion of one whole lecture was devoted to the consideration of the selfsame question, "What is a stone in the bladder?" And that his views were unaltered in 1885 is apparent from a letter which accompanied a copy of these *Lectures* with which Sir Henry, with his usual courtesy, was kind enough to present me.

Sir Henry's views on this question, then, are set forth in pages 128 to 134 of the *Lectures*. He calls attention to the liability to abuse of the term "operation for stone" by surgeons setting down as independent operations the repeated removal of small concretions by the lithotrite and aspirator, and points to Sir Benjamin Brodie as one who has strongly erred in this direction, no fewer than 8 of his 115 operations by lithotrity having occurred in one individual. Sir Henry himself thinks it justifiable to regard these repeated operations, under certain conditions which he lays down, as individual operations for stone, the force of which statement may be gathered from the fact that his 812 operations by all methods occurred in 716 individuals; there being, then, no fewer than 96 "recurrent" operations.

We now come to a passage in the *Lectures* of singular significance, when taken in connection with Sir Henry's recent paper, to which I would call particular attention. "I think," he writes, "it will be generally agreed that when a bladder is found for the first time to contain a calculus, whether urate, oxalate, or phosphate, which is too large to be expelled by the natural efforts, the crushing and removal of it (together with others, if such be present), so as to empty the bladder, necessarily constitutes an 'operation for the stone,' whether it or they be large or small." And then he adds, as his reason for this opinion, "If a small stone only is present, the patient is fortunate in having it detected, because it would inevitably have become large had it not been discovered, and the operation is then attended with a corresponding increase of risk." I presume that the principles here so clearly enunciated are those by which Sir Henry has been guided in his practice, and that if he has no calculi below 20 grains in weight in his collection this is due to the fact that he has not met with such, or has failed to detect them with the methods of diagnosis used by him. At any rate I submit that there can be no stronger justification for my recording my cases of small calculi than that conveyed in Sir Henry's own words.

From the somewhat vague and indefinite manner in which Sir Henry writes in his recent paper, whilst dealing with my cases, about the possibility of his increasing the number of his operations by recording all his cases of recurrent concretion in diseased bladders, the impression may be conveyed that I have utilised this method of augmenting my statistics. The amount of foundation for this impression may be gathered from the fact that the 100 operations referred to were performed in 100 different individuals, and that there were amongst them only two cases of recurrent stone. One man had undergone lithotomy in his childhood, and the other had had litholapaxy performed by another surgeon one year before. I may further mention that the 239 litholapaxies performed by me up to the present time have been done in 237 different individuals, the two cases of recurrent operation being fully described in my work on litholapaxy (*The Modern Treatment of Stone by Litholapaxy*, J. and A. Churchill, London, p. 57)—figures which I venture to think do not compare unfavourably with Sir Henry Thompson's, as regards the augmentation of any numbers from recurrent stone.

In my paper in this Journal I have recorded in detail three out of the twelve cases to which Sir Henry takes exception, two of them having occurred in children; and as my right to return these cases as operations for stone in the bladder has been called in question, I hope I may be permitted to give details of two others from amongst them which may be regarded as typical examples of these small calculi.

Case IX.—Samaroo, a hill-man, aged 48, was admitted to the Mussoorie Hospital on November 8th, 1886, with retention of urine. The patient was in great agony, the outline of the bladder being visible as high as the navel. He was relieved by catheterism by my assistant, Mr. J. McHale, who felt a small calculus at the neck of the bladder. The usual symptoms of stone had existed one year. I performed litholapaxy the same day. The patient being

chloroformed, the meatus was cut, a medium-sized lithotrite introduced, the stone caught and crushed, and the *débris* evacuated through a No. 14 cannula. The calculus was of uric acid, and the *débris* weighed 12 grains. There was dribbling and partial retention of urine for a few days, owing to the atony of the bladder from over-distension, but this gradually passed off, and the man was quite well by the 15th.

CASE LII.—Tooray Singh, a Hindu, aged 24 years, admitted to the Moradabad Civil Hospital May 9th, 1886, with all the usual symptoms of stone, which had existed four months. There was pain in passing water; severe pain after micturition, which the patient likened to thorns sticking in him; pain in the bladder on coughing; frequency of micturition, and passing of blood sometimes. I passed sounds of several kinds, but could detect no stone. I then employed the aspirator and cannula for diagnostic purposes, a No. 12 tube being used. I pumped in and exhausted water several times, but no click was heard. I then turned the eye of the cannula round towards the prostate, and repeated the process again, when a click was heard, and suddenly a round, jagged, uric calculus, weighing two grains only, appeared in the receiver. The symptoms of stone vanished completely after the operation. The patient presented himself on several occasions at the hospital, quite well.

Such, then, are typical examples of the cases of calculi which Sir Henry Thompson now proposes to exclude from the category of stone in the bladder, on the ground that they are under twenty grains in weight, or have been removed entire through the urethra. Small calculi of this nature are frequently attended by symptoms of the most painful and dangerous character, not the least being their liability to pass into the prostatic urethra and cause retention of urine. If not removed whilst small, they invariably grow into large stones. It is one of the greatest triumphs of Bigelow's operation, and its recent development in my hands, that small calculi, which before baffled detection till they grew into large ones, can now be diagnosed and removed with facility and safety. In 1884 I called the attention of the profession to a new method of diagnosis of stone by means of the aspirator and cannula, which was merely a development of Bigelow's method, by which the smallest calculi can be detected and frequently removed entire. This method is fully described in my work on *Litholapaxy*, chap. v, and Case LII, above described, affords an example of its mode of working. Its practical value has been borne testimony to in the handsomest terms by such distinguished surgeons as Mr. Reginald Harrison, of Liverpool, Surgeon-Major Keegan, of Indore, and others. I observe, however, that Sir Henry Thompson passes it over in silence; and the practical effect of the proposals which he now makes would be to ignore it altogether.

When Sir Henry, in support of his new position, states that "it was for the purpose of distinguishing the various small formations from 'stone' that the terms 'gravel' and 'concretion' have long been employed," thus making out that these terms were used to indicate the relative sizes of calculi, I must join issue with him. The term 'gravel' has always been applied to particles of calculous formation which escape through the urinary passages spontaneously, and has nothing to do with the actual size of these particles. As a rule, they are of course small, though sometimes they attain to considerable size; but large or small, if, owing to the formation of the bladder or urethra, they fail to pass out spontaneously, they form the nuclei of stones, growing in size and giving rise to all the symptoms of stone. If Bigelow's procedure has rendered the removal of such calculi, for which a grave operation was formerly essential, easy and less dangerous, is it, therefore, to be deprived of the dignity of an operation for stone, or the credit attaching thereto?

I observe that Sir Henry does not call in question the right of these small calculi (or "gravel" or "concretions" or whatever they may be called) to be regarded as "stone in the bladder," when the cutting operation is employed for their removal. Within a few days after Sir Henry's paper came to hand two cases occurred in my practice which presented a timely satire on this new departure in nomenclature. On March 9th I removed by litholapaxy from the bladder of a male child, aged 9, a small calculus weighing six grains, the symptoms having existed two years. On the 16th I removed by lithotomy from the bladder of a child, aged 2½, a calculus weighing four grains, the symptoms having existed eight months. The former case has left the hospital cured, and the latter is doing well. Am I now, in accordance with Sir Henry Thompson's proposals, to omit the former case from my list of operations for stone in the bladder and add the latter? And if so, how are we to compare the results of the two operations? Looking over the statistics of my stone operations, I find that amongst 236 lithotomies performed by me, the calculi in 29 instances were below 20 grains, varying from 4 grains upwards, and that amongst my 239 litholapaxies there were 38 instances of calculi under 20 grains. Am I now, at Sir Henry's suggestion, to score out these latter 38 instances of small calculi from my list of operations for "stone in the bladder," and retain on the list the former 29? The proposition is both unscientific and untenable.

Again, on what scientific grounds are we to draw the artificial and arbitrary line at 20 grains, below which a stone in the bladder is not to be called a "stone?" Why make 20 grains the limit rather than 10, 30, 40 grains, or even one drachm? My experience is that it is as easy to crush and remove a calculus of one drachm in weight as one of 10 grains; indeed, it is as a rule more easy to do so. Again, if we are to exclude these small calculi from the category of stone in the bladder because Bigelow's procedure has rendered their removal easy and safe, would it not be more scientific to push this practice still further, and assign to calculi of, say, three ounces and upwards, some new, distinctive name, which would convey to us some idea of the difficulty of dealing with such cases? There are three such calculi, weighing over 3 ounces, in my list of litholapaxy operations; but I observe that Sir Henry Thompson does not deal with calculi of their size by litholapaxy, the largest on record (Thompson's *Diseases of Urinary Organs*, seventh edition, p. 74) removed by him being 2¾ ounces. I notice that, whether taken individually or collectively, these small calculi removed by me do not satisfy Sir Henry, and he cynically remarks that the total weight of eight of them is "only that of quite a small stone." This is a somewhat novel method of judging the importance of small stones in the bladder. As well might I point out that it would take five and a half dozens of the 20-grain calculi, to which Sir Henry attaches so much importance, to make up one of my large calculi of over 3 ounces. Far be it from me to adopt any such fallacious mode of reasoning.

In conclusion I have, with diffidence, to refer to an impression which the perusal of Sir Henry Thompson's paper leaves behind. There is an old saying that statistics may be made to prove anything, and I regret much that Sir Henry's method of handling the statistics of my cases may convey the impression that any success that I may have attained in this branch of surgery is in great part due to my dealing for the most part with cases of small calculi. This impression was conveyed to myself, and it has been forcibly brought home to me by letters received from many fellow workers in India. And I observe that a writer in the JOURNAL, influenced I presume by Sir Henry's great name, sarcastically writes of these small calculi, remarking that they "can often be washed out or spontaneously expelled." That they can be washed out by Bigelow's apparatus I have frequently demonstrated; but how a calculus which fails to pass out at the bladder can be "spontaneously" expelled is beyond my humble comprehension.

To show that the impression I have referred to is altogether erroneous, I am obliged, in self-defence, to quote statistics and institute comparisons which would otherwise be unnecessary. Amongst the 239 cases of litholapaxy—the details of 205 of which have already been given in the various medical journals—the weight of calculi varied from 2 grains to 3½ ounces. I find that there are no less than 81 calculi the *débris* of which weigh one-half ounce and upwards: there are 36 calculi of one ounce and more; 12 of two ounces and more; and 3 weighing more than three ounces each. A glance at these figures will, I think, show that if I have pushed Bigelow's operation in the direction of cases of small calculi, I have not shrunk from grappling with large ones, a fact which will become more apparent when I state that of 82 adults suffering from stone, which I have operated on since January 1st, 1886, they have all, with the exception of one case in which suprapubic cystotomy was essential, been treated by litholapaxy; I hope ere long to have the pleasure of exhibiting my collection of calculi, now numbering nearly 500, removed by all methods, to the British Medical Association.

I think that it will be generally agreed that after we reach a certain size of stone, say one drachm, the difficulty of dealing with, and the danger attaching to the removal of, a stone will increase directly with its size; and that, taking the small with the large, the average weight of calculi removed by any particular surgeon will give the best indication of the difficulty of the cases

dealt with. Considering the marked manner in which Sir Henry Thompson calls attention to the cases of small calculi removed by me, and the importance he seems to give to his having no calculi below 20 grains in his list, it might be reasonably anticipated that he is in the habit of dealing with larger stones than I am; and that the average weight of his calculi would show a large excess over that of mine. But what are the facts of the case? I refer the reader to the very able monograph on Lithotrity, in Heath's *Dictionary of Surgery*, written by Mr. Cadge, of Norwich, in which, in a kindly notice of my work, he points out that the average weight of stone in my first 108 cases of litholapaxy was 317 grains (nearly ¾ of an ounce), whereas the average weight in Sir Henry Thompson's 75 cases done by Bigelow's method was 130 grains (a little over ¼ of an ounce). That is to say the average weight of my calculi was nearly two and a half times larger than Sir Henry Thompson's. These facts dispose of the erroneous impression I have referred to.

A CASE OF SUPRAPUBIC LITHOTOMY.

By ERNEST HUMPHRY, M.R.C.S., L.R.C.P.,
Mackay, Queensland.

A. W., aged 65, for the last three years has suffered from frequent and painful micturition, much aggravated by exercise. He had to give up riding on account of the pain it caused, and because of the quantity of blood passed with the urine afterwards.

On December 16th, 1887, I sounded him, and at once came down on a stone that seemed to be of considerable size. He was anxious for its removal, saying he would sooner die than suffer as he had been doing lately.

On January 4th, 1888, Dr. McBurney administered chloroform and Dr. Clarkson assisted me with the operation. A Barnes's india-rubber bag was first put into the rectum and distended with air. A silver catheter was then passed into the bladder and tied in, and about 8 ounces of water injected through it and retained. There was now dulness on percussion to about three inches above the pubes. An incision was made about four inches long, in the middle line, extending to the pubes, and the integuments, fat, etc., divided down to the bladder, which was easily made out by pressing up the catheter. The bladder was now seized laterally with two pairs of artery forceps near the pubes, and an opening made between them. The contained water immediately rushed out and the stone was easily felt. The catheter was now removed, and the incision in the bladder enlarged upwards and downwards, great care being taken to avoid wounding the peritoneum. The stone was then easily removed. The edges of the bladder were sutured with catgut, the mucous membrane not being included; the skin and deep structures were brought together with silk sutures, a drainage-tube being inserted at the lower end of the wound, which was dressed with carbolic oiled lint. A soft catheter was tied in the bladder *per urethram*. The operation lasted about an hour; the patient bore it well and was left in good condition. 10 P.M. Very comfortable; pulse 72; temperature 99.2° F.; blood-stained urine escaping freely through the catheter; a quarter of a grain of morphine hypodermically administered.

January 5th. 7 A.M. Passed a good night; pulse 72; temperature 99.2°; urine clear; some redness and œdema at lower end of wound and on dorsum of penis. 11 A.M. Vomited; much pain in wound; pulse 84; temperature 101.2°; redness on penis increasing; the three lowest sutures removed and the wound opened slightly; a quarter of a grain of morphine used hypodermically. 11 P.M. General condition much improved; feels quite comfortable; pulse 78; temperature 99°.

January 6th. Good night; pulse 78; temperature 99°; wound healthy, redness less; urine offensive; catheter changed and bladder washed out with a solution (one drachm to a pint) of boracic acid.

January 7th. Suffered in the night from flatulence; an enema administered; while straining during action of the bowels some urine escaped through the wound.

January 14th. Has been going on well; upper part of wound healed; urine passing freely through its lower part, very little escaping through the catheter, which is frequently getting blocked with discharge.

January 18th. Much improved; the catheter has been taken out, and, although the urine escapes freely through the wound, he has passed some twice naturally *per urethram*. A thick pad of lint was firmly strapped over the wound, and he was allowed to get up.

January 14th. Wound healed; has been walking out, and is quite well; expresses himself as feeling better than he has done for years; no trouble with micturition; can hold his water comfortably for six hours; urine clear and free from albumen.

The stone was oval in shape, weighed just over 5 ounces, and was eight inches and a half in its largest circumference. I have not had an opportunity of cutting it, but its outer crust is evidently phosphate of lime. The evident size of the stone gave me no option but to adopt the suprapubic operation. The only anxiety the case gave me afterwards was the redness that appeared about the wound and penis, probably the result of some very small extravasation of urine.

TWO CASES OF SUPRAPUBIC CYSTOTOMY FOR VESICAL TUMOUR.

By GILBERT BARLING, B.S., F.R.C.S.,
Assistant-Surgeon to the General Hospital, Birmingham.

CASE I. *Fimbriated Papilloma: Recovery.*—M., a stout man, aged 67, was admitted to hospital, September 22nd, 1887. He stated that for the last five years he had frequently noticed blood in his urine, and that it appeared without cause and disappeared in like manner. Eighteen days before admission an unusually severe hæmorrhage commenced, and continued without intermission until operation, twenty-one days after it started. The urine, always deeply tinted with blood, and specially so towards the end of micturition, was acid in reaction and free from pus; micturition was frequent, nearly every hour in fact, but without actual pain, although at times there was discomfort from the passage of clot. Careful and repeated examination of the urine failed to detect fragments of growth. Palpation failed to detect any enlargement of the kidneys. Rectal examination revealed general enlargement of the prostate, but bimanually no tumour or thickening could be felt in any part of the bladder. The diagnosis made was vesical papilloma, and the high operation was determined on. When the bladder was opened the finger detected a soft sessile tumour the size of a rather small strawberry, situated at the posterior part of the floor. The growth was easily removed with a scoop, leaving the coats of the bladder apparently healthy. The incision in the bladder was treated in the ordinary way, no attempt being made to suture it. The patient made a slow recovery, and remains well at the present time. Microscopic examination of the tumour showed it to be a papilloma.

CASE II. *Scirrhous Carcinoma: Death: Partial Post-mortem Examination.*—Mr. —, a thin, nervous man, aged 61, the subject of chronic bronchitis and asthma, was seen by me in consultation with Dr. Edginton. There was a history of intermittent hæmaturia for two years, the attacks varying both in frequency and severity, but, on the whole, becoming decidedly worse during the latter part of the time. Examination *per rectum* detected some enlargement of the prostate, but bimanually no tumour or thickening could be felt in any part of the bladder, nor could anything be made out by that method when the patient was anæsthetised for operation. The sound was introduced with some difficulty, but detected nothing abnormal in the bladder, nor did it excite hæmaturia. Palpation failed to detect any enlargement of the kidneys. The urine was examined several times for the presence of tumour fragments, but none were found, nor was there any pus present. During the attacks of hæmaturia micturition was frequent, and pain was produced by the passage of clot, but in the intervals there was neither pain nor increased frequency. The diagnosis made was vesical tumour, probably papilloma. The patient's sight failing him, he was seen by Mr. Priestley Smith, who found him suffering from "incipient atrophy of both optic nerves, probably due to the frequent and profuse losses of blood by the urethra." On March 7th, assisted by Dr. Edginton, I performed suprapubic cystotomy, and, on passing my finger into the bladder, detected a flat sessile growth about the diameter of a crown piece, situated on the left side of the posterior wall, and encroaching on the vertex; the centre of this patch was soft, and bore short papillæ; the margin was slightly raised and indurated. The papillary surface was scraped away with a scoop and the finger-nail, a drain was placed in the bladder, and the incision in the latter left unsutured. During the whole proceeding we had the utmost anxiety from the depressing effect of the chloroform on the patient's heart

(ether being inadmissible); and Mr. Elliott, who very skilfully managed the anæsthetic, found that when it was pushed to the extent of producing muscular relaxation, the heart almost flickered out. The following day, March 8th, the pulse was 120, feeble, and intermittent; the wound looked well; there was no tenderness or sickness.

March 9th. Wound looking well, no tenderness, no sickness; troubled with flatulence. Temperature 101°, pulse 106. Had an attack of dyspnœa, which depressed him greatly.

The two following days the record was much the same, a failing pulse with repeated attacks of dyspnœa of great severity. The wound all the time was satisfactory, and although there was flatulence there was neither tenderness nor sickness. Death took place on the fourth day after operation. Examination of the parts after death showed complete absence of urine infiltration. The peritoneal reflection lay at the upper part of the incision and was quite intact; a coil of small intestine was slightly adherent here, but there was no general peritonitis. The growth occupied the extent and situation described at the operation; its central part was excavated and rather sloughy; about a quarter of an inch of tissue intervened between its base and the peritoneum, the latter being firmly adherent here, so that it could not be stripped off. The lower margin of the growth was situated one inch and a half from the orifice of the left ureter. The ureters were not dilated. The prostate weighed nearly one ounce and three-quarters. No enlarged lymphatic glands could be detected in the abdomen or pelvis. Microscopic examination showed the growth to be a scirrhous carcinoma.

Remarks.—The diagnosis of papilloma was made in each of these cases from the recurrent hæmaturia, and the absence of pain and increased frequency in the intervals. That these two symptoms were wanting in the malignant growth is no doubt explained by the very unusual position of the tumour at the vertex. Bimanual palpation might have been expected to give some assistance in the diagnosis, yet under anæsthesia not even a suspicious thickening could be recognised in Case II. At the time of the operation the possibility of excision of the carcinomatous tumour was in my mind, as the conditions seemed eminently suitable for Antal's extra-peritoneal method. The *post-mortem* examination showed, however, that it was impossible to separate the peritoneum from the base of the growth, and the patient's condition on the table quite prohibited me from making the attempt.

OBSTETRIC MEMORANDA.

LABOUR COMPLICATED BY PROLAPSUS AND HYPERTROPHY OF THE CERVIX UTERI; ITS PROGRESS AND TREATMENT.

The patient, a woman aged 38, had been troubled with prolapse since the time of her girlhood, and a sister of hers had suffered from a similar affection. She was married at the age of 34 to a man aged 60, a printer, and gave a history of two former pregnancies, each of which had terminated in miscarriage at the fourth and fifth month respectively. During the present pregnancy the patient had worked very hard at washing, which often demanded great physical exertion.

She was first seen early on Tuesday morning, when she complained of continuous pain in the lower part of the back and abdomen, intensified at intervals of ten to twenty minutes. On bimanual examination the cervix uteri was found completely blocking up the vulvar opening, so that the finger could not be passed into the vagina, and projected externally for about two inches as a round fleshy mass three inches in diameter, tense and œdematous to the touch, with the central os sufficiently dilated to admit the forefinger. The fœtal head, covered by membranes and protruding slightly during the intensity of the pains, was felt at a distance of three inches from the external os. For several hours no further effect was produced on the fœtus, and 1 grain of opium was given. The patient soon obtained relief, and slept for some hours.

Next day the pains returned with greater frequency, and the membranes soon ruptured. The cervical mass increased in size, and now projected externally for three inches, with a diameter of about four inches; the central aperture was patulous to the same extent as on the previous day, and the fœtal head occupied the same position as then. After lasting for several hours the pains again left the patient, and next morning returned with greater severity. The fleshy cervix increased further in size, was tense, painful, and of a dull red colour, and appeared in imminent danger of sloughing. Hot fomentations were then applied continuously for four hours to this portion of the cervix, when it was found to be softer to the touch and rather smaller in diameter, with the fœtal head visible at the central aperture as a circular mass the size of a shilling. The edges of the cervical opening were still too rigid to allow of the expulsion of the fœtal head, so the fomentations were continued, and chloral in 20-grain doses was given every ten minutes. Rapid dilatation of the os followed, and at the end of half an hour the seven months' fœtus was easily expelled, and was shortly followed by the placenta. The patient immediately fell into a deep sleep, attended with insensibility of the pupils. She could not be roused by the ordinary means, but the subcutaneous injection of 5 minims of ether was followed by immediate effect; she could then be roused, and was able to drink some brandy. Next day the patient showed symptoms of collapse and exhaustion, and the cervical mass, though softer, was little smaller than on the previous day and quite irreducible. Towards evening the symptoms of collapse increased; stimulants and the tincture of strophanthus were administered, but the patient expired shortly after midnight.

H. T. Barton, M.B., C.M.
Burnley.

CLINICAL MEMORANDA.

CASE OF FATAL EPILEPSY IN AN ADULT.

On April 13th, 1888, I was called to Albert H., aged 43, a mason. He had always been perfectly healthy, but had complained of pain in the head and giddiness for the past few weeks; he had never had a fit of any sort before, and was very intelligent. On the day named he had just had his dinner at mid-day, went out of doors to resume work, fell down insensible, was picked up, and was immediately sick. On my arrival about an hour and a half after the attack, I found him perfectly unconscious, pupils no larger than normal, but entirely unaltered by exposure to light, face pale, with a clammy perspiration over it; hands warm, but slightly clenched; arms, legs, and body quite rigid, and feet very cold. I had him carefully removed home, a distance of about half a mile; put to bed, heat to feet, and tried to administer stimulants (ammonia), but the act of doing so brought on fresh convulsions, when the breathing was stertorous, with slight foaming at the mouth. When I left he was quiet, and seemed likely to fall into a gentle sleep, but convulsions returned in rapid succession, and he died from exhaustion five hours after the onset of the attack. During a convulsion the pulse became very weak, but regained power between them, but was weaker with each attack. The respirations increased in frequency during attack, but were tranquil between them. My prognosis was guarded; if attacks ceased, he would recover, but otherwise would sink from exhaustion, and the latter proved to be the case.

Would not this be a case of death in the *status epilepticus*, which Bristowe mentions as a rare termination; and was it not strange that the patient had never before shown any symptoms of this disease? His father and several brothers and sisters had died in fits.

Herbert V. Rake M.R.C.S.Eng., L.S.A.
Fordingbridge.

GYNÆCOLOGICAL MEMORANDA.

CASE OF INVERSIO UTERI OF FOUR MONTHS' STANDING: CURE.

C. G., aged 21, primipara, confined on Sunday, November 1st, 1884, at 3.30 P.M., after sixteen hours' labour, by a midwife. Male child, born out of bed; the patient then got into bed; the placenta came away after a short time, the mother observed "midwife take hold of cord," once or twice before the placenta came. Afterwards flooding commenced, and continued until 7 P.M., when the patient's condition gave cause for alarm. Mr. Brash was then sent for; he quickly attended, and called to his aid Mr. J. Delpratt Harris; unsuccessful efforts were made to return the uterus, and again under chloroform. She was removed to the Devon and Exeter Hospital. On November 23rd Dr. Aveling's sigmoid repositor was applied, and worn until the following Friday, then removed on account of pain and serious condition of the patient. Pelvic cellulitis appeared, frequent vomiting and diarrhœa; at the end

of a month she was in extreme danger. The mother unwisely determined to remove her daughter, in spite of the danger of such a proceeding. On her arrival home, I was sent for, and found her in a very low state, in great pain, very anæmic, thready pulse of 130; only able to lie in one position, right side, owing to the pointing of pus, namely, just below the superior spine of left ilium, and on each side of lower part of sacrum. I opened abscesses, poulticed with linseed meal, prescribed opium, milk diet, and no alcoholic stimulants. In a week she had improved, vomiting and diarrhœa had ceased and discharge of pus diminished. Examined *per vaginam*, found perversion, very tightly constricted by os uteri; any interference caused hæmorrhage.

Manipulation under full doses of opium and nitrite of amyl failed to make any impression. Also uterine repositor gave no result, only bringing on severe hæmorrhage, stopped by application of liq. ferri perchlor. fort. and glycerine equal parts, on a plug of cotton wool, and filling vagina with an india-rubber bag. Patient much reduced by my efforts, had to wait until stronger. Obtained large conical india-rubber air bags, used one, well supported, daily removal, and syringing with carbolic acid lotion; no avail. At end of February, decided to incise os uteri in two or three opposite directions. Passed speculum, seized uterus and pulled it down, passing a suitable bistoury on the flat, between os and uterus, turned it round and cut as freely as seemed advisable, repeated on other side; then seized the os with a pair of vulsellum forceps, nurse held these; then applying another pair on opposite side, which I retained in my left hand, used right to apply pressure with repositor to the fundus; keeping it up for a time the uterus began to yield, and was reduced with the exception of about an inch; applied my conical india-rubber air bag, inflated, and kept it well pressed up. Third day uterus had nearly all returned, fifth quite. Examination *per rectum*, bimanual, detected uterus in normal position. All discharges ceased. May 7th, the patient quite recovered. Menstrual periods have returned.

Remarks.—Dr. Aveling, in his lecture published in 1886, gives eleven successful cases of cure with sigmoid repositor and one failure. In the case it failed, he noted that the cap was too small for the fundus, consequently it slipped off whenever the patient moved. It is just possible that the cause of failure in this case was from a similar disproportion between the fundus and the cap of the repositor.

Exeter. Arthur Kempe, M.D.Brux.

SURGICAL MEMORANDA.

CASE OF INTESTINAL INTUSSUSCEPTION.

I was called to see E. H., a woman aged 33, who was taken ill with acute abdominal pains and sickness on March 16th. She had the symptoms of intestinal obstruction, the temperature being normal; there was a swelling about the size of a tennis ball in the right iliac region, very hard, and feeling like impacted scybala; the vomit was stercoraceous, and the tongue very foul. She was ordered perfect rest with raised knees, and half-grain doses of opium every four hours; Brand's essence of meat, beef-tea, and milk in small quantities frequently. There was a history of inflammation of the bowels in infancy.

On the 18th, there being no improvement, I called my partner, Mr. Kelsey, in consultation; the swelling had gone, otherwise the patient's condition was about the same—not much pain complained of, no tympanites, sickness very distressing, all forms of food being rejected almost at once.

On the 19th there was a slight fæcal discharge from the bowel, said to be stained with blood. This condition of affairs continued much the same until March 29th, when Dr. Holman was called in, and having found, after examination *per rectum*, a slight bloody tinge and fæcal smell upon the finger, he advised in the first instance to try the effect of copious injections of milk gruel made thin and beef-tea, and should that fail to give any relief, to remove the patient to the cottage hospital, and open the abdominal cavity. This advice was carefully carried out, a long stomach tube being without much difficulty introduced its whole length into the large intestine, and some three or four pints of gruel and beef-tea thrown up. There was a slight bloody stain in the last of this mixture on its evacuation again, with a very slight fæcal smell. In the evening a pint of strong beef-tea was thrown high up into the large intestine, and retained for a short time.

On the 30th the patient's condition was very much improved, there having been three actions of the bowels during the night, the first being considerably mixed with blood and very offensive. In one of these motions was passed a piece of small intestine, probably portion of the ileum, about twenty-one inches in length. Since March 20th the patient has been making excellent progress.

Remarks.—This case appears especially interesting, as there was no high temperature from beginning to end, and but little pain. Some eight years ago I had a similar case, when a portion of intestine was passed under much the same circumstances. It seems to me that both cases point rather to trying rest and opium in preference to early interference.

Redhill. H. W. Ewen, M.R.C.S., L.S.A.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

CHARITABLE DISPENSARY, NEEMUCH, CENTRAL INDIA.

CASE OF SUPRAPUBIC LITHOTOMY.

(Under the care of Surgeon W. H. Quicke, M.D., I.M.S., Superintendent, and in Medical Charge of the 2nd Regiment, Bombay Lancers.)

K. N., Hindu, aged 72, labourer, was admitted March 20th, 1888, suffering from pain in the penis, frequent micturition, bloody urine, and the other usual symptoms of stone in the bladder. The patient stated that he had suffered from these symptoms for the last three years. He was much emaciated, extremely nervous, resenting all examinations even to palpation of the abdominal walls. On examination under chloroform a large stone was felt at the neck of the bladder.

On March 23rd suprapubic lithotomy was performed by Surgeon W. H. Quicke, assisted by Surgeon-Major Blair Brown, Surgeon D. V. O'Connell, and Assistant-Surgeon Pastwalla. A fresh goat's bladder was used as a rectal bag; ten ounces of water were injected into it by means of an enema syringe. The bladder was not injected, as it was made to show well above the pubes by injecting the rectal bag. On dissecting down behind the pubes, the bladder was found to be much displaced to the left side; the peritoneum was clearly seen on the right of the bladder, and could be traced through the whole extent of the abdominal incision. Two sutures of stout silk were put in the walls of the bladder, and a vertical incision made between them. There was a little difficulty in extracting the stone on account of its large size, but this was overcome by pushing it well into the wound by means of a finger in the rectum; it was then easily seized by the forceps and extracted. The stone was composed mainly of uric acid, with a little oxalate of lime, and was moulded to the shape of the bladder. It was $8\frac{3}{4}$ inches in one circumference, and $7\frac{1}{2}$ in the other; it weighed 6 ounces and 420 grains. The walls of the bladder were much hypertrophied. Three silk sutures were used to close the incision in the bladder; a drainage-tube was passed well down to the floor of the viscus, and brought out at the lower end of the abdominal incision, which was closed by superficial and deep sutures. The wound was dressed with iodoform and clean cotton-wool. The patient was kept on his right side, which allowed the urine to come away freely by the drainage-tube. The skin of the abdomen, scrotum, and thighs was protected from the irritating effects of the urine by freely lubricating it with carbolic oil. The bladder was washed out daily with a solution of quinine or boracic acid.

The patient made an uninterrupted recovery; the pulse and temperature were normal throughout. The drainage-tube was removed on the fifth day. The upper part of the abdominal wound was closed by first intention. Urine was passed by the urethra for the first time on the seventh day. The patient left the dispensary well on May 3rd.

Remarks by Surgeon W. H. Quicke.—1. The large size of the stone, the ease with which it was extracted, the age of the patient, the perfect recovery, and the few instruments required, would lead me to suppose that suprapubic lithotomy has many advantages over the other methods. 2. Antiseptics were freely used during the operation and after treatment.

CASE OF OVARIOTOMY.

S. R., Mahomedan, aged 25, no occupation, married, had five children, last pregnancy three years ago; menstruation irregular and sometimes painful. Admitted March 15th, 1888. States that she noticed a swelling on the left side of the abdomen soon after the birth of the last child, three years ago. On examination, the tumour was found to occupy a position in the centre and left of the abdomen.

On March 22nd, ovariotomy was performed by Surgeon W. H. Quicke, assisted by Surgeon-Major Blair Brown, Surgeon D. V. O'Connell, and Assistant-Surgeon Pastwalla. The total weight of the tumour removed was 20 lbs., cyst-walls and semi-solid portions weighing 8 lbs. 2 ozs., and the fluid 11 lbs. 14 ozs. There were no adhesions. The operation would have been quite an ordinary one had proper instruments been procurable. This is only a charitable dispensary, and expensive instruments cannot be provided. The patient would not go to a larger station where a plentiful supply of surgical instruments is kept; and, moreover, she insisted on returning to her home if she was not relieved quickly, where she would have died most probably in a month or so. I had my instruments made by a native blacksmith who worked in the regimental workshops. A trocar for puncturing the cyst was made out of an ordinary piece of brass tube a quarter of an inch in diameter, sharpened at one end to a pen point; this was fitted with a piece of tubing used for a horse enema syringe. On either side of the puncture made by the trocar in the cyst-wall stout silk ligatures were introduced; these were used to lift up the tumour and to tie in the trocar, thus preventing any fluid getting into the abdominal cavity.

The pedicle was secured by a silk violin string, and returned into the peritoneal cavity. A piece of ordinary india-rubber irrigation tube was used for drainage; this was introduced into Douglas's pouch, and brought out at the lower end of the abdominal incision. Needles used by sailmakers were obtained from the bazaar, and answered excellently to suture the abdominal walls. Antiseptics were freely used throughout the operation. The wound was dressed with iodoform and dry lint. The ordinary after-treatment was carried out. The wound was dressed again on the fifth day, and the drainage-tube removed. Again dressed on the ninth day, and the sutures removed. There was never any discharge; the wound healed by first intention. The patient made a perfect recovery; both pulse and temperature remained normal throughout. She was discharged on April 24th. The patient was somewhat excited on the third day after the operation by the menses appearing.

REMARKS BY SURGEON W. H. QUICKE.—1. The above operation and the case of suprapubic lithotomy were treated at the same time in an ordinary building that was used as a charitable dispensary; they were not put into separate rooms; but were treated with the ordinary sick. 2. I attribute the success of the above operations to the use of antiseptics and cleanliness; the latter was very difficult to carry out, as the patients were poor and extremely dirty in their habits. 3. I have often found that native blacksmiths, especially those employed in regimental workshops, will make as useful an instrument as any surgical instrument maker.

WELLINGTON HOSPITAL, NEW ZEALAND.

THIRD CASE OF SUPRAPUBIC CYSTOTOMY IN WELLINGTON HOSPITAL, N.Z.

(Under the care of Dr. GILLON.)

J. R., aged 46, was admitted on December 3rd, 1887, suffering from pain and frequency in passing urine. These symptoms had been present for over three years—in fact, he had been troubled more or less with his bladder for six years.

December 6th. Suprapubic cystotomy was performed by Dr. Gillon in presence of Drs. Grace, Cole, and Hassell, the steps of the operation being the same as in the other two cases previously reported in the BRITISH MEDICAL JOURNAL (1887, Vol. ii, p. 239), and 1888, Vol. i, p. 695). The stone measured about two inches and a quarter in diameter, and weighed an ounce. It was rounded in shape and flattened, and was composed of uric acid. A large glass drainage-tube was inserted into the bladder, and three deep and three superficial sutures used. Three feet of india-rubber gas-piping was fixed to a flange at the end of the glass tube; the piping being long enough to dip into a urinal at the side of the bed.

After-Treatment.—December 6th. One grain of opium given at night. Temperature at 9 P.M. 100°; pulse 100.

December 7th. One grain of opium given morning and evening. Temperature at 4 A.M. 99.2°, and 99° at 10 P.M. Urine running freely through drainage-tube. Pulse 84.

December 9th. Temperature normal from this date onwards. Tube syringed out three times a day with Thompson's fluid. Opium stopped.

December 13th. Superficial stitches removed; patient turned on one side.

December 20th. Passed urine through penis to-day. Smaller soft india-rubber drainage-tube used; glass one discontinued.

December 21st. Bladder syringed out with Thompson's fluid, *per urethram*, twice a day; urine coming both ways.

December 24th. Tube removed from bladder wound altogether. Dressed from the bottom with carbolised oil.

December 28th. Nearly all the urine coming *per urethram*, only a drop or so through the wound.

January 11th. Patient up in the ward. Bladder still washed out daily.

January 25th. Discharged cured.

NOTE BY DR. GILLON.—I was called to see J. R. at his house six days after his discharge from hospital, and found that a leakage of a few drops of urine had taken place on February 1st. On inquiry, I found that J. R. had "strained" himself while in bed the previous night, and this probably accounted for the accident. I attended him for seven days, and dressed the wound from the bottom with unguent. resinæ and iodoform, and on February 7th it had quite healed. It has remained perfectly right ever since, and he can now hold his urine for five or six hours at a time. (March 25th, 1888.)

ROYAL PRINCE ALFRED HOSPITAL, SYDNEY.

EPITHELIOMA OF PENIS: AMPUTATION BY THIERSCH'S METHOD, AND REMOVAL OF TESTES.

(Under the care of Mr. G. T. HANKINS.)

[Reported by E. G. BLAXLAND, M.R.C.S., L.R.C.P.]

J. H., aged 58, single; admitted September 21st. Had always had a long and tight prepuce, and never paid any attention to cleanliness. Six months ago the patient first noticed a discharge from the penis, and two months later a hard lump was discovered just within the prepuce, which was soon followed by a sore on the mucous membrane. Continuing to get worse, the patient came to Sydney for treatment.

On admission there was a hard mass involving the prepuce and glans, and affecting the body of the penis beyond the junction of the scrotum. There was a small fungating mass protruding from the opening of the prepuce, from which issued a thin discharge. The glands in the groin were shotty, and there was some thickening along the course of the iliac vessels. It was impossible to find the orifice of the urethra. After consultation with the staff, Mr. Hankins removed the whole of the penis, separating the crura from the rami of the pubes and ischium, and tranplanting the urethra into the perineum, as advised by Professor Thiersch. It was considered inadvisable to interfere with the inguinal glands, trusting that much of the induration would subside after the removal of the source of irritation.

In dealing with the testicles, which were healthy, the recommendation of Mr. Wheelhouse (see JOURNAL, January 30th, 1886) was acted upon and the organs removed, the spermatic cord being ligatured *en masse* with carbolised silk. The redundant skin of the scrotum was cut away, and the flap sutured along the middle line with horsehair. A small drainage-tube was inserted in the direction of each inguinal canal, and a third at the most dependent part of the incision. The urethra was slit for about half-an-inch on its upper surface, and stitched with about eight horsehair sutures to the skin in the perineum an inch in front of the anus. Dry sublimate dressing was used. Within an hour of the operation the temperature rose to 103° F., but it fell towards morning, and from that time remained normal.

The urine was drawn off by catheter for two days, after which such assistance was unnecessary. The wound healed by first intention, except at the spot where the two inguinal tubes came to the surface in the middle line.

Six weeks after the operation the patient was able to come to town, and show himself at a meeting of the New South Wales Branch. The glandular enlargement had much diminished, and the patient was very comfortable, the parts much resembling the

genital organs of a female. Sir William Mac Cormac's suggestion as to the tin spout to enable the patient to micturate without sitting down has been carried out with success.

REVIEWS AND NOTICES.

LECTURES TO PRACTITIONERS: On the Diseases Classified by the Registrar-General as Tabes Mesenterica, by W. T. GAIRDNER, M.D., LL.D.; On the Pathology of Phthisis Pulmonalis, by JOSEPH COATS, M.D. London: Longmans, Green, and Co. 1888.

THE presence of the names of the two Glasgow professors on the title page is a guarantee that much of the book will be found original and the whole of it instructive and interesting. Professor GAIRDNER'S account of "Tabes Mesenterica" is given in what one might call the classic style of the clinical lecture. It is a matter of regret that the great accumulation of medical facts will not always allow of their presentation in such delightful form, even if every medical author had the easy style of Dr. Gairdner. The old idea, that tabes mesenterica was essentially a disease of the mesenteric glands and that the wasting is due to the obstruction thus caused to the passage of chyle, is shown to be wrong. Dr. Gairdner maintains and demonstrates from cases the correctness of the modern view that the affection is really a tubercular peritonitis. The physical signs may be presented in any of four types: 1, a slight amount of mobile fluid in the abdomen; 2, non-mobile fluid; 3, dulness over the greater part of the abdomen, but with resonance over the stomach, the transverse colon, or in one or other groin; 4, an alternation or succession of the preceding conditions. Further, there is a preternatural hardness of the abdomen due to thickening of the peritoneum, and especially of the greater omentum. In spite of the presence of tubercle Dr. Gairdner shows that the prognosis is not always unfavourable. He gives a most useful account of the treatment he is accustomed to adopt in such cases, and it may be mentioned that on the whole he is averse to operative interference.

Dr. COATS'S share of the book covers a much wider field. He gives an account of the pathology of phthisis pulmonalis as he himself has observed it in his great experience. Personal observation is impressed on nearly every page, and renders the work of exceptional value. He makes but two divisions of phthisis, the caseous and the fibroid varieties, the latter being due to a much greater power of resistance to tubercular disease. Dr. Coats believes that syphilitic disease of the lungs does occur, but it is very rare, and he records two cases of the kind. We venture to think that the second case was not of syphilitic nature. Dr. Coats himself was somewhat uncertain on this point, and the reasons he gives in favour of the diagnosis seem to us to be hardly sufficient. He disagrees with the view that the pneumonokonioses are tubercular in character, and also is of opinion that tubercle of the larynx may be the exciting cause of tubercle of the lungs, by reason of the insufflation of the discharges. Both these opinions are at variance, it will be observed, with those of other observers, amongst whom may be mentioned the late Dr. Fagge. The pages treating of the relation of the tubercle bacillus to phthisis and of the methods of extension of the disease will be found specially interesting, but cannot well be summarised here.

The book is excellent, and we can commend it to our readers as offering an exceptionally clear account of its subjects.

DIE ÆTIOLOGIE DER CHRONISCHEN LUNGENSCHWINDSUCHT VON STANDPUNKT DER KLINISCHEN ERFAHRUNG. Von Dr. HERRMANN BREHMER, sen. Berlin: August Hirschwald. 1885.

HOWEVER potent the tubercle bacillus may be in producing phthisis, it must always be remembered that conditions must be favourable for its growth before its effects can be produced. A consideration of such conditions, of the laws which govern their hereditary transmission, and of the circumstances under which they develop *de novo*, is of the utmost importance to the physician. From a diagnostic point of view it will now be generally admitted that the finding of the tubercle bacillus is a great help, but beyond this, in prognosis, in treatment, and especially in prophylaxis, the clinical features of the disease must not be overshadowed by this one point in its pathology. Dr. BREHMER has, in the treatise before us, endeavoured to elucidate the etiology of chronic phthisis from a clinical standpoint, by a consideration of representative examples from 12,000 cases coming under his care at the phthisis station in Görbersdorf. His results may be briefly stated as follows:—From the first hundred cases quoted it is induced that in a large family born of healthy parents having no phthisical history, the children born latest show a tendency to develop phthisis. This tendency generally commences with the sixth child, and is specially marked when the children have been born at short intervals from each other. Moreover, the tendency shows itself by a small appetite, palpitation of the heart, and difficulty of breathing during the developmental period. Again, from a second century of cases, it is shown that phthisis is prone to develop in a family where the parents are healthy, and there is no history of lung disease, if one or both of the parents are late members of a large family. Another hundred cases are given of phthisical patients who suffered from scrofulous affections when young, and it is shown that these possessed the predisposing influence of both the preceding groups. They were late children of large families and so also were their parents, consequently the double tendency to phthisis showed itself by the appearance of scrofulosis in the early years. The author is also of opinion that there is a certain relationship between phthisis, epilepsy, deaf-mutism and mental derangements, as shown by the history of families given.

The conclusions quoted are clearly of some importance, and seem to be maintained by the facts. On less sufficient grounds the author believes that there is but little clinical support for the view that the tubercle bacillus is an exciting cause of phthisis. He considers, too, that the actual bodily condition favourable to phthisis, and capable of direct transmission, is a small heart with large lungs.

But why could not all this have been told in fewer words? The book consists of 517 pages. A large number of these are taken up by the reports of 500 cases, but of the nature of the text an idea will be formed when we say that of the first 142 pages, no less than 83 consist of quotations in inverted commas, without the slightest pretence at abstraction. This is not uncommon in Germany; but we cannot help feeling our mind prejudiced against an author's views when we find them presented in such verbose form. We notice also that English work on tuberculosis is almost entirely ignored in the otherwise extensive account of the literature.

DE L'ALBUMINURIE INTERMITTENTE CYCLIQUE. Par le Dr. V. MERLEY. Paris: Baillière et Fils. 1887.

TEISSIER of Lyons, who is well known for his observations in urinology, has been engaged for some time in the study of the so-called physiological albuminuria. In the inaugural thesis before us, M. Merley has collected numerous examples of the disorder from Teissier's practice, and gives the conclusions drawn by himself and his chief from a consideration of these cases. Amongst the points which are insisted upon as of importance in the diagnosis, are, that the phenomenon of "numb finger," said by French physicians to be common in Bright's disease, is absent in functional albuminuria, that the pulse tension is low, that the "bruit de galop" is not heard, and that—"un caractère spécial"—the urine greases the glass and contains numerous refractive granules, but no casts. Of these the "bruit de galop" and the "numb finger" are of such irregular occurrence in true Bright's disease as to be useless for diagnostic purposes. Moreover, the "bruit de galop" is common to many functional diseases. In the absence of further proof, we must consider the "glistening spangles" seen in the urine as foreign matters added after the urine has been voided. We believe with the author that in some cases of functional albuminuria the pulse is of low tension, but Dr. Maguire has shown that other cases exist, not very exceptional, as M. Merley says, in which the pulse is characterised by high tension. Runeberg's theory, that albuminuria is produced by low arterial tension, is quoted in support of the author's views, although it has been long ago abundantly disproved.

As to the nature of the disorder, Merley agrees with Dr. Ralfe that the albuminuria is related to hæmoglobinuria, and is due to a too great destruction of red corpuscles in the liver. At the same time, however, he agrees with Teissier that we have here to deal with a slowing of nutrition, and especially with a diminution in the consumption of albuminoids, the whole disease having affinities with gout. We confess that we cannot see much connection

between the two views, nor do we think that anything beyond theoretical argument is advanced in favour of either of them.

The resemblance of these cases to others of commencing interstitial nephritis, and of acute transitory albuminuria, is pointed out. Our own view is that in the future the pathology of these affections will be found to be as much alike as their clinical features—that, in fact, the kidneys are at fault as regards the albuminuria, and that we must seek in the general system the causation of the kidney change.

We disagree with many of the views expressed by the author, but we highly appreciate his work, and can commend it to all who are interested in the subject. The existing literature has been carefully searched and read, and the concise abstracts are an excellent feature of the book.

Les Stations D'Eaux Minerales du Centre de la France' La Caravane Hydrologique de Septembre, 1887. Par MM. P. de Pietra Santa et A. Joltrain. 8vo, pp. 229. Paris: G. Carré. 1888.

This book is a publication of the Société Française d'Hygiène. It is both amusing and instructive. The amusing part is an account of the travels of a party of about fifty members of the Société d'Hygiène, who, accompanied by a few ladies, made hurried visits to some of the mineral waters in the centre of France. Those who were present recently at the opening of the new baths at Woodhall Spa will know that such meetings may be pleasant ones. But the French excursion party had more time to spend and a great variety of places and scenery to admire. They seem to have enjoyed their travels, and a minute account of them has been given by their secretary, not scorning such details as that at one place they had a slight ablution; at another, during some fireworks, two of the doctors of the party suffered to the extent of having their pantaloons slightly burnt. They had ravishing promenades; walks in meadows, where they gathered bouquets for the ladies; they were received by a marquise; were regaled more than once with *mets et vins exquis* with luxury unheard of; had dinners and punches and theatrical performances offered them—nay, in one case, their carriages were ornamented with garlands and Venetian lanterns. But we cannot pursue this interesting branch of the subject further than to say that the whole party were so delighted that they resolved to renew their pleasures this year in pastures fresh.

If we turn now to the instructive portion of the volume, it gives a very readable and clear account of many French mineral stations of various importance. Pougues, the waters of which are little more than lime table-waters; Saint Honoré, sulphur; Bourbon Lancy and Bourbon l'Archambault, both warm chloride of sodium; Vichy; Néris; Chateauneuf, a new station, on the beauties of which the report descants; Châtel Guyon, Royat, La Bourboule, Mont Dore, and Saint Nectaire. Only four of these stations—Vichy, Royat, Bourboule, and Mont Dore—are well-known to the English, and of these pretty full accounts will be found. In the chapters on Vichy, there are graceful acknowledgments of the writings of Prosser James and of Dr. Cormack, which it is pleasant to see. Fêted visitors cannot, of course, make very accurate observations, but they have in this case registered carefully what they saw and heard; and a supplement of special reports, by the medical men of the various stations, on the therapeutic application of their waters, enhances the value of the book, which is quite worthy of the attention of those who intend to visit Central France and Auvergne for its alkaline waters. We shall welcome an account of the proceedings of the adventurous excursionists in other parts of France this year; and hope that they will again return home gratified at what they have seen, and at having made the acquaintance of more of their *confrères* in the provinces.

Irregularities of the Teeth, and their Treatment. By Eugene Talbot, M.D., D.D.S., Lecturer on Dental Surgery, Rush Medical College, Chicago. London: H. K. Lewis.

At great length and with much detail this monograph discusses an important topic, usually dealt with more briefly in works on dental surgery. To such works the surgeon should turn in the few instances in which he is sufficiently interested to desire acquaintance with the subject. The present work may, however, be recommended to the dental student and practitioner. It is rendered valuable by raason of the large number of well-executed cuts which it contains, illustrating typical examples of every form of deformity of the teeth and jaws; and clearly depicting the various kinds of mechanical contrivances which the ingenuity of dentists has devised for the treatment of these cases. Although some of the author's physiological speculations may be more than questionable, the practical portion of the work is thoroughly sound and indeed, there exists very little, if any, difference of opinion among scientific dentists regarding the principles upon which practice should be based. Happily for the often overburdened family medical man, who, among his multifarious duties, has often hitherto been called upon to advise in dental cases, or even act as dentist, he is becoming less and less frequently required to perform that function. Thanks to dental reform—which culminated in the passage of the Dentists Act—and thanks to the organisation of admirable dental schools (the London Dental School is probably the best in the world), the profession is now being recruited from year to year by an increasing number of highly educated and thoroughly trained licentiates in dental surgery, who are gradually supplanting the older—often half educated or ignorant—men who have until lately held the field of dental practice very largely to themselves; so that now, even in country districts, it is becoming common to find a dentist to whom patients may with confidence be referred. Nothing is more clearly brought out in works like that before us than the vast amount of suffering which may be inflicted upon children by ignorant or unskilful interference with the teeth during the progress of second dentition. It would be well if some main facts could be borne in mind and impressed upon parents. For instance, medical men might well recollect that far more harm than good is done, in the vast majority of cases, by the common practice of extracting temporary and permanent teeth for the cure of irregularity before the age of twelve, or before such time as the second permanent molars are well in place. Then, again, it is extremely bad practice, except in very rare cases indeed, to extract a permanent incisor or canine. The loss of any of these teeth destroys the symmetry of the dental arch; and, moreover, a back tooth may always be chosen, which will better serve towards the relief of crowding or irregularity at the front of the mouth. The choice will most often fall upon the first permanent molar. This tooth is the most liable to decay, and often is so defective in structure that it cannot be preserved for many years. These teeth are the frequent source of severe suffering, giving rise to the worst form of toothache, when decay approaches the nerve. Appearing at about the sixth year, almost simultaneously with the permanent incisors, and taking their places at the ends of the jaw, beyond the range of the first set, they are, because they do not displace milk teeth, often mistaken for temporary teeth, allowed to fall into hopeless state of decay, and extracted to relieve pain in early childhood. These teeth ought to be frequently examined, filled on the first sign of decay, and ought never to be removed until the second molars are in their places—at about the twelfth year. In most cases, to relieve crowding, it is desirable to remove a tooth at each side of the jaw. Nothing conduces more to the early onset and rapid progress of decay than a crowded, irregular condition of the teeth; and where this condition exists, the removal of two back teeth from either jaw has a beneficial influence over the future welfare of the rest of the set, and on this ground alone the operation is often called for; but, if the first molars are sacrificed too early, the second molars fall forwards as they are erupted, and prevent the backward movement of the crowded front teeth. Premature removal of the sixth year old molars leads also to an incorrect "bite"—the jaws becoming unduly approximated on closure. When the first molars are of good quality and comparatively free from decay, it is good practice to sacrifice bicuspids, or second molars, if these are inferior. By judicious interference of this kind, at the right time, a great many cases of dental irregularity may be cured—the teeth having a natural tendency to assume correct positions where room is afforded. There remains a proportion of cases in which faulty articulation of the teeth of the opposing jaws prevents their spontaneous movement; others in which deformity is due to malformation of the jaw or alveolar margin. These cases call for the mechanical treatment so fully described in Dr. Talbot's work—treatment based upon the fact that teeth can be drawn into correct position, and the young bone be modified to almost any degree in shape by the continuous exercise of pressure or traction in the desired direction. In the invention of apparatus—regulating frames—for these purposes, a great deal of mechanical genius has been displayed by modern dental practitioners.

PROCEEDINGS OF THE SOCIETY FOR PSYCHICAL RESEARCH. Part xi. London: Trübner. 1887.

THE composition, the methods and the subjects for inquiry of the Society for Psychical Research, all contain factors which exclude that society from the field of science.

While its professed objects are the settlement of the most abstruse questions with which the human intellect can deal, and inquiry into the most perplexing phenomena which can puzzle mankind, its members are very far indeed removed from the class of accurate thinkers and inquirers who could alone hope to grapple successfully with such difficult problems. While 25 per cent. of the members and associates of the Society are women, 9 per cent. clergymen, and 3 per cent. military men (three classes of persons who, by education and mode of thought are the least capable of weighing evidence and exposing fraud, of any we could name), only 8 per cent. of the whole have any, even the least, claim to the title of men of science.

Nor are the methods of investigation of the Society less open to stricture than the capacity of the investigators. In the field of true science there are no limitations to the mode of research except the natural ones imposed by the character of the substance experimented on; nothing has to be taken on trust; conclusions are drawn only from observations at first hand; these again may be subjected to control experiments born of the most intense disbelief, without in any way vitiating the conditions of success; the phenomena observed are objective; and finally, the results obtained from like experiments under like conditions are always constant. But with inquiries of the Psychical Society all is very different. Experiments can only be performed under dictated conditions, by secondary agents often of doubtful reputation; there must consequently be an absence of checks and tests of real value. Faith must be as heavily laid under contribution by such psychological inquirers as by the theologian: nor are the results attained always self-consistent; neither are the methods adopted clear from the suspicion of conscious or unconscious deception.

But the objects of inquiry themselves are not what the title of the Society would lead us to imagine. It is not the objective phenomena of mental action which are examined. Their nature is rather attempted to be fathomed by the consideration of certain subjective manifestations—extending from the quasi-scientific hypnotism, through the quite unscientific regions of phantasms of the living and of spiritualism to the puerilities of telepathy and planchette.

We have hinted that a most unscientific degree of faith is demanded of the inquirer—to doubt is almost apparently as fatal in this pseudo-psychology as in theology. Such sentences as the following are by no means uncommon: "Of course there could be no doubt of the good faith of the medium." "I saw experiments conducted with good faith and care." "It would have little profited us to embellish the results." But we advance even further in the direction of theological requirements than mere simple faith, and get to quite advanced questions of controversial speculation. The following, for instance, forms a part of the presidential address: "I need not say that many of us believe in the existence of other intelligent beings besides man, unseen by us as a rule, and in all probability superior in mental rank. Many, too, believe that the denizens of the spiritual world are not indifferent to our welfare, and that we frequently receive aid from them in important crises in our mortal life, while others are not unwilling to solicit such aid. But probably all are agreed that, assuming the existence of spirits, there is at least as great a variety of character amongst the inhabitants of the unseen world as amongst ourselves, if, indeed, the range of character be not greater, extending upwards to heights of goodness which we cannot reach, and downwards to depths of guilt and ignominy which we cannot fathom. Many will argue that under these circumstances we must so guard ourselves in our intercourse with the spiritual world as to be certain that our advances will only be responded to by the good. And unquestionably a bad man who appeals to evil spirits to help him in his wickedness deserves the reprobation of humanity, even although his advances may not meet with any response."

Such a vexed question as this is almost as important as that of the old schoolmen, namely, "How many angels could sit on the point of a needle?" and perhaps quite as much in consonance with the spirit of modern thought. But a more important question has still, according to Professor Balfour Stewart, to be settled. "A man must trust his fellow-workers, otherwise he will not be able to advance the department of knowledge to which he has devoted himself. And if our object be to receive scientific evidence of the existence of spirits, this assumes co-operation between ourselves and these intelligences. But here we have no guarantee for character such as we have a right to demand from our fellow-workers in science. We know very well that our comrades in any ordinary branch of knowledge or science are perfectly honest, and that their object is to advance that branch. But supposing, for the sake of argument, that we can communicate with spirits, what proof have we of their honesty, or how do we know that their object, as well as ours, is to obtain for us good evidence of their existence? Some of us may be disposed to question the likelihood of man being permitted in his present state to obtain at will scientific evidence of the existence of spiritual beings. The spirits with whom I assume, for the sake of argument, we are brought in contact may neither have the power nor the will to prove their existence as a scientific fact, and yet they may have the power of leaving the door of evidence partly open. We may in truth be dealing not so much with willing coadjutors that will assist us in throwing this door completely open, as with versatile opponents who will equally oppose all attempts either to throw it completely open or to keep it definitely shut. In fine, we are not sure that this research will ever be decisive, or that we shall be able to prove either an affirmative or a negative. It is not necessary to discuss the question whether one who has satisfied himself that he is in communication with spirits is acting wisely in continuing the intercourse. We have not, I imagine, as yet proceeded sufficiently far to entertain this question."

According to this dictum your spirit may be a fellow of infinite jest, and indeed if we regard planchette as a spirit, appears to have a much greater sense of humour than his employer. One could not easily beat the following, with its solemn acceptance of message and persevering attempts to elucidate it, while the somewhat indelicate planchette was poking the most flagrant fun at its victim:—"Planchette had been unable to write plainly the name of the 'spirit' communicating, and so we had asked whether it was man, woman, or child. The answer was at last deciphered as 'triangle.' For a whole day we tried to make out this enigmatical response, and were in doubt whether we should ascribe it to the unconscious cerebration of my mathematical brother, or whether we had made the acquaintance of an intelligent two-dimensional being. Next day we discovered that the 'triangle' called itself 'Eudora,' and we of course asked 'What it had meant?' 'Three in one.' 'How then can you be both male and female?' 'By mere accident.' After some other questions a doubt was raised by (my sister) L. whether 'Eudora' and the name of the only other 'spirit' that had communicated might not be 'aliases,' and she asked, 'Are you and Johnson one?' 'Yes, one, man and wife' Here we seemed to get a clue to two sides of the 'triangle,' and proceeded to ask whether there was a child as well. 'Coming,' was the unexpected response. Next day we were told that the baby was 'never' going to be born, 'because it had never been born on earth.' This surprising piece of information was then explained by the assertion that it was being 'spiritually evolved' and not therefore 'born.'"

Here, as in the case of the writer of the succeeding paper, the only person who could really give reliable evidence at first hand—namely, the author of the paper himself—is unable to produce any results worth the name, which renders the account perfectly valueless as a piece of evidence, what he saw being in its origin entirely subjective and open to suspicion.

Perhaps the most remarkable paper in this remarkable volume is the account of Thought-Transference at p. 324, where some of the results may indeed be described as surprising. The *modus operandi* was as follows. One person sat facing a corner of the room, with his eyes lightly blindfolded. The remaining three sat facing his back at a table on which was placed a sheet of white paper. On this sheet one of the three drew a figure, upon which they all solemnly fixed their eyes, and concentrated their whole will on the endeavour to make a mental impression on the person in the corner, called the "percipient." In one striking instance, a young lady being the percipient, the others drew a St. Andrew's cross upon the paper; the result was that, after twenty-two minutes, the percipient remarked: "I am not clear about the figure. Now I see a ladder; now it looks like a flight of steps, now like a footstool." To the remark of the reporter that "a certain approximation" between the object and its description "is



PLATE 1

TO ILLUSTRATE

THE PAPER BY PROFESSOR CROOKSHANK ON COW POX.

Vincent Brooks, Day & Son, Lith.

unmistakable," the editor adds the not unacceptable note "that this may perhaps be questioned." After such evidence of absence of bias on the part of the reporter, who can longer doubt?

The question of hypnotism having been adopted by some French physicians as a scientific one of much importance cannot be fully treated in such a review of this, except by the remark that the methods of these experimentalists seem to us wanting in precaution and abounding in possibilities of undue suggestion to the victim. The moral aspect and medico-legal question of hypnotism, as hinted at by the late Mr. Edmund Gurney in his paper on "The Peculiarities of Certain Post-Hypnotic States," are, however, far from satisfactory to contemplate. He acknowledges that, with exceptionally sensitive persons, a hypnotic order will produce the consequent perpetration of a crime. We have ourselves had sad demonstration in the case of an unscrupulous mesmerist and an unfortunate girl that it has led to the commission of an unspeakable wrong. We agree with Mr. Gurney that hypnotism, like strychnine and arsenic, may be abused, but we are not quite so sure of its capability of beneficial employment, and would prefer to see it left out of the remedies of the physician, while we would absolutely prohibit it to the vulgar experimentalist.

The two chapters of real value in the *Proceedings* are Professor Carvell Lewis's "Account of some so-called Spiritualistic Séances" and Messrs. Hodgson and Davey's instructive paper on "The Possibility of Mal-observation and Lapse of Memory," which should certainly be read by all interested in spirit manifestations. The Psychical Research Society has two claims to the gratitude of our countrymen. It has enriched our language with many high-sounding words, such as psychography, trance-waking, apsychic, externalisation, evolutive, supernormal, and telepathy, which at least sound scientific, and may on occasion be most useful in convincing the vulgar; but, above all, it has (according to its President), conclusively proved the reality of our old friend the Spook. For the future we can accept the existence and occasional manifestations of these phantasms of the living as some of the orthodox beliefs of science—that is, of the science of the Psychical Research Society.

NOTES ON BOOKS.

Lectures on Diseases of the Eye. By C. Bell Taylor. (G. Redway. 1888.)—These lectures, which have already appeared elsewhere in print, purport to have been delivered before an audience of general practitioners, and if illustrated by cases which were operated on at the time, they may have served to emphasise certain points, but we do not find any practical hints which are not in the textbooks; and in those instances in which the writer's practice differs from that generally adopted, the facts adduced and arguments used are, with the possible exception of the lecture on neurectomy, hardly of a nature to make converts. Assuming that the book is intended solely for the profession, we fail to see the object of giving photographs of cases of squint before and after operation. The last figure in the book also, which depicts a boy in an attitude of devotion, certainly requires some explanation. It will be a surprise to most people to learn that the operation which "they call a modified Graefe" was really invented by the author of these lectures. Indeed, he does not even seem disposed to allow von Graefe the credit of having devised it independently. The following is the ascending scale by which the operation is said to have been reached. "Graefe discovers that the bruised iris is the sole cause of disaster. Mooren cuts the Gordian knot by excising the portion likely to be injured. Schufte follows with iridectomy, scoop, and small incision. Graefe adopts a linear incision entirely outside the cornea. I propose a small flap in the corneo-scleral junction, other distinguished operators," etc. Considering the fact that Dr. Taylor is understood to have such a profound belief in the action of electricity that he employs it in conditions for which it is not used by other surgeons, we are disappointed that we have not been treated to a special lecture on the use of electricity in ocular therapeutics.

Watts's Dictionary of Chemistry. Revised and entirely rewritten by H. Forster Morley and M. M. Pattison Muir. In Four volumes. Vol. I. (London: Longmans.)—Twenty-five years have passed since the publication of the first edition of Watts's *Dictionary of Chemistry*, and it is now seven years since the second part of the last supplement was published. The death of Mr. Watts interfered to prevent the preparation of a new edition of his great *Dictionary*, which he had in hand. The manuscript which he had prepared for that object has been placed in the hands of the present editors, with instructions to prepare a new edition of the whole book in such wise as to give as complete and satisfactory an account of the present state of chemical science as was compatible with the limits of space. They have adopted every means of condensation in style and description; formulæ and abbreviations are freely used. The original edition dealt with the allied subjects as well as with chemistry. The new edition omits the references to processes of chemical technology, and deals with chemistry only. Technical chemistry will be treated in a companion volume, which will be published under the editorship of Professor Thorpe. The editors have secured the assistance of many eminent special contributors, such as Ray Lankester, Meldola, Meyer, Stevenson, Thorpe, Warington, and other well-known specialists. The present volume extends from A to C; the final article being an admirable treatise on the Chemical Change by Dr. J. J. Hood. The articles on Blood by Dr. Halliburton, on Bacteria by Professor Lankester, and on the Detection and Estimation of Poisonous Alkaloids by Professor Stevenson, are of special medical interest, and the names of the authors sufficiently vouch for the character of their contributions. This edition promises worthily to maintain the unique reputation of Watts's *Dictionary of Chemistry*, and that is enough to express the very highest form of praise.

Lessons on Prescriptions and the Art of Prescribing. By W. Handsell Griffiths, Ph.D., L.R.C.P.E. (London: Macmillan and Co. 1888.)—This is a new edition of a little book which has been before the profession since 1875, and the author claims that it is "adapted to the *British Pharmacopœia* of 1885." The arrangement is the same as heretofore, and the matter is divided into so-called lessons. We say so-called lessons since we cannot suppose that the posology of the whole *Pharmacopœia* could be crowded into one actual lesson as it is in the work. The book has been written for learners, and, if correct, would have given in a convenient form to medical students about as much as they can reasonably be expected to learn theoretically of the subjects discussed in the book. We say reasonably expected, when we consider the number and variety of subjects students of medicine are now required to undertake. The book commences with introductory matter and a kind of analysis of the parts of a prescription, a lesson on signs and symbols follows, and this is succeeded by one dealing with the terms used in prescriptions, with their abbreviations. We do not think, however, that the following is calculated to be very helpful to the average medical student:—"Edulcorata. Ed. Edulcorated." The term "frustillatim" is surely not commonly used now in prescriptions, while "vomitio urgente" is hardly allowable, even in dog Latin. We may here incidentally state our opinion that directions of all prescriptions should rather be written in good English than in bad Latin. Incompatibility is a very difficult subject to deal with, and in the lesson headed "Incompatibility," it is, on the whole, fairly treated, but we cannot agree that all tinctures made with strong alcohol are incompatible "with those made with weak alcohol and with infusions and aqueous liquids." If this were the case, how could they be prescribed at all? Again, surely all glucosides are not always incompatible with free acids or emulsions. In the chapter devoted to posology we find numerous errors, both of commission and omission. Although the book is adapted to the *British Pharmacopœia* of 1885 we find no mention whatever in this chapter of sodii iodidum, sodii bromidum, sodii salicylas, calx sulphurata, and many other substances official in the present *Pharmacopœia*, while the full dose of digitalis in powder is stated to be one grain instead of one grain and a-half, and that of extract of nux vomica to be two grains instead of one grain. The lesson on the various classes of pharmaceutical preparations, such as pills, mixtures, liniments, and the like is a fairly good one, considering the limited space into which it is compressed; and the remainder of the book, which constitutes the bulk of it, is devoted to a selection of prescriptions, showing how cathartics, diuretics, expectorants, and similar groupings of drugs may be prescribed. Altogether the arrangement of the little volume is admirable, and if corrected to date and carefully revised the book would be of considerable service to medical students.

Bulletins de la Société Anatomique de Paris. Anatomie Normale, Anatomie Pathologique, Clinique. Année lxii (1887), serie 5, tome i. Rédigés par MM. Darier et Marfan, Secrétaires. (Reports of the Anatomical Society of Paris.) (Paris: Steinheil).—No doubt this society produces a large amount of good work annually, and issues the fruit of its yearly labours in a convenient form, but its name is very misleading, although the subheading to the *Bulletins* is comprehensive, even to the extent of being excessively vague. Taking, for example, the agenda for the meeting held on October 7th, we find, first, a bacteriological paper by Dr. Chantemesse on Biskra Boil; then the exhibition of a Kidney and Colon perforated by a Revolver-bullet, by M. Vilpelle; thirdly, a Median Fissure in the Facial Bones of a Calf, by M. A. Broca; next, a note on a Case of Myxo-epithelioma of the Mammary Gland, by Dr. Girode; and lastly, a Sebaceous Cyst from the Right Fore-finger, by Dr. F. Villar. Numerous contributions on specimens and cases of disease of the heart and blood-vessels are scattered through the volume, as are also some good papers on cystic degeneration of the kidneys, and many purely "medical" and surgical notes. M. A. Broca, Prosector to the Faculty, contributes a good series of observations on dental anomalies in relation to hare-lip and cleft palate. With some difficulty, from which the scanty index affords little relief, a few purely anatomical notes may be discovered, chiefly on the anatomy of the hand, its innervation, anomalies in its tendons and muscles, etc. How is it that an anatomical society produces so little anatomy? Are matters in France much as they are elsewhere? Is it that anatomy does not lead to bread, as Hyrtl says? Clearly, at least, we note evidence that it does not suit young *internes* to prepare good anatomical monographs; they prefer to seek for fame through clinical papers and specimens of morbid anatomy. There may be some reason connected with the politics of the society and the prejudices of the profession in Paris which causes so little anatomy to be worked out by an association which specifically dubs itself "anatomical." Yet this state of things is unfortunate. Who would look in this volume for information on hare-lip or Biskra boil, unless he knew the special eccentricities of the Société Anatomique? By faulty nomenclature of this kind literary reference is made difficult and much excellent work overlooked.

A Manual of Dissections of the Human Body for the Use of Students, and more particularly for those preparing for the Higher Examinations in Anatomy. By the late R. E. Carrington, M.D., late Senior Assistant-Physician, Guy's Hospital. Second edition, revised and enlarged by W. Arbuthnot Lane, M.S., F.R.C.S., Senior Demonstrator of Anatomy, Guy's Hospital, etc. (London: Bell and Sons).—The first edition of the work appeared in the spring of 1881, and we then explained its general plan (Journal, vol. i, p. 519). The *Manual* is especially suited for diligent students who enjoy the somewhat rare opportunity of dissecting their "parts" a second time. As we observed in our review of the first edition, the author's directions for exposing the whole length of the vena azygos major give a good idea of the character of this work. In fact, the *Manual* is suited, as professed in its title, for candidates for high degrees and diplomas. The practical surgeon, returning to the dissecting-room for the purpose of investigating the relations of parts involved in operations will also find Dr. Carrington's *Manual* preferable to more rudimentary handbooks. He will derive little advantage from dissecting through a "part" in the orthodox manner necessarily enforced for administrative educational purposes in the case of an ordinary dissecting-room "subject." That manner in no way resembles the method of the operator, who must cut down on an undissected part through a limited incision. "A Dissection to expose the Posterior surface of the Kidney," at page 257 of the *Manual* is, on the other hand, just what will suit the surgeon who dissects with a view to some future operation. A melancholy interest attaches itself to this second edition, for ere it saw the light its more than promising author was dead. Mr. Arbuthnot Lane has revised the *Manual* with marked care and judgment, and has increased the number of descriptive dissections. He has avoided all the objectionable tricks so frequent amongst revisers of medical educational works. The *Manual* has neither been made too bulky, nor loaded with footnotes referring to foreign authorities.

A Contribution to the Sectional Anatomy of Advanced Extra-uterine Gestation. By D. Berry Hart, M.D., F.R.C.P.E., Lecturer on Midwifery and Diseases of Women, Surgeon's Hall, Edinburgh, etc., and J. T. Carter, F.R.C.S.E., F.F.P.S.G., Lecturer on Anatomy, Western Medical School, Glasgow, etc. (Edinburgh: Oliver and Boyd.)—This publication consists of a paper which was read, last July, before the Edinburgh Obstetrical Society, and published in the *Edinburgh Medical Journal*, in October. Dezeimeris and Tait have both insisted that a tubal gestation cyst may chance to rupture, not into the peritoneal cavity, but between the layers of the broad ligament, the ovum continuing to develop. This phenomenon is the cause of "subperitoneo-pelvic" or "intra-ligamentous" pregnancy, doubted by some authorities but believed in by Mr. Lawson Tait and others who have had much experience in extra-uterine gestation. From frozen sections of two cases Drs. Hart and Carter show that not only is the existence of subperitoneo-pelvic pregnancy a fact, but that as this form of gestation advances the fœtal sac may push upwards and forwards so as to present between the abdominal walls and their parietal peritoneal investment. This burrowing under the peritoneum and growth forwards and upwards, with gradual dissection of the peritoneum from the parietes, is also seen in some cystic broad-ligament tumours. In the case of abnormal pregnancy, Drs. Hart and Carter propose a new term, "subperitoneo-abdominal gestation," when the fœtal sac acquires the above-noted anatomical relations. They deny that either ovarian gestation or a purely intra-peritoneal abdominal pregnancy has been accurately proved to exist. The four drawings of the sections are highly instructive.

Curvatures of the Spine. By Noble Smith, F.R.C.S.Ed., L.R.C.P.Lond., Surgeon to All Saints' Children's Hospital, etc. Second Edition, much enlarged; with many additional illustrations. (London: Smith, Elder and Co.)—The first edition of this useful work appeared in 1883, and Mr. Noble Smith now gives us the result of his experience since that date. He states that that experience has enabled him to make considerable additions to the former volume, and that, although he has cut out parts which he considered as relatively deficient in interest, he has nothing to retract from what he wrote five years ago. Mr. Smith strongly objects to plaster-of-Paris and poro-plastic felt jackets. Of the latter, he declares that "their supposed porosity is a myth." He concludes that "all the above plans of mechanical extension are are very complicated; they are irksome and painful, and often dangerous to the patient; some of them might justly be called barbarous." This edition includes an appendix on Preventive Treatment, consisting of "directions for training children in muscular exercises," quoted from Mr. W. Blaikie's *Sound Bodies for our Boys and Girls.* Mr. Smith includes Mr. Blaikie's arm and shoulder drill, rightly insisting that before many exercises can be done with benefit to act specially on the back, the arms must be brought into good working order.

The Bones of the Leg considered as One Apparatus. By Thomas Dwight, M.D., Parkman Professor of Anatomy at Harvard University. (Boston: Cupples and Hurd. 1888.)—Dr. Dwight, in a lecture delivered at the Harvard Medical School in November, gives a graphic description of the intimate relations of the tibia and fibula, the characters of the shafts of those bones, and the axis of the knee and ankle-joints. He dwells especially on the fact that the fibula is a bone which cannot possibly be understood when studied away from its connections, even in the sense that the humerus or femur can be fairly comprehensible when examined by the student for the first time. On the other hand, the fibula becomes perfectly simple when the young anatomist takes care to work at a specimen of that bone preserved in connection with the tibia, together with the interosseous membrane. In so doing, he will learn half the anatomy of the ankle-joint at the same time. Many who have begun to work at a solitary fibula in their student days have, in consequence, held hazy notions about that bone throughout their career.

The Botany of the Afghan Delimitation Commission. By J. E. T. Aitchison, M.D., C.I.E., F.R.S., F.L.S., Naturalist attached to the Mission, etc. (London: Longmans, Green and Co.)—This paper, published in the *Transactions of the Linnean Society*, April, 1888, consists of 139 pages of text and of 2 maps and 48 beautifully-executed plates. It is the result of Dr. Aitchison's botanical investigations and collections made while he was attached to the Commission during the years 1884-1885. To the Medical and Surgical Report of this Commission, by Dr. Havelock Charles, the surgeon-in-charge, we have already referred. Dr. Aitchison's collections amount to about 800 species and some 10,000 specimens, of which

nearly 100 are new to science. Much interesting matter in relation to therapeutic products has also been accumulated. The author must have had great difficulty in obtaining such a mass of valuable information, and accordingly he deserves so much the more praise for his work, which indeed, we may say, is regarded by some of our best botanists as really good, thoroughly up to the mark, and as being one of the most valuable contributions that have been made to the science of botany in recent years.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

PHENACETINE (BAYER).

THIS is another addition to the already long list of antipyretics of a purely chemical nature, recently discovered and introduced into medicine. "Phenacetine" is in reality a shorter name for a substance which might be more scientifically termed para-acetphenetidine. It is an acetyl compound of phenetidine; or in other words an acetyl compound of ethylic ether of paramidophenol. It is, therefore, closely allied to acetanilide or phenylacetamide, better known and generally prescribed under the name of antifebrin.

Phenacetine has been pretty extensively tried on the Continent, and Dr. G. Kobler, of Vienna, has more especially written an elaborate report upon its properties, and a record of cases upon which he has tried the new remedy. He finds that it is more effectual when given in single doses of from eight to twelve grains rather than in small doses repeated at frequent intervals, and that such a dose reduces the temperature from 3.6° to 4.5° F. He has never observed either actual vomiting or even nausea follow its employment, and certainly no symptom of cyanosis or collapse. In fact he has never seen any disagreeable or deleterious effects accompany or follow its use. Phenacetine does not seem to produce any diuretic effect, nor does it seem to irritate the already inflamed kidney, for Dr. Kobler gave it in doses of 12 to 26 grains per diem in a case of acute double pneumonia associated with acute nephritis. The amount of blood in the urine (considerable at the time of the commencement of administration of the chemical) became, if anything, less, the amount of albumen was not increased, and the patient finally made a perfectly good recovery.

A very large amount of attention has recently been given to the use of antipyretics, and there is possibly some danger of too much attention being paid to the symptom of high temperature, to the neglect of the actual disease, of which pyrexia may be only one of many manifestations. It is therefore satisfactory to note that Dr. Kobler used phenacetine "to reduce the fever temperature when it and the long duration of fever seem mischievously to affect the organization of the patient," and that in the majority of cases strongly pronounced euphoria accompanied the reduction of temperature, the patients becoming more cheerful, spontaneously stating that they felt relief, and asking for nourishment.

Dr. Kobler's results have been confirmed by other observers, Dr. Hoppe especially recommending the use of phenacetine for children, owing to its not causing any disagreeable symptoms. It has been found by Dr. Heusner to be a powerful nervine sedative and to be very useful in neuralgic affections of all kinds as well as in insomnia from overwork. In this country it has been favourably reported upon by Mr. H. Osborne Grenfell and it is being extensively tried throughout the country with, we believe, generally good results. So far the chief objection to its use seems to be its slight solubility in any convenient menstruum. Is is manufactured by Friedr. Bayer and Co., of Elberfeld, and the English agents are Messrs. May and Baker, of Garden Wharf, Battersea.

WARNER'S PREPARATIONS: PILLS, PARVULES, AND BROMO SODA.

MESSRS. F. NEWBERY AND SONS, of King Edward Street, E.C., as agents for Messrs. Warner and Co., of Philadelphia, have brought under our notice specimens of the above. Messrs. Newbery offer a great variety of pills and parvules made from more than 150 distinct formulæ. The pills are sugar-coated and of beautiful finish, and those we have examined are readily soluble. "Parvules" (Warner) may be defined as minute pills containing minimum doses for frequent repetition. They are made to meet the demand of those who believe that small doses given at short intervals exert a more salutary effect than larger doses administered less frequently. The remarks we have already made with regard to the pills apply also to the parvules.

The bromo soda (with caffein) submitted to us is an effervescing preparation; the formula is not published, but we presume it contains sodium bromide. The makers claim for this preparation that it is useful in nervous depression and similar affections, and that, as it contains sodium and not potassium compounds, it is the more acceptable to the stomach. It effervesces well, and is not unpalatable.

PODOPHYLLIN IN SCALES.

Messrs. Burgoyne, Burbidges, Cyriax, and Farries have also recently introduced a "Soluble Podophyllin in Scales." We find that this preparation is, as the manufacturers assert, soluble in water, proof spirit, and glycerine, and the aqueous solution is not unpleasant to the taste. The advantages of a reliable "soluble podophyllin" are sufficiently obvious, but we would suggest that the makers in future state the dose of their new preparation.

FLETCHER'S CONCENTRATED LIQUORS.

CONCENTRATED infusions and decoctions have long been in use, and we have now become accustomed to the employment of concentrated liquors for the preparation of syrups, but as far as we know it has only quite recently been proposed to prepare tinctures generally from concentrated solutions. Messrs. Fletcher, Fletcher, and Stevenson, of the North London Chemical Works, Holloway, whose name has been identified for a number of years with the manufacture of concentrated preparations, have submitted to our notice a number of their solutions from which tinctures and infusions can be made. They have introduced a distinct novelty in the form of those preparations which by dilution with a certain volume of spirit are converted into pharmacopœial tinctures, and by dilution with a larger volume of water become infusions or decoctions *B.P.* as the case may be. It is manifestly very convenient to have one concentrated liquor from which can be extemporaneously made either a tincture or an infusion of the drug at will. In order to attain this result the time-honoured strength of "1 in 8" cannot be maintained for the infusions, and some of the preparations are of a very high degree of concentration. Thus, "liquor jaborandi" requires dilution to twenty times its volume in order to become infusum jaborandi, while although "liquor digitalis" becomes tinctura digitalis on being diluted to eight times its bulk with proof spirit, one volume requires dilution with water to no less than 156 volumes to become infusum digitalis.

The manufacturers claim the following advantages for their concentrated preparations:—That the strength of the finished products is accurately determined in each case, and brought to *B.P.* standard; that in the method used for their manufacture the employment of heat is carefully avoided, and so all the aromatic and soluble constituents are retained; that where space is an object, as in field hospitals, ship stores, and the like, the advantages of tinctures having only one-eighth part of the usual bulk offer great and obvious advantages, and that, if the tinctures be dispensed in their concentrated form without previous dilution, seven-eighths of the cost of the spirit is saved.

We have compared tinctures, etc., made from these concentrated liquors, with similar preparations made exactly according to the *B.P.* methods, and we find that they are practically identical in character. There may have been in some cases minor differences, such as slight variations in colour, but it is very possible that these may have been caused by the fact that different specimens of the crude drugs were originally operated upon by Messrs. Fletcher and ourselves. The whole series is composed of fifty preparations. They are generally bright and permanently clear solutions. Some few, however, have a tendency to throw down deposit, notably liq. aurantii and liq. chiratæ. Messrs. Fletcher and Co. will, in the future, doubtless correct this tendency.

CORRECTION.—In the note on Mr. Cracknell's preparation of cascara sagrada in the JOURNAL of June 30th, after "liquidum" read "insipidum (Cracknell)."

IN the recently published list of gentlemen called to the Bar appears the name of Dr. Henry Cooper Rose, of the Middle Temple, who has, however, it is stated, no intention of relinquishing the practice of the medical profession.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

Subscriptions to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, JULY 7th, 1888.

THE MEDICAL CURRICULUM AS AN INTELLECTUAL TRAINING.

The course of study preparatory for the exercise of the profession of medicine is designed to fulfil the twofold end of qualifying the student for the successful prosecution of the practical work of his life, and also of affording him a field and opportunity for the development of his intellect. The former end naturally looms largest on the view, as men must live and earn their bread, whereas pure intellectual culture as such is a less pressing necessity; but the latter end can never be safely left out of account; and, indeed, it is a short-sighted and mistaken notion that the two ends can ever be separated without grave loss both to professional competence and mental proficiency. Science has seldom been advanced by men who regarded their discoveries as so much potential cash; and, on the other hand, intellectual cultivation, even if pursued in the first instance from a pure love of knowledge and desire for self-development, has often proved the surest and the shortest road to what is generally known as "success."

Let it be granted in the fullest manner that the student must, above all things, be practical, and must never sacrifice any sound and serviceable knowledge to mere intellectual cobwebberies; it yet remains true that he turns the fine opportunities at his command to very imperfect account, if he does not utilise them as an admirable school for the training of his entire mental faculties. Let us glance over the subjects of medical study in their chronological order, and endeavour to point out how they appear designed to develop mind, as well as to prepare for professional success.

The student begins with physics, chemistry, zoology, and botany, passes on to anatomy, physiology, and materia medica, and finally ends with the purely professional subjects of medicine, surgery, and midwifery. We put aside for the present the case of those who have enjoyed the great advantage of a regular university training in classics, mathematics, modern literature, or mental science.

The study of physics and chemistry, apart from its not inconsiderable practical value in professional work, introduces the student to a knowledge of the properties of matter and the laws of force. He becomes impressed with the conception of the uniformity of Nature, and the orderly sequence of phenomena. He learns that to the man of science there is nothing blind, nothing arbitrary, nothing purposeless in the vast moving panorama of Nature. He sees new force in the words, once a mere truism to him, "All are but parts of one stupendous whole." Hardly any known truth is more impressive, more instructive, more developmental than the grand generalisation of the correlation of forces. The youth who has thoroughly grasped this wonderful conception at once rises to a distinctly higher intellectual plane.

With the study of zoology and botany comes a knowledge of the laws of life, with all their complexity and profundity. The student adds to his previous intellectual store the conception of growth. He begins to see that development, dependent upon fixed and ascertainable conditions, is the great law of living matter. He finds that evolution, however far we may still be from a thorough comprehension of its nature and limits, is the best key hitherto devised for unlocking the most hidden of Nature's mysteries. With this fresh clue, Nature and Time assume a new harmony, and he rises to an apprehension of not merely one grand and concordant whole, but of a steady, vast, and unending progression.

Anatomy and physiology fitly begin the special study of his life. The former tends in a marked degree to the cultivation of the habit of precise observation. The student learns that in some departments general ideas are valueless, and that knowledge, to be of any avail, must be rigidly accurate. He sees that the deviation of a quarter of an inch in the point of the surgeon's knife may make the difference between life and death to the patient, and recognises that even the laborious study of the minute elevations or depressions upon a bone may, in some sharp hour of professional trial, turn the trembling scale in favour of life and hope. The study of physiology, or the processes of normal function, is the natural preliminary to the observation and treatment of disease.

With medicine and surgery a new factor, more baffling and more vital than all the others, soon makes itself felt in all his calculations, namely, individual idiosyncrasy. He finds that hard-and-fast rules are most fallacious, and that to the study of disease must be added the study of his patient. He discovers to his bewilderment that hardly two cases of any disease are alike, and that his prognosis and treatment are constantly modified by such abstruse factors as hereditary tendency, intellectual or emotional peculiarity, or individual habit. The man who constantly keeps such considerations in view, and conscientiously endeavours to assign to each its due importance, is undergoing a course of intellectual training of which it would be difficult to exaggerate the value. The action of remedies offers a field for observation difficult to excel, and hardly any better test could be devised of mental calibre than the opinions regarding drugs which are necessarily developed during the course of practice. One man "learns nothing and forgets nothing," remaining to the end of life what his student career made him. Another starts with implicit faith in drugs, and flies to the extreme of scepticism on finding his remedies so often fail in his hands. The better balanced minds profit slowly but surely by their daily experience, are watchful against hasty conclusions or extreme opinions, are patient in observing, testing, and clarifying their knowledge, and finally reach the maturity of thought and judgment which characterises the best type of medical practitioner.

GOAT'S MILK.

Dr. Richter makes some observations in an article on this subject in the *Berliner Klin. Wochenschrift*, which ought to draw the attention of everyone concerned in the feeding of infants to this most important question. Most children in densely populated cities are brought up "by hand;" moreover, the number of those children who enjoy the natural provision of the mother's breast is steadily diminishing. There are several reasons for this; in the first place, there is the greater facility of artificial nourishment; secondly, the mother is often physically unable from her condition of health to nurse her child; and, thirdly, amongst the poorer classes the mother is often compelled by poverty to leave her home for the day in order to work. The best substitute for the mother's milk is that of some animal; this is proved by the immense number of artificial foods, including preserved milks, now competing for popular favour, and this number yearly increases, which shows that dissatisfaction still exists with regard to all such foods. Cow's milk lies under two chief objections: first, it is not easily digested by the stomach of an infant; and, secondly, it may harbour the most dangerous enemy of the human races, namely, tuberculosis. The chief cause of its comparative indigestibility is the character of the clot which it forms, owing to its containing more casein than human milk. This is to some extent remedied by the addition of a little barley water, amongst the intelligent, but there is a strong tendency to overdilution of milk with water in recent years. With regard to tuberculosis, the cow is remarkably prone to this disease, for bovine tuberculosis *(Perlsucht)* is identical with tuberculosis in man; there can no longer be any doubt about this. The former is also much more common than the latter, though this is a truth little suspected by most people. Dr. Richter has been informed by veterinary surgeons that in some neighbourhoods as many as 50 per cent. of cattle die of tuberculosis, that the animal may show no signs of the disease during life, that no means of accurately diagnosing it are at present known, and that it is often clearly revealed only (though perhaps previously suspected) by a *post-mortem* examination. This is perhaps a pessimistic view, but it surely concerns us to know how the veterinary profession regard this subject.

It is not yet proved to general satisfaction that tuberculosis can be transferred by milk from the cow to human beings, though some authorities unhesitatingly believe that it can; at the same time, they tell us that any contained virus (of tuberculosis, or scarlatina, or other kind) is destroyed by the simple act of boiling the milk. It is a drawback to the use of milk that it should be regarded as a suspicious food requiring even this procedure, and, again, the young are more susceptible to infection than adults (as with the animals themselves), while their nourishment usually consists altogether of milk or mainly so for many years. It is easy to say that stringent sanitary regulations ensure the purity of milk, but it is always extremely difficult to ensure their being faithfully carried out; and, besides this, to do it at all effectively would entail vast expense upon the public at large. A still better mode, in Dr. Richter's opinion, is competition. The only animal that can compete with the cow is the goat, and on the whole goat's milk is far superior to that of the cow. To begin with, the goat is comparatively inexpensive, easy to keep in good condition, and far more easily kept clean than the cow. The goat will thrive almost anywhere, from mountain heights to the mews of a crowded city. Again, the goat, so far as is at present known, is rarely affected by tuberculosis; veterinary surgeons in neighbourhoods where goats most abound tell us that this animal enjoys a high degree of immunity from that disease. In any case, as before remarked, it is far easier to control the sanitary surroundings of the goat than of the cow. Moreover, the putting to death of any suspicious animal will be effected with less hesitation in the case of the goat than with an animal costing fifteen or twenty times as much. And, lastly, the goat's milk itself, as is well known, is more easily digested by infants than cow's milk.

The analysis of Gorup Besanez stands thus: The quantity of water contained in 100 parts of human, cow's, and goat's milk respectively is 88.9, 85.7, 86.35; of solids generally, 11.1, 14.3, 13.6; of casein, 3.9, 4.8, 3.36; of albumen, a trace, 0.5, 1.29; of fat, 2.66, 4.3, 4.3; of milk sugar, 4.36, 4, 4; of salts, 0.13, 0.54, 0.62. Professor Fleischmann compares cow's with goat's milk as follows: There are of water 83.6 to 90 and 85 parts in cow's and goat's milk respectively; of fat, 2.8 to 4.5 and 4.8; of casein, 3.0 to 5.0 and 3.8; of milk sugar, 3.0 to 5.5 and 4; of albumen, 0.2 to 0.6 and 1.2; of ashy salts, 0.4 to 0.8 and 0.7. These analyses agree in the main, and thus goat's milk, holding more albumen, is cheaper bulk for bulk than that of the cow. Taking everything into consideration, goat's milk could be provided at less cost than cow's milk. The chief advantage of the former lies in its ready assimilation by the digestive organs of the infant, owing to its relatively small proportion of casein, less than that of human, and much less than that of cow's milk.

It is not recommended that a sudden revolution should be attempted, and that the excellent milk now furnished to Londoners from the country should be exchanged altogether for that supplied by armies of goats. But in individual cases where cow's milk is not well tolerated by the child's system, it would be a great advantage if goat's milk could be conveniently substituted. It must be remembered, too, that a large proportion of the children of the poorer classes are fed with milk from cows kept in London. Such cows are largely fed with brewers' grains, and they produce a copious and watery milk, of unsatisfactory quality. They live under unnatural conditions, especially as regards total want of exercise, and it is not to be expected that they should enjoy perfect health.

When we consider the startling mortality amongst children under one year old in large cities, and the fact that the use of preserved milk is largely resorted to, and even advised indiscriminately by many medical men, it is strange that a source of milk so free from suspicion and so easily procurable as the goat should be so much overlooked.

ST. KATHARINE'S HOSPITAL.

The announcement that a Provisional Committee had been appointed by the Queen for the purpose of organising, in conjunction with the Duke of Westminster, Sir Rutherford Alcock, and Sir James Paget, a scheme for establishing, with the Women's Jubilee Fund, a system of nursing the sick poor in connection with St. Katharine's Hospital, and had held its first meeting on June 26th, seems to have aroused a good deal

of latent curiosity as to the past and the possible future of this institution. It cannot be said that the First Lord of the Treasury contributed much by his answer to Mr. Norris's question in the House of Commons to the satisfaction of this laudable curiosity, and it may, therefore, not be out of place to recapitulate some of the facts which may be found in City histories and mainly in Dr. Ducarel's "History and Antiquities of the Hospital of St. Katharine, near the Tower (*Bib. Top. Brit.*, vol. ii., part 1), supplementing these from the scheme of management approved by the Queen ten years ago, an official document with which Mr. W. H. Smith might have made himself acquainted.

The hospital was originally founded in 1148 by Queen Matilda, and dedicated by her to St. Katharine for the spiritual benefit of her children, Baldwin and Matilda. This foundation appears to have been purely religious, and to have been from the first appropriated by the Augustine monks of the Monastery of the Holy Trinity. Abuses soon crept in, and Queen Eleanor, the widow of Henry III, set herself to reform them. After a prolonged struggle, diversified by several dramatic incidents, she succeeded in gaining the control, and since 1273 the patronage of St. Katharine's Hospital has been the peculiar appanage of the Queen Consorts of England.

The constitution, as settled by Queen Eleanor, has been maintained with only slight modifications, although the foundation has suffered many vicissitudes. She provided for a Master, three Brother-Chaplains, three Sisters, ten poor women called Bedeswomen, and six poor Scholars. Philippa, the Consort of Edward III, persuaded that monarch to grant certain lands in Kent and Hertfordshire, and a new charter, which specially enjoined upon the members of the community the duty of visiting the sick. Many other Queen Consorts were benefactors of the hospital, and it is said to have been owing to the intercession of Anne Boleyn that it escaped suppression under Henry VIII. It was again threatened with extinction during the reign of her daughter, who, however, intervened to prevent this catastrophe. Fresh abuses grew up, and in 1698 Lord Chancellor Somers, in consequence of many heavy complaints made against the Master, reformed the constitution and laid the foundation of a charity school, which began work in 1705.

The old buildings, which stood near the Tower, were bought up when St. Katharine's Docks were made, and in 1827 the institution was removed to the grey-stone edifice it at present occupies on the eastern side of Regent's Park.

The constitution, though resettled in July, 1878, remains antiquated and anomalous; the community consists of a Master, who receives £2,000 a year, three resident Brothers (£500 a year each), three resident Sisters (£200 a year each), three Extern Sisters, ten Nurses, ten Bedeswomen and ten Bedesmen. The only members who carry out the early injunction to visit the sick are the ten St. Katharine's nurses, who receive £50 a year each; a charity school is supported, but the great bulk of the revenues of the hospital, which cannot amount to less than £10,000 a year, is expended in paying the salaries of officials, who, so far as the general public know, do absolutely no useful work. It is clear that if "The Royal Hospital of St. Katharine, in the Regent's Park, in the County of Middlesex," is to be converted into an institution for "promoting the education and maintenance of nurses for the sick poor in their own homes," in accordance with the Queen's wish expressed last January, its constitution will have to be once more revised. The besom of reform appears to have been swept through it about every other century since it was founded for the repose of the souls of Matilda's children; and if it is now vigorously applied once more Great Britain may be endowed with an institution adapted to meet one of the most pressing needs of the nineteenth century. The Queen is not only the patroness, but the governor of the charity, and it is within her power to sanction a scheme which may lead to the gradual disappearance of sinecure officials and of a charity school which is but little needed. In their place we may hope to see a great central institution, with branches in all the principal towns of England, Wales, Scotland, and Ireland, providing trained nurses whose duty it will be to help in nursing the sick in their own homes.

THE Hospital Sunday Fund collection up to Wednesday, July 4th, showed a total of £37,375, being £375 more than the collection of last year at the same time.

THE Prince and Princess of Wales have fixed Tuesday, July 17th, for their visit to Islington to open the Great Northern Central Hospital.

MEDICAL STUDENTS AND THE CHAIR OF SURGERY AT OWENS COLLEGE.

THE medical students at the Owens College and the Manchester Royal Infirmary held, says the *Manchester Examiner*, an indignation meeting on July 3rd, in the "common room" at the Infirmary, to express their opinion with regard to the action of the authorities of the College respecting the recent appointment to the Chair of Surgery. There was a large attendance of students, several of whom expressed somewhat strong views on the matter. After considerable discussion, a resolution was unanimously passed expressing regret at the appointment of the Professor of Surgery at the College, which they declared they regarded as an uncalled-for slight upon the staff of the Royal Infirmary, and further expressing confidence in the members of the Infirmary staff, and a desire to support them in any steps they may take in the matter. A copy of the resolution was sent by the Chairman to the Medical Board of the Infirmary.

THE MUSEUM OF THE COLLEGE OF SURGEONS.

THE annual show of new specimens was opened on Thursday for inspection by the number of Fellows who came to vote for the candidates for the vacancies on the Council. Amongst objects of interest in the comparative anatomy department are three human skeletons of persons aged 14, 16, and 18, illustrating the development of the bones at these ages, a subject easily studied from literary sources, but not so readily from the book of Nature. The professional dissector, Mr. Pearson, has prepared some fine specimens illustrating the anatomy of the gorilla, from the ape of that species which recently died in the Zoological Gardens. The conservator, Professor Stewart, has arranged an instructive series demonstrating organs of aërial locomotion in vertebrata and lower forms of animal life. The pathological collection has been enriched by numerous additions. We understand that Mr. Eve is preparing a second appendix to the Catalogue, describing specimens added within the last twelve or fourteen months. The show will remain open till Wednesday next.

OBSTETRICAL SOCIETY OF LONDON.

On Wednesday night, July 4th, an active discussion followed the reading of Dr. Boxall's paper on The Conditions which Favour Mercurialism in Lying-in Women, with suggestions for its Prevention. The whole subject of antiseptic midwifery was more or less involved in the question. One or two of the speakers boldly objected to the indiscriminate use of vaginal injections as a matter of routine after labour, even in lying-in hospitals, but several experienced obstetricians insisted on the necessity of injections in all cases, claiming very satisfactory results, which had duly been recorded. It appeared that though a few cases of mercurialism had occurred, puerperal septicæmia had practically been banished from certain lying-in institutions where routine injections of sublimated water had been for several years in vogue. The sublimate had proved of greater value than carbolic acid, iodine, or permanganate of potash. One or two of the speakers remarked that undoubtedly these precautions were of great value, but that the details of the routine were difficult to carry out in private practice. On the whole, the meeting favoured the routine employment of antiseptic injections after labour. The discussion will in due time be reported in the JOURNAL. Few subjects can be of higher interest to practitioners at large than that which was so actively discussed at the Obstetrical Society on the evening of July 4th.

BRITISH MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee of the British Medical Benevolent Fund, which, so long as funds will allow, at once and privately, without canvassing or expense, gives assistance to applicants properly recommended, grants were made which reduced the balance very low. Very great care is taken in making selections to choose only the very worst cases, a difficult task when so many are deserving, but even to do so much the Committee must receive continued, and, if possible, increased support. At the May meeting grants, amounting to £117, were made to 12 out of 22 applicants; 6 were postponed for various reasons; one was elected annuitant, and 3 were refused grants. Annuities were also given to 11 selected candidates, chosen by a subcommittee appointed for that purpose, each of the value of £20; one candidate, however, died on the morning of the election. The ages of the annuitants varied from 83 to 70. Twenty-four cases were presented to the Committee on June 26th, and £192 was distributed amongst 17 of the applicants; of the remainder, 2 were postponed and 2 passed over. Subscriptions, which are most urgently needed, may be sent to Dr. Sidney Phillips, 21, Upper Berkeley Street, Portman Square, who has kindly undertaken the duties of Honorary Financial Secretary in place of Mr. George Field, resigned. Mr. Edward East (Honorary Secretary for Cases, 16, Upper Berkeley Street, Portman Square, W.) desires to thank those who have generously responded to his appeal for clothes, and to "assure them that their gifts have been truly appreciated, and have carried delight, to say nothing of comfort, into many a home." Applications are constantly being received, and he repeats his appeal for clothes of any description, which can always be usefully employed.

REPORT OF THE ROYAL COMMISSION ON EDUCATION.

MANY important changes in our system of public education will be suggested by the Report of the Royal Commission on Education; as to those concerning religion and finance, we here say nothing. It is said that schools should accommodate one-sixth of the total population. As to the structural suitability of the present schools, the report says: "On the whole, the demand for school accommodation has been fairly met. The time has now come when the chief stress of school provision is past, when the State may well be more exacting in requiring for children a proper amount of air and space, suitable premises, airiness and lightness of site, and a reasonable extent of playground." The calculation for increased accommodation is based on a minimum of ten square feet for each child in average attendance, the seat supply being taken as the proper measure of a school's accommodation, based upon the ground plans, and pressure should be exerted on managers to make improvements up to this standard. No absolute rule is laid down as to school furniture, but care should be taken that it is adapted to the requirements of day-school education, due regard being had to the age, size, and physical comfort of the scholars; the necessity of playgrounds is urged in several parts of the report. It is suggested that so long as the parents are not a preponderating element, they should take part in school management. Voluntary schools are recommended to combine and improve the quality of their education, by extending the subjects of instruction to cooking and elementary science, employing itinerary teachers for the purpose. In reports on schools the size of classes should be stated, as, among other objections to large classes, the health of teachers is often tried thereby. Another distinct line of improvement is the recommendation that an additional year of training, at Oxford or Cambridge, be given to picked students, and that assistance be given to others, enabling them to study in local university colleges. Some stress is laid upon teaching physiology, drawing, cookery, etc., and physical exercises are to be encouraged. When local interest is shown in education by voluntary subscriptions, aid should be given by the State for the improvement of buildings and provision of playgrounds. As regards the existing Government examination, it is given as the opinion of the Commission that the present mode of examination leads to cram and overpressure, both as regards the scholars and the teachers. It is desired that the inspector report on (1) moral training; (2) cleanliness (school and scholars); (3) quietness; (4) attention; (5) general intelligence; (6) obedience; (7) accuracy of knowledge; (8) classification; and (9) instruction of pupil teachers; reports to be separate and specific. We defer all criticism and remarks till the text of the report is published.

DEATH UNDER CHLOROFORM.

MR. F. W. COLLINSON, M.B., C.M.Edin., etc., Senior House-Surgeon of the Royal Infirmary, Preston, has sent us the following account of the death of a patient in that institution whilst under the influence of chloroform. On June 1st, M. P., aged 34 years, a mechanic, was admitted into this infirmary suffering from suppuration in the right forearm, and extensive ulceration of the fore and upper arm. His history, previous to admission, was that, about three months and a half earlier, he had sustained a compound fracture of both bones of the forearm with considerable laceration of soft parts. He was treated in a neighbouring infirmary, when chloroform was administered by means of a towel with no untoward effects. Having been discharged he returned to this town about three weeks before admission. He was well-developed and in fairly good health, though suffering from the *malaise* occasioned by the state of the arm, together with slightly intemperate habits during his stay at home. I proceeded to anæsthetise him with chloroform, using a metal inhaler, which fits over the nose and mouth, at either end of which a plentiful supply of air is admitted; upon the lint lining of this, during the application, I sprinkled about two drachms. He was very violent, and after apparently being "fully under," he revived and sat up upon movement of the arm. I reapplied the inhaler for several breaths, after which no more was administered to the patient. About a minute and a half afterwards, when incision was made into the abscesses, he suddenly stopped breathing, his neck and face becoming cyanotic. I at once lowered his head, pulled out his tongue, and commenced artificial respiration, which

was followed by several long and apparently natural deep inspirations. The cyanosis continued, and the incision was observed not to bleed. His breathing again suddenly stopped. Artificial respiration (Sylvester's), with flipping of the chest with cold water towels varied with hot water, the hypodermic injection of 20 minims of sulphuric ether into the thigh, apparently not absorbed into the circulation, and application of faradic current to the respiratory muscles, were all applied with no signs of resuscitation. Mr. Collinson observed during artificial respiration that for a considerable time after life must have been extinct noises were produced in the larynx from the passage of air into the trachea, which awakened the hope that he was making a slight attempt at inspiration. When we could not detect any beat of heart, and the pupils were dilating, and the tension of the eyeballs becoming less, there was no doubt about his state. *Post-mortem* examination of the thoracic cavity revealed the heart in a state of diastole filled with blood, œdema of pericardium covering the first part of the aorta; the walls were soft and patulous, but did not break down with the finger nail; the walls of the auricles were thinner than usual, muscular fibres being entirely absent in places, and endocardium and pericardium being in contact. The aortic and pulmonary valves were competent, the mitral valves slightly thickened; nothing else was abnormal; the lungs were congested. Microscopically, nothing abnormal was observed in the heart-muscle. The cause of death was apparently failure of the heart, as respiration after ceasing commenced again, and at this time an incision made did not bleed, and ether was not absorbed. His face never became pale as if syncope simply occurred. There was no previous indication of cardiac weakness nor history of epilepsy.

THE MEDICAL OFFICERSHIP OF HEALTH FOR BRADFORD.

At a special appointed meeting of the North-Western Branch of the Association of Medical Officers of Health, held at Manchester on June 28th, the following resolution was unanimously adopted: "The North-Western Branch of the Society of Medical Officers of Health learn with much regret that the Bradford Corporation have decided not to reappoint their medical officer of health, Dr. Hime, and that they have come to this determination whilst admitting that he is an officer of great ability, and has discharged the duties of his post impartially and satisfactorily. The North-Western Branch of the Society of Medical Officers of Health take this opportunity of pointing out that it is desirable some security of tenure should be given to medical officers of health, so that they may no longer be liable to sudden removal without proof of incapacity or neglect of duty being substantiated to the satisfaction of a properly constituted authority, the accused medical officer of health being entitled to reply to the charges against him. Inasmuch as the guardians of the poor are not permitted to discharge district medical officers without the sanction of the Local Government Board, and due inquiry if demanded, it appears reasonable to ask that medical officers of health should enjoy a similar measure of security for the retention of office."

AN UNUSUAL FOREIGN BODY IN THE THROAT.

A recent number of the *Revue de Médecine et de Pharmacie Militaire* contains an extraordinary case, in which a leech that had somehow found its way into a man's larynx without his knowledge gave rise to unpleasant symptoms, for which the medical attendants were puzzled to assign a cause. The patient, a soldier, had suffered from hoarseness and a sensation as of a foreign body in the larynx for three weeks, but there was no serious dyspnœa, and nothing could be seen with the laryngoscope. During the last eight days of that time he spat blood, and at length he distinctly felt something move deep down in his throat. On the twenty-third day, after the patient had made a violent expiratory effort, Dr Godet caught sight of the leech fixed in the subglottic part of the larynx. No proper laryngeal forceps being at hand, the thyroid cartilage was divided in the middle line in front; on separating the two halves, the leech was easily removed. Two sutures were inserted, and perfect union was obtained. The voice was absolutely unaffected by the operation, a point worth noting in view of the great stress that has recently been laid on the serious impairment of the vocal function which thyrotomy is supposed to entail. One would like to know how the unwelcome guest managed to get into the man's throat without his being aware of the fact. It is possible that he swallowed it in drinking water out of a ditch or pond.

THE MARINE BIOLOGICAL LABORATORY.

The new laboratory of the Marine Biological Association of the United Kingdom, of which the Prince of Wales is the patron, and Professor Huxley the President, which has been erected on the Citadel Hill, Plymouth, overlooking the Sound, at a cost of £13,000, was formally opened on June 30th. Professor W. H. Flower, C.B., F.R.S., delivered an address to a large and representative assembly, in which he spoke of the facilities afforded by the extensive and varied seaboard of the British Isles for the investigation of marine life. The company subsequently sat down to a *déjeuner* given by the Fishmongers' Company, over which Sir James Lawrence presided. Among those who proposed and responded to the toasts were the Earl of Morley, Professor Ray Lankester, and Sir George Paget, K.C.B. The Marine Biological Association was founded "to promote accurate researches leading to the improvement of zoological and botanical science, and to an increase of our knowledge as regards food, life-conditions, and habits of British food fishes and molluscs." Professor Ray Lankester may be congratulated on the successful results of his labours, which are likely to prove of the highest importance to science as well as to the interests of the nation.

INDUSTRIAL AND OTHER EXCEPTIONAL MODES OF TRAINING.

The managers of the Metropolitan Asylums District recently paid their annual visit to the training ship *Exmouth*, where at present 550 boys are under training for sea service. The *Exmouth* lies in the Thames, off Grays, and is maintained for the reception of pauper boys chargeable to metropolitan parishes and unions. On shore, adjacent to the ship, is an infirmary, consisting of a large house surrounded by about six acres of ground, and in Limehouse there is a shipping-house, where a small number of lads live while situations are being found for them. Since the ship was founded in 1876, 3,507 boys have been received into it, and over 900 have been drafted from it into the Royal Navy. Prizes were distributed to the boys by Mr. Talbot, M.P. The Brentwood Industrial School, under the School Board for London, presents another type of exceptional training. This school receives boys committed by magistrates as beyond the control of parents, or likely by evil associations to fall into crime, and they are not actually criminal on admission. The boys are admitted to the school under the Industrial Schools Act from the age of 6, and remain, if necessary, till 16 years of age; but, as a general rule, they leave when 15, and sometimes before. The aim of the institution is to enable them to earn their own livelihood when discharged. The majority of boys discharged from the school since its establishment in 1874 are doing well. The boys spend three hours each day in school, and three hours at industrial work. It is also satisfactory to know that provision is made by the School Board of London for the instruction of the blind. Miss Greene is the superintendent for these children, and her duties are to arrange for their attendance and instruction, both at the schools and at

the centres. The names and addresses of blind children, or those partially blind, who are not under instruction may be forwarded to the Superintendent. The blind children, as a rule, attend the ordinary day school, and share the instruction given to the sighted scholars; but they also receive, as far as possible, special instruction at centres on certain days; there are eighteen principal centres. If circumstances render it necessary, a child may receive individual instruction. At the centres the children are taught reading and writing by means of the "Braille" system, and by aid of Moon's type, written arithmetic by means of Taylor's arithmetic boards, and geography by the aid of relief maps and globes. As far as circumstances permit, Kindergarten and object lessons are given. Ling's gymnastics are practised, and knitting taught. The time allotted to special instruction varies from one half day to five half days per week, and depends upon the size of the class, the larger classes receiving a greater amount of special instruction than the smaller classes. Those children who are capable are examined along with the sighted children in the ordinary standards at the annual Government examinations of the day schools which they attend. Out of 132 blind children, 56 passed their examinations in 1887.

THE RABBIT PEST IN AUSTRALASIA.

THE Royal Commission representing the Colonies of New South Wales, Victoria, South Australia, Queensland, New Zealand, and Tasmania, met on April 16th. Dr. H. N. MacLaurin, one of the representatives of New South Wales, was elected president, and six sessions of the whole Commission were held. Dr. Katz, bacteriologist, employed by the Linnean Society, was appointed principal expert officer to the Commission, and was instructed to conduct three series of experiments: 1. To test the communicability of chicken-cholera to rabbits, the possibility of spreading the disease from rabbit to rabbit, and the readiness and channels by which such communication could be procured. 2. To ascertain whether the disease is transmissible from infected rabbits to other domestic animals—mammals and birds. 3. To ascertain whether the infectivity of the disease is weakened by repeated transmissions from rabbit to rabbit. These experiments will be carried out under the supervision of a committee, and probably on Rodd Island, near Balmain, Sydney; the *Australasian Medical Gazette*, however, states that M. Pasteur's virus, when tested in the laboratory of the Board of Health, was found to be incapable of affecting rabbits in any way. M. Pasteur's representatives M. Loir and Drs. Germont and Hinds, had immediately taken steps to cultivate the virus with renewed virulency. The Commission was to meet next on May 23rd, at Adelaide, to investigate the rabbit scab studied by Professor Watson, and would subsequently go to Tintinallogy, to take evidence with regard to the experiments to which reference was made in the JOURNAL (vol. i, 1888, p. 1181), as being conducted by Drs. Ellis and Butcher. If it is established that the introduction of chicken cholera among rabbits will not do injury to the domestic animals, further experiments will be made on a run belonging to Mr. E. Quin, of Teralla, near Willcannia, which, together with the fencing, homestead, horses, and servants, has been placed at the disposal of the Commission for this purpose, by Mr. Quin. The fencing in of this area of 10,000 acres, and of the smaller areas of 100 acres, into which it will be divided for the purposes of the experiment, will be carried out with great care by the Government Land Department.

CANCER AMONG VEGETARIANS.

SURGEON-MAJOR HENDLEY, Resident Surgeon at Jeypore, writes to us: "In the BRITISH MEDICAL JOURNAL of April 7th, 1888, the following statements are made: 'M. Reclus has shown that cancer was all but unknown among the persons whose food was exclusively vegetable.' 'M. Verneuil also believed that the increase of cancer was largely due to the carnivorous habits of diet of the present generation.' The records of the Mayo Hospital at Jeypore, which is under my charge, show no such immunity of vegetarians from cancer. From January, 1880, to the present date, 102 major operations have been performed in the hospital in cases of cancer. Of these, 41 were on the persons of meat-eaters and 61 on those of strict vegetarians who had never eaten meat since their birth. In India, where caste rules are exceedingly rigid, the fact that the latter were true vegetarians is capable of absolute proof. Amongst them are 6 Saraogis, a class of Jains who even reject many kinds of vegetables. Three of these Saraogis suffered from cancer of the breast. Out of 102 cases there were 3 deaths attributable to the operation. There is no information available as to recurrence, or the contrary. The cases were divided as follows: Cancer of breast, 20; tongue or lips, 8; head and face, 17; upper extremity, 11; lower extremity, 8; trunk, 18; penis, 15; labia, 1; testicle, 1; glands, 3. There were 62 males and 40 females, a large proportion of the latter in a country where the *purdah* system is in force. The maximum age was 70 years, the minimum 18 years, the average 43 years. Now, as to the increase of cancer dealt with by operation in hospitals, we cannot, I think, come to any other conclusion than that few cases now escape the surgeon, whereas in pre-chloroform days, or even for some time after anæsthetics were in general use, a great number of sufferers preferred to drag out a weary existence unrelieved rather than submit to the knife, accompanied as it was, in truth or in imagination, by great pain. In Europe, except in out-of-the-way places, all such prejudices and terrors have no doubt long since vanished; in Eastern lands, though fast disappearing, they still exist. Indian surgeons know that it is absolutely necessary to be prepared to operate on the spot, as if a patient who has come many miles, after much consideration, solely for operation, is not immediately dealt with, it is ten chances to one whether he will be found next morning, so greatly will his fears be worked upon by the knowledge that he is at last at the place where the operation must take place, and at which so many have passed through a similar ordeal already. Indian civil surgery is like the surgery of the battlefield, and the best school for it. It brooks no delay. Enormous growths, many pounds in weight, are still seen in India, which in Europe would have been removed long before they became as large as an orange. A short time since I had a case of fatty tumour of the neck, of seven years' standing, weighing seven pounds, and hanging down to the waist. The patient, a woman, had actually lived within three miles of a dispensary all this time without seeking relief. I suppose that the increase of cases of operation may be accounted for in Europe, as in India, by the increased confidence of the public in the skill of the surgeon. The fearful cases of neglected and unrelieved surgical disease which were shown to the charitable by the wayside, or at the Continental church door, are probably rarely seen in Europe at the present day. It is not one of the least of the blessings attending British administration in India that such cases are also less frequently observed in this great country than formerly."

PSYCHOLOGICAL LABORATORIES.

THE study of psychology as an experimental science is likely to advance, considering that laboratories for research have been, or are now being, established in many of the Continental towns and in America. Among these we may mention Leipzig, Berlin, Bonn, and Göttingen; in America, at John Hopkins, Harvard, Pennsylvania, and Princetown; while at Cambridge we have the anthropological laboratory which Mr. Francis Galton has done so much to establish. Many phenomena concerning mental action are capable of being reproduced for the purposes of accurate study

and comparison, with the hope of attaining exact knowledge Some of the most valuable results have been obtained in studying simple phenomena, as seen in children; but experiment is wanted as a means of keeping certain conditions constant, and for obtaining records of phenomena capable of objective examination and measurement. Dr. James McKeen Cattell, of the University of Pennsylvania, has given an account of the work done in the psychological laboratory of Leipzig in *Mind*, January, 1888. Experiments have been made as to the measurement of sensation, both by varying the pressure upon parts and by determining the variations in illumination that can be appreciated by the eye Sound and light have both been used in investigations as to the relations between stimulus and sensation. Many researches have been undertaken to determine the duration of mental processes; there is no doubt that mental processes take up time, and that this time may be measured. It would be very interesting to learn whether, in the course of evolution in man, the physical processes which correspond to thinking have become shorter or longer, or have remained unchanged. There is no doubt that the interval between stimulus and response varies much in different persons. Dr. McKeen Cattell concludes by saying: "The results obtained in the Leipzig laboratory during the past seven years have been briefly noticed. They prove conclusively that it is possible to apply experimental methods to the study of mind. The positive results are, besides, not insignificant, and will compare favourably with what has been accomplished during the same period in many chemical, physical, and physiological laboratories. An increased interest is everywhere being taken in experimental psychology, and we may hope that we shall some day have as accurate and complete knowledge of mind as of the physical world." It is to be hoped that, in the arrangement of the Royal Colleges for providing laboratories in London, place will be found for the encouragement of research in the departments of physiological psychology and anthropometry, and that in a few years the reputation of the work in this department may be such as may partially remove the indebtedness of England to other countries.

THE GERMAN MEDICAL PRESS AND SIR MORELL MACKENZIE.

THE *Deutsche Med. Wochenschrift* of June 28th contains a violent and somewhat incoherent attack on Sir Morell Mackenzie from the pen of "S. Guttmann." It merely repeats charges which have already been put forward with no less bitterness but in more effective literary form by certain of the German political papers. The chief points may be summed up in the following propositions: 1. Sir Morell Mackenzie deliberately represented the condition of his illustrious patient in an unjustifiably hopeful light almost up to the end; 2. Sir Morell Mackenzie was himself in doubt as to the true nature of the disease ("vacillated without a diagnosis") almost to the last. It requires no great logical acumen to see that these statements are mutually destructive. It may be logical to say that the English physician was mistaken, or that he concealed the truth for purposes of his own; but to say that he was at once ignorant and deceitful is to "prove too much." A further attack along the whole line is threatened when the report of the German physicians and surgeons is published. We can only again express a hope that better counsels may prevail, and that the medical world may be spared the scandal of a controversy which can do no sort of good to anyone, and which may do much harm to the profession in the eyes of the public.

LANOLIN AND ITS IMITATIONS.

GERMAN medical literature contains frequent testimonials from clinical observers of the extended uses of lanolin as an unguent basis in the treatment of skin diseases, the therapeutic application of inunction to the treatment of constitutional diseases, as an obstetric application in the treatment of wounds and cuts, and cosmetically in the prevention of sunburn and freckling, and even "the prevention of wrinkles." Professor Oscar Liebreich's most valuable and original addition to our storehouse of therapeutic resources is, however, subject to the usual drawback which attends the introduction of any novel and useful substance, by the occasional substitution of imperfect imitations and inferior products simulating lanolin, at least in title, which produce deleterious effects. Dr. G. Meyer, of Berlin, reports to the following effect in the *Deutsche Med. Wochenschr.*, No. 19, 1888. A man, aged 38, had a hard chancre in 1875, and was treated in the Charité Hospital, Berlin, and elsewhere for relapses, during the next five years. In June of last year he suffered from hoarseness and swelling of the testicles. Amongst other treatment, the following ointment was applied to the testicles: pot. iodid. 1 gramme; lanolin, 10 grammes. The word "lanolin" was written without any affix. Severe acute dermatitis of the scrotum followed, with great swelling, redness, and burning heat of the skin. The penis participated. The man could not walk about, and, therefore, left off work. The inflammation, he said, set in after the fourth infriction. The general health was not affected; the penis, as above said, shared in the inflammation, which affected both sides of the scrotum. Epididymitis was excluded accordingly, and suspicion rested on the ointment. More of this was ordered as before, for examination only, and it smelt "acid and rancid." The skin remained like thick leather for some time. An ointment of one part of potassium iodide in ten parts of lanolin puriss. (Liebreich) was then rubbed in by Dr. Meyer himself. The skin was distinctly thinner two days afterwards, without any trace of irritation by the ointment. The previous inflammation was due, there is no doubt, to the rancid lanolin used, for all sorts of lanolin, except Liebreich's, contain several fatty acids. The percentages of these in various samples of lanolin are given in the *Deutsche Med. Wochenschr.*, No. 28, 1886, as 33, 26, 17, 16, 16; in Jaffé and Darmstaedter's lanolin, 0.5 to 1.

SOCIETY FOR THE STUDY OF INEBRIETY.

A QUARTERLY meeting of this society was held at the Medical Society's rooms on Tuesday, July 2nd, the President, Dr. Norman Kerr, in the chair. A paper on the Curability of Inebriety was read by Surgeon-Major G. K. Poole, M.D., who maintained that inebriety was a diseased narcotic condition to be met by medical as well as by religious remedies. Statistics were produced to show that something like 30 per cent. of inebriates were cured, a percentage equal to that in most diseases. The need for the extension of the Habitual Drunkards Act was pointed out, as also the propriety of superintendents of genuine homes for inebriates keeping a return of cases treated, in the form sanctioned by the committee of management of the Dalrymple Home. The treatment of inebriety must chiefly consist: (1) in an earnest desire to be cured; (2) in the use of moral, religious, and medical remedies; (3) in the adoption of means to assist these by affording the sufferer a ready way to place himself under the control of others in a proper home.

GROCERS' COMPANY LECTURES ON THE PATHOLOGY OF TUBERCULOSIS.

THE Grocers' Scholarship Pathological Lectures will be delivered in the theatre of the University of London on Monday and Tuesday afternoons, July 9th and 10th, by Dr. Sims Woodhead, director of the new laboratory of the Royal College of Physicians of Edinburgh. The lectures, we understand, contain much new and very interesting matter relating to the causation of tuberculosis. The first lecture will deal with the subject generally, the second will treat of pulmonary tuberculosis specially. Those who saw Dr.

Woodhead's demonstration at the annual meeting of the British Medical Association at Dublin last year will look forward with pleasure to these lectures, which will be fully illustrated by like excellent lantern projections, and by photographs, drawings, and microscopic specimens. The chair will be taken on each occasion by Sir James Paget, Vice-Chancellor of the University, at 5 P.M. A synopsis of the lecture will be distributed in the theatre, which will be open to all interested in the subject.

SULPHONAL.

AN account of this new hypnotic has already appeared in the JOURNAL. Two articles on the subject appear in a recent number of the *Berliner Med. Wochenschr.*, June 18th, one by Dr. H. Rosin, of Breslau, the other by Dr. C. Oestreicher, of Berlin. Dr. Rosin tried sulphonal on eighty-two patients, besides others. In doses of two grammes (half a drachm) it was found almost invariably to have a decided hypnotic effect, without any disturbing symptoms, even when cardiac derangement was present. Such a dose Dr. Rosin considers equal to one-sixth or one-seventh of a grain of morphine, but the latter was found more efficient when the insomnia was due to cough or pain. A dose of four grammes (one drachm) produced a sleep lasting three or four hours in the daytime, and much longer at night; but the sleep after the dose always left a feeling of heaviness behind it. Dr. Rosin, who sticks to his text, concludes thus: "On the whole, sulphonal in doses of two grammes is as] certain in its effects as morphine or chloral, and in cases of simple insomnia may be recommended in doses of double that strength, on account of its freedom from after-effects." Dr. Oestreicher observed the effects of sulphonal on fifty patients with nervous diseases, besides some who were phthisical, and concludes that in moderate doses—that is, two grammes—this drug is a non-injurious hypnotic. Respiration, pulse, and kidney-secretion were unaffected; the effects of persistent use are, of course, unknown at present. It is best given in capsules or tabloids, from its insolubility in water. Oestreicher finds it without smell or taste; Rosin states that it has a slight bitter taste. Sleep sets in more slowly than after chloral or morphine in corresponding doses, but lasts longer. The editor of the *Berliner Klin. Wochenschr.* confirms the above from observations of his own.

MELINITE SHELL WOUNDS.

THE *Archives de Médecine et de Pharmacie Militaire* for last year contained an account of the seventeen patients who were killed or wounded by the explosion of a shell charged with the new explosive, melinite, in the arsenal at Belfort, in March, 1887. Only six recovered from their injuries, the remainder succumbing either to severe damage to the head, trunk, bones, or blood-vessels, or to septic changes. The authorities believed that the explosion was due to chemical change in the compound with which the shell was charged. In the field during a campaign, freshly-laden shells would be expected to produce yet more violent effects. The patients mostly presented characteristic appearances. There were multiple, deep, very narrow wounds of the soft parts, caused by the entry of minute cubical fragments of shell, and in the depths of the wound the raw surface appeared as though tattoed with minute particles of foreign matter, as in gunpowder explosions. The injuries to bones were markedly localised, epiphyses being in some cases shattered without fissure of the shaft. The chief peculiarity was the presence of an intense yellow discoloration of the skin in every case, communicated to the patient's linen. The fragments extracted from the wounds appeared to be metallic splinters from the shell, no melinite nor any other chemical compound could be detected, nor did the patients who recovered exhibit any symptoms of the absorption of a chemical poison.

FOREIGN BODIES IN THE RECTUM.

MR. D. H. GOODSALL, Assistant Surgeon to St. Mark's Hospital, has published "The Notes of Twenty Cases of Foreign Bodies in the Rectum," in the twenty-third volume of the *St. Bartholomew's Hospital Reports*, recently issued. From a consideration of these notes, the author concludes:—1. That this form of accident is more commonly met with after 35 years of age, the average age in the twenty cases being upwards of 42 years. 2. That a bone takes from one to nine days to pass from the mouth to the rectum. 3. That the pain in the rectum comes on suddenly while the motion is being passed. 4. That there is constant pain and discomfort in the rectum, and sometimes also in the adjacent parts, from the time of puncture until the foreign body has been removed. 5. That the site of the puncture is within the last inch or three-quarters of an inch of the rectum. 6. That when an abscess follows the puncture, it begins to form within two or three days of the puncture. That when the case is seen early and the bone promptly removed, no ill effects follow the puncture 8. That when a fistula has formed, the patient may, unless the internal opening is large, be cured by making only a free external opening. 9. That when it is necessary to lay open the fistula, the wound made (the foreign body having been removed) heals much more rapidly than the wound does in non-traumatic cases of fistula. The cause of fistula is very important in cases of candidates for life-insurance, for if the fistula be of traumatic origin, no increase should be made in the rate of premium because of such a fistula. An ischio-rectal abscess, caused by a foreign body, should be opened as soon as possible. When the case is seen soon after the foreign body has punctured the rectum and before abscess has formed, the patient should be put under chloroform and the sphincter forcibly stretched. The foreign body should then be removed, either from the rectum or by an external incision. Then about two drachms of unguentum cetacei should be introduced into the rectum. The bowels must be kept confined for three or four days, and then relieved by olive oil, not by aperients.

DIGITAL DILATATION OF THE PYLORUS.

LORETA'S operation for stricture of the pylorus has been (*New York Medical Record*) successfully performed by Dr. William T. Bull at St. Luke's Hospital, New York. The patient, a man, aged 37, had suffered for twenty months from symptoms which enabled Dr. F. P. Kinnicult, after careful chemical examination of the fluids in the stomach, to make the diagnosis of pyloric stenosis from cicatricial contraction of an ulcer. At the operation the pylorus admitted only a bougie of the diameter of three-sixteenths of an inch. Through a wound two inches long the pylorus was gradually stretched with bougies and the fingers till it was over two inches in diameter. No bad symptoms followed the operation and at the date of the report (June 19th) the patient was considered out of danger, and had been able to take considerable quantities of liquid diet by the mouth without subsequent pain or vomiting.

SCOTLAND.

ST. MUNGO'S COLLEGE BILL.

A PUBLIC meeting, called by the Lord Provost of Glasgow, in compliance with a requisition signed chiefly by Chairmen and Secretaries of Ward Committees, was held on July 2nd in the City Hall Saloon, Glasgow, to consider the St. Mungo's College Bill. The Lord Dean of Guild presided. The following resolution was proposed by Dr. W. G. Blackie, and unanimously adopted:

"That the Royal Infirmary of Glasgow, founded nearly 100 years ago, is an institution in which the public of Glasgow and

West of Scotland have always taken a deep interest: that, as a means of benefiting the 5,000 patients annually treated in its wards and the 40,000 outdoor patients, a school of medicine was established in connection with the institution in 1875, under the provisions of a Royal charter: that, in the interests of the patients and of the teaching of medicine, it is imperative that this school of medicine be erected into a College of the University of Glasgow: and that, in the interests of higher education in the city and West of Scotland, it is expedient that the proposed college should be enabled to embrace all departments of science, languages, philosophy, law, and other subjects included in the range of a liberal education."

The following motion was also unanimously carried:

"That in the opinion of this meeting the proposals contained in the University of Glasgow (St. Mungo's College) Bill, now before Parliament, offer the only adequate means in the East End of Glasgow of securing the great ends referred to in the preceding resolution, and are therefore worthy of the support of the public of Glasgow and West of Scotland."

In speaking to this motion, Dr. Eben. Duncan said the promoters of the Bill had no intention that this should be the only College of Glasgow University. It was only to be the starting-point.

AN ESCAPE FROM SMALL-POX.

In his last report to the Health Committee Dr. Russell stated that in Glasgow we had narrowly escaped from an importation of small-pox. A member of the well-known Preston North End Football Club, which came to Glasgow a fortnight ago to engage in a match, was unable to play from illness. After sleeping a night in a Glasgow hotel, he went to his parents in Kilmarnock, where his illness developed into small-pox. The medical officer there telegraphed to Dr. Russell at once. Fortunately the room in the hotel had not again been occupied, and the bedding, etc., were disinfected. Dr. Russell adds that it would be well if football matches with towns infected with small-pox were avoided, as well as such occasions of popular intermixture as excursions.

SCARLET FEVER AT POLLOKSHIELDS.

During the last fortnight a serious outbreak of scarlet fever has occurred at Pollokshields, a suburb of Glasgow. About seventy cases have been reported, and there have been several deaths. The discovery of the outbreak was made by Dr. Neil Carmichael, Cumberland Street, Glasgow, on June 14th, and was traced to a dairy from which all the families affected obtained their morning supply of milk. On further inquiry it was found that this milk came from a farm in the country, where five children were found ill in bed with scarlet fever. These children had all sickened on June 13th or 14th, but a servant in the family had complained of sore throat and chilliness on the 8th, and was unable to do her usual work for a week. Dr. Carmichael and the medical officer for Pollokshields visited and inspected the farm. They have certified that this servant has been and still is suffering from scarlet fever, and that to her may be traced the present outbreak. How she contracted the disease they were unable to ascertain. Dr. Carmichael, who has been investigating the nature of the disease affecting the cows to which the recent Garnethill epidemic was traced, made a minute examination of the cows in the present case, and was satisfied that they were all in a perfectly healthy condition. Dr. Carmichael has further brought a serious charge against the authorities in Pollokshields of dilatoriness in acting upon his information. He informed the medical officer on June 15th of the outbreak, and that it threatened to be serious; he also pointed out the source of infection, but no steps were taken to stop the milk supply till late in the evening of the 16th. The farm was only visited on the 19th, an inexcusable delay. On the 15th Dr. Carmichael suggested a house-to-house visitation, and as the Pollokshields sanitary officer was ill, suggested that six inspectors be asked for from the city. Nothing was done in this direction till the evening of the 22nd, when the loan of one inspector was requested from the city. This man, though thoroughly capable, could not do the work of six men. A house-to-house visitation of the district would take him several weeks, and before it was half finished many of the milder cases would be lost sight of by return to business, or removal to coast or country. Dr. Carmichael therefore anticipates a considerable number of secondary cases during the next few weeks, from cases recovering being permitted, from lack of sufficient sanitary supervision, from mixing too early with the general population. The lessons to be derived from such a history as this are sufficiently obvious. The entire urban and suburban areas should be under the control of a central health officer, with a sufficient number of assistants ready to cope with such an emergency as this, and the sources of the milk-supply of our great centres should be under the most constant, efficient, and vigilant inspection.

IRELAND.

The epidemic of measles at Skibbereen has now nearly abated, and there were last week only two cases, both of which were convalescent.

The death is reported of Dr. Richard Henry Ffrench, which took place at his residence, Larkfield, county Wexford, on June 28th. The deceased gentleman, who was much respected, was medical officer of Killanne Dispensary District.

WOMEN AND CHILDREN'S HOSPITAL, CORK.

A children's *fête* was held last week at Beaumont, Ballintemple, in aid of the funds of the free cots of this institution. The programme included a concert by children, a sale of fancy articles, and outside games. A very substantial sum, it is believed, was received for a very deserving institution.

MEATH HOSPITAL.

It is stated that Mr. James Wharton, Surgeon to the Meath Hospital, is about to resign his position, and rumours are already current as to his probable successor. Mr. Wharton is one of the most esteemed members of the profession, and he has always been regarded as a wise and accomplished surgeon.

THE COUNCIL OF THE COLLEGE OF SURGEONS.

At 5 P.M. on Thursday the ballot for the election of three members of Council closed. On counting up the votes the result was as follows:

	Votes.		Plumpers.
Mr. Cadge	116		8
Mr. Bryant	106		3
Mr. Pick	93		17
Mr. Couper	65		5
Mr. Norton	56		5

Mr. Cadge and Mr. Bryant were therefore declared duly re-elected, and Mr. Pick duly elected.

A meeting of the Association of Fellows was held at the Inns of Court Hotel at two o'clock, and the officers for the ensuing year were elected. *President*, Mr. Pollock; *Vice-Presidents*, Mr. Holmes and Mr. P. Swain; *Treasurer*, Mr. Willett; *Honorary Secretary*, Mr. H. Allingham.

Bequests and Donations.—Mr. J. Aloysius Blake, of Westland Row, Dublin, bequeathed £1,000 for public hospitals in Ireland, and £500 to St. Mark's Hospital.—Mr. John Baker, of Albion Road, Holloway, bequeathed £500 each to the London Fever Hospital, the Central London Throat and Ear Hospital, the Great Northern Hospital, the Holloway and North Islington Dispensary, and the Royal Hospital for Incurables.

A YEAR'S WORKS OF THE METROPOLITAN ASYLUMS BOARD.

In his report just published for the twelve months ended Lady-day last the Chairman of the Metropolitan Asylums Board naturally assigns the most prominent position to the epidemic of scarlet fever which so severely taxed the energies of the managers during the autumn of last year. On July 28th, 1887, the number of fever patients under treatment in the various hospitals of the managers was 633; on August 25th, 842; on September 22nd, 1,443; on October 20th, 2,269; and on November 23rd, when the maximum number was attained, the total number of beds occupied was no less than 2,789. This number was nearly quadruple the greatest number under treatment at any one time in the hospitals of the managers during the previous ten years; and Sir E. Galsworthy frankly admits that at one time it seemed doubtful whether it would not be beyond the powers of the managers to provide for these large numbers. Whether this excess was due to the fact that fever in the metropolis during the autumn of 1887 —following as it did upon a summer of exceptional heat and drought—was more than usually severe; whether it was that a far greater proportion than hitherto of the number of patients attacked in the metropolis availed themselves of the hospitals of the Board; or whether it was owing to the increased facilities for the removal of patients to hospital afforded by the amended order issued by the Local Government Board in the spring of the year (whereby patients were permitted to be received upon the application of any duly qualified medical practitioner, accompanied or followed by the order of the relieving officer), further experience can alone determine. Probably each and all of these factors tended to augment the number of patients who availed themselves of the Board's hospitals. The mortality from scarlet fever in the metropolitan district generally was normal, but the type of disease which prevailed during the autumn and winter of 1887 was exceptionally mild. The deaths among the patients under treatment at the managers' hospitals have shown from year to year an increasing percentage of the total number of deaths in the metropolis, and it may therefore be inferred that the numbers in the managers' hospitals have also assumed a correspondingly increasing proportion to the total number of persons attacked. The experience of the past twelve months points to the conclusion that for the future the recurring autumnal scarlet fever cases will necessitate the managers providing accommodation for a much greater proportion of the total number of persons attacked than they had hitherto provided for, and that the recommendation of the Royal Commission appointed to inquire respecting fever and small-pox hospitals, that the managers should provide accommodation for 3,000 fever patients, was well considered, and has already been justified; for it would appear that, taking the total number of deaths from scarlet fever which occurred in the metropolis as a basis whereon to estimate the total number of patients attacked, and comparing these deaths with the number of deaths which occurred in the hospitals of the Board, the managers during the past twelve months received into hospital probably only about one-third of the total number of cases which occurred in the metropolis.

The steps that were taken by the managers to meet the demand for beds—the reopening of one hospital after another for fever patients, the hurried completion and opening of the Northern Hospital at Winchmore Hill for Convalescents, etc.—have been referred to in these columns from time to time, and the energy and promptitude displayed by the committees and officers of the various hospitals in this matter have not been overlooked. Let us hope that the time is not far distant when the Metropolitan Asylums Board, or its successor, will be recognised, both by the Legislature and by the public, as the hospital-providing authority for the metropolis as regards cases of infectious disease.

It is interesting to note that the expenditure incurred in providing extra accommodation for fever patients during last autumn and winter amounted to £31,038 3s. 6d.

One of the most satisfactory and complete of the branches of the work of the managers is that performed by the ambulance department. The organisation of that department has been excellent, and has contributed not a little to the beneficial effects of the Board's work. There are three ambulance stations, on sites adjoining the Homerton, the Deptford, and the Fulham Hospitals respectively; and during the year 1887 no fewer than 6,456 patients were removed by these ambulances from the patients' homes to the Board's hospitals. In addition to this number 1,793 convalescing patients were transferred to the Northern and other hospitals, whilst 1,088 patients were removed from the Northern Hospital to the hospitals in London for discharge to their friends, and 230 patients from the hospitals to their homes. The total number of journeys made by the ambulances was 6,507, whilst the number of miles run by vehicles under the control of the ambulance department during 1887 amounted to 58,126.

Small-pox fortunately did not cause much anxiety to the managers during the past year. Notwithstanding the prevalence of the disease at Sheffield, Salford, Manchester, Bristol, and other large English towns, as well as in Paris, only 56 patients were admitted into the Board's hospitals during 1887.

The question of the provision of additional accommodation at Darenth for convalescing small-pox patients has been unreasonably and dangerously delayed between the managers and the Local Government Board; but the matter has at last been settled, and there will soon be available at Darenth 800 beds, namely, 600 in the new brick-hut hospital about to be erected, and 200 in the re-arranged wooden buildings. In addition to this, the managers have 350 beds available on board the hospital ships at Long Reach, and they hope that this provision will be found to be sufficient to cope satisfactorily with any future epidemic of small-pox. It is sincerely to be hoped that this forecast may prove correct, but the managers should keep in sight the fact "that this number of patients (1,150) has during the past ten years been exceeded on several occasions."

Of course, it must not be forgotten that the managers are only taking into account the accommodation available out of London; but unless some means are devised of rendering the intra-urban hospitals innocuous as regards the spread of small-pox around them, the use of those hospitals in future for small-pox cases seems to be inadmissible. The responsible authorities, however, have had a severe warning during the progress of the recent scarlet fever epidemic, that the public will look to them to have adequate hospital accommodation available for any future emergency.

LONDON SCHOOL OF MEDICINE FOR WOMEN.

The presentation of prizes to the successful students of this school was made on Tuesday, July 3rd, by Miss Louisa Stevenson, late honorary secretary of the National Association for Promoting the Medical Education of Women. There are now sixty women who have taken medical diplomas enabling them to enter their names on the British register of qualified medical practitioners. The report, read by Mrs. Garrett Anderson (the Dean), showed that the work of education had been successfully carried on during the past year. There were 69 students, of whom the large proportion of 32 were preparing for university examinations. The opening of the Apothecaries' Hall examination to women during the past year was, said Mrs. Anderson, a decided gain. She pointed out how successful some of the students had been, particularly mentioning Miss Fleury, Miss Toms, and others. Miss Stevenson, who has lately visited India, then gave an account of her impressions of the work of medical women in that country.

LIST OF AUTHORS AND OTHERS WHO HAVE PRESENTED BOOKS TO THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

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BEQUESTS AND DONATIONS.—Mr. John William Dod bequeathed £8,000 to the General Hospital, £8,000 to the Royal Infirmary, and £2,000 to the Hospital for Sick Children, all at Bristol.—Madame Louisa Elizabeth de Bille, of Putney Heath, bequeathed £1,000 to St. George's Hospital.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held at the Offices of the Association, No. 429, Strand (corner of Agar Street), London, on Wednesday, the 18th day of July next, at 2 o'clock in the afternoon.

FRANCIS FOWKE, *General Secretary.*

June 14th, 1888.

NOTICE OF QUARTERLY MEETINGS FOR 1888. ELECTION OF MEMBERS.

ANY qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

Meetings of the Council will be held on July 18th, and October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

GRANTS FOR SCIENTIFIC RESEARCH.

THE Scientific Grants Committee of the British Medical Association desire to remind members of the profession engaged in researches for the advancement of medicine and the allied sciences, that they are empowered to receive applications for grants in aid of such research. Applications for sums to be granted at the next annual meeting should be made without delay to the General Secretary, at the office of the Association, 429, Strand, W.C. Applications must include details of the precise character and objects of the research which is proposed.

Reports of work done by the assistance of Association grants belong to the Association.

Instruments purchased by means of grants must be returned to the General Secretary on the conclusion of the research in furtherance of which the grant was made.

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

NORTH OF IRELAND BRANCH.—The annual meeting of this Branch will be held in the Belfast Royal Hospital, on Wednesday, July 11th, at 4 P.M. Business: 1. To receive the Secretary's report and the Treasurer's statement for the past year. 2. To elect office-bearers for the ensuing year. 3. To elect two members as representatives of the Branch on the Council of the Association, and also the representatives on the Parliamentary Bills Committee. 4. The President (Dr. J. M. Palmer) will deliver an Address. 5. Dr. O'Neill will show a Patient operated on for Extensive Disease of Foot, and also a Patient operated on for Cleft Palate, and will read notes of each case. 6. Dr W. A. McKeown will show a New Apparatus for Intra-ocular Irrigation in the Extraction of Cataract. He will also show some cases in which Senile Cataract has been extracted without Iridectomy. 7. Mr. Fagan will show a Patient on whom he recently performed Resection of the Wrist-Joint. He will also show a Portion of Bowel, the Seat of Cancerous Stricture removed for Intestinal Obstruction, and give notes of the case; and a Portion of the Saphena Vein removed and presenting some features of pathological interest. 8. Dr. E. C. Thompson (Omagh) will read Notes of a Successful Case of Ovariotomy. 9. Dr. Burden will show a Series of Microscopic Sections of Tumours. 10. Dr. Byers will show the Instruments employed for the Electrical Treatment of Fibroid Tumours of the Uterus after the Method of Apostoli. He will also show a specimen of Cystic Vesicular or Hydatid Degeneration of the Chorion. The annual dinner will be held on the same evening at 7.30 P.M. in the Royal Avenue Hotel; tickets, 8s. 6d. (exclusive of wine).—JOHN W. BYERS, M.D., Lower Crescent, Belfast, Honorary Secretary.

READING AND UPPER THAMES BRANCH.—The annual meeting of this Branch will be held in the Library of the Royal Berkshire Hospital, Reading, on Wednesday, July 11th, at 4.15 P.M. The chair will be taken by the President (Dr. C. H. Tench), who will introduce the President for the coming year (W. B. Holderness, Esq., of Windsor), who will then take the chair. Members willing to read short papers or bring forward cases of clinical interest are requested to communicate with the Honorary Secretary without delay. The annual dinner will take place on the same evening at 6.15 P.M., at the Queen's Hotel, Reading. Dinner tickets (5s. without wine, or 10s. including wine) should be obtained from the Honorary Secretary on or before Saturday, July 7th.—H. HEYGATE PHILLIPS, 43A, London Road, Reading, Honorary Secretary.

OXFORD AND DISTRICT BRANCH.—The annual meeting will be held at the Radcliffe Infirmary, Oxford, on Friday, July 27th, at 3.30 P.M. Members wishing to read papers or show cases or specimens are requested to give notice to the Honorary Secretary, W. Lewis Morgan, 42, Broad Street, Oxford, on or before July 13th.—S. D. DARBYSHIRE and W. LEWIS MORGAN, Honorary Secretaries.

BORDER COUNTIES BRANCH.—The twenty-first annual meeting of this Branch will be held at the Crown Hotel, Penrith, on Friday, July 13th. The chair will be taken by Dr. McLeod at 1.30 P.M. The usual election of office bearers for the year will take place. Dr. Robertson, Penrith, will deliver his presidential address. Dr. Tyrrell, Garlands, will read Notes of a Case of Fatal Epilepsy with Calcific Deposits in the Dura Mater, and show a Tumour of the Liver. Dinner in the hotel at 4 P.M. Light refreshments will be provided by the Penrith members from 1.15 P.M. to 2 P.M. Intimation of papers or communications should be sent to the Honorary Secretary, H. A. LEDIARD, 41, Lowther Street, Carlisle.

SOUTHERN BRANCH: ISLE OF WIGHT DISTRICT.—An ordinary meeting of this Branch will be held at the Royal Pier Hotel, Sandown, on Thursday, July 19th, at 3.45 P.M., T. A. Buck, Esq., M.B., etc., President, in the Chair. Agenda: —H. W. Godfrey, M.B.: A few Notes on "the Elephant Man" (with photographs). Dr. J. G. Sinclair Coghill: Calomel as a Cholagogue. J. Groves, M.B.: Case of Dilated Heart. Dr. J. M. Williamson: On a Case of Exophthalmic Goitre with Intercurrent Maniacal Attack. Dr. R. Robertson: Death from Tubercular Meningitis after a School Examination. J. Groves, M.B.; Bullet Extracted by simple means in a recent Case of Gunshot Injury. Gentlemen who are desirous of introducing patients, exhibiting pathological specimens, or making communications, are requested to signify their intention at once to the Honorary Secretary. Dinner at 6 P.M.; charge, 6s., exclusive of wine. Trains leave Sandown for Ryde, Shanklin, and Ventnor at 8.12, and for Newport at 8.15 P.M.—W. E. GREEN, Honorary Secretary.

NORTH WALES BRANCH.—The thirty-ninth annual meeting will be held at the Assembly Rooms, Dolgelly on Monday, July 9th, at 12.30 P.M. After the usual formal business the President will deliver his address. The following papers will be read:—Dr. T. Eyton Jones: (1) The Advantages of the French Mode of applying Forceps and Conducting a Labour. (2) On the Value of Strophanthus with Sphygmographic Tracings. Dr. A. Emrys Jones: (1) A Case of Epithelial Tumour of the Cornea. (2) Sarcoma of Choroid. F. H. V. Grosholz: (1) Herpes. (2) Circumscribed Palmar Aneurysm in a Child. H. Lloyd Williams will show a case of Fracture of the Skull. After the meeting the members will dine together at the Golden Lion Royal Hotel, at 4 P.M. Tickets, exclusive of wine, 5s. each—W. JONES-MORRIS, Honorary Secretary, Portmadoc.

METROPOLITAN COUNTIES BRANCH: ANNUAL MEETING.

THE thirty-sixth annual meeting of this Branch was held at the Holborn Restaurant on Wednesday, June 27th, at 5.30 P.M. The chair was taken by the retiring President, ARTHUR E. DURHAM, Esq., who afterwards resigned it to his successor, C. BRODIE SEWELL, M.D. The minutes of the previous meeting of the Branch were read and confirmed.

Report of Council.—Mr. EASTES, one of the Honorary Secretaries, read the following report: The Council of the Metropolitan Counties Branch have the pleasure to report a continued steady increase in the number of members attached to the Branch. At the date of the last annual meeting, July, 1887, the members of the Branch were 1,008. Since then 36 have resigned and 6 have died, but as 64 new members have been elected, the total has been advanced to 1,030. The deceased members were Mr. Edward Bradford, Sir George Burrows, Dr. A. Ferriani, Mr. J. G. French, Sir W. R. E. Smart, and Dr. Harrington Tuke. All these gentlemen were well-known members of the profession, and had in their time done good work. Sir George Burrows had presided at the annual meeting of the British Medical Association which was held in the metropolis in 1862, and had since then been a Vice-President of the Association. Sir William Smart was formerly a member of the Committee of Council of the Association for this Branch. The fact that only six deaths occurred in one year amongst more than 1,000 medical men of all ages scattered over the metropolitan area is noteworthy, and a matter for much thankfulness. Notwithstanding the increase which the Branch has exhibited during the year, it is not to be doubted that, with a little effort, each member might amongst his professional neighbours find at least one willing to join. And when it is remembered that

there are nearly 1,000 unattached members, the majority of whom could probably be easily persuaded to enrol themselves in our ranks, it does seem a matter for regret that a little more exertion is not bestowed upon this very necessary duty; for it should not be forgotten that a large Branch speaks with an assured authority upon public matters. No occasion has arisen during the year for the summoning of a general meeting of the whole Branch; but there has been no consequent stagnation in its affairs, since the Districts have exhibited most praiseworthy activity in the holding of meetings for the discussion of scientific subjects. It may be remembered that at the last annual meeting a set of new laws was unanimously passed. The chief alteration therein provided for was this, that each District might, under certain restrictions, elect three members to represent it on the Branch Council, and might also have its own District Council of from eight to ten members. The expediency of introducing this law has been amply justified by the result. Four of the five Districts of the Branch last autumn elected their officers and councils, and have all since held well-attended meetings at different places within their respective borders. But however good the new law it must have remained inoperative had it not been administered with discretion and zeal by those to whom its working was committed, the District secretaries; and your Council feel that to all those gentlemen, but especially Drs. Henty, Hunt, Percy Smith, and Mr. Patten, the gratitude of the whole Branch is due for their constant exertions within their Districts. In North London 4 meetings have been held, with an average attendance of 20 members; in East London 7 meetings, attended on the average by 26 members; in South London 3 meetings, attended by an average of 19; and in West London 4 meetings, with an average attendance of 22 members. The Hertfordshire District, consisting as it does of more scattered constituencies, and therefore more difficult to work, made a good beginning in December last at a numerously attended meeting at St. Albans, organised by its Secretary, Mr. Leslie Bates. The Districts have all just recently re-elected for the coming twelve months their officers and Council, who had only served for a part of the past year. In the report of the last Council the following paragraph appeared:—"Dr. Prosser James, in December, forwarded a request to the President that the Council would inquire into the circumstances under which several of the medical officers of the Golden Square Hospital for Diseases of the Throat had resigned their appointments. The Council resolved, before proceeding further in the matter, to ask Dr. James whether the parties on both sides of the matters in dispute agreed to submit their cases to the Council, and to abide by the decision of the Council. The reply notified that the conditions were impracticable. The affair consequently proceeded no further." Exception has been taken to this paragraph by Dr. Prosser James, who states that the request was not forwarded to the President in December, 1886, but was sent to the former secretary of the Branch in May or June of that year, immediately after Dr. James and the colleagues with whom he was acting had resigned their appointments at the Golden Square Hospital. That the request was not brought before the Council until December was due to inadventure, and certainly was not caused by any wilful suppression. Nevertheless the present Council think it matter for expressed regret that the delay occurred, and trust that this explanation will be satisfactory. In August last a vacancy occurred in the number of representatives of this Branch upon the General Council of the Association by the election by that Council of Dr. Bridgwater to the high and honourable post of its President. The vacancy thus created was, in accordance with Law 16 of the Branch, filled by your Council at its next meeting by the election of Dr. Bristowe to the vacant office. At the meeting of your Council in October it was unanimously resolved that the British Medical Association be invited to hold its annual meeting in 1889 in London. This resolution was accordingly presented to the General Council of the Association at its meeting that same month, but was not pressed, as it seemed to be generally understood that an invitation from Leeds for 1889 had already been virtually, if not actually, accepted. It is hoped, however, that the meeting of the Association in 1890 will take place in the metropolis; and that the expectation of this event may induce many medical men residing in or near London, who have not yet joined the Branch, to become attached to it, as a large accession of new members will enable the London Committee to give the Association by so much a heartier welcome. The Lancashire and Cheshire Branch presented in the autumn a memorial to the Council of the Association, in which they complained of the inadequate fees paid to medical witnesses in criminal cases at Assizes and County Sessions. The Council referred the matter to the Branch Councils, and your Council have replied that "they heartily concurred in the terms of the memorial, and were of opinion that the Council of the Association would do right in taking such steps as seemed to them desirable to forward the objects of the memorial." Two cases have occurred during the year in which the professional acts of members were brought before the notice of your Council, complaint being made that such acts were unprofessional. In one case your Council had to report adversely to the accused party. In the other case the question is still *sub judice*. The votes for the Royal Medical Benevolent College due to the Branch in consideration of its subscriptions to the funds of the College were, at the request of your Council, handed to the President for him to exercise them as to him might seem proper. A Committee of your Council decided to petition the Chancellor of the Exchequer upon the subject of the proposed tax upon pleasure horses, as affecting medical men; and the Chancellor was requested to take into his favourable consideration the justice and practicability of making exception in favour of the horses of medical men. He courteously acknowledged the receipt of the petition. By the recent appointment of the Royal University for London Commission, now sitting, an opportunity seems at length to be afforded to this Branch of ventilating a most important question, and one upon which it has, moreover, spent much time and money—namely, the desirability of obtaining an M.D. degree for London medical students upon somewhat easier terms than those required for the passing of the examination for the Doctor of Medicine degree of the University of London. Your Council have had the matter under consideration, and have requested the President (Mr. Durham) and Dr. Gilbart Smith (who has already, in former years, done excellent service for the Branch in this subject), to give evidence before the Commission, setting forth the disadvantages under which London medical students are at present placed. A small committee, consisting of Dr. Bristowe, Dr. Bridgwater, Dr. Walter Dickson, and Mr. Edmund Owen, has also been appointed to act in conjunction with Mr. Durham and Dr. Gilbart Smith, in respect of this important subject. It is greatly to be hoped that the outcome of the inquiry may be such a measure as will satisfy the legitimate wants and aspirations both of the teachers and the students in the large metropolitan medical schools. The Lunacy Acts Amendment Bill, now before the House of Commons, has been considered by the Parliamentary Bills Committee of the Association, who have made several recommendations for its amendment in Committee. Your Council have resolved to send a copy of such recommendations to each of the members for the metropolitan constituencies, requesting them to give the recommendations their careful consideration, and, if approving of them, to support the proposed amendments by their votes. If the Bill be passed, it will doubtless correct many existing legal anomalies, by reason of which several medical men have in recent years suffered heavily. The expense, exceeding £200, incurred by the holding of a *conversazione* last year, has precluded the Council from arranging for such an entertainment during the present London season; and it is not probable that, with the present rate of subscription to the Branch, a *conversazione* can be held oftener than once in every two years, especially as your Council consider it expedient on many grounds to discourage the giving of a *conversazione* by your Presidents, however anxious they may be—as was your President of this year, Mr. Durham—to incur themselves the whole expense of the entertainment. The Council of the Royal Medical Benevolent College have again very kindly permitted your Council to hold meetings at the offices in Soho Square. Your Council have authorised your Treasurer to pay from the funds of the Branch a subscription of five guineas to the College, and another of the same amount to the British Medical Benevolent Fund. At present the Council meetings are held in the Council Room of the Association office, at 429, Strand, which is centrally situate, and otherwise convenient for the purpose.

The result of the ballot for the election of officers and Council and of representatives of the Branch on the Council of the Association is as follows: *President:* C. Brodie Sewell, M.D. *President-elect:* W. M. Ord, M.D. *Vice-Presidents:* W. M. Baker, Esq.; A. E. Durham, Esq.; S. Mackenzie, M.D.; J. J. Merriman, Esq. *Treasurer:* S. W. Sibley, Esq. *Honorary Secretaries:* George Eastes, M.B.; Noble Smith, Esq. *Eighteen Ordinary Members of Council* (the names to which an asterisk is prefixed are those of members nominated in place of ten who retire); *W. Adams, Esq.

(Tower Lodge, Regent's Park Road, N.W.; C. T. Aveling, M.D.; *J. M. Bruce, M.D.; W. B. Cheadle, M.D.; *G. A. Critchett, Esq.; *H. R. Crocker, M.D.; *T. B. Crosby, M.D.; Maurice Davis, M.D.; *D. Ferrier, M.D.; *G. P. Field, Esq.; J. F. Goodhart, M.D.; M. Greenwood, jun., M.D.; *John Langton, Esq.; *H. Morris, Esq.; E. Owen, Esq.; R. W. Parker, Esq.; *St. Clair B. Shadwell, Esq.; T. Gilbart Smith, M.D. *Representatives of the Branch in the Council of the Association:* J. Syer Bristowe, M.D.; H. T. Butlin, Esq.; George Eastes, M.B.; W. C. Grigg, M.D.; S. W. Sibley, Esq.; F. Wallace, Esq.

Sir Edwin Saunders proposed, Dr. E. H. Vinen seconded, and it was resolved: "That the report of Council now read be received, adopted, and entered on the minutes."

Treasurer's Report.—Mr. Sibley, Treasurer, presented the financial reports. There had been at the beginning of the financial year a debt due to the Treasurer. There was now, however, a balance in hand.

Dr. T. B. Christie proposed, Dr. Bridgwater seconded, and it was resolved: "That the Treasurer's report be received, adopted, and entered on the minutes; and that the best thanks of the Branch be given to Mr. Sibley for the able and efficient manner in which he has discharged the duties of Treasurer during the past year."

Mr. Sibley acknowledged the vote of thanks.

Mr. Durham thanked the members for their support during the year, and resigned the chair to the new President, Dr. C. Brodie Sewell.

Vote of Thanks to the Retiring President.—Mr. Butlin proposed, Dr. Walter Dickson seconded, and it was unanimously resolved: "That the cordial thanks of the Branch be given to Arthur Edward Durham, Esq., for his efficient and courteous conduct as President during the year, and especially for his able and judicious guidance and assistance in the consideration of those matters of professional importance which have been brought under the notice of the Branch."—Mr. Durham returned thanks for the vote.

President's Address.—Dr. Brodie Sewell delivered an address in which he contrasted in many ways the profession as he found it upon his entrance into it in 1834, with its condition at the present day. The advance, in many points, amounted to little less than a revolution. Medical diagnosis and surgical art had developed beyond the dreams of the wildest imagination; whilst the medical press of to-day accurately reflected the general advance.

Dr. Henty proposed, Mr. Edmund Owen seconded, and it was unanimously resolved: "That the best thanks of the meeting are due and are hereby tendered to the President for his interesting address."

Dinner.—At 7 P.M. the members and their friends, to the number of 71, dined together, under the chairmanship of Dr. Brodie Sewell. Among the guests present were Sir T. Crawford, Director-General of the Medical Department of the Army, and Dr. J. N. Dick, C.B., Director-General of the Medical Department of the Navy. An account of the proceedings was published in the British Medical Journal of last week at page 1,400.

SOUTH-EASTERN BRANCH.

The forty-fourth annual meeting of this Branch was held at Rochester on Wednesday, June 27th. Dr. Barker, of Aldershot (the retiring President), having made a few valedictory remarks, vacated the chair and introduced his successor, Dr. T. V. Bell, of Rochester.

President's Address.—A vote of thanks to Dr. Barker for his services during the past year having been carried by acclamation, Dr. Bell proceeded to deliver an address on the Influence of the Profession, which he considered to be for the most part individual. He deprecated giving too much publicity to medical details, as by furnishing to society papers diagrams of the condition of internal organs of illustrious patients, or charts representing the disease wave in Royal or patrician circles. He also thought that the confidential relations between doctor and patient would be endangered by laying on the former the duties of "informer" when infectious cases occurred, as it would lead to the medical man being sent for by the lower and trading classes only if a fatal issue were expected, and so the opportunity of counselling isolation and disinfection would be lost. He thought the influence of the profession in public matters was much beneath what it ought to be. How was the influence of the profession to be advanced? By improving general education and professional training, and by its members cultivating tact and sympathy, and adopting large and liberal views of public questions. The first requisite for the medical man was a high moral tone, and next culture. Next the importance was urged of having medical officers of health with districts large enough to employ and to remunerate them without their being dependent on the favour, or injured by the fear, of any local magnates. If they were thoroughly versed in preventive medicine, and empowered to call in a sanitary engineer to test any faults in drainage of house or town, there would be an end of the scamped work of inefficient plumbers, and of the injurious, often deadly, shortcomings of houses built to ensure large returns to their owners, at any expense of life or health to their inmates. Among the hindrances to our influence was a haste to be rich or famous. The public played on the various weaknesses of doctors—sometimes on their greed, sometimes on their jealousies—and it was only by disarming these schemes that we should achieve our own independence. The British Medical Association had done much to advance the influence of the profession by teaching that when one member suffered, all the members suffered with him; by dissuading us from playing for our own hands and copying the petty rivalries of retail traders; and by encouraging us to struggle for the common good in the progress of science, and minimising the physical and mental as well as moral ills of humanity. The influence of the profession had also been hindered by the assumption of the *rôle* of "advocate" instead of "umpire" in medico-legal cases. He thought the hindrance to our repute in cases of railway accident, where opinions differed so much as to the nature of the injury, would be removed by assessing damages to be awarded annually during the continuance of properly attested disability. Dr. Bell concluded his eloquent address with a rapid survey of the principal advances in the healing art during the last twenty-five years.

Report of Council.—The Honorary Secretary (Dr. Parsons) then read the report for the past year, which stated that when the Branch met last at Rochester, in 1863, it consisted of hardly 200 members, while now the list contained 503 names; 28 new members had been elected, and 5 had died, while some had retired from practice. Amongst the latter was Mr. J. Reid, of Canterbury, who for many years was an active member of the Council. In the Districts change had not been wanting. Mr. A. H. Napper had retired from the honorary secretaryship of the West Surrey District, and Mr. G. B. Collet from that of the West Sussex District. To the vacancy in West Surrey Dr. Gabb, of Guildford, had been appointed; and to that in West Sussex, Dr. Gostling, of Barningham, West Worthing.

The *Financial Report* followed, and showed a balance in hand of £105 8s. 11d.

Branch Representatives on the Council of the Association.—The Honorary Secretary announced that Dr. John Galton, of Anerley, Mr. G. F. Hodgson, of Brighton, and Dr. C. Parsons, of Dover, had been duly elected to represent the Branch.

Branch Council for 1888-89.—Dr. Adeney, Tunbridge Wells; Dr. Bagshawe, St. Leonard's; Dr. Bowles, Folkestone; Dr. A. Buchanan, Chatham; C. W. Chaldecott, Dorking; Dr. T. Eastes, Folkestone; Dr. J. H. Galton, Anerley; E. H. Galton, Brixton Hill; Dr. A. Gamgee, St. Leonard's; A. H. B. Hallowes, Maidstone; F. B. Hallowes, Redhill; Dr. C. Holman, Reigate; Dr. H. Jeaffreson, Wandsworth; B. Marsach, Tunbridge Wells; Dr. W. Moore, Brighton; A. Napper, Guildford; Dr. Oldman, Bletchingley; T. F. Raven, Broadstairs; Dr. B. Roberts, Eastbourne; Dr. Stowers, Finsbury Circus; E. W. Thurston, Ashford; J. S. Turner, Upper Norwood; H. T. Whitling, Croydon; J. L. Worship, Riverhead; Dr. Uhthoff, Brighton.

Election of Honorary Secretary.—Dr. Holman proposed the re-election of Dr. Parsons, and it was carried by acclamation.

Place of Meeting in 1889.—It was resolved to hold the next annual meeting at Eastbourne; Dr. Hayman, of Eastbourne to be President-elect, and Mr. Habgood and Mr. Ewart, both of Eastbourne, to be Vice-presidents-elect.

Sight-seeing.—After the meeting some of the members visited Cobham Hall (by the kind permission of Lord Darnley). Others visited the castle, where Mr. S. T. Aveling kindly gave an interesting sketch of its early history, etc.; and also the cathedral, under the guidance of the Rev. G. Livett (one of the Minor Canons), who gave a lively and graphic account of the architectural features of the building, and of the men who contributed to its structure. By the kind permission of Admiral Kelly, Her Majesty's Dockyard at Chatham was also open to inspection.

Dinner.—Afterwards 48 members and visitors dined together at

the Bull Hotel, and amongst the guests were the Dean of Rochester, the Mayor of Rochester, Colonel Veitch, R.E., V.C., and the Rev. GLivett.

EAST ANGLIAN BRANCH.

THE annual meeting was held at the Town Hall, Eye, at 2.15 on Friday, June 29th; the President of the Branch being in the chair. About seventy members and their friends were present.

A cordial vote of thanks was given to the Ex-President, Mr. R. B. Marriott.

Branch Representatives on Council of Association.—Mr. T. W. Crosse, F.R.C.S., Norwich, and W. A. Elliston, M.D., Ipswich, were re-elected representatives of the Branch upon the Council of the Association.

Report of Council.—The Branch Council reported that they had elected four new members, and that three successful meetings had been held during the year, at Swaffham, Norfolk; and at East Colne, and Dunmow, Essex.

Next Meeting.—Upon the motion of Dr. BATEMAN, seconded by Dr. CHEVALLIER, it was decided to hold the next annual meeting at Sudbury.

President-elect.—Dr. J. Sinclair Holden was elected President for 1889-1890.

President's Address.—The PRESIDENT (Dr. Barnes) took as the subject of his address The Etiology of Diphtheria.

Vote of Thanks to President.—A cordial vote of thanks to the President for his valuable address was moved by Dr. HERBERT AIRY, and seconded by Dr. SHEPPARD TAYLOR.

Papers.—1. The Rev. DONALD CAMPBELL, M.A., Vicar of Eye, read Notes on the History of Eye.—2. HOWARD MARSH, F.R.C.S. (London): Surgical Treatment of Empyema.—3. F. BATEMAN (Norwich): Obscure Case of Œdematous Laryngitis; Tracheotomy.—4. H. DICKINSON, M.B. (Eye): Notes on Placenta Prævia.—5. T. H. MORSE, F.R.C.S. (Norwich): Notes of a Case of Ovariotomy.

Luncheon.—Previous to the meeting about seventy members were entertained at luncheon on the invitation of Dr. Barnes, at the Town Hall. At the conclusion Sir PETER EADE gave "The Health of the President," which was enthusiastically received.

THE WORCESTERSHIRE AND HEREFORDSHIRE, THE BATH AND BRISTOL, AND GLOUCESTERSHIRE BRANCHES.

A CONJOINT meeting of these Branches was held at the Bell Hotel, Gloucester on Tuesday, June 19th, at 4 P.M., under the presidency of Dr. CURRIE, President of the Gloucestershire Branch. There were upwards of seventy members of the Branches present.

Diagnosis of Brain Disease.—Dr. HUGHLINGS JACKSON delivered an address entitled "Remarks on the Diagnosis of Brain Disease."—A vote of thanks was proposed by Dr. LONG FOX (Clifton), seconded by Dr. NEEDHAM (Gloucester), and carried by acclamation, to Dr. Hughlings Jackson for his address.

Dinner.—The members dined together afterwards, the following being the toast list: "The Queen;" "The British Medical Association;" "The Three Branches;" "The Visitors," coupled with the name of Dr. Hughlings Jackson.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.

A MEETING of the above District was held at the Hospital, Hastings, on Tuesday, June 12th. Dr. BAGSHAWE presided.

Communications.—The CHAIRMAN: A Case of Chyluria.—Mr. TICEHURST: A Case of Addison's Disease, with a Rare Form of Skin Eruption (drawing shown).—Dr. PENHALL: A Case of Nephrotomy.—Dr. TALFOURD JONES: Mercury as a Diuretic.

After the meeting the Chairman conducted the members through the various departments of the new hospital.

Exhibits.—Messrs. Down (of London) and Messrs. Lynch (of London) exhibited surgical instruments.—The Honorary Secretary, at the request of Messrs. Hockin, Wilson, and Co., of London, showed some of their preparations.

Next Meeting.—The next meeting will be held at Hayward's Heath, in September. Dr. Braid will take the chair.

DONATIONS.—The Goldsmiths' Company have given £2,000, and the Fishmongers' Company two hundred guineas, to the London Hospital; and "Thank Offering No. 2" has given £100 to the Five Years' Maintenance Fund.—The Goldsmiths' Company have given £500 to the King's College Hospital.

BRITISH MEDICAL ASSOCIATION.

FIFTY-SIXTH ANNUAL MEETING.

THE fifty-sixth Annual Meeting of the British Medical Association will be held at Glasgow, on Tuesday, Wednesday, Thursday, and Friday, August 7th, 8th, 9th, and 10th, 1888.

President: John T. Banks, M.D., D.Sc.(Hon.), F.K.Q.C.P.I., Regius Professor of Physic in the University of Dublin.

President-Elect: Professor W. T. Gairdner, M.D., LL.D., Professor of Medicine in the University of Glasgow.

President of the Council. Thomas Bridgwater, M.B., J.P., Harrow-on-the-Hill.

Treasurer: Constantine Holman, M.D., J.P., Reigate.

An Address in Medicine will be delivered by Thomas Clifford Allbutt, M.D., F.R.S., Consulting Physician, Leeds General Infirmary.

An Address in Surgery will be delivered by Sir George H. B. Macleod, M.D., Surgeon in Ordinary to Her Majesty in Scotland.

An Address on his "Recent Investigations in Surgery" will be given by William Macewen, M.D., Lecturer on Clinical Surgery, Glasgow Royal Infirmary.

An Address in Physiology will be delivered by John Gray McKendrick, M.D., LL.D., F.R.S., Professor of Institutes of Medicine, University of Glasgow.

All the rooms required for the purposes of the meeting will, by the kindness of the authorities, be provided in the University of Glasgow.

PROGRAMME OF PROCEEDINGS.

TUESDAY, AUGUST 7TH, 1888.

9.30 A.M.—Meeting of 1887-1888 Council. Randolph Hall.
11.30 A.M.—First General Meeting. Report of Council. Reports of Committees. Bute Hall.
4 P.M.—Service in the Cathedral. Sermon by the Very Rev. John Caird, D.D., LL.D., Principal and Vice-Chancellor of the University of Glasgow.
8.30 P.M.—Adjourned General Meeting from 11.30 A.M. President's Address. Bute Hall.

WEDNESDAY, AUGUST 8TH, 1888.

9.30 A.M.—Meeting of 1888-89 Council. Randolph Hall.
10.30 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Second General Meeting. Address in Medicine by Thomas Clifford Allbutt, M.D., F.R.S. Bute Hall.
9 P.M.—*Conversazione* given by the Professors of the University.

THURSDAY, AUGUST 9TH, 1888.

9.30 A.M.—Address on his Recent Surgical Investigations by William Macewen, M.D. Bute Hall.
11 A.M.—Meeting of Council. Randolph Hall.
10.30 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Third General Meeting. Address in Surgery by Sir George H. B. Macleod, M.D. Bute Hall.
7 P.M.—Public Dinner. St. Andrew's Hall.

FRIDAY, AUGUST 10TH, 1888.

10.30 A.M. to 1.30 P.M.—Sectional Meetings.
3 P.M.—Concluding General Meeting. Address in Physiology by John G. McKendrick, M.D., F.R.S. Natural Philosophy Class-room.
9 P.M.—*Conversazione* given by the Corporation of Glasgow at St. Andrews Hall.
Garden Party given by the Faculty of Physicians and Surgeons at the Botanic Gardens.

SATURDAY, AUGUST 11TH, 1888.

Excursions:—(1) Lanark and Falls of Clyde; (2) Ayr and the Land of Burns; (3) the Perthshire Highlands, Lochearnhead and Crieff; (4) Callender and the Trossachs (Loch Katrine); (5) Anan; (6) Stirling, Bridge of Allan and Dumblane Cathedral; (7) Rothesay and the Kyles of Bute; (8) Loch Lomond.

*** *Members proposing to attend the Annual Meeting are particularly requested, upon arriving at Glasgow, to proceed to the Reception Room, in the Vestibule of the University (1) enter their names and addresses, obtain their Members' Tickets and Daily Journals; (2) inquire for telegrams and letters; (3) consult the list of lodgings and hotels, etc.*

The following discussions and papers are promised up to the present time:—

SECTION A.—MEDICINE.

Humanity Class Room.

A. MEDICINE.—*President*, Professor T. McCall Anderson, M.D. *Vice-Presidents*, R. L. Bowles, M.D.; George F. Duffey, M.D. *Honorary Secretaries*, J. McGregor Robertson, M.A., M.B., 400, Great Western Road, Glasgow; Robert M. Simon, M.D., 27, Newhall Street, Birmingham.

The President will open the proceedings by introducing a discussion on the Diagnosis and Treatment of Syphilitic Disease of the Nervous System. Dr. Thomas Buzzard, Dr. T. S. Clouston, Dr. William Moore, Dr. Ross, Professor Grainger Stewart, Professor Julius Dreschfeld, Dr. J. G. Sinclair Coghill, Dr. Francis Warner,

Dr. Frederick Bateman, Dr. C. R. Drysdale, Dr. C. W. Suckling, Dr. Andrew Smart, and Dr. Alex. Robertson (Glasgow) will take part in the discussion.

On the third day of the sectional proceedings, the Value of Inhalations in the Treatment of Lung Disease is set down for discussion, to be opened by Dr. C. Theodore Williams. The following gentlemen have already indicated their intention to engage in this discussion: Dr. Burney Yeo, Dr. W. W. Ireland, Dr. C. F. Knight, Dr. J. A. Lindsay, Dr. J. G. Sinclair Coghill, Dr. Andrew Smart, and Dr. E. Markham Skerritt, and will show New Respirators.

Drs. Byrom Bramwell and Milne Murray will give a demonstration of their Method of Graphically Recording the Exact Time Relations of Cardiac Sounds and Murmurs.

The following papers have been promised.

COGHILL, J. G. S., M.D., Ventnor. The Treatment of Phthisical Pyrexia.
COUPLAND, Sidney, M.D. A Case of Subphrenic Abscess.
FINLAY, David W., B.A., M.D. Bronchiectasis treated by Incision and Drainage.
FREW, W., M.D., Kilmarnock. Prevalence of Cerebro-spinal Fever in Scotland.
GARRY, T. Gerald, MD., M.Ch. Massage: When and How to Use it.
GREENE, G. E. F., L.K.Q.C.P. A Note on a Recent Epidemic of Erysipelas.
HANDFORD, H., M.D. The Influence and Position on Cardiac Murmurs and the Condition of the Heart in Anæmia (Chlorosis),
HARRISON, A. J., M.B. Further Researches on the Treatment of Tinea Tonsurans. Illustrated with photographs.
HAYCRAFT, Professor J. Berry, and WILLIAMSON, R. T., M.D. Demonstration of a Clinical Method for Quantitatively Determining the Alkalinity of the Blood.
JONES, A. Orlando, M.D. A New Remedy for Some Forms of Heart Disease.
LAFFAN, Thomas, Esq. 1. Our Exaggerative Estimate of the Value of Beef-tea. 2. Illustrations in Cardiac Prognosis.
MYRTLE, A. S., M.D., Harrogate. Neurasthenia, True and False: Diagnosis and Management.
SMART, Andrew, M.D., Edinburgh. Communication on some Forms of Undescribed Respiratory Neuroses; their Clinical and Physiological Aspects.
STRACHAN, John, M.D. (Dollar). A Case of Pernicious Anæmia Successfully Treated by Arsenic.
STRAHAN, John, M.D. (Belfast). Asthenia in Acute Disease, and its Management.
SUCKLING, C. W., M.D. Notes on Peripheral Neuritis and on its occurrence in Brassworkers.
TOMORY, J. K., M.B. East African Fever, with special reference to Climatic Conditions.
WARNER, Francis, M.D. Syphilitic Meningitis causing Imbecility.

Dr. Russell Reynolds, and Dr. F. W. Pavy have also intimated their intention to take part in the proceedings of the Section.

SECTION B.—SURGERY.

Chemistry Class Room.

B. SURGERY.—*President*, George Buchanan, M.D. *Vice-Presidents*, James Dunlop, M.D.; Charles Robert Bell Keetley, F.R.C.S. *Honorary Secretaries*, David Neilson Knox, M.B., 8, India Street, Glasgow; Walter Pye, F.R.C.S., 4, Sackville Street, Piccadilly, London, W.

As already announced, in this Section discussions have been arranged for on the following subjects:

1. The Surgical Treatment of Abscess of the Lung and of Empyema. To be introduced and supported by Mr. T. Pridgin Teale (Leeds), Sir Spencer Wells (London), Mr. A. Pearce Gould (London), Mr. R. J. Godlee (London), Dr. J. Ward Cousins, Portsmouth, and Mr. W. Thomas (Birmingham).

2. The Operative Treatment of Club-Foot. To be introduced and supported by Sir William Stokes (Dublin), Mr. E. Lund (Manchester), Dr. Alexander Ogston (Aberdeen), Mr. R. W. Parker (London), Mr. E. M. Little (London), Mr. John Chiene (Edinburgh), Mr. W. J. Walsham (London), and others.

The following papers have also been promised.

BENTON, Samuel, Esq., London. On the Treatment of Stricture of the Rectum by Electrolysis.
BISHOP, E. Stanmore, Esq., Manchester. Some Cases of Osteotomy, with an Apparatus for fixing the Lower Limbs after Division of the Bones.
BROWNE, G. Buckston, Esq., London. An Explanation of the way in which Calculi in the Male Urinary Bladder sometimes escape Detection by the Sound, with a description of a New Form of Sound.
BROWNE, Lennox, Esq., London. Tubage of the Larynx.
CARMICHAEL, Archibald, M.D., Barrow-in-Furness. A Case of Gastrostomy, with Exhibition of Patient.
CLARK, Sir Andrew, London. The History of a Case of Catheter Fever.
CLARKE, W. Bruce, Esq., London. Prostatic Abscess and its Consequences.
COUSINS, J. Ward, M.D., Portsmouth. (1) New Apparatus for Treatment of Fractures of Lower Jaw; (2) New Evacuator for Litholapaxy and other Bladder Operations.
DUNCAN, John, M.D., Edinburgh. The Value of Electrolysis in Angioma and Goitre.
FENWICK, E. Hurry, Esq., London. Notes from the Experience of 450 Cases of Organic Stricture of the Urethra.
FLEMING, W. J., M.D., Glasgow. 1. On Continuous Extension in Spinal Curvature. 2. On the Treatment of Perineal Fistula.
HARRISON, Reginald, Esq., Liverpool. On an Improvement in the Construction of Ships' Berths, relative to the Treatment of some Surgical Injuries and Diseases at Sea (with models).
KEETLEY, C. R. B., Esq., London. Plastic Amputations of the Foot.
LAFFAN, Thomas, Esq., Cashel. On Sarcoma.
LLOYD, Jordan, Esq., Birmingham. Inflammatory Disease of the Seminal Vesicles.
MCINTYRE, John, Esq., Glasgow. The Electric Illumination of the Cavities of the Body.
MURPHY, James, M.D., Sunderland. (1) A Case of Gastrostomy, with Exhibition of Patient Eleven Months after Operation. (2) Hysterectomy per Vaginam for Uterine Fibroids, *morcellement* as practised by M. Péan.
O'CALLAGHAN, Robert, F.R.C.S., Carlow. A Case of Laparotomy for Strangulated Umbilical Hernia; Radical Cure, with a Method of Operating.
OWEN, Edmund, Esq., London. A Case of Intra-cranial (Subdural) Hæmorrhage; Localisation; Trephining; Recovery.
PEARSE, T. Frederick, Esq., M.D., London. (1) On Puncture of the Bladder; (2) On Gonorrhœa in Women.
RAKE, Beaven, M.D., Trinidad. The Value of Nerve Stretching in Leprosy, based on One Hundred Cases.
RENTON, J. Crawford, Esq., M.D., Glasgow. A Case of Severe Deformity of Lower Lip restored by Mr. Teale's operation six years ago.
ROBSON, A. W. Mayo, Esq., Leeds. (1) Prostatectomy, a Sequel of the Operation of Suprapubic Lithotomy in cases of Prostatic Enlargement. With Cases. (2) A Series of Cases of Macewen's Operation for Genu Valgum.
ROTH, Bernard, Esq., London. On Scoliosiometry, or an Accurate and Practical Method of Recording Cases of Lateral Curvature of the Spine.
SMITH, Noble, Esq. Demonstration of the Reduction of Fractured Vertebræ, and the application of Apparatus to Control the Spine.
STOKES, Sir William, Dublin. Modification of Gritti's Amputation; and will show Casts of Stumps.
TAIT, Lawson, Esq., Birmingham. A Second Series of One Thousand Consecutive Abdominal Sections.
THOMSON, Wm., Esq., M.D., Dublin. On Excision of the Knee-joint.
THORBURN, Wm., Esq., Manchester. The Distribution of Paralysis and Anæsthesia in Injuries of the Cervical Region of the Spinal Cord.
VALCOURT, Th. de, Esq., M.D., Cannes. Winter Sea-baths at Cannes in cases of Scrofulous Disease.

SECTION C.—OBSTETRIC MEDICINE.

Medical Jurisprudence Class Room.

C. OBSTETRIC MEDICINE.—*President*, Thomas More Madden, M.D. *Vice-Presidents*, William Leishman, M.D.; J. Halliday Croom, M.D. *Honorary Secretaries*, William Walter, M.D., 20, St. John Street, Manchester; W. L. Reid, M.D., 7, Royal Crescent, Glasgow.

The following two special discussions will take place:—

1. On Intra-uterine Death; its Pathology and Preventive Treatment. To be opened by Professor Simpson. The following gentlemen will take part in the discussion:—Drs. R. Barnes, Graily Hewitt, More Madden, W. O. Priestley, John W. Byers, and A. D. Leith Napier.

2. On Obstructive Dysmenorrhœa and Sterility. To be opened by Dr. Halliday Croom. The following gentlemen will take part in the discussion:—Drs. Aveling, Bantock, F. Barnes, R. Barnes, Cranny, Duke, Edis, Graily Hewitt, Macan, More Madden, Professor Stephenson, J. W. Taylor, W. Walter, J. W. Byers, and Dr. Braithwaite.

Dr. Samuel Sloan (Glasgow) will show his Antero-posterior Compression Forceps, and will explain their use in Flat Pelves.

Wm. Walter, M.D., Manchester, will exhibit his instruments for Securing the Broad Ligaments during Extirpation of the Uterus per Vaginam.

The following papers are promised.

APOSTOLI, G., M.D., Paris. On Some Novelties in the Electro-Therapeutics of Gynæcology.
AVELING, J., M.D. The Treatment of Uterine Tumours by Electricity.
BARNES, R., M.D. Analogies between Menstruation and Gestation and Puerpery in their Physiological and Pathological Relations.
BRAITHWAITE, James, M.D., Leeds. 1. Cases of Mechanical or Irritative Treatment of Amenorrhœa. 2. The Treatment of Intractable Cases of Retroflexion.
BUTLER-SMYTHE, A. C., F.R.C.S.Ed., London. Acute Mania following Removal of a Papillomatous Cystic Tumour of the Ovary and Rupture of the Intestine by Enema; Recovery.
CAMERON, John M., M.B., Old Kilpatrick. A Case of Erysipelas in a Pregnant Woman, with the Birth of an Erysipelatous Child.
CAMERON, Murdoch, M.D., Glasgow. 1. On Cæsarean Section, with Notes of a Successful Case. 2. On the Thermostatic Nurse, with Cases.
CROOM, J. Halliday, M.D., Edinburgh. (1) On the Remote Effects of Removal of the Uterine Appendages. (2) On Some Points in the Pathological Anatomy of Incarceration of the Retroflexed Gravid Uterus.
DUKE, A., F.K.Q.C.P., Dublin. (1.) On the Rapid Expansion of the Cervical Canal by a New Method. (2) Tractors and Belt for Additional Power in Forceps Cases, as an Alternative to Craniotomy.
HART, D. Berry, M.D., Edinburgh. Successful Case of Cæsarean Section (Porro's modification).
IMLACH, Francis, M.D., Liverpool. The Function of Anæmia in Gynæcology.
KENNEDY, Hugh, M.D., Dublin. Notes on the Treatment of Lacerations of the Cervix Uteri.
MCDONALD, A. D., M.D., Liverpool. A Case of Extra-uterine Pregnancy.
MADDEN, More, M.D., Dublin. 1. On the Causes and Treatment of Pseudocyesis. 2. On the Rapid Curative Treatment of Cystitis in Women.
MARTIN, J. M., M.D. On Some Points in the Pathology of Carcinoma of the Uterus.
NAPIER, A. D. Leith, M. D., London. The Treatment of Habitual Abortion.
ROUTH, A., M.D. Headaches of Pelvic Origin.
STEPHENSON, William, M.D., Aberdeen. On the Influence of Permanganate of Potass on Menstruation.
TAIT, Lawson, Esq., Birmingham. The Treatment of Uterine Myoma.

Section D.—Public Medicine.

Greek Class Room.

D. Public Medicine.—*President*, Henry Duncan Littlejohn, M.D. *Vice-Presidents*, James Christie, M.D.; D. Page, M.D. *Honorary Secretaries*, Ebenezer Duncan, M.D., 4, Royal Crescent, Crosshill, Glasgow; John C. McVail, M.D., Holmhead, Kilmarnock.

1. Sanitary Legislation. This discussion will be introduced by the Opening Address of the President of the Section.

2. The Communicable Diseases Common to Man and Animals, and their Relationships. Discussion to be opened on the second day of the sectional meetings by George Fleming, LL.D., F.R.C.V.S., Chief of the Veterinary Department of the Army. Professor Edgar Crookshank, King's College; Dr. J. B. Buist, Edinburgh; Dr. Edington, Edinburgh; Professor McCall, Veterinary College, Glasgow; Dr. Edward Seaton, St. Thomas's Hospital; Dr. George Thin, London; Dr. Henry Tomkins, Leicester; Principal Walley, Royal Veterinary College, Edinburgh; Dr. G. Sims Woodhead, Edinburgh, will take part in the discussion.

3. The Disposal of Sewage *(a)* in Large Towns; *(b)* in Small Towns and Country Districts. Discussion will be opened on the third day by Dr. James B. Russell, Medical Officer of Health, Glasgow.

The following papers are promised.

Brown, William, F.R.C.S., Carlisle. Report on Outbreak of Typhoid Fever, Associated with an Infective Fever among Cows.
Carpenter, Dr. Alfred, Croydon. On Disposal of Sewage.
Churton, T., M.D., Leeds. On Some Researches in the Homes of Hospital Patients and of Holiday Children.
Drysdale, Charles R., M.D. 1. On Indigence as a Main Cause of High Death-rates. 2. The Berlin and Parisian Sewage Farms.
Hime, T. W., M.B. Milk Scarlet Fever.
Hope, E. W., M.D., Liverpool. On the More Recent Phases in the Decline of the Liverpool Death-rate.
James, J. Brindley, Esq., London. On a Minister of Public Health.
Kerr, Norman, M.D. Some Risks of Sanitation.
Littlejohn, Dr., Edinburgh. On Disposal of Sewage.
Murray, Dr., Forfar. On Disposal of Sewage.
Nasmyth, T. G., F.R.S. A Report on the Chemical and Biological Conditions of the Air of Coal Mines, together with Mortality Statistics of a Mining District, being a report to the Scientific Grants Committee of the British Medical Association.
Pringle, Surgeon-Major Robert, M.D., late of the Sanitary Department Her Majesty's Bengal Army. (1) On Sheffield and Leicester Compared as Regards Small-pox Prevalence. (2) The Condition of Water-Supply for Drinking Purposes in Public Fountains, Railway Stations, etc.
Seaton, Edward, M.D., London. On Epidemic of Ephemeral Fever.
Simpson, —, M.D., Medical Officer of Health, Calcutta. On Cholera and its Fostering Conditions in the Endemic Area.
Sutherland, J. Francis, M.D. National Sanatoria.
Tomkins, H., M.D., M.O.H., Leicester. Some Bacteriological Researches in connection with Summer Diarrhœa.
Whitelaw, Dr., Kirkintilloch. On Disposal of Sewage.

Section E.—Psychology.

Natural History Class Room.

E. Psychology.—*President*, James C. Howden, M.D. *Vice-Presidents*, James Rutherford, M.D.; Julius Mickle, M.D. *Honorary Secretaries*, A. R. Urquhart, M.D., Murray House, Perth; Alex. Newington, M.D., Ticehurst, Sussex.

Dr. J. C. Howden, the President of the Section, will deliver an Address.

Dr. C. M. Campbell will introduce a discussion on the Uniform Recording of *Post-Mortem* Examinations in Asylum Reports.

Dr. A. Campbell Clark will introduce the following subject: The Sexual and Reproductive Functions—Normal and Perverted—in Relation to Insanity. 1. Menstruation: its Commencement, Irregularities, and Cessation; 2. The Sexual Instinct and its Abuse; 3. Pregnancy, Parturition, the Puerperal Period, and Lactation.

Dr. Clouston will initiate a discussion on the Principle of Construction and Arrangement of an Asylum for Private Patients of the Richer Classes.

The following papers are promised.

Beach, Fletcher, M.D. Cases of Disease of the Brain in Imbeciles.
Mercier, Charles, M.D. Expert Evidence in Lunacy Cases.
Mickle, W. J., M.D. Note on Antifebrin.
Needham, —, M.D. The Use of Some Recent Narcotics in the Treatment of Mental Disorders.
Savage, George, M.D. Mental Disorders associated with Engagements and Marriage.
Tuke, Hack, M.D. On Hallucinations.
Warner, Francis, M.D. 1. Methods of Examining Children in Schools as to the Development and Condition of Brain. 2. Methods of Studying and Examining the Nerve System.
Woods, Oscar T., M.D. Notes on a Case of Folie à Deux in Five Members of the same Family.

Section F.—Anatomy and Physiology.

Anatomy Class Room.

F. Anatomy and Physiology.—*President*, John Cleland, M.D., LL.D., F.R.S. *Vice-Presidents*, R. J. Anderson, M.D.; Henry Edward Clark, F.F.P.S.G. *Honorary Secretaries*, John Barlow, M.D., 27, Elmbank Crescent, Glasgow; Charles Barrett Lockwood, F.R.C.S., 19, Upper Berkeley Street, Portman Square, W.

C. B. Lockwood, F.R.C.S., will introduce a discussion on the Teaching of Anatomy; and will show sections illustrating the Development of the Organs of Circulation and Respiration.

The following papers are promised.

Brooks, Henry St. John, M.D. On the Morphology of the Epitrochleo-anconeus or Anconeus Sextus (Gruber).
Brown, J. Macdonald, M.B., F.R.C.S. 1. The Construction of the Cardiac Ventricles in the Mammalia. 2. Arrested Twin Development.
Cleland, Professor, M.D., F.R.S. On the Nature of Certain Forms of Double Monstrosity.
Collier, Mark P. Mayo, M.B., F.R.C.S. On the Mechanism of the Heart and Pulse.
Eccles, A. Symons, M.D. The Internal and External Temperature of the Human Body as modified by Muscle Kneading, with Sphygmographic and Sphygmo-manometric Records.
Haycraft, Professor J. Berry, and Dr. W. E. Carlier. 1. Morphological Changes which occur in Blood during its Coagulation. 2. Demonstration of Human Blood retained in a Fluid Condition when Suspended to Castor Oil.
Haycraft, Professor J. Berry. Recent Investigations on the Production of Taste and Smell.
Lane, W. Arbuthnot, M.B., F.R.C.S. The Influence Produced by Excessive Strain upon Muscles and Ligaments (to be illustrated by specimens).
Murray, R. Milne, M.B., F.R.C.P.E. Will Show an Arrangement for the Investigation of the Action of Measured Galvanic and Faradic Currents on Tissues.
Paterson, A. M., M.D. 1. On the Position of the Vertebrate Limb, considered in the Light of its Innervation and Development. 2. Congenital Diaphragmatic Hernia in an Infant.

Section G.—Pathology.

Law Class Room.

G. Pathology.—*President*, Sir William Aitken, M.D., LL.D., F.R.S. *Vice-Presidents*, Alexander Davidson, M.D.; Joseph Coats, M.D.; Charles Roy, M.D., F.R.S. *Honorary Secretaries*, G. Sims Woodhead, M.D., 6, Marchhall Crescent, Edinburgh; J. Lindsay Steven, M.D., 34, Berkeley Terrace, Glasgow.

Arrangements are being made to hold a discussion on Cancer originating apart from Epithelial Structures, in which Mr. Lawson Tait (Birmingham), Dr. Joseph Coats, Dr. John Carlyle (Greenock), and others are expected to take part.

The following papers have been promised.

Bruce, Alex., M.B., F.R.C.P.Edin. On Disseminated Sclerosis.
Coats, Joseph, M.D. On a Case of Lipæmia in Diabetes, with Suggestions as to the Source of the Fat.
Crooke, G. F., M.D., Birmingham. (1) Histological Examination of Organs in Two Cases of Purpura Hæmorrhagica. (2) Cancrum Oris Terminating Fatally with Hæmorrhagic Myocarditis.
Crookshank, Professor Edgar, M.B. (1) On Anthrax in Swine. (2) On Tuberculosis in Swine. (3) On Tubercular Cows Milk. (4) On Human and Bovine Actinomycoses.
Greves, E. Hyla, M.D., Bournemouth. Notes on the Pathology of a case of Pseudo-hypertrophic Paralysis.
Delépine, Sheridan, Esq. A Few Uncommon Forms of Sarcoma. (Specimens to be shown.)
Hunter, W., M.D. On the Pathology of Pernicious Anæmia.
Kennedy, —. On Case of Cystic Kidneys and Liver.
Mapother, E. D., M.D., Dublin. An Anomalous Form of Eczema.
Maylard, A. E., M.B., B.S.Lond. The Results of some Bacteriological Cultivation Experiments with Iodoform.
Nunn, T. W., Esq., F.R.C.S. Exhibition of a Selection of Microscopic Sections of Cancerous Tissues.
O'Connor, Bernard, M.D., M.R.C.P. Hydatids of the Spleen, Liver, and Brain.
Rake, Beaven, M.D.Lond., Medical Superintendent of the Trinidad Leper Asylum. The Percentage of Fibrin in the Blood of Lepers.
Russell, William, M.D. The Pathology of Pernicious Anæmia.

The following gentlemen have also intimated their intention of contributing to the business of the Section by reading papers or otherwise: Professor Greenfield, Professor Roy, Professor D. J. Hamilton, Dr. William Hunter, Dr. Barrett (Edinburgh), Dr. McFadyean (Edinburgh), Alex. Edington, M.B. (Edinburgh), etc.

Demonstrations.—Dr. Alexander Bruce (Edinburgh) will give a Magic Lantern Demonstration on Diseases of the Spinal Cord; and Alexander Edington, M.B. (Edinburgh), a Bacteriological Demonstration. Arrangements are also being made for a series of Microscopical Demonstrations illustrative of Tumours, Tuberculosis, etc.

Pathological Section of the Annual Museum.—Intimation has been received of the following exhibits for this Section of the Annual Museum: 1. Calculi removed by Lithotomy, by Professor George Buchanan. 2. Calculi removed by Lithotrity or by Scoop, by Professor George Buchanan. 3. Miscellaneous Objects removed from the Body, by Professor George Buchanan, namely: Bullets,

Needles, Cases of Teeth, Impacted Pessaries, etc., also Isolated Bones of the Tarsus Excised. 4. Rhinoplasty; Wax Cast, by Professor George Buchanan. 5. Bladder and Urethra showing False Passages. 6. Selected Specimens from the Private Collection of Professor W. T. Gairdner. 7. A Series of Specimens of Tumours of the Brain, by Dr. Joseph Coats. 8. A Series of Specimens illustrative of Diseases of the Kidneys, by Dr. David Newman. 9. A Series of Specimens illustrative of Leprosy, by Dr. Beaven Rake (Trinidad). 10. A Series of Large Sections illustrating Malignant Tumours of the Lung; and a Series of Specimens illustrating Deformities of the Liver, by Drs. Woodhead and Bruce. 11. Drawings and Sections to illustrate Diseases of Bone and Joints, by Mr. F. M. Caird (Edinburgh). 12. A Series of Specimens illustrative of Diseases of the Heart, by Dr. John Lindsay Steven. 13. A Series of Myomata of the Uterus, by Dr. Joseph Coats. 14. A Series of Bacteriological Cultivations. By Mr. A. E. Maylard, B.S. 15. Sections of Primary Growths of the Pleura and Lungs, by Dr. George F. Crooke, Birmingham.

As space for the Museum is somewhat limited, gentlemen intending to send specimens should intimate their intention without delay to John Lindsay Steven, M.D., 34, Berkeley Terrace, Glasgow, Honorary Secretary of the Section of Pathology of the Annual Museum.

Section H.—Ophthalmology.

Midwifery Class Room.

H. Ophthalmology.—*President*, Thomas Reid, M.D. *Vice-Presidents*, J. R. Wolfe, M.D.; C. E. Glascott, M.D. *Honorary Secretaries*, Henry Bendelack Hewetson, M.R.C.S., 11, Hanover Square, Leeds; A. Freeland Fergus, M.B., 41, Elmbank Street, Glasgow.

Mr. Brudenell Carter will open a discussion on the Treatment of Senile Cataract. Drs. Prichard, Meighan, Mason, Teale, G. Anderson Critchett, Drs. C. Lloyd Owen, Charles G. Lee, H. Bendelack Hewetson, Esq., Karl Grossmann, J. H. Bell, and others have promised to take part in the discussion.

The President of the Section intends to give a Demonstration of several Instruments of Use in Ophthalmic Diagnosis.

The following papers are promised.

Benson, A. H., M.D. 1. On the Treatment of Entropion and Trichiasis by the Transplantation of Buccal Mucous Membrane. 2. Hyalitis Punctata.
Bickerton, T. H., M.D., Liverpool. Sailors and their Eyesight.
Carter, R. Brudenell, Esq. Operation of Opening the Sheath of the Optic Nerve for the Relief of Pressure.
Critchett, G. Anderson, Esq. Iridectomy and Sclerotomy in Chronic Glaucoma.
Grossmann, K. A., M.D. Colour-blindness, with a Demonstration of New Tests.
Hewetson, H. Bendelack, Esq. General Neuroses having an Ophthalmic Origin.
Jessop, W. H., M.D. Ocular Headaches.
Lee, C. G., Esq. Two Cases of Foreign Bodies.
Little, D., M.D., Manchester. On Extraction of Senile Cataract, giving the result of 1,100 cases.
Mackay, George, M.D., Edinburgh. A Contribution to the Study of Hemianopsia of Central Origin, with special reference to Acquired Colour Blindness.
Mackinlay, J. G., Esq. On Cocaine.
Meighan, T. S., M.D., Glasgow. On the Treatment of Symblepharon by Transplantation of Mucous Membrane from the Lip.
Renton, J. C., M.D., Glasgow. The Value of the Cautery in the Treatment of Ulceration of the Cornea.
Williams, Richard, M.D., Liverpool. Three Cases of Conical Cornea treated by the Actual Cautery.

Section I.—Otology.

Biblical Criticism Class Room.

I. Otology.—*President*, Thomas Barr, M.D. *Vice-Presidents*, John Astley Bloxam, F.R.C.S.; J. J. K. Duncanson, M.D. *Honorary Secretaries*, Johnstone Macfie, M.D., 23, Ashton Terrace, Glasgow; James Black, F.R.C.S., 16, Wimpole Street, London.

The following special subjects have been proposed for formal discussion:

1. The Conditions calling for Perforation of the Mastoid Portion of the Temporal Bone, and the Best Methods of Operating; to be opened by Dr. F. M. Pierce, of Manchester. Mr. Peter McBride has promised a paper on this subject. Dr. D. Stewart, of Nottingham, hopes to take part in the discussion.

2. The True Value of those Aids to Hearing usually termed "Artificial Tympanic Membranes." Dr. W. L. Purves has promised a paper on this subject.

3. Adenoid Growths in the Naso-Pharynx; their Influence on the Middle Ear, and their Treatment. To be opened by Mr. Lennox Browne, F.R.C.S.Ed. Dr. Farquhar Matheson will take part in the discussion.

The following have promised papers.

Browne, Lennox, Esq. *(Title not received.)*
Torrance, R., Esq. On Syphilitic Cochleitis.
Warden, Charles, M.D. *(Title not received.)*

Dr. Samuel Sexton, of New York, hopes to be present, and will give a communication on Excision of the Drumhead and Ossicles.

Section J.—Diseases of Children.

English Literature Class Room.

J. Diseases of Children.—*President*, Walter Butler Cheadle, M.D. *Vice-Presidents*, James Finlayson, M.D.; Henry Ashby, M.D. *Honorary Secretaries*, George S. Middleton, M.D., 23, Sandyford Place, Glasgow; W. Arbuthnot Lane, M.S., F.R.C.S., 14, St. Thomas's Street, S.E.

The following two discussions will take place:

1. Diphtheria: *(a)* Etiology. *(b)* Relationship to other Infectious Diseases, and to other Forms of Sore Throat; Occurrence on Open Wounds and on Mucous Membranes other than those of the Throat. *(c)* Diagnosis. What are the Distinctive Features, especially those Distinguishing the Lesion in the Throat from other Forms of Sore Throat? Does Membranous Croup occur apart from Diphtheria? *(d)* Pathology and Sequelæ. *(e)* Medical Treatment. *(f)* Surgical Treatment; Tracheotomy; Tubage. The medical and general aspects of the subject will be introduced by Dr. A. Jacobi (New York), and the surgical aspect by Mr. R. W. Parker (London). Messrs. E. Owen, H. R. Hutton, Lennox Browne, R. N. Pughe, Howard Marsh, and Drs. W. T. Gairdner, George Buchanan, James Finlayson, Henry Ashby, H. C. Cameron, D. Newman, Thos. Buzzard, John Macintyre, Alex. Robertson, and J. S. Cameron will take part in the discussion.

2. Rickets: *(a)* Etiology and Prevention. *(b)* Its Connection with Syphilis and Scurvy. Is Enlargement of the Liver and the Spleen always present, more or less, in Rickets; or only in Cases of Syphilitic Origin? *(c)* Medical Treatment. *(d)* Surgical Treatment; at what Stage, and in what Way? The medical and general aspects of the subject will be introduced by the President, Dr. Cheadle, and the surgical aspect by Professor A. Ogston, Drs. Macewen, L. W. Marshall, H. Ranke (Munich), Thos. Buzzard, Henry Ashby, and Messrs. R. W. Parker, H. R. Hutton, R. Hagyard, E. L. Freer, John Gordon, R. N. Pughe, W. A. Lane, and Howard Marsh will take part in the discussion.

Drs. Jacobi (New York), Keating (Philadelphia), Ranke (Munich), Sanné (Paris), and Waxham (Chicago), and other members of the profession on the Continent have been invited.

The following have promised papers.

Browne, Lennox, F.R.C.S. Anatomical Facts in support of Intubation in Diphtheria.
Cameron, J. S., M.D. Etiology of Diphtheria. (1) Predisposition from Recent or Existing Disease, especially Scarlet Fever; (2) Influence of Insanitary Surroundings, especially Rise and Fall of Subsoil Water.
Carmichael, James, M.D. So-called Idiopathic or Simple Ascites in Children.
Finlayson, James, M.D. Evidence of the Occurrence of Laryngeal Diphtheria in Glasgow, in the Early Part of this Century.
Hagyard, Robert, M.R.C.S. The Effects of Sunlight on Rickets in Children and in the Lower Animals.
Lane, W. A., F.R.C.S. Deformities of Rickets.

Section K.—Pharmacology and Therapeutics.

Conveyancing Class Room.

K. Pharmacology and Therapeutics.—*President*, James Morton, M.D. *Vice-Presidents*, John Dougall, M.D.; Theodore Cash, M.D., F.R.S. *Honorary Secretaries*, Alexander Napier, M.D., 3, Royal Terrace, Crosshill, Glasgow; Sidney Harris Cox Martin, M.D., 60, Gower Street, London, W.C.

A special discussion will be opened by Professor Theodore Cash, M.D., F.R.S., on Carbolic Acid, Antipyrin, Antifebrin, and their Allies, especially as regards their Antipyretic, Analgesic, and Antiseptic Actions. Drs. Walter G. Smith (Dublin), A. D. Macdonald, and Prosser James will take part in the discussion.

Dr. W. Allan Jamieson (Edinburgh) will show two cases of Xeroderma Pigmentosum.

It is expected that Professors Liebreich and Dujardin-Beaumetz will be present at the meeting. Dr. Dujardin-Beaumetz will contribute a paper on Phenacetin.

The following have promised papers.

Davison, James, M.D. The Pine Treatment.
Dougall, J., M.D., Glasgow. *(Title not received.)*
Drysdale, C. R., M.D. 1. On the Therapeutic Value of Alcohol. 2. The so-called Abortive Treatment of Syphilis.
James, J. Brindley, Esq. Scabies and its Treatment.
Kerr, J. G. Douglas, M.B. Thermal Treatment after Acute Rheumatism, with a Short Outline of the System pursued at Bath
Macdonald, A. D., M.D. Three Cases of Poisoning.
Pearse, T. F., M.D. The Treatment of Eczema.
Shoemaker, John V., M.D., Philadelphia. An Investigation of the Action of Naphthol β.
Stockman, R. M.D., Edinburgh. The Cocoa Alkaloids.

Section L.—Laryngology and Rhinology.

Divinity Class Room.

L. Laryngology and Rhinology.—*President*, Felix Semon, M.D. *Vice-Presidents*, George Hunter Mackenzie, M.D.; Peter McBride, M.D. *Honorary Secretaries*, D. Newman, M.D., 18, Woodside Place, Glasgow; A. E. Garrod, M.D., 9, Chandos Street, Cavendish Square.

The following subjects are proposed for special discussion:

1. The Use and Abuse of Local Treatment in Diseases of the Upper Air Passages. To be opened by Dr. de Havilland Hall (London) and Mr. Stoker (London).

2. The Causes, Effects, and Treatment of Nasal Stenosis. To be opened by Dr. Macintyre (Glasgow) and Mr. Creswell Baber (Brighton).

3. Hæmorrhages from the Pharynx and Larynx, and other Hæmorrhages which simulate these. To be opened by Dr. Percy Kidd (London) and Dr. Hodgkinson (Manchester) (probably).

The following gentlemen hope to take part in the discussions: Dr. Prosser James (London), Dr. McBride (Edinburgh), Dr. Charles Warden (Birmingham), Dr. Cartaz (Paris), and Mr. Richard Ellis (Newcastle-on-Tyne).

The following papers have been promised.

Johnstone, R. Mackenzie, M.D. Account of a Case of Tumour of the Naso-Pharynx.

McBride, P., M.D., Edinburgh. On Hay-Fever and Allied Conditions.

Macintyre, J., M.D. Anatomical Demonstration of the Larynx.

MacIntyre, John, M.D., Glasgow. The Use of Electricity in Diseases of the Throat.

Newman, D., M.D. Two Cases of Complete Laryngeal Stenosis produced by Wounds of the Larynx in Attempted Suicides.

Spicer, R. H. Scanes, M.D. (1) Clinical and Pathological Observations on Affections of the Tonsils (Faucial, Lingual, and Pharyngeal) in the Light of Recent Views as to their Functions. (2) A Case of Lupus Vulgaris of the Upper Respiratory Tract—with Polypus (Lupous) of the Larynx.

Warden, C., M.D. *(Title of paper not yet received.)*

Annual Museum.

The Annual Museum will be held on August 7th, 8th, 9th, and 10th, in the Examination Hall, Hebrew Class Room, and Chemistry Tutorial Class Room, of the University of Glasgow, and will be arranged in the following six Sections:

Section A.—Food and Drugs, including Antiseptic Dressings, and other Chemical and Pharmaceutical Preparations. (Honorary Secretary, R. S. Thomson, B.Sc., M.B., C.M., 3, Melrose Street.)

Section B.—Pathology, comprising Casts, Models, Diagrams, Microscopical Preparations, and Micro-organisms. (Honorary Secretary, J. Lindsay Steven, M.D., 34, Berkeley Terrace.)

Section C.—Anatomy, comprising Special Dissections, Methods of Mounting, Abnormalities, Drawings, Medals, etc. (Honorary Secretary, J. Yule Mackay, M.D., 34, Elmbank Crescent.)

Section D.—Physiology, consisting of Apparatus, Microscopes, Microtomes, and Microscopical Preparations of Normal Histology. (Honorary Secretary, J. McGregor Robertson, M.A., M.B., C.M., 400, Great Western Road.)

Section E.—Instruments and Books, including Appliances—Medical, Surgical, and Electrical. (Honorary Secretary, J. Macintyre, M.B., C.M., 173, Bath Street.

Section F.—Sanitation (1) Domestic Sanitary Appliances, embracing all Improvements applicable to the Treatment of the Sick in Private Dwellings. (2) Personal Hygiene, including Dress and Gymnastic Appliances. (3) Ambulances, Carriages, and all other Appliances used for the Conveyance and Treatment of the Sick and Wounded, either in Civil, Naval, or Military Practice. (4) Drawings, Models, and Apparatus illustrative of the Ventilation, Lighting, and Draining of Hospitals. (5) Hospital Furniture. (6) Sanitary Appliances in connection with Educational Institutions and Public Buildings. (Honorary Secretary, 1, 2, 3, Robert Pollok, M.B., C.M., Pollokshields; Honorary Secretary, 4, 5, and 6, A. W. Russell, M.A., M.B., C.M., Western Infirmary.)

Intending exhibitors should communicate as early as possible with the Secretary of the Section in which they propose to exhibit, as the Museum Catalogue must be complete one month before the date of meeting. Inquiries as to advertisements in the Catalogue should be sent without delay to Dr. Thomson, 3, Melrose Street, Glasgow.

Honorary General Secretaries of Museum Committee, A. Ernest Maylard, B.S., M.B., 4, Berkeley Terrace; R. S. Thomson, B.Sc., M.B., C.M., 3, Melrose Terrace.

Honorary Local Treasurers, Joseph Coats, M.D.; Jas. B. Russell, M.D.

Honorary Local Secretaries, John G. McKendrick, M.D., F.R.S., 45, Westbourne Gardens, Glasgow; James Christie, M.D., Hillhead, Glasgow; John Glaister, M.D., 4, Grafton Place, Glasgow.

Excursions.

The following eight excursions will take place on Saturday, August 11th.

1. *Lanark and Falls of Clyde.*—The party, limited to 100, will leave the Central Station by special train about 10 A.M., for Tillietudlem, where, by the kind permission of the Earl of Home, an opportunity will be given to visit the ruins of Craignethan Castle, the scene of Sir Walter Scott's *Old Mortality*; proceeding on foot through the picturesque ravine of the River Nethan for about a mile; the party will then be conveyed by coach through some of the most charming Clydesdale scenery to the Falls, visiting Stonebyres, and then, by the kindness of the proprietor, will enter the Corehouse estate, to see Cora and Bonnington Linns. Returning by coach to Lanark, dinner will be served about 2.30 P.M., in the Clydesdale Hotel. After dinner the party will be shown the library of Dr. William Smellie, the famous obstetrician, which was bequeathed by him to the Grammar School of that town. It is a very interesting collection of books, containing two or three black letter volumes. It is also expected that the Lee talisman, or "Lee Penny," will be shown to the visitors. This charm was taken from the Saracens by Sir Simon Lockhart, of Lee, after a battle, as part ransom of a captive. It was deemed a charm of great medicinal virtue in the end of the last century. It gives the title to *The Talisman*, another of the novels of Sir Walter Scott. Afterwards short excursions may be made on foot to Cartland Crags, Roman Bridge, Old Abbey, and Smellie's grave. The party will return from Lanark by special train to Glasgow, arriving not later than 8 P.M.

2. *Ayr and the Land of Burns.*—The party, fixed at 100, will leave Glasgow about 9.30 A.M., by special train to Ayr. Thence by conveyances it will proceed, *viâ* Maybole, to Crossraguel Abbey (one of the finest Gothic remains in Great Britain), thence to Culzean Castle, where it is expected the party will be received by the most Honourable the Marquis of Ailsa, and returning to Ayr by the sea-shore to Burns's Monument, Alloway Kirk, Burns's Cottage, and "Twa Brigs." Dinner will be served at the Station Hotel, after which, by special train, the party will return to town.

3. *The Perthshire Highlands, Lochearnhead and Crieff.*—The party, numbering 100, will leave Buchanan Street Station about 9.15 A.M., in special saloon carriages, for Lochearnhead, and during the journey will see some of the finest Highland scenery; thence by coaches *viâ* Loch Earn, to St Fillans, where a halt will be made for refreshments, at the Drummond Arms Hotel; then to Comrie, where a second halt will take place to visit the Devil's Cauldron, and thence to Crieff, where the party will be entertained to dinner by Dr. Meikle, at his Hydropathic Establishment. After dinner, short walks to places of interest in the neighbourhood may be made, and the party will leave Crieff in the same saloon carriages for Glasgow, where it will arrive about 8 P.M.

4. *Callander and the Trossachs (Loch Katrine).*—The party, 100 in number, will leave the same station as last at the same hour, in special saloon carriages, for Callander, where coaches will be in readiness to convey them to Loch Katrine. Dinner will be served about 2 P.M., in the Trossachs Hotel, after which visitors may enjoy a sail on the loch to the Silver Strand, mentioned by Sir Walter Scott in the *Lady of the Lake*. The party will return by the same route to Glasgow, where it will arrive about the same time as the former excursion.

5. *Arran.*—The party, numbering 100, will leave Bridge Street Station in saloon carriages about 9 A.M., for Wemyss Bay, where, it will join the famous Clyde steamer *Ivanhoe*, which *en route* to Arran calls at Rothesay, and passes through the Kyles of Bute. Dinner will be served on board during the passage. On landing on the island the party will be enabled to visit Brodick Castle, by the kind permission of his Grace the Duke of Hamilton. The party will return to Glasgow by the same route, arriving there about 7.30 P.M.

6. *Stirling, Bridge of Allan, and Dunblane Cathedral.*—The party, limited to 100, will leave Buchanan Street Station about 9.15 A.M. by special train for Stirling. On arrival, visits will be paid to the Castle of historic renown, the Royal Infirmary, High Church, etc., under the conduct of Provost Yellowlees of that town, and Dr. Haldane, of Bridge of Allan, returning to the Smith

Institute, where cake and wine will be served. Thence the party will proceed by conveyances to the Wallace Monument, *viâ* the King's Park, where an unrivalled view is to be obtained, then through the demesne of Airthrey, the seat of the Right Honourable Lord Abercromby, to Bridge of Allan, where dinner will be served in the new Museum Halls. After dinner seats in the conveyances will again be taken, and the party will then drive through the grounds of Keir, the seat of the late Sir W. Stirling-Maxwell of bibliophilic fame, and Kippenross, to Dunblane, where the Cathedral and Library of Archbishop Leighton will be visited. The party will then return by the famous Wharry Glen to the Spa at Bridge of Allan, where tea will be provided for the visitors at the Hydropathic Establishment. The party will leave Bridge of Allan for town, arriving there about 8 P.M.

7. *Rothesay and the Kyles of Bute.*—The party, fixed at 250, will leave Central Station about 9 A.M., by special train for Greenock, where it will join the new steamer *Victoria*, specially chartered for the trip. The steamer will then sail down the Firth of Clyde to Rothesay, and thence will proceed through the Kyles of Bute, up Loch Ridden, and then round the Island of Bute to Kilchattan Bay pier, where those of the party who choose may land to walk to Mount Stuart, the seat of his Grace the Marquis of Bute, visiting on the way the beaver colony, now an almost unique sight. The remainder of the party will return to Rothesay by the steamer, where conveyances will be in readiness to convey them to Mount Stuart; on returning, the party will alight at the Glenburn Hydropathic Establishment, where, by the kindness of Dr. Philp, the proprietor, tea will be served to the party at 5 P.M. Dinner will be served on board the *Victoria en route*. After tea a visit may be paid to Rothesay Castle. The return journey to Glasgow will be made by the same steamer, either to Greenock or Wemyss Bay (not yet decided), and thence by special train, arriving in town about 8 P.M.

8. *Loch Lomond.*—The party, numbering 150, will leave the North British Railway Station, Dundas Street, at 10 A.M., by special train for Balloch Pier, where it will be waited for by a special steamer; during its passage to the head of the loch all the places of historic interest will be pointed out. Facilities will be given, by arrangement made before or in the early part of the meeting, for an ascent of Ben Lomond by a small party. On arriving at the head of the loch fifty of the party (to be fixed by ballot or choice) will land, the remainder returning by the same steamer to Tarbet, where dinner will be served about 2.30 P.M. in the hotel. From here parties may visit Loch Long by a very picturesque road. For the party of fifty left at the head of the loch a special dinner will be provided on board the steamer, arriving there about 2 P.M. The return journey will be made by steamer to Balloch, and by special train to town, arriving about 8 P.M. As this is the busiest time of the tourist season, intending visitors to this place should apply early, in order that completely comfortable arrangements may be made.

Short descriptive sketches of the different excursions will be given in the JOURNAL from week to week, in order to enable visitors to determine their choice, and also that early applications may be made during the meeting for tickets.

FRANCIS FOWKE, *General Secretary.*

SPECIAL CORRESPONDENCE.

BERLIN.

[FROM OUR OWN CORRESPONDENT.]

Tubercular Peritonitis.—Children's Hospital at Norderney.—Caffein in Pneumonia.

THE *Archiv für Klinische Chirurgie* publishes a paper by Dr. Kümmel, of Hamburg, on peritoneal tuberculosis. He says that many physicians even now believe that tubercular peritonitis is always a symptom of general tuberculosis. There are, however, many cases to prove that this form of tuberculosis is as purely local an affection as tubercular disease of the bones and joints, and that it is curable by surgical means. The earliest case on recorded was operated on by Sir Spencer Wells in 1862, when he performed laparotomy with the view of removing an ovarian cyst. Finding that he had tubercle of the peritoneum to deal with, he drained it, and the patient was still in perfect health in 1887. Kümmel has collected forty cases of operation for tuberculous ascites. Two of the patients (both operated on by Naumann) died of pyæmia; thirty-eight recovered from the operation; only three of these died afterwards of phthisis. Thirty-five remained healthy up to the date of the report; they had increased in weight, and their health was excellent; even the symptoms of pulmonary phthisis disappeared in some cases. Thirty-nine patients were of the female sex. In each case an erroneous diagnosis was the cause of the operation. The disease was always supposed to be a tumour of the ovary, or some other abdominal tumour with liquid contents. Only once the ascites was found in the course of an operation for ileus. The symptoms are those of circumscribed ascites, but the affection may also simulate tumours of various kinds, for, by adhesions of the intestines, there are formed pockets and cavities, receptacles of pus, serum, etc. The favourable results of the operation justify laparotomy for peritoneal tuberculosis in every case where it is possible to recognise the affection. Even the existence of pulmonary phthisis does not contraindicate the operation.

In the *Berliner Klinische Wochenschrift*, Dr. Lorent, director of the largest German hospital for children at Norderney, publishes a report, which gives a most gratifying picture of the activity of the Verein für Kinderheilstassen (Association for Children's Curative Places), and of the success which has attended their humane efforts; 417 children (207 boys and 210 girls) were treated in the hospital, and 30 grown-up persons (28 men and 2 women) in the *pensions*; the total number being 115 in excess of that of the previous year. The average duration of treatment was 54.88 days. This year, for the first time, what may be called a "new departure" has been taken, by treating certain cases during the winter; 145 patients were relieved, 217 considerably relieved, 48 cured, 14 were dismissed unrelieved, and 2 died. This experiment proved very successful, and it was found that in certain conditions of great constitutional weakness a winterly sojourn at the seashore was of sovereign virtue. The following acute diseases occurred: Dyspepsia, angina, bronchitis, urticaria, latent malaria, broncho-pneumonia; of infectious diseases, there was only one case of diphtheria. This case was strictly isolated, and the disease did not spread. All these cases ended in recovery. The cause of death in the two fatal cases was leptomeningitis tuberculosa and advanced consumption respectively. Increase of weight occurred almost without exception, amounting on the average to 4.622 kgr., and in some cases to 6.8 kgr. The diet is strengthening and varied; there are five meals in the day, the children being allowed to eat as much as they like both at dinner and supper. During 118 days in summer, baths were taken in the open sea; the warm baths, given to more feeble children, amounted to 7,433. Dr. Lorent recommends continuance of the treatment during winter, urging at the same time, in case of recovery, that the stay at the seaside should not be interrupted too soon, as the children's health ought to be considered before the necessity of sending them back to school. "It is deplorable," he says, "that very often the schoolmaster is allowed to overrule the physician."

Dr. de Gempt, of Ülsen, recommends most warmly caffeinum natro-salicylicum as a cardiac stimulant in pneumonia should collapse with an irregular and weak pulse come on. He gives at the same time wine, brandy, and ammonia. Under this treatment he states that the pulse quickly improves, the temperature falls, and the hepatisation is more easily resolved. The dose is 0.2—0.5; 1.2—2.5 grammes were given in the day. The results were excellent.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

Naphthol β in Purulent Ophthalmia.—Respiration of Yeast of Corn Seeds.

MM. BUDIN and VIGNAL communicated to the Société de Biologie on May 19th some researches they have made on the use of naphthol β in treating purulent ophthalmia. In a cultivation of broth, in proportion of 1 per 1,000, naphthol β prevents the development of staphylococci pyogenes aureus et albus. In cultivations of twenty-four, forty-eight hours, and three days, it arrested their development. The gonococcus of Neissner offers more resistance: in a mixture of blood-serum and nutritive broth, naphthol β, in proportions of 0.15 gramme per litre, was necessary to prevent its development, and 0.25 gramme per litre to arrest its development after it had commenced. These results are the same as those obtained by MM. Bouchard and Maximovitch. Encouraged by these experiments MM. Budin and Vignal have employed napthol β

clinically in cases of purulent ophthalmia. They did not feel justified in using it alone, but employed nitrate of silver at the same time in proportions of 1 to 30 and 1 to 1,000. The solution of naphthol β was as follows: distilled water, 1000 grammes; alcohol, 1 gramme; naphthol β, 0.4 gramme. Eight cases were reported by MM. Budin and Vignal, the first being that of a woman attacked by gonorrhœal ophthalmia with chemosis. The other seven were newborn babes. A slight epidemic of ophthalmia was observed at the Obstetrical Clinic at the beginning of the month of May; it was due to the fact that the precaution of putting a drop of nitrate of silver collyrium in the eyes of newborn babes had been omitted. The most striking feature in the action of naphthol β is its rapidity; the children thus treated did not present any swelling of the eyelids, and the purulent secretion was arrested. In the case of the woman above-mentioned there was neither chemosis nor swelling of the eyelids after two days' treatment. They have also made experiments with animals to ascertain whether the dose of naphthol β administered by them would be efficacious. Naphthol β does not seem to have any bad effects; at the same time, a cutaneous erythema, which broke out on one of the children, made them cautious. If it be remembered that naphthol β is a non-poisonous antiseptic, which does not coagulate albuminoid substances, the satisfactory results are easily explained.

MM. Gréhant and Quinquaud have made some interesting researches on the respiration of the yeast of corn-seeds at different degrees of temperature. In his experiments with certain alcoholic ferments, M. Paumès found that the quantity of oxygen absorbed and of carbonic acid evolved varied in the proportion $\frac{CO^2}{O}$. This fact was due to the variation of the temperature of the water in which the ferments were plunged, and to the insufficient manner in which the liquids were kept in motion. MM. Bonnier and Mangin, from their researches on the gaseous exchange which takes place between a plant without chlorophyll and the surrounding medium, arrived at the following conclusions:—1. Normal respiration is the absorption of oxygen and the production of carbonic acid. 2. Nitrogen is neither absorbed nor produced. 3. Hydrogen is not produced. 4. The proportion of carbonic acid extracted to the oxygen absorbed is less than unity. In the temperature of mushrooms, therefore, oxidation takes place. 5. The reaction $\frac{CO^2}{O}$ is invariable with pressure. 6. The proportion of the carbonic acid exhaled and of oxygen absorbed increases regularly with the temperature. 7. The proportion of carbonic acid exhaled, as compared with that of oxygen absorbed, does not sensibly vary with the temperature. The following experiment was made by MM. Gréhant and Quinquaud. A small phial, containing 5 grammes of yeast, 40 cubic centimètres of distilled water, and 40 cubic centimètres of pure air, and stopped with an india-rubber cork, was placed in a rectangular zinc box with a flat cover, surrounded by an india-rubber frame at the sides, and provided with brass fixings and screws; a current of water, proceeding from a cylindrical tin reservoir capable of containing 50 litres, and heated by gas, was made to circulate round the phial through two lateral jointed pipes. The water ran off through a syphon fitted with a tap, into the box, and fell into a large glass receptacle on the ground; the box, fixed to an oscillating plank, was set in motion by hydraulic pressure. In order to avoid the loss of water, and to prevent it from flooding the laboratory, M. Gréhant invented a most ingenious apparatus, which indicates that the glass receptacle is full, and must be emptied into the superior reservoir. It consists of a floater, composed of an S-shaped metal rod, which rests on the upper edge of the glass receptacle, and passed through several pieces of cork; the rod, which subsequently becomes vertical, terminates in a horizontal portion, which fixes the lever of a metronome, which is out of the vertical direction. As soon as the water reaches the cork, the floater is raised, and the metronome begins to beat. The experiment lasted from half an hour to an hour; the phial was then removed and plunged into cold water for a few minutes. The cork was drawn, and the phial was placed under the mercury, above the tap of a mercury pump; the air, water, and yeast were transported into the empty receptacle (Gréhant's apparatus) by means of a capillary tube and a movable vat; the gases were extracted and analysed on mercury, and then in endiometer. The carbonic acid contained by the yeast, measured by a first experiment of extraction, was carefully subtracted from the volume of carbonic acid, furnished by the five grammes of yeast (which equalled about 1.2 cubic centimètre). The results obtained from 0° to 46° show that the yeast always contained a notable proportion of oxygen. MM. Gréhant and Quinquaud conclude from these experiments that the relation $\frac{CO^2}{O}$ varies with the temperature, and the isolated cells of yeast do not present the same phenomena as mushrooms and tissues without chlorophyll which, according to MM. Bonnier and Mangin, preserve an invariable relation $\frac{CO^2}{O}$ notwithstanding change of temperature.

Weight of Yeast.	Temperature.	Length of duration of experiment.	Oxygen supplied.	Oxygen found again.	Oxygen absorbed.	CO^2 exhaled.	$\frac{CO^2}{O}$
			c.c.	c.c.	c.c.	c.c.	
5 grains	0°	1 hour	8.16	5.76	2.4	2.1	0.87
	13.8°	30 mins.	8.3	5.86	2.44	2.6	1.06
	19.5°	30 ,,	7.96	5.1	2.8	3.9	1.4
	26°	30 ,,	8.3	5.2	3.1	5.8	1.9
	30.3°	30 ,,	7.96	4.03	3.93	9.4	2.4
	40°	15 ,,	9.26	5.8	3.46	11.2	3.2
	46.3°	30 ,,	9.2	4.26	4.94	22.3	4.5

ITALY.

[FROM OUR OWN CORRESPONDENT.]

Sweating in Infectious Diseases.—Dextrocardia.—Tannin in Phthisis.—The Contagious Diseases Question in Italy.—Pure Milk for Milan.

In a paper read before the R. Accademia Medica di Genova on May 28th, Professor G. B. Queirolo expressed the belief that the ancient traditional treatment of acute fevers by diaphoresis was too much neglected at the present day. He was convinced that there was a considerable amount of truth in the old notion that the "peccant matter"—or "morbid virus," to give it its modern name—is to a certain extent eliminated in the sweat. He had been led to this conclusion by the results of some experiments on rabbits which he inoculated with the sweat of patients suffering from various fevers (small-pox, ague, articular rheumatism, pneumonia, etc.). These experiments were controlled by others in which sweat from persons in perfect health was used in a similar manner. The sweat was always collected and kept under the same conditions, the reaction being neutral, and the specific gravity about 1006. All the rabbits into which sufficient doses of "pyrexial" secretion were injected died in from two to forty-eight hours; while the others, into which an equal or larger amount of healthy sweat was injected, were not affected in any way whatever. The former died without showing any rise of temperature, and on *post-mortem* examination not one of the known signs of septic infection was discovered; the spleen was not enlarged, and only in a few cases was there some scanty serous or sero-sanguinolent effusion in the peritoneal cavity. Professor Queirolo thinks that these experiments prove that the sweat of persons suffering from infectious diseases contains toxic matters, as to the nature of which, however, he is not prepared to express any definite opinion. He urges that in such cases diaphoresis should be encouraged by every means in our power, particularly by making the patients drink large quantities of liquid, whereby the poisonous matters produced by the infecting virus may be, as it were, washed out of the organism. Dr. Queirolo is continuing his researches on this subject, and promises to publish his results at an early date.

At a meeting of the "Ateneo" of Brescia, on June 3rd, Dr. Emanuele Anselmi showed a case of dextrocardia in a young man. The right side of the thorax was far more prominent than the left, and the muscles covering it were much more developed. The apex-beat was close to the sternal end of the fifth intercostal space of the right side. The relative position of the ventricles was unchanged, and the great vessels were not transposed; the heart in fact was as if it had been forcibly pushed over to the right, so that being unable to move downwards on account of the liver, it had gone forwards, bulging out the ribs to make room for itself. The great vessels appeared to have undergone a twist, or rather a more marked curve than usual, for the blood reached the

radial arteries on both sides after a longer interval than the normal one, and the second sound of the heart was somewhat unnaturally strong. The patient had never had any symptoms referable to the heart except after excessive physical exertion, and physical examination failed to reveal anything wrong either in that organ or in the lungs. Dr. Anselmi was inclined, in the absence of any history of disease which might have caused dislocation of the heart, to attribute the malposition to some inflammatory affection occurring during the embryonic period.

In the *Riforma Medica* of June 11th, Dr. C. De-Viti-Demarco recommends "saturation of the blood with tannin" as an effectual means of checking the development of the tubercle bacillus, and giving the organism time to eliminate it. He has recently treated two patients in the second and third stage of consumption respectively by giving them the drug in the following form: ℞ Acid. tannic. grammes, 4; creosote, ♏ ii; glycerine and alcohol, aa *q.s.* To make eight pills; one to be taken every two hours during the day. In both cases the temperature became normal after twelve days' treatment, and remained so; the condition of the lungs, however, was unchanged. One of the patients, who was hopelessly ill when the treatment was begun, died in a month, but the other, though having a large cavity in each apex and extensive tubercular deposits in the left lung, was "immensely improved" after three months, having gained weight and almost lost his cough, while the expectoration was diminished to half what it had been. The prolonged administration of tannin had caused no ill effect. It is to be hoped that this plan will be further tried in less advanced cases than those reported by Dr. De-Viti-Demarco; the favourable results obtained by Professor A. Ceccherelli with tannin in local tuberculosis (see JOURNAL, April 7th, 1888, p. 756) seem to encourage the belief that it really has an antagonistic effect of some kind on the micro-organism causing the disease.

In view of the proposed legislation on the regulation of prostitution and the prevention and treatment of venereal disease in Italy, the R. Società Italiana d'Igiene has appointed a committee for the study of the whole question. The following are the members of the committee:—Professor Angelo Scarenzio, Professor G. Sormani, Dr. A. Ricordi, Dr. A. Francesco Turati, and Avvocato Comm. S. Otolenghi. They have issued a circular to persons of special experience asking for their opinion on the subject of lock hospitals as against special departments for the treatment of syphilis in the general institutions: the prevention of the transmission of the disease by nurslings, the advisability of vaccinating only from the calf so as to prevent syphilis being communicated by vaccination; the expediency of insisting on special prophylactic measures for workmen, soldiers, sailors, etc. On the replies to these questions will be based a discussion of the whole subject at the Congress of Hygiene to be held at Bologna in September. It will be seen from this that the C. D. question is about to be ventilated on a large scale in Italy.

The necessity of a pure milk supply has forced itself on the attention of the municipal authorities of Milan, with the result that a step in the right direction has been taken; it is to be hoped that it is only the first of a triumphant march to further sanitary conquests throughout Italy. A dairy has been opened in the public gardens, where every possible precaution will be taken to ensure absolute purity in the milk and cleanliness in its distribution. All the cows are to be under the strictest veterinary supervision. Their temperature is to be taken every morning; minute directions are given as to the food of the animals, and the milking is to be done in public. This interesting ceremony will take place twice a day at fixed hours, which are to be duly notified to the public.

NEWCASTLE-UPON-TYNE.

[FROM OUR OWN CORRESPONDENT.]

Summer Camp for Boys.—Clinical Society.—British Association Visit.—Surgeoncy to Children's Hospital.—Dr. Richardson.—Examination for M.B.

MAINLY through the instrumentality of Dr. John Burdon, of this city, a scheme has been set on foot to found a seaside camp for destitute boys: the camp will be situated to the north of Tynemouth, and will be filled each fortnight by relays of poor boys whose parents are unable to afford them a holiday. The extent of the benefits supplied will of course depend on the amount of support given to the scheme by the public, and this has been up to the present fairly encouraging.

At the late meeting of the Newcastle Clinical Society Dr. Bramwell rend an interesting paper on Fractures of the Base of the Skull, and illustrated his remarks by specimens and drawings of some fifteen cases which had come under his observation. The paper was well received and gave rise to some discussion. The office-bearers for the ensuing session were elected, Mr. Black being elected President, Dr. Beatley Vice-President, Dr. Purdie Treasurer, Dr. G. W. Ridley, Secretary, and Drs. Smith, Galloway, Bramwell, and Baumgartner, Committee.

Arrangements are now being actively made for the reception and entertainment of the British Association, which meets here next year, the more prominent members of our profession taking part in them; the general body of the profession are, however, looking forward more to the visit of the British Medical Association, which, in the ordinary course of events will, it is hoped, shortly honour Newcastle with a visit. It is many years since the British Medical Association was here, and during this time the profession in Newcastle has made active progress and kept well abreast of the times. Additions have been made to the infirmary, a new college of medicine and one of physical science are well on towards completion, a new infectious hospital has just been opened, and a new children's hospital will be opened in the course of a few weeks; added to these are many new institutions in neighbouring towns which would doubtless be thrown open to visitors.

The term of office for which Mr. J. R. Baumgartner was elected surgeon to the Children's Hospital expires early this month; it has, however, I understand, been definitely settled that he is to continue in office for a further period, much to the gratification of the other members of the staff.

Dr. Richardson, who has been for some time one of the house-surgeons at the infirmary, was last week elected senior house-surgeon to the Royal Infirmary, Sheffield.

At the recent examination for the degree of Bachelor of Medicine of the University of Durham first class honours were obtained by Mr. Parry, whose tutor for the examination was Dr. Limont. First-class honours have only been awarded twice previously in examinations for this degree; 30 per cent. of the candidates for the M.B. failed to satisfy the examiners.

LIVERPOOL.

[FROM OUR OWN CORRESPONDENT.]

Cerebral Surgery.—Chair of Pathology.—Small-Pox.

ON June 23rd, Mr. Victor Horsley, F.R.S., delivered an interesting lecture on cerebral surgery to the post-graduate class at the Medical School. Mr. Mitchell Banks had on previous occasions lectured on the anatomy of the brain and the localisation of function, and it was in response to his invitation that Mr. Horsley undertook to describe the practical part of the subject. After treating briefly of the question of regional diagnosis, and relating the results of his recent experiments, which show that the cortical motor centres overlap one another, and that the flexor movements are represented below the corresponding extensor movements, Mr. Horsley minutely described his method of exposing the brain and removing the diseased part of the organ. He dwelt with emphasis on the importance of strict antiseptic precautions throughout; and he advocated operation in all cases of depressed fracture, whether symptoms of compression were present or not, on account of the frequency of epileptiform convulsions following in such cases. The various steps of the operation were well illustrated by the help of dissolving views, and the lecture was largely attended by the profession in the neighbourhood. Hitherto but one successful operation on the encephalon has been performed in Liverpool, one, namely, in which Mr. Damer Harrisson evacuated an abscess in the cerebrum of a boy at the Northern Hospital, see JOURNAL, vol. i, 1888, p. 848.

The professorship of pathology, rendered vacant by the resignation of Dr. Davidson, has been filled by the appointment to the chair of Dr. A. Barron, who for three years has held the office of Demonstrator of Pathology. Dr. Barron has acquired a high reputation from his important investigations on the subject of micro-organisms, and is deservedly popular as a teacher.

In consequence of the prevalence of small-pox in Preston and other Lancashire towns, unusual precautions are taken to prevent the importation of the disease. An official in the vagrant wards of Brownlow Hill workhouse was lately attacked by it, and the infection was traced to a casual inmate in whom the disease was

overlooked. In future all casuals when admitted are to be bathed and inspected, and any that present a rash of any kind are to be isolated until seen by the medical officer.

MANCHESTER.

[FROM OUR OWN CORRESPONDENT.]

Ancoats Hospital.—Memorial Hospital to Sir Joseph Whitworth.—Chair of Surgery in Owens College.—Epidemic of Small-pox and Measles.

ANCOATS is one of the most densely populated districts in Manchester, and, of course, in such a community there is great need for adequate hospital accommodation. It has, therefore, been resolved to try to raise funds by public subscription, so as to make a substantial increase to the number of beds in the Ancoats Hospital.

The executors of the late Sir Joseph Whitworth have resolved to erect a cottage hospital, between Darley Dale and Matlock Bridge, in Derbyshire, as a suitable memorial of the late baronet.

The Council of Owens College have elected Mr. Arthur W. Hare to the chair of Systematic Surgery, vacant by the resignation of Mr. Lund. Mr. Hare is assistant to Professor Chiene, and Senior Demonstrator of Surgery in the University of Edinburgh. The testimonials submitted by Mr. Hare were particularly strong, and set forth very clearly his remarkable success as a teacher and his power as a lecturer. In Mr. Hare the Owens College Medical Department has secured an enthusiastic and earnest teacher to fill the chair of Surgery.

The outbreak of small-pox in Preston turns out to have been of a serious nature, as nearly three hundred cases have been reported, with a considerable number of deaths. Fresh cases are still coming in. The chief difficulty the authorities have to contend with is to keep convalescent patients within doors until they are declared recovered.

In the Rowley district there has been a severe epidemic of measles—about three hundred cases, with several deaths—so that the advisability of closing the schools is under the consideration of the sanitary authorities.

SHEFFIELD.

[FROM OUR OWN CORRESPONDENT.]

Playgrounds.—Hospital Sunday.—Dr. C. H. Willey.—The Catapult Nuisance.—A Military Tournament.

THE playgrounds of nine of the Board schools have been granted for the use of the children to play in from 5 to 8 o'clock on week evenings and from 1 to 8 on Saturdays.

The Hospital Sunday collection for this year amounted to £2,020 1s. 3d., being somewhat less than that for the previous year. The expenses incurred in advertising, collecting, and other costs amounted to only £20, thus leaving £2,000 for distribution between the General Infirmary, Public Hospital, Jessop Hospital, and the Children's Hospital. Such a small sum extracted for expenses from the objects of the fund, amounting only to 1 per cent., reflects great credit on the management. The same holds good for last year.

Dr. C. H. Willey has resigned his post of resident medical officer to the Borough Hospital in order to commence private practice. The Committee, in accepting his resignation, adopted a resolution setting forth their appreciation of his ability and courtesy in the performance of his duties, and expressing their regret at losing his services. The recent small-pox epidemic has occasioned Dr. Willey exceptionally hard work.

The police seem determined to deal with the "catapult nuisance." Three summonses were heard recently for shooting with catapults, and fines inflicted in each instance. The police officer stated that he had had numerous complaints of the damage caused by lads using catapults, and that there was great danger also.

The medical charities have benefited by a recent military tournament; £25 has been handed over to each of the following institutions: General Infirmary, Public Hospital, Jessop Hospital, and Children's Hospital.

The General Infirmary and the Public Hospital acknowledge the receipt of £100 each, and the Jessop Hospital £200, from the executors of the late Mr. Joseph Wilson.

THE distinguished Belgian surgeon, Professor Gustavus Boddaert, died on June 3rd.

CORRESPONDENCE.

"MODERATE DRINKING."

SIR,—I am glad to see that Dr. Norman Kerr has supplemented my Appendix with the figures issued by the United Kingdom Temperance and General Provident Institution. I think, however, that they can hardly be taken to furnish a comparison between the healthfulness of abstainers and that of "moderate drinkers," if the latter term is intended to have the same significance as the phrase "the habitually temperate," employed by the Collective Investigation Committee, and defined in its inquiry paper. "There are two sections of the assured," Dr. Kerr writes, "one for abstainers, the other for the general public, drunkards being excluded." A glance at the opening paragraphs of the Collective Report (JOURNAL, p. 1309) will show that the "general section" thus constituted corresponds, not to our "habitually temperate" class (B), but to the three classes of "temperate," "careless," and "free" (B, C, and D), taken together. Our inquiry has at least gone a long way to prove the superiority in point of longevity of the "temperate" to the "careless," of the latter to the "free," and of the last to the "decidedly intemperate" drinkers of alcoholic liquors (pp. 1311-12); but a comparison in this respect between the "temperate" and total abstainers is still a desideratum, which the figures quoted by Dr. Kerr seem to me to do little to supply.—I am, etc.,

ISAMBARD OWEN.

5, Hertford Street, Mayfair, July 2nd.

SIR,—In the JOURNAL of June 30th appears a letter from Dr. Norman Kerr, in which he quotes some remarkable statistics of the United Kingdom Temperance and General Provident Institution, which form, he says, "an unimpeachable testimony to the superior healthfulness of abstinence over moderate drinking."

I think many of your readers will agree with me that these figures, striking as they undoubtedly are, can certainly not be said to form an "unimpeachable testimony" of anything of the kind; more than one fallacy lies *perdu* in the statement.

In the first place, the so-called temperance section is for total abstainers—a very definite class; while the other, for the general public (drunkards being excluded), is a most indefinite one. Dr. Norman Kerr assumes, for the purpose of the conclusion which he draws, that these latter are all moderate drinkers. It is, however, very obvious that his second premiss is "undistributed," many of the general public insured being very much the reverse of "moderate" in any strict sense, even at the time of effecting their insurance; while very many more may have changed their once comparatively moderate-drinking habits to immoderate for years before they figure as deaths in the general returns.

Great as is the good which Dr. Norman Kerr and others have already achieved in their anti-alcoholic crusade, and which I should be the last to undervalue, yet I do not think the time has yet arrived when the general body of the medical profession can be expected to give an unqualified assent to the "superior healthfulness" of abstinence over moderate drinking; and, at all events, the figures quoted by Dr. Kerr will not by themselves suffice for the establishment of any such conclusion.—I am, etc.,

J. HOLMES JOY, A.M., M.D.

Tamworth, June 30th.

LORD RANDOLPH CHURCHILL'S MOTION.

SIR,—On Thursday, June 28th, Lord Randolph Churchill, in consequence of the answer he received from Mr. W. H. Smith to his question asking the Government to advise Her Majesty to delay the granting of the supplemental charter to the Council of the Royal College of Surgeons of England, gave notice "That at the earliest opportunity he would move an address praying Her Majesty not to grant such supplemental charter until an inquiry has been made into the constitution of the College."

In view of this important subject coming before the House at an early date, it is imperative on the 5,000 Members who signed the petition to the Privy Council, in fact, all Members of the College who wish for reform, to at once communicate with their representatives in the House, asking them to support Lord Randolph when he brings forward the motion.—I am, etc.,

JOSEPH SMITH,

A Vice-President of the Association of Members of the Royal College of Surgeons.

Streatham Hill.

THE VARIETIES OF CIRRHOSIS OF THE LIVER.

SIR,—With reference to Mr. George Monro Smith's paper on the Varieties of Hepatic Cirrhosis, and his statement that "tubercular cirrhosis may be struck off the list, as it is partial and not universal," permit me to say that he is evidently writing without ever having seen a case of true tubercular cirrhosis, as it is a universal affection of the liver, and not simply a "localised inflammation around the irritating masses of tubercle." I see he also states that acquired syphilis never causes cirrhosis; but in the paper of mine he is good enough to quote, though I can hardly believe he has read it, I published such a case.—I am, etc.,

ROBERT SAUNDBY, M.D.Edin., F.R.C.P.Lond.

Birmingham, July 2nd.

THE CHAIR OF SURGERY IN OWENS COLLEGE.

SIR,—Many men who have been students at Manchester will be surprised when they see that, apparently, Manchester has not been able to supply a surgeon who is good enough to fill the Chair of Surgery at the Victoria University. To relieve the anxiety which no doubt they will feel at the decadence of their Alma Mater, will you permit me to write a few lines to suggest that things are not quite what they seem?

I venture to believe that the election was conducted very largely upon party lines. The stronger party has, of course, won; but might is not always right. Without any disparagement of the recently elected professor, of whom I candidly confess I know next to nothing, I maintain that the post could have been most properly filled by one of our local surgeons, not a few of whom have had long experience in the practice of surgery, in teaching and in lecturing, and of whom some might be supposed, by virtue of their past services, to have established a claim upon the elective body, as they have upon the students whom they so ably taught. The appointment has been made professedly on the ground of teaching ability. But I hold that success in teaching does not depend upon oratorical art. Extensive experience is also necessary; it tends to emphasise the utterances of the lecturer, and illustrative cases from the speaker's own experience make the lecture both more interesting and easier to remember.

Neither, again, is literary ability without experience to be looked upon as a guarantee of success in teaching. A man may be writing, have written, or be going to write a book, but, unless that book is a summary, large experience is as necessary to make the book valuable as it is to render a lecture attractive and instructive. Of qualifications I say nothing.

In conclusion, I may say that I have not the slightest interest in the appointment one way or another. I write this as an outsider, but as one having a deep interest in the welfare of the college and medical school, and I am very sorry to see taken what I consider to be a decidedly retrograde step. It must be painful to gentlemen who are doing what they consider to be best for the welfare of the college and school, irrespective of all other considerations, to be misunderstood, but misunderstood I fear they will be.—I am, etc.,

M.D.

July 4th.

MEDICAL OFFICERSHIP OF HEALTH FOR BRADFORD.

SIR,—Having read Dr. Hime's report, in the JOURNAL of June 30th, of the base treatment he has received from the Local Authority, and the serious financial consequences to himself, for which apparently there is no satisfactory redress to be obtained, although he has done no more than his duty, I beg respectfully to urge upon the Parliamentary Committee of the British Medical Association and the Medical Council the urgent necessity there is for an immediate representation to be made to Parliament, while the Local Government Bill remains under consideration, of the deep injustice which a medical officer of health has to suffer whenever one or more extreme, irrational, hard-hearted, selfish men choose to take it into their heads to boycott an efficient medical officer because he does too much—according to their notions, which are often formed to support their own interests or that of their friends. Surely it is time to protect the medical officer against such heavy penal consequences for doing his duty; or else where is our boasted profession of justice to all honest and upright and intelligent men gone to? I speak feelingly, for I have suffered for seven years past in a similar manner; and, like Dr. Hime, can invite anyone to come forward and show that I did not do my duty. I am afraid that falsehood, in one form or another, is employed by individual members of local councils to corrupt others, and so gain their consent to a species of intolerance and exclusion from office of the very man who, in the interest of ratepayers, ought to be retained in his office. Dr. Hime as well as myself would, I believe, welcome official inquiry.—I am, etc.,

Pontefract, July 2nd. GEO. P. ATKINSON.

MEDICO-LEGAL AND MEDICO-ETHICAL.

MEDICAL OFFICERS OF HEALTH AND GENERAL PRACTITIONERS.

SUFFERER.—In replying to our correspondent's two special questions, we would remark that, although we are not in a position to express any determinate opinion as to whether the case in question was one of modified variola or not, we consider that, in view of the *de facto* existence of "a severe epidemic of small-pox" in the town, he acted prudently, and, under the suspicious circumstances, judiciously, in enjoining isolation and reporting thereon to the medical officer of health, whose subsequent conduct (if correctly represented) in visiting the patient, and "giving a certificate to the effect that he was not suffering from small-pox, and never had been," without previous communication or consultation with the practitioner in attendance, was in direct contravention of the rules of medical etiquette, and subversive, moreover, of the true professional spirit which should ever animate and guide the profession.

A HARD CASE.

T. L. B. asks for an opinion on the following case:

A young medical man was engaged to travel with a melancholic patient on the Continent. On their journey through Italy the medical man got typhoid fever, and is now laid up in a hotel. The friends of the patient were obliged to get another medical man to take the place of the first and travel home with the patient, while the first doctor is still prostrated with the fever. Ought the patient to pay the whole of the first doctor's expenses, and, if not, what proportion would be fair? Does the doctor's salary cease when he becomes incapable of duty and a substitute is procured?

*** Although in the case submitted by "T. L. B." we take it that the doctor's stipend would be legally determined on his becoming incapable of duty, we are distinctly of opinion that, inasmuch as the incapacitating fever was contracted while in the special professional service of the patient in question, it is morally incumbent on the family of the latter to defray all the expenses of the doctor's illness to the date of his return home; and, further, we think that some acknowledgment for the loss of valuable time, irrespective of the serious loss of health and the suffering attendant thereon, might very fairly be taken into consideration by the family if in a position to do so.

FEES TO WITNESSES.

A MEMBER wishes for advice under the following circumstances:

He has to give evidence in four different cases at the assizes. Can he claim one guinea a case for every day that he is in attendance? Also, can he claim half a guinea in each case in giving evidence at a police-court, although the cases were all heard on the same morning?

*** The rules as to allowances for costs in criminal prosecutions distinctly lay down that no prosecutor or witness is to be allowed for his attendance, loss of time, trouble, or expenses in more than one case on the same day.

QUEEN'S BENCH DIVISION.—INCOME TAX LAW.

THE case of Needham *v.* Bowers came before the Court upon appeals from decisions of Income Tax Commissioners, and the questions were whether the Barnwood House Institution, in Gloucestershire, were liable to pay income tax or house duty. The case was recently argued before Mr. Baron Huddleston and Mr. Justice Charles, and judgment was given on Wednesday last. Mr. Justice Charles said they had come to the conclusion that Barnwood House Institution was not a "hospital" within the meaning of 5 and 6 Vict., cap. 35, section 61, rule 6. The language in the Income Tax Act must be restricted to hospitals supported wholly or in part by charity, and does not apply to a hospital that is self-supporting, and which, indeed, has a large annual surplus derived from the payments made by patients. The Commissioners were therefore right in holding that this was a self-supporting and not a charitable hospital within the meaning of the exemption. The second question raised was whether Barnwood House Institution was exempted from the inhabited house duty within the terms of "house provided for the reception of poor persons, hospital, or charity school." The Court thought that the exemption did not include a hospital whose funds were not derived from charitable contributions. Upon the third question it was admitted that a decided case had determined that this institution was not exempted from paying income tax upon their profits. Judgment for the Crown upon all the questions, with costs.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

THE Greenwich Hospital pension of £100 a year for Inspectors-General of Hospitals and Fleets, vacant by the death of Mr. Peter Leonard, M.D., has been awarded to Inspector-General of Hospitals and Fleets WILLIAM MACLEOD, M.D., C.B., who entered the service as Surgeon, January 18th, 1842, and passed through the various grades till he became Inspector-General, April 14th, 1875, retiring October 20th, 1879. He served in the *Drwer* during the Baltic expeditions in 1854-55, for which he received the medal; he was also awarded Sir Gilbert Blaine's Gold Medal, and in 1880 was nominated a Companion of the Order of the Bath.

Staff-Surgeon A. T. CORRIE has been appointed to the *Defiance* (lent), and Surgeon G. L. BAKER to the *Ganges*.

THE MEDICAL STAFF.

SURGEON-MAJOR HORATIO SCOTT, M.B., is granted retired pay. He entered the service as Assistant-Surgeon, June 22nd, 1858; became Surgeon, March 1st, 1873; and Surgeon-Major, April 1st, 1873. He has no war record.

Surgeon GEORGE WILSON, who is serving in the Bombay command, has leave to England for six months on private affairs.

Brigade-Surgeon J. INKSON, M.D., serving in the Madras command, is appointed to officiate on the Administrative Medical Staff of the Madras army, with the temporary rank of Deputy Surgeon-General, *vice* Deputy Surgeon-General S. B. Roe, M.B., C.B., on furlough.

ARMY MEDICAL RESERVE.

SURGEON-MAJOR C. C. WALTER, 2nd Brigade Cinque Ports Division Royal Artillery (late the 2nd Sussex), to be Surgeon-Major (ranking as Major).

Acting Surgeon R. M. P. LOW, M.B., 1st Middlesex Engineer Volunteers, to be Surgeon (ranking as Captain).

The following is substituted for the announcement which appeared in the JOURNAL of June 30th: Surgeon R. R. BROWN to be Surgeon-Major (ranking as Major).

THE INDIAN MEDICAL SERVICE.

SURGEON J. C. LAMONT, Bengal Establishment, is appointed to the officiating medical charge of the 8th Native Infantry, *vice* Surgeon P. de Conceiçao, transferred temporarily to civil supply.

Surgeon A. R. JOLLIFFE, Bengal Establishment, is appointed to the officiating medical charge of the 4th Punjab Infantry, *vice* Surgeon A. W. Alcock; this cancels Surgeon Jolliffe's appointment to the 5th Punjab Infantry.

Surgeon D. B. SPENCER, Bengal Establishment, whose services have been placed by the Government of India at the disposal of the Chief Commissioner of the Central Provinces, is posted to Betul as Civil Surgeon.

Surgeon F. J. DEWE is admitted to the Madras Establishment, from April 22nd, the date of his arrival at Bombay.

Surgeon-Major O. BAKER, Bengal Establishment, on his return from furlough, is posted to Moulmein.

Surgeon-Major G. T. THOMAS, Madras Establishment, is transferred from Moulmein to Bassein.

Surgeon A. O. EVANS, Madras Establishment, is transferred from Bassein to Toungoo.

Surgeon-Major E. R. JOHNSON, Bengal Establishment, officiating Secretary to the Surgeon-General of Her Majesty's forces, Bengal, is confirmed in that appointment, from May 14th, *vice* Brigade-Surgeon J. E. T. Aitchison, M.D., C.I.E., retired.

Surgeon-Major J. G. PILCHER, Bengal Establishment, is promoted to be Brigade-Surgeon, *vice* J. E. T. Aitchison, retired.

Surgeon-Major E. G. RUSSELL, M.D., Bengal Establishment, officiating Civil Surgeon to the 24th Pergunnahs, is also appointed to act as Medical Inspector of Emigrants (Colonial Emigration), during the absence on furlough of Surgeon-Major J. F. P. M'Connell, M.B.

Surgeon W. W. WHITE, Bengal Establishment, is appointed to the officiating medical charge of the 39th Native Infantry, *vice* Surgeon-Major C. J. M'Kenna, granted leave.

Brigade-Surgeon W. H. ROBERTS, M.D., Madras Establishment, is appointed to officiate as Deputy Surgeon-General, with temporary rank, *vice* Deputy Surgeon-General J. Henderson, on furlough.

Surgeon J. G. PINTO is admitted to the Madras Establishment, from May 1st, the date of his arrival in India.

Surgeon W. G. M'EVOY, of the Madras Establishment, and who entered the service on March 31st of last year, has been permitted to resign.

Surgeon EDMOND TULLY, of the Bombay Establishment, died of remittent fever at Fort Stedman in the Shan States, Upper Burmah, on June 7th, aged 35. He entered the service October 1st, 1877, and was engaged in the Afghan war in 1878-80, took part in the defence of Candahar, and was at the battle of Candahar. He was awarded the Afghan medal with clasp.

THE MILITIA AND VOLUNTEERS.

SURGEON A. O'KELLY NOLAN, M.D., 4th Battalion Connaught Rangers (late the Galway Militia) has resigned his commission, which dated from March 4th, 1868. He is permitted to retain his rank and uniform.

STATISTICS OF THE ARMY MEDICAL DEPARTMENT.

SIR,—I have the pleasure of forwarding to you tables showing the changes in the Army Medical Department during the last twenty-three years, in continuation of tables formerly published in the JOURNAL.

My tables subserve no purpose demanding actuarial precision, and there may be some inaccuracies in the figures; they must, however, be so few that they cannot detract from any value which I would assign to the compilation.

I would remark here, with reference to the "statistics" which I published a few years ago, and which you were good enough to review in very favourable terms, that misapprehension as to their scope appears to have arisen in the minds of some who examined them, or perhaps I might more correctly say who looked at them. This has been for want of attention to the letterpress. It is now just five years since the "Normal Promotion List" (Table V) was calculated, and I have only to say that the dates given as the *latest* to which a promotion could be deferred are perfectly correct. The table is, however, now of no interest, as the elements of selection and examination, with their disturbing influences, were not included in the data on which the calculations were based.—I am, etc.,

J. P. H. BOILEAU, B.A., F.S.S.,
Surgeon-Major Medical Staff.

Woolwich.

TABLE I.—*Annual Changes in the Numerical State of the Personnel of the Army Medical Department during the Twenty-three Years 1865-87 inclusive.*

Years.		Completed Years of Service. To Half-pay. Under 10.	10 to 20.	20 to 25.	Over 25.	Deaths. Under 10.	10 to 20.	20 to 25.	Over 25.	Resignations. Under 10.	Over 10.	Loss. Under 20.	Over 20.	Total Loss.	Total Strength (approximate).	Position on the Executive List of an Officer of 20 Years' Service.	12 Years' Service.
1865	Adm.	...	...	...	1	...	...	...	...	...	...	...	1	55	1,092	86	250
	Exc.	4	3	4	4	19	6	3	...	8	3	43	11				
1866	Adm.	...	...	...	...	...	...	...	...	...	...	...	...	44	1,074	92	343
	Exc.	2	2	...	10	9	7	2	...	10	2	32	12				
1867	Adm.	...	...	...	7	...	...	...	2	...	...	...	9	56	1,069	86	412
	Exc.	1	6	1	15	8	8	1	1	6	...	29	18				
1868	Adm.	...	...	...	2	...	...	...	...	...	...	...	2	53	1,089	90	414
	Exc.	4	13	4	5	6	9	2	...	8	...	40	11				
1869	Adm.	...	...	...	2	...	...	...	...	...	...	...	2	37	1,094	94	436
	Exc.	3	6	1	5	8	5	1	...	4	2	28	7				
1870	Adm.	...	...	...	8	...	...	...	1	...	...	...	9	44	1,041	92	490
	Exc.	3	3	1	3	6	15	1	1	1	1	29	6				
1871	Adm.	...	...	...	2	...	...	...	...	...	...	...	2	44	1,001	98	522
	Exc.	2	7	3	9	3	9	2	...	5	2	28	14				
1872	Adm.	...	...	...	5	...	...	...	...	...	...	...	5	44	1,000	100	526
	Exc.	3	9	1	9	9	2	...	1	5	...	28	11				
Regimental System abolished March, 1873.																	
1873	Adm.	...	...	...	1	...	...	...	...	...	...	...	1	44	973	105	521
	Exc.	2	16	3	5	2	10	2	...	3	...	33	10				
1874	Adm.	...	...	...	1	...	...	...	4	...	...	...	5	45	943	180	500
	Exc.	4	9	7	3	4	8	3	1	...	1	26	14				
1875	Adm.	...	...	...	1	...	...	...	...	...	...	...	1	50	925	218	502
	Exc.	3	11	11	11	...	3	1	...	4	5	26	23				
1876	Adm.	...	...	...	15	...	...	...	1	...	...	...	16	63	893	191	516
	Exc.	5	8	10	7	2	7	3	3	1	1	24	23				
1877	Adm.	...	...	...	5	...	...	...	1	...	...	...	6	40	874	253	527
	Exc.	1	8	14	9	1	3	3	...	5	1	19	20				
1878	Adm.	...	...	...	...	...	...	...	...	...	...	...	...	39	874	253	527
	Exc.	...	5	11	6	3	5	2	1	5	1	19	20				
1879	Adm.	...	...	...	6	...	...	...	1	...	...	...	7	57	815	273	530
	Exc.	2	8	8	15	2	4	6	1	3	1	20	30				
Warrant of November 27th, 1879, in force.																	
1880	Adm.	...	...	...	7	...	...	...	1	...	...	...	8	83	837	272	523
	Exc.	1	4	30	22	6	5	2	4	...	1	16	59				
1881	Adm.	...	...	...	5	...	...	...	...	...	...	...	5	76	892	213	468
	Exc.	1	13	12	20	9	10	1	3	2	...	35	36				
1882	Adm.	...	...	...	7	...	...	...	1	...	...	...	8	62	868	204	418
	Exc.	1	6	12	18	2	8	4	1	2	...	19	35				
1883	Adm.	...	...	...	7	...	...	...	1	...	...	...	8	50	863	199	415
	Exc.	1	2	6	15	5	4	1	2	6	...	18	24				
1884	Adm.	...	...	...	9	...	...	...	1	...	...	...	10	54	841	207	382
	Exc.	2	1	14	19	...	2	3	...	1	2	8	36				
1885	Adm.	...	...	...	1	...	...	...	...	...	...	...	1	77	870	199	354
	Exc.	...	5	21	29	15	2	...	1	3	...	25	51				
1886	Adm.	...	...	...	4	...	...	...	4	...	...	...	8	49	900	190	330
	Exc.	1	2	13	11	5	2	4	1	2	...	12	29				
1887	Adm.	...	...	...	4	...	...	...	...	...	...	...	4	36	934	176	325
	Exc.	...	1	13	10	2	1	2	2	1	...	5	27				

TABLE II.—*Average Annual Changes in the Numerical State of the Personnel of the Army Medical Department during the Twenty-three Years 1865-67, compiled from the details given in Table I.*

Years.		Completed Years of Service. To Half-pay. Under 10.	10 to 20.	20 to 25.	Over 25.	Deaths. Under 10.	10 to 20.	20 to 25.	Over 25.	Resignations, etc. Under 10.	Over 10.	Loss. Under 20.	Over 20.	Average Total Loss.	Total Approximate Strength.
A	Adm.	...	...	...	4.2	...	...	...	1	...	...	...	5.2	52	946
	Exc.	2	6.4	8.7	11.3	5.5	5.9	2.1	1	3.7	1	24	23		
B	Adm.	...	...	...	3.7	...	...	...	0.7	...	...	...	4.4	48	984
	Exc.	2.6	7.6	5.3	7.7	5.5	6.7	2.1	0.6	4.5	1.3	28	16		
C	Adm.	...	...	...	5	...	...	...	1.5	...	...	...	6.5	61	876
	Exc.	0.9	4.3	15.1	18	5.5	4.3	2.1	1.8	2.1	0.4	17.5	37		

A. Averages of the twenty-three years 1865-87.
B. Averages of the fifteen years prior to 1880.
C. Averages of the last eight years (Warrant of 1879 in force).

UNIVERSITY INTELLIGENCE.

CAMBRIDGE.

TABLES published as an appendix to the *University Reporter* show the number of candidates for each subject in the several natural science examinations from December, 1883, to June, 1887. Those showing the results for physiology and human anatomy afford a test of the growth of the medical school.

	Physiology.	Anatomy.
1883-84	149	120
1884-85	119	104
1885-86	179	133
1886-87	213	181

At the Congregation on June 14th the following degrees were conferred.

M.D.—G. D. Pidcock, Sidney.

M.B.—A. S. Percival, Trinity; W. R. Pollock, Trinity; F. Deighton, Peterhouse; W. H. Goddard, Caius; H. R. C. Barber, St. Catharine's; A. E. Smithson, Christ's; J. F. Little, Downing; P. Hicks and P. King, Cavendish.

B.C.—A. S. Percival, W. R. Pollock, H. R. C. Barber, A. E. Smithson, J. F. Little, P. Hicks, P. King.

First examination for the M.B. degree, 1888. Part I. Chemistry and Physics.

Alston, Clare	Henry, Joh.	Peters, Caius
Barclay-Smith, Down	Hollis, Sidney	Phillips, H. Cav.
Barraclough, Joh.	Joyce, Queens'	Propert, Trin.
Basden, Joh.	Kellock, Emman.	Ransome, Trin.
Beedham, Christ's	Kirby, Trin.	Ransome, Clare
Blandford, Pemb.	Lewis, C. E. M. Joh.	Ransome, Caius
Bliss, Sidney	Luce, Christ's	Robinson, H. J.
Bottomley, Caius	MacDonald, G. M. Christ's	Rogers, Caius
Chappel, Caius	Macdonald, Emman.	Sharp, H. C., Caius
Collcutt, Caius	Major, Trin.	Shuter, H. Cav.
Collis, H. Selw.	Mathieson, Caius	Spender, Caius
Cortes, Trin. H.	Maw, H. T., Christ's	Stewart, Christ's
Delbruck, King's	Mitchell, Queens'	Swainson, Christ's
Dodgson, Emman.	Nesham, Trin.	Sworder, King's
Fenton, Caius	Ogilvie, Christ's	Thompson, G. W. Christ's
Field, H. G., Clare	Ormerod, Trin.	Thurnell, Emman.
Garratt, Trin.	Parry, Joh.	Webb, C. C., Clare
Gooding, Caius	Peck, Trin.	Whichello, Sidney
Grove, Sidney	Pellew, Trin.	Willson, H. S., Emman.
Grünbaum, Caius	Penny, Pet.	Windsor, Emman.
Heaton, Trin.	Penny, Pemb.	Wood, Caius

Second examination for the degree of M.B. Part I. Pharmaceutical Chemistry. Examined and approved.

Barclay-Smith, Down	Hayden, Caiu	Paterson, Trin.
Bottomley, Caius	Head, Trin.	Petyt, Christ's
Brooksbank, Trin. H.	Henry, Joh.	Phillips, Queens'
Brown, H. Selw.	Herd	Phillips, H. Cav.
Case, Pemb.	Higginson, Caius	Pilcher, Clare
Chappel, Caius	Hodson, Joh.	Poole, Cath.
Cotter, Trin.	Ivatt, Christ's	Pulford, Trin.
Duka, Caius	Joyce, Queens'	Purdie, Pet.
Durham, King's	Kempson, Caius	Sankey, Joh.
Durham, Christ's	Lawrence, King's	Saw, Trin.
Edkins, Caius	Lockett, Christ's	Scott, Pet.
Edwards, J. H., Joh.	Luce, Christ's	Senior, Queen's
Edwards, Emman.	Mason, G. A., Joh.	Sharp, H. C., Caius
Fish, Christ's	Menzies, Jesus	Stack, Pemb.
Godson, J. H., Joh.	Molteno, Clare	Staples, Trin.
Goldsmith, Caius	Neill, Caius	Storrs, C. S., Emman.
Grünbaum, Caius	Newman, Caius	Street, Down
Hale, King's	Newnham, Joh.	West Joh.
Hale, H. O., Trin.	North, Sidney	Wilson, A. H., Christ's
Hankin, Joh.	Palmer, Down	Winter, Trin.
Hardy, Jesus	Parry, Joh.	Wood, Caius
Harvey, Joh.		

Part II. Human Anatomy and Physiology. Examined and approved.

Addison, Caius	Fosbery	Pethick, Down
Attfield, Pet.	Gamble, Down	Pilcher, Clare
Batten, Trin.	Gillibrand, Queens'	Pinder, Queens'
Beauchamp, Caius	Gimson, H. Cav.	Preston, Corp.
Belben, Christ's	Godson, A. H. Joh.	Pridham, Caius
Berkeley, G. H. A. C., Caius	Grabham, Joh.	Purdie, Pet.
Boxall, Down	Hall, R. H., Pemb.	Roberts, L., Caius
Bradford, Caius	Hardwicke	Rolfe, Clare
Calthrop, H. G., Caius	Hardy, Jesus	Rowland, Caius
Carling, Joh.	Hawker, W., Trin. H.	Sladen, Caius
Carruthers, A. E., Christ's	Head, Trin.	Smith, A. H., King's
Connolly, Caius	Horne, Clare	Street, Down
Cooper-Pattin, Jesus	Horton-Smith, Joh.	Stubbs, Trin.
Cottrill, Christ's	Lea, J., Caius	Thomas, R. S., Jesus
Cropper, Trin.	Long, Caius	Wellford, Trin.
Daniel, Trin.	Matthews, J. C.	West, Joh.
Dickinson, King's	Miller, Queens'	Wilkinson, G., senior, Emman.
Dorman, Clare	Molteno, Clare	
Edmondson, Joh.	Morris, Trin.	Williams, E. C., Christ's
Fletcher, Trin.	Newman, Caius	Winslow, W., Caius
Floyd, Clare	Pearce, H. Cav.	Wood, Christ's

First Examination for the degree of M.B. Easter Term, 1888. Part II. Elementary Biology. Examined and approved.

Allen, Christ's	Glover, F. B., Joh.	Pellew, Trin.
Ansorge, Pemb.	Gooding, Caius	Penny, Pet.
Armitage, Emman.	Grove, Sidney	Penny, Pemb.
Barnes, Pemb.	Grünbaum, Caius	Peters, Caius
Barraclough, Joh.	Hadfield, Caius	Pooley, Caius
Barrett, Caius	Harding, L. N., H. Selw.	Ransome, Trin.
Beedham, Christ's	Heaton, Trin.	Ransome, Caius
Beggs, Sidney	Hewitt, Clare	Richards, W. G., Christ's
Bird, Emman.	Higgins	Roper, Clare
Bliss, Sidney	Hollis, Sidney	Roughton, Joh.
Bolus, Jesus	Jackson, Clare	Russell, H. Selw.
Bond	Kirby, Trin.	Scratton, Trin.
Borcherds, Caius	Langmore, Joh.	Seccombe, Joh.
Bottomley, Caius	Leach	Sharp, H. C., Caius
Buchanan, Joh.	Lewis, C. E. M., Joh.	Shuter, H. Cav.
Buttar, Pemb.	Lidderdale, Trin.	Slater, Caius
Carr, Trin.	Lloyd, W. F., Clare	Stewart, Christ's
Cayley, F. P., Trin.	Locock, Trin. H.	Swainson, Christ's
Collcutt, Caius	Lowe, P. R., Jesus	Tatham, Caius
Collis, H. Selw.	Macdonald, Emman.	Taylor, G. C., Christ's
Cortes, Trin. H.	Major, Trin.	Treadgold, Down.
Delbruck, King's	Master, Caius	Trethewy, Caius
Dodgson, Emman.	May, H. J., Caius	Watts, Caius
Dumbleson, Pet.	Methuen, Clare	Whichello, Sidney
Dunn, Cath.	Morrison, Caius	Willson, H. S., Emman.
Evans, Emman.	Moysey, Caius	Windsor, Emman.
Fenton, Caius	Norris, Christ's	Wood, Caius
Gardner, J. E. G., Caius	Ogilvie, Christ's	Worthington, Pemb.
Garratt, Trin.	Peck, Trin.	

Third Examination for the degree of M.B. Part I. Examined and approved.

Battersby, Trin.	Foster, Trin.	Ogilvie, King's
Blaker, H. Cav.	Gervis, Trin.	Roberts, R. J.
Bowen, King's	Goddard, Caius	Rutherford, Sidney
Campbell, H. Cav.	Gordon, Trin.	Saunders, G. R., Caius
Chaplin, Joh.	Hawkins, Cai.	Sortain, Caius
Colbeck, E. H., Caius	Hopkinson, Emman.	Syfret, S. B., Trin. H.
Courtney, Pemb.	Lloyd, G. T., Joh.	Veale, Christ's
Crisp, Caius	Murray, Trin.	Weber, Trin.
Elsmore, Christ's	Musson, King's	Wickham, G. H., Caius

Part II. Examined and approved.

Barber, Cath.	King, H. Cav.	Prowse
Copeland, W. H. L., King's	Little, Down.	Smithson, Christ's
Harris, H. E., Christ's	Percival, Trin.	Watts, A. T. G., Corpus
Hicks, H. Cav.	Pollock, W. R., Trin.	

Examination for the degree of B.C. Examined and approved.

Beddoes, Pemb.	Whishaw, H. Cav.

During the academical year just completed the number of medical degrees conferred is as follows: M.D., 6; M.B., 37; B.C., 22.

OXFORD.

NATURAL SCIENCE CLASS LIST.—The Natural Science Class list this year is a large one, no less than 28 men being placed in it. Physiology is well represented, having 4 men in the first class, 3 in the second, and 6 in the third. The next popular subject is chemistry, which supplies 10 of the remaining successful candidates. The increase of candidates in physiology from 4 last year to 13 this year is the most marked feature of the class list. This fact must be gratifying to Professor Burdon Sanderson and his assistants, and it will help to dispel a belief prevalent amongst some of the classical members of the University, that although the medical school is well equipped with laboratories and apparatus; it lacks the one thing needful, that is students.

SECOND M.B. EXAMINATION.—The list of successful candidates for the second M.B., shows that 7 men have passed, and reveals a large proportion of rejections. Midwifery is generally believed to have been the great stumbling block to the students.

DURHAM.

FACULTY of Medicine: Examinations for Degrees in Medicine and Surgery at the College of Medicine, Newcastle-upon-Tyne. Easter term, 1888. The following candidates satisfied the examiners:

Examination for the degree of Doctor in Medicine for practitioners of fifteen years' standing.

A. R. Manby, M.R.C.S., L.S.A.

Examination for the degree of Doctor in Medicine (essay).

C. S. Blair, M.B., M.R.C.S.; G. Neville Caley, M.B., M.S., L.R.C.P., M.R.C.S.; J. H. Garrett, M.B., B.S., L.S.A., L.S.Sc.; A. E. Larking, M.B., M.R.C.S., L.S.A.; C. E. Tanner, M.B., F.R.C.S.; A. Wilkinson, M.B., M.S., M.R.C.S., L.S.A.; E. H. Young, M.B., L.R.C.P., M.R.C.S., L.S.A.

Final examination for the degree of Bachelor in Medicine.

First-class Honours.—H. J. Parry, College of Medicine, Newcastle-upon-Tyne.

Second-class Honours in Order of Merit.—J. W. B. Pogson, Queen's College, Birmingham; F. Chand, L.R.C.P., L.S.A., L.M.S.India, Punjab University, India.

Pass List in Alphabetical Order.—S. J. Allden, College of Medicine, Newcastle-upon-Tyne; L. A. Baine, College of Medicine, Newcastle-upon-Tyne; R. C. Benington, L.R.C.P., M.R.C.S., L.S.A., L.S.Sc., St. Thomas's Hospital; S. A. Bontor, L.R.C.P., M.R.C.S. St. Bartholomew's Hospital; E. Bowker, Owens College; E. Bowmaker, College of Medicine, Newcastle-upon-Tyne; W. C. Brown, College of Medicine, Newcastle-upon-Tyne; T. Clifford, L.R.C.P., M.R.C.S., College of Medicine, Newcastle-upon-Tyne; N. Davis, College of Medicine, Newcastle-upon-Tyne; H. L. Ewens, Bristol Medical School; J. Hindhaugh, College of Medicine, Newcastle-upon-Tyne; A. K. Holt, L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; E. W. D. Kite, M.R.C.S., L.S.A., Queen's College, Birmingham; H. McLagan, College of Medicine, Newcastle-upon-Tyne; I. G. Modlin, L.S.A., College of Medicine, Newcastle-upon-Tyne; W. Molesworth, Bristol Medical School; W. P. Palmer, L.R.C.P., M.R.C.S., L.S.A., L.S.Sc., St. Bartholomew's Hospital; N. Raw, College of Medicine, Newcastle-upon-Tyne; B. R. Sawhny, L.R.C.P., M.R.C.S., L.M.S.India, Punjab University, India; H. A. Sweetapple, College of Medicine, Newcastle-upon-Tyne; R. Thompson, L.R.C.P., M.R.C.S., Guy's Hospital.

Examination for the degree of Bachelor in Surgery.

S. J. Allden, College of Medicine, Newcastle-upon-Tyne; O. W. Andrews, M.B., M.R.C.S., St. George's Hospital; R. C. Benington, L.R.C.P., M.R.C.S., L.S.A., L.S.Sc., St. Thomas's Hospital; S. A. Bontor, L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; J. S. Bootiman, M.B., College of Medicine, Newcastle-upon-Tyne; E. Bowker, Owens College; E. Bowmaker, College of Medicine, Newcastle-upon-Tyne; R. Brown, M.B., College of Medicine, Newcastle-upon-Tyne; W. C. Brown, College of Medicine, Newcastle-upon-Tyne; F. Chand, L.R.C.P., L.S.A., L.M.S.India, Punjab University, India; N. Davis, College of Medicine, Newcastle-upon-Tyne; H. L. Ewens, Bristol Medical School; J. Hindhaugh, College of Medicine, Newcastle-upon-Tyne; A. K. Holt, L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; H. B. Lavies, M.R.C.S., L.S.A., King's College; I. G. Modlin, L.S.A., College of Medicine, Newcastle-upon-Tyne; W. Molesworth, Bristol Medical School; W. P. Palmer, L.R.C.P., M.R.C.S., L.S.A., L.S.Sc., St. Bartholomew's Hospital; H. J. Parry, College of Medicine, Newcastle-upon-Tyne; J. W. B. Pogson, Queen's College, Birmingham; N. Raw, College of Medicine, Newcastle-upon-Tyne; B. R. Sawhny, L.R.C.P., M.R.C.S., L.M.S.India, Punjab University, India; W. R. Shortt, M.B., College of Medicine, Newcastle-upon-Tyne; H. A. Sweetapple, College of Medicine, Newcastle-upon-Tyne.

TRINITY COLLEGE, DUBLIN.

At the Trinity Term Examination for the degree of Bachelor of Medicine (M.B.), held on Monday and Tuesday, June 4th and 5th, 1888, the successful candidates were arranged in the following order of merit:

H. C. Drury, H. H. Orr, W. G. Story, W. M. Wilson, F. B. Nowlan; V. L. Jones and H. E. Taylor, equal; H. N. Dunn, J. G. Walker, A. Tuthill; J. B. Hopkins and G. B. Stainstreet, equal; A. E. Barrington, T. W. Shaw, C. M. MacLaughlin, M. O'Connor, M. S. McIntosh, H. F. Scott, G. E. Crowe; J. J. Gerrard and W. A. Morton, equal; D. N. Emerson, R. W. Moore, W. E. Kelly, John A. Scott, F.R.C.S.I., *Sat. Resp.*; N. A. Reid, *Supplementalist.*

At the Examination for the degree of Master in Surgery (M.Ch.), held on Monday and Tuesday, June 11th and 12th, the following candidate was successful.

H. M. Brabazon.

At the Examination for the degree of Bachelor in Surgery (B.Ch.), held on Monday and Tuesday, June 11th and 12th the successful candidates were placed in order of merit as follows.

W. G. Story, H. C. Drury, C. F. Harkin, W. M. Wilson, H. H. Orr, A. A. Sproule, H. N. Dunn, V. L. Jones, R. W. Herrick; J. W. H. Jellett and F. B. Nowlan, equal; E. Kingsbury, J. G. A. Kane, J. H. Clark.

At the Examination for the degree of Bachelor in Midwifery (B.A.O.), held on Monday and Tuesday, June 18th and 19th, 1888, the successful candidates were placed in order of merit as follows.

H. C. Drury, F. B. Nowlan, W. Kiddle; W. A. Isaac and H. H. Orr, equal; J. B. Hopkins and M. C. Moore, equal; A. E. Barrington and H. N. Dunn, equal; W. M. Wilson, J. H. R. Glenn, W. G. Story, A. Tuthill; A. Ogilvy and F. S. Swiney, equal; V. L. Jones and C. M. MacLaughlin, equal; J. G. A. Kane, N. A. Reid, J. W. N. Jellett; J. J. Gerrard and W. A. Morton, equal.

At the Summer commencements in Trinity Term, held on Thursday, June 28th, 1888, in the Examination Hall of Trinity College, the following degrees in Medicine, Surgery, and Midwifery, were conferred. in the presence of the Senate by the University Caput, namely.

Baccalaurei in Arte Obstetriciâ.—H. C. Drury, H. N. Dunn, C. F. Harkin, J. W. H. Jellett, V. L. Jones, J. G. A. Kane, W. Kiddle, E. Kingsbury, M. C. Moore, F. B. Nowlan, H. H. Orr, A. A. Sproule, W. G. T. Story, W. M. Wilson.

Baccalaurei in Chirurgiâ.—H. C. Drury, H. N. Dunn, C. F. Harkin; R. W. Herrick, J. W. H. Jellett, V. L. Jones, J. G. A. Kane, E. Kingsbury, M. C. Moore, F. B. Nowlan, H. H. Orr, A. A. Sproule, W. G. T. Story, W. M. Wilson.

Baccalaurei in Medicinâ.—H. C. Drury, H. N. Dunn, C. F. Harkin, J. W. H. Jellett, V. L. Jones, J. G. A. Kane, E. Kingsbury, M. C. Moore, F. B. Nowlan, H. H. Orr, J. A. Scott, A. A. Sproule, W. G. T. Story, W. M. Wilson.

Magister in Chirurgiâ.—H. M. Brabazon (*stip. cond.*).

Doctores in Medicinâ.—H. M. Brabazon, T. W. Kelly, T. Leahy.

General-Arzt Professor Dr. Leuthold, of Berlin, has been named Physician in Ordinary to His Majesty the German Emperor.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.—Thursday, June 28th.

Habitual Drunkards Act (1879) Amendment (No. 2) Bill.—The Earl of Aberdeen moved the second reading of this Bill, the purpose of which was to make permanent the Act of 1879. The verdict of medical science was unquestionably in favour of such legislation as that contained in the Bill, only it would go a great deal further. Parliament, however, was wisely jealous concerning any measure which appeared to afford the slightest risk of undue interference with liberty. The Bill was, therefore, limited to ten years. Two things were apparent from this experimental legislation: first, the complete sufficiency of the careful safeguards; and secondly, the extensive need and also extensive benefit of homes. The benefits would be extended if the Act were made permanent, because the temporary character of the Act of 1879 necessarily hampered the good work of such institutions as existed, for the obvious reason that people were not willing to invest capital in institutions in which no permanency could be guaranteed. From the excellent results obtained in many of these establishments they held a high place in public estimation. Ample provision was made for inspection. In the absence of such an Act as this there was a real danger of unauthorised establishments springing up when no such guarantee could be provided.—Earl Brownlow said there were points in the Bill which would, he thought, require amendment in Committee.

Monday, July 2nd.

Enteric Fever in Dublin Barracks.—Lord Harris, in speaking to a motion by Earl Beauchamp, praying that the recommendations in the report on enteric fever in Dublin Barracks might be carried out, said that many of the improvements had either been carried out or were in progress, while the demolitions recommended could not be accomplished till some arrangement could be made for the disposition of the troops. The Government had, however, made arrangements with the Prisons Board for the use of Richmond Bridewell and for the purchase of land in the neighbourhood of Richmond Barracks.—Lord Herschell said that, when this subject was before their lordships on the last occasion, the condition of Richmond Barracks was also referred to. There could be no doubt that the amount of sickness at the Richmond Barracks was much greater than it ought to have been, and he should like to know whether anything had been done in the matter.—Lord Harris promised to make inquiries.—The motion was withdrawn.

Tuesday, July 3rd.

Pharmacy Act (Ireland), 1875, Amendment Bill.—This Bill was read a third time and passed.

HOUSE OF COMMONS.—Thursday, June 28th.

The Pharmacy Bill.—Dr. Farquharson: In the absence of Sir Henry Roscoe, I beg to ask the Vice-President of the Committee of Council on Education whether the statement reported to have been made at an inquest held at Lewisham on June 20th, that the son of a chemist and druggist had dispensed eight grains of strychnine in one dose of medicine instead of one twenty-fourth part of a grain is correct. Whether the statements that the son of the chemist was often left in charge of his father's branch shop, and that he passed his examination when he was fifteen years of age, are also correct. And whether, in view of such an alarming accident, the Government will give facilities for the consideration of the Pharmacy Bill now before the House, which is intended to provide against such accidents by requiring all managers of branch shops to be qualified and registered.—Sir W. Hart Dyke: I have no reason, after investigations, to doubt the accuracy of the statement cited in the question. So far as the Government are concerned, we shall be glad if the Bill to which the hon. member alludes could be proceeded with, but in the present state of public business I cannot undertake to afford it any special facilities.

Friday, June 29th.

Rivers Pollution Act.—On Clause 16 of the Local Government Bill, which empowers the County Councils, in addition to any other authority, to enforce the Rivers Pollution Act, 1876, Mr. Brunner moved an amendment with a view to provide for the appointment of a joint committee of the counties through which

any river flows to enforce the Act; but the ATTORNEY-GENERAL opposed the amendment, pointing out that the clause merely gave a concurrent jurisdiction to enforce the Act.—Sir W. BARTTELOT and Sir L. PLAYFAIR, however, strongly supported the amendment, but in the end it was withdrawn on Mr. RITCHIE promising to bring up a new clause to carry out its object.—The clause was then agreed to.

Flooding in the Isle of Dogs.—In reply to Mr. S. BUXTON, Mr. TATTON EGERTON said that several houses in the Isle of Dogs were flooded owing to the insufficiency of the local sewers to take the storm waters away quick enough into the Board's main sewers. One of the two powerful temporary pumping-engines was at work when the rain commenced, and was more than equal to pump all the water that came to it. The engineer whose duty it was to attend these engines was on the spot at the time with his stoker and worked his engine. There was no remissness on the part of anyone connected with the Board. The Board was now erecting permanent engines for preventing floods in future, which it was expected would be completed ready for working next month.

The Contagious Diseases Acts in India.—In reply to Mr. J. STUART, Sir J. GORST said that a despatch had been sent to the Government of India, bringing under their notice the resolution of June 5th. There had not yet been time enough for a reply.

Monday, July 2nd.

Evidence of Medical Men.—Dr. TANNER asked whether a medical man, if called upon to give evidence in a coroner's court, was paid a fee of £1 1s.; but, if called upon by the police authorities to give evidence in a police court, there was no fund out of which he could be recompensed for giving professional evidence.—Mr. MATTHEWS replied that a medical man was paid £1 1s. for attending to give evidence in a coroner's court. The allowance to medical witnesses for attending as witnesses in a London police court varied from 10s. to 21s., according to the distance travelled. It was certified by the magistrate and paid by the receiver of police.

Tuesday, July 3rd.

Accidents in the Streets.—Mr. MATTHEWS, in answer to Mr. HULSE, said he had made inquiries as to the number of accidents in the streets known to the police, and it did not appear that they were increasing; on the contrary, they were 33 in 1887, as against 43 in 1886 and 67 in 1885.

St. Katharine's Hospital.—Mr. W. H. SMITH, in reply to Mr. NORRIS, said he had no information as to the appointment of a committee for establishing a system of nursing the sick poor in connection with St. Katharine's Hospital, nor was he able to state what instructions had been given to the above committee. The hospital in question was not under the control of the Government, and no official returns were available as to its present income or proceedings.

OBITUARY.

JOHN MILNER FOTHERGILL, M.D.Edin.

WE deeply regret to have to announce the death of Dr. Milner Fothergill. Dr. Fothergill had for many years suffered from diabetes, of which the symptoms recently became much aggravated, and have now proved fatal, gangrene of the foot having set in followed by fatal coma. Dr. Fothergill's career was in many respects a remarkable one. Without friends, without official position, and never having been elected a Fellow of his College, Dr. Fothergill nevertheless attained a position of considerable influence in medical literature, and was justly esteemed as an authority of no little weight in a great variety of diseases, especially those connected with nutrition. His writings, which were numerous and voluminous, were vigorous in style, interesting in matter, and original in thought. Though his strongly pronounced personal characteristics may have interfered in many respects with his success in life, they made him a very marked and interesting personality. He was by birth and characteristics a Westmoreland dalesman, witty, humorous, though somewhat unpolished in speech and rough in manner. A certain sense of personal grievance under which he laboured during a large part of his life made him often unduly aggressive, and thus interfered in some degree with his social and professional advancement, but his power, vigour, and genial humour brought him deservedly a very wide circle of friends who esteemed his independence of character and his intellectual power, and who will greatly regret his premature death.

John Milner Fothergill was born on April 11th, 1841, in the Westmoreland village of Morland, where his father was engaged in the practice of medicine. The Fothergills and his mother's family the Milners, were among the old "statesman" families of Ravenstonedale on the Yorkshire border, and both have contributed notable men to medicine and the church; among these have been Dr. John Fothergill, F.R.S., a well-known London physician of the last century, and Dr. Anthony Fothergill, of Bath, who was not only a physician, but a poet, and whose name is perpetuated by the Fothergillian gold medal of the Medical Society of London. His mother's family had produced a Dean of Carlisle, Joseph Milner, the Church Historian, and the Rev. Richard Burn, D.D., best known as the author of *Burn's Justice*, which is, or used to be, the *vade mecum* of county magistrates.

Young Fothergill was himself destined at first for the Church, but his own inclination towards the medical profession was confirmed by the advancement of his father's cousin, Sir John Hall, to be Surgeon-General of the Forces in the Crimea. He was accordingly apprenticed to his father, who is described as a well-read, sound, common-sense country practitioner. When the period of apprenticeship was over, the son went to the Edinburgh Medical School, and in due course obtained the degree of M.D. from the Edinburgh University in 1865, as well as the licences of the Royal Colleges of Surgeons and of Physicians. Somewhat against his inclination, he then returned to his native village to assist his father, whose health was failing, and spent the next four years in the hard work of a country practice. He made good use of his time, reading extensively, and maturing those habits of thought which afterwards brought him a wide reputation. In 1869 he obtained the post of senior resident medical officer of the Leeds Dispensary, and so well employed his opportunities that in 1870 he won the Hastings Gold Medal of the British Medical Association with an essay on "Digitalis; its Mode of Action and its Use." Encouraged by this success he determined to make a special study of cardiac disease, and as a first step went to Vienna to work under Professor Rokitansky in the Pathological Institute. He afterwards visited Berlin to attend the practice of Professor Traube, and returned to England in 1872, with the manuscript of his first book *The Heart and its Diseases, with their Treatment*, in his portmanteau. Even the first edition of this work was a remarkable book, and quickly gained a considerable circulation, being much helped by the easy and graphic style which the author already showed himself to possess; the subject was dealt with in a thoroughly practical way, and a prominence then unusual was given to the influence of Bright's disease and various nutritional vices on diseases of the heart. A second edition was issued in 1879; and few systematic works by an English physician not connected with a teaching school have been so widely read.

Dr. Fothergill settled in London in 1872, and became a Member of the Royal College of Physicians; shortly afterwards he was elected Assistant Physician to the West London Hospital, a post which he held for ten years, and subsequently to the City of London Hospital for Diseases of the Chest; for some years before his death he had been full Physician to the last-named hospital. In 1876 he published *The Practitioner's Handbook of Treatment; or, The Principles of Therapeutics*, which was very successful and materially extended his reputation, especially in America. For many years Dr. Fothergill wrote to the *Philadelphia Medical Times* a monthly letter, which was never dull, and was often not only interesting and amusing, but instructive. In this way his name became well-known on the other side of the Atlantic, and some of his most recent works have been written for American publishers. In 1875 he conducted some experiments on antagonism, for which he received a grant from the British Medical Association; and in 1878 he gained the Gold Medal founded by his paternal ancestor by an essay on The Antagonism of Therapeutic Agents, and What it Teaches. From this date his attention was chiefly given to gout, dyspepsia, and other allied diseased conditions, and several works have appeared, among the most

ambitious of which are *Indigestion, Biliousness, and Gout in its Protean Aspects*, and *The Diseases of Sedentary and Advanced Life*, which, if they provoked criticism, also stimulated thought. Milner Fothergill, however, by no means feared criticism; indeed, he seemed almost to enjoy the giving and receiving "great swashing blows," the atmosphere of combat bringing out his best energies and stirring his North-country blood. In such wordy combats he had this advantage, that people always read what he wrote because of the racy style in which it was written. He had made a somewhat fanciful classification of persons who in this day suffer from gout and other nutritional diseases into the Norse and the Arab type; he himself was a pronounced example of the former type, which is unfortunately little adapted to the cramped physical surroundings of city life. His strongly marked character and many sterling qualities converted into friends the acquaintances who were attracted by his remarkable qualities as a *raconteur* and talker, and by them he will be long and deeply mourned.

He was married in 1880, and leaves a widow, but no children.

CHARLES LINDSAY WATTIE, M.D., C.M.ABERD.

DR. WATTIE, of Glenbucket, Aberdeenshire, who has succumbed to an illness from which he has long been suffering, was educated at the Grammar School and University of Aberdeen. On the outbreak of the Servian war he went abroad as one of the volunteer surgeons sent out by the Marquis of Bute, and merited the special thanks of the Servian Government. Dr. Wattie was also attached to the army in the Russo-Turkish war, under the command of Mahomet Ali Pacha, and was present at many of the principal engagements up to the time when Sofia was captured. On that occasion he was, along with another English surgeon, taken prisoner and confined for six weeks, but on the conclusion of the war he received the thanks of the Turkish Government, and was awarded the Third Degree Order of the Osmanieh by the Sultan. Since returning home Dr. Wattie's health has gradually broken down, and three years ago he had to retire from active duty.

WILLIAM NICHOLSON PRICE, M.R.C.S.ENG., L.S.A.

BY the death of Mr. William Nicholson Price, which occurred on June 25th, Leeds loses one of its most prominent medical practitioners, and the profession of Leeds a much valued colleague. The deceased gentleman, who was 61 years of age at the time of his death, was the second son of the late William Price, at one time a naval surgeon, but who for many years practised in Leeds, being one of the first lecturers at the Leeds School of Medicine. The deceased was educated for the medical profession, partly in Leeds and partly at the Middlesex Hospital, and had been in practice in Leeds since 1850 or 1851, a portion of which time he was in partnership with Mr. Charles J. Wright. He was elected, along with Mr. Wheelhouse and Mr. Scattergood, a lecturer at the School of Medicine in 1851, and retained his connection with that institution until 1884, excepting the five years from 1870 to 1875, when his health had rather threatened to break down. In 1863 he, in conjunction with the late Mr. Samuel Smith, became lecturer in midwifery, finally retiring in 1884, when the amalgamation of the Leeds School of Medicine with the Yorkshire College took place. He was during part of that period secretary of the school, and in 1859 and 1881 he occupied the presidential chair. The latter year was that of the school's jubilee, and the chairmanship of Mr. Nicholson Price recalled the fact that his father, Mr. William Price, was one of ten gentlemen who founded the institution in 1831. When the School of Medicine was amalgamated with the Yorkshire College, the subject of this notice was a very liberal donor towards the endowed chair of physiology then formed. For many years Mr. Price was surgeon to the Leeds Prison, a position which he retained for some years after the Prisons Act vested the supervision of the gaol in the Government.

Of the few public institutions in which the deceased found time to interest himself, the Leeds Philosophical Society was one of the foremost, and from 1874 till the day of his death he was a member of the Council, and would in the ordinary course of things have been chosen president at the next vacancy. The deceased was in the enjoyment of his usual health up to June 19th, when he attended a large meeting of the profession at the infirmary, at which it was decided to invite the British Medical Association to visit Leeds in 1889. During the night he was seized with a rigor, the temperature rose to 104° F., and double pneumonia at once declared itself. He was attended in his illness by Mr. Scattergood, Mr. Wheelhouse, and Dr. Griffith, and was occasionally visited by other members of the profession. He was an ardent Churchman. A wife and four daughters survive him.

The funeral was attended by a very large number of his professional brethren, many friends and patients, by whom he was much beloved, following him to the grave. An impressive sermon referring to his life and character was preached by the Rev. Canon Scott at St. John's Church on Sunday last.

HOSPITAL AND DISPENSARY MANAGEMENT.

OPENING OF NEW EYE INFIRMARY, PAISLEY.

THIS infirmary, situated in Gauze Street, Paisley, was opened on June 18th by Provost Cochran. It contains two small wards, a large consulting-room, and apartments for a trained nurse, all handsomely fitted up. Addresses, bearing on the necessity of such an institution, were delivered by the Chairman, Mr. Lochrie, Dr. Donald, and Dr. Cluckie, and the following office-bearers were appointed:—*President*, Mr. Clark; *Vice-President*, Mr. W. M. Mackean; *Directors*, Mr. W. B. Barbour, M.P., Mr. Stewart Clark, Provost Cochran, and others. Mr. Donald and Dr. A. H. Richmond were appointed Consulting Surgeons; Dr. Crawford and Dr. Orr, Consulting Physicians; and Dr. Cluckie was appointed Surgeon-Oculist.

THE ST. MARYLEBONE INFIRMARY, NOTTING HILL.

THE fourth anniversary of the opening of the training school in connection with this infirmary by Her Royal Highness the Princess Christian was held in the home on June 25th. The probationers who are about to finish their year's training were subjected to a written and *viva voce* examination by Mr. Lunn, F.R.C.S.Ed., the medical superintendent of the infirmary, and Mr. Croft, F.R.C.S., of St. Thomas's Hospital. Mr. Boulnois, J.P., Chairman of the Infirmary Visiting Committee, and Mr. Bonham Carter, Secretary of the Nightingale Fund Committee addressed the meeting.

The school is making most satisfactory progress, and, independently of supplying the infirmary with highly-trained nurses, is drafting them into other institutions. The guardians of St. Marylebone parish, in conjunction with the Committee of the Nightingale Fund, carry on this much-needed work of providing nurses for the sick poor; they have bestowed much thought and care on all their arrangements for their nurses, and may be congratulated upon the success which has attended their efforts. The home is built on the most approved plan, it is liberally supplied with baths and everything conducive to the health of its occupants, and each probationer has a separate bedroom. Lectures and classes are held in the large class-room of the home. Probationers are bound to the Infirmary Committee for three years, having passed through their year of training; those who are drafted on to the infirmary staff receive a salary commencing at £20 and rising to £25 per annum, with uniform and washing. Having finished their first and second year of service satisfactorily, they receive in addition from the Committee of the Nightingale Fund a gratuity of £2 for the first and also for the second year of service, a letter of approval accompanying each gratuity. Many nurses are now in receipt of these tokens of good work. Papers containing the regulations for admission to the school, in which there are now a few vacancies, can be obtained of the Matron, Miss Vincent.

THE SHADWELL MOTHERS' LYING-IN HOME.

THE annual meeting of the governors of this institution took place at the residence of the Marchioness of Waterford on Thursday last, the Earl of Meath in the chair. According to the report, this unpretentious institution, with an average income of a little over £400 a year, maintains six beds for poor women in labour, and from December, 1884, to April, 1888, 325 patients were delivered in the institution, besides a large number attended at their own homes. Not a single death has occurred among all the patients so treated. The Hon. Mrs. J. Stuart Wortley, in laying before the meeting the work of the charity, drew a touching picture of the squalid misery and hopeless poverty of the denizens of these crowded districts. She pointed out that the huge and densely-populated eastern side of London was insufficiently provided with the means of affording assistance to women in labour, and ex-

pressed a hope that means would be forthcoming which would enable the committee to deal more adequately with the work before them. While the present moment is scarcely opportune for enlarging the sphere of hospital operations, it is really a matter for surprise that more has not been done for the relief and care of the poor who are unable to obtain the assistance, the cleanliness, or the privacy which the puerperal period renders so necessary. If the matter were only properly brought before the public, the sympathies of a common womanhood would ensure the provision of sufficient means to carry on the work on a scale commensurate with its humanity and social importance. Great credit is due to the indefatigable lady-superintendent and secretary of this home, Mrs. Ashton Warner.

THE LONDON HOSPITAL.

A MEETING in support of the funds of this charity was held on Tuesday last at the Bow and Bromley Institute, under the presidency of the Right Hon. H. C. E. Childers, M.P. The report showed something like 10,000 out-patients and 8,000 in-patients for the year, and there were between 700 and 800 beds. Last year £62,000 had been expended; the income was £16,000, and £35.000 had been received from donations and legacies. The Chairman said it was proposed to repeat this year the operation the hospital had successfully conducted at intervals—that was to raise special sums, to be paid down or spread over a period of five years. Towards this object they had already received £16,000 down, and £21,000 to be paid during the next five years.

Resolutions to the effect that the hospital was worthy the support of all classes, and that the residents of the East End should endeavour to maintain its efficiency, were adopted.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

VACCINATION AND REVACCINATION.

THE Local Government Board has just issued to boards of guardians throughout the country some very useful memoranda in which the advantages of vaccination and revaccination are concisely set forth. In one of these memoranda it is pointed out that protection against small-pox conferred by vaccination in infancy becomes diminished as age advances, and the protection against attack appears to diminish more rapidly than the protection against death by the disease. Even before puberty a portion of the original protection is often lost; and this is particularly the case when the vaccination in infancy has been incomplete, having produced one vesicle instead of several, small vesicles instead of large. Before vaccination was discovered, small-pox was for the most part a disease of children; and among the unvaccinated members of a community it is so to this day; but among vaccinated people, owing to the protection of the children and the decline of this protection as life advances, such small-pox as now prevails is principally seen in adolescents and adults. Thus it is of importance that the protection which vaccination affords to children should be renewed for them as they are growing up.

Evidence of the additional protection against small-pox given by a revaccination can be found abundantly by anyone who chooses to seek for it. It can be got from the experience of revaccinated communities living in the midst of communities not revaccinated, as in the case of the permanent officials of the postal service living in London; or it can be got from the experience of nations, differing in their small-pox death-rates as their laws for revaccination differ: witness the contrast between the German and Austrian rates of small-pox mortality since the time when Germany, but not Austria, enforced revaccination upon children of school ages; or evidence to the same effect is to be had by observing the immunity from small-pox, for year after year, secured to nurses in small-pox hospitals by revaccinating them before entering on their service. This last is perhaps the most obvious of all such examples; and in the few instances where there has seemed to be exception to the rule of their immunity, it has almost always turned out that the requisite revaccination had been by some chance omitted.

The revaccination which is proper to be done for every child ought to be a matter of regular system; and should be done as regularly as primary vaccinations are done for infants. There should be no waiting until an alarm about small-pox is raised. The importance of these considerations will be obvious to anyone who considers the conditions for the proper performance of revaccination. The lymph has to be obtained from cases of primary vaccination; it must not be taken from cases of revaccination; it ought to be used in the freshest possible state, and, whenever practicable, direct from the primary vaccine vesicle. With such lymph at least 96 per cent. of revaccinations ought to be successful, in the sense of producing the best local result that the individual can obtain, and of giving him his full measure of additional security against small-pox.

Medical and sanitary officers, and the medical profession generally, are therefore invited to urge upon parents and guardians the importance of having their children revaccinated at the age of twelve years or thereabouts, and to urge upon all persons beyond this age who have not yet been successfully revaccinated the duty of obtaining for themselves the additional protection which may be had by this means.

The Board has also issued a small leaflet, which it is suggested should be distributed to parents by the vaccination officers with the ordinary formal notices as to the requirements of the Vaccination Acts. This leaflet, written in simple phraseology, points out that hundreds of children nowadays die of small-pox for want of vaccination, just as thousands used to die before vaccination was discovered; that vaccinated children, even if they should take the disease, hardly ever die of it; that they recover without the blindness and scarring so common after small-pox in unvaccinated children; and that when vaccination is properly performed, "there need be no apprehension that it will injure health or communicate any disease"—quoting the words of the Select Committee of the House of Commons in 1871, which "are as true to-day as when they were written."

It is desirable that these facts should be kept constantly before parents and guardians of children, and it is to be hoped that full advantage will be taken of the offer of the Central Board to supply gratuitously copies of this little leaflet for wide distribution. This is especially necessary at a time when the opponents of vaccination are using every effort to discredit the system, and create difficulties in the enforcement of the law, not infrequently by taking advantage of the prejudices common among the poorer classes. For these latter the leaflet seems to have been specially designed.

The Board has also taken the opportunity of reminding boards of guardians of the steps they should take in the event of small-pox threatening their neighbourhoods, as regards the provision of exceptional facilities for procuring vaccination and revaccination. In such circumstances the need for providing special evening attendances to suit the convenience of artisans and others in urban localities should not be forgotten.

ALLEGED OUTBREAK OF CHOLERA AT MESSINA.

A TELEGRAM from Trieste to the *Neue Freie Presse* states that cases of cholera have been reported for several days from Messina. This the authorities of the town deny, although admitting that cases of gastro-enteritis had occurred, and that indeed the disease had assumed an epidemic form, owing to the scarcity of drinking water caused by numerous breaches in the pipes which supply the town with water.

EPIDEMIC OF PNEUMONIA IN MIDDLESBROUGH.

DR. BALLARD, one of the medical inspectors of the Local Government Board, is at present engaged in investigating the epidemic of pneumonia which, as has already been stated, has for some months past been more or less severely prevalent in Middlesbrough; 75 deaths occurred in the town during the month of May last, and 22 deaths during the first week of June. The disease has continued to prevail up to the present time with varying severity. What is the reason of this exceptional epidemic? is it related to the prevailing cold north-easterly winds, as many of the local medical practitioners assert? is there any article of food involved, as others have suggested? is there any local circumstance or condition sufficient to account for the outbreak? is the disease infectious? are all questions of more than local interest; and with the object of answering them Dr. Ballard is taking account of every circumstance and phase of the outbreak. He has the assistance of Dr. E. Klein, who is examining microscopically and experimenting with portions of the diseased organs of some of the unfortunate victims. It is to be hoped that Dr. Ballard will be able to trace the disease to its cause, and that his report will add materially to our knowledge of pneumonia.

HEALTH OF ENGLISH TOWNS.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 5,290 births and 2,864 deaths were registered during the week ending Saturday, June 30th. The annual rate of mortality, which had been 16.2 and 15.5 per 1,000 in the two preceding weeks, rose again to 15.9 during the week under notice. The rates in the several towns ranged from 10.4 in Brighton, 12.6 in Huddersfield, 13.8 in Bristol, and 14.2 in Birmingham to 20.7 in Bolton, 21.2 in Manchester, 26.0 in Salford, and 27.8 in Preston. In the twenty-seven provincial towns the mean death-rate was 16.6 per 1,000, and exceeded by 1.5 the rate recorded in London, which was only 15.1 per 1,000. The 2,864 deaths registered during the week under notice in the twenty-eight towns included 85 which were referred to whooping-cough, 73 to diarrhœa, 43 to scarlet fever, 34 to diphtheria, 32 to measles, 22 to "fever" (principally enteric), and 15 to small-pox; in all, 304 deaths resulted from these principal zymotic diseases, against numbers declining from 330 to 248 in the six preceding weeks. These 2,864 deaths were equal to an annual rate of 1.7 per 1,000; in London the zymotic death-rate was 1.7, and corresponded with the mean rate in the twenty-seven provincial towns, among which the zymotic rates ranged from 0.0 in Portsmouth and 0.5 in Birkenhead to 3.2 in Salford, 3.8 in Wolverhampton, and 6.1 in Preston. Scarlet fever caused the highest proportional fatality in Bolton and Cardiff; measles in Bradford; whooping-cough in Cardiff, Halifax, Manchester, and Salford; and diarrhœa in Wolverhampton. Of the 34 deaths from diphtheria recorded during the week under notice in the twenty-eight towns, 28 occurred in London and 3 in Leeds. The 15 cases of small-pox included 11 in Preston and 1 in Hull. Only 2 small-pox patients were under treatment in the Metropolitan Asylums Hospitals on Saturday, June 30th, of which 1 had been admitted during the week. These hospitals also contained 845 scarlet fever patients on the same date, against numbers declining from 915 to 820 in the five preceding weeks; 92 cases were admitted during the week, against 61 and 72 in the two previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 1.9 per 1,000, and was below the average.

HEALTH OF SCOTCH TOWNS.—During the week ending Saturday, June 30th, 899 births and 461 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had been 20.0 and 18.4 per 1,000 in the two preceding weeks, further declined to 18.2 during the week under notice, but exceeded by 2.3 per 1,000 the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Greenock and Dundee, and the highest in Perth and Glasgow. The 461 deaths in these towns during last week included 49 which were referred to the principal zymotic diseases, equal to an annual rate of 1.9 per 1,000, which slightly exceeded the mean zymotic death-rate during the same period in the large English towns. The highest zymotic rates were recorded in Glasgow and Paisley. The 219 deaths registered in Glasgow during the week under notice included 12 from measles, 7 from whooping-cough, 5 from diarrhœa, and 3 from scarlet fever. Two fatal cases of scarlet fever occurred in Dundee. The mortality from diseases of the respiratory organs in these Scotch towns during the week under notice was equal to 3.5 per 1,000, against 1.9 in London.

HEALTH OF IRISH TOWNS.—In the sixteen principal town-districts of Ireland the deaths registered during the week ending Saturday, June 16th, were equal to an annual rate of 22.5 per 1,000. The lowest rates were recorded in Dundalk and Drogheda, and the highest in Limerick and Kilkenny. The 167 deaths registered in Dublin during the week under notice were equal to an annual rate of 24.7 per 1,000, against 23.5 and 21.7 in the two preceding weeks, the rate for the same period being only 14.2 in London, and 19.7 in Edinburgh. The 167 deaths included 14 which were referred to the principal zymotic diseases (equal to an annual rate of 2.1 per 1,000), of which 5 resulted from whooping-cough, 4 from scarlet fever, 3 from diarrhœa, 2 from "fever," and not one either from small-pox, measles, or diphtheria.—During the week ending Saturday, June 23rd, the deaths registered in the sixteen principal town-districts of Ireland were equal to an annual rate of 21.0 per 1,000. The lowest rates were recorded in Lisburn and Galway, and the highest in Drogheda and Sligo. The death-rate from the principal zymotic diseases in these towns averaged 1.7 per 1,000, and was highest in Armagh and Newry. The 140 deaths registered in Dublin during the week under notice were equal to an annual rate of 20.7 per 1,000, a lower rate than in any preceding week of this year; these deaths included 8 from the principal zymotic diseases (equal to an annual rate of 1.2 per 1,000), of which 4 were referred to whooping-cough, 2 to scarlet fever, 1 to "fever," 1 to diarrhœa, but not one either to small-pox, measles, or diphtheria.—In the sixteen principal town districts of Ireland the deaths registered during the week ending Saturday, June 30th, were equal to an annual rate of 23.0 per 1,000. The 168 deaths registered in Dublin during the week under notice were equal to an annual rate of 24.8 per 1,000 (against 24.7 and 20.7 in the two preceding weeks), the rate for the same period being only 15.1 in London and 16.9 in Edinburgh. The 168 deaths included 13 which were referred to the principal zymotic diseases (equal to an annual rate of 1.9 per 1,000), of which 4 resulted from whooping-cough, 3 from "fever," 3 from diarrhœa, 2 from scarlet fever, 1 from measles, and not one either from small-pox or diphtheria.

MEDICAL OFFICERS AND PAROCHIAL BOARDS.

MR. JOHN WILSON (Wanlockhead) writes: I shall be much obliged if you can find a space in your widely-circulated JOURNAL for this letter, as I think the public ought to be made aware of the light in which medical men are looked upon and the position they now occupy, at least in Scotland.

As parochial medical officer of this place, I was, on March 3rd last, called in to see an aged woman, a pauper, whose entire means of subsistence consisted of two shillings weekly, and found her in a state of semi-starvation, wanting both food and clothes. I ordered the sub-inspector to give her half a pound of meat and a glass of beer daily; he had no power to do so until he communicated with the inspector, who resides in Sanquhar, a distance of ten miles; he, however, recognising the urgency of the case, took upon himself to give her two pounds of meat. No notice was taken of my order until the 16th of the month, when I received a letter from the inspector saying he considered the amount ordered too much, and recommending half the quantity. I wrote declining to be instructed in my profession by him, and requesting his earlier attention to my wishes, saying also that in the event of the patient's death I should write to the Procurator Fiscal. On the 24th of the same month, on visiting the pauper, she informed me that I had been "turned off," which statement on leaving her I found to be correct, and also that another medical man had been appointed, although I had received no notice of dismissal, nor did I until the 26th of the month, two days after the new doctor had entered upon his duties.

I at once wrote to the Board of Supervision, who on examining the whole correspondence informed me that they had written to the Sanquhar Parochial Board, telling them that I had neither done or written anything to justify my deposition, in spite of which, however, they have persisted in my dismissal; the Board of Supervision at the same time told me that I had good grounds for an action for "wrongous dismissal" against the Sanquhar Parochial Board. I placed the matter in the hands of my lawyers, who, having taken an opinion on the case, inform me that a medical officer's orders for sick patients need not necessarily be attended to by parochial boards; therefore, sir, I maintain that paying duly qualified medical practitioners salaries to look after the sick poor is simply a ludicrous farce, which defrauds the ratepayers of a considerable sum of money annually.

In conclusion, I will only mention that the economical plan of treatment recommended by the Sanquhar Board was duly considered, and resulted, as I had foretold, in the death of the pauper on whom the experiment was practised.

PURE WATER.

PUZZLED writes: What is water of a high degree of purity? I ask this question because there appears to be no slight difference of opinion on this subject, as may be judged from a report of a Municipal Council meeting of Louth, held last week. The borough analyst had reported water to be of a high degree of purity which had been taken from a well that had recently been declared unfit for use. As the water still contained no less than 47.10 grains of solid matter per gallon, of which 7.15 grains were chlorides, a member of the medical profession present questioned the propriety of such water being considered of a "high degree of purity;" the more so because water from no fewer than four other wells, situate at about a stone's throw distance, north, south, east, and west of the well under consideration, contained less than half this amount of solid matter, and also because the borough analyst's report did not mention such important particulars as the total amount of organic matter present, or the presence or absence of nitrites and nitrates.

A motion to obtain a more complete analysis of the water was refused by the Council on the ground of expense. I enclose copy of borough analyst's report; also analysis of other waters, and report of Council proceedings, and shall be glad if you will kindly answer the above query as far as it affects the water in the well referred to.

*** The analysis of the borough analyst is so incomplete, including as it does only the total solids, 47.10 grains per gallon; chlorine, 7.15; free ammonia, 0.0026; and albuminoid ammonia, 0.0250; that it is impossible to draw any inference from it as to the quality of the water, and his conclusion "high degree of purity," is at least unwarranted. If, as stated in the letter signed "Puzzled," four wells in the immediate neighbourhood of the one in question have less than half the amount of solid matter stated above, there can be no doubt that the well is polluted with oxidised sewage to a very large extent. The proportion of nitrates and nitrites should be ascertained, also that of sulphuric and phosphoric acids, when the question could readily be decided. The water may be organically fairly pure, and yet be so polluted as to be quite unsuitable for drinking. Incomplete analyses, such as the one

quoted, do an immense amount of harm to the efforts of sanitary officers, and should never be admitted in so serious a question.

It is impossible to answer shortly the query of our correspondent, "What is water of a high degree of purity?" unless it be a water perfectly free from sewage. But the absence or presence of sewage cannot be ascertained beyond doubt, except by comparing the suspected samples with those of undoubted purity in the same locality. If "Puzzled" is in a position to do this, he will have no difficulty in deciding as to the purity or otherwise of the water of the well in question.

THE LOGIC OF VITAL STATISTICS.

D. writes: I am a member of the medical profession and a dabbler in questions of public health, so much so that I have had a serious intention of seeking to obtain the diploma in State medicine granted by the University of Cambridge. With this object in view I have studied, amongst other things, vital statistics and the behaviour of epidemic disease. Like other students, I have been in the habit of propounding to myself questions sometimes reasonable, sometimes the reverse, and seeking by the aid of books to work out correct answers. I select the following from my note-book:

Given three towns, each having a population of 100,000 inhabitants. No. 1, under the guidance of an eminent engineer, some few years ago completed an efficient system of drainage and sewage disposal. No. 2 about the same time appointed a medical officer of health holding the diploma in State medicine granted by the University of Cambridge. No. 3, under the guidance of an officer holding the same qualification, included in an improvement Bill the clauses rendering the notification of certain infectious diseases to the sanitary authority obligatory on medical men and householders—"dual notification."

Question.—In each of these towns the reports of the Registrar-General show an increase in the mortality from certain zymotic diseases—scarlet fever, measles, etc., subsequent to the events mentioned. Would it be in accordance with sound reason to say that any one or all the events mentioned above were an adequate explanation of the increased mortality?

Until quite recently I should have regarded the question as one intended to catch the ignorant or unwary student, and my answer would have been simply "No, the questions are absurd. The true explanation is to be found in the known behaviour of epidemic diseases." Judging from a statement made by Dr. Alfred Carpenter, and reported in the JOURNAL of May 5th, I discover that such an answer would in all probability have secured my rejection, Dr. Carpenter being an examiner at the University. Is the statement made by Dr. Carpenter to which I refer, and which I find is repeated by Dr. Biddle in the JOURNAL of May 26th, to be understood as an example of sound and correct medical reasoning from the facts? Is it likely to be accepted as such by the statesmen and men of business who compose the Legislature? Am I right when I say I think not, or am I the victim of an inborn stupidity?

THE REMOVAL OF PATIENTS WITH WHOOPING-COUGH.

ANITAS asks whether parents or guardians taking children who are suffering from whooping-cough by public conveyance to a non-infected neighbourhood, are liable under the Public Health Act, as removing persons suffering from a dangerous infectious disease.

*** We know of no decision on the point, but we are of opinion that whooping-cough is a dangerous infectious disease, and that a prosecution could be sustained.

MEDICAL NEWS.

EXAMINING BOARD IN ENGLAND, BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the second examination in Anatomy and Physiology at a meeting of the Board of Examiners on July 2nd, namely:—

B. Boake, Student of the School of Physic, Ireland; J. Campbell, of Belfast; H. F. Hayes, of Melbourne; R. D. Hotchkis, of St. Bartholomew's Hospital; G. G. Larcombe, of Bellevue Medical College; A. P. Morris, of Owens College, Manchester; T. M. Tibbetts, of Queen's College, Birmingham.

Passed in Anatomy only.

M. J. Houghton, H. B. Rowbotham, of Queen's College, Birmingham; C. Wintle, of Bristol; G. M. Mellor, of Edinburgh; W. W. Exley, and W. E. Pollitt, of Leeds; J. A. Evans, G. F. Knipe, and S. Melville, of Liverpool; A. W. Gilchrist, of Marseilles; R. Clegg, A. W. Senior, I. W. Smith, and R. Smith, of Owens College, Manchester; E. R. Bastard, E. B. Cutting, and T. I. Henning, of St. Bartholomew's Hospital; W. Wright, of St. Bartholomew's Hospital and Mr. Cooke's School of Anatomy; R. T. Cassal, of University College.

Passed in Physiology only.

J. F. Atkins, H. S. Chavasse, T. Dixon, C. B. Hillyar, of Queen's College, Birmingham; C. Bernard and T. Pitt, of Bristol; F. W. Clark and G. H. Crofts, of Liverpool; J. Fearnley, I. H. Spray, and W. A. Stott, of Leeds; J. S. Pickford, of Manchester; B. B. T. Thorne and J. Williamson, of St. Bartholomew's Hospital; G. Pernet, of University College; O. E. Keller, of Zurich and Leipzig.

Passed in Anatomy and Physiology on July 3rd.

A. E. Atkinson, of Middlesex Hospital; C. Coles, of St. Bartholomew's Hospital; J. Guinane, of Toronto; S. C. Hormusji, of Bombay; C. J. Weichert, of University College.

Passed in Anatomy only.

A. S. St. John, of Bristol; P. A. Longhurst, of Charing Cross Hospital; A. L. Allworth, C. B. Braithwaite, H. Hodgson, of Guy's Hospital; J. Cross, H. Tempest, and L. F. West, of Leeds; G. R. Jones, of Liverpool; L. F. Houghton, of St. Mary's Hospital; R. Henry and W. T. Pauling, of St. Thomas's Hospital; A. G. Minshall, of University College.

Passed in Physiology only.

V. H. Barr, of Guy's Hospital; H. M. Cowen, of Toronto and Mr. Cooke's School of Anatomy; G. W. Holton, of Owens College, Manchester; A. Jeffreys, of St. Thomas's Hospital; A. Kidd, of Middlesex Hospital; B. A. K. Lukmani, of Bombay; H. F. S. Nunes, of St. Mary's Hospital; S. H. Rentzsch, of King's College; H. Williamson, of Cambridge; E. B. Wrench, of Cambridge and St. Thomas's Hospital; H. Clitt, C. H. Graham, of St. Bartholomew's Hospital; A. G. Hebblethwaite, L. A. Johnson, of Leeds; P. A. Colmer, P. A. Green, C. H. Hemming, and H. L. Powys, of London Hospital.

Passed in Anatomy only on July 4th.

H. G. D. Hallett, F. G. Lloyd, N. Marder, of St. Bartholomew's Hospital; W. A. Hampton, of Middlesex Hospital; T. C. Hughes, of Westminster Hospital; A. G. Parrott, of London Hospital; H. C. Perkins, of King's College; C. E. Pollock, of Guy's Hospital; A. S. Jones, A. Morrison, of University College; J. Mountford, of Charing Cross Hospital; C. Robson and H. B. Williams, of St. Thomas's Hospital; G. Yeoman, of Cambridge and St. Thomas's Hospital.

Passed in Physiology only.

H. J. F. Badcock, of Charing Cross Hospital; H. L. A. Keller, of St. Thomas's Hospital; N. F. Kendall, of St. Bartholomew's Hospital; H. L. Morgan, of Westminster Hospital; H. V. Prynne, of Middlesex Hospital; H. M. Weaver-Bridgman, G. Y. C. Hunter, and H. W. Roberts, of St. George's Hospital; A. C. Fox, G. E. Gillett, C. T. W. Hirsch, H. Knevitt, E. J. F. Moore, of London Hospital; B. B. Gilpin and A. H. Minton, of King's College; H. McD. Phillpotts and A. E. Shaw, of St. Mary's Hospital; R. F. J. Gill and E. N. Smith, of University College; G. W. B. Featherstone, of Guy's Hospital and Mr. Cooke's School of Anatomy; and C. B. Salter, of Guy's Hospital.

MEDICAL VACANCIES.

The following Vacancies are announced:

BELGRAVE HOSPITAL FOR CHILDREN, 79, Gloucester Street, S.W.—Surgeon to Out-patients. Applications by July 18th to the Honorary Secretary.

BRISTOL GENERAL HOSPITAL. Assistant Surgeon. Applications by July 20th to the Secretary.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road.—House-Surgeon. Board and lodging. Applications by July 26th to the Secretary.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road.—Three Clinical Assistants. Fee, £5 5s. for three months. Applications by July 14th to the Secretary.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Assistant-Physician. Applications by July 12th to the Secretary.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Pathologist. Salary, 100 guineas per annum. Applications by July 12th to the Secretary.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Resident Clinical Assistant. Applications by July 12th to the Secretary.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park.—Assistant Physician. Second Vacancy. Applications by July 27th to the Secretary, 24, Finsbury Circus, E.C.

CUMBERLAND INFIRMARY, Carlisle.—House-Surgeon. Salary, £70 per annum and pupils' fee, with board, lodging, and washing. Applications by July 24th to the Secretary.

CUMBERLAND INFIRMARY, Carlisle.—Assistant House-Surgeon. Salary, £40 per annum and pupils' fee, with board, lodging, and washing. Applications by July 24th to the Secretary.

DERBYSHIRE GENERAL INFIRMARY.—Resident Assistant House-Surgeon, (for six months). Board, etc., with bonus of £10. Applications by July 7th to the House-Surgeon.

EAST SUFFOLK AND IPSWICH HOSPITAL.—House-Surgeon. Salary, £80 per annum, with board, lodging, etc. Applications by July 10th to the Secretary.

GENERAL INFIRMARY, Northampton.—Assistant House-Surgeon. Salary £80 per annum, with board and residence. Applications by July 9th to the Secretary.

GLASGOW HOSPITAL FOR SICK CHILDREN.—Assistant House-Surgeon. Applications to M. P. Fraser, Esq., 91, West Regent Street, Glasgow.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician. Applications by July 14th to the Secretary.

HOSPITAL FOR WOMEN, Soho Square, W.C.—House-Physician. Salary, £75 per annum, with board, etc. Applications by July 12th to the Secretary.

KENT COUNTY LUNATIC ASYLUM, Barming Heath.—Third Assistant Medical Officer. Salary, £120 per annum, with furnished apartments, etc. Applications by July 7th to F. R. Howlett, Esq., 9, King Street, Maidstone.

KILLYBEGS AND TRIBANE.—Admiralty Surgeon and Agent for these Coastguards Stations. Salary to include attendance, supply of medicines, and travelling, £50 per annum. Applications to the Admiral Superintendent of Naval Reserves, Spring Gardens, London, S.W.

MIDDLESEX HOSPITAL, W.—Physician for Skin Diseases. Applications by July 16th to the Secretary Superintendent.

NORTH STAFFORDSHIRE INFIRMARY.—Assistant House-Surgeon (for six months). Board, apartments, etc. Applications to the Secretary.

PARISH OF EDDRACHILLIS, Sutherland.—Salary, £150 per annum, with free house. Applications by July 15th to Mr. A. R. Cowie, Inspector, Scourie by Larg, N.B.

PARISH OF KIRKMABRECK, Kirkcudbrightshire.—Medical Officer for the Poor. Salary, £35 per annum. Applications by July 14th to Mr. J. Carson, Inspector of Poor, Creetown, N.B.

PARISH OF KIRKMAIDEN.—Medical Officer. Salary, £65 per annum. Applications by July 12th to Quintin Cochran, Port Logan, Stranraer, N.B.

PARISH OF ST. GEORGE IN THE EAST.—Medical Officer for Infirmary and Workhouse. Salary, £300, with unfurnished house, etc. Applications by July 16th to J. R. Browne, Esq., Clerks Offices, Princes Street, Old Gravel Lane, E.

PLYMOUTH PUBLIC DISPENSARY.—Physician's Assistant. Salary, £60 per annum. Applications by July 17th to the Honorary Secretary, W. H. Prance, Esq., 7, Athenæum Terrace, Plymouth.

QUEEN'S HOSPITAL, Birmingham.—Resident Physician. Salary, £50 per annum, with board, lodging, etc. Applications by July 26th to the Secretary.

ST. MARY'S HOSPITAL, Paddington.—Surgical Registrar. Salary, £50 per annum. Applications by July 13th to the Secretary.

UNIVERSITY COLLEGE HOSPITAL.—Surgical Registrar. Applications by July 11th to the Secretary.

WORCESTER GENERAL INFIRMARY.—House-Surgeon. Salary, £100 per annum, board and residence. Applications by July 9th to the Secretary, Worcester Chamber, Pierpoint Street, Worcester.

MEDICAL APPOINTMENTS.

COLLINS, W. J., M.D., F.R.C.S., appointed Surgeon to the London Temperance Hospital, Hampstead Road, *vice* A. P. Gould, M.S., F.R.C.S., resigned.

DANIELL, E. P., M.R.C.S.Eng., L.R.C.P.Lond., appointed Resident Assistant to the Wolverhampton and Staffordshire General Hospital, *vice* C. L. S. James, M.R.C.S.Eng., L.R.C.P.Lond., resigned.

DE CHAZAL, E. L., appointed Junior House-Surgeon to the North Eastern Hospital for Children, Hackney Road, *vice* A. G. Smith, M.B.Aberdeen, C.M., resigned.

GARROD, A. E., M.D., M.R.C.P., appointed Assistant Physician to the West London Hospital, *vice* W. B. Herringham, M.B., M.R.C.P.Lond., resigned.

HARE, A. W., M.B., C.M.Edin., F.R.C.S., appointed Professor of Surgery to the Owens College, Manchester, *vice* Professor Lund, resigned.

HERRINGHAM, W. B., M.B., M.R.C.P.Lond., appointed Physician to the West London Hospital, *vice* G. G. Rogers, M.D., M.R.C.P.Lond., resigned.

HOGG, A. W., L.R.C.P.Ed., L.F.P.S.Glas., appointed House-Surgeon to the Brighton, Hove, and Preston Dispensary, *vice* A. E. Larking, M.B.Durh., M.R.C.S.Eng., resigned.

MAKINS, G. H., L.R.C.P., F.R.C.S., appointed Surgeon to In-patients, Evelina Hospital for Sick Children, *vice* C. J. Symonds, M.D., M.B., F.R.C.S., resigned.

MAUDSLEY, Henry, M.D.Lond., M.R.C.P.Lond, appointed Honorary Pathologist to the Alfred Hospital, Melbourne, Victoria, *vice* Dr. Springthorpe, resigned.

MOORE, J. W., L.R.C.P., L.R.C.S., L.M.Ed., appointed Medical Officer of Health to the Newton Heath (Manchester) District, *vice* R. G. Gornall, M.R.C.S., whose term of office has expired.

RHODES, H., M.B.Glas., C.M., appointed Second Assistant House-Surgeon to the Sheffield General Infirmary.

RICHARDSON, W. G., M.B., B.Ch.Durh., M.R.C.S.Eng., appointed House-Surgeon to the Sheffield General Infirmary, *vice* C. F. Coombe, L.R.C.P.Ed., M.R.C.S.Eng., resigned.

ROBINSON, T., M.R.C.S., L.R.C.P.Lond., appointed Assistant House-Surgeon to the Sheffield General Infirmary, *vice* P. Priestley, resigned.

TARGETT, J. H., M.B.Lond., B.S., F.R.C.S., appointed Surgeon to Out-Patients, Evelina Hospital for Sick Children, *vice* G. H. Makins, L.R.C.P., F.R.C.S.

THOMPSON, J. E., M.R.C.S.Eng., M.B.Lond., appointed Resident Medical Officer to the Guest Hospital, Dudley, *vice* A. C. Keep, M.D.Edin., M.R.C.S.Eng., resigned.

THOMSON, Dr. M. Barclay, elected Honorary Physician to the Alfred Hospital, Melbourne, Victoria, *vice* Dr. Rothwell Adam, resigned.

PHYSICAL EDUCATION OF THE BLIND.—Dr. Campbell has done good work in developing a sound system of education at the Royal Normal College for the Blind. A festival meeting was held at the College on Saturday, June 23rd, to celebrate the opening of the Fawcett memorial. Mr. A. J. Mundella, M.P., Sir Lyon Playfair, M.P., Dr. Armitage, and others, took part in the proceedings. A part of the National Fawcett Fund has been given to the College, and this sum, with additions raised by private subscription, has been devoted to enlarging the playgrounds, and other means of physical exercise for the students. To illustrate the working of the College, classes were held in the garden, and some music was performed in the Hall, giving practical illustration of the manner in which a blind teacher can instruct even sighted children in singing. The gymnasium, the swimming bath, the cycling track, and the boating lake were also shown to the visitors. The blind may possess a keen sense of enjoyment, and are capable of pursuing physical exercises with great zest. As principal of the College, Dr. Campbell's success has been most satisfactory, and the system of training that he has evolved is a model of what such work ought to be. Physical education is not looked upon here as a mere recreation for the blind; it is a training precedent to all success, because, without the courage and the confidence gained in the playground, a good physique and mental training are impossible. The College is now educating 160 students, but it effects more than that for the public good in training a large number of teachers, who go thence to all parts of the world. A Royal Commission is now inquiring as to the educational needs of the blind, and the best means of providing them. We hope that the needs for physical training of the blind, as well as mental and technical education, will not be overlooked. Sir Lyon Playfair, speaking at the College, remarked "that one of the characteristics of the intelligent blind was what was known as intro-reception, a faculty which enabled them to so realise and appreciate descriptions of objects that they were able to believe that they saw them. This faculty, by cultivation and training, was possible of great improvement, until it became almost a substitute for sight. In order to train and develop it, however, the physical as well as the mental powers had to be cultivated, and the importance of that would be realised from the fact that the physical strength of the blind was about a quarter less than that of seeing persons. In the unintelligent blind an apathy, almost amounting to despair, was frequently to be seen; but with the intelligent blind, who had been enabled to gain this faculty of intro-reception, which amounted almost to another sense, that apathy and despair was never witnessed."

GUY'S HOSPITAL.—The distribution of medals and prizes to the students attending Guy's Hospital, was made on Wednesday afternoon by Mr. H. Cosmo Bonsor, M.P. The proceedings were opened by the reading of the annual report by the Dean of the school. He mentioned among other details, that during the past year two newly-adapted physiological laboratories and a new room for pathological research had been added to the building. The students' club, which consisted of dining, smoking, and reading rooms and a gymnasium, was now completed and in full working order. For a proposed residential college, to be attached to the school, a liberal offer of a site has been made by the governors, and £20,000 already subscribed. A memorial tablet has been erected to the late Dr. Moxon, and a medal and scholarship instituted in memory of the late Dr. Golding Bird. The number of students at present attending the school is upwards of 400. Mr. Bonsor then proceeded to distribute the awards gained by the successful students. Mr. Durham, as president of the Guy's Hospital Cricket Club, handed to the treasurer the United Hospitals Challenge Cup, which, having been won three years in succession, now remains the property of Guy's Hospital. The wards, museums, school buildings, chapel, and students' club were subsequently open to the visitors, and the band of the Scots Guards performed a selection of music in the grounds.

THE FRENCH CONGRESS ON TUBERCULOSIS.—M. Chauveau, the President of the Congress for the Study of Tuberculosis, which will assemble in Paris on July 25th, requests us to remind the members of the British Medical Association that any doctor of medicine may become a member of the Congress by communicating his intention to be present to M. G. Masson, 120, Boulevard Saint Germain, and enclosing a fee of ten francs. Discussions have been arranged to be held on the following subjects: I. The Use of the Flesh and Milk of Animals Suffering from Tuberculosis; Its Dangers and Their Prevention. Under this head information is specially requested as to the identity of the disease in man and animals; instances of the communication of the disease from animals to man; statistics as to the frequency with which flesh- or milk-yielding animals suffer from the disease; and the means, radical or palliative, for preventing its spread in this way will also be discussed. II. The Variations in the Susceptibility of the Various Races of Man and Various Species of Animals. III. The Mode by which the Tubercular Virus Enters the Body. IV. The Early Diagnosis of the Disease in Man and Animals.

AMBULANCE INSTRUCTION FOR RAILWAY MEN.—The Mayor of West Ham recently presented certificates and badges of the St. John Ambulance Association to fifty-three *employés* of the Great Eastern Railway at Stratford. During the winter two courses of instruction were given at Stratford by Dr. Louis Parkes, medical officer of the Great Eastern Railway Accident Fund, special attention being given to practical bandaging work. Over 4,000 men are employed by the railway company at their Stratford Locomotive Works, and the advantages of having certificated men amongst this number to render first aid in cases of accident are highly appreciated, both by the railway authorities and by the men themselves. It is very desirable that a proper ambulance corps should be formed in these large works.

AMAUROSIS CAUSED BY A CARIOUS TOOTH.—In the *Revista Medico-farmaceutica de Aragon*, Dr. Riva reports the case of a woman, aged 30, who suffered from toothache, starting from the second upper molar of the left side; the pain spread over the face, and after a week blindness of the left eye came on. Abscess of the antrum was suspected, and the tooth was extracted, a small quantity of pus escaping at the same time. In one of the fangs a tiny chip of wood was found, piercing the centre of the tooth perpendicularly. It appeared that the patient was in the habit of picking her teeth with small pieces of wood. A few days after the removal of the offending tooth she entirely recovered her sight.

CHARING CROSS HOSPITAL.—The distribution of prizes, medals, and certificates to the students attending the medical school of this hospital, took place on Friday, June 29th; the master of Trinity College, Cambridge (Dr. Butler), being in the chair. The report, read by the Dean of the school, Dr. Bruce, stated that the number of students now attending the school was 225. Two open scholarships had been raised in amount, and a third scholarship, open to graduates of the Universities of Oxford and Cambridge, instituted. The chairman then briefly addressed the students, and congratulated them on the satisfactory report which had been read by Dr. Bruce, and on the number of prizes obtained.

AMAUROSIS FOLLOWING SUNSTROKE.—An interesting case in which vision was permanently affected by sunstroke is recorded in the *Medical Record* of New York, by Dr. Tuttle, of Jefferson, Ohio, who is himself the sufferer. He became insensible from sunstroke in June, 1863, and was quite blind until the third day, when he dimly perceived the flame of a candle for a short time; the next day seemed like pale moonlight, and for months after the brightest day was mere twilight, and the fields of vision were so contracted that he seemed to himself to be looking through two gimlet holes. Vision is still very imperfect, the fields remain much contracted, and there is complete night blindness.

THE Mary Wardell Convalescent Home, near Stanmore Common, which has been undergoing whitewashing and repainting, will be open to inspection of persons interested on July 14th, at 4.30 P.M., when a meeting will be held, at which Sir J. Risdon Bennett will preside. The nearest stations are Edgware and Elstree.

PRIVAT-DOCENT DR. FR. LÖFFLER has been appointed to the Ordinary Professorship of Hygiene in the Medical Faculty of Greifswald.

PROFESSOR EDWARD V. HOFMANN has been appointed Dean of the Vienna Medical Faculty for the year 1888-89.

PROFESSOR R. VIRCHOW has received the gold "Boerhaave Medal" from the Dutch Society of Sciences at Haarlem.

DR. F. W. HAGER, former Professor of Psychical Diseases in the University of Erlangen, recently died there at the age of seventy-four.

DIARY FOR NEXT WEEK.

WEDNESDAY.

COLLEGE OF STATE MEDICINE, Burlington House, 4 P.M.—Sir J. Crichton Browne, M.D., LL.D.: Responsibility and Disease.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

RUXTON.—At 7, Albert Terrace, Blackpool, on June 17th, the wife of John Ruxton, M.D., late 17th Regiment and Medical Staff, of a daughter.

SIMON.—On June 27th, at 26, Clarendon Road, Edgbaston, the wife of Robert M. Simon, M.R.C.P., M.D.Camb., a daughter.

MARRIAGE.

O'GRADY—GOGGIN.—On June 27th, at St. Mary's, Rufford, by the father of the bride, assisted by the Rev. W. H. Marsden, M.A., of St. Luke's, Southport, and the Rev. E. E. Wood, B.D., William Fitzwilliam O'Grady, L.R.C.P.Lond., to Blanch Kathleen, youngest daughter of the Rev. J. F. Goggin, M.A., J.P.

DEATHS.

FOTHERGILL.—On June 28th, at his residence, 3, Henrietta Street, Cavendish Square, London, John Milner Fothergill, M.D., aged 47, son of the late Dr. Fothergill, of Morland, Westmorland.

MORRIS.—At Gordon Lodge, Blackheath, the residence of her son, Clarke R. Morris, M.R.C.S., to the inexpressible grief of her sorrowing husband and children, Annie Elizabeth *nee* Bethune, wife of Edwin Morris, M.D., F.R.C.S., Spalding, Lincolnshire, aged 70.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).;

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's —1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY .....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

Home for an Unmanageable Girl.

A Distressed Parent would be glad to hear of any institution—or, better still, of some respectable family in the country—which would take charge of a girl, aged 10, who is not deficient in intelligence, but who has been sent home from school as unmanageable, and who has been pronounced by two eminent alienists to be utterly wanting in moral sense. It is hoped that a rough out-door life, far from home associations, would be beneficial. The terms must be as low as possible.

ANSWERS.

B.—We regret to be unable to offer any suggestion. Perhaps application to the agents general in London for Queensland or Tasmania might furnish information as to likely places in which to settle, or an appointment might be sought on some of the lines of steamers running to suitable ports. The Colonial Office will supply a document setting forth the conditions under which the colonial medical services can be entered.

NOTES, LETTERS, ETC.

Self-Help for Hospitals.

A Member who Suffers from too much Hospitalism writes: "Miserable Dictu" is not logical. If the medical men attached to private dispensaries are deserving of the charge of "gross ignorance, incapacity, and carelessness," that is a reason why the medical boards which licensed them should either be suppressed, or compelled to properly test their knowledge, and not give qualifications to grossly ignorant and incapable men; or, if the men are not qualified, then they should be prevented from acting as medical men, no matter whether they call their place of business dispensary, surgery, or club. Of course, it would be a very good thing if all small fees could be done away with, but how is a trades unionism to be established that will prevent any medical men from charging a less fee than "2s. 6d. for advice and medicine, with certificates, etc., thrown in?" And what is to become of those who cannot pay this small fee? Are they to go to swell the out-patient paupers of the hospitals, or are they to have a bill which they will never pay? As to "Miserable Dictu's" reasons for suppressing private dispensaries—namely, first a case of diphtheria in a room "destitute of the barest necessaries," and inefficient nursing, one would think he had a bad chance of getting his half-crown fee in such a case. And, as to his third reason—the statement about the tumour containing "blood and matter"—if he has had any experience among this class of patient, he must know that it is very unwise to accept the patient's statement as to what was told her, as these people put their own construction on their ailments, and father their statements on the doctor. As to the instances of mistaken diagnosis being a reason for suppressing these dispensaries, I might give cases where leading hospital men have made as gross mistakes as any quoted. I have seen a carotid aneurysm poulticed, and have been called in the evening to a woman who was miscarrying at three months who had been to hospital in the morning, and had a sound introduced and a ring pessary fitted, she being told she had a displacement. And in what fever hospital could the medical officers not tell of dozens of cases of pneumonia, delirium tremens, and meningitis that are sent in as typhoid or typhus?

I know it is not fashionable to champion private dispensaries, but there are quite as many well qualified men attached to them as there are men with only L.S.A., or some such insufficient qualification, these men, being compelled, by the hospitals attending gratuitously a fourth of the population, to adopt these small fees, and thus make a living, no matter how poor, so long as it keeps them out of the bankruptcy courts.

The hospitals must either abandon their out-patient department, except to accidents and urgent cases, or the medical schools should shut up for at least five years, and thus diminish the number of medical men who are cutting each other's throats, and often doing that in a very ungentlemanly manner.

An Appeal.

We desire again to call attention to the appeal printed on June 23rd, p. 1368, to enable a medical man of good position, who has been reduced to destitution through no fault of his own, to buy a small practice and make a living for himself and wife. Contributions may be sent to Dr. Farquharson, M.P., Migvie Lodge, Porchester Gardens, W., or to Mr. Marmaduke Sheild, F.R.C.S., 20, Stratford Place. Subscriptions have been received from Sir William Jenner, Sir James Paget, Sir Joseph Lister, Sir Andrew Clark, Sir Prescott Hewitt, Sir Spencer Wells, and others. Further subscriptions are still needed. Since the last insertion of this appeal, the following subscriptions have been received:

	£	s.	d.		£	s.	d.
Dr. Whittington Lowe	0	5	0	Dr. Oldham	1	0	0
Dr. Marcus Allen	1	0	0	Dr. Withers Moore	1	0	0
Dr. Bluett	5	5	0	Dr. Willoughby Furner ...	0	10	0
Dr. Richard Dill...	1	1	0	E. J. Furner, Esq.	1	0	0
Dr. Hodgson	1	0	0				

Irish Diplomas and English Institutions.

Unionist writes: I think before the Irish Corporations made the noise they are doing, they should look at home. If they did so they would see that the Licentiates of Dublin College of Surgeons, are alone entitled to hold the post of surgeon to an Irish county infirmary. It is not so many years ago that an M.R.C.S.Eng. was removed from the surgeoncy of the Co. Kerry Infirmary, at the suit of an L.R.C.S.I.

COMMUNICATIONS, LETTERS, etc., have been received from:

Dr. T. G. Nasmyth, Cowdenbeath; Dr. J. Anderson, Ulverston; Mr. A. G. Klugh, London; Rev. R. Dunn, Saighton; Mr. Edwards, London; Dr. H. C. Rose, London; Mr. T. J. Verrall, Brighton; Dr. Louis Parkes, London; Sir. W. Dalby, London; Mr. F. J. Pink, London; Mr. G. Rendle, London; The Dean of the Dental Hospital, London; Mr. S. B. Provis, London; Mr. Molony, Porlock; Mr. C. S. Loch, London: Mr. F. Liedder, London; Kaleja; Dr. Henry Harris, Trengweath; Mr. C. H. Byers, London; Dr. Bacot, Blandford; Mr. W. T. Brooks, Oxford; Mr. F. L. Carter, Birr, King's County; Surgeon-Major Shirley Deakin, Mian Mir, Punjab; Lieutenant James Matthews, Carnforth; Messrs. R. and M. Zimmerman, London; Dr. Charles Parsons, Dover; Messrs. Winchell and Crampton, New Haven; Rev. W. H. Hamilton, Manchester; Mr. J. E. Walker, London; Mr. W. B. Cosens, Taunton; Dr. A. Duke, Dublin; Dr. W. J. Naismith, Ayr; Mr. S. O. Eades, Ipswich; Office of the Sanitary Commissioner, Punjab; Mr. W. F. Murray, Forfar; Dr. J. Holmes Joy, Tamworth; Dr. J. Hamilton, London; Our Berlin Correspondent; Mr. H. Cracknell, London; Dr. A. D. Sinclair, Boston, Massachusetts; Mr. Spicer, London; Dr. H. C. Marsh, Rochdale; Mr. J. Anderson, Barrow-in-Furness; Dr. Isambard Owen, London; Mr. F. W. Kirkham, Downham; J. H. Wilson, M.B., Oldham; Messrs. Burgoyne, Burbidges and Co., London; Mr. T. L. K. Davies, Llanduduo; Our Liverpool Correspondent; Dr. A. T. Myers, London; Mr. T. H. Williams, Oswestry; Mr. W. Dermott, Bures; Mr. Neech, Oswestry; Mr. G. P. Atkinson, Pontefract; Dr. Newsholme, Brighton; Mr. C. M. Richmond, London; Our Newcastle Correspondent; Mr. C. J. Wright, Leeds; Our Manchester Correspondent; Messrs. J. Berger, Spence and Co., London; Mr. A. Woodforde, Plaistow: Dr. G. W. Richards, Stourbridge; Mr. A. L. Hummel, Philadelphia; Dr. G. S. Woodhead, Edinburgh; Mr. C. F. Fox, Cardiff; Dr. F. H. Spencer, Exeter; Dr. R. Saundby, Birmingham; Dr. W. M. Jones, Wath-upon-Dearne; Mr. F. W. Collinson, Preston; Mr. S. Paget, London; Mr. J. Rorie, Plymouth; Dr. Rodman, London; Our Glasgow Correspondent; Sanitary Wood Wool Company, London; Dr. T. Lauder Brunton, London; Mr. R. V. Somers Smith, London; Dr. Urquhart, Perth; Mr. Plowman, London; Mr. Humphry, London; Mr. W. R. H. Stewart, London; Dr. Tatham, Salford; Dr. Edwardes, London; Mr. A. Risdon, Wolverhampton; M. J. Nolan, M.B., Limerick; Dr. Walter Pearce, London; Secretary of the Sanitary Institute, London; Dr. Kerr, London; Mr. W. E. Green, Sandown; Mr. Wheeler, Bexley; Mr. G. M. A. Rudkin, Teignmouth; Mr. E. H. Armitage, New Hampton; Dr. C. R. Illingworth, Accrington; Mr. A. Duncan, Manchester; Dr. Gubb, London; Mr. H. J. Thorp, London; Secretary of Guy's Hospital, London; Mr. T. Robinson, Burton-on-Trent; Mr. H. H. W. Button, London; Messrs. Burroughs, Wellcome and Co., London; Dr. H. Palin, Wrexham; Dr. J. H. Jones, Manchester; Mr. A. Schofield, London; Mr. W. Jones Morris, Portmadoc; Dr. J. McGregor Robertson, Glasgow; Dr. Robert Barnes, London; Mr. J. F. Craig, Birmingham; Mr. W. F. Collins, London; Our Italian Correspondent; Mr. W. Robertson, Newcastle-on-Tyne; Mr. F. T. Moles, Manchester; Mr. J. T. Thomas, Camborne; Mr. J. Morton, Eastbourne; Justice; Mr. J. Smith, London; Our Oxford Correspondent; Mr. Shirley Murphy, London; Mr. W. A. Dickson, Sandymount; Dr. Mickle, London; Miss Mary Wardell, London; Dr. Carline, Lincoln; Dr. Spencer, Wonford; Mr. A. Hulme, Birmingham; Mr. T. Laffan, Cashel; Our Vienna Correspondent; Dr. Sonsino, Pisa, etc.

BOOKS, ETC., RECEIVED.

The Movements of Respiration. By Max Marchwald, M.D., with an Introductory Note by John G. M'Kendrick, M.D., LL.D., F.R.S. London: Blackie and Son. 1888.

A Treatise on Dislocations. By L. A. Stimson, B.A., M.D. London: J. and A. Churchill. 1888.

A Practical Treatise on Diseases of the Skin. By James Nevins Hyde, A.M., M.D. London: J. and A. Churchill. 1888.

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REMARKS
ON
THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE BRAIN.

Delivered at a Meeting of the Worcestershire and Herefordshire, Bath and Bristol, and Gloucestershire Branches.

By J. HUGHLINGS JACKSON M.D., F.R.C.P., LL.D., F.R.S.,
Physician to the Hospital for Epilepsy and Paralysis; and Physician to the London Hospital.

It is a very great honour to be asked by the President of this important Branch of our great Medical Association to deliver an address. It is a particularly pleasant thing to deliver it at the request of my friend, Dr. Currie. The only other preliminary is to ask you to believe that, poor as the address may be, I have taken very great pains in the preparation of it.

For some years I have urged, and I hope to have opportunities of urging it again and again, that for the scientific study of nervous (and of all other) diseases, we should investigate and classify on the principle of Evolution, that we should consider them as reversals of evolution, in other words, as dissolutions, a term Spencer has employed for at least twenty years as the antithesis of evolution. But I have urged equally strongly that we should not follow this plan for direct practical purposes, but that we should for these purposes have empirical arrangements, arrangements of cases by Type. (In no part of this address do I use the term scientific as implying superiority, nor do I ever use the term empirical with its conventional evil connotations.) I have particular reasons for speaking of the two different classifications, the empirical being properly merely an arrangement.

I have been supposed to put forward the principle of evolution as of value in the classification of cases for practical purposes. I have been asked to go into an asylum and show how the cases of patients in it could be classified on that principle. But what I really said was "the classification [on the principle of evolution], valuable as a means of extending our knowledge would be useless, or of little use, for direct practical purposes" (Syphilitic Affections of the Nervous System, *Journal of Mental Science*, July, 1875). I wish to urge both methods, and can do so without inconsistency. A man as a biologist classifies plants one way in his botanical garden for scientific purposes, but he arranges them as everybody else does in his common garden, on the plan most convenient for practical purposes. Moxon said long ago (Introductory Address, Guy's Hospital, 1868-9): "You must know diseases, not as the zoologist knows his species, and his genera, and his orders, by descriptions of comparative characters, but as the hunter knows his lions and tigers." I thoroughly agree with this in so far that we should try to know diseases as the hunter knows his lions and tigers, but I think that we should endeavour to know them also as the zoologist knows his species, etc.

Whilst as a physician I study this and that particular disease empirically, as it approaches or reaches a clinical type, I keep, as an evolutionist, a line of thought on the comparative study, on the homology of diseases. For example, I study miners' nystagmus, writers' cramp, and dancers' cramp, and all other "professional or occupation spasms," separately and quite empirically; and yet, without in any way overlooking their vast differences, I also think of each of them as a member of one homologous series, as being a disease (having the same pathology) of a different part of the same system, of a different motor centre on the lowest level of evolution. (*Vide infra.*) Whilst I should, for medical care of patients, for their safety and their treatment, arrange cases of insanity in any good empirical way I could find, I should also endeavour to classify them as they are different degrees of dissolution of different regions of the highest level of evolution (highest cerebral centres), and should seek their homologues in diseases of the lower levels. Such a comparative study of diseases, that on the wide basis supplied to us by evolution, is of great indirect value for practical purposes. There is but one process of evolution, just as there is but one law of gravitation. Evolution, popularly supposed to apply only to biology, applies to astronomy, biology, psychology (or rather, to anatomy and physiology as corresponding to psychology), and to sociology; or, to use Huxley's words, to the "whole physical cosmos." It would then be very marvellous if it did not apply to the whole nervous system and all its diseases. I believe that it simplifies our empirical studies, and gives harmony to what, without it, are crude heaps of facts. Let no one fear that the study of diseases as dissolutions will take him out of the practical field. Empirical work must come first: it is necessary for daily practice, it is forced on us. The scientific, the comparative study comes later. Before we can make rational generalisations we must have made empirical observations and generalisations. On leaving this part of my subject I give a quotation from Spencer (*Data of Ethics*, p. 61): "Every science begins by accumulating observations, and presently generalises these empirically; but only when it reaches the stage at which its empirical generalisations are included in a rational generalisation does it become developed science." I submit that on the principle of evolution we have the widest basis for rational generalisations of diseases. I submit that the same principles apply to the symptomatology of a case of paralysis of an external rectus, the simplest, and to insanity, the most complex of all nervous diseases; both are flaws, but each in a very different part of an evolutionary whole. I hope that in time we shall be able to apply the doctrine of evolution for direct practical purposes. I shall now and then try to show how our empirical studies may be made less empirical by availing ourselves of this doctrine.

I now take up the subject of the study of diseases by Type, urging once more that, for practical purposes, we should know diseases "as the hunter knows his lions and tigers." An illustration is easily given, and I shall, I hope, be excused for giving one that does not come under the title of my address. When anyone speaks of a case as one of tabes "complicated" with ophthalmoplegia externa or with glycosuria, he is tacitly asserting that there is a type, tabes, one with a complication. On the clinical nomenclature of the set of diseases of which tabes is one, and on the empirical arrangement it implies, I have some criticisms to make. Our knowledge of these diseases by "cases" is becoming so minute and extensive that our present nomenclature and our empirical arrangements by type almost break down. We have types, and then these types become so complicated that they almost cease to be typical. Beginning with locomotor ataxy, we have at length tabes with an almost universal symptomatology—pupillary affections of several kinds, optic atrophy, gastric crises, bladder troubles, glycosuria, lightning pains, etc. A case of tabes may, indeed, be looked on as a series of different diseases, provisionally for the thorough investigation of each, before we consider them together as *a* disease owing to the same kind of morbid changes in different parts of the lowest level of evolution of one patient.

Nowadays ataxy is not considered to be a necessary symptom of tabes; when present, it is a subordinate, although a very striking one; it is a less serious trouble than tabetic amaurosis, and is far less serious to life than the bladder disorder in this disease. Frequently cases of what are called tabes are reported as being complicated with symptoms from other types, progressive muscular atrophy, lateral sclerosis, etc. There is what Gowers well calls "ataxic paraplegia." We have under the name of Friedreich's disease a series of cases which at one extreme merges into tabes, and at the other into disseminated sclerosis.[1] These remarks show that the set of diseases spoken of are studied by type; one hears such expressions as "a typical case of tabes," this expression implying that there are also atypical cases (subtypical and supertypical). They show, too, that the types are arbitrary. Some may say that they dislike arbitrary divisions; but when we cannot distinguish, we must, for purposes of practice, divide; even in purest science arbitrary definitions are necessary; the mathematician's line has no breadth.

Fully believing that we must continue to study diseases by type, I wish some one with great authority would endeavour to define our types of the "progressive" diseases involving the spinal system more narrowly. I submit a plan which will, I hope, help us to a less empirical arrangement of some of these cases. Indeed, I think we may, aided by the doctrine of evolution, make a beginning of a rational generalisation of them which will serve us in practical ways.

Were I writing a book on diseases of the nervous system, I should not have in it distinct sections on diseases of the spinal cord, medulla oblongata, and pons Varolii, but one section including diseases of all these parts, the three morphological divi-

[1] See a valuable paper by Dr. Judson Bury, *Brain*, July, 1886.

sions being considered together as making up one anatomico-physiological unity. This unity I have called the lowest level of evolution of the central nervous system; it is, I think, pretty much what Marshall Hall named the true spinal system. It is a division of the nervous system complete in itself, in the sense that it represents all parts of the body. It is to a large extent complete by itself; the organic centres on this level are considerably, if not in some cases quite, independent of the higher levels.[2]

A case of bulbar paralysis "complicated" with ordinary progressive muscular atrophy is, so to put it, half in and half out of a section on diseases of the spinal cord; it is well within one on diseases of the lowest level, and, considered as a disease of several motor centres of the same series of this level, is not "complicated." Whilst the anatomist speaks of segments (sensori-motor), we, as medical men, must speak of centres motory and sensory of this level, because, for example, disease may "attack" the motor elements alone of segments. Taking the spinal anterior horns and their higher homologues (nuclei of motor cranial nerves) as making up one homologous series of lowest motor centres all along the lowest level, we have an homologous series—I do not say as yet a complete one—of progressive muscular atrophies, from ophthalmoplegia externa downwards, each owing to atrophy of cells of different lowest motor centres.[3] (I have already spoken of another homologous series of "lowest level diseases," that is, different "professional spasms.")

Some diseases are spoken of as diseases of the spinal cord when their symptomatology is of far wider origin. Tabes, often enough with a symptomatology from morbid pupillary affection to bladder trouble, is not a disease of the spinal cord only, but a disease of many different parts of the whole level. Taking many cases, we may say without much exaggeration that this clinical entity, tabes, has a universal symptomatology. Further, tabes, which pays no respect to the morphological divisions, in most cases "keeps to" the level and to nerves given off by its centres; although here again we have sometimes "complications" with symptoms of general paralysis (disease of the highest level).

The plan I suggest is different from a mere grouping of the three morphological divisions. Thus the deep part of the lateral column *in the cord* is just as much *out of the level* (extrinsic upwards) as are the motor nerve-fibres from the anterior horns going on to the anterior roots (extrinsic downwards); so that lateral sclerosis—I speak of it as far as it is limited to the deep part of the lateral column—whilst it is a "disease of the cord," is not a disease of the lowest level of all, but of part of a strand of fibres connecting some lowest motor centres and all middle motor centres (so-called "motor region" of the cortex). In the same way of speaking hemiplegia from lesion of the internal capsule, since it is also owing to (a different kind of) lesion of the pyramidal tract, is not strictly a cerebral disease, but is one of a continuation of the very same strand, morbidly affected in lateral sclerosis, of a plexus inter-connecting all lowest and all middle motor centres. I will speak of such fibres, although integral parts of the cord, medulla, and pons, as being—if you will pardon the awkwardness of the expression—"extrinsic fibres of the level" (not really of it, but connected with it). In the same way fibres *in the cord* during their long course from the great vasomotor centre and from pupillary centres, are *out of the level* (extrinsic downwards) as certainly as their continuations after their emergence from the cord are. The really intrinsic fibres, those properly of the level itself, are fibres inter-conecting its several centres, across and up and down.

Again, if we limit attention to one of the three morphological divisions we cannot work our symptomatology of some of the diseases of that one division. I give an example: complete transverse lesion of the lower cervical cord, say on fracture dislocation of the spine. This lesion pays no respect whatever to evolutionary distinctions; the symptoms are many and various, and careful analysis is required, even disregarding evolution. There is cutting across of intrinsic elements of the level, and of elements of it which are extrinsic upwards and downwards. Some symptoms, owing to lesion of the intrinsic elements of the level, demand for their explanation a very particular consideration of activities of healthy parts above the cord, as well as of the part of the cord below the lesion; we have to consider the very local lesion of the cord as a flaw in one small part of the whole level. Let us speak only of the symptom constipation. We must first consider normal defæcation, or rather the normal state of the nervous arrangements on the lowest level, for that operation. No doubt the higher levels have influence on these nervous arrangements of the lowest level as in preventing or delaying defæcation, and also in assisting in the operation, partly by putting in action abdominal and other accessory muscles; this implies that in the transverse lesion spoken of there is cutting across of (inhibitory and motor) fibres, which are extrinsic upwards. I here, as my object is only to illustrate one thing, confine attention to elements of nervous arrangements concerned in defæcation which are undoubtedly intrinsic parts of the level, and to the visceral parts of the nervous arrangements for that operation. These elements, in three morphological divisions, are all within the level, and are found in three regions of it (sacral, dorsal, and bulbar). We shall neglect Stilling's (sacral nucleus) which is for the hind gut (and for other parts we are not concerned with) in this illustration. There is a motor (viscero-motor) centre in the medulla, and a controlling (viscero-inhibitory) centre in the dorsal region of the cord. From the former pass polio-enteric fibres by way of the vagus, to make the intestines contract, and from the latter leucenteric fibres to keep them dilated; both sets of fibres are fibres of the level extrinsic downwards—both in their short course before their emergence from the medulla and cord and afterwards. But we must suppose that there are intrinsic fibres, fibres in and belonging to the level itself, connecting the two centres bulbar and dorsal; by these in quiescence there is amicable antagonism between the bulbar and dorsal centres. When the operation of defæcation is started by some afferent impulse, the medulla centre, we shall suppose, inhibits the inhibitory splanchnic centre by the intrinsic fibres, and acts positively by the extrinsic fibres (in the vagus) on the intestine. Thus there is, positively, forcing, and there is, negatively, yielding. The constipation is, in the case instanced, owing to cutting across of the intrinsic fibres between the bulbar and dorsal centres; there is no longer amicable antagonism; each centre "pursues its private ends;" the inhibitory dorsal centre over-acts and over-antagonises the motor bulbar centre.

The plan suggested—that of studying diseases of the cord and of the other morphological divisions as diseases of the level—cannot be carried out fully, because our anatomico-physiological knowledge of its elements is not as yet complete. But I hope that besides looking on a case of tabes, to take that example, as a type often "complicated," we shall soon regard it as a disease of the level, and that we shall have a rational formula of cases of the class of diseases to which tabes belongs and a nomenclature corresponding—a nomenclature analogous to that in chemistry, one telling us in the name of this or that patient's disease, the several particular elements of the lowest level morbidly affected, and declaring what other symptoms in this or that case are owing to lesion of extrinsic elements of, so to say, the level. I hope we shall have names somewhat after the style of "amyotrophic lateral sclerosis;" I say somewhat, because this name is partly after a symptom, or peripheral condition at least, and partly after a central lesion. In this disease one of the lesions, atrophy of cells of anterior horns, is of intrinsic elements of the level, some of its motor centres; the sclerosis of fibres of the lateral cortex is of part of a plexus between some lowest and the middle motor centres. After this somewhat of a digression I return to studies by type.

The next illustration is by a cerebral disease. Epilepsy (I mean epilepsy proper) is nowadays considered by most medical men to be a disease of the brain. We should have two types of this morbid affection. I find, however, that many medical men have but one type—loss of consciousness with severe universal convulsion. But the great thing in the diagnosis of epilepsy is not the "quantity" of the symptomatology, but paroxysmalness. A sudden transitory loss of consciousness with very little physical manifestation, often enough suffices for the diagnosis of epilepsy. It may be said that there are "all degrees"[4] of epileptic seizures,

[2] I refer here to the organic centres, as they do menial work, regulating digestion, circulation, and respiration. These centres have a large share in emotional manifestations, and are, as so serving, quite subordinate to the highest centres.

[3] As "lowest centre" is used as a proper name to signify evolutionary rank in contrast to centres on the middle and highest levels of evolution, it is correct to speak of more than one lowest centre.

[4] The law of continuity—that things increase and decrease by insensible gradations—is, I think, in many medical matters applied without due thought. I never nowadays use the expression "all degrees" in relation to any cases of nervous disease. Slight fits of epilepsy, *les petits maux*, do not pass into severe fits, *les grands maux*, by there occurring fits of all or even of many, intermediate degrees between slightest and most severe. There are not only simple degrees, but compound degrees of increase and decrease in cases of disease of the nervous system. Increasing evolution is not a process of increase by insensible gradations; there are, as the expression "levels of evolution" implies, occasional "stoppages," which are "re-beginnings." The division into *le petit mal* and *le grand mal*, although I speak of these two degrees in the text as types,

from slightest to severest. My experience is that a patient, long subject to *les petits maux* only, has a very severe, perhaps a severest, fit some one unfortunate day, and afterwards is subject to them, and often to the slight fits too, without having fits of "all degrees." The two things, *les petits maux* and *les grands maux*, differ in compound degree; they deserve to be considered separately as types for diagnostic purposes. That epileptic fits are often very slight and transient is so very old a story that I will speak of one very important variety of *le petit mal* to which very little attention has been paid. I must premise that loss of consciousness is not essential for the diagnosis of a slight fit of epilepsy; there may be defect of consciousness only.

There are cases of very slight epileptic fits in which occurs what is commonly called an "intellectual aura;" I call it "dreamy state." One variety of it is the feeling of "reminiscence" which many healthy people have. Now, if with the "dreamy state" occurring suddenly, there be a "warning" of smell or of taste or a sensation referred to the epigastric region, there is certainly epilepsy; there is always defect of consciousness, but loss of consciousness does not always follow. These seizures are often so slight, so odd, so short, so little incapacitating, and are sometimes, strange to say, positively agreeable, that the patient may disregard them until a severe fit comes to tell him what they mean. Medical men, until the diagnosis is made by a severe, and, so to say, an ordinary fit, may not recognise the epileptic nature of these quasi-trifling seizures, and may put them down to hysteria, indigestion, malaria, etc. The diagnosis of slight fits of epilepsy from accounts given by patients or their friends is often so difficult that we cannot afford to neglect quasi-trifling symptoms. In some of the cases of the sub-variety of epilepsy just remarked on, there is very seldom a warning of taste, but there are not rarely movements and noise of chewing, or tasting, or smacking the lips, or there may be spitting, implying, I submit, discharge of central gustatory elements. If, with defect of consciousness and the "dreamy state," there are such movements, I should conclude confidently for epilepsy.

I submit that such groupings of symptoms are of value as types. As yet there have been but two necropsies in the cases of patients who have been subject to such fits; both cases are very complicated. The only one published, so far as I know, is recorded by Dr. James Anderson (*Brain*, October, 1886) (taste warning and "dreamy state"); another observed by myself and Dr. Beevor (warning of smell and "dreamy state"), has not yet been published; in each, tumour in the temporo-sphenoidal lobe was found. It is by cases like these two, cases of gross local organic disease, and by the investigations of Ferrier, that we shall ultimately be able to consider all "varieties" of epilepsy (using that name just now generically), not only as each is a type, but on a rational basis also, as each points to a "discharging lesion" of this or that part of the cerebral cortex. In most cases of the variety of epilepsy I have been remarking on, there is no evidence of gross local organic disease.

For many diseases each man will have to make his own types; everybody does so consciously or unconsciously, but I submit that we should make them consciously and definitely. Taking for next illustration migraine: I make three types, or rather consider cases of it as they are, (1) typical, (2) sub-typical, and (3) super-typical. (1) A typical case is one in which there is "visual projection," the well-known zigzag or "fortification" outline is most common, with, in most cases, a hemianopic area; then comes headache, most often frontal and one-sided, and lastly vomiting. (2) There are sub-typical cases, visual projections and nothing more, or headache unpreceded by visual projections, and not followed by vomiting. (3) There are super-typical cases deserving very particular consideration. In these there is in addition, so to say, to the other symptoms, numbness of one side of the body, and when the numbness is of the right side there may be also considerable aphasia. To the inexperienced these cases look far more serious than they are; they do not point to any gross local disease. Some of the symptoms of migraine, the headache among others, are, I think, after-effects of the discharge producing the paroxysm.

Here once more I stay to show that the arbitrary study of cases by type does not prevent us from making at other times and for other purposes rational generalisations. Using for the moment the term epilepsy generically I should class migraine, epilepsy proper, and epileptiform seizures as epilepsies, on the basis that in each there is a "discharging lesion" of some part of the cerebral cortex. Their differences are sufficiently accounted for by the different "seats" of those lesions. Observe the opinion expressed is that there is a persistent, although varying, hyperphysiological (crude physiological) lesion in each of the three. But in so classifying them for scientific purposes, I no mere overlook their vast differences, no more undervalue the study by type, than I confound whales, bats, and hedgehogs when I say that all these animals are mammals. One reason for the scientific classification is that I have seen cases intermediate in type between migraine epileptiform seizures and epilepsy proper ("missing links"). I have seen a case indistinguishable from what I have called super-typical migraine, except for the fact that the ailment followed a blow on the head leaving a depression on the left side of the skull; the limb-symptoms were right-sided, and there was partial aphasia (both, of course, temporary). I treat all three epilepsies (still using the word generically to cover epilepsy, epileptiform seizures, and migraine) on the same general principles, of which more further on; also treating each patient according to the peculiarities of his case; dyspepsia is often an exciting cause of a paroxysm of migraine; there is of course special treatment for the relief of the headache in cases of migraine, antipyrin for one remedy.

It may be said that classification of the three different diseases on the basis mentioned is purely hypothetical. It is not so far as epileptiform seizures are concerned, and is now not for the two cases of the variety of epilepsy proper completed by necropsy I recently mentioned. I should, however, be sorry to have it implied from this remark that I repudiate hypotheses in scientific research. For the sake of argument, let it be granted that the whole classification is altogether hypothetical. The use of hypotheses is the method of science. To suppose that we can make discoveries by the Baconian method is a delusion. No discovery, we are told by good authority, has been made on that method. An hypothesis, otherwise a supposition, is not a conclusion,[5] it is only the starting point for methodical observation and experiment, the endeavour being not only to prove it, but to disprove it. I have not concluded that migrane, epileptiform seizures, and epilepsy proper are alike, in that in each there is a "discharging lesion" of some part, in each of a different part, of the cerebral cortex. Such an hypothesis is the beginning of hard work; its only use is to give order to that work. Huxley writes (article "Science" in the *Reign of Queen Victoria*, vol. ii): "As a matter of fact, Bacon's 'via' has proved hopelessly impracticable, while the 'anticipation of Nature' by the invention of hypothesis based on incomplete inductions, which he specially condemns, has proved itself to be a most efficient, indeed an indispensable, instrument of research." He writes too (*op. cit.*, p. 336-7), "It is a favourite popular delusion that the scientific inquirer is under a sort of moral obligation to abstain from going beyond that generalisation of observed facts which is absurdly called 'Baconian' induction. But anyone who is practically acquainted with scientific work is aware that those who refuse to go beyond fact rarely get as far as fact; and anyone who has studied the history of science knows that almost every great step therein has been made by the 'anticipation of, Nature,' that is, by the invention of hypotheses, which, though verifiable, often had very little foundation to start with; and, not infrequently, in spite of a long career of usefulness, turned out to be wholly erroneous in the long run." I imagine that the saying of a great man will occur to most of us "hypotheses non fingo." It may be well to mention Newton's "Corpuscular Theory of Light," which, Huxley says, "was of much temporary use in optics, though nobody now believes in it." The plain fact is that no one dislikes hypotheses; some of those who think they do have no clear notion of what the term means, and are *supposing* something all day long. In what is to come I shall use the term hypothesis, and I submit correctly, for some current explanations, which are not commonly considered to be hypothetical at all. What all of us dislike is an explanation of difficult problems, the complex. We may easily err in taking the subjective confusion produced in us to be in the objective thing contemplated, which is really only very complex.

is, in my opinion, a natural division. I mean that it is one answering to the evolutionary constitution of the nervous system. *Le petit mal* passes suddenly into *le grand mal* when the discharge beginning in some part of the highest centres has become strong enough to overcome the resistance of lower (middle) centres.

[5] Those who make the mistake that a supposition is a conclusion forget what they were told at school, that Newton put aside his theory of gravitation for many years because it was discrepant with certain observations, was, it temporarily seemed, disproved.

To come back to the study of diseases by type. I fear I should in some ways carry this method to what may seem an extravagant extent, as in chorea. I confess I make an arbitrary division of these cases—have two types, "slight" and "severe," although there may be no scientific distinction.[6] The slight type: a girl who has slow, infrequent movements, of comparatively limited range, of the face and limbs, especially if they are almost limited to one side, who could get about if permitted, whose appetite is normal, and who sleeps well, recovers soon in most cases by good food, tonics (quinine or arsenic), aperients, and rest—would very likely recover without medicines. The other type—"severe" chorea—is practically a very different thing: a girl with incessant, frequent,[7] and very wide movements of all parts, who has to be kept from bruising herself by various expedients (packing hands and joints in cotton-wool, etc.), is to be looked on as requiring very different treatment. The tendency is to death. There are few cases of nervous diseases in which we can do so much good. We give food in large quantities, solid if possible. Brandy is a most excellent remedy; in very severe cases we may give twelve ounces in twenty-four hours. If ordinary means of feeding are impossible, we should put the patient under ether and feed by a tube. Our main object is to keep the patient alive. But I think brandy and in severe cases etherisation are of curative value—indirectly, at any rate. There is certainly very often rapid improvement after their administration. I never think of "specifics" in this type of chorea. Beyond aperients, the only drug I give is chloral, and that only when food has been taken. I never give opium.

It would save a great deal of trouble if we had an orderly series of types of cases in which vertigo is a prominent symptom. I make four: (1) ocular; (2) auditory; (3) epileptic; and (4) gastric. This is the order of their simplicity, and therefore the order in which they should be studied; it is not the order of their seriousness. (1) Anyone can learn very much that is of great value in the diagnosis of other, more difficult, cases of vertigo in five minutes, if he will first properly investigate a case of recent paralysis of ocular muscles. It may seem that recognition of the cause of the vertigo is easy by the strabismus. Most often so, no doubt; but in cases of paralysis of the superior oblique the strabismus is far from being obtrusive, and the real cause of vertigo in such cases may be easily overlooked, and often is. (The vertigo is not owing to double vision.) In these cases we find vertigo in its simplest form. The treatment of ocular vertigo is, of course, that of the lesion causing the local paralysis, and this, excluding tabes, is mostly caused by syphilis. I have never been able to verify the hypothesis that this paralysis is of rheumatic or gouty pathology. (2) The next simplest vertigo is auditory. Very often indeed ear disease causes—or, rather, is a factor in the causation of—paroxysms in which, with many other symptoms, there is vertigo, "swimming of external objects," etc. The diagnosis is very easy if we find ear disease in patients who have attacks of giddiness, with reeling, sickness, intense depression, and often perspiration. It is very important to recognise the causation, otherwise one might think there was serious brain disease, or mistake the case for mere stomach vertigo. Digestive derangement and other causes of lowered general health are often excitants of the paroxysm, and this guides us in an important part of our treatment. We try to cure the ear disease, but often we cannot. Quinine in large doses is praised by Charcot. The best remedies are lessened work and bracing air. (3) Epileptic vertigo is often used as a name for a slight fit of epilepsy, even when there is no vertigo at all, no apparent movement of external objects, and no feeling of the patient turning. I use it as a name for vertigo at the onset of epileptic attacks; sometimes it is for a time almost the whole of a seizure, and is afterwards the "warning." This is the most serious form of vertigo; the treatment is for epilepsy. (4) I have slender respect for the hypothesis that a stomach disorder sometimes produces a paroxysm of vertigo. If there be such a thing as stomach vertigo, it is the most difficult of the four kinds of vertigo to explain. The question is, "How does a dyspeptic attack produce a sudden attack of vertigo?" Hence I put it last on the list for particular study. When a man has a paroxysm in which objects seem to move to one side (when the vertigo is, as Gowers puts it, "definite"), I certainly do not believe that any kind of digestive disorder is the real cause of the paroxysm; the hypothesis is then too heavy for practical purposes. No doubt most cases of so-called "stomach vertigo" are cases of aural vertigo, the attacks being sometimes brought on by dyspepsia. As to treatment, one of course treats dyspepsia in whatever association one finds it. I now start from a new line of thought—not, however, altogether leaving the subject of study of diseases by type.

I have just been urging that we should take up for particular study cases in the order of their simplicity. Were I to write a book I should follow this plan; for the ambitious aim of the work would be to help people in practice to examine for themselves in scientific ways for practical ends. We cannot learn for ourselves if we begin with complex problems; if we do, we shall run the risk of making vague, and often verbal, explanations. Cases of gross organic brain diseases (such, I mean, as tumours, masses, "lumps") are among the simplest of all cerebral diseases. Simple and serious are not, as I have recently been urging and trying to illustrate, convertible terms. Cases of gross organic disease of the brain are far simpler for diagnosis, prognosis, and even, in some ways, for treatment, than are cases of what are called the "neuroses" (chorea, epilepsy proper, neuralgia, etc.). Of the former we know a great deal and speculate too little; of the pathology of the latter we know nothing certain and speculate much. Very confident opinions—really hypotheses—are expressed as to the causation and pathology, in particular cases, of the "neuroses" when we are diffident in the diagnosis of intra-cranial tumour in very many cases. But before we speak confidently of the causation and pathology of cases of hysteria, epilepsy, chorea, neuralgia, cases without a known morbid anatomy, we should discipline ourselves by a study of cases in which necropsy is likely to confront us. A *post-mortem* examination tells us candidly what our powers of clinical investigation are worth in the case examined. I am speaking of the anatomy, physiology, and pathology of the neuroses (*vide infra*). I have small faith that any great good will come of the studies of these diseases by those who have not previously disciplined themselves by careful work on what I may be permitted to call the coarser diseases of the nervous system, and who have not before that a good knowledge of recent physiology.

It may be objected that the study of cases of gross organic intra-cranial disease is dismally fruitless, as we can do very little for the sufferers from it. I believe that we may do very much, even when the tumour is non-syphilitic. For many of the symptoms of tumour are really symptoms of an encephalitis, or certainly of some secondary change, provoked by the tumour in its character as a "foreign body;" such symptoms are headache, optic neuritis (this is strictly speaking a visible pathological condition), and "fits" of different types. If we can do nothing for the tumour, we may do something for the secondary changes it induces; certainly we may rid the patient of optic neuritis when the tumour, which some way caused it, remains; and if the patient is to die, he will live to the end of his shortened life more happily seeing than if blind. Excluding optic neuritis in cases of Bright's disease, in meningitis, and some other obviously exceptional cases, I treat cases of optic neuritis very actively by iodides and mercurials. I do not say that optic neuritis would not pass off without such treatment, but I dare not omit it. Patients have got rid of optic neuritis after removal of brain tumours (Horsley) when no drugs have been given.

There is another thing to be said of treatment in some cases of gross organic brain disease. I believe that some patients die suddenly of intense pain; I am certain that some die after sudden increase of pain, and that too in cases where *post-mortem* examination discovers no recent changes. In some cases I apply leeches to the temples, as the quickest way of relieving the sudden increases of pain. I do not hesitate to give morphine by hypodermic injection. Not only do we thus diminish misery, but we may, I think, sometimes save life. For more continuous pain (the patient's ordinary pain I may call it) I should try antipyrin. If the patient dies suddenly, as I repeat he not rarely does, his death may be erroneously ascribed to the remedies we use for allaying his pain.

Then, in some cases of cerebral tumour, the surgeon comes to our aid. To diagnose a brain tumour, and then, if we can, to localise it in certain regions, is a very important thing. Nowadays, a medical man is not thought to be wasting his time when he is anxiously trying to get to know the starting-point of an epileptiform seizure, in the case of a patient who has double optic neuritis

[6] The status epilepticus or epileptiformis, practically an acute disease, requires a very different kind of treatment from that of epilepsy or epileptiform seizures in the ordinary course of cases. For the status, food and some stimulant; chloral is the best drug; and, if the fits are very frequent, etherisation will help.

[7] The pairs of words "slow and quick," "infrequent and frequent," are used after the manner of their use clinically for alterations of the pulse.

—whether the initial spasmodic movement is of the thumb or great toe. Nor is he now thought to be talking nonsense when he insists that with marked double optic neuritis, there may be good sight, rather he is supposed to be repeating an old story. I shall speak only of the surgical case I know most about. Mr. Victor Horsley removed a scrofulous tumour from the right cerebral hemisphere of a patient of mine who was subject to fits, beginning in his left thumb (see Horsley on Brain Surgery, BRITISH MEDICAL JOURNAL, vol. ii, 1886, p. 670). The patient is still under my care, suffering now from partial paraplegia, consequent on angular spinal curvature; his left hand is still partially paralysed, but for many months he has had no fit.

There are other reasons for the careful and particular study of these comparatively simple, but yet very serious, morbid affections. Unless we are in the habit of using the ophthalmoscope by routine, when patients, unaccustomed to them, begin to have severe headaches, especially if the pain is in an unusual seat, side of head or occiput, we shall often overlook the real nature of cases of serious brain disease altogether, or we shall miss treating their earliest stages, the stages most amenable to treatment, if treatment is to do any good; we shall misinterpret them as hysterical, as being cases of indigestion, etc. It is thoroughly well known now that marked optic neuritis (the best evidence of an intra-cranial tumour) is very often indeed unattended by defect of sight. I have been told that I say too much of this, that nobody now denies the dictum. But I contend that it is not sufficiently widely known, and say that the assertion is still received by many medical men with great incredulity. If sight be good in optic neuritis, that important sign does not exist for those who do not use the opthalmoscope, and thus from the headache and vomiting alone the erroneous diagnosis of stomach and liver derangement is easy. (There are cases of intra-cranial tumour without optic neuritis, or for months or years without it. There may be no headache, there may indeed be scarcely any symptoms at all where there is a large cerebral tumour.)

Here I give a caution. Do not take the strange, miserable feelings, "weight," "tension," etc., at the top of the head, and "dragging" at the back of the head and "down the spine," for the pain from gross local intra-cranial disease, such as tumour; the patient complains bitterly of what he calls "headache," although he may qualify the word by saying that "it is not an ordinary headache." These "pains" at the top and back of the head are very common in cases of nervous exhaustion, and do not signify local gross organic diseases within the cranium.

There is another reason for the particular study of cases of local, gross, organic disease. Patients who have intra-cranial tumour not rarely die suddenly or rapidly, when on our last visit they seem to be in good general health; they die most unexpectedly. Sometimes, as I have said, when speaking of treatment, this occurs during sudden increase of pain. Occasionally in the case of a patient who all along has only had headache, optic neuritis, and vomiting, there ensues hemiplegia or apoplexy, or both; when so, the likelihood is hæmorrhage from a vascular tumour. Sometimes, and this Fagge pointed out, death occurs by respiratory paralysis. If anyone thinks that because there is intra-cranial tumour the ailment must have a slow course, and that the patient or his doctor will be sure to have a definite warning of the approach of death, he is mistaken. I have known a patient, taken seriously ill one morning at his work, die in a few hours of respiratory paralysis, when the tumour was a syphilitic one, of one occipital lobe. A great many times have I seen a speedy ending to the life of patients who, having double optic neuritis, headache, and vomiting, seemed to be, judging only from their general condition, not even seriously ill. Yet this triad of symptoms, if we can exclude chronic Bright's disease, some cases of which are indistinguishable from cases of cerebral tumour, except by the ascertainment of the existence of that morbid kidney affection, is certain evidence of some serious intra-cranial disease, and is the best evidence of intra-cranial tumour. The assertion that a patient who has double optic neuritis and good sight, only headache now and then, and who for much of her time seems perfectly well, is to be considered as being dangerously ill, at first glance seems absurd. I said "her time," for I am now thinking of the case of a young lady who, shortly before I saw her, had been to a dance, remaining to about 4 o'clock in the morning, and who died rapidly not many days after her visit.

(To be continued.)

AN INVESTIGATION OF AN OUTBREAK OF COW-POX IN WILTSHIRE,

WITH A COMPARATIVE ACCOUNT OF SOME PREVIOUS OUTBREAKS IN ENGLAND, GERMANY, AND FRANCE.

BY PROFESSOR EDGAR CROOKSHANK, M.B.,
Of King's College, London.

(Continued from page 5.)

I will now pass on to give, for purposes of comparison, an account of cow-pox as we have received it from Jenner and other writers on this subject.

JENNER'S DESCRIPTION OF COW-POX.

I cannot, perhaps, do better than quote verbatim from Jenner's essay.

"There is a disease to which the horse, from his state of domestication, is frequently subject. The farriers have termed it the grease. It is an inflammation and swelling in the heel, accompanied at its commencement with small cracks or fissures, from which issues a limpid fluid possessing properties of a very peculiar kind. This fluid seems capable of generating a disease in the human body (after it has undergone a modification I shall presently speak of) which bears so striking a resemblance to the small-pox that I think it highly probable it may be the source of that disease. In this dairy country a great number of cows are kept, and the office of milking is performed indiscriminately by men and maid servants. One of the former having been appointed to apply dressings to the heel of a horse affected with the malady I have mentioned, and not paying due attention to cleanliness, incautiously bears his part in milking the cows with some particles of the infectious matter adhering to his fingers. When this is the case it frequently happens that a disease is communicated to the cows, and from the cows to the dairymaids, which spreads through the farm, until most of the cattle and domestics feel its unpleasant consequences. This disease has obtained the name of the cow-pox. It appears on the nipples of the cows in the form of irregular pustules. At their first appearance they are commonly of a palish blue, or rather of a colour somewhat approaching to livid, and are surrounded by an inflammation. These pustules, unless a timely remedy be applied, frequently generate into phagedænic ulcers, which prove extremely troublesome. The animals become indisposed, and the secretion of milk is much lessened. Inflamed spots now begin to appear on different parts of the hands of the domestics employed in milking, and sometimes on the wrists, which run on to suppuration, first assuming the appearance of the small vesications produced by a burn. Most commonly they appear about the joints of the fingers and at their extremities; but, whatever parts are affected, if the situation will admit, these superficial suppurations put on a circular form, with their edges more elevated than their centre, and of a colour distantly approaching to blue. Absorption takes place, and tumours appear in the axilla. The system becomes affected; the pulse is quickened; shiverings, succeeded by heat, general lassitude, and pains about the loins and limbs, with vomiting, come on. The head is painful, and the patient is now and then even affected with delirium. These, sometimes varying in their degrees of violence, generally continue from one to three or four weeks, leaving ulcerated sores about the hands, which, from the sensibility of the parts, are very troublesome, and commonly heal slowly, frequently become phagedænic, like those from whence they sprung. During the progress of the disease the lips, nostrils, eyelids, and other parts of the body are sometimes affected with sores, but these evidently arise from their being heedlessly rubbed or scratched with the patient's infected fingers. No eruptions on the skin have followed the decline of the feverish symptoms in any instance that has come under my inspection, one only excepted, and in this case a very few appeared on the arms. They were very minute, of a vivid red colour, and soon died away without advancing to maturation; so that I cannot determine whether they had any connection with the preceding symptoms. Thus the disease makes its progress from the horse (as I conceive) to the nipple of the cow, and from the cow to the human subject."

I will pass over the earlier writers on cow-pox, who add very little to the account which was given by Jenner, until we come to the year 1840, when Ceely published his classical researches, the details of which are not so well known as they ought to be, probably owing to the fact that the volumes of the *Transactions* in which they are published are only to be found in some of our larger libraries. I shall not, therefore, hesitate to quote somewhat at length from his account of cow-pox.

Ceely's Description of Cow-Pox.

Ceely states that this disease had long been known in the Vale of Aylesbury and neighbourhood. Outbreaks occurred at irregular intervals, most commonly appearing about the beginning or end of the spring; rarely during the height of summer. Ceely saw outbreaks at all periods, from August to May and the beginning of June; and he tells us that he had seen the disease in autumn and the middle of winter, after a dry summer. The disease, in his time, was occasionally epizootic, or occurring at times in several farms at no great distance from each other, but more commonly sporadic or nearly solitary. It was to be seen sometimes at several contiguous farms; at other times at one or two farms. Many years might elapse before it occurred at a given farm or vicinity, although all the animals might have been changed in the meantime. Ceely knew of its occurring twice in five years in a particular vicinity and at two contiguous farms, while at a third adjoining dairy, in all respects similar in local and other circumstances, it had not been known to exist for forty years. It was sometimes introduced into a dairy by recently-purchased cows. Twice it had been known to be so introduced by milch heifers. Ceely states that it was considered that the disease was peculiar to the milch cow; that it came primarily while the animal was in that condition, and that it was casually propagated to others by the hands of the milkers. And he adds that he had frequently witnessed the fact that sturks, dry heifers, dry cows, and milch cows, milked by other hands grazing in the same pastures, feeding in the same sheds and at contiguous stalls, remained exempt from the disease.

Origin of Cow-pox.—Ceely states that he had met with several intelligent dairymen whose relatives had seen good reason to ascribe its occurrence to the contagion of the equine vesicle communicated by the hands of the attendant on both animals, but very little of that disease had been noticed of late years, though he knew several farriers who had been infected from the horse, and received subsequent variolation or vaccination. He had seen also a few who distinguished between the equine vesicle and the grease—a recurrent disease, eczema impetiginodes. For many years past, however, the spontaneous origin of the "variolæ vaccinæ" in the cow had not been doubted in the Vale of Aylesbury. In all the cases that Ceely had noticed he never could discover the probability of any other source. "There is much difficulty in determining with precision at all times whether this disease arises primarily in one or more individuals in the same dairy. Most commonly, however, it appeared to be solitary. The milkers pretend in general to point out the infecting individual."

Condition of Animal Primarily Affected.—"In August, 1838, three cows were affected with the disease. The first was attacked two months after calving and seven weeks after weaning. This animal was considered in good health, but to me it appeared out of condition. It had heat and tenderness of teats and udder as the first noticed signs. The other two were affected in about ten days. In December, 1838, in a large dairy, a milch cow slipped her calf, had heat and induration of the udder and teats, with vaccine eruption, and subsequently leucorrhœa and greatly impaired health; the whole dairy, consisting of forty cows, became subsequently affected and some of the milkers. In another dairy, at the same time, it first appeared in a heifer soon after weaning, and in about ten or twelve days extended to five other heifers and one cow, milked in the same shed, affecting the milkers. In another dairy, at the same time, thirty cows were severely affected, and also one of the milkers. It appeared to arise in a cow two months after calving. The only symptoms noticed were that the udder and teats were tumid, tender, and hot just before the disease appeared."

Condition of Animals Casually Affected.—"In some animals it is less severe than in others, depending on the state and condition of the skin of the parts affected, and the constitution and habit of the animal. It is sometimes observed to diminish the secretion of milk, and in most cases it commonly does actually affect the amount artificially obtained; beyond which, and the temporary trouble, plague, and accidents to the milk and the milkers, little else is observed; the animal continues to feed and graze apparently as well as before. The topical effects vary very much in different individuals, ...the mildness or severity being greatly influenced by temperament and condition of the animal, and especially by the state of the teats and udder and the texture and vascularity of the skin of the parts affected. Where the udder is short, compact, and hairy, and the skin of the teats thick, smooth, tense, and entire, or scarcely at all chapped, cracked, or fissured, the animal may and often does escape with a mild affection, sometimes only a single vesicle. But where the udder is voluminous, flabby, pendulous, and naked, and the teats long and loose, and the skin corrugated, thin, fissured, rough and unequal, then the animal scarcely ever escapes a copious eruption. Hence in general heifers suffer least and cows most from the milkers' vaccinations and manipulations."

Progress of the Disease.—"The variolæ vaccinæ once arising or introduced, and the necessary precautions not being adopted in time, appear in ten or twelve days on many more in succession, so that among twenty-five cows perhaps by the third week nearly all may be affected; but five or six weeks or more are required to see the whole number perfectly free from the disease—on the teats at least."

Propagation by the Hand of the Milker.—Ceely gives the following instances in which he most thoroughly traced the way in which the disease was spread:—"In December, 1838, on a large dairy farm, where there were three milking-sheds, the variolæ vaccinæ first appeared in the home or lower shed. The cows in this shed being troublesome, the milker from the upper shed, after milking his own cows, came to assist in this for several days, morning and evening, when in about a week some of his own cows began to exhibit the disease. It appears that, having chapped hands, he neglected washing them for three or four days at a time and thus seemed to convey the disease from one shed to another. During the progress of the disease through this shed, one of the affected cows which had been assailed by its fellows was removed to the middle shed where all the animals were perfectly well. This cow, being in an advanced stage of the disease, and of course difficult to milk and dangerous to the milkpail, was milked first in order by the juvenile milker for three or four days only, when, becoming unmanageable by him, its former milker was called in to attend exclusively to it. In less than a week all the animals of this shed showed symptoms of the disease, though in a much milder degree than it had appeared in the other sheds, fewer manipulations having been performed by an infected hand."

Topical Symptoms of the Natural Disease.—"For these, we are almost always in the early stage compelled to depend on the observations and statements of the milkers....They state that for three or four days, without any apparent indisposition, they notice heat and tenderness of the teats and udder, which are followed by irregularity and pimply hardness of these parts, especially about the bases of the teats and adjoining the vicinity of the udder; that these pimples on skins not very dark are of a red colour, and generally as large as a vetch or a pea, and quite hard, though in three or four days many of these having increased to the size of a horse-bean. Milking is generally very painful to the animal; the tumours rapidly increase in size, and some appear to run into vesication on the teats and are soon broken by their hands. Milking now becomes a troublesome and occasionally a dangerous process. It is very seldom that any person competent to judge of the nature of the ailment has access to the animal before the appearance of the disease on others of the herd, when the cow first affected presents on the teats acuminated, ovoid, or globular vesications, some entire, others broken, not infrequently two or three interfluent, *those broken* have evidently a central depression with marginal induration; those entire, being punctured, diffuse a more or less viscid amber-coloured fluid, collapse, and at once indicate the same kind of central and marginal character. They appear of various sizes, from that of a pin's head, evidently of later date, either acuminated or depressed, to that of an almond or a filbert, or even larger. Dark brown or black solid uniform crusts, especially on the udder near the base of the teats, are visible at the same time, some much larger are observed on the teats; these, however, are less regular in form and less perfect. Some are nearly detached, others quite removed, exhibiting a raw surface with a slight central slough. On the teats the crusts are circular, oval, oblong, or irregular; some flatter, others elevated, some thin and more translucent, being obviously secondary. The appearance of the disease in different stages, or at least the

formation of a few vesicles at different periods, seems very evident. The swollen, raw, and encrusted teats seem to produce uneasiness to the animal only while subjected to the tractions of the milkers, which it would appear are often nearly as effective as usual." Referring again to the character of the vesicle, Ceely says that those "fortunate enough to have an opportunity of watching the disease in its progress may observe that when closely examined they present the following characters:—In animals of dark skin, at this period, the finger detects the intumescent indurations often better than the eye, but when closely examined the tumours present at their margins and towards their centres a glistening metallic lustre or leaden hue; but this is not always the case, for occasionally they exhibit a yellowish or yellowish-white appearance."

In describing more fully the crust, he adds, "large, black solid crusts, often more than an inch or two in length, are to be seen in different parts of these organs, some firmly adherent to a raw elevated base, others partially detached from a raw, red, and bleeding surface; many denuded, florid, red, ulcerated surfaces, with small central sloughs secreting pus and exuding blood, the teats exceedingly tender, hot, and swollen.....In some animals, under some circumstances, this state continues little altered till the third or fourth week, rendering the process of milking painful to the animal and difficult and dangerous to the milker.

"In many, however, little uneasiness seems to exist. The parts gradually heal; the crusts, although often partially or entirely renewed and renewed, ultimately separate, leaving apparently but few deep irregular cicatrices, some communicating with the tubuli lactiferi, the greater part being regular, smoothly-depressed, circular, or oval."

With regard to the papulæ, "the milkers seldom notice the first period of papulation. Nor is this to be wondered at. It is, in truth, very difficult for an experienced observer at all times to escape error in this latter particular, and oversights will occur to the most vigilant from various causes, especially from peculiarity of colour, vascularity and texture of skin, as well as temperament of the individual."

With regard to the central depression, Ceely says, "in three or four days from their first appearance the papulæ acquire their vesicular character, and have more or less of central depression, continuing gradually to increase. In three or four days more they arrive at their fullest degree of development, and sometimes are surrounded with an areola, and always embodied in a circumscribed induration of the adjacent skin and subjacent cellular tissue."

"Anatomical examination of the structure of the vesicle just before it attains maturity shows that its colour, indurated margin, and central depression depend on the existence of an adventitious membrane formed in the corium and secreted by the papillæ. It is raised in the form of a zone, and is intimately connected with the epidermis. It has a cellular structure in which is secreted and contained a clear viscid lymph.....*This cellular adventitious membranous conformation, though differing in texture and amount in different vesicles, is invariably present, and is not less essential than diagnostic.*"

Casual Cow-pox in Man.—"Although the casual cow-pox in man is mostly found in those who have not previously gone through variola or the vaccine, it is by no means rare to meet with it on persons who have passed through the latter and a few who have had the former disease. It is no novelty to see individuals who have taken the casual disease more than once at various intervals, but not severely; and now we often see cases after vaccination at periods of from two to fifteen years of different degrees of severity, not always but often proportioned to the time elapsed. Many declaring their symptoms to be more distressing than those which they remembered of the previous vaccination. On the other hand we now and then meet with persons who without any protection have used every endeavour to acquire the disease by milking but have failed amidst their more fortunate fellow-labourers. As in the cow so in man, it does not appear always necessary that the skin should be visibly fissured or abraded to insure infection, although very often we find those conditions in existence. A thin and vascular skin seems capable of absorbing lymph if copiously applied and long enough retained. The parts upon which the disease is commonly observed are the back of the hands, particularly between the thumb and forefinger, about the flexures of the joints and on the palmar, dorsal, and lateral aspects of the fingers. The forehead, eyebrows, nose, lips, ears, and beard, are often implicated from incautious rubbing with the hands during or soon after milking. In women the wrists and lower parts of the naked forearm coming in contact with the teats are apt to be affected. If the skin of the hands be very thin and florid, especially if chaps and fissures abound, the individual often suffers severely, having, soon after the decline of the disease, abscesses and sinuses of the subcutaneous cellular tissue and often considerable swelling and inflammation of the absorbents and the axillary glands. The inflamed spots or papulæ which announce the disease are more circumscribed, better defined, harder, deeper, and more acuminate, than the papulæ produced by some of the other contagious eruptions of the cow. They vary in colour from a deep rose to a dark damask or purple hue according to the vascularity and texture of the parts affected. If the papulæ be small there is often no perceptible central depression in the early period of their change to the vesicular state; but they exhibit an ash-coloured or bluish, rather acuminated apex which gradually becomes relatively flatter as the base enlarges and elevates, when the central depression is more obvious and exhibits a yellowish tinge....Where the epidermis is thick the vesicles are generally well-defined, circular or oval, if the parts will admit, and have only a light slate-coloured tint in the centre; but more frequently the colour is superseded by an opaque white, or a dusky-yellowish hue. Where the skin is loose, thin, dark, or dusky the vesicles are jagged, irregular and puffed at their margins, and, saving the central depression, very much resemble a scald. In size they vary from that of a vetch to a fourpenny piece, sometimes larger, especially when depending on a wound or extensive fissure. The vesicles are frequently broken, or when the epidermis is thin, spontaneously burst, causing deep sloughing of the skin and cellular tissue, and ulcerations which slowly heal. There is often, consequently, much attendant local irritation and considerable symptomatic fever....In general there is no great difficulty in distinguishing the casual vaccine on the hands, etc., from other eruptions caught from the cow."

Cow-pox in Germany.

I do not propose describing all the outbreaks of cow-pox which have been published in Germany, but I will allude briefly to some of them. After the publication of Jenner's writings, inquiries, which were set on foot, brought several outbreaks to light.

It appears from a Göttingen paper, published in 1769, that the disease was well known there, and milkers who contracted the disease in milking the cows had the same traditions as the dairymaids in Gloucestershire as to its protective power against smallpox. Luders saw several outbreaks during eleven years in Holstein, and Ritter found that cow-pox, from which he carried on successful vaccination, was very common in Schleswig-Holstein. The account given of the inquiries in Wurtemberg as to the existence of cow-pox are of great interest. It shows that the discoveries of cow-pox depend upon the tact and zeal with which the disease is looked for. The tendency in this and other countries is for the cowkeeper and dairyman to keep secret for obvious reasons the existence of disease among their cattle. When a reward was offered by the Government for the discovery of cow-pox it was found during eleven years—1827-1837—in sixty-nine places, in such a state that successful vaccination could be performed.[3]

For a more detailed account I must refer to the work of Hering. I will only here draw attention to some of his conclusions, which are of interest in reference to this inquiry:—1, That cow-pox is frequently observed in Wurtemberg; 2, that it appears in all races of cows; 3, that retrovaccination from man to cow rarely succeeds; 4, that the general symptoms are often wanting in part or entirely. On the other hand, diminution and alteration of the milk usually occurs. 5, True cow-pox appears not only on the teats but also, though rarely, on the udder itself. The number of the pustules, their form and size, are very variable. The areola and central depression are often absent; the bluish or livid colour is not characteristic, a white or yellowish, silvery or pearly, colour is quite as common. 6, The structure of the pock is cellular; its contents at first clear, more or less viscid, later purulent, and then caseous. The lymph is only fully active in the first stage. If turbid lymph, and even crusts, give satisfactory results, without doubt it must be ascribed to the fact that they contain unchanged lymph in the liquid or dried state.

Cow-pox in France.

The accounts of cow-pox in France, which are of the greatest

[3] In 1873 there were 39 cases in Wurtemberg; in 1874, 28. In Denmark in 1874 there were, in certain districts, not less than 374 cases. In Prussia cow-pox occurred during six years in 37 districts.

interest in connection with the Wiltshire outbreak, are the celebrated outbreak at Passy and the more recent cases at Bordeaux.

Passy Cow-pox.—The following is M. Bousquet's account of the discovery and characters of the Passy cow-pox:—On March 21st, 1836, Dame Fleury, living at Passy, consulted Dr. Perdran. She had been suffering for some days with headache and feverish symptoms, and had three pustules on her right hand and another on her upper lip. Dr. Perdran, on seeing these pustules, asked what was her occupation. She replied that she milked cows and believed that she had contracted the eruption from them. Dr. Perdran had no doubt that the pustules on the hand were produced from cox-pox. Under this impression he mentioned the fact to M. Nauche, a vaccination expert. M. Nauche gave an opinion with some reservation, and sent on the case to M. Bousquet.

M. Bousquet's description of the eruption is as follows:—"Dame Fleury had three pustules on the right hand. One was situated over the articulation of the thumb, the second on the dorsal side of the ring-finger, the third on the internal aspect of the index-finger, the fourth on the upper lip, at the line of muco-cutaneous union. These pustules had a diameter of three to four lines. They were globular or somewhat spherical, prominent and well circumscribed. The pustule on the thumb had a certain irregularity, which consisted in its being larger in one diameter than the other. The three others were perfectly circular. The surface presented a yellowish or purulent appearance up to the edges, which were violet, and so was the areola with which they were surrounded. Nevertheless, the pustule, taken as a whole, showed a bluish tint, such as I had never seen. This recalled to my mind that Jenner gives this colour as the characteristic mark of cow-pox, and I was not surprised that a first remove should possess something of its origin. It is also worthy of mention that Jenner commonly described the joints of the fingers and the lips as the parts of the body where the accidental pustules are found. Beyond this, one would have some difficulty in recognising vaccinia by this description. Its classical characters were absent. There was no depression in the centre of the pustule, nor that brilliant and silvery appearance which forms a distinctive sign of the vesicular eruption. But these differences explained themselves partly by the advanced state of the pustules."

"We must also add that Dame Fleury informed us that she had had small-pox. She had no scars, except a small mark on the cheek which she pointed to as evidence of the correctness of her statements. However this may be, this circumstance was of little moment, at least it was not a reason for abandoning hope. Nothing is more common than to see vaccinia on those who have had small-pox." Bousquet quotes his own case. Still, this was conjectural, and there was only one way of deciding it, namely, inoculation of the matter of the pustules.

On March 21st, 1836, in the presence of a commission, nine children were vaccinated from Dame Fleury's pustules, and a stock of lymph was raised which was introduced into general use. When compared with the vaccine then current, it gave very much more satisfactory results.

Bordeaux Cow-pox: First Outbreak at Eysines, 1881.[4]—On November 17th, 1881, M. Landeau, doctor at Eysines, wrote the following letter to the prefect: "I have the honour to report to you a discovery which I have just made of a cow with cow-pox. On November 13th, an inhabitant of the village of Laforêt, in the commune of Eysines, came to consult me about an eruption which had appeared four days previously on the hand, on the face, and neck. This eruption showed several silvery pustules much flattened and depressed in the centre, surrounded with an areola which recalled to my mind the appearance of vaccine and the question as to the cause of this cutaneous affection. This man informed me that among his cows there was one difficult to milk, having had on its teats for seven or eight days large *boutons*, from which pus escaped. Having been to verify this interesting subject, I became convinced that we had to do with cow-pox, the true regenerating principle of vaccine." On the 19th, M. Dubreuilh, public vaccinator for the Gironde, went to Dr. Pujos, and invited him to accompany him to Eysines.

Dr. Dubreuilh describes his visit as follows:—"We went to the village of Laforêt to see the milker alleged to have been inoculated from the cow. This man, aged 31, said that on November 11th, the first pustule appeared on the ring finger of the left hand. On the 14th, others appeared on his hand and face. He had suffered from lassitude and loss of appetite. These symptoms led him to consult M. Landeau. We were only able to see the cicatrices of these pustules. The cow suspected of communicating cow-pox to the milkman who milked her every day was in a field with six others. She was eleven years old. The pustular eruption was very characteristic, scattered on the teats and udder. On the day of our visit we only found crusts resembling the crusts of the pustules of variola. Six of these crusts were detached, two were still soft and moist. They were put between two slips of glass, and on our arrival at Bordeaux were entrusted to M. Duluc, the veterinary surgeon of the Department, who placed his services at our disposal. On November 26th, the first inoculation was made; the crusts from the Eysines cow were triturated, some with glycerine, others with a little tepid water. Dr. Dubreuilh and Dr. Pujos undertook this in the presence of several persons, who met at M. Duluc's house. A commission was also asked for to follow the experiments.

First Inoculation, November 26th.—M. Duluc inoculated the vaccine of Eysines into a calf, aged 9 months, in the region of the belly, eighteen punctures being made, consisting of an equal number of the above-mentioned mixtures. The calf was kept under observation. "The two first days there was nothing particular to be noted in the punctures, but, on the evening of the third day, we observed around each puncture an areola, indicating that inflammatory action had commenced. On the fourth day there was an elevation of the epidermis, which gave promise of vesiculation, but which might have been the result of topical irritation."

"It was only on the evening of the same day that the characters became more marked, and an accumulation of serosity was formed at several punctures, but not yet sufficiently abundant or characteristic to show convincingly that the eruptions were truly vaccinal."

"It was really only on the fifth day that one could feel almost certain that we had to do with the eruption of cow-pox. Nearly all the punctures were raised, and perfectly circumscribed. A white ring surrounded the large crust of the cicatrices, resulting from the deep incisions which were made in order to introduce a large quantity of the liquid. By raising up the crust, and squeezing forcibly one of the pustules with the forceps, a limpid serosity escaped, of a white colour clouded with a yellowish tint."

On December 1st the swelling had subsided, the whitish ring had assumed a purulent character.

These inoculations were carried on through successive calves; but it was not until the fourth remove that the vesicles were "fully formed with the character of umbilication." From the fifth remove, lymph was employed for vaccinating an infant. This child developed on each arm three large umbilicated vesicles, surrounded with a very intense inflammatory areola. Other children were also vaccinated with similar results.

From the seventeenth remove, in answer to the written request of Dr. Buchanan, lymph was supplied for the Local Government Board, and since that time has been disseminated all over this country.[5]

It is to be regretted that Dr. Dubreuilh arrived, as nearly always happens to be the case, when the early stages of the eruption had passed off, as thus no description is given of the early characters of the natural disease in the cow. The only facts to guide him were the cicatrices of the casual eruption on the hand of the milker, and the production of a vaccinal eruption in calves which were inoculated with crusts from the cow's teats.

Second Outbreak at Eysines, 1883.—I will quote verbatim the report of M. Layet, April, 1883, the able Director of the Animal Vaccine Station at Bordeaux, to whom I am indebted for the following particulars:

"In my own name and in that of M. Baillet, veterinary surgeon of the town, I am about to give you an account of the experiments, undertaken in the municipal service, as to the nature and character of the eruption observed at Eysines, in three cows belonging to the farm of M. Lalanne, and in the milkman and milkmaid who were in contact with these cows. This multiple eruption was discovered and communicated to the Municipal Vaccine Service by Dr. Ducamp, of Bruges. In his letters, Dr. Ducamp

[4] I am indebted to Dr. Dubreuilh, who kindly furnished me with this account.

[5] This stock of lymph has been abandoned at the Animal Vaccine Station at Bordeaux; thus M. Layet informs me: "Le premier cow-pox d'Eysines signalé par M. le Docteur Landeau à M. Dubreuilh recueilli sur une vache de Laforêt, qui avait presentée plusieurs eruptions successives n'a été employé que quelques mois par le service municipal de la vaccine a Bordeaux, lequel a depuis renouvelé son vaccin deux fois par du cow-pox spontané (portant le nom de deuxieme cow-pox d'Eysines et cow-pox de Cérons) et trois fois par du horse-pox envoyé au service municipal et provenant de differents points. Actuellement celui qui sert avec le plus grand succès provient d'un horse-pox remontant à 18 mois de culture."

expressed the opinion that it might be a case of spontaneous cow-pox. On receiving this letter, which had been placed in the hands of M. Darand on Thursday, March 22nd, 1883, at the Academy, a commission was appointed."

"This commission, in the first place, established the existence in the milkmaid of a pustule without well-marked characters, situated on the upper lip at the opening of the right nostril, which had produced erysipelatous inflammation, with fever, a disorder which compelled the patient to keep in bed."

"On being questioned she stated that she had inoculated herself by her finger conveyed to the part attacked."

"The milkman showed on the dorsal aspect of both hands a certain number of sores, which caused a swelling of the part—sores which had lost all character of a specific eruption in consequence of repeated friction and washing."

"The commission did not hesitate to ascribe, as the cause of his malady, the repeated contact with the teats of these cows, who were successively attacked by a particular eruption, which we were able to examine for ourselves on the spot."

"Of these three cows, the one which was stated by the milkman to have been attacked on the 12th of the month presented on its four teats numerous *boutons* of a character intermediate between a pustule and a bulla. The skin of these *boutons* had a greyish appearance, due, no doubt, to the character of the epidermis of the teats. By the side of these *boutons* we found, on examination, some shallow excoriations, oval, and two or three larger ulcerated sores, none with any crusts—a fact attributed by the milkman to the manipulations in milking, and also to inunction of the teat with lard."

"A second cow presented analogous lesions of the teats, which appeared, according to the milker, three days after those of the first cow."

"A third cow showed vesico-pustules without concomitant ulceration. They had appeared four days after those of the second cow."

"We ought to add that none of the *boutons* examined presented the appearance of umbilication, and that some of the ulcerated pustules showed at their circumference some induration. M. Baillet and I immediately, in the presence of the members of the commission, collected, in a number of capillary tubes, the exudation coming from the eruption in the three cows."

"On our return to Bordeaux the commission met at the *abattoir*, where a calf was inoculated. This calf, vaccinated March 23rd, showed only at the end of eight days some slight elevation of the punctures of the size of the head of a pin. There were nineteen in all. The slight inflammatory appearance was observed indefinitely in all. From these elevations exudation was expressed by means of forceps, and a second calf was inoculated on March 30th, 1883. Fourteen punctures were made on the second calf."

"The first calf was revaccinated with current calf lymph, and *was not slow in showing a characteristic eruption, having acquired no immunity.*"

"The second calf remained until Thursday, April 5th, not showing the least sign of eruption. On the Thursday evening slight reddish elevations were noticed without much character. The next day the moment in which we were doubting the character of these elevations, and were on the point of sending this calf to the slaughter-house, a final examination showed on two points two characteristic vaccinal vesicles."

"The next morning, April 17th, fourteen punctures were made from these in a third calf. All these produced magnificent vaccinal vesicles."

The milkman and milkmaid who had caught the eruption were revaccinated, but only topical irritation was produced.

Cow-pox at Cérons.—December 26th, 1883, M. Barbe, veterinary surgeon, and Dr. Pichausel had discovered on an isolated cow an eruption which they believed to be cow-pox.

"December 26th, M. Baillet and others saw the cow. On the four teats and on the neighbouring part of the udder there was a considerable number of pustules, for the most part already dried and covered with a black crust, some containing a liquid more or less lactescent. This very confluent eruption did not offer any umbilication of the vesicles. Six or seven tubes of liquid were carefully collected."

"December 26th, on returning to Bordeaux a calf was inoculated with twelve punctures. On the third day three *boutons*, of which one was more advanced, offered the characters of the vaccinal vesicle. In the place of the other punctures there was only slight redness."

With all precautions a second calf was inoculated from two of these vesicles with thirteen punctures, and on January 4th there were thirteen successes. Moreover, on again examining the first calf, it was found that all the punctures had given place to a *bouton* more or less developed. Evolution had been obviously retarded."

"A third calf was inoculated in forty places, and this calf was then used for the public service. M. Barbe found that on December 28th two persons who milked the cow at Cérons had contracted on their hands the eruption."

Such are the characters of the casual cow-pox, as it has been met with in this country and on the Continent, and these facts clearly show that in future the diagnosis of cow-pox must not be dismissed, after a comparison of the characters of the eruption on the teats with the classical characters of the inoculated disease, but only by vaccinating a calf and really ascertaining whether the eruption produces the vaccinal disease or not.[6]

To Raise a Stock of Lymph.—It is quite evident, also, from the account which I have just given, that the result which may be obtained by vaccinating a calf direct from the cow must not be despaired of if the eruption does not at once present the classical characters of vaccinia.

Ceely has pointed out that to obtain primary lymph in a condition for use is a task of no ordinary difficulty. "The most vigilant and active endeavours frequently prove unavailing. Unless the disease arises in a large dairy, and a consequent succession of cases occurs, it will seldom happen that vesicles are found capable of yielding that which is sought for. More frequently than would be expected the practitioner will have the mortification to find on his arrival that, from the lateness of his investigation, a whole dairy of cows has passed through the disease. He can scarcely find even a useful crust. If lymph from vesicles cannot be obtained, then we may yet succeed in taking one of the amorphous masses of concrete lymph, consisting of central irregular crusts, vesicular crusts, or dessicated vesicles. Mixtures of concrete blood and pus are of no value whatever." That the practitioner need not despair if he can procure a good crust is evidenced by the fact that the lymph employed by the Local Government Board was raised from a crust by Dr. Dubreuilh. If possible, a calf should be vaccinated with liquid or concrete lymph direct from the cow, and from this calf a second and a third, and if a vaccinal eruption results, the lymph may be introduced for variolous protection.[7] Lymph may be taken from a milker's vesicle and be used directly on a child, and carried on from arm to arm, but retro-vaccination of calves, as will be seen by Ceely's and my own experiments, is both uncertain and unsatisfactory.

Diseases which may be mistaken for Cow-pox.—It must not be supposed that any sores or eruption on the teats of a cow neces-

[6] Thus M. Layet, in commenting on the cow-pox at Bordeaux, states the eruption observed on the cows did not present to the eyes of MM. Baillet and Peyronny any sign which would indicate the nature of the disease. There was nothing which less resembled the familiar vaccinal vesicle than the pustule on the milkmaid and the ulcerated sores observed on the milkman. Further, a commission appointed to inquire into these points reported: 1. The absence of the classical vaccinal characters in the bullous eruption observed on the teats of the Eysine cows. 2. The analogy which exists between the bullæ of this eruption of cow-pox with the bullæ (ampoules perlées) of true horse-pox, to which M. Bouley has drawn attention, and between the ulcerations of cow-pox and those of horse-pox. 3. The dissimilarity of the eruption observed on the cows at Eysines and the cow at Laforêt. This dissimilarity is certified by Drs. Landeau and Pujos, who saw the two eruptions; whence this conclusion: Are there several eruptive diseases among bovines capable of yielding the true vaccine?

Compare Bousquet, *Nouveau Traité de la Vaccine:* Non seulement les symptômes généraux n'ont rien de fixe, mais les symptômes locaux eux-mêmes varient sans cesse, la maladie restant toujours la même, et premièrement la forme des pustules n'est pas toujours ronde il s'en faut; il y en a d'ovales, de longitudinales; les unes sont plates, déprimées; les autres globuleuses, conoïdes, etc. A l'egard de la couleur, il y en a de blanches, d'autres d'un blanc clair ou ardoisé, d'autres sont jaunatres, cuivrées, etc. Tout dépend de la couleur même des trayons. L'aréole existe ou n'existe pas; alors même qu'elle existe, la nuance de l'epiderme ne permet pas toujours de la distinguer. En resumé il n'y a que variations dans les caractères tirés du développement de la forme, de la nature, et de la marche des pustules; aucun n'indique surement le vrai cow-pox, aucun ne l'exclut. Il n'y a (selon Verheyer) qu'un caractère infallible c'est la structure anatomique.

[7] This is a much better plan than the inoculation of children with lymph direct from the cow's teat or the milker's hand. For unless the practitioner avoid the use of lymph which has not been attenuated sufficiently, he will very probably experience what Bousquet has described as "les frayeurs de Jenner." Compare also Seaton, *Handbook of Vaccination*:—"A lymph-stock which was set in circulation by Mr. Estlin of Bristol in 1838 produced in its earliest transmissions much of that extreme local irritative effect which Jenner and others describe as attending the use of unhumanised lymph, and which, so far from regarding as an advantage they were always anxious to control. It was so exceedingly irritative that I know that life was endangered in some instances by the use of it, and I rather thank a fatal case or two occurred."

sarily indicate cow-pox. It is necessary to bear in mind the existence of the following diseases of the teats of cows:—

Chapped Teats.—Sores on the teats may result from slight injuries, such as scratches from brambles while the cows are out at pasture. Cowmen also describe a similar condition arising from the cows soiling their teats in muddy ponds and being afterwards exposed to dry winds. The same may occur as the result of inflammation of the udder soon after calving. This shows itself in the form of excoriations or sores, or small cracks or chaps on the teats, which are very troublesome (Youatt).

Blister Pock, the White Vesicle or White Pock.—Variolæ vaccinæ bullosæ (Gunzel), bullatæ (Osiander), albæ (Jenner), vesiculosæ, pemphigoides; Wasser oder Windpocken (Hering).—This disease is communicable from the cow to the milker if the hand is not quite sound, and is conveyed by the milker to other cows. Jenner gives a case of transmission to the milker: "On the fingers of each of the girl's hands there appeared several large white blisters. She supposes about three or four on each finger. The hands and arms inflamed and swelled, but no constitutional indisposition followed."

Hering points out that the structure of the vesicle is characteristic. There is only a simple raising of the epidermis, and in twenty-four hours the vesicle has reached the size of a pea or bean. The contents are sometimes absorbed and the vesicles are then found empty. Ceely also speaks of the vesicles as being subepidermic, and distinguished from the true cow-pox in that the cellular character is wanting. When communicated to man, according to the same authority, the vesicle may resemble in appearance the vaccine vesicle; "but, on examination with a lancet, it is found neither cellular nor possessed of the fluid contents. It is in a state of dessication, and has retained this appearance and its integrity so long, on account of the thickness of the epidermis."

Aptha Epizootica—Fièvre Aptheuse—"Foot-and-Mouth Disease" on the Teats.—This disease may be mistaken for cow-pox if a medical man on discovering vesicles on the cow's teats makes a diagnosis without entering any further into the clinical history. It is most important, therefore, to bear in mind that if milch cows are affected with vesicles on the teats a careful examination should be made for any eruption in the mouth or on the feet.

The best description of the eruption in milch cows is given by Rayer. The number of vesicles may vary from six to forty. They appear first about the size of a large pin, and enlarge till they form flattened circular vesicles. The vesicles dry up about the tenth or eleventh day, and a brownish thin crust forms and is detached about the sixteenth or eighteenth day of the malady. If subjected to the tractions of the milkers, there results a superficial excoriation of a brownish red colour covered with a crust consisting largely of dried blood. But these ulcerations do not degenerate into phagedænic ulcers like those which often occur in cow-pox. The disease is communicable to man, especially when the milk is drunk while still warm from the cows. Vesicles make their appearance on the lips and tongue. M. Hertwig, who drank the milk as an experiment, also suffered from vesicles on the fingers. They ran a less rapid course than those on the mouth. They were filled with a liquid resembling turbid lymph, increased in size, and became confluent at several points; then ruptured, dried up, and the epidermis became detached from the afflicted parts.

Yellow-Pock is a disease described by Nissen as an eruption yellow from its first appearance, and continuing so. It is accompanied with an extremely unpleasant—almost putrid—smell, and soon degenerates into ulcerations, from which pus and blood exude. The disease is communicable from one cow to another, and to man;[8] boils and ulcers resulting.

Bluish or Black Pock, is described as forming bluish or black, or livid vesications on the teats and udders, followed by thin dirty brown or black irregular crusts and some degree of impetigo on the interstices near the bases of the teats (Ceely).

Warts.—These are of two kinds, "long narrow pendulous and linear-shaped prolongations, easily removed, and often detached, the other short, thick, compact, broad elevations, lighter in colour generally than the ground from which they rise, of various sizes, from that of a pea to that of a horse-bean, frequently very numerous on the teats, where they are found bleeding and partially detached" (Ceely).

"Other eruptions have been observed, but these, like chapped teats and warts, from their description could scarcely be mistaken for cow-pox." Such are "suppuration of the cutaneous follicles at the base of the teats; small hard knots, cutaneous or subcutaneous, in the same locality, about the size of a vetch, a pea, or even larger, which often remain indolent for a time, at length become red, vesicate, enlarge, suppurate, and burst after attaining not infrequently the size of a walnut or more, occasionally affecting the hands of the milker and often the other cows milked in the same shed by the same hands; an eczematous eruption, with intertrigo on the udder and near the roots of the teats" (Ceely). To this list may be added the condition of the teats which is met with in the cattle-plague.

[8] Ceely met with a case which he describes as follows:—"Not long since I saw a wife and five children labouring under a pustular disease of six weeks' standing, and infected by the father, who had caught the disease from the cow, which was in a terrible condition. It was of the character of ecthyma, but communicable, affecting the face, trunk, and limbs, and could be propagated by inoculation."

ABSTRACT OF
THE CROONIAN LECTURES
ON
ANTIPYRETICS.

Delivered before the Royal College of Physicians, June, 1888.

By DONALD MAC ALISTER, M.A., M.D., F.R.C.P.,
Fellow and Lecturer of St. John's College, Cambridge.

Lecture IV.

In the cases of typhoid fever investigated with so much care by Riess, the effect of antipyrin had been to diminish the total excretion of nitrogen from 15 to 30 per cent. Müller reported a case in which the urinary nitrogen was diminished by 28 per cent. on days when the pyrexia was suppressed by antipyrin, as compared with alternating days when it was allowed to rise unchecked. Engel, again, found the diminution, in similar circumstances, to be from 16 to 25 per cent. The agreement in these and other like results appeared to establish the fact that, in typhoid at least, antipyrin exercised a constant influence in diminishing the metabolism of the nitrogenous tissues. It might be argued that the effect was not primary, but simply followed the lowering of febrile temperature. Umbach and others had, accordingly, made careful estimations of the effect of the drug on persons in health. By adopting a uniform diet for many days together, Umbach brought about in himself a condition of nitrogenous equilibrium, and then took full doses of antipyrin on certain days. One series of observations extended over fourteen days, another over six days. The results were accordant, and showed that on the antipyrin days the nitrogen excreted was less by about 10 per cent. than on the normal days. This was due to diminished production of nitrogenous waste, not to retention, for on the days following the use of the drug the excretion gained its ordinary level and no more.

There was thus good ground for the belief that, in fever, the lowering of temperature was a secondary phenomenon, the lowering of nitrogenous excretion a primary one.

The effect of antipyrin on perspiration was next considered. Too much importance had probably been attributed to the production of sweating as a thermolytic process, in discussions on fever and its treatment. Profuse sweating was compatible with high temperature, as was seen in rheumatic and septicæmic fevers. The absence of sweating did not necessarily result in pyrexia from heat-retention. The high temperature of fever was not reduced appreciably when the injection of pilocarpine gave rise to abundant sweating; sometimes it actually rose. Though in many cases antipyrin was followed by sweating, this did not sufficiently explain its cooling effect. Sometimes the sweating did not appear; it could be artificially suppressed by the simultaneous administration of atropine, yet the temperature fell, notwithstanding. In certain cases of phthisis, with colliquative sweating, the lecturer had seen antipyrin lower the hectic temperature, and at the same time check the sweats, to the great comfort of the patients. Moreover, if the temperature of a fever patient be taken continuously, or at intervals of ten or fifteen minutes, it is occasionally observed that the fall of temperature begins before the perspiration appears.

Turning to the effect of the drug on the circulation, the lecturer recalled Dr. Wood's observation, that its thermal effect was inde-

pendent of any measurable effect on the circulation. Demme, of Berne, one of the first inquirers into the physiological action of antipyrin, stated that when very large doses were administered to animals—doses very much greater in proportion than any used in therapeutics—the first effect was to raise the blood-pressure, the second to lower it. Ultimately the heart showed signs of paralysis, and then another dose of antipyrin failed to raise the pressure again. On the isolated heart, antipyrin, circulating with the blood in full doses, produced the effect of relaxation or paralysis; but if pure blood, or blood containing caffein, were sent through it, the heart recovered perfectly. The net effect of the first rise of pressure and the subsequent fall might be apparently zero, as Wood had found.

The effect of therapeutic doses on man was then described. The effect on the pulse of fever patients was in general to slow the rate as the temperature fell. But this did not always happen. Sometimes the pulse kept at its febrile rate, in spite of the lowering of temperature. The experience of Reihlen, at Nürnberg, gathered from 90 cases, and that of Welt, in Zürich, from 120 cases, were not quite in accord in this matter, and the inference was that though in general the heart was slowed by the drug, this result depended on various other factors, and was not invariable. In some cases the lecturer had found that the pulse became slower before the temperature began to fall, arguing that an influence was at work other than the mere cooling of the blood.

As regards the quality of the pulse, it was almost always found that the arterial tension rose somewhat after a dose of antipyrin; sphygmographic traces confirmed the impression conveyed to the finger. But there was no certain relation between the thermal effect produced and the strengthening of the pulse, and sometimes the pulse was unmistakably softer, even though the other symptoms were improved. A good deal, no doubt, depended on the initial condition of contraction in which the radial artery stood when the dose was taken. As was well known, this condition was in fever somewhat irregular.

Summing up the results so far enumerated, it appeared that antipyrin increased skin-radiation, diminished the difference between peripheral and central temperature, lowered the temperature as a whole, diminished thermogenesis, diminished the production of nitrogenous waste and therefore nitrogenous metabolism, and frequently, but not always, increased perspiration, while it generally slowed the heart and slightly increased the tension of the radial artery.

Before attempting to seek a physiological explanation of these various actions it would be well to consider some other effects of antipyrin less obviously related to the thermal economy.

It had been found that large doses of antipyrin, subcutaneously injected, gave rise to clonic convulsions, succeeded by tonic spasm or rigidity, and by paralysis. But if the sciatic and crural nerves of one limb were first divided, the muscles of that limb remained free from convulsions. Smaller doses injected into one limb appeared to produce a diminution of sensibility in that limb, and sometimes also in the opposite one; at least the response to ordinary irritations and stimuli was feeble or absent. Sée, who describes this result, speaks of it as if the effect were anæsthetic or analgesic. If the sciatic of the injected side be stimulated electrically, the contractions of the other limb are very slow and limited; they seem to be performed with difficulty. This he attributes to enfeeblement of the sensory nerves of one side, and to diminished conductivity of the reflex arc through the cord to the other side. Chouppe last year communicated to the Société de Biologie some results concerning a peculiar antagonism between antipyrin and strychnine which were instructive. Strychnine, as everybody knew, appeared to increase greatly the excitability of the sensory nerves and the cord, without affecting the muscles directly. A slight stimulus was enough to throw the muscles into general convulsions, and it was said that the conductivity of the reflex arcs was augmented. If antipyrin was first injected into a vein, the subsequent injection of strychnine failed to produce its characteristic effects. A dose of antipyrin large enough to induce clonic spasms, however, did not prevent the strychnine convulsions from appearing, though they did not prove fatal. If strychnine were first injected, and produced its poisonous effects, antipyrin diminished these, and sometimes the clonic spasms of antipyrin displaced the strychnine convulsions.

The striking effect of antipyrin in abolishing pain of a neuralgic character was alluded to, and the lecturer gave his experience of its marked anodyne influence in such affections as the "lightning pains" of tabes, cancer, otalgia, rheumatoid arthritis, supra-orbital neuralgia, etc. Hypodermic injections of antipyrin were with many physicians taking the place of morphine for the simple allaying of pain. In France, where the name "antipyrin" was patented, it was proposed to compete with the German production of the drug by manufacturing it under the name of analgesin.

Another condition in which it had an excellent effect, some called it a specific action, was migraine. In his own person he had found that nothing acted so promptly, or so certainly, in averting or assuaging the paroxysm.

It was now time to attempt to give some general explanation of these several effects. It was not enough to say, with Demme, that antipyrin in large doses was a general protoplasmic poison. That was true of many alkaloids and other substances when administered in sufficiently large amount. We must try and discriminate the special action of therapeutic doses. The remarkable progression in the effects on the muscles, as already described, suggested to his mind a more promising explanation. After small doses, there was an appearance of apparently diminished excitability; stimulation induced only slow or difficult contraction of the muscle. Larger doses seemed to induce increased excitability, and spontaneous contraction or clonic spasms followed, then rigidity and paralysis. He thought the first decrease of excitability was not due to a numbing action, but to stimulation of the inhibitory muscular nerves or tracts in the cord. The existence of such nerves, for reasons explained in the Goulstonian Lectures, Dr. Gaskell's work justified us in accepting. The muscles contracted with difficulty, because of the intense stimulation of the inhibitory fibres. Intense stimulation was followed by exhaustion and paresis of these fibres, and the motor nerves then acted without check. This accounted for the peculiar spasms, and, when by them the motor nerves were in turn exhausted, rigidity and paralysis were the result. The mutual influence exerted by antipyrin and strychnine bore out this explanation. The convulsions of strychnine he believed to be chiefly due to paralysis or, at least, paresis of the inhibitory nerves. That view, at any rate, accorded better with all the facts than any other. The appearance of increased excitability was the expression of the unchecked activity of the motor nerves and tracts in the cord. Antipyrin stimulated the inhibitory mechanism, and so at first antagonised strychnine. But if the dose of antipyrin was excessive, the inhibitory influence might become exhausted or paretic, and then the poisonous effects of strychnine made their appearance.

Passing from the nerves to the brain, the diminution of thermogenesis and of nitrogenous catabolism, healthy as well as morbid, by antipyrin, was attributed to a like stimulation of the inhibitory centres connected with the thermal system. Paresis of these centres was one of the conditions of pyrexia, and the action of antipyrin was to restore their lost tone and power. Even the thermolytic influence on the peripheral temperature could be explained in the same way. In fever the surface vessels were irregularly contracted, irregularly with regard both to time and locality. Leyden and Fränkel had long ago pointed out that, so far as the cutaneous vessels were concerned, this was probably due, not so much to spasm of the vaso-constrictors as to paresis of the vaso-dilators. These oppositely acting nerves Dr. Gaskell had included in his great generalisation, and they were now regarded as catabolic and anabolic respectively. The anabolic or vaso-inhibitory nerves actively dilated the calibre of the vessels. Now, when in a fevered limb the peripheral temperature was low, it had been shown that antipyrin produced a prompt and intense increase of its temperature; this he attributed to a stimulation of the vaso-inhibitory centre, the analogue of the vagus-centre; the vessels of the limb were thereby promptly dilated, and the slight increase of blood-pressure already noted sufficed to drive the hot blood through the open channels. The slowing of the heart under the drug, at least when it preceded any marked fall of temperature, he could not account for entirely as the result of simple cooling, but believed it might depend on a like stimulation of the inhibitory nerve of the heart, namely, the vagus.

The account of the phenomena of migraine given by Dr. Lauder Brunton was quoted, and the analogy pointed out between the irregular contraction of the temporal artery and its branches, and that just alluded to as explaining the vagaries of the peripheral temperature in fever. The conditions which gave rise to migraine were more allied to exhaustion than to irritation, and his own experience suggested that paresis of the vaso-inhibitory mechanism of the cephalic, and especially of the cerebral vessels, played a large part in its causation. If this were so, the study of the properties

of antipyrin might almost have enabled us to predict its efficacy in relieving the affection; for its primary and characteristic physiological action seemed to be to stimulate to greater activity, to more regular function, the inhibitory mechanisms generally, whether muscular or vascular, and in particular those seated in the brain.

LECTURE V.

To complete the account of the physiological action of antipyrin it was necessary to say something of the remarkable effect it had in allaying certain forms of pain, especially that we are accustomed to call neuralgic. Without going too deeply into the views the lecturer entertained as to the nature of pain, it would be enough to consider one or two aspects of it. The seat of pain was in the brain. Ferrier had localised the tactile sensation in a particular region, the hippocampal convolution and its neighbourhood. When this centre is destroyed, though the sensory nerves are intact, there is loss of common sensation, and insensibility to pain when the peripheral nerves are irritated or injured. When it is intact, such irritation calls forth the movements which are recognised as the outward manifestations of inward pain. It is possible, however, without injury to the centre, to inhibit the manifestations of the sense of pain. Centres higher than the tactile are capable by their action of repressing its over-excitation, even when the peripheral stimulus is urgent. In the heat of battle a wound is unfelt. "The labour we delight in physics pain." Intense concentration of the attention is an analgesic. In the hypnotic state it is probable that powerful stimulation of inhibitory centres plays the chief part in producing the analgesia often observed. The afferent nerves were regarded as catabolic to the pain-perceiving organ; the higher inhibitory centres were capable of sending it anabolic impulses. Over-excitation of a sensory nerve led thus to excessive disintegration of the cerebral tissue, and therefore if we could check the waste or intensify the anabolic influences reaching that tissue we might abolish the pain which was the physical counterpart of the waste. This was apparently what the nervine antipyretics accomplished. They act not by numbing the sensory nerves, but by stimulating the inhibitory centres. The new drugs, which reduced fever by their action on the thermo-inhibitory mechanism, were found by a like action on other centres to be each capable of abolishing pain.

The effect on the sweat-glands was not wholly accounted for by the increased circulation through the skin. To flush a secreting gland with blood was not all that was required to induce it to perform its function. The secretory nerves required to be simultaneously stimulated to action. The surface might be highly hyperæmic in fever, and yet remain harshly dry. Antipyrin doubtless furnished the necessary nervous stimulus, and it was in accordance with the other actions suggested that it should do so by stimulating the anabolic component of the secretory nerves and centres.

Antipyrin, therefore, in a review of all its properties, was to be classed as a true antipyretic, and not merely as a refrigerant. It repressed thermogenesis, and at the same time did something to make thermolysis more efficient. It imitated Nature; it produced an artificial crisis by the same mechanism that Nature used in producing a true crisis. In neither case, however, was thermotaxis at once restored. As after a true crisis the temperature, though lowered, was still very unstable, so after antipyrin the temperature was ready to rise again on slight occasion, and did in fact rise as soon as the drug was eliminated. It did not cure the specific fever, it only allayed the pyrexia. In pneumonia, for example, the temperature could be brought down by antipyrin on the second or third day, and kept down continuously, but the other physical signs remained unaffected, and did not change till the true crisis appeared. This of course would not be indicated by any abrupt fall in the temperature, but pulse and breathing, sputum and physical signs, all showed that resolution had begun, that the acute phase of the disease was at an end; the symptom fever was separated from the other symptoms, but the morbid process was not thereby appreciably altered.

In typhoid, in like manner, though the disease might occasionally be made to run an almost apyretic course by the use of antipyrin, the drug did not appear to exert any specific action; the duration of each case was about the same, and relapses were as common as, if not indeed somewhat commoner than, under a purely expectant treatment.

In the hectic fever of phthisis antipyrin was capable of lowering the daily accessions of fever, and the comfort of the patient was in consequence increased; but the influence was essentially transitory, and no real or permanent improvement in the signs of the disease accompanied it. The drug counteracted the effect of some morbid poison on the thermal mechanism; it did not affect the generation of this poison. It was purely a symptomatic remedy, like codeine for the cough, atropine for the sweating, mineral acids or opium for the diarrhœa; but it was none the less an acquisition to possess a means which at need was potent to reduce the febrile temperature, and that *cito, tute, ac jucunde.*

In rheumatic fever, on the other hand, something like a specific action was observed. The pain and fever were in many instances promptly allayed, at times even within twenty-four hours; but it was still doubtful whether this argued an action analogous to that of the salicylates. The lecturer had seen cases in which, though there was neither pain nor fever, the swelling and redness of the joints remained, and when the antipyrin was discontinued for a day the attack resumed its previous intensity. However, the causation of rheumatism was so bound up with excessive or perverted metabolism in the muscles, that he was prepared to believe that a medicine capable of checking muscular metabolism might go far towards striking at the root of the disorder. The question was indeed still an open one.

The relative merits of antipyrin, thallin, antifebrin, and phenacetin, were very briefly dealt with. The discussion of these must largely rest on accounts of clinical experience, and the conditions of the lectureship appeared to exclude any long digression in that direction. So far as the physiological action of the others had been investigated, it was similar to that of antipyrin, which had been taken as the type. They all repressed thermogenesis, and probably all in the same way, though there were differences in the intensity and duration of their effects. Antifebrin was especially to be commended for its smaller dose and its cheapness, and it proved an efficient and pleasant antipyretic and analgesic.

Turning next, for comparison's sake, to another antipyretic method, by some considered to be, *par excellence*, the antipyretic method, that of cold bathing, the lecturer said that though its application was originally based on a theory which he had regarded as erroneous and one-sided—that high temperature is the primary source of danger in fever—the practice had, in typhoid fever at least, proved itself remarkably successful. It had been so widely used on the Continent that statistical data for a judgment as to its usefulness were unusually abundant. Within late years exhaustive discussions on the bearing of these data had been published; he instanced that of Dr. Cayley (Croonian Lectures, 1880), Dr. Sidney Coupland and others (Medical Society, 1884), and those at the First and Fourth Congresses for Internal Medicine at Wiesbaden (1881 and 1885). The special memoirs of Küchenmeister, Naunyn, and others, dealt with the same question, and he would therefore refrain from going over the same ground, confining himself to reciting what he took to be conclusions at present arrived at. Naunyn, who was not affected by the prepossession that pyrexia was in and for itself the chief enemy to be combatted in typhoid, who had indeed done much to overthrow this doctrine, could nevertheless say: "I consider it proven, as a matter of statistics, that the cold-bath treatment of typhoid shortens the duration of individual cases, and above all very considerably reduces the mortality, namely, from 15 or 20 per cent. to 5 or 10 per cent." And von Ziemssen, who was not an enthusiast, who had contributed much to our knowledge of other methods of treatment, and who had a very large experience of all, concluded that of all therapeutic methods which have been adopted for typhoid, hydrotheraphy deserved to be put foremost. "The experience of all competent observers undoubtedly goes to justify this preference." Two questions might, he said, be asked regarding a therapeutic method: first, does it exert a favourable influence on the individual case? and secondly, does it show a like influence on the general run of cases by diminishing the mortality? Both of these questions, on the ground respectively of clinical observation and of statistics, must be answered in the affirmative. As regards the disease in Germany, there was thus hardly any room left for doubt as to the value of the method, it was difficult to believe that the conditions were different in England. The experience of those in this country who had systematically and judiciously applied the cold-bath treatment was cited, and proved to be, on the whole, in accordance with that on the Continent. Dr. Sidney Coupland's account of the obvious effects of bathing was taken by way of indicating the questions concerning its physiological action which had to be studied.

First, several arguments were given to show that the benefit of

the cold applications could not be exclusively due to mere refrigeration, to simple abstraction of heat from the body by *force majeure*. Naunyn had insisted on this point, and had furnished good reasons, clinical and experimental, in its support. The most efficient method of keeping down the temperature in typhoid was the continuous tepid bath of Riess, in which patients were kept in water at 88° F. or so, for ten to twenty hours at a time. In this way the temperature might oscillate about the normal throughout the greater part of the illness; yet Riess's rate of mortality was not of the lowest. Including all cases, it was, on the average, 22 per cent. The same observer had previously forcibly suppressed pyrexia in his patients by the continuous use of sufficient doses of salicylic acid, but, notwithstanding, he lost 24 per cent. of his cases. Other cases were given in illustration, and the conclusion drawn that we must seek for an explanation of the wholesome effects of cold bathing in its influence on the nervous system, transmitted in the first instance through the sensory nerves.

The effects on the several factors of the thermolytic system were then considered in detail. The primary contraction, followed by reactive dilatation of the cutaneous vessels, was compared with the vaso-inhibitory action of antipyrin. The radiation from the skin was increased after tepid baths immediately, after cold baths it was at first diminished until the skin-temperature rose to a certain height, when it again increased. Diuresis was a usual result of the bath, and might be credited, among other most important and valuable results, with a certain thermolytic effect. The changes in the respiration, the increased depth and slowness of the breathing, were described and evaluated from the same point of view. Incidentally it was remarked that the fear some physicians entertained lest cold bathing might bring about pulmonary congestion was not justified by experience, or, indeed, by physiology. On the contrary, the pulmonary tissue was more fully opened up, bronchial and vascular obstructions were removed, and the signs of partial lobular collapse and engorgement usually done away.

As to the effect of cold bathing on thermogenesis there was still a great deal to learn. Direct calorimetric experiments which would be at all decisive on the subject were very difficult to devise, and the lecturer had not been able to suggest any satisfactory contrivance. A number of observations had, however, been made on the changes in metabolism that accompanied the baths, but in most the method used was open to physiological objections which made it difficult to draw conclusions from them as to thermogenesis. In few had the temperature been effectively kept down for any sufficient length of time. Riess, whose experiments on antipyrin would be remembered, had applied a precisely similar procedure to determine the effect on nitrogenous excretion of his continuous tepid bath, and his results were therefore useful for comparative purposes. Three days of the continuous bath were interpolated between two periods, each of three days, during which the fever was left unchecked. Cerebral disturbances were absent, and no difficulty was found in making exact estimations of the excreted nitrogen. In four cases the increase of nitrogen during the bath days over the fever days was respectively 13.1, 12.4, 2.7, 37.0 per cent. In the last case it was possible that defervescence had set in before the close of the observations; but even if the last period of fever, when the temperature was never high, were excluded, and the bath days compared only with the preceding fever days, the percentage of increase was still 25.8. The effect on excretion appeared to be exactly the opposite of that produced under antipyrin; and it pointed most suggestively to the conclusion that the *modus operandi* of the two antipyretic methods was different. During the bath days it was moreover to be observed that the urine excreted was greater than on the fever days by 3,310, 2,450, 2,650, 2,750 cc. respectively. There was thus no direct evidence of diminished thermogenic metabolism under the continuous bath. Was it possible that in unchecked typhoid fever the nitrogenous excretion, though in excess of that of health, was yet inadequate to eliminate all the waste that was produced? If so, the baths might be supposed to lead not to increased metabolism, but merely to increased discharge of the accumulated nitrogen. Dr. Murchison's suggestion that the cerebral and other symptoms in typhoid were "uræmic" in character was recalled, and correlated with this hypothesis of retained nitrogenous waste, and with the ascertained effects of bathing on the renal functions.

One inference that might be deduced from this apparently fundamental difference in two methods of treatment, both potent to lower the temperature, was that they should be regarded as in a sense complementary, each effecting what the other did not. A combined treatment in which, for example, a cool bath in the evening procured a favourable night, while antipyrin kept the fever and its attendant discomfort within limits during the day, was an eminently rational one. It was certainly more practicable than the frequent cold bath, at least in private cases. In the present state of our knowledge it ought not to be held as objection to the bath treatment that it led to an increased discharge of nitrogen, but it certainly was in favour of antipyrin that it diminished, not merely the discharge, but the production of nitrogenous waste. As Riess had suggested, in the case of wasted, feeble, or aged patients, it would be an advantage to use an antipyretic which which was proved capable of checking excessive metabolism, such as antipyrin; while in the case of robust and previously healthy patients the fact that cold bathing appeared to increase metabolism would not deter us from resorting to a mode of treatment which in typhoid had been abundantly proved to be beneficial.

FURTHER REMARKS ON ALBUMINURIA RESULTING FROM SEWAGE POISONS.

By GEORGE JOHNSON, M.D., F.R.S.,
Emeritus Professor of Clinical Medicine; Consulting Physician to King's College Hospital.

In a paper on the above subject, which was published in the Journal of March 3rd, I gave the history of four cases of albuminuric renal disease, the exciting cause of which was believed to be defective drainage, and consequent sewage poisoning.

The further history of the third case, which was then recorded, and the remarkable improvement in the patient's condition since the defective drainage was discovered and repaired, afford confirmatory evidence that sewage poisoning was the sole cause of the malady.

It will be remembered, or seen by referring to Case III, that a previously healthy and temperate man had been ill for two years since dwelling in a new house in which a bad smell had been noticed. The first symptoms were disorder of the stomach and bowels, with almost constant diarrhœa, which on two occasions ceased entirely while he was away from home for three weeks, but recurred soon after his return home. At length general dropsy appeared, and then the urine, which had not before been tested, was found to contain a very large amount of albumen, with numerous hyaline and oily casts and cells. At the time of my visit in December I was led to suspect that sewage poisoning had been the cause of the patient's illness. Acting upon my advice, the patient went from home while the defective drain was sought for, discovered, and repaired. The diarrhœa, which had continued until he left home, ceased almost immediately afterwards, and since he returned home, after an absence of five weeks, it has not recurred. In other respects, the improvement has been most remarkable. The albumen has decreased from 15 grammes per litre (by Esbach's exact method) to 3.5 grammes per litre. No tube casts or oily cells have been visible for some weeks past; the dropsy has disappeared. The man has a healthy look, declares that he feels quite well, and for the last six weeks he has been actively pursuing his business as agent for a large brewery. No one who has watched the progress of this case could doubt that the very great improvement which has taken place, although it has been aided by medicinal and dietetic treatment, has been mainly due to the discovery and removal of the exciting cause of the malady—an unsuspected exciting cause, to which the patient had been almost constantly exposed for a period of two years.

Since the publication of the cases before referred to I have met with another example of fatal degeneration of the kidneys, consequent on sewage poisoning.

Case V.—On February 28th I saw, in consultation with Dr. Kellock and Mr. Percy Reynolds, Mr. W., aged 47, a town surveyor, who had been ill for several months, and treated for disorder of the liver, but his urine had not been examined until a fortnight before, when he had come under the care of Mr. Percy Reynolds, who had immediately found the urine albuminous. I said to the patient, "How did your illness begin?" He replied, "I have not been well since I got blood poisoning eighteen months ago.' I inquired, "How did you get blood-poisoning?" He said, "I was superintending the opening and repair of a blocked drain, and

the smell was so bad that I came home, and vomited many times. The next day I went again to the open drain, and the smell immediately made me vomit. I have been ill ever since."

The chief symptoms at the commencement were those of disordered digestion, with headache and vomiting, which at first occurred at intervals of some weeks, but much more frequently of late. He had lost three stone weight since Christmas, and those who knew him were much struck by his greatly altered appearance. His illness had compelled him to resign his appointment as surveyor. There had been no œdema, and the urine had never been observed to be high-coloured. During the last few weeks micturition had been frequent and copious. The urine now was of light colour, specific gravity 1012, and contained four grammes per litre of albumen. It deposited a dense but scanty whitish sediment, containing large granular and large hyaline casts, a few epithelial casts, and a few oily cells, appearances indicating a large white kidney, now undergoing contraction.

The heart's impulse was excessive, with doubling of the first sound and accentuation of the aortic second sound. All the superficial arteries, in particular the radials and the temporals, were tortuous and very tense. There was severe headache, with restlessness and frequent vomiting. The evidence of advanced and incurable degeneration of the kidneys was complete.

On March 12th, when I had another consultation with the gentlemen before mentioned, the urine was slightly blood-tinged. During the last few days the sight had become very dim, no doubt the result of albuminuric retinitis, but he was too ill and restless to bear an ophthalmoscopic examination, and I had to abandon the attempt to make one. I heard from my friend Mr. Percy Reynolds that, except an attack of nose-bleeding of some hours' duration, no fresh symptoms occurred until, after a few hours of coma without convulsions, the patient died on March 20th.

That the renal disease in this case was a direct result of the sewer poison to which the patient had been exposed about eighteen months before his death can scarcely be doubted. Up to that time he had been in good health, he was of strictly temperate habits, and he had not been exposed to cold, or to any other known cause of renal disease; and, on the other hand, he emphatically stated he had never been well since the sudden onset of the toxæmic symptoms.

It is noteworthy that none of the men engaged in repairing the drain, the emanations from which caused the fatal disease in our patient, were made ill in the performance of their disagreeable work, although they must have been much longer exposed to the foul air. This affords an illustration of the common observation that a virus which is sufficiently potent to excite fatal disease in one man may have no appreciable ill effect upon others who have been equally or even more exposed to its influence.

The most rapidly fatal case of poisoning by sewage virus that I have seen came under my care many years ago when I was physician to the Public Dispensary. I regret that I cannot find my notes of the case, but the main facts are that a man having been engaged for an hour or more in unstopping a blocked drain by stirring with a stick was speedily seized with vomiting, and the urine became scanty and deeply blood-tinged. There was rapidly increasing cerebral oppression, and death within forty-eight hours after exposure to the sewer poison. The kidneys were found much enlarged and of a deep chocolate colour, presenting exactly the appearance which is admirably represented in Dr. Bright's Plate 5 (*Medical Reports*, vol. i). On microscopic examination every uriniferous tube was found injected with extravasated blood.

METHYLENE AS AN ANÆSTHETIC.

By WILLIAM H. DAY, M.D.,
Physician to the Samaritan Hospital for Women and Children.

ATTENTION is just now being drawn to the action of methylene, and its claim to certain advantages over other anæsthetics. Having had with Sir Spencer Wells some considerable experience in the administration of methylene, and its subsequent effects during the period of convalescence, I am tempted to offer a few practical notes.

It is a mystery to me that an anæsthetic so safe and effectual as methylene should not have been more generally employed by the profession. A few deaths have been imputed to it, it is true, and occasional deaths will occur from any anæsthetic, however carefully administered, but notwithstanding, I think, methylene occupies in point of safety a first class position. Some years ago the late Mr. Peter Squire asked me whether I considered methylene possessed any advantages over chloroform, and I replied in the following words, which will be found in his *Companion to the British Pharmacopœia:*

"It is less likely to cause vomiting, it is more agreeable to inhale, and there is less excitement preparatory to the stage of anæsthesia; rarely more than three or four drachms are required for an operation lasting half an hour, and consciousness returns in a few seconds after inhalation is discontinued."

My conviction of these merits remains unshaken. We should always bear in mind that all patients do not behave alike under an anæsthetic, whether it be ether, chloroform, or methylene. The young bear anæsthetics better than the middle-aged. The strong and the vigorous, and those of sanguine temperament, resist the action more than those who are nervous and phlegmatic; they are longer in getting under the influence of it, and it sometimes requires much patience and tact before complete muscular relaxation and tranquil sleep are established. If such patients have been intemperate the difficulty is all the greater, and I have felt on these occasions some anxiety, though I have never yet failed to narcotise them. Men do not take anæsthetics so well as women. If young and healthy there is more struggling and resistance, and after the middle period of life fatty infiltration of the heart is more common in the former, and they indulge to a greater extent in alcoholic stimulants. Children are quickly narcotised, and danger is scarcely ever present. In patients who lead temperate lives, and whose heart and lungs are healthy, almost any anæsthetic may be safely administered; it is when these organs are damaged that death from asphyxia or syncope sometimes ensues. In abdominal tumours of long standing, with a large quantity of peritoneal fluid, the diaphragm is pressed upwards, and the lower lobes of the lungs are so compressed that very little breathing space is left, and hence the danger of suffocation if the anæsthetic is not given sparingly and slowly. Slow administration is in itself a safeguard. In such cases the shoulders of the patient require to be well elevated, and the mask of the apparatus not brought so near the mouth as to exclude the free admission of atmospheric air into the lungs. In these cases of pulmonary oppression the patient may become livid after a few inhalations, and be seized with a convulsive, choking cough, which embarrasses the operator, but as the ascitic fluid escapes, and the tumour is removed, freer respiration is established, and then the remedy can be pushed to full narcotism, more particularly when the abdominal distension is of recent date. It is in disregard of this warning that fatal consequences may result.

When the abdomen is distended with fifteen or sixteen quarts of fluid, and contains a multilocular cyst, weighing eight or nine pounds in addition, the umbilicus may reach a higher level than the nose of the patient as she lies on the operating table. In such a case slow and cautious administration is demanded, and as I have before said some of the fluid must be withdrawn before the patient can take a full inspiration. At this stage we cannot push the methylene beyond partial anæsthesia.

When mucus accumulates in the mouth, I am in the habit of twisting one end of a pockethandkerchief round the forefinger of the right hand, and wiping it away. This simple practice prevents the mucus from collecting at the back of the pharynx, whilst it facilitates respiration, and prevents the choking cough.

When the pulmonary organs have been long pressed upon, or the heart displaced, bronchial irritation sometimes comes on a few days after operation, as the lungs undergo expansion, and the pressure is removed. This is all the more likely if a considerable quantity of the anæsthetic has been administered. Such complications are rare in recent abdominal distension, but in old standing cases where the lower ribs are bulged outwards like a fan this risk is frequent, and ought to be calculated upon. In these cases the heart becomes weak; it is often displaced upwards, and prone to take on degenerative change.

As to the existence of a cardiac murmur, undue importance may be attached to it. It is not always easy to diagnose a functional from an organic murmur, but where the pulmonary circulation is free, I never hesitate to recommend methylene as an anæsthetic. The pressure resulting from a large abdominal tumour may give rise to a soft cardiac murmur, which means nothing at all, if the muscular structure of the heart is vigorous enough to overcome any distension of its cavities, but we must not overlook the fact that long-standing upward pressure tends to invite feebleness of

the heart's action, thin walls, and degenerative changes. Sudden death at the time of operation, or soon after it, has to be reckoned with.

I have safely given bichloride of methylene to patients suffering from heart disease on many occasions; in dilatation and weakness of the organ, and in mitral change with hypertrophy. When there has been considerable distension of the right and left cavities of the heart from valvular defects I have never hesitated to use methylene if an operation has been urgent, even if the cardiac trouble has considerably impaired the pulmonary circulation. I am doubtful whether there is any other anæsthetic to supersede methylene in this condition. I have ascertained, before commencing the administration, that the heart was weak, or its valves damaged, and yet, in spite of this, the pulse has frequently improved in quality to the surprise of bystanders, and the patient has looked a far better colour at the close of a tedious operation than at the commencement. The bichloride has acted as a cardiac stimulant throughout. Exceptions are sometimes met with, and in these cases I invariably resort to brandy during the administration, never pushing the methylene to such an extent as to interfere with swallowing. I have given, during a long and desperate operation, as much as six ounces of brandy, and I am convinced that this precautionary measure has carried the patient safely through. I never trouble myself about the pulse; the countenance and the respiration are my guides. No hard-and-fast lines can be drawn. One patient can be sent into tranquil sleep with three drachms for half an hour, and a very exceptional case will require three times the quantity. Twelve drachms is the largest quantity I have ever given for an operation lasting one hour, and I have no remembrance of Sir Spencer Wells being a longer time than this over his worst operations.

I have known many cases of pleuritic effusion in ovarian disease, and when recent and serous I have advised the abdominal section before tapping the thorax, and in every such case where there has been enough breathing space left I have not been anxious. The effused fluid has disappeared from the chest without operative interference.

I have administered methylene with the best effects in cases of advanced phthisis with a large cavity in one lung, and softening going on in the other.

I do not think I have over-estimated the value of methylene, as in 1,230 cases I have not met with anything to alarm me. It is the most harmless of anæsthetics; it has never disappointed me, and I feel sure that those who will give it a fair trial will record a similar experience to my own.

It is not in healthy individuals that danger is to be apprehended from the employment of an anæsthetic. It is in the diseased and feeble, who have been reduced by pain, sleepless nights, and long suffering. In such cases as these Dr. Frederic Hewitt advocates the anhydrous ethylic ether, or the A. C. E. mixture. ("On the Production of Anæsthetic Sleep in Patients suffering from Grave Constitutional Disease," *The Lancet*, May 26th, 1888.)

Dr. Richardson introduced methylene bichloride in 1868-9, on a distinct principle—namely, that all the chloride anæsthetic series are excitants by reason of the chlorine. He therefore considered that by reducing the chlorine he reduced the danger. He used first methyl chloride (CH_3Cl); but, this being a gas, he found a difficulty in using it, because, unless it were given in the pure form from a large reservoir, when he found it a most perfect anæsthetic, it could only be given from a fluid in which it was condensed, and from which it escaped, producing extreme cold. He proceeded next to methylene bichloride (CH_2Cl_2), or one equivalent less of chlorine than chloroform ($CHCl_3$); and, after getting it in the pure state and inhaling it himself as a trial, he administered it successfully to a patient, Sir Spencer Wells being the operator. Dr. Richardson's argument has throughout been that methylene is safer than chloroform, because it is a lighter body, is more easily diffused, is more equable in action, and is less of an excitant. My experience confirms these conclusions to the letter.

ACUTE CIRCUMSCRIBED ŒDEMA.—Dr. Falcone (*Monat. f. Prakt. Derm.*, 1888, p. 291) relates a case of acute circumscribed œdema in which the patient's grandfather had suffered from a similar affection. Dr. Riehl (*Ibid.*, p. 444) relates a case in which the acute œdema formed behind the eyeball. The eyeball protruded and there was œdematous swelling of the eyelid and conjunctiva. The swelling lasted for twelve hours. There were two relapses. Meynert stated that a similar process of acute circumscribed œdema sometimes occurred in the brain, leading to death.

POST-NASAL GROWTHS AND THEIR RELATION TO DISEASES OF THE MIDDLE EAR.[1]

BY ADOLF BRONNER, M.D.,
Surgeon to the Bradford Eye and Ear Hospital.

MEYER, of Copenhagen, was one of the first to draw attention to the frequent occurrence and great importance of post-nasal growths (*Hospitals Tidende*, November 4th and 11th, 1867, and *Archiv für Ohrenheilkunde*, 1873). Several authors divide post-nasal growths into two diseases, that is, adenoid vegetations and hypertrophy of the pharyngeal tonsil. There does, however, not seem to be any physiological difference between the two affections. They are simply two forms of one disease, that is, local hypertrophy of the normal pharyngeal tonsil or retinoid tissue, situated at the vault of the naso-pharynx. If the hypertrophy is regular and lobular, it is called hypertrophy of the pharyngeal tonsil; if irregular, adenoid vegetations or lymphoid papillomata. Of course in many cases the surrounding retinoid tissue is also hypertrophied, but rarely to such an extent as to be of much importance. Many authors still seem to believe that the growths grow from the posterior wall and sides of the naso-pharynx. That this is not the case has been proved by the *post-mortem* examinations of Trautman, of Berlin (*Anatomische Pathologische und Klinische Studien über Hypertrophie der Rachentonsille*).

The symptoms of post-nasal growths are very characteristic. The child (as children are mostly affected) is generally pale and weakly, with in-drawn thorax and pinched nose. It keeps its mouth open, more or less, which gives it a peculiar and stupid expression. The lips are swollen and thick; often also the eyelids. The child sleeps with its mouth open, and invariably snores at night. There is a peculiar nasal twang, very similar to the speech in paresis of the soft palate. The child cannot breathe through its nose, and is subject to attacks of bronchitis. In nearly every case there is distinct history of recurrent disease of the middle ear. The growths can be easily felt by introducing the finger behind the soft palate. They can in most cases be distinctly seen by anterior and posterior rhinoscopy.



The treatment of post-nasal growths can of course only be a local one. I now invariably remove them with the ring-shaped curette, as recommended by Hartman, of Berlin. It removes the growth very readily, the operation is not very painful, there is no danger of wounding any important structures, and, what seems to me to be of very great importance, the operation can be performed without an anæsthetic. The curette is similar in shape to the curette of Lang or Dalby, but the upper edge of the ring is flat instead of round (*vide* diagram).

The head and arms of the patient are firmly held by an assistant; the tongue is depressed, and the bent end of the curette is passed behind the soft palate. The flat end (a) is then pressed well against the vault of the naso-pharynx, and firmly drawn from one side to the other, thus cutting, or rather slicing, off the growths.

In many hospitals it still seems to be customary to use an anæsthetic when the growths are removed. By operating in the manner I have suggested an anæsthetic is hardly ever necessary, and the removal of post-nasal growths is reduced to a minor operation which can be undertaken at any time or at any place, without the slightest risk and in a very short time.

Post-nasal growths are to be met with mostly in children, and are undoubtedly much more common than is generally supposed. Meyer examined 2,000 school-children at Copenhagen, and found that 20, or 1 per cent., showed distinct symptoms of the growths. He also examined 700 children of the Orphanage at Haverstock Hill, and found that 13, or nearly 2 per cent., had post-nasal growths. Professor Doyen saw 4,000 children at

[1] Abstract of Paper read before the Yorkshire Branch of the British Medical Association, at Leeds.

Leyden, and found that 5 per cent. showed the symptoms of the growths.

The great importance of post-nasal growths is their intimate relation to diseases of the throat and middle ear. Meyer examined 1,083 cases of deafness, and found 80 cases of post-nasal growths, or 7.5 per cent. Of 175 patients who had post-nasal growths, 130, or 70 per cent., were affected with diseases of the middle ear. Killian found that of the 712 cases who attended the ear clinic of Dr. Hartman in the half year 1886, there were 135 cases of post-nasal growths, nearly 20 per cent. Of these 135 cases, 101, or 75 per cent., had diseases of the middle ear. Of 242 children under 15 who had diseases of the middle ear, 90, or 40 per cent., had post-nasal growths. Schmiegelow reports that of 119 cases of post-nasal growths, 100, or 84 per cent., had diseases of the middle ear.

I have collected from private cases and cases under my care at the Bradford Eye and Ear Hospital 198 cases of diseases of the middle ear in children under 15, and found that of these 198 cases, 101, or over 50 per cent., had post-nasal growths. These were removed in 90 cases, thus clearing up all doubt as to the diagnosis. Of 152 cases of post-nasal growths, 125, or about 85 per cent., showed symptoms of past or present affections of the middle ear.

These facts will, I think, suffice to show how very important it is that in all children who suffer from recurrent or chronic diseases of the middle ear the naso-pharynx be carefully examined, and the growths, if there be any, removed. In adults other diseases of the naso-pharynx and also diseases of the nose beco e more frequent, and are in their way just as important for the treatment of diseases of the middle ear as post-nasal growths are in children.

RETINAL CHANGES IN BRIGHT'S DISEASE.

By ROBERT MAGUIRE, M.D.Lond., M.R.C.P.,
Physician to Out-Patients, and Joint-Lecturer on Pathology, St. Mary's Hospital.

In Bright's disease, various forms of retinal change are met with. Dr. Gowers, in his *Medical Ophthalmoscopy*, enumerates (1) diffused opacity from œdema, (2) white patches, (3) hæmorrhages, (4) optic papillitis, (5) diffused retinitis, and (6) atrophic changes sequential to inflammation. Of these, the first form is common; the latter three, consisting of inflammatory changes and their consequences, are rare. In the condition ordinarily known as albuminuric retinitis, the appearances usually found are those of hæmorrhages, or of white patches in the form of radiating striæ, most numerous round the macula lutea.

The pathology of these changes, and their relation to the disease with which they are associated, is by no means clear. In the majority of cases the term albuminuric retinitis is a misnomer, for the condition of the retina is not one of inflammation. This is obvious, of course, in the case of hæmorrhages. The characteristic white patches when present might be the result of previous hæmorrhages, or of inflammation, or of simple degeneration. The microscopic examination usually, however, points to the latter origin. The patches are not found in the site of old hæmorrhages; they are not usually seen in the immediate neighbourhood of blood vessels, and they show at no stage of their existence any trace of blood pigment when examined either by the microscope or ophthalmoscope. Similarly, no traces of inflammatory action have been discovered in such patches. We must conclude, therefore, that they are from the first degenerative.

When we compare a number of cases of Bright's disease presenting such changes in the retina, it is not easy to find a common feature. The changes are most common in very chronic cases, and especially in cases of granular kidney, but the most varied features may be present. In some cases the ordinary name for the affection is a further misnomer, in that no albumen is present in the urine. I have one case under treatment at the present time in which albumen is found only in the urine passed after meals and exercise, and then in almost infinitesimal quantities; indeed, it can only be demonstrated by the magnesium-nitric test. On other cases, a very large amount of albumen may be present in the urine. Similarly other common features of Bright's disease may vary without any influence upon the retinal disorder. The one feature which I have observed to be common to cases of so-called albuminuric retinitis is an excessively high arterial tension. A certain degree of increased tension is a normal, and one might almost say a healthy, condition in Bright's disease, and the aim of treatment in granular kidney should be to maintain such a degree of arterial tension as shall not pass, in either direction, beyond this normal. In cases where retinal changes are seen, the arterial tension will usually be found to be very high even for Bright's disease, provided that cardiac failure has not set in since the onset of the retinal affection. The relation of the high tension to the hæmorrhages is, of course, obvious. In any case of granular kidney the strain upon the vessels may be relieved by rupture, giving rise to hæmorrhage, possibly; the blood may be poured out in some comparatively safe part of the body, such as the nose, the lungs, or even the kidneys themselves, and the patient is often much relieved thereby; the hæmorrhage may, however, take place into the brain or retina, and cause serious mischief.

I am inclined to think that the degenerative patches also may be caused by the high arterial tension. We know that, associated with high arterial tension there is a deficient circulation through the smaller vessels. In Bright's disease the retinal arteries are commonly extremely small. Dr. Gowers mentions a case in which a reduction in size of the retinal vessels was observed to coincide with a marked increase in the tension of the pulse. The parts supplied by such abnormally small arteries must to a certain extent be deprived of nutriment. It must be remembered also that the whitish patches are commonly found in those parts of the retina which are comparatively remote from blood-vessels, and the most likely to suffer from deficient circulation. It may hence be reasonably deduced that the white degenerative patches are evidences of a deficient nutrition consequent upon disordered circulation.

Such a view explains certain other relationships of the retinal change. Thus, so-called albuminuric retinitis is very rare indeed in cases of amyloid kidney, and in this form of Bright's disease it is also rare to find either increased arterial tension or cardiac hypertrophy, unless the affection be complicated by granular change of the kidney. Again, the presence of retinal change is usually and rightly looked upon as increasing the gravity of the prognosis in Bright's disease, not only as regards the eyesight, but as regards the life of the patients. If, as I venture to propose, the retinal changes, whether hæmorrhagic or degenerative, are due to the increased arterial tension, and this is caused by the poisoned blood, it must be that the retinal change indicates a high degree of blood-disorder, and consequently a severe phase of the general disease. We have thus a reason for giving a grave prognosis.

In puerperal albuminuria the occurrence of retinal changes is not necessarily of unfavourable omen as regards the life of the patient, although possibly indicating a greater tendency to convulsions. The reason for this is clear, if the relation of retinal degeneration to the arterial tension is borne in mind. During the puerperal state the vascular system of the mother has to carry the excrementitious matter of two beings, herself and her child. The attempt on the part of the kidneys to remove such effete substances leads to their irritation, to the transudation of albuminous bodies, and sometimes to severe and permanent organic disease. The presence of the excrementitious matters in the blood causes also high arterial tension, and, according to the view put forward, may produce hæmorrhagic and degenerative changes in the retina. But when parturition has taken place, the cause alike of the albuminuria and of the high arterial tension is removed, and since the high tension constitutes the danger to life when retinal changes are present, it follows that when the high tension is removed the retinal change no longer justifies so gloomy a prognosis.

Further, the high arterial tension may be responsible for functional as well as organic retinal changes. Cases of albuminuric retinitis, when the high tension is combatted by rest in bed, calomel, and salines, frequently show a slight improvement of vision before any change can possibly have taken place in the organic lesions. I have no absolute evidence of this to give in the form of charts of the field of vision, but tested by ordinary clinical methods, such as by reading small print, distinguishing small objects, etc., the fact is often easily ascertainable. The result is probably due to the relief of the obstruction to the circulation, and the consequent better nutrition of the retinal tissue. It has its parallel in other functional disorders of the nervous system, such as hemianæsthesia and hemiparesis, which are found in Bright's disease accompanied by high arterial tension, and are relieved by similar means.

CLINICAL MEMORANDA.

DIPHTHERITIC PARALYSIS AFTER SLIGHT SORE THROAT.

In reference to Mr. Hutchinson's case of diphtheritic paralysis following on slight throat symptoms, I would like to state that such cases are far from uncommon. In young children, to obtain a history of diphtheria to account for the paralysis is a rarity, instead of being the rule. During my seven years' association with the East London Children's Hospital I have chanced to come across a fair number of cases of diphtheritic palsy, but until the present year had personally never known the complaint to follow on what had been diagnosed as "diphtheria." Most of these cases, it is true, were of slight severity, affecting only the ocular muscles, or those of the palate, or both; but a few were cases of general paralysis. Previous history as to recognised diphtheria was negative in all my cases, but in most a history of sore throat a short time previously was obtainable, and in some there was evidence of diphtheria in other members of the family at the same time. In a few the throat symptoms had been so slight and transitory that they had escaped notice altogether, and this last group included one case of general paralysis at least.

So uniformly has there been an absence of a previous history of diphtheria in cases of the palsy that I am persuaded, as far as children under ten years of age are concerned, the only ratio between severity of throat symptoms and frequency of paralysis is an inverse one. The extreme infrequency of paralysis in cases of recovery from tracheotomy for diphtheria would go far to confirm this view. Inquiry, too, would seem to show that my experience does not differ widely from that of several others.

As regards adults and children of maturer age, perhaps a different condition obtains. My experience in them is but limited, but, as far as it goes, would seem to show that paralysis is much more frequent in relation to the numbers attacked, and that its severity bears a somewhat definite relation to the severity of the previous throat symptoms, presenting in this respect a marked contrast to what occurs in the case of young children.

But all inquiries as to the frequency and severity of the paralysis consequent on a previous diphtheria, both in children and adults, must be useless and misleading until the question is settled as to what does or does not constitute diphtheria. All the tests relating to the character of the membrane, its presence or absence, etc., are confessedly fallacious. At present, as it seems to me, our only certain criterion of "diphtheria" is the presence of the paralysis.

J. A. Coutts,
Assistant-Physician to the East London Hospital for Children, Shadwell.

CASE OF UNILATERAL TONGUE PARALYSIS FROM INJURY TO HYPOGLOSSAL NERVE.

In vol. iii of the Clinical Society's *Transactions*, Sir James Paget reports a case of injury to the occipital bone, followed by paralysis of the right half of the tongue, due to pressure on the hypoglossal nerve. This being the only recorded case known to me, I think notes of a similar one may be of interest.

A young lady, aged 16, a patient of Dr. Longford, of Thirsk, to whom I am indebted for notes on the case, consulted me in May of this year about her tongue. On November 20th, 1886, in jumping over a ditch, she landed awkwardly on her feet, and felt the upper part of her neck strained. Immediately after she noticed something wrong with her tongue, which felt, when she tried to move it, as if it rolled round in her mouth. The following day Dr. Longford was sent for, and diagnosed the condition. Her companions laughed at her for talking thickly. She was sent home, when the family doctor saw her, laughed at the diagnosis, and said it was all stomach. Eighteen months after the inquiry I saw her. There was then marked atrophy of the right half of the tongue, giving it a peculiar wrinkled, shrunken appearance. It was only about a quarter the size of the healthy side; speech was still considerably affected. Dr. Longford informs me now of slow improvement.

It will be remembered that the hypoglossal nerve leaves the skull by the anterior condyloid foramen of the occipital bone, in front of the insertion of the vertebral column. After making dissections of this region, I concluded that bruising of the nerve followed by hæmorrhage into its sheath may have been caused by a driving up of the vertebral column, and squeezing of the nerve between it and the base of the skull, which the elasticity of the base of the skull in a young subject might allow of, or that the nerve may have been stretched over the long transverse process of the atlas by an awkward twist of the head.

Rutherford Morison, F.R.C.S., M.D.Edin., late Visiting Medical Officer Hartlepools Hospital,
Newcastle-upon-Tyne.

THERAPEUTIC MEMORANDA.

HYOSCINE AS A HYPNOTIC.

Although it has been demonstrated that the value of hyoscyamine really depends on the hyoscine it contains, the more powerful alkaloid has made little progress as an established hypnotic. I have selected the following typical cases as being of interest with regard to its action in delirium tremens, insomnia, and mania.

Case I.—*Delirium Tremens in a Man aged 32.*—All sedatives had been given with little or no result; he was full of delusions, and trying to escape into the street, etc. On the third day, as only the slightest sleep had occurred, hyoscine ($\frac{1}{100}$ gr.) was injected subcutaneously, no other drugs having been administered for twelve hours previously. In ten minutes drowsiness ensued, and in twenty minutes the patient was in a profound but healthy sleep, which lasted without intermission for nineteen hours. On awaking on the fourth day the delusions had entirely vanished, and the after-progress of the case presented nothing of special note.

Case II.—*Insomnia in an Elderly Man.*—Bromide and other sedatives internally, and morphine bimeconate and morphine with atropine hypodermically, had all failed. The injection of hyoscine ($\frac{1}{250}$ gr.) was attended with signal success, and the after-administration of $\frac{1}{150}$ gr. was equally satisfactory.

Case III.—*Maniacal Excitement in a Man aged 40 during an Attack of Melancholia.*—In this case also sedatives not only failed to produce sleep, but had no effect on the excitement. Hyoscine ($\frac{1}{125}$ gr.) caused deep sleep for thirteen hours, as did $\frac{1}{100}$ gr. the succeeding day for eleven hours. The result of both injections was to reduce the general excitement on waking.

As a hypnotic hyoscine is most certain, and as it is only contra-indicated in pulmonary disease whilst causing no digestive disturbance, it is in this respect far superior to morphine. It does not appear to have any special idiosyncrasy, but toleration renders a previous effectual dose inert on repetition. If, then, more than one dose is likely to be required, it is best to begin with $\frac{1}{150}$ gr., increasing by $\frac{1}{100}$ gr. to $\frac{1}{75}$ gr. In Bourneville and Bricon's *Hypodermic Medication* it is stated that $\frac{1}{75}$ gr. has been given, but $\frac{1}{75}$ gr. would seem to be the largest dose not likely to cause unpleasant symptoms. Should these occur, pilocarpin, or preferably caffein, as sodio-salicylate, is indicated. I should add that in all cases the Burroughs and Wellcome hypodermic tabloids were employed, and the injections performed almost painlessly with the guarded syringe recently devised by Mr. H. O. Schollar.

Uckfield. J. J. Pitcairn, L.R.C.P.Lond.

MENTHOL IN PRURITUS VULVÆ.

Sir,—Having read, a short time since in the Journal, an interesting pager by Dr. Routh on the Treatment of Pruritus Vulvæ, and the application of peppermint water, I gave it a trial, but found it gave only slight relief.

I have since found that the application of the solid "menthol" (as sold in cone-shaped boxes for relieving neuralgic pain) is far more effective and more permanent in its action in giving relief in this distressing complaint. The menthol should be well rubbed over the mucous surface, avoiding all cracks or tender spots. A sense of burning is at first complained of, but is very soon followed by what one of my patients described as a "delicious coolness" which lasts for a considerable time. I fancy similar relief would be given by the use of the menthol in pruritus ani,

but have no experience as yet of its use in such cases. I have been told that the menthol cones are composed of both camphor and menthol, which may partially explain its sedative effect.

Dublin. ALEXANDER DUKE.

COCAINE IN PLEURISY.

I WISH to call attention to the use of cocaine in pleurisy. When the patient has placed his finger on the seat of pain, inject subcutaneously at this spot one-fifth or one-fourth of a grain of cocaine, and repeat the injection once or twice a day. The pain is greatly moderated; the relief produced is unattended by the results that often follow morphine, such as constipation or pulmonary congestion; and a most decided check is placed on the tendency to effusion.

Rochdale. HENRY COLLEY MARCH, M.D.Lond.

ACCIDENTAL SWALLOWING OF A NAIL; TREATMENT BY HYDROCHLORIC ACID.

THE following case came under my care recently. A carpenter was standing on a piece of scaffolding, nailing up boards to the under part of a roof, and with the idea of having the nails near at hand when required, kept a few between his teeth. The scaffolding gave way, and the man in saving himself from falling swallowed one of the nails. He immediately felt severe pain down the course of the œsophagus, and afterwards there was constant pain and tenderness at the pyloric end of the stomach. I made him limit his food to bread and milk, and gave him large quantities of hydrochloric acid, with the object of acting on the nail and forming a soluble salt of iron. I kept him more or less under the influence of chlorodyne, relieving his bowels occasionally by an injection. The motions after the first two days were blackened, and the stomachic pain and tenderness gradually subsided. He is now apparently quite well. I should mention that the nail which he swallowed was two inches in length.

I do not know if any case of the kind has been recorded. The administration of a mineral acid seems to me to be the most rational treatment, and in this case it clearly had the effect of dissolving the iron. FITZJAMES MOLONY.

Porlock, Somerset.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

WESTMINSTER HOSPITAL.

CASE OF ACUTE OSTEO-MYELITIS OF NECK OF FEMUR: RECOVERY, WITH UNIMPAIRED JOINT.

(Under the care of N. C. MACNAMARA, F.R.C.S.)

A. F., aged 9, was admitted on January 10th, 1888. The patient was a strumous-looking lad. His father suffers much from "his chest;" his mother is strong and healthy. A. F. has always had fairly good health: about a fortnight before coming into hospital he received a severe blow over the region of the great trochanter of his left femur. There was no external bruise, but at the time of the accident he suffered great pain at the seat of injury, especially when he attempted to move his limb. The pain was, however, better next day, but his mother noticed that he limped in walking. On the night of the tenth day after the accident, the patient was suddenly seized while in bed with violent pain in his left hip, and three days afterwards he was brought into the hospital. A. F.'s temperature was then 103°, and it rose to 104° in the evening; his left thigh was slightly flexed and abducted; any attempt to move the limb caused violent pain in the joint, as also did the slightest pressure applied directly over the head of the femur. The patient's thigh was not swollen, but the depression along Poupart's ligament was obliterated from effusion into the joint and surrounding tissues: during the night the boy was somewhat delirious.

Ice-bags were applied over the joint, and the limb secured to a splint; but as the fever and other symptoms were not relieved, it was determined on the second day after the patient's admission into the hospital to lay open and drain his left hip-joint, and also the head and neck of the bone if necessary. An incision was made from behind the greater trochanter into the joint, so as to afford efficient drainage as the boy lay on his back in bed. On passing one's finger into the joint the neck of the femur felt rough and bare; it was evidently separated below from its head at the line of the epiphysicial cartilage, for the tip of the finger could be inserted between the neck of the bone and the cartilage when the patient's leg was abducted; whilst this was being done a small quantity of pus escaped from the wound: this fresh pus was examined by my colleague, Mr. Spencer, and found to be swarming with staphylococci. The operation was conducted on strictly Listerian principles, a drainage-tube being retained in the joint.

The patient's temperature fell during the evening of the day on which the operation was performed, and the pain almost completely disappeared, so that the boy passed a good night, and the following morning was smiling, and wonderfully improved. The dressings were removed on the fifth day after the operation, and the drainage-tube on the twelfth day. The lad made an uninterrupted recovery, and left the hospital on February 23rd; he was then able to walk about the wards without the slightest inconvenience, the movements of the hip-joint being perfect.

REMARKS.—In July, 1887, I reported in the JOURNAL a case of acute osteo-myelitis of the neck of the femur. The patient had suffered from acute symptoms for fourteen days before coming into hospital; fearing that during this time destructive inflammation of the head and neck of the bone would have taken place, I excised them. The patient made an excellent recovery. We found after removing the head and neck of this girl's femur that they were necrosed, there being clear evidence of acute epiphysitis. In the case of A. F., however, above referred to, the acute symptoms had only existed for three days before he came into hospital, and I felt sure if I could then effectually drain the inflamed bone that the disease would subside. On opening the joint I found the neck of the femur, at its lower part, separated from the epiphysicial cartilage, so that there was a free opening through which the pus in the cancellous tissue could escape outwards, together with other products from the inflamed medulla; it was consequently unnecessary for me to drill the neck of the bone.

This is the first case of acute osteo-myelitis of the neck and head of the femur in which I have been able to preserve the inflamed bone, and subsequently secure perfect motion in the joint. The lesson which the case enforces is the old one, that, in instances of acute inflammation in growing bones, if we would prevent necrosis of the osseous tissue involved, it is necessary to drain the parts effectually from an early stage of the disease, that is, before the products from the inflamed medulla have by pressure prevented the circulation of blood through the part, and so caused its death.

BRISBANE GENERAL HOSPITAL, QUEENSLAND.

FIVE CONSECUTIVE CASES OF TRACHEOTOMY FOR DIPHTHERIA.

(Under the care of F. E. HARE, Resident Medical Officer.)

CASE I.—G. P., aged 7, admitted September 14th, 1886. Ill four or five days; sore throat, covered with white patches. On the 14th respiration began to be harsh, and on admission showed signs of obstruction; pulse, 136; temperature, 101.5°. Breathing became much easier towards evening, and she slept in snatches during the night, but the following day spasms became frequent, and later marked obstruction; tracheotomy at midnight. After the operation she passed a perfectly quiet night, and took nourishment well. During the next three or four days she coughed up many pieces of thin membrane through the tube, which was permanently removed on the eighth day. Further convalescence was rapid.

CASE II.—M. R., aged 4, admitted 9 P.M. April 26th, 1887. On admission respiration noisy, but not markedly obstructed. Several small white patches on both tonsils and soft palate; pulse, 130; temperature, 102 F.; 11 P.M. dyspnœa marked; is very restless, but sleeps in snatches; pulse, 160; 11.30 P.M. tracheotomy. After this passed a good night, the pulse falling to 128 during sleep. For the next week continued to cough up pieces of membrane by the tube. May 2nd, temperature, normal; pulse 96. Further convalescence was retarded by an attack of dysentery. The tube could not be dispensed with finally until the end of the fourth week, although for some time she had been able to do without it during the day, dyspnœa invariably coming on, however, when she fell asleep.

Case III.—H. G., aged 2, admitted May 10th, 1887. On admission respiration harsh, but obstructed slightly; a few white patches on both tonsils. Next day the child did not appear much worse, until late in the afternoon, when the dyspnœa became urgent. After two or three large doses of vin. ipecac., which failed to produce even vomiting; tracheotomy was performed at 7.45 P.M. The child passed a good night, and membrane continued to come away by the tube for some days. On the fifth day convalescence was established, but the tube could not be dispensed with during the night until the middle of the fourth week.

Case IV.—R. K., aged 7, admitted May 11th, 1887. On admission dyspnœa was urgent, face dusky, and lips blue. There were small white patches on soft palate and uvula. While arranging the instruments the pulse fell from 140 to 70. Tracheotomy ten minutes after admission. After the operation the child slept quietly for some time. There was no further obstruction, but the pulse and temperature rapidly rose, the former to over 200, and she died at 7 A.M. on the following morning.

Case V.—F. H., aged 5, admitted July 23rd, at 1.30 P.M., with intense noisy dyspnœa, pale face, and blue lips. Body covered with profuse clammy perspiration; temperature, 101.8°; pulse, difficult to count. The symptoms being so urgent, there was no inspection of fauces. Tracheotomy was immediately performed. On opening the windpipe, several small pieces of membrane were expelled from the wound. The normal colour almost immediately returned to the face; pulse, 160. Twelve hours later sleeping quietly; respirations, 40; pulse, 123. Two small pieces of very thin membrane came away during the following day. There was slight albuminuria. Convalescence was extremely rapid, and the tube permanently discarded on the sixth day. The treatment in all consisted of a half-tent over the bed; steam impregnated with eucalyptus; sponges wrung out of hot water constantly applied to the tube; and the administration of fluid nourishment, usually milk, with from four to eight ounces of port wine, per diem. The first three were ordered a mixture containing small doses of perchloride of iron, chlorate of potash, and glycerine, but the nurse in charge was instructed not to wake the child for it, nor to insist upon its being taken if much objection was raised. The last two had no drugs whatever. In no case was the throat examined after the operation.

In every instance the trachea was opened below the thyroid isthmus, no anæsthetic being used. No difficulty was experienced except in Case IV, where some delay occurred in introducing the tube, partly through the depth at which the trachea lay, but chiefly from the fact that a sufficiently long instrument was not at hand.

In the first two a sharp hook was used to draw the trachea up into the wound before opening it. In the others a blunt hook passed beneath the thyroid isthmus and drawn directly upwards was found to give more room and to steady the windpipe sufficiently, while it was free from the danger of twisting the trachea, and so allowing the incision to be made laterally. Should the isthmus have been wounded, as happened once to me, the blunt hook can be replaced by a pressure forceps, which will then serve the double purpose of controlling hæmorrhage and steadying the parts.

Remarks by Mr. Hare.—These cases seem to show (1) that no case is too bad for operation; (2) that when in the course of a diphtheria it becomes evident that the air-passages are involved, the sooner the windpipe is opened the better, and that it is not advisable to wait for definite symptoms of obstruction, which may indeed come on very rapidly; (3) that drugs and local treatment are unimportant.

ST. MARYLEBONE INFIRMARY, NOTTING HILL, W.

A CASE OF OÖPHORECTOMY FOR BLEEDING FIBROID OF THE UTERUS.[1]

(By John R. Lunn, F.R.C.S.Ed., Resident Medical Superintendent.)

A. C., aged 41, a widow, was admitted on November 8th, 1886, with a large bleeding fibroid tumour of the uterus. Her appearance was anæmic, and she was very weak from loss of blood. She said that she had had five children, but had had no trouble with her confinements. She noticed her abdomen getting larger for the last three years, and had had metrorrhagia off and on for the last twelve months. Her bowels had also been confined. She had been in two London hospitals, where she was advised to undergo an operation, but she would not consent.

A few days before she was admitted here she had passed large clots of blood. On admission a large movable tumour occupied the space in the median line between the umbilicus and pubes. On examination *per vaginam* the uterus was retroflexed, the uterine sound passed six inches; the passing of the sound caused a great deal of hæmorrhage. The vagina was washed out with Condy's fluid daily, and the patient put on full diet, with a mixture of ergot and hamamelis, which stopped the bleeding, but as soon as the medicine was discontinued the bleeding returned. I showed the case to several of my surgical and obstetric friends, and they all agreed with me in thinking an operation justifiable, more especially as the patient herself wished for something to be done.

On December 10th the vagina was syringed out with carbolic lotion, and the usual antiseptic precautions taken: a silver catheter was passed into the bladder, where it was left after the urine had been drawn off. An incision about two inches long was made in the median line between the umbilicus and pubes, the different tissues were carefully divided on a director. Immediately after the peritoneum was opened, the left ovary and the uterus were soon seen; no intestines protruded through the opening; several small fibroid tumours were seen springing from the fundus of the uterus; the catheter here was removed. The left ovary, which was large and cystic, was pulled out of the abdominal cavity, through the two-inch incision, which was ligatured separately with the fimbriated extremity with carbolised Chinese silk. Another stouter ligature was passed round the root of the left ovary and fimbriated extremity, and removed carefully with the aid of scissors. Several large veins were seen about the uterus, but no bleeding occurred. The right ovary was more difficult to find, but could be felt deep down in the pelvis, and very adherent to the tissues. The abdominal incision was enlarged upwards and downwards for about two inches with a blunt-pointed bistoury, the uterus was then pulled forwards out of the abdomen (which was very large), and the right ovary was found behind the uterus and adherent to the tissues; the adhesions were carefully divided and tied with catgut ligatures, and the ovary and the fimbriated extremity were ligatured in the same way as the left. The uterus was well washed with carbolic lotion and returned into the abdominal cavity; the pelvic cavity was syringed out with carbolic lotion, not much sponging being done; the spray was then turned on and the wound sewn up, the stitches being rather close together; no drainage-tube was used; the incision was powdered with iodoform and the patient put to bed, the operation having lasted seventy minutes.

The patient took ether well, and her pulse remained good all through the operation. She passed a good night with the aid of a narcotic; pulse 90, respiration 20, temperature 98° F. Had no pain and no sickness. Her urine was drawn off every six hours with a silver catheter. She had only iced soda water during the night. No food was given until the end of the second day, and was then increased gradually.

On the third day after the operation a non-offensive bloody discharge came from the vagina; the latter was then syringed out with Condy's fluid. The wound was not dressed until the fifth day, when the stitches were all taken out and the wound powdered with iodoform, and dressed with dry iodoform lint.

On the sixth day the patient had some cystitis and dysuria from the use of the catheter, without which she could not pass her urine. The cystitis soon improved with treatment.

On the ninth day the temperature rose to 101°, when inflammation of the left femoral vein set in; however, it did not last, and after this the patient made an uninterrupted recovery. Five and a half months after the operation the uterus only reached midway between the umbilicus and the pubes; the patient had gained twenty pounds in weight, and it is interesting to note that the uterus contracted and became smaller after the operation, and the patient became fat and left the infirmary feeling quite well.

I am much indebted to my friend Dr. William Duncan for his kind assistance with the above case.

Leprosy in Russia.—Leprosy is said to be spreading in the Baltic provinces. In Lithuania there are at the present time from 250 to 300 lepers, while in the Dorpat district it is said there are as many as ten lepers in every thousand of the population. There is, however, reason to believe that this estimate is exaggerated. A leper-house capable of accommodating forty patients has been opened at Riga, and steps are being taken for the appointment of a commission to inquire as to the best means of checking the spread of the disease.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, JULY 4TH, 1888.

JOHN WILLIAMS, M.D., President, in the Chair.

Specimens.—Dr. J. PHILLIPS showed a Living Infant eleven days old, with a Malignant Tumour on the Forehead.—Dr. W. S. A. GRIFFITH exhibited Microscopical Sections of Fibroma and Myoma of the Uterus and Ovary.

The Placenta in Extra-uterine Gestation.—A report was read on the microscopic appearances of portions of suspected placental tissue, from the specimens exhibited by Drs. Aust Lawrence and Penrose at the meeting of the Society on March 17th.

The Conditions which Favour Mercurialism in Lying-in Women, with Suggestions for its Prevention.—This paper was read by Dr. BOXALL. The question was debated under two separate headings: (1) increased absorption; (2) defective elimination. Under the first head, the site of absorption was discussed; the question whether the solution obtained entrance to the cavity of the uterus when the uterine tube had not been employed was debated, and an experimental investigation undertaken with a view to determine the point was related. It was suggested that absorption not infrequently occurred inside the uterus, even when the uterine tube had not been employed, but that it might also take place through the lacerated surfaces of the cervix, vagina, and perineum, or even through the intact mucous membrane. Reference was made to the experimental research conducted by MM. Doléris and L. Butte which bore on this point. With a view to diminish the risk of absorption it was suggested: 1. That not only should care be exercised to obtain contraction of the uterus, but that it should be also carefully maintained, and, above all, that the douche should always be given at such a temperature as would stimulate the uterus to action. 2. That the douche should invariably be administered in the supine position, the uterus at the same time being supervised by one hand placed on the abdomen. 3. That, when the administration was completed, the precaution should invariably be taken of ascertaining that the uterus was contracted by palpating the abdomen, and, if distended, the fundus should be squeezed like a sponge in the palm of the hand, and at the same time should be depressed with the object of evacuating the vagina. 4. That the surface of lacerations about the external orifice should be brought together, and any abrasions which remained should be coated with some material impervious to the solution. Under the second head, the relative eliminative power of the different excretory organs was discussed, and especial attention was directed to the condition of the kidneys and intestine. The following suggestions were offered: 1. That chronic nephritis, and probably also those changes which occurred in the kidneys during pregnancy, might, by diminished elimination, produce an accumulation in the septum. 2. That the intestine possessed an equal if not a greater eliminating power than the kidneys. With a view to obviate the risks arising from defective elimination—1. That, when the kidneys were affected, the sublimate douche should not be employed, or, if used, extreme caution should be exercised. 2. That a free watery flow should be promoted by the kidneys, and that especial care should be directed to this point in hot weather. 3. That the bowels should be evacuated daily, either by salines or by the administration of such agents as produced copious and loose stools. A tabulated series of eleven cases which presented symptoms of slight mercurialism was appended. A fatal case of mercurialism was also narrated.—Dr. MATTHEWS DUNCAN called attention to the easy distension of the puerperal uterus by injections, even long after delivery. Distension shortly after the birth of the child, as in *post-partum* hæmorrhage, was better known. Dr. Boxall had apparently overlooked a mode of conveyance, otherwise than by absorption, into the circulation. This was easily understood after delivery, when there were open sinuses at the placental side; but it might take place in the unimpregnated uterus, as Dr. Duncan had shown in a case of injection of a solution of perchloride of iron. The sudden deaths on injection of that agent were to be explained only in this way. The fluid entered in bulk, not by absorption.—Dr. ROUTH considered that Dr. Boxall's paper was admirable. Nevertheless, he thought that the routine practice of sublimate injections was carried too far. In one of the recorded cases the redness of the gums on the third day might not have been caused by the sublimate, but the mercurial symptoms came on by the sixth day. This proved that they were due to the prolonged use of the sublimate injections. The strength of the solution was reduced to 1 in 4,000 after the third day. This practice, however, might cause the evil it was designed to avert, for a weak solution could be readily absorbed; a stronger preparation would coagulate the albumen and thus stop the mouths of the absorbing vessels, preventing the entrance of septic substances from without. The cases where he had seen nephritis and albuminuria following this absorption were precisely those where weak solutions had been employed. Dr. Routh recorded the case of a patient who, in consequence of pendulous abdomen, had gone one month beyond the usual term of gestation. Septicæmic symptoms occurred at the end of every week for four consecutive weeks. Iodine injections always removed the serious symptoms, but, as they recurred so often, he used a corrosive sublimate injection, one grain in two ounces of water at the end of the fifth week. A considerable quantity of albuminous flakes came away, and the patient made a perfect recovery. In ordinary cases Dr. Routh preferred iodine vaginal injections, thirty drops of the tincture to half a pint of warm water, the water being as hot as the patient could bear whenever there was any smell. He believed that the hot water alone coagulated the albumen and destroyed germs. Only when there were feverish symptoms threatening septicæmia was it necessary to inject the uterus. A strong solution of the perchloride, 1 part in 960 at least, should then be used. Dr. Routh thought that the volatility of iodine was an advantage. It could penetrate tissues where sublimate could not enter. He noted what was seen in a necropsy on a case already recorded by Dr. Grigg, where septic symptoms had occurred, and sublimate injections had been used. The mercury had only acted on two-thirds of the uterine cavity, which was white and sweet. The upper third was in a gangrenous condition. Iodine would have reached every part of the uterus.—Dr. SAMUEL SLOAN (Glasgow) favoured the abolition of the routine practice of vaginal injections in natural cases. He had discontinued routine injections, both in private and in hospital practice, for some years, and since then his results were better than before. He could not say whether this signified that injections interfered with natural processes or that it was difficult to keep the tubes, etc., used in routine injections absolutely clean. When any cause for suspecting sapræmia or septicæmia arose, he then used mercurial injections, but in private practice this was an extremely rare event. In such cases, however, mercurialism was most unlikely to occur, because the need for the drug would diminish its activity. Dr. Sloan did not advise the discontinuance of antiseptics in hospital practice, but he objected to the routine use of injections even there. In private midwifery practice he had to a large extent given up antiseptics, for he believed that women could be kept aseptic by absolute cleanliness, healthy surroundings, and skilful management during pregnancy, labour, and the puerperium, their resisting power being at its maximum, and the tendency to decomposition at the minimum; the lochia did not naturally decompose. When mercurial injections were skilfully given ballooning of the uterus could not take place. The organ must be firmly grasped by the hand during the process of injection, and by pressing back the perineum whilst the woman coughed, retention in the vagina was avoided, especially if the patient were placed in the semi-supine position.—Dr. CHAMPNEYS thought that the days were past in which a speaker who talked about "antiseptics in midwifery not being necessary" would find supporters in the Society. There was some difference of opinion as to routine injections. Sepsis had for some years been entirely abolished at the General Lying-in Hospital. Dr. Sloan did not appear to have been so successful in his own practice at Glasgow. Dr. Champneys thought it strange that anybody should be accused of want of care by a gentleman who attributed his own results to "dirty enemas." Routine use of vaginal douches might not be absolutely necessary, in private at least; they were far less important than antiseptic cleanliness of the hands. Still Dr. Champneys had used routine douches for years and years, and was more satisfied than ever with them; they proved beneficial in several ways. The material to be used for the injections was open to debate. In ordinary cases he did not use sublimate on account of the risk of mercurialism, and a weak antiseptic such as iodine would probably suffice, except in special cases, at an institution like the General Lying-in Hospital, where the midwives and nurses so thoroughly understood the antiseptic system. Dr. Champneys did not see how the semi-prone position could be the best, when vaginal injections were employed. It was highly inconvenient; the bed could with

difficulty be kept dry, and gravitation of the injection into the uterus and subsequent absorption would be favoured rather than prevented. He regretted to hear about the "germ-resisting power" of a woman. In the old days before antiseptics young healthy women succumbed in large numbers to puerperal fever.—Dr. HERMAN had noted, in his own experience, a frequency of mercurialism nearly the same as in Dr. Boxall's series of cases. Assuming idiosyncrasy was the reason of the mercurialism, it appeared that this idiosyncrasy was present in about 5 per cent. of all cases. Dr. Herman could not trace any connection between weather and the occurrence of mercurialism. He had seen a temporary trace of albumen in the urine in only two out of the eleven cases of mercurialism in his own hospital (referring to 182 patients admitted into the General Lying-in Hospital in the first half of 1886; in two of the eleven cases it was not certain that the symptoms were really due to mercury). In two cases of Bright's disease during pregnancy, sublimate douches, administered as in all the other hospital patients, had caused no symptoms of poisoning. Anæmic patients were not specially prone to mercurialism. Altogether, perchloride of mercury was the best antiseptic in hospital practice. It was not so safe in private cases, except under two conditions: the nurse who gave the douche should know the dangers of ballooning of the vagina and how to prevent it; secondly, the obstetrician should attend the case at least daily, so that he might perceive the first symptoms of mercurialism. When he ceased his daily visits, the use of sublimate should be left off. "Germ-resisting power" must not be trusted. He could not offer information as to the effect of sublimate douches in septicæmia, for during the two years and a half he had been attached to the above-named institution there had been no case of that complication.—Dr. CULLINGWORTH laid greater stress on cleanliness of hands, instruments, sponges, and everything brought into contact with the genital tract, than on uterine and vaginal injections. It was questionable whether germicide solutions should be introduced into the body of the patient. It was not the organisms already there, but those which might be introduced from without, which were to be feared. To prevent the ingress of the latter was the object of antiseptic midwifery; this object was obtained by efficient disinfection of the hands, instruments, etc., by processes which did not involve any danger of mercurialism. The antiseptic method must not be made too complicated, else practitioners could not adopt it. Warm vaginal injections were both soothing and useful; they, above all, promoted cleanliness, which could be obtained by harmless ingredients as easily as by poisons like sublimate. Even in cases of sapræmia, where at least one thorough intra-uterine injection was of value, milder chemical agents than sublimate were probably sufficient. Chemical products of decomposition probably caused the harm in these cases, as the symptoms disappeared as soon as the uterus was emptied. When septicæmic symptoms had developed, it was useless to employ sublimate, for no douche could reach germs which had already entered the circulation.—Dr. LEITH NAPIER thought that, in private practice, a hot saturated solution of boracic acid was best for douches. In hospitals, sublimate solutions were suitable, but they should be very dilute. Strong preparations coagulated albumen. It seemed better to employ a solution which, by absorption, might act generally as well as locally. He thought that mercury was eliminated not only by the intestine (where the unabsorbed portion was found as an insoluble sulphide), but by all the secretions.—Dr. ROUTH here observed that during convalescence he almost invariably employed iodine or Condy's fluid for vaginal injections, and that as to the good effect of the mercurial solution (which Dr. Cullingworth doubted) in the septic case, "the proof of the pudding was in the eating," as complete cure occurred.—Dr. LEWERS said that during the year 1887, 962 women had been delivered in Queen Charlotte's Lying-in Hospital, with only two deaths.—Dr. BOXALL then replied. He thought that the direct passage of sublimate into the system was quite exceptional, and occurred when other antiseptics were used. In the rules for the administration of the douche, included in his paper, he had made allowance for ballooning of the vagina and uterus. The coagulating action of sublimate did not necessarily imply that its antiseptic influence was strictly local, still less that absorption of mercury was prevented. The coagulum at first formed was soluble in excess of albumen. Sublimate brought into contact with albumen was at first precipitated, and mercury in considerable quantity might thus be retained within the passages. But the action of the albumen of the blood and tissues dissolved the coagulum, which was then liable to be absorbed. The primary precipitation of the mercury tended to retention (hence a further reason, were any needed, for complete evacuation of the uterus), whereas the faculty for being redissolved might ultimately result in a large influx into the tissues. Whether the solution of albuminate in excess of albumen was itself a reliable antiseptic required elucidation. In conclusion, Dr. Boxall insisted on the superiority of perchloride of mercury over iodine and other antiseptic agents.

BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, JUNE 27TH, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., President, in the Chair.

Dermoid Tumour of Ovary.—Dr. R. T. SMITH exhibited a small dermoid tumour which he had removed from a patient aged 35. She had had five children, the youngest eighteen months previously. A drainage-tube was employed on account of free oozing from numerous adhesions. On attempting to withdraw it at the end of the second day, it was found to be fixed by portions of omentum which had intruded through the apertures in the end and sides of the tube, filling it quite to half its length. It was only extricated by opening up the wound on either side and applying fine ligatures to the strangulated portions. No bad results followed. He had taken the precaution of rotating the tube to prevent such an accident.

Sarcoma of the Ovary.—Dr. MURPHY (Sunderland) exhibited a sarcomatous tumour of the ovary which he had removed from a girl aged 16. The tumour extended from the pubes to four inches above the umbilicus, and weighed 14 lbs. 10 ozs. after removal. The other ovary was affected by a similar tumour weighing 3 ozs., and was also removed. The patient recovered without a bad symptom. She had menstruated for the first time ten months previously.

Vaginal Hysterectomy for Uterine Fibroids.—Dr. MURPHY showed a uterus which had been removed by Péan's operation. The method consisted in having the vagina well retracted, and then with large forceps the uterus was pulled down. An incision was made around the cervix with knife and scissors, and pressure forceps applied to bleeding points. The uterus was removed with hardly any hæmorrhage. Last week he saw M. Péan remove three very successfully and in very little time. He leaves the forceps, of which he uses a large number, *in situ* for twenty-four hours, and clamps the broad ligaments. M. Péan stated that the mortality was very trifling; full statistics were in the press, and would appear in a few weeks.—Dr. BANTOCK said that, from an examination of the specimens, the operation was one of unexampled severity. It was not likely to become popular in this country, where it was considered severe even to remove the ovaries.—Dr. ROUTH said the operation recommended had no advantage over abdominal section. To hear the case was to condemn it.—Dr. PURCELL had removed the uterus by the vagina in seven cases. The record of vaginal hysterectomy was not very severe.

Uterine Fibroid treated by Electricity.—Dr. H. T. RUTHERFOORD read notes of this case. The patient was 38 years of age, the mother of three children, the youngest born ten years previously. She had suffered from profuse menorrhagia for some years, and for twelve months before her admission to the hospital she was scarcely ever free from hæmorrhage or some coloured vaginal discharge. She had first noticed the tumour five years ago; it occupied chiefly the left side of the abdomen, rising to the umbilicus. The measurement three inches below the umbilicus was 38 inches. The uterine sound passed rather to the left 4½ inches. Three applications of the electric current were made at intervals of four days, lasting ten to fifteen minutes each. The maximum intensity of the current employed was 120 milliampères. The temperature rose slightly after each application in the evening. After the third application the measurement below the umbilicus was found to have diminished to 33 inches. The patient continued to feel very well until two days subsequently, when she awoke with a distinct rigor, feeling very cold, and vomited. The temperature rose to 104.2°. There was evident peritonitis over the anterior surface of the tumour. For the next three weeks the condition of the patient was very serious. The temperature ranged between 100° and 104.2°, rising rapidly towards evening, and falling rapidly towards morning after a copious sweat. Symptoms of septicæmia set in. The axillary glands became painful and swollen. For a time the patient's condition greatly improved, and it was noticed that the tumour, though still present, was evidently diminishing. Two

weeks subsequently, however, symptoms of septic infection again set in, with rigors and sweats. The patient was extremely weak. Phlebitis of the veins of the right arm ensued. The tumour could not be felt in the abdomen. From this date, nine weeks after the last application, the patient gradually improved, though her convalescence was somewhat retarded by painful hæmorrhoids. By the abdomen nothing could be felt of the tumour; the cervix had one or two nodules from old lacerations, and was slightly granular; the uterus was freely movable, and normal in size. The sound passed 2¼ inches. On the left side the uterus felt slightly larger than on the right, but no trace of the tumour could be felt. There were no signs of former peritonitis.—Dr. RUTHERFOORD believed that the galvanic current caused a sloughing of the tumour within the capsule. Thus, when the broken down material was absorbed into the general circulation, septic symptoms set in, and continued until the entire tumour had disappeared.—The PRESIDENT said that there was an unquestionable fibroid, extending nearly to the umbilicus; that when the patient left all she had was a somewhat bulky uterus, not one-fifth the size of the original tumour. She was in danger of her life while in the hospital; but the fact remained that, in consequence of the mischief set up by electricity, the tumour disappeared.—Dr. MANSELL MOULLIN said that sloughing of the tumour appeared to be the most feasible explanation of the case. It was quite impossible to control the effect of the treatment. In some cases, sloughing of the tumour occurred; in some, it had no effect on the tumour whatever. Sometimes absorption followed, sometimes it did not. The treatment was at best empirical, and it was not free from danger.—Dr. BARNES said that the electrical treatment was on its trial. At present it was being used for everything. After a sufficient time for enthusiasm to settle down, it would find its own level, and a proper sphere of usefulness would, no doubt, be found. It was certain that it caused a contraction of the muscular fibre of the uterus in which the fibromata were generated. In that way one might interfere with the nutrition of the tumour, and thus bring about its quiet disappearance without necrosis or sloughing. He alluded to Dr. Greenhalgh's treatment with the actual cautery, which had been successful in some cases. A free incision of the cervix affected the nutrition of the parts, and caused the disappearance of the tumour in some instances. Electricity in one form or another had always been used. He had seen excellent cases in Paris forty years ago.—Dr. HEYWOOD SMITH, Dr. BANTOCK, Dr. FANCOURT BARNES, Dr. MURPHY, Dr. PURCELL, and others took part in the discussion.—Dr. RUTHERFOORD replied.

REVIEWS AND NOTICES.

DISSOLUTION AND EVOLUTION AND THE SCIENCE OF MEDICINE. By C. PITFIELD MITCHELL, M.R.C.S. London: Longmans, Green and Co. Pp. 246.

THIS book professes to be an endeavour to disseminate some new applications of Mr. Herbert Spencer's generalisations; but it is much to be regretted that this task should have been undertaken by one whose knowledge of pathology is not very profound or even accurate; indeed, the author admits in the preface "that, with comparatively few exceptions, only the material of recently published textbooks has been dealt with." Mr. MITCHELL evidently had misgivings as to his fitness for the task, for he wishes that it "had fallen into hands more competent than his own to do justice to Mr. Spencer and others whose work he had availed himself of." With this we most cordially agree.

The first chapter opens with the following rather formidable definition from Spencer's *First Principles:* "Dissolution is a disintegration of matter and concomitant absorption of motion, during which matter passes from a definite coherent heterogeneity to an indefinite incoherent homogeneity, and during which retained motion undergoes a parallel transformation." We then learn that "*a structure is being disintegrated when from a common centre the motions of its units are increasing, and being integrated when its units are approaching a common centre.*"

Disintegration of matter is illustrated by the process of inflammation as seen in inflamed human omentum. The description of the process is very brief: on page 9 we learn "there is the extravasation of red cells known as diapedesis." In the next paragraph we are told "that the endothelial plates lose their closeness of cohesion, so that stomata are produced, and the trabecular endothelia desquamate." These extracts are rather puzzling, and we are at a loss to know from which of the recent textbooks such explanations of diapedesis are extracted.

The next section deals with "absorption of motion." In it we find the following statement of a well-known experiment: "When inflammation is excited by incising the web of a frog's foot, we see that the mechanical power which severs the tissues is not the only cause, but is also quantitively related to the degree of inflammation."

Such a quotation as this makes us ask the question, Has the author ever seen inflammation excited in the web of a frog's foot? or was it so long ago that he had forgotten the precise details, and had not even troubled to read the ordinary descriptions with care? Again inflammation is a confessedly difficult process to understand, but it may be doubted whether we gain any clearer conception of it by being told "that inflammation and suppuration are attended by an absorption of environmental energy." This may be very learned, but certainly not lucid. A little further on "the change from a definite coherent heterogeneity to an indefinite incoherent homogeneity" is explained thus: "However multiform, morphologically and physiologically considered, was the tissue destroyed, the resulting product—pus—is little more than an assemblage of homogeneous cells bathed in a pabulum of serum." Pabulum means food; surely Mr. Mitchell does not mean us to infer that the pus cells (dead leucocytes) feed upon the serum.

We are then introduced to the second of Herbert Spencer's definitions: Evolution is an integration of matter and concomitant dissipation of motion, during which the matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity, and during which the retained motion undergoes a parallel transformation. Then follows a crowd of such sentences as "the requirements of the formulas," "loss of definiteness," "heterogeneity of function," "continuous disintegration of matter," "concomitant dissipation of motion," until at last we feel inclined to ask some such question as this: What is the difference between absorption of motion in a white blood-corpuscle and dissipation of motion in a red one?

On page 58 Mr. Mitchell informs us, but gives no authority for the phenomenon: "In the septicæmia of mice, bacilli may be seen in the act of breaking up the substance of white corpuscles." On the same page we are briefly informed that absorbed energy is the cause of functional and structural perturbation from *Tænia solium, T. echinococcus*, etc.; but the reader is left to imagine how.

We turned from this pathological Slough of Despond, hoping to find something worth reading with regard to cysts and neoplasms. Here the mist of the author's uncertain knowledge is very thick indeed, and he gropes his way stumbling at every step, yet he has boldness enough to disapprove of Cohnheim's theory, and suggests that "the formation of a tumour" is "a seedling of the natural plastids of the body," and regards it "as an example of agamogenesis, and that in all probability *it is a reversion to the primal type of multiplication*," such, for instance, as pertains in the protozoa. This surely is reversion with a vengeance, more than enough to satisfy the most fanatical believer in pangenesis.

Primary cancer of the kidney, which, by the way, is excessively rare, is referred to by Mr. Mitchell "virtually as a cancerous degeneration of the organ." We are told that the germination of the body's substance has been actually witnessed, that the epithelium of the tubules multiplies so as to form the cancerous epithelium, becoming irregular in form, whilst the cancerous stroma is formed of the connective tissue of the organ. This is certainly a very extraordinary piece of pathology, yet we find no reference given as to the witness of this actually observed phenomenon. With regard to neoplasms we learn the following facts. "As we proceed from the trunk to the periphery of the vascular tree, there is found a general increase in the liability of organs and tissues to new growths. Tumours of the heart," says our author, "are very rare, 'a singularly impressive fact,'" but no mention is made of the fact that voluntary muscular tissue in general is rarely the seat of new growths, and these are structures as peripheral as the heart is central. Further, we learn that the uterus is a common organ in which to find neoplasms; surely this does not suffer in respect of blood-supply, yet Mr. Mitchell would have us regard it as at the end of a vascular tree. Is it possible that he never saw the uterus with its vessels artificially injected?

Speaking of the brain, he says cancers spring generally from the dura and pia mater, yet no data are given from the "most

recent textbooks," and Mr. Mitchell advances no facts from his own observation.

"Sarcomata spring from the free surfaces of the interstitial spaces." What this may mean the reader is left to imagine.

Referring to the low vitality of cicatricial tissue, Mr. Mitchell informs us "that this is true of germinating tumours; and in moles, 'vestiges,' and embryonic remnants no demand is made by function for active nutrition. Hence slight force impinging, and in obedience to a disposition inherited from remotest ancestors, they disintegrate by proliferation." This last line illustrates an escape from a difficulty which most examiners in pathology can appreciate, for whenever a candidate is ignorant of the details concerned in a pathological process he usually resorts to a simple stratagem, and replies, "proliferation of cells."

Then we find this remarkable sentence, "If the cells proliferated in inflammation eventually become tumours the combination of requisitions for tumour growth have been accidentally fulfilled." It is good that "if" and "accidentally" find a place in the above passage, for surely one of the essential characters of a neoplasm is that it is not produced by inflammation.

On page 101 the following astounding information is given: "Cancer may dry up and be in fact cured; which is sometimes seen in the breast and occasionally in the internal organs." The evidence on which this conclusion is based is again withheld from the reader.

Here, then, we have a book full of new and extraordinary statements and mis-statements, and yet absolutely barren of facts on which the statements are founded. Enough has been written to convey some notion of the nature of this work. It is remarkable, not only for the profoundly vague speculations it contains, founded on inaccurate knowledge of vital processes, but as being an example of pseudo-scientific work and an extraordinary assemblage of obsolete words. On these grounds alone we recommend it to our readers. Should it have the misfortune to run into a second edition, we would seriously recommend Mr. Mitchell, when mentioning the names of investigators in the body of the text, to omit their titles, such as M.D., LL.D., F.R.C.S., etc., as it is distasteful to the scientific mind and ought to be avoided in all scientific treatises.

CLINICAL LECTURES ON IMPORTANT SYMPTOMS. By THOMAS GRAINGER STEWART, M.D.Edin. Fasciculus II. On ALBUMINURIA. Edinburgh: Bell and Bradfute. 1888.

THIS volume is designed to embody Professor GRAINGER STEWART'S more recent views of the chief clinical questions connected with the subject of Bright's disease. It contains the results of his recent studies on the incidence of albuminuria in health and disease, communicated last year to the Royal Society of Edinburgh and the British Medical Association in Dublin. In this particular the most noteworthy point is that Professor Stewart lays down the proposition, "that the existence of albuminuria is not of itself a sufficient ground for the rejection of a proposal for life insurance." If this means, what it appears to mean, that the existence of renal albuminuria does not necessarily mean Bright's disease, or a tendency thereto, we heartily agree with it, and trust that the influence and authority of the author will bring about a change in the uniform practice of the best offices, which now decline or defer all cases with albuminuria, unless this can be shown to be accidental.

There is a very full chapter on the Forms of Albumen and their Tests, and most of the recent tests are wisely rejected. Picric acid receives the distinction of being regarded as the most reliable and delicate, in spite of the fallacies by which its use is attended. In using the boiling test, we notice that Professor Stewart speaks of previously acidulating the urine. This is a mistake. The urine, or rather the upper half of the column, should be boiled, acidulated with a few drops of dilute acetic acid, and then boiled again. Used thus we believe this method to be the most natural, the simplest, and the most trustworthy of all means for detecting the presence of serum albumen and globulin in the urine.

The chapter on the Theory of Albuminuria is not very satisfactory. Professor Stewart seems unwilling to adopt the logical conclusions of his own arguments, and appears to admit, in his summary of causes, those factors which he had done his best to prove have very little grounds to justify a belief in their efficacy.

The clinical pictures of the various types of Bright's disease, in which he includes the waxy kidney, are fairly good, but by no means complete.

In Lecture XI, he describes a case of Paroxysmal Albuminuria, a transitory condition, lasting only a few days, and places it side by side with paroxysmal hæmoglobinuria; but as there was puffiness of the face, and the urine contained hyaline, epithelial, and granular casts, it seems at least doubtful whether it was not a mild transient case of catarrhal nephritis, such as is by no means uncommon. In fact, on page 181 we find Professor Stewart saying: "Epithelial and fatty casts afford definite evidence of the existence of inflammation of the testicles."

The author appears throughout to be hampered by the necessity of satisfying a class of students. Explanations of every problem, of a very wordy and vague kind it is true, are regularly attempted, and no question is allowed to appear too hard for the successful application of the professional intelligence. The consequence of this is that parts of the book are below the level of Professor Stewart's reputation.

NOTES ON BOOKS.

The Waters of Plombières (Vosges). By Dr. BOTTENTUIT, 12mo., pp. 131. (London: J. and A. Churchill. 1888.)—This handy little volume will be welcome to English visitors to Plombières, who we hope are increasing in number. This bath of ancient repute has much to recommend it to strangers—very pretty scenery, good hotels and bath establishments, and very fair lodgings. The waters are very hot, and belong to the class of indifferent waters such as Buxton, Wildbad, or Teplitz, although French writers make much of the mere traces of arsenic which the waters contain. The waters are used for dyspepsia, gastralgia, chronic diarrhœa, gout, rheumatism, paralysis, affections of the nervous system, and naturally find their application in many of the diseases of women. Dr. Bottentuit, in his very neat guide, gives ample information about the town of Plombières and the adjacent country, to which many pleasant excursions may be made. There is a casino, and there is a fair amount of amusement and recreation to be had. The book is illustrated by many views of Plombières itself, and of its vicinity. The Vosges country is well worth exploring as an after-cure to the course at Plombières.

Ueber Paralysis Agitans. Von Dr. ANTON HEIMANN. (Berlin: August Hirschwald. 1888.)—This is a useful account of what is known of paralysis agitans, although it contains no new ideas or facts. It is illustrated by full reports of twenty-one cases under the care of Professor Westphal and Dr. Oppenheim in the Berlin Charité. These give examples of nearly all the features of the disease. In one case a *post-mortem* examination was made with negative results, but we notice that the peripheric nerves and muscles were not examined; changes might be found here rather than in the central nervous system.

On Glycosuria and the Renal Signs of Perverted Nutrition. By WILLIAM SQUIRE, M.D., F.R.C.P. (London: J. and A. Churchill. 1887.)—Dr. Squire's little pamphlet gives the opinions upon glycosuria which he has been led to form from the cases under his care. Its association with deposits of uric acid and with bilateral neuralgias is remarked upon. Dr. Squire finds the disease to be more frequent but less fatal amongst women than amongst men. He believes that the phenomena of diabetic coma are not dependent on acetonæmia or on poisoning by oxybutyric acid, but are due to preceding degenerative changes, especially of the organs of circulation. This view, originally propounded by Schmitz, is, we think, not consistent with modern observations. A very concise and practical account of the treatment recommended in diabetes is given, and will be found very useful.

CHILDREN'S HOSPITAL, LEICESTER.—The movement which has been for some time on foot to provide increased accommodation for sick children in Leicester has now gone so far that the Mayor is able to announce that a subcommittee, appointed at his instigation, had made recommendations as to site and accommodation which the General Committee of the Infirmary had approved. The grounds of the infirmary comprise an area of five and a half acres, and the proposal is to build the children's hospital in the grounds, so that it will, in fact, form a wing of the existing infirmary. Accommodation will be provided for forty-two beds, and the estimated cost is £4,500.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

MESSRS. BURROUGHS, WELLCOME, AND COMPANY'S PREPARATIONS.

We have previously commented favourably on many of the special preparations made by this firm, and we are pleased to be able to speak in terms of commendation of some products recently submitted to us by them.

Zyminised suppositories, as made by Messrs. Burroughs, Wellcome, and Co., of Snow Hill, E.C., are of two kinds, one being made of milk, and the other of meat with a digested fatty basis. The makers claim that each milk suppository contains the nutritive value of five drachms of milk, while each meat suppository contains that of half an ounce of fresh beef. The shape is very convenient, being much more elongated than that of the nutrient suppositories ordinarily met with; hence introduction into the rectum is more easy. We must confess that for elegance in appearance, and for comfort to the patient in introduction, we prefer nutrient suppositories with a gelatine basis; but those made by Messrs. Burroughs and Wellcome possess the great advantage of keeping indefinitely, while the gelatine suppositories soon spoil. We have seen these zyminised suppositories retained after rectal intolerance has been established by the use of enemata.

Tabloids of Antipyrin.—If further experience proves that all that is claimed for antipyrin is well founded, the drug would seem to approach a panacea in its character, and we therefore observe with pleasure any means by which its administration is facilitated or its portability increased. The tabloids before us are very convenient, each containing five grains of compressed antipyrin. Antipyrin has been recommended as a remedy for seasickness, and it is evident that the form of compressed tabloids is a very handy one in which to carry antipyrin about while travelling.

"Tabloid Triturates" may be defined as intimate mixtures of substances with sugar of milk, compressed into small tabloids. Messrs. Burroughs, Wellcome, and Co. make a long list of these preparations, and guarantee that each tabloid contains the quantity of the active drug stated. They are put up in oval flat glass bottles fitted with screw metal caps, and a bottle containing one hundred can easily be carried in the smallest waistcoat-pocket. Some differences of opinion have been expressed as to the desirability of the employment of "triturates," but there is no doubt of the great convenience of "tabloid triturates" to patients who are compelled to take medicine while performing their ordinary daily work.

HUGGETT'S HYPODERMIC SOLUTIONS.

The administration of medicines by hypodermic injection when possible is increasing in favour, and additions are constantly being made to the list of drugs capable of being thus administered. Although the convenience in some respects of tabloids, gelatine discs, and the like, is undoubted, many still prefer to use carefully made solutions of guaranteed strength. Messrs. Huggett and Co., of King William Street, E.C., have submitted to our notice specimens of their "permanent" solutions for hypodermic injection, for which they claim that they will not change when kept for any length of time in any climate, and that an exact proportion of medicament is contained in each solution. We find that as far as we can ascertain these solutions are not at all prone to change, and that they contain in each case the proportions of the drug stated. Messrs. Huggett make a great variety of these solutions, their list containing, besides those usually met with, solutions of such substances as iodine, podophyllin, hyoscyamine, nitro-glycerine, colchicine, aloin, etc. The wholesale agents for these solutions are Messrs. Maw, Son, and Thompson, of Aldersgate Street, E.C.

Death from Hydrophobia.—A clerk named Braithwaite, of Liverpool, was bitten on June 3rd by a collie dog, whilst attempting to give it a dose of medicine. The wound was cauterised, but on June 30th, feeling unwell, he consulted a doctor, who detected symptoms of hydrophobia. The patient died on July 5th.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

Subscriptions to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, JULY 14th, 1888.

THE ILLNESS OF THE LATE GERMAN EMPEROR.

It is announced that an elaborate report of the German physicians on the illness of the Emperor Frederick has just been issued from the Imperial press at Berlin. A summary of its contents has already appeared in the daily papers, but it bears internal evidence of incompleteness and inaccuracy, partly due apparently to translation by an unprofessional hand, and in the absence of the full text it would hardly be fair to enter into a detailed criticism of this important document. We may, however, in the meantime, be allowed to call attention to a few of the more salient points which seem to invite comment from us, inasmuch as they purport to controvert some statements which have from time to time been published in these columns. The reports which we published during the course of the late Emperor's illness were obviously founded on information procured from authoritative sources, illuminated as far as possible by independent inquiry.

The publication of the official report was looked forward to with eagerness by scandal-mongers as likely to afford a rich supply of their favourite pabulum, and by others as a statement of exceptional scientific interest by men of the highest professional position. There is, perhaps, more to please the former class of readers than the latter, but neither, we imagine, will be satisfied. The document seems to add nothing at all to our scientific knowledge, and next to nothing to the gossip which has been current in certain professional circles for a long time past. It must be obvious to the most careless reader, that it is a purely *ex parte* statement; indeed, this feature in it is so pronounced as to be almost aggressive. One misses the names, not only of Sir Morell Mackenzie and Mr. Hovell, but of Professors Bardeleben, Senator, Leyden, and Krause, and what is in some respects the most noteworthy omission of all, of Professor Virchow. As a criticism on Sir Morell Mackenzie, it is simply irrelevant; he acted in the interest of his patient, as understood by the illustrious sufferer himself, and the course which he took was justified by the logic of events. It was not an academic question of what was ideally the best thing to do, but a practical compromise between the various possibilities of an exceptionally complicated situation.

There is little in Professor Gerhardt's statement that calls

for special notice. We observe that he asserts that the *right* vocal cord was injured by Sir Morell Mackenzie on his second attempt (between May 20th and 25th) to remove a portion of the growth springing from the left cord, and the appearance presented by the injured part is described in detail. We are informed that this is absolutely incorrect, and can easily be proved to be so. Professor Gerhardt does not explain why he himself failed to adopt the obvious course of extracting a portion of the growth through the mouth for microscopic examination before sanctioning an operation which he admits would have been followed by permanent hoarseness. Another point on which Professor Gerhardt lays stress is the fact that Sir Morell Mackenzie did not recognise that the movement of the left cord was impaired even at that early stage of the case. If he will refer to Sir Morell Mackenzie's official report, published in this JOURNAL on November 19th, 1887, he will find the following sentence, which refers to the period when the Crown Prince was staying in the Isle of Wight (July, 1887): "The action of the left vocal cord, *which had been noticed in Berlin to be slightly impaired*, continued in the same state." Professor Gerhardt's statement that "small innocuous growths very frequently accompany cancer," we must leave him to settle with Professor Virchow, who, in an address delivered before the Berlin Medical Society, on November 16th, said that "in all the collections which he had been able to examine, and which he had examined expressly for this purpose, he could not detect an independent formation of warts to any great extent co-existing with cancer in the larynx."

The other parts of the report need not detain us at present. We shall probably take occasion to comment fully on the whole subject when the official report itself is before us. In the meantime, however, we may say that the indictment, as far as can be seen from the abstract which has been published, does not appear to be very formidable from a scientific point of view, while there are distinct evidences of an unscientific personal animus which considerably detracts from whatever value the document might otherwise possess. On the whole, we cannot help thinking that the German physicians would have done all that was required for the vindication of their opinions and position had they confined themselves to a simple statement of their views, and the grounds on which they were based. At present Sir Morell Mackenzie's mouth is sealed; and it may easily be understood that controversy is deprecated in high quarters on a subject so surrounded with painful recollections. It will not be inferred that a very different version of material facts is not forthcoming when and where circumstances will permit.

THE DISCUSSION ON ELECTROLYSIS AT THE OBSTETRICAL SOCIETY.

Two meetings of the Obstetrical Society of London were held last month, and have been fully reported in the JOURNAL. At the first, four papers were read on Electrolysis as an Agent for the Cure of certain Diseases of Women. An active and very critical discussion followed, and as many Fellows then present were unable to speak, an extraordinary meeting at the stipulated date of June 21st was agreed upon, and held accordingly. The discussion was continued at the special meeting, when able supporters and opponents of the new method delivered their opinions with great earnestness, and related their experience in full detail.

The case for electricity was well put by men of weight and authority, like Dr. Playfair, and by physicians of high technical experience in the application of the necessary instruments, like Dr. Steavenson. Dr. Playfair candidly avowed that the agent had great power, but that much was yet to be learnt. The impartial portion of the audience were hardly convinced by the arguments of the supporters of the method, for sundry obstacles in its path were not removed either by logic or by evidence. The duty of proof lies with those who propose, project, and undertake. As long as results are questionable, men have a right to oppose and object, nor are they in any way bound to make trial of experiments the value of which has not been impressed upon their convictions. Before railways were laid down, George Stephenson and his allies never expected their opponents to make lines and build engines in all parts of the country. Stephenson showed that a train could be made to run; then his detractors were silenced, and, perhaps, took to projecting lines. The advocates of electricity must imitate him, and convince their opponents by satisfactory results.

Granting, however, that the gynæcologist has a fair practical knowledge of electrolysis, and that patients under his treatment have apparently been cured, certain sceptics naturally asked, at the two meetings of the Society, for evidence that the cures were really due to electricity. Not a few expressed doubt that in every instance the case was cured at all. The President noted that the decrease in uterine measurements, known to occur as part of the cyclical changes of fibroids not submitted to any treatment, was as great as the greatest decrease which M. Apostoli claimed to have brought about by electrolysis. Dr. Bantock believed, on apparently good grounds, that it was the uterine tissue and not the tumour which was affected by the electric current. Drs. Aust Lawrence and Champneys insisted on the factor of rest being taken into account in the criticism of cases treated by electricity. A sojourn in hospital meant rest to a poor woman, even if she were purposely kept out of bed in the day time. As to the temporary arrest of hæmorrhages or pain, every medical man knows how little such evidence can be trusted. "Souvent femme varie," said Francis I, and this saying is highly applicable to women's diseases, especially when judged by symptoms alone. To fix a standard of time after which the case may be considered cured, the obnoxious symptoms having ceased, is impossible; nor can the observer always be sure that some cases have not sought relief from other medical men, not believers in electricity. Hence many uncured cases may be reported as cured, and many patients who have really recovered may owe that good fortune to other influences than electricity. Amongst further objections raised by the doubters in the discussion, was the vagueness of evidence that electrolysis really goes on along the line of tissue between the poles, in the case of fibroids. Several speakers dwelt on the close resemblance, in the case of minor affections, between the action of the electrode and the effects of certain far more handy caustics. Most significant were certain remarks made by the President, wherein great doubt was thrown on the

value of the authority of the chief promoters of electrolysis. In perfect good faith, Drs. Apostoli and Carlet had implied that a large number of minor uterine affections in reality represented incipient fibroid disease; but neither appeared to have shown proof that they were experienced authorities in gynæcology before they commenced their special work. Yet several distinguished British gynæcologists have avowedly taken the assertions of the French electricians on trust.

From what has been said above it is certain that electrolysis is still upon its trial. Nevertheless, as the President said, though nothing has as yet been settled, there may be a place for the employment of electricity in this form in the treatment of diseases of women. Severe operations are successfully performed by a limited number of surgeons skilled in abdominal section, but such operations can never become general. They demand commonly great skill and the advantages of a good hospital appointment. Hence if electricity can be proved a good palliative, keeping back the growth of fibroids or appreciably checking hæmorrhages till the menopause, and if it can be applied by instruments far less bulky and complicated than those at present in use, it may yet, even from this point of view, become established amongst British gynæcologists.

THE WILTSHIRE COW DISEASE.

It will be recollected that in December last Professor Crookshank read before the Pathological Society a paper on the Hendon Cow Disease and its Relation to Scarlet Fever, and he adduced evidence to show that a recent outbreak of disease among cows upon a farm in Wiltshire was the cow-pox which had been familiar enough in the days of Edward Jenner, but which had apparently disappeared from English farms during our own time. Dr. Crookshank had come to the conclusion that the Hendon cow disease, which had been held to be responsible for the occurrence of scarlet fever in man, was identical with that he had himself investigated in Wiltshire; the paper he has now published in this JOURNAL is the continuation of his argument that this Wiltshire disease was cow-pox.

It is necessary to bear in mind that the question whether the Wiltshire and the Hendon cows suffered from the same malady is entirely distinct from that of the nature of the Wiltshire disease, but the last subject has undoubted importance for the reason that the failure of the Agricultural Department of the Privy Council and of the Local Government Board to find an original case of cow-pox in this country had compelled the latter Board to procure lymph from the Continent for the purpose of enabling the animal vaccine establishment to commence its operations. Dr. Crookshank's paper therefore created the hope that cow-pox virus could now be obtained from cows in this country, and that there would no longer be necessity to obtain from foreign sources the supply which was needed for the development of animal vaccination in England. Dr. Crookshank's desire that the profession should be able to appreciate the evidence which had come under his own observation before all traces of the Wiltshire outbreak had disappeared led him to bring the matter before the Pathological Society at a time when his own experimental inoculations were incomplete, but he himself entertained no doubt as to the accuracy of his conclusions, and he exhibited a boy who had suffered from inoculation from the Wiltshire cows, and a calf having a vesicular disease produced by lymph taken from another calf which had in turn been inoculated from a vesicle on the hand of one of the milkers.

The opinion thus formed did not remain long unchallenged. At the next meeting of the Pathological Society, Dr. Klein exhibited the same calf which had been previously shown. In the interval it had been vaccinated in numerous places at the Animal Vaccine Establishment, and at the meeting presented the appearance of well marked cow-pox. In reply, Dr. Crookshank pointed out that this calf was one of three inoculated from another calf with Wiltshire lymph taken on the seventh day of the eruption, when the lymph was puriform, and that Bryce had shown that fluid in the vesicles in the advanced stage was unfit for propagating vaccinia, hence the calf had not been protected by the first inoculation. It became obvious that no definite conclusion could be arrived at in face of this conflicting evidence, and Dr. Thorne Thorne, in a powerful speech, urged that the subject should no longer be discussed, Professor Brown concurring in the view that the whole subject was at present in hopeless confusion.

The paper which Professor Crookshank has now published in our columns will enable those interested in the subject to learn the results of the inoculation with cow-pox at the Government station of the remaining animals in which the Wiltshire lymph had produced vesicles. For the sake of clearness it should be stated that the animals sent to this station divide themselves into two groups: first, two calves inoculated successfully with lymph taken from a milker's hand, and both of which Dr. Crookshank considered to have suffered from typical cow-pox. In one of these the subsequent inoculation was successful, in the other it failed. In the case of failure the animal had between the two inoculations been vaccinated with humanised lymph, this vaccination producing on the second and third day slight redness, with a collection of dried serum at the places of insertion, but no trace of vesiculation; Dr. Crookshank therefore stated that this vaccination failed. Secondly, two calves inoculated successfully with virus taken from a calf receiving virus obtained from a milker, both of which, when vaccinated with animal lymph at the Government station, suffered from cow-pox; thus three out of four calves when vaccinated at this institution showed they were not protected against cow-pox by the Wiltshire disease.

It is evident that Dr. Crookshank is not disposed to attach importance to the results obtained by the successful vaccination of the last two calves; these animals, of which one was exhibited at the Pathological Society, had, he urged, been inoculated with Wiltshire lymph taken at too late a stage of development of the vesicle, producing results which he had not regarded as protective. Nor, indeed, does he regard the successful vaccination of one of the first two calves as evidence against his conclusions. This animal had, he says, suffered from ringworm, which he believed had interfered with its full protection, and had limited this protection to fifty-eight days which intervened between the inoculations with Wiltshire and with cow-pox virus. Whatever may be urged in respect of the other calves, this was one of those which he considered to have suffered from typical vaccinia when inocu-

lated with Wiltshire lymph, and it cannot be anticipated that any animal could pass through this disease twice within the limited period of two months.

An interesting point in connection with the inquiry was the failure in the attempt to revaccinate the milkers who had been infected by the cows on the Wiltshire farm. Further information as to the cicatrices resulting from the primary vaccination of these people is desirable; but, under any circumstances, an experiment tending to show whether the Wiltshire disease protects an animal, human or bovine, against cow-pox, only has its maximum value when this animal has not been previously vaccinated at any period of its life. It is certainly difficult to understand how this disease should render man immune from cow-pox and not be capable of producing a similar result in the bovine animal. With evidence so conflicting, we are compelled to attach more importance to the positive results of successful vaccination of the calves in London than to the negative results of failure to revaccinate the milkers in Wiltshire.

It is sincerely to be hoped that the investigation which is now being made into the nature of cow maladies will be prosecuted until they are more fully understood than at present. The close relation which exists between the cow and man in regard to cow-pox and small-pox, and the part which her milk plays as a disseminator of scarlet fever, enteric fever, and diphtheria, render it an absolute necessity that each of her ailments, however apparently trifling, should be made the subject of exact study. If a cow malady can be associated with disease in man, it is of the first importance to ascertain whether the bovine animal can suffer a second time from this ailment, and whether an inoculation at a time when she is not producing milk will protect her from subsequent disease when later she supplies this article of food. If the recent publications on cow disease serve no other purpose, they indicate the difficulties which surround this work, and the necessity for hesitation in formulating conclusions before the fullest knowledge is gained.

SHIP OWNERS, SHIP SURGEONS, AND SHIP PASSENGERS.

Sir Michael Hicks-Beach's answer to Dr. Tanner's question with regard to the hospital accommodation supplied in transoceânic passenger ships was one of those cut and dried statements which permanent officials put into the mouths of their parliamentary spokesmen when inconvenient topics are raised. "The departmental officers whose business it is to see to these matters have made no complaints, and everything is for the best in the best possible world." A comfortable doctrine for the official mind! Woe betide, therefore, the officer who dares to complain. The President of the Board of Trade, with more ingenuity than ingenuousness, tried to shift the blame on to the ships surgeons; it was their duty to see that the requirements of the law are not evaded; if these have been evaded, then the surgeons who have not reported the evasions have failed in their duty; and Sir Michael Hicks-Beach cannot pursue the inquiry further, because he would not like to publish anything to the disadvantage of the surgeons. Such delicate consideration is quite touching, but people of a less delicate fibre may be disposed to ask the President to ascertain what has been the fate of surgeons who have found fault; for though the Board of Trade has not heard of it, fault has been found, as might be ascertained on application to the Local Government Board. Are any of these courageous surgeons afloat now? Is it not well known that much less than a formal complaint, even a protest, or a suspicion that the surgeon once, for an imprudent moment, thought of making a protest, is enough to lead to instant dismissal? Are not the agreements between the steamboat companies and the surgeons so drawn that these officers are at the mercy of the companies, who may even refuse, without reasonable cause given, to pay a salary fairly earned? We would suggest to Sir Michael Hicks-Beach that it is his duty to find the answer to these questions; they have already been answered in these columns, but the official mind loves an official answer.

When the Public Health service of this country comes to be reformed on a sound basis, it will be necessary to make the Health Department responsible for the supervision of the health of the passengers carried by emigrant and other transoceanic passenger ships; then the responsibility would be met, now it is shirked because it falls upon a Board which has no sanitary advisers. The Board of Trade does not understand the gravity of the case or the importance of its duties in this matter, and in consequence very serious inconvenience and expense are inflicted upon our Colonies and upon the United States. Why do the emigrants not complain? asks Sir Michael Hicks-Beach. *O sancta simplicitas!* How in the name of common sense, which after all has more to do with practical affairs, is an emigrant newly landed in a strange country to make his grievances known to the British Board of Trade? Why should he trouble his head about it? The worst is over, he has escaped from the dominion of red tape, and his thoughts are all in the future. Obviously the ship ought to carry some independent officer responsible not to the ship owners, whose interest it is to smother complaints, but to the department whose business it is to investigate them. Such an officer the ship's surgeon might be, and where the plan has been tried, as in the emigration services of the Australasian Colonies, he has well discharged his duties. It is all very well for the official person to give official answers, and shelve the difficulty, but sooner or later the United States and our Colonies will grow tired of waiting, and the Board will have to take down the tape-bound parcel of papers from its shelf, and find, under external compulsion, a solution to a difficulty which might now be made to cease to exist by the simple expedient of doing what is just and right because it is right and just.

We believe that, there being no special business to transact, the Executive Committee of the General Medical Council will not meet as was expected this month.

The *St. Petersburger Medicinische Wochenschrift* announces that Professor Wenzel Gruber, the well-known anatomist, has been reluctantly compelled to give up his appointments in Russia on account of ill-health through the severity of the climate. He left St. Petersburg on June 17th, and intends to reside for the future in Vienna. Professor Gruber has contributed a long series of anatomical annotations to Virchow's *Archiv*, which have been noticed from time to time in the Journal.

THE PROPOSED MEMORIAL TO BERNHARDT VON LANGENBECK.

In the letter of our Berlin correspondent, at p. 100, mention is made of a proposed memorial to the late Professor Bernhardt von Langenbeck. The Committee includes the following names, most of which are familiar to the medical world: R. Virchow, A. Abraham, A. Bardeleben, M. Bartels, F. Falk, B. Fränkel, E. Hahn, E. v. Bergmann, E. H. Henoch, E. Küster, C. Langenbuch, H. Senator, A. Siegmund. As the distinguished man, who was so long the leader of German surgery, has many admirers in this country who might wish to co-operate in a practical manner in doing honour to his memory, we are asked to state that subscriptions for the purpose will be received and duly acknowledged by either Sir James Paget or Sir William Mac Cormac.

THE ROYAL COMMISSION ON UNIVERSITY EDUCATION.

The representatives of the Senate of the University of London, who gave evidence before the Royal Commission on the Higher Education in London last Saturday were Lord Herschell, Lord Justice Fry, Sir John Lubbock, Sir James Paget, and Mr. F. J. Wood, LL.D., Chairman of Convocation. Mr. Milman, the registrar, will give evidence at the next meeting. Sir Philip Magnus, Mr. Anstie, Q.C., and, it is said, Dr. W. J. Collins, will probably attend the same meeting as representatives of the Committee of Convocation. The Warden of Merton has resigned his seat on the Royal Commission, owing to a difference of opinion with his colleagues. Mr. Brodrick desired to limit the witnesses to be examined to two representatives from each body interested, but this proposal was not accepted by the other members.

A RARE CAUSE OF INTESTINAL OBSTRUCTION.

Among the rarest causes of intestinal obstruction is the blocking of the canal by a mass of round worms. Stepp (*Cent. f. d. Med. Wiss*, 27, 1888) has recently recorded an instance in a boy, aged 4, who died with symptoms of acute obstruction an hour and a half after medical aid was first summoned. *Post-mortem* examination showed that the intestine was completely obstructed by a twisted mass of some forty or fifty round worms, lodged just above the ileo-cæcal valve. The ileum contained some thirty-five more higher up, and there were a few in the stomach and œsophagus. The boy's mother gave him some "worm-medicine" two days before he died, and a meal of smoked bacon and sauerkraut on the following evening. Dr. Stepp thinks that the worms, weakened by the medicine, were dislodged in numbers by the violent peristalsis set up by the injudicious meal of the following evening and so rolled down in a tangled mass too large to pass the ileo-cæcal valve.

OVARIOTOMY IN AGE.

In the Journal, May 26th, 1888, page 1127, a paragraph will be found which includes an account of a successful ovariotomy by Dr. Homans, of Boston; the patient was 82 years of age. Refe- e was made to certain records of ovariotomy performed on old patients. Through the researches of Drs. J. S. Billings and Lorini, it has been shown that the records copied into numerous textbooks are mostly inaccurate. In the *Buffalo Medical and Surgical Journal* for September, 1886, Dr. Miner described a case in a patient "aged thirty-two.....menstruation regular." This case was noted in a better-known American journal as "82 years of age," and as nothing was said about menstruation, the substitution of "82" for "32" was overlooked, and the error has been propagated by numerous textbooks. Drs. Billings and Lorini have detected a similar error respecting an operation of Atlee's. The patient was sixty-eight, not seventy-eight, as erroneously recorded in E. R. Peaslee's work on *Ovarian Tumours and Ovariotomy*. This error has also found its way into other textbooks. Schröder's cases of ovariotomy on old women are easily traced to their original source. In a footnote to a paragraph on ovariotomy in age, in his *Handbuch der Krankheiten der Weiblichen Geschlechtsorgane*, seventh edition, 1886, Schröder says: "I myself have operated successfully on patients of 79 and 80." Thus there can be no doubt about his cases. Neither can it be doubted that Homans operated successfully on the oldest patient ever recorded to have undergone ovariotomy, and that the original record is to be found in the *Boston Medical and Surgical Journal* for May 3rd, 1888. We have been favoured by Dr. Homans with a correspondence on this subject, the ultimate analysis of which may, we think, be correctly stated as above.

NON-MALIGNANT GROWTHS IN THE LARYNX AND SURGICAL IRRITATION.

The *Internationales Centralblatt für Laryngologie*, so ably conducted by Dr. F. Semon, has now entered upon its fifth year of life, and far from showing any sign of decay seems to increase in vitality with advancing age. The July number contains the results of an important statistical inquiry by the editor as to the transformation of benign growths of the larynx into caseous tumours under the influence of irritation by surgical instruments. Answers have been received from 107 observers, including almost all the leading laryngologists of the world. These furnish a total of 10,747 cases of benign and 1,550 malignant neoplasms. Of the former, 8,216 were operated on by the intra-laryngeal method, of these 3,382 were cases of papilloma. In the whole series of 8,216 operations there was an *apparent* change in the character of the growth from innocence to malignancy in only 32 cases, or about 0.5 per cent. of the whole number. That the supposed change may be nothing more than apparent has been conclusively shown by Dr. Semon in our own columns (Journal, vol i, 1887, pp. 1239, 1361). Of these 32 cases there was some recognised element of doubt in no fewer than 16; and it is obvious that the remaining half might possibly be still further reduced if all the facts of each case could be fully known. It is important further to note that in 12 cases in which no operation was done a similar degeneration is supposed to have taken place. Making all allowances for the possible fallacies inherent in statistics relative to a subject which presents many difficulties to the inquirer, it certainly seems to us that this exhaustive investigation finally disposes of a question which has been much debated of late. We feel the more bound to make this admission as a somewhat different opinion was expressed in these columns about a year ago. It is a pleasure to us to acknowledge the solid addition to medical knowledge which an ex cathedrâ assertion on our part has led Dr. Semon to make, and we congratulate him and the profession on the result.

MOLLITIES OSSIUM AND CHILDBEARING.

At the meeting of the second Congress of the German Gynæcological Society, Professor Fehling, of Bâle, read a paper "On Castration in Osteo-malakia." In the neighbourhood of Bâle mollities is frequent. Examination of the urine showed a very slight diminution of carbonates and phosphates. Dr. Fehling found twelve recorded cases of Cæsarean section in mollities with only two recoveries. Out of fifty-four cases of mollities where Porro's operation was performed, seventeen died; three succumbed to phthisis or some other constitutional disease; twenty-four recovered, and, after careful inquiries by means of circular letters addressed to the patients, it appeared that convalescence was complete by six months at the latest; menstruation ultimately ceased. Evidence on this subject in reference to all cases of Porro's operation is conflicting. In four cases of mollities, Dr. Fehling performed Porro's operation with success. Noting the

wretched condition of many similar cases, he performed oöphorectomy for three multiparæ afflicted with progressive and advanced mollities. In two of the cases the general condition of the patient improved; in the third the pains in the bones at least seem to have ceased. Professor Winckel, in the course of the discussion which followed the reading of Dr. Fehling's paper, observed that it would be best to treat these cases by allowing them liberal diet before resorting to extreme measures like oöphorectomy.

TREATMENT OF WOUNDS BY CONTINUED IRRIGATION.

MUCH interest has been expressed in the method of treating severe wounds by long-continued irrigation, recommended by Mr. Treves in the JOURNAL of July 7th, p. 8. In the London Hospital a permanent apparatus has been put up under the supervision of Mr. Nixon, the House Governor of the hospital, in one of the accident wards, which is practically self-working. A large tank fixed in the wall is supplied with hot and cold water by pipes; a window in its side shows the level of the water and exposes a thermometer by which the temperature of the water is adjusted; from the tank irrigating tubes pass to various beds, and after being used for irrigation in the manner described by Mr. Treves, the water is drained off by a pipe which passes into the basement. Two patients are at present under treatment by this method; in one case a stream of water has been running over a severe wound of the elbow produced by a crush, day and night without intermission for nearly three months, and the large wound is nearly healed. In the other case the wound, a severe crush of the hand with loss of much skin, compound fracture of several bones, and exposure of some carpal joints, is also doing well.

SCHOOL INFIRMARIES AND SANATORIA.

THE pamphlet recently issued by the Council of the Association of Medical Officers of Schools, on the construction and maintenance of school sanatoria, will we trust receive the careful consideration of all whom it may concern. The code relating to infectious and contagious diseases in schools issued by the Association a year or two since, has shown that this body is fully competent to pronounce upon such problems in an authoritative and masterly manner, and for clearness and terseness in dealing with the subject-matter in hand, the present publication is in no way behind its forerunner. The subject is one of exceeding difficulty. No two schools are exactly alike in all respects, and regulations which would be perfectly satisfactory at one school might be wholly inapplicable at another. No attempt therefore has been made to reconcile all the differences in a single comprehensive scheme, but the pamphlet rather endeavours to set forth what would be considered satisfactory in an ideal school, so that schoolmasters and medical officers of schools may have some standard to act as a guide. All parents would, we should think, heartily endorse the two propositions set forth in the introductory chapter, namely: 1, "adequate accommodation for the reception and treatment of such of its inmates as may be suffering from ordinary non-infectious illness, or from the effects of accident or injury; and 2, separate accommodation for (*a*) the temporary and separate isolation of those who have been exposed to any of the several forms of infection; (*b*) the treatment of those actually suffering from infectious disease. And in this latter case there should be provision for isolating and treating separately two or more different infectious diseases should these occur simultaneously. The term "infirmary" is used for the building restricted to Group 1, and "sanatorium," for that reserved for Group 2, and the object of the pamphlet is to point out the necessary and important details connected with the construction and maintenance of these two classes of buildings. Before this work was undertaken, a series of questions were addressed to all interested in the subject, and upon the replies received in response the paper is chiefly based. The Council express their obligations to Dr. Shelly, one of the secretaries, upon whom devolved the larger share of the work of preparing this paper, and who has performed his somewhat arduous task in a most exemplary manner.

MODERN EDUCATION AND ITS RESPONSIBILITIES.

EDUCATION has not only changed much in methods of procedure during the present generation, it has also assumed enormous proportions, as shown by the statistics just issued for 1887 by the Education Department. The entire population of England and Wales in 1881 was 25,974,439, that for Scotland 3,735,573. The report from which we quote shows for England and Wales 4,660,301 children on the school registers, with an average attendance of 3,544,564, that is, an average attendance of 76 per cent., and an average of 18.5 children per cent. of the population on the registers. In Scotland there are 635,664 children on the register, with an average of 491,755 in school attendance, showing an average attendance of 77 per cent., and an average of 17.5 children per cent. of the population on the school registers. The consideration of such facts raises some serious thoughts as to these five millions of children who are compelled by law to attend school, and as to the responsibility of the Educational Department which has so much power over the schools. Our concern is with the healthy growth and development of these children, both as to body and brain. It is satisfactory to know that the Royal Commission on the working of the Education Acts has in its report laid much stress on the necessity of physical training, and the desirability of assistance from the State in providing playgrounds, and for improving school buildings. Many other points need to be looked to; there are the exceptional children in the day industrial and truant schools, the mode of their selection and management in such special schools. It is unsatisfactory that a child should be removed from his parent's control and placed where severe punishment may be used, as in some of these special schools, merely on a magistrate's order, without any medical opinion as to the fitness of the child for an attempt at improvement under the discipline of chastisement and bread and water. It is to be hoped that the Royal Commission on the Blind, Dumb, and Exceptional Children will make some practical suggestions for the benefit of these children; at present there is much diversity of action among the different school boards. There are many other points on which the department needs advice in discharging its responsibilities which cannot be duly met without the consultative assistance of an experienced medical authority. Other important considerations of a secondary kind have become pressing social questions, owing to the enormous extent of our school population and compulsory attendance. There is the question of feeding the children. Many are miserably underfed, leading to defects in growth and in strength, as has been shown by the difficulties in recruiting for the army. In this matter Birmingham continues to take a leading place. Mr. W. H. France has just issued a report showing that several improvements have been introduced into the plan of working. The dinners are no longer served in the schoolroom but in the playground, and the change has proved most satisfactory in many important respects. The children now assemble under cover instead of at the school doors and, seated on low benches, eat the food with more comfort and much less waste than when using the school desks as tables. The total number of meals supplied has been 207,747, and of these 49,572 were paid for in cash at the door. A somewhat novel suggestion has been made by Mr. H. Blandy, of Nottingham, who opened a discussion on the question, "On what basis shall dental services be rendered at public elementary schools?" It is highly desirable that children should have their teeth attended to, and

the neglect of such assistance disqualifies many young men when desiring to enter the army or the service of public departments. It might be well that this should be pointed out by the teachers to parents, who are apt to be negligent in such matters; but it may be doubted whether it is practicable for such services to be rendered in connection with an educational system. It is equally important that the parents of children with squint, or other eye-defects, should be urged to obtain proper treatment for them. There still remains the want of some definite knowledge as to the condition of the school children; how many among them are neurotic and unfit for the ordinary curriculum? how many are defective in development? and what is the proportion of starving and ill-fed in the national schools? These questions remain unanswered, yet they are of vital importance to the proper care of the five millions of children in the schools of England and Scotland.

DOMESTIC ANIMALS AND INFECTIOUS DISEASES.

That domestic pets are capable of taking and spreading infection has been amply demonstrated. That diphtheria is particularly liable to be so conveyed is shown by the experimental researches on diphtheria, made by Dr. Renshaw in 1884, who was successful in inoculating cats with diphtheria from the human subject (see Journal of January 3rd, 1885). Dr. Turner, it will be remembered, last year presented an interesting report on diphtheria in animals to the Local Government Board. A further illustration is afforded by the following example, the record of which is taken from the *Sanitary Record* for June: "In his report on the recent sustained prevalence of diphtheria in Enfield, Dr. Bruce Low, of the Medical Department of the Local Government Board, incidentally states that during the continuance of the epidemic cats were observed to suffer in considerable numbers from illness; and in December, 1887, and January, 1888, there was a large mortality among those animals, so much so that the attention of the dust contractor was directed to it. He stated that never in his previous experience had he seen so many dead cats in the dust heaps. Some households, seeing their cats ill, destroyed them. Though there were no known cases of diphtheria occurring in the practice of the veterinary surgeons at Enfield, yet they saw many cases of 'influenza' at this time among animals. The following is an illustration of the possible connection between diphtheria in children and in cats. A little boy was taken ill with what turned out ultimately to be fatal diphtheria. On the first day of his illness he was sick, and the cat, which was in the room at the time, licked the vomit on the floor. In a few days (the child meanwhile having died) the animal was noticed to be ill, and her sufferings being so severe and so similar to those of the dead boy, the owner destroyed her. During the early part of its illness this cat had been let out at nights in the back yard as usual. A few days later the cat of a neighbour who lived a few doors further off was noticed to be ill. It had also been out in the back yards at night. This second animal, which, however, recovered, was the pet and playfellow of four little girls, who, grieved at the illness of their favourite, nursed it with great care. All four girls developed diphtheria, their mother being convinced that they got it from the cat; and, indeed, no other known source of contact with infection could be discovered. It is easy to imagine cats catching an infectious illness like diphtheria, when we remember how often milk and other unused food from the sick-room is given to the cat, or by some people thrown out in the back yard for the benefit of the neighbours' cats, if they have none of their own. It is a frequent occurrence to see children carrying cats in their arms, and even kissing them. It is obvious that if the cats were ill with diphtheria the children under such circumstances would almost inevitably contract the disease.

THE MEDICAL OFFICERSHIP OF HEALTH FOR BRADFORD.

The letter which Dr. Hime addressed to us, and which was published in the Journal of June 30th, has been the subject of inquiries and report by the Sanitary Committee of Bradford. An abstract of this report will be found on page 91. The report, it will be seen, contains a denial of all Dr. Hime's statements relating to the maladministration of the town. With this point, however, we are not concerning ourselves. The question to which we ask for an answer is, Why was Dr. Hime not re-elected? He had held office for five years, and there was a general consensus of opinion in the town that it was to the interest of Bradford that he should be reappointed. The Sanitary Committee avoid discussing this point. They appear to think that no injustice is done to Dr. Hime by casting him adrift without assigning any reason. He was appointed for five years, they say, and knew the conditions; therefore he has no right to complain. Whatever may be the opinion of Bradford, we have no hesitation in saying that the general public will feel that a grave act of injustice has been done the medical officer of health. We maintain that unless Dr. Hime has failed in his duty he should have been re-elected. It is acknowledged that he has not so failed, and Bradford must therefore bear the reproach which is undoubtedly cast upon it by the action of its Town Council and Sanitary Committee.

SCOTLAND.

Dr. G. Hunter Mackenzie, Edinburgh, has been elected a corresponding member of the Société de Médecine Pratique of Paris.

THE POLLOKSHIELDS FEVER EPIDEMIC.

As a result of a house-to-house visitation, the total number of cases of scarlet fever discovered is 74. Of this number 2 had died. The visitation is not yet quite complete, 5,000 of a population of 7,000 having been overtaken; but the district visited is that in which the epidemic existed, and it is not likely that the number will be much increased.

THE SOCIETY OF CHEMICAL INDUSTRY.

The annual meeting of this Society was held in Glasgow on July 4th, under the presidency of Professor Dewar, F.R.S. As in previous years, there was little time given to formal meetings, the members being mainly occupied with visiting manufactories and works of various kinds. The chief object of interest was the manufacture of dynamite, blasting gelatin, and similar destructive materials, as carried on at Nobel's works, Ardeer. Various other visits of a like kind were paid. On the first day of the meeting all the formal business was transacted in the Bute Hall of the University. It was decided to accept the invitation of the London branch to meet in London next year.

INSTRUCTION IN SKIN DISEASES IN GLASGOW.

The summer session of clinical lectures, by Professor McCall Anderson, closed on July 4th, and the prizes were distributed to the successful students by Mr. James Grahame, Honorary Secretary to the Hospital. There were in all 88 students in attendance on the course, and prizes were obtained by Messrs. L. R. Sutherland, William Robb, and James Hudson.

CHAIR OF ANATOMY IN DUNDEE UNIVERSITY COLLEGE.

It is intended to fill the recently-founded chair of anatomy at the University College of Dundee this autumn. Various candidates

are announced. Of Edinburgh graduates, the names of Dr. Hepburn, Senior Demonstrator of Anatomy at Edinburgh University, and Dr. A. M. Patterson, Demonstrator of Anatomy at Owens College, Victoria University, are mentioned.

THE BRITISH MEDICAL TEMPERANCE ASSOCIATION.

In accordance with the practice which has been followed for some years past, a temperance breakfast will be given to the members of the British Medical Association at the approaching meeting in Glasgow. This year the breakfast will be given conjointly by the Scottish Branch of the British Medical Temperance Association, and by the Scottish Temperance League. It will take place in the Queen's Rooms, Clifton Street, Glasgow, on Wednesday, August 8th, at 8 o'clock. Sir William Collins, D.L., President of the Scottish Temperance League, will occupy the chair, and Professor McKendrick, F.R.S., of Glasgow University, President of the Scottish Branch of the British Medical Temperance Association and other speakers, subsequently to be announced, will address the meeting.

THE LATE DR. JOHN WIGHT.

The sudden death of Dr. John Wight on July 1st has caused a universal feeling of regret in Aberdeen, where he was highly esteemed by a large circle of colleagues and friends. The deceased gentleman was the second and eldest surviving son of the late Mr. John Wight, of Woodside, and was born in February, 1837. He was educated at the Aberdeen Grammar School and at Marischal College, where he duly graduated in medicine. He began the practice of his profession in old Aberdeen, and shortly afterwards succeeded to the practice of the late Dr. James Philip, and long enjoyed one of the most extensive practices in Aberdeen. In 1875 he became a member of the Town Council, and was reappointed in 1883; he was also appointed Convener of the Public Health Committee, and took a prominent and active part in this and other local movements. He was a fluent and forcible speaker, the occasional outspokenness of his remarks being indicative of the independence which was his characteristic. Dr. Wight had been suffering from sarcoma, which only manifested itself about three months ago. Ten days before his death he consulted Sir James Paget, Sir Joseph Lister, and Mr. Jonathan Hutchinson. They recommended an operation, which was performed by Dr. Ogston; Dr. Wight never rallied from its effects.

ROYAL COLLEGE OF SURGEONS.

A quarterly meeting of the Council was held at the College on Thursday afternoon, July 12th.

The President reported that at a meeting of the Fellows of the College, held on July 5th, for the election of three members of the Council in the vacancies occasioned by the retirement in rotation of Mr. William Cadge, Sir Joseph Lister, Bart., and Mr. Thomas Bryant, Sir Joseph Lister, Bart., not offering himself for re-election, Mr. William Cadge and Mr. Thomas Bryant were re-elected, and Mr. Thomas Pickering Pick, of Portman Street, was elected a member of the Council. Mr. Cadge, Mr. Bryant, and Mr. Pick were introduced, and having subscribed to the by-laws, and made a declaration in the terms of the oath prescribed by the charter of 1800, took their seats as members of the Council.

The minutes of the ordinary Council held on June 14th were read and confirmed.

Mr. Thomas Annandale was introduced, and after signing the by-laws and making the required declaration, was admitted a Fellow.

A letter was read from Mr. Wilde, the College Solicitor, stating that he had received a letter from Mr. Knyvett of the Home Office informing him that he had been instructed to prepare Letters Patent under the Great Seal for the grant to the College of the Supplemental Charter.

It was resolved that a diploma of Fellow be issued to Mr. H. C. Kidd, and that a diploma of Member be issued to Mr. H. D. Mason, they having been found qualified to receive the respective diplomas.

A report was read from the Board of Examiners in Dental Surgery, of candidates found qualified for the diploma in Dental Surgery; and it was resolved that diplomas in Dental Surgery be issued to the several persons whose names were included in the report.

A report was received from the Museum Committee and the several annual committees.

A report from the Committee on the Mode of Election to the Court of Examiners was read and adopted. The Committee deemed it desirable that the regulations governing the procedure in the election to the Court of Examiners be so modified as to secure that no one be elected unless he have received the votes of a majority of the members of the Council present at the meeting.

The tenth report of the Committee on the Extension of the College Premises was read and adopted. The Committee recommended the Council to authorise the architect to give directions to the builders to proceed with the pulling down of No. 38, Lincoln's Inn Fields, the proposed site of the conservator's house, and of the back premises of No. 43, Lincoln's Inn Fields, abutting on Portugal Street, the proposed site of the new smaller museum, the builders having undertaken to do this work and allow the College £25, less the cost of shoring and boarding.

The President reported that he and Mr. Bryant attended before the University of London Royal Commission and gave evidence on behalf of the Royal College of Surgeons, and that Sir Andrew Clark, the President, and Sir Henry Pitman, Registrar, attended on behalf of the Royal College of Physicians, in favour of the petition of the Royal Colleges to grant degrees in Medicine and Surgery.

The Council elected Mr. Christopher Heath from the Court of Examiners to be a member of the Board of Examiners in Dental Surgery in the vacancy occasioned by Mr. Wood's expiration of office, he not being a candidate for re-election.

A letter was read from Mr. James Smith Turner resigning his appointment as a member of the Board of Examiners in Dental Surgery. His resignation was accepted, and the President stated that the vacancy in the Board of Examiners in Dental Surgery would be filled up at the quarterly meeting of the Council in October after a report from the Nomination Committee.

A letter was read from Sir Joseph Lister, Bart., resigning his office as a member of the Committee of Management, which was accepted, and the Council elected Mr. J. Hutchinson as a member of the Committee of Management in the place of Sir J. Lister.

The following gentlemen were elected on the recommendation of the Nomination Committee: as Professors of Surgery and Pathology, M. B. Hill, F. H. Marsh; as Professors of Comparative Anatomy and Physiology, etc., A. E. J. Barker, M. P. M. Collier, C. B. Lockwood, C. Stewart, J. B. Sutton; as Lecturer on Anatomy and Physiology (Arris and Gale), W. Hunter; as Erasmus Wilson Lecturer, J. P. Smith.

Mr. Savory was re-elected for a fourth term as President, and Messrs. Hulke and Heath were elected as Vice-Presidents for the ensuing year.

The Council determined that the ordinary meeting of the Council in August should be held on the first Thursday (the 2nd) of that month.

The British Laryngological and Rhinological Association.—The first general meeting of the recently constituted British Laryngological and Rhinological Association was held in the rooms of the Medical Society of London, on June 29th, the chair being occupied by Dr. W. McN. Whistler, and subsequently by Mr. Lennox Browne. The principal business was the election of officers and Council. The ballot resulted as follows: *President:* Sir Morell Mackenzie. *Vice-Presidents:* Mr. Lennox Browne, Dr. G. Hunter Mackenzie, and Dr. P. C. Smyly. *Council:* Dr. T. Whipham, Dr. Woakes, Dr. E. Cresswell Baber, and Dr. J. McIntyre. *Honorary Secretaries:* Dr. R. A. Hayes and Mr. George Stoker. The draft rules were discussed, amended, and adopted.

The Guy's Hospital Biennial Festival took place at the Holborn Restaurant on July 4th, when Dr. P. H. Pye-Smith, F.R.S., was chairman. The guests were the Treasurer of the hospital, Mr. Cosmo Bonsor, M.P., and Mr. Samuel Hoare, M.P., Governors, Sir Thomas Crawford, and Dr. Dick, Director-General of the Medical Department of the Navy. Nearly 180 Guy's men were present, and the proceedings were of a most hearty character.

The statement that Mr. William Colles is about to resign his position as Surgeon to the Richmond Hospital, Dublin, is incorrect. Mr. Colles does not belong to that institution.

THE GROCERS' COMPANY SANITARY SCHOLARSHIP: TUBERCULOSIS AND TABES MESENTERICA.

On Monday, July 9th, Dr. G. Sims Woodhead, Superintendent of the Royal College of Physicians' Laboratory, Edinburgh, and Sanitary Scholar of the Grocers' Company, gave a lecture before the Company and a distinguished audience in the Theatre of the London University, on Tuberculosis and Tabes Mesenterica.

After some preliminary observations on the complexity of the subject of tuberculosis, Dr. Woodhead said that it had now come to be looked upon as the result of a specific morbid irritant, acting on tissues so far devitalised that they were not able to cope with that irritant. The battle of the cells and of bacilli must go on in tuberculosis, just as in anthrax or a suppurating wound, and the condition of the body at the time must be favourable to the development of the bacillus of tubercle. Of these conditions were mentioned the following: (*a*) some weak point in the epithelial surface at which the organisms, now generally admitted to be the cause of tuberculosis, might invade the deeper tissues in sufficient numbers to be able to hold their own in the struggle for supremacy that ensues; (*b*) the comparatively low vitality of these deeper tissues, the cells of which they are composed being no longer able to deal successfully with any large number of bacilli.

Though tubercle bacilli were widely disseminated, yet they were seldom present in the atmosphere in numbers sufficiently large to render them formidable to any but individuals with a special low tissue resistance. Tubercle affected different organs at very different periods of life, or it might be more correct to say that general tuberculosis affected certain organs more frequently and at an earlier period of the disease at different ages. Statistics were given to illustrate this point; in particular it was shown that the maximum affection by mesenteric tubercle was attained between one and five years, whilst in tubercular meningitis the maximum was attained between three and seven, amongst the cases of tubercular meningitis being included, of course, those cases in which there was mesenteric tubercle also. This fact, taken in connection with the very large percentage of all tubercular cases (in children) in which mesenteric disease was developed, pointed very decidedly to the supposition that in these tubercular glands was the primary lesion in the body.

It was next observed that while tubercular mammitis was an extremely rare disease in women, Dr. O. Hubermaas (*Beit. z. Klin. Chir. Mitth. a. d. Chir. Klinik z. Tübingen*, B. II, Heft II) had only been able to collect eight cases, yet in cattle it was not by any means a rare condition. Gerlach, Albert, Klebs, Bollinger, Stein, Johne, Toussaint, Chauveau, and Koch all agreed that if milk from cattle with tubercular udders were given for any lengthened period, tuberculosis was produced in the animals so fed. Bang (International Medical Congress, Copenhagen) had examined the milk from twenty-seven cases of tubercular mammitis, and had found the bacilli in the milk or sediment, and produced the disease by inoculation or ingestion of the milk or sediment. Nocard had found the bacillus in eleven cases.

The lecturer then gave an account of a most careful and systematic examination of over 600 cows in the Edinburgh dairies, which he, along with Professor McFadyean, had carried out. Out of the whole they found thirty-seven beasts in which there was mammitis, but only six in the milk of which they could demonstrate the presence of tubercle bacilli, and then only in small numbers. In one of the six cases, and subsequently in five other cases, they made sure of the existence of the bacilli in enormous numbers in the udder by microscopic examination. They found that new tubercular tissue was disseminated in patches of various sizes throughout a portion of the gland, and that all the minute elements of tubercle might be distinguished.

The giant cells were very numerous, but the tendency to caseation was not nearly so well marked as in other parts of the body. The new growth gradually invaded the lobules of the gland, so that a gradual transition from the healthy gland substance to the dense tubercular mass might be seen. In the mass itself the characteristic bacilli were present in almost inconceivable numbers. On careful examination of the more healthy part of the gland, especially at the margin of the new growth, ulceration into the ducts might be made out, and a small mass of tubercular granulation seen projecting into the lumen. In the granulation tissue, in the epithelial cells, and even lying free in the lumen, there were frequently numerous bacilli, and it could be easily understood how they found their way into the milk. Bacilli could also be demonstrated in epithelial cells still attached, and also in rare cases in those lying free in the apparently healthy milk ducts. These facts, when considered along with the occurrence of bacilli in milk, with the feeding experiments recorded by so many observers, and the great prevalence of tubercle in certain classes of animals, went far to prove, he thought, that milk was a source of tubercular infection, especially to young children.

Dr. Woodhead insisted that it was only after the intestinal functions, and consequently those of the mesenteric glands, had been disturbed and the vital powers of the cells lowered, that the tubercle bacilli could establish themselves in the glands. In growing children the mesenteric glands were normally severely taxed in consequence of the necessity for increased activity of their secondary digestional functions.

Dr. Woodhead stated that his observations led him to disagree with Dr. Klein's opinion that the bacillus of the tubercle of man and animals was not identical.

In conclusion, he commented on the difficulties which stood in the way of dealing adequately with tubercular cattle. It was well known among cattle breeders that in many cases the animals might be in an advanced stage of tuberculosis, and still be what was called "prime fat." When making the observations on tubercular mammitis Professor McFadyean and he had found that the udder might be tuberculous (proved by microscopic examinations) without the slightest falling off in the general condition of the animal. It was difficult to determine whether mammitis was simple or tubercular. It was an exceedingly difficult matter to control the treatment, during life, of the cattle. From Denmark alone, in which country the veterinary profession had demonstrated the extreme frequency of tuberculosis in cattle, this country received one million pounds sterling worth of cattle annually. The Copenhagen Milk Supply Company shortly after last February declared, with Professor Bang, that tuberculosis of the udder is not difficult of detection, and that a diagnosis can be made at a very early stage of the disease, as it presents so many marked characteristics. The lecturer was inclined to doubt this statement, more especially as Bang, in a paper on Tuberculosis in Domestic Animals, read before the Copenhagen Medical Society on February 28th last, stated that the milk from cattle affected with pulmonary phthisis contained bacilli, even when the udder was not in any way affected. Unless the udder was examined most carefully after death, there could be no proof of this. The development of the disease in the udder is extremely rapid, and an early diagnosis is imperative if the great danger that would arise from mixing the milk from affected cows with the milk of healthy cows is to be avoided. In consequence of this report the Control Committee advised the directors of the Milk-Supply Company to order a fortnightly examination by a veterinary surgeon of all cows supplying milk to their company; this examination to include a most careful inspection for tuberculous udders.

PARLIAMENTARY BILLS COMMITTEE.

A meeting of the Subcommittee of the Parliamentary Bills Committee, appointed to consider the Lunacy Acts Amendment Bill, was held at the offices of the Association on Monday, July 2nd. There were present Mr. Ernest Hart (in the chair), Dr. Bridgwater, Dr. Alfred Carpenter, Dr. Langdon Down, Dr. Mickle, and Mr. Sibley.

The minutes of the previous meeting having been corrected and adopted,

The Chairman reported the steps that had been taken; namely, a letter had been forwarded to the Secretaries of the Branches, together with a copy of the report of the Committee, which they were asked to submit to their respective Branches, and, if they saw fit, to support the proposed amendments by communicating with their parliamentary members. They had received a number of communications in respect to the Bill, of of which the following is a summary.

Communications or resolutions, adopting or approving of the recommendations of the Parliamentary Bills Committee concerning the Bill have been received from the South Midland Branch (Dr. Evans), the Cambridge Branch, the Southern Branch, the Staffordshire Branch, the North of England Branch, the South-Eastern Branch; and the Yorkshire Branch also is understood to have adopted the recommendations of the Committee in their en-

tirety. The following Branches and Honorary Secretary approved of the suggestions of the Committee, except as regards one or two of the suggestions; and some of them also desired to suggest additional amendment to the Bill: the Dorset and West Hants Branch, the Gloucestershire Branch, the Lancashire and Cheshire Branch, the Shropshire and Mid-Wales Branch, the Glasgow Branch, and Dr. Saundby. The Midland Branch has since agreed, except as to Section 40 (a change in the numbering of sections perhaps accounts for this).

The CHAIRMAN said a copy of the Committee's suggested amendments were forwarded, as requested, to Sir Walter Foster, with a request that he would take means to obtain the assistance of medical members of Parliament, with the view of carrying through such as seemed desirable to him. Sir W. Foster had taken action in the matter. Mr. W. H. Smith had also been communicated with, and had promised to give the report his careful attention. The Chairman further stated that he had received letters in considerable number from members of Parliament, who had been addressed by members of the Branches, promising careful attention to the proposed amendments.

Dr. MICKLE spoke of the interpretation placed last year, by the Committee, on the clauses of the Bill concerning the reception of "single patients" into the houses of medical men. Subsequently, some members of the Association had expressed the view that the intention of the clauses in question was different from that supposed by the Committee; and, in order to ascertain that intention, the opinion of counsel was taken, and practically confirmed the view of the Committee entirely. (Counsel's opinion, published in the JOURNAL, December 31st, 1887, p. 1414.) Recently, the matter had again come forward; and Dr. Mickle held that, if the intention of the clauses was to limit medical men to three specified classes of "single patients," and to specially select the former for this restrictive legislation, the Bill should be opposed on that point.

After discussion, the following additional recommendations were adopted: they agree with suggestions made by Branches or Members of the Association.

Section 28, Subsection 6, par. (*a*), line 25, p. 18. For the word "may" to substitute "shall."

Section 32, p. 20. Should the intention of this Section (taken with Section 3, Subsection 7) be to restrict medical men from receiving, as "single patients," any other than the three classes specified (and "Chancery lunatics"), it is suggested that the Section be omitted, as, on that interpretation, it singles out, for restrictive legislation, medical men from among those who now receive "single patients."

Section 54, p. 33, line 14, For the word "may," to substitute "shall." With regard to Section 35, Subsections 1, 2, 3, Dr. Herbert Major had suggested that the provision with regard to the person who "signed" an order for reception had been inserted into the Bill in error.

The CHAIRMAN suggested, and it was decided, that Sir E. Clarke should be asked whether the Section was intended to be retrospective, and as to its interpretation.

The recommendations as to Sections 4 and 9 were adhered to.

MILITARY MEDICINE IN FRANCE.

WE have before us a late issue of the *Bulletin du Service du Santé Militaire*, giving the new organisations of the School of Military Medicine of the Val-de-Grâce. Without giving in detail what may be called the hospital and administrative staff of that great establishment, the purely teaching staff is made up as follows:

1. Un Professeur et un Agrégé—Maladies et Epidemies des Armées.

2. Un Professeur et un Agrégé—Chirurgie d'Armée (blessures du guerre).

3. Un Professeur et deux Agrégés—Anatomie Chirurgicale, operations et appareils.

4. Un Professeur et un Agrégé—Hygiène et Médicine legal Militaires.

5. Un Professeur et un Agrégé—Legislation, Administration Militaires.

6. Un Professeur et un Agrégé—Chimie appliquée aux Expertises de l'Armée et Toxicologie.

Our readers will note the fact that the officers who are put through this elaborate course of special instruction before they are thought fit to serve as military surgeons are all qualified as medical practitioners before they enter upon it. It is necessary to emphasise this fact, because it would appear to be a growing opinion in this country, in and out of Parliament, and even in the official mind, that anyone who has obtained the ordinary qualifications for civil practice is, *ipso facto*, fit to enter the army and discharge the multifarious duties of an army surgeon in peace and war in every quarter of the globe where the British drum is heard. This is evidently not the opinion of those responsible for the well-being of the French army; this was not the opinion of the late Lord Herbert and his experienced advisers when they organised the Army Medical School, that has done so much to raise the tone and professional status of our army medical officers at home and in India. It is well known that the Army Medical School, since the death of its founder, has had a struggling existence. It has been coldly regarded by successive War Ministers, and sometimes even by the Directors-General of the Medical Department of the Army, jealous of its independent government under its own senate; and it has been a favourite object of dislike on the part of military financial reformers, many of whom were tolerant enough of the shameful waste of millions of public money in the maintenance of the smallest, the most costly, and except in the splendid qualities of its fighting *personnel* for rapid mobilisation, the least efficient army in Europe.

We invite especial attention to the teaching of military hygiene in the French school. Not only is a professor and an assistant-professor appointed for this branch, but a professor of chemistry and an assistant are deemed necessary to teach the all-important chemical branch of this science. There is no doubt that no part of the course in our Army Medical School was thought of more importance than hygiene. As we all know, Parkes was the first professor appointed; how this great teacher discharged the duties of his chair, the scientific world knows. When he died, his famous pupil, De Chaumont, took up the torch as it fell from the hands of his master; in his hands it burned brightly until death once more appeared on the scene and extinguished it. The question: Who is to fill the Chair of Military Hygiene at Netley? has been often asked. As yet no answer has been given. When a rumour, and something more than a mere rumour, prevailed, that an officer without the essential qualification of being a master of chemical science was about to be appointed, we ventured to enter a protest against such an appointment. Meanwhile, the chair is vacant. We have been at some pains to inquire how the duties of this important chair are carried on. In France, as we have seen, two professors and two assistants are not thought too many for the purpose. In the opinion of the British War Office and its advisers, one comparatively young medical officer who was Dr. De Chaumont's able assistant, is now charged to deliver the course of systematic lectures on this wide subject, and single-handed to carry on the onerous laboratory duties; superintending the work, not only of the young surgeons on probation, but of a large class of medical officers sent to Netley to refresh their knowledge of this and other important branches of military medical knowledge. Nor is this all. As if this officer's hands were not full enough, he is called upon to undertake the duties of chemical examiner to Government, and to find time to analyse and report on anything and everything sent to the War Office in the way of "inventions," supposed to be required for military medical use. Our readers are capable of supplying the obvious comment on this curious example of War Office economy, and of admiring this fresh example of the administrative ability of its officials.

THE MEDICAL OFFICERSHIP OF HEALTH OF BRADFORD.

AT the meeting of the Bradford Town Council last Tuesday the letter of Dr. Hime to the BRITISH MEDICAL JOURNAL of June 30th was brought before the Council by the Sanitary Committee, who had drawn up a report in answer to the allegations which had been made by their late medical officer. A resolution was first read, which had been forwarded by the Secretary of the North-Western Association of Medical Officers of Health, regretting the action of the Corporation in dismissing Dr. Hime, and urging the necessity for greater security of tenure in the appointment of medical officers. The Town Clerk then read the letter which Dr. Hime had written to this JOURNAL. The report of the Sanitary Committee, which was read by the Deputy Town Clerk, stated that the Council had refrained from entering into public explanations respecting Dr. Hime, but his letter to the BRITISH MEDICAL JOURNAL of June 30th contained such grave and unfounded

charges against the Committee as to entitle the Council to some explanation. Instead of having any difficulties thrown in his way, Dr. Hime had invariably been encouraged to report sanitary defects and requirements, and the Council had always given his reports careful and anxious consideration, with due regard to the public welfare. Dr. Hime had represented that he was the victim of ill-feeling on the part of the Chairman of the Sanitary Committee, and through him of all the other members, and that he felt aggrieved that he was deprived of his office and income and obliged to commence life once more "after receiving such a wound." The Committee denied these imputations, both as regarded the chairman and the other members, and contended that they had been actuated solely by considerations affecting the interests of the town. In order that he might not be taken by surprise or put to unnecessary inconvenience, Dr. Hime was, at the request of the Committee, informed nearly two years ago by Alderman John Hill, Chairman of the Finance Committee, that his engagement would not be renewed, and he was again informed of this intention six months ago. Some of the officers of the Corporation had been nearly a quarter of a century in the service, and Dr. Hime's predecessor had filled the office of medical officer for nearly ten years, finally parting from the Corporation on terms of mutual regard on obtaining promotion. Dr. Hime had stated that he had given great offence by condemning the cheap but pernicious custom of allowing excrement and filth to be used for forming roads, etc. The Committee repudiated the insinuation as unfounded and unjust, and stated it had never been a question of money in dealing with the refuse of the town. Everything within the range of practicability was done, not merely to prevent disease, but to guard against annoyance to the inhabitants. Dr. Hime had alleged that no proper provision existed for small-pox, though it was very prevalent around the borough, and that three cases now in the town were obliged to be put in a ward within twenty yards of another occupied by scarlet fever patients. The Committee pointed out that they only got possession of the fever hospital last September, since which time they had erected two new wards and purchased land for a separate small-pox hospital. They had also made adequate arrangements for accommodating fifty small-pox patients in the present fever hospital. The committee further denied that property is still occupied which Dr. Hime had condemned as unfit for human habitation. "The Doctor represents," proceeded the report, "that he fell into discredit with the Committee because he condemned piggeries belonging to one member of the committee and a slaughterhouse in which another member was interested. The imputation cast on your Committee is groundless. They have never in any complaint laid before them of any kind paid the slightest regard to the question who might be the owner of the property. This is the first time that the objection now stated was ever made. As soon as the Committee saw it, they instructed the town clerk to request the Doctor to specify the cases to which he refers and the names of the parties. To the verbal request so made he answered he should do nothing of the kind. To a written request for the information he has not returned any answer. The Doctor says, 'these things led to the bitter, unceasing, hostility of the Chairman and certain members of the Committee.' Your Committee assert that there is not the slightest foundation for this allegation. There is not and never was any personal hostility towards him, entertained on the part of the Chairman or any member of the Committee." The Committee also controverted Dr. Hime's statement as to being without the assistance of inspectors. The Committee also alleged that the Doctor had neglected certifying new houses, and stated that since April 25th last there is only one entry in the book out of thirty-one cases referred to him for a certificate. The Committee's report concluded as follows: "His last charge is that when your Committee had met to decide the question of his reappointment, he addressed a letter to the members, and that this letter 'was not brought to the knowledge of the Committee by the Chairman.' The answer is that the letter was sent in to the Chairman while the Committee was sitting, and by inadvertence was overlooked by him; but as soon as he discovered the oversight he caused the Committee to be immediately summoned to another meeting, and then laid the letter before them with an explanation of the circumstances under which it had been so overlooked. Your Committee, after hearing such letter read, felt that it in no way affected their decision."—Alderman J. HARDACRE moved, and Mr. W. LISTER seconded, the adoption of this report. No discussion as to the report took place, but Councillor SHELDON asked a question as to whether in July, 1886, Dr. Hime did not state that he had met with an accident whilst dissecting a dog which had suffered from rabies; that he had represented on the Tuesday that he was in danger of his life, and wished to go at once to Paris to M. Pasteur, and that he could not wait for the meeting of the Sanitary Committee on the Wednesday night; that £25 was given him to go forthwith to Paris, but that he was lecturing in London on the Thursday night? Alderman HARDACRE, Chairman of the Sanitary Committee, replied that it was quite true. Councillor ROBERT PRATT moved a resolution for the sending back of the report to the Committee, in order that they might add something about this incident. Ultimately Mr. PRATT withdrew his motion, the Committee's report was adopted, and the proceedings, so far as Dr. Hime was concerned, ended.

THE MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE SOCIETY.

THE next quarterly meeting of the Council will be held on Wednesday, July 18th. The investigation of the books show, we understand, a net reserve of £24,694 17s. 9d., being an increase for the year of over £7,050. Members of the profession desirous of joining the Society should communicate with the Secretary, Mr. C. J. Radley, 26, Wynne Road, Brixton, S.W.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held at the Offices of the Association, No. 429, Strand (corner of Agar Street), London, on Wednesday, the 18th day of July next, at 2 o'clock in the afternoon.

The following Committees will also meet:—

Tuesday, July 17th, 1888.—Branch Organisation Committee, 2.30 P.M.—Habitual Drunkards Committee, 3.30 P.M.—Scientific Grants Committee, 4 P.M.—Therapeutics Committee, 4.30 P.M.—Committee on Payment of Fees to Medical Witnesses, 5 P.M.—Premises Committee, 6 P.M. *Wednesday, July 18th, 1888.*—Journal and Finance Committee, 11.30 A.M.

FRANCIS FOWKE, *General Secretary.*

July 14th, 1888.

NOTICE OF QUARTERLY MEETINGS FOR 1888. ELECTION OF MEMBERS.

ANY qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

Meetings of the Council will be held on July 18th, and October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

OXFORD AND DISTRICT BRANCH.—The annual meeting will be held at the Radcliffe Infirmary, Oxford, on Friday, July 27th, at 3.30 P.M. Members wishing to read papers or show cases or specimens are requested to give notice to the Honorary Secretary, W. Lewis Morgan, 42, Broad Street, Oxford, on or before July 13th.—S. D. DARBISHIRE and W. LEWIS MORGAN, Honorary Secretaries.

SOUTHERN BRANCH: ISLE OF WIGHT DISTRICT.—An ordinary meeting of this Branch will be held at the Royal Pier Hotel, Sandown, on Thursday, July 19th, at 3.45 P.M., T. A. Buck, Esq., M.B., etc., President, in the Chair. Agenda: —H. W. Godfrey, M.B.: A few Notes on "the Elephant Man" (with photographs). Dr. J. G. Sinclair Coghill: Calomel as a Cholagogue. J. Groves, M.B.: Case of Dilated Heart. Dr. J. M. Williamson: On a Case of Exophthalmic Goitre with Intercurrent Maniacal Attack. Dr. R. Robertson: Death from Tubercular Meningitis after a School Examination. J. Groves, M.B.; Bullet Extracted by simple means in a recent Case of Gunshot Injury. Gentlemen who are desirous of introducing patients, exhibiting pathological specimens, or making communications, are requested to signify their intention at once to the Honorary Secretary. Dinner at 6 P.M.; charge, 6s., exclusive of wine. Trains leave Sandown for Ryde, Shanklin, and Ventnor at 8.12, and for Newport at 8.15 P.M.—W. E. GREEN, Honorary Secretary.

ABERDEEN, BANFF, AND KINCARDINE BRANCH.—The annual meeting of this Branch will be held at 198, Union Street, Aberdeen, on Saturday, July 28th, at 1 P.M., the President, Dr. Smith, of Kinnairdy, in the chair. Business: 1. Minutes, etc. 2. President's address. 3. Ballot for admission of Dr. W. Alexander, Tarland; Dr. Arthur Keith, Marischal College; Dr. D. A. Shirres, Tarves; and Dr. George Williamson, Stonehaven. 4. Council's report and Treasurer's balance-sheet. 5. Election of President-elect for the ensuing year. 6. Election of two Honorary Secretaries. 7. Election of Honorary Treasurer. 8. Election of Members of Council (see Rule 8). 9. Selection of place of next June meeting. There will be a dinner provided at the Palace Hotel, Aberdeen, thereafter, at 3 P.M.; price, including attendance but exclusive of wine, 5s. per head. Those intending to be present are requested to send notice to Dr. Mackenzie Booth, 231, Union Street, Aberdeen. Members desiring photographs of summer meeting may have either of the groups from Messrs. G. W. Wilson and Co., Crown Street, price 6d. each.—ROBERT JOHN GARDEN and J. MACKENZIE BOOTH, Honorary Secretaries.

STAFFORDSHIRE BRANCH.

THE second general meeting of the present session was held at the Bell Library and Medical Institute, Cleveland Road, Wolverhampton, on Thursday, May 31st. The President, Mr. W. D. SPANTON, was in the chair, and there were forty-five members present.

New Members.—The following gentlemen were elected members of the Branch: Mr. J. C. Garman, Brewood; Mr. John Russell, M.A., M.B., Burslem; Mr. Francis H. Pott, Caton Hall, Stafford.

Royal Medical Benevolent College, Epsom.—The PRESIDENT announced that, on behalf of the Branch, he had given his votes to Master Owen Gray, of Walsall, and Master Clendinnen, late of Stafford, candidates for a Foundation Scholarship.

Division of Isthmus for Bronchocele.—Mr. VINCENT JACKSON showed a young girl who, eighteen months ago, was referred to him by Dr. Ridley Bailey on account of dangerous asphyxiating symptoms, due to the presence of a bilaterally enlarged bronchocele, with a broad and thick isthmus, which in the one direction extended as far as the cricoid cartilage, and in the other direction was retrosternal. Immediate relief was afforded by the complete division of the isthmus with a scalpel, and from that time to the present there had been no return of the symptoms, and the gland had shrunk almost to its normal size. The health of the patient was excellent.

Suprapubic Lithotomy in a Boy.—Mr. ALCOCK showed a calculus which he had recently successfully removed from a boy aged 10 by suprapubic lithotomy. The bladder wound was closed with two catgut ligatures, a soft catheter introduced into the urethra being left in the bladder. No urine escaped by the wound after the operation, and the boy was well in three weeks. Mr. Alcock considers suprapubic lithotomy preferable to lateral in boys, on account of incontinence of urine occasionally following the latter.

Thyroidectomy.—Mr. ALCOCK showed a thyroid gland removed from a female patient in the North Staffordshire Infirmary, who had been admitted on account of frequent dyspnœa. The operation was an easy one, the tumour after exposure being tied with four ligatures and then cut away with scissors. Recovery was rapid.—Mr. SPANTON showed an enlarged thyroid gland, comprising the whole of the left lobe and large isthmus, removed from a lad aged 18, in the North Staffordshire Infirmary, who had been suffering from symptoms rapidly increasing for about two months, and had frequent and urgent dyspnœa. There was no difficulty about the operation, but an unusual temperature, rising to 103° and 104° F., in the evening, and sinking to nearly normal in the morning for several days. The wound was healed, and there was no local disturbance to account for the pyrexia. In other respects the lad was nearly well.

Bilharzia Hæmatobia.—Mr. REGINALD HARRISON showed two specimens of bladders infected with the bilharzia hæmatobia which he had recently received from Dr. Mackie, of Alexandria. The appearance presented by them explained the free hæmaturia and cystitis, which were usually prominent symptoms in this form of infection by a parasite.

Papers.—Dr. C. A. MACMUNN: Excretion of Reduction Products of Hæmatin in Disease.—Dr. ALFRED H. CARTER: Practical Consideration on the Nature and Treatment of Chronic Cardiac Disease.—Mr. E. HURRY FENWICK (London): The Electric Illumination of the Bladder and Urethra, and its value in the Diagnosis and Treatment of Obscure Vesico-Urethral Diseases. (See JOURNAL, June 16th, p. 1268.)

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

THE eighteenth annual meeting of this Branch was held at the Infirmary, Cardiff, on June 27th last, the President-elect, Dr. C. T. VACHELL, kindly entertaining members at luncheon on their arrival. About fifty members attended the meeting.

Installation of New President.—Mr. H. N. DAVIES (Cymer) occupied the chair in the unavoidable absence of the President, Mr. Rawlings; and, after a few remarks, vacated the chair in favour of the new President, Dr. C. T. Vachell (Cardiff).

Report of Council.—The report stated that the number of members has somewhat increased in spite of deaths and resignations, the number being now 206. The medical population of South Wales was upwards of 400, and there were about 70 members of the Association still unattached to the Branch. Every effort should be made by each individual member of the Branch to add to its numbers, which should reach 300 at the end of the current year. Since the last annual meeting the following members had died:—Messrs. F. W. Granger (Cardiff), W. Prichard (Bridgend), and Dr. Quirk (Blaenavon). Six members had resigned, four having left the district. Since the annual meeting at Swansea last year two meetings had been held, one at Tenby and one at Pontypridd. At these meetings interesting papers had been read and cases shown by Dr. Griffiths (Swansea): On the Treatment of Pleuritic Effusions. Mr. Padley (Swansea), Cancer of the Rectum and Ova of Bilharzia Hæmatobia. Dr. Stewart (Bridgend): Sections of Nervous Tissue from a case of Lateral Sclerosis. Mr. Hall (Swansea): Traumatic Tetanus, which recovered under the use of Morphine Injections after Curare had been tried. Mr. Lock (Tenby): Statistics of Mortality in Tenby during the past fifteen years. Mr. J. A. Jones (Aberavon): Œdema of Hand treated by Amputation. Dr. J. T. Thompson (Cardiff): On Detachment of Retina illustrated by Drawings and Specimens. Mr. E. S. Wood (Pontypool): Gritti's Amputation at Knee-Joint. Mr. H. N. Davies (Cymer): Patient in whom Pirogoff's Amputation in Right Leg and Chopart's in Left had been done eight years ago, the resulting Stumps being very good. Mr. Parry (Ferndale): An adult Male with Congenital Absence of both Patellæ. Dr. Taylor (Cardiff): Case of Biliary Calculi. Dr. Fiddian (Cardiff): On the desirability of having District Meetings for working purposes only. The following questions had been discussed:—Fees paid to medical witnesses in courts of law; reform of coroners' courts.

The statement of account showed a balance in hand of £39 1s. 7d.

Programme of Meetings.—The autumn meeting will be held at Bridgend, and the spring meeting at Aberdare. The annual meeting next year will take place at Swansea. *President-elect:* Mr. J. Farrant Fry was unanimously elected.

Members of Council.—Drs. Edwards, S. H. Steel, Messrs. O. E. B. Marsh and Nell were elected in place of the retiring members.

Honorary Secretaries.—Drs. Alfred Sheen and D. Arthur Davies were unanimously re-elected, and a cordial vote of thanks was accorded them for their past valuable services.

Representatives on the General Council.—Dr. Sheen and Mr. Evan Jones were unanimously re-elected.

New Members.—The following were elected: John Ellison, M.D. Merthyr; J. Shaw Little, M.D., Pontypridd; G. P. Francis, Esq., Brecon; D. de Vere Hunt, Esq., Cardiff; T. A. Fraser, M.D., Swansea.

President's Address.—The PRESIDENT delivered an address entitled Some Remarks on the Notification of Infectious Diseases, which, with the consent of the President, was followed by an animated discussion.—A cordial vote of thanks was passed to the President for his address.

Papers, etc.—Mr. O. E. B. MARSH (Newport): 1. On Rapid Dilatation of the Uterus by Hegar's Method—cases related and instruments shown. 2. A Case of Hysterectomy in a Child aged 10.—Dr. TAYLOR (Cardiff): 1. Notes on a Rare Case of Skin Affection of an Erysipelatous Nature following the External Application of Tincture of Arnica. 2. Case of Syphilitic Paralysis—patient shown. 3. A paper on How far are Gargles Useful in Throat Affections, which was postponed.—Mr. H. N. DAVIES (Cymer) showed a Patient with Recurrent Tumour of the Breast.—Mr. J. TATHAM THOMPSON, M.B. (Cardiff) read Notes of a Case of Optic Atrophy treated by Pilocarpine.—Dr. W. G. EVANS (Cardiff) showed Uterus and Appendages from a Woman who had died after Sudden Symptoms of Shock, in which a Ruptured Ovary was found giving rise to Hæmorrhage.

Proposed Discussion on Sore Throat.—The Council suggested that some subject should be selected for discussion, such discussion to be continued at successive meetings until exhausted. The subject of "sore throat" was suggested, and W. Price, M.B., Cardiff, was asked to start the discussion by reading a paper at the next meeting.

Exhibits.—Messrs. Ferris and Co., of Bristol, exhibited a selection of surgical instruments, etc.

Dinner.—The members and friends afterwards dined at the Argyll Hotel.

Notice to Members.—Each member of the South Wales Branch is desired to indicate at once which of the working sections he wishes to join. If the Western, he should send his name to D. Arthur Davies, M.B., Northampton House, Swansea; and if the Eastern, to A. B. Fiddian, M.B., The Walk, Cardiff.

NORTHERN COUNTIES OF SCOTLAND BRANCH.

THE annual meeting of this Branch was held in Wallace Spa Hotel, Strathpeffer, on Thursday, July 5th. Dr. DUGUID, of Buckie, President, in the chair. Twenty-four members were present.

President's Address.—The PRESIDENT gave a valuable address on bacteriology, and received a cordial vote of thanks.

Papers, etc.—1. On Venesection, by Dr. FORTESCUE FOX, of Strathpeffer.—2. On a Case of Atropine Poisoning, by Dr. CRUICKSHANK, of Nairn.—Dr. DUFF ELGIN, showed a skull, the subject of a peculiar fracture.

Next Meeting.—On the motion of Dr. CRUICKSHANK, it was decided to hold the next annual meeting at Nairn, on the second Wednesday of June, 1889.

Office Bearers.—Dr. Duguid, *President*. *President-elect*, Dr. Whyte, of Elgin; *Vice-Presidents*, Dr. Craig and Dr. Hay; *Branch Representative on Council of Association*, Dr. Ogilvie Grant, of Inverness; *Members of Council*, Drs. Bruce Sutherland, Vass, Cruickshank, Grant (Grantown), and Murray. Dr. Mackay was re-elected *Secretary and Treasurer*.

Demonstration of Strathpeffer "Cure."—After the members had dined together, Dr. FORTESCUE FOX gave a demonstration at the Pump-room of the Water of Strathpeffer, and the Baths and Douches in use.

WEST SOMERSET BRANCH.

THE forty-fifth annual meeting of this Branch was held at Wellington on Thursday, June 28th, at 4 P.M. A telegram from Mr. Stephens, the retiring President, stating that he was prevented from coming, was read. Dr. ABRAHAM COLLES, President-elect, then took the chair, and, on doing so, he proposed a vote of thanks to his predecessor, Mr. Stephens, which was heartily carried. The minutes of the last general meeting were read and confirmed.

Report of Council.—The report stated that during the year the Branch had lost five members from removal and other causes, death in one case having taken away a very old and esteemed associate, Mr. Charles Henry Cornish. Seven new members had joined, and the Branch now numbered 57 against 55 last year. The usual autumnal and spring meetings had been held. At the former 15 were present, and the subject of coroner's inquests was discussed. At the spring meeting there was an unusually large attendance, and the subject of bone-setting was brought forward by Mr. W. J. Penny with a paper, which was afterwards printed, with illustrations, in the JOURNAL of May 26th. At these meetings, among other interesting communications, there were given a case of Furneaux Jordan's amputation at the hip-joint and a case of Charcot's disease. In each of these the patient was shown. In a case of removal of the tongue for epithelioma, a case of uterine polypus, and others, preparations of the diseased parts were shown. There were also good exhibitions of surgical instruments, electric lamps, etc. At the spring meeting, by the request of the Council of the Association, the matter of fees to medical witnesses was considered, and resolutions passed thereon. The Council had quite recently, by request of the Parliamentary Bills Committee of the Association, considered certain proposed amendments to the Lunacy Acts Amendment Bill, and, having approved them, a copy was forwarded by the honorary secretary to our county representative, Mr. C. I. Elton, who had undertaken to attend and give them his best consideration when the Bill was brought forward in the House of Commons.

Treasurer's Accounts.—The Treasurer's accounts (audited by Mr. J. W. RIGDEN) showed that at the commencement of the year there was a balance in hand on the Branch account of £8 7s. 2d., and at the end a balance in hand of £7 0s. 5d. It was proposed by Mr. WINTERBOTHAM, seconded by Mr. RANDOLPH, and carried: That the report of Council and the Treasurer's accounts be received and adopted, and that the thanks of this meeting be given to the Council and to the Treasurer for their services during the past year.

Next Annual Meeting and President-Elect.—It was proposed by the PRESIDENT, seconded by Dr. MEREDITH, and carried: "That the next annual meeting be held at Yeovil, and W. A. Hunt, Esq., be the President-Elect."

Council of the Branch.—It was proposed by Dr. KELLY, seconded by Dr. MEREDITH, and carried: "That the three vacancies of retiring members be filled by the election of Mr. R. J. Collyns in the place of Mr. Hunt, and that Mr. Kemmis and Mr. Rigden be re-elected."

Intermediate Meetings.—It was proposed by Mr. LIDDON, seconded by Mr. OLIVEY, and carried: "That the Council be requested to make arrangements for the autumnal and spring meetings as usual."

Representative of the Branch on the Council of the Association.—It was proposed by Mr. RIGDEN, seconded by Mr. TODD, and carried: "That Dr. W. M. Kelly be requested to be the Representative of the Branch on the Council for 1888-9."

Representative of the Branch on the Parliamentary Bills Committee.—It was proposed by Dr. MEREDITH, seconded by Mr. CORNWALL, and carried: "That Mr. Prankerd be re-elected."

Secretary and Treasurer.—Dr. KELLY was re-elected.

President's Address.—The PRESIDENT delivered an address on Massage. Having dwelt on the difference between Metzger's massage and what was commonly called by the name in England, he proceeded to give in detail some of the processes which he had himself seen in use, pointing out how use might frequently be made of them in simple cases without the aid of a professional masseur. Cases were enumerated of infantile paralysis, chronic constipation, muscular rheumatism, sprains both recent and of some standing, in which he had seen remarkable success attend the use of massage. Finally, he dwelt on the necessity to the medical profession of having at hand nurses properly trained in this speciality, whose aid is indispensable for properly carrying it out, and urged strongly on the authorities of the local (Taunton and Somerset) hospital the advisability of allowing it to form a part of the training of their otherwise admirable staff of nurses.

Vote of Thanks.—After some discussion on certain points in the paper, a cordial vote of thanks to the President was carried by acclamation.

Case of Calculus.—Mr. MAX SULLY exhibited a calculus nearly half an ounce in weight which had recently been removed from a Bridgwater boy, 7 years of age. The disease was of very rare occurrence in the district.

Brain Disturbance after Ether.—Mr. HUNT gave an account of five cases, which had recently come under his observation, in which brain disturbance followed the use of ether administered as an anæsthetic. Case I. A woman operated upon for lipoma. Immediately afterwards symptoms of mania appeared. Some months had since elapsed, and she appeared to be now slowly recovering. There was no family history of insanity.—Case II. A lad; iridectomy. Mania appeared directly after the operation, and the patient was sent to the county asylum, where he still remained. No family history of insanity.—Case III. A man, aged

24. Excision of the knee-joint; ether one hour. A distinct epileptic fit occurred within three hours, but there was no further fit. Family history not good, but no indication whatever of epilepsy.—Case IV. A woman, aged 26. Operation, trephining shaft of tibia; ether one hour. During three weeks since the operation the patient has only had from one to three hours' sleep in the twenty-four, excepting once from an opiate.—Case V. A woman, aged 62. Lawson Tait's operation on the perineum; ether one hour and twenty minutes. Consciousness never returned; it was needful to feed her artificially, etc., and after three weeks the patient died. Perfect union in the perineum took place.

Exhibits.—Some sample preparations from Hockin, Wilson and Co., and a hypodermic case from Charles Green and Co., sent for exhibition, were placed before the meeting.

Dinner.—A party of sixteen sat down to dinner at 6 o'clock, and after drinking the usual toasts this pleasant and successful meeting broke up.

BRITISH MEDICAL ASSOCIATION.

FIFTY-SIXTH ANNUAL MEETING.

THE fifty-sixth Annual Meeting of the British Medical Association will be held at Glasgow, on Tuesday, Wednesday, Thursday, and Friday, August 7th, 8th, 9th, and 10th, 1888.

President: John T. Banks, M.D., D.Sc.(Hon.), F.K.Q.C.P.I., Regius Professor of Physic in the University of Dublin.

President-Elect: Professor W. T. Gairdner, M.D., LL.D., Professor of Medicine in the University of Glasgow.

President of the Council. Thomas Bridgwater, M.B., J.P., Harrow-on-the-Hill.

Treasurer: Constantine Holman, M.D., J.P., Reigate.

An Address in Medicine will be delivered by Thomas Clifford Allbutt, M.D., F.R.S., Consulting Physician, Leeds General Infirmary.

An Address in Surgery will be delivered by Sir George H. B. Macleod, M.D., Surgeon in Ordinary to Her Majesty in Scotland.

An Address on his "Recent Investigations in Surgery" will be given by William Macewen, M.D., Lecturer on Clinical Surgery, Glasgow Royal Infirmary.

An Address in Physiology will be delivered by John Gray McKendrick, M.D., LL.D., F.R.S., Professor of Institutes of Medicine, University of Glasgow.

All the rooms required for the purposes of the meeting will, by the kindness of the authorities, be provided in the University of Glasgow.

PROGRAMME OF PROCEEDINGS.

TUESDAY, AUGUST 7TH, 1888.

9.30 A.M.—Meeting of 1887-1888 Council. Randolph Hall.
11.30 A.M.—First General Meeting. Report of Council. Reports of Committees. Bute Hall.
4 P.M.—Service in the Cathedral. Sermon by the Very Rev. John Caird, D.D., LL.D., Principal and Vice-Chancellor of the University of Glasgow.
8.30 P.M.—Adjourned General Meeting from 11.30 A.M. President's Address. Bute Hall.

WEDNESDAY, AUGUST 8TH, 1888.

9.30 A.M.—Meeting of 1888-89 Council. Randolph Hall.
10.30 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Second General Meeting. Address in Medicine by Thomas Clifford Allbutt, M.D., F.R.S. Bute Hall.
9 P.M.—*Conversazione* given by the Principal and Professors of the University.

THURSDAY, AUGUST 9TH, 1888.

9.30 A.M.—Address on his Recent Surgical Investigations by William Macewen, M.D. Bute Hall.
11 A.M.—Meeting of Council. Randolph Hall.
10.30 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Third General Meeting. Address in Surgery by Sir George H. B. Macleod, M.D. Bute Hall.
7 P.M.—Public Dinner. St. Andrew's Hall.

FRIDAY, AUGUST 10TH, 1888.

10.30 A.M. to 1.30 P.M.—Sectional Meetings.
3 P.M.—Concluding General Meeting. Address in Physiology by John G. McKendrick, M.D., F.R.S. Natural Philosophy Class-room.
9 P.M.—*Conversazione* given by the Corporation of Glasgow at St. Andrews Hall.
Garden Party given by the Faculty of Physicians and Surgeons at the Botanic Gardens.

SATURDAY, AUGUST 11TH, 1888.

Excursions:—(1) Lanark and Falls of Clyde; (2) Ayr and the Land of Burns; (3) the Perthshire Highlands, Lochearnhead and Crieff; (4) Callender and the Trossachs (Loch Katrine); (5) Arran; (6) Stirling, Bridge of Allan and Dumblane Cathedral; (7) Rothesay and the Kyles of Bute; (8) Loch Lomond.

*** *Members proposing to attend the Annual Meeting are particularly requested, upon arriving at Glasgow, to proceed to the Reception Room, in the Vestibule of the Chief Entrance the University (1) enter their names and addresses, obtain their Members' Tickets and Daily Journals; (2) inquire for telegrams and letters; (3) consult the list of lodgings and hotels, etc.*

It has been arranged that the members of the Association are to be invited by the Executive Committee of the International Exhibition to a reception in the Picture Galleries of the Exhibition on the afternoon of Wednesday, August 8th, at half-past 4 o'clock. The authorities have most kindly offered to grant special tickets of admission to members of the Association and to any friends who may accompany them to the Glasgow meeting. These tickets will be sold in the Reception Room at 3s. each; they will be available during the whole time of the meeting, and will confer on the bearer all the privileges of a season ticket holder.

The following discussions and papers are promised up to the present time:—

SECTION A.—MEDICINE.

Humanity Class Room.

A. MEDICINE.—*President,* Professor T. McCall Anderson, M.D. *Vice-Presidents,* R. L. Bowles, M.D.; George F. Duffey, M.D. *Honorary Secretaries,* J. McGregor Robertson, M.A., M.B., 400, Great Western Road, Glasgow; Robert M. Simon, M.D., 27, Newhall Street, Birmingham.

The President will open the proceedings by introducing a discussion on the Diagnosis and Treatment of Syphilitic Disease of the Nervous System. Dr. Thomas Buzzard, Dr. T. S. Clouston, Dr. William Moore, Dr. Ross, Professor Grainger Stewart, Professor Julius Dreschfeld, Dr. J. G. Sinclair Coghill, Dr. Francis Warner, Dr. Frederick Bateman, Dr. C. R. Drysdale, Dr. C. W. Suckling, Dr. Andrew Smart, Dr. Alex. Robertson (Glasgow), and Dr. David Drummond will take part in the discussion.

On the third day of the sectional proceedings, the Value of Inhalations in the Treatment of Lung Disease is set down for discussion, to be opened by Dr. C. Theodore Williams. The following gentlemen have already indicated their intention to engage in this discussion: Dr. Burney Yeo, Dr. W. W. Ireland, Dr. C. F. Knight, Dr. J. A. Lindsay, Dr. J. G. Sinclair Coghill, Dr. Andrew Smart, Dr. J. O. Affleck, and Dr. E. Markham Skerritt, and will show New Respirators.

Drs. Byrom Bramwell and Milne Murray will give a demonstration of their Method of Graphically Recording the Exact Time Relations of Cardiac Sounds and Murmurs.

The following papers have been promised.

AFFLECK, J. O., M.D. Two Cases of Raynaud's Disease (Symmetrical Gangrene). Illustrated by paintings of the affected parts, and by microscopical sections of affected nerves.
BOWLES, Robert L., Esq. An Investigation into the Causes of Stertor in Animals.
COGHILL, J. G. S., M.D., Ventnor. The Treatment of Phthisical Pyrexia.
COUPLAND, Sidney, M.D. A Case of Subphrenic Abscess.
DRUMMOND, David, M.D. On the Diagnosis and Prognosis of Tubercular Meningitis.
FINLAY, David W., B.A., M.D. Bronchiectasis treated by Incision and Drainage.
FREW, W., M.D., Kilmarnock. Prevalence of Cerebro-spinal Fever in Scotland.
GARRY, T. Gerald, M.D., M.Ch. Massage: When and How to Use it.
GREENE, G. E. F., L.K.Q.C.P. A Note on a Recent Epidemic of Erysipelas.
HANDFORD, H., M.D. The Influence and Position on Cardiac Murmurs and the Condition of the Heart in Anæmia (Chlorosis).
HARRISON, A. J., M.B. Further Researches on the Treatment of Tinea Tonsurans. Illustrated with photographs.
HAYCRAFT, Professor J. Berry, and WILLIAMSON, R. T., M.D. Demonstration of a Clinical Method for Quantitatively Determining the Alkalinity of the Blood.
JONES, A. Orlando, M.D. A New Remedy for Some Forms of Heart Disease.
LAFFAN, Thomas, Esq. 1. Our Exaggerated Estimate of the Value of Beef-tea. 2. Illustrations in Cardiac Prognosis.
MURRAY, Dr., Forfar. On Disposal of Sewage.
MYRTLE, A. S., M.D., Harrogate. Neurasthenia, True and False: Diagnosis and Management.
OLIVER, Thomas, M.D., Newcastle. Clinical and Pathological Bearings of Malformation of the Heart as seen in (*α*) Patent Foramen Ovale, (*β*) Imperfect Ventricular Septum.
SMART, Andrew, M.D., Edinburgh. Communication on some Forms of Undescribed Respiratory Neuroses; their Clinical and Physiological Aspects.
STRACHAN, John, M.D. (Dollar). A Case of Pernicious Anæmia Successfully Treated by Arsenic.
STRAHAN, John, M.D. (Belfast). Asthenia in Acute Disease, and its Management.
SUCKLING, C. W., M.D. Notes on Peripheral Neuritis and on its occurrence in Brassworkers.
TOMORY, J. K., M.B. East African Fever, with special reference to Climatic Conditions.
WALLACE, —, M.D., Liverpool. Note on Some of the Bad Effects of Tight Lacing.
WARNER, Francis, M.D. Syphilitic Meningitis causing Imbecility.

Dr. Russell Reynolds, and Dr. F. W. Pavy have also intimated their intention to take part in the proceedings of the Section.

Section B.—Surgery.

Chemistry Class Room.

B. Surgery.—*President*, George Buchanan, M.D. *Vice-Presidents*, James Dunlop, M.D.; Charles Robert Bell Keetley, F.R.C.S. *Honorary Secretaries*, David Neilson Knox, M.B., 8, India Street, Glasgow; Walter Pye, F.R.C.S., 4, Sackville Street, Piccadilly, London, W.

As already announced, in this Section discussions have been arranged for on the following subjects:

1. The Surgical Treatment of Abscess of the Lung and of Empyema. To be introduced and supported by Mr. T. Pridgin Teale (Leeds), Sir Spencer Wells (London), Mr. A. Pearce Gould (London), Mr. R. J. Godlee (London), Dr. J. Ward Cousins (Portsmouth), Dr. T. Laffan (Cashel), and Mr. W. Thomas (Birmingham).

2. The Operative Treatment of Club-Foot. To be introduced and supported by Sir William Stokes (Dublin), Mr. E. Lund (Manchester), Dr. Alexander Ogston (Aberdeen), Mr. R. W. Parker (London), Mr. E. M. Little (London), Mr. John Chiene (Edinburgh), Mr. W. J. Walsham (London), and others.

The following papers have also been promised.

Benton, Samuel, Esq., London. On the Treatment of Stricture of the Rectum by Electrolysis.
Bishop, E. Stanmore, Esq., Manchester. Some Cases of Osteotomy, with an Apparatus for fixing the Lower Limbs after Division of the Bones.
Browne, G. Buckston, Esq., London. An Explanation of the way in which Calculi in the Male Urinary Bladder sometimes escape Detection by the Sound, with a description of a New Form of Sound.
Browne, Lennox, Esq., London. Tubage of the Larynx.
Carmichael, Archibald, M.D., Barrow-in-Furness. A Case of Gastrostomy, with Exhibition of Patient.
Clark, Sir Andrew, London. The History of a Case of Catheter Fever.
Clarke, W. Bruce, Esq., London. Prostatic Abscess and its Consequences.
Cousins, J. Ward, M.D., Portsmouth. (1) New Apparatus for Treatment of Fractures of Lower Jaw; (2) New Evacuator for Litholapaxy and other Bladder Operations.
Duncan, John, M.D., Edinburgh. The Value of Electrolysis in Angioma and Goître.
Fenwick, E. Hurry, Esq., London. Notes from the Experience of 550 Cases of Organic Stricture of the Urethra.
Fleming, W. J., M.D., Glasgow. 1. On Continuous Extension in Spinal Curvature. 2. On the Treatment of Perineal Fistula.
Harrison, Reginald, Esq., Liverpool. On an Improvement in the Construction of Ships' Berths, relative to the Treatment of some Surgical Injuries and Diseases at Sea (with models).
Keetley, C. R. B., Esq., London. Plastic Amputations of the Foot.
Laffan, Thomas, Esq., Cashel. On Sarcoma.
Lloyd, Jordan, Esq., Birmingham. Inflammatory Disease of the Seminal Vesicles.
McIntyre, John, Esq., Glasgow. The Electric Illumination of the Cavities of the Body.
Morton, James, M.D., Edinburgh. On Spina Bifida, with exhibition of cases successfully treated some years ago.
Murphy, James, M.D., Sunderland. (1) A Case of Gastrostomy, with Exhibition of Patient Eleven Months after Operation. (2) Hysterectomy per Vaginam for Uterine Fibroids, *morcellement* as practised by M. Péan.
O'Callaghan, Robert, F.R.C.S., Carlow. A Case of Laparotomy for Strangulated Umbilical Hernia; Radical Cure, with a Method of Operating.
Owen, Edmund, Esq., London. A Case of Intra-cranial (Subdural) Hæmorrhage; Localisation; Trephining; Recovery.
Pearse, T. Frederick, Esq., M.D., London. (1) On Puncture of the Bladder; (2) On Gonorrhœa in Women.
Rake, Beaven, M.D., Trinidad. The Value of Nerve Stretching in Leprosy, based on One Hundred Cases.
Renton, J. Crawford, Esq., M.D., Glasgow. A Case of Severe Deformity of Lower Lip restored by Mr. Teale's operation six years ago.
Robson, A. W. Mayo, Esq., Leeds. (1) Prostatectomy, a Sequel of the Operation of Suprapubic Lithotomy in cases of Prostatic Enlargement. With Cases. (2) A Series of Cases of Macewen's Operation for Genu Valgum.
Roth, Bernard, Esq., London. On Scoliosiometry, or an Accurate and Practical Method of Recording Cases of Lateral Curvature of the Spine.
Smith, Noble, Esq. Demonstration of the Reduction of Fractured Vertebræ, and the application of Apparatus to Control the Spine.
Stokes, Sir William, Dublin. Modification of Gritti's Amputation; and will show Casts of Stumps.
Tait, Lawson, Esq., Birmingham. A Second Series of One Thousand Consecutive Abdominal Sections.
Thomson, Wm., Esq., M.D., Dublin. On Excision of the Knee-joint.
Thorburn, Wm., Esq., Manchester. The Distribution of Paralysis and Anæsthesia in Injuries of the Cervical Region of the Spinal Cord.
Valcourt, Th. de, Esq., M.D., Cannes. Winter Sea-baths at Cannes in cases of Scrofulous Disease.

Section C.—Obstetric Medicine.

Medical Jurisprudence Class Room.

C. Obstetric Medicine.—*President*, Thomas More Madden, M.D. *Vice-Presidents*, William Leishman, M.D.; J. Halliday Croom, M.D. *Honorary Secretaries*, William Walter, M.D., 20, St. John Street, Manchester; W. L. Reid, M.D., 7, Royal Crescent, Glasgow.

The following two special discussions will take place:—

1. On Intra-uterine Death; its Pathology and Preventive Treatment. To be opened by Professor Simpson. The following gentlemen will take part in the discussion:—Drs. R. Barnes, Grailly Hewitt, More Madden, W. O. Priestley, John W. Byers, and A. D. Leith Napier.

2. On Obstructive Dysmenorrhœa and Sterility. To be opened by Dr. Halliday Croom. The following gentlemen will take part in the discussion:—Drs. Aveling, Bantock, F. Barnes, R. Barnes, Cranny, Duke, Edis, Grailly Hewitt, Macan, More Madden, Professor Stephenson, J. W. Taylor, W. Walter, J. W. Byers, and Dr. Braithwaite.

Dr. Samuel Sloan (Glasgow) will show his Antero-posterior Compression Forceps, and will explain their use in Flat Pelves.

Wm. Walter, M.D., Manchester, will exhibit his instruments for Securing the Broad Ligaments during Extirpation of the Uterus per Vaginam.

The following papers are promised.

Apostoli, G., M.D., Paris. On Some Novelties in the Electro-Therapeutics of Gynæcology.
Aveling, J., M.D. The Treatment of Uterine Tumours by Electricity.
Barnes, R., M.D. Analogies between Menstruation and Gestation and Puerpery in their Physiological and Pathological Relations.
Braithwaite, James, M.D., Leeds. 1. Cases of Mechanical or Irritative Treatment of Amenorrhœa. 2. The Treatment of Intractable Cases of Retroflexion.
Butler-Smythe, A. C., F.R.C.S.Ed., London. Acute Mania following Removal of a Papillomatous Cystic Tumour of the Ovary and Rupture of the Intestine by Enema; Recovery.
Cameron, John M., M.B., Old Kilpatrick. A Case of Erysipelas in a Pregnant Woman, with the Birth of an Erysipelatous Child.
Cameron, Murdoch, M.D., Glasgow. 1. On Cæsarean Section, with Notes of a Successful Case. 2. On the Thermostatic Nurse, with Cases.
Croom, J. Halliday, M.D., Edinburgh. (1) On the Remote Effects of Removal of the Uterine Appendages. (2) On Some Points in the Pathological Anatomy of Incarceration of the Retroflexed Gravid Uterus.
Duke, A., F.K.Q.C.P., Dublin. (1.) On the Rapid Expansion of the Cervical Canal by a New Method. (2) Tractors and Belt for Additional Power in Forceps Cases, as an Alternative to Craniotomy.
Hart, D. Berry, M.D., Edinburgh. Successful Case of Cæsarean Section (Porro's modification).
Imlach, Francis, M.D., Liverpool. The Function of Anæmia in Gynæcology.
Kennedy, Hugh, M.D., Dublin. Notes on the Treatment of Lacerations of the Cervix Uteri.
McDonald, A. D., M.D., Liverpool. (1) A Case of Extra-uterine (Ruptured) Intra-Ligamentous) Pregnancy. (2) Non-communication of Scarlet Fever to a Puerperal Patient.
Madden, More, M.D., Dublin. 1. On the Causes and Treatment of Pseudocyesis. 2. On the Rapid Curative Treatment of Cystitis in Women.
Martin, J. M., M.D. On Some Points in the Pathology of Carcinoma of the Uterus.
Napier, A. D. Leith, M. D., London. The Treatment of Habitual Abortion.
Routh, A., M.D. Headaches of Pelvic Origin.
Stephenson, William, M.D., Aberdeen. On the Influence of Permanganate of Potass on Menstruation.
Tait, Lawson, Esq., Birmingham. The Treatment of Uterine Myoma.

Section D.—Public Medicine.

Greek Class Room.

D. Public Medicine.—*President*, Henry Duncan Littlejohn, M.D. *Vice-Presidents*, James Christie, M.D.; D. Page, M.D. *Honorary Secretaries*, Ebenezer Duncan, M.D., 4, Royal Crescent, Crosshill, Glasgow; John C. McVail, M.D., Holmhead, Kilmarnock.

1. Sanitary Legislation. This discussion will be introduced by the Opening Address of the President of the Section.

2. The Communicable Diseases Common to Man and Animals, and their Relationships. Discussion to be opened on the second day of the sectional meetings by George Fleming, LL.D., F.R.C.V.S., Chief of the Veterinary Department of the Army. Professor Edgar Crookshank, King's College; Dr. J. B. Buist, Edinburgh; Dr. Edington, Edinburgh; Professor McCall, Veterinary College, Glasgow; Dr. Edward Seaton, St. Thomas's Hospital; Dr. George Thin, London; Dr. Henry Tomkins, Leicester; Principal Walley, Royal Veterinary College, Edinburgh; Dr. G. Sims Woodhead, Edinburgh, will take part in the discussion.

3. The Disposal of Sewage *(a)* in Large Towns; *(b)* in Small Towns and Country Districts. Discussion will be opened on the third day by Dr. James B. Russell, Medical Officer of Health, Glasgow.

The following papers are promised.

Brown, William, F.R.C.S., Carlisle. Report on Outbreak of Typhoid Fever, Associated with an Infective Fever among Cows.
Carpenter, Dr. Alfred, Croydon. On Disposal of Sewage.
Churton, T., M.D., Leeds. On Some Researches in the Homes of Hospital Patients and of Holiday Children.
Drysdale, Charles R., M.D. 1. On Indigence as a Main Cause of High Death-rates. 2. The Berlin and Parisian Sewage Farms.
Hime, T. W., M.B. Milk Scarlet Fever.
Hope, E. W., M.D., Liverpool. On the More Recent Phases in the Decline of the Liverpool Death-rate.
James, J. Brindley, Esq., London. On a Minister of Public Health.
Kerr, Norman, M.D. Some Risks of Sanitation.
Littlejohn, Dr., Edinburgh. On Disposal of Sewage.
Murray, Wm., M.D., Newcastle-on-Tyne. On Starving into Health.

NASMYTH, T. G., F.R.S. A Report on the Chemical and Biological Conditions of the Air of Coal Mines, together with Mortality Statistics of a Mining District, being a report to the Scientific Grants Committee of the British Medical Association.
PRINGLE, Surgeon-Major Robert, M.D., late of the Sanitary Department Her Majesty's Bengal Army. (1) On Sheffield and Leicester Compared as Regards Small-pox Prevalence. (2) The Condition of Water-Supply for Drinking Purposes in Public Fountains, Railway Stations, etc.
SEATON, Edward, M.D., London. On Epidemic of Ephemeral Fever.
SIMPSON, —, M.D., Medical Officer of Health, Calcutta. On Cholera and its Fostering Conditions in the Endemic Area.
SUTHERLAND, J. Francis, M.D. National Sanatoria.
TOMKINS, H., M.D., M.O.H., Leicester. Some Bacteriological Researches in connection with Summer Diarrhœa.
WHITELAW, Dr., Kirkintilloch. On Disposal of Sewage.

SECTION E.—PSYCHOLOGY.

Natural History Class Room.

E. PSYCHOLOGY.—*President*, James C. Howden, M.D. *Vice-Presidents*, James Rutherford, M.D.; Julius Mickle, M.D. *Honorary Secretaries*, A. R. Urquhart, M.D., Murray House, Perth; Alex. Newington, M.D., Ticehurst, Sussex.

Dr. J. C. Howden, the President of the Section, will deliver an Address.

Dr. C. M. Campbell will introduce a discussion on the Uniform Recording of *Post-Mortem* Examinations in Asylum Reports.

Dr. A. Campbell Clark will introduce the following subject: The Sexual and Reproductive Functions—Normal and Perverted—in Relation to Insanity. 1. Menstruation: its Commencement, Irregularities, and Cessation; 2. The Sexual Instinct and its Abuse; 3. Pregnancy, Parturition, the Puerperal Period, and Lactation.

Dr. Clouston will initiate a discussion on the Principle of Construction and Arrangement of an Asylum for Private Patients of the Richer Classes.

The following papers are promised.

BEACH, Fletcher, M.D. Cases of Disease of the Brain in Imbeciles.
MERCIER, Charles, M.B. Expert Evidence in Lunacy Cases.
MICKLE, W. J., M.D. Note on Antifebrin.
SAVAGE, George, M.D. Mental Disorders associated with Engagements and Marriage.
TUKE, Hack, M.D. On Hallucinations.
WARNER, Francis, M.D. 1. Methods of Examining Children in Schools as to the Development and Condition of Brain.
WOODS, Oscar T., M.D. Notes on a Case of Folie à Deux in Five Members of the same Family.

SECTION F.—ANATOMY AND PHYSIOLOGY.

Anatomy Class Room.

F. ANATOMY AND PHYSIOLOGY.—*President*, John Cleland, M.D., LL.D., F.R.S. *Vice-Presidents*, R. J. Anderson, M.D.; Henry Edward Clark, F.F.P.S.G. *Honorary Secretaries*, John Barlow, M.D., 27, Elmbank Crescent, Glasgow; Charles Barrett Lockwood, F.R.C.S., 19, Upper Berkeley Street, Portman Square, W.

C. B. Lockwood, F.R.C.S., will introduce a discussion on the Teaching of Anatomy; and will show sections illustrating the Development of the Organs of Circulation and Respiration.

The following papers are promised.

BROOKS, Henry St. John, M.D. On the Morphology of the Epitrochleo-anconeus or Anconeus Sextus (Gruber).
BROWN, J. Macdonald, M.B., F.R.C.S. 1. The Construction of the Cardiac Ventricles in the Mammalia. 2. Arrested Twin Development.
CLELAND, Professor, M.D., F.R.S. On the Nature of Certain Forms of Double Monstrosity.
COLLIER, Mark P. Mayo, M.B., F.R.C.S. On the Mechanism of the Heart and Pulse.
ECCLES, A. Symons, M.D. The Internal and External Temperature of the Human Body as modified by Muscle Kneading, with Sphygmographic and Sphygmo-manometric Records.
HAYCRAFT, Professor J. Berry, and Dr. W. E. CARLIER. 1. Morphological Changes which occur in Blood during its Coagulation. 2. Demonstration of Human Blood retained in a Fluid Condition when Suspended to Castor Oil.
HAYCRAFT, Professor J. Berry. Recent Investigations on the Production of Taste and Smell.
LANE, W. Arbuthnot, M.B., F.R.C.S. The Influence Produced by Excessive Strain upon Muscles and Ligaments (to be illustrated by specimens).
MURRAY, R. Milne, M.B., F.R.C.P.E. Will Show an Arrangement for the Investigation of the Action of Measured Galvanic and Faradic Currents on Tissues.
PATERSON, A. M., M.D. 1. On the Position of the Vertebrate Limb, considered in the Light of its Innervation and Development. 2. Congenital Diaphragmatic Hernia in an Infant.

SECTION G.—PATHOLOGY.

Law Class Room.

G. PATHOLOGY.—*President*, Sir William Aitken, M.D., LL.D., F.R.S. *Vice-Presidents*, Alexander Davidson, M.D.; Joseph Coats, M.D.; Charles Roy, M.D., F.R.S. *Honorary Secretaries*, G. Sims Woodhead, M.D., 6, Marchhall Crescent, Edinburgh; J. Lindsay Steven, M.D., 34, Berkeley Terrace, Glasgow.

Arrangements are being made to hold a discussion on Cancer originating apart from Epithelial Structures, in which Mr. Lawson Tait (Birmingham), Dr. Joseph Coats, Dr. John Carlyle (Greenock), and others are expected to take part.

The following papers have been promised.

BRUCE, Alex., M.B., F.R.C.P.Edin. On Disseminated Sclerosis.
COATS, Joseph, M.D. On a Case of Lipæmia in Diabetes, with Suggestions as to the Source of the Fat.
CROOKE, G. F., M.D., Birmingham. (1) Histological Examination of Organs in Two Cases of Purpura Hæmorrhagica. (2) Cancrum Oris Terminating Fatally with Hæmorrhagic Myocarditis.
CROOKSHANK, Professor Edgar, M.B. (1) On Anthrax in Swine. (2) On Tuberculosis in Swine. (3) On Tubercular Cows Milk. (4) On Human and Bovine Actinomycoses.
GREVES, E. Hyla, M.D., Bournemouth. Notes on the Pathology of a case of Pseudo-hypertrophic Paralysis.
DELÉPINE, Sheridan, Esq. A Few Uncommon Forms of Sarcoma. (Specimens to be shown.)
HUNTER, W., M.D. On the Pathology of Pernicious Anæmia.
KENNEDY, —. On Case of Cystic Kidneys and Liver.
MAPOTHER, E. D., M.D., Dublin. An Anomalous Form of Eczema.
MAYLARD, A. E., M.B., B.S.Lond. The Results of some Bacteriological Cultivation Experiments with Iodoform.
NUNN, T. W., Esq., F.R.C.S. Exhibition of a Selection of Microscopic Sections of Cancerous Tissues.
O'CONNOR, Bernard, M.D., M.R.C.P. Hydatids of the Spleen, Liver, and Brain.
RAKE, Beaven, M.D.Lond., Medical Superintendent of the Trinidad Leper Asylum. The Percentage of Fibrin in the Blood of Lepers.
RUSSELL, William, M.D. The Pathology of Pernicious Anæmia.

The following gentlemen have also intimated their intention of contributing to the business of the Section by reading papers or otherwise: Professor Greenfield, Professor Roy, Professor D. J. Hamilton, Dr. William Hunter, Dr. Barrett (Edinburgh), Dr. McFadyean (Edinburgh), Alex. Edington, M.B. (Edinburgh), etc.

Demonstrations.—Dr. Alexander Bruce (Edinburgh) will give a Magic Lantern Demonstration on Diseases of the Spinal Cord; and Alexander Edington, M.B. (Edinburgh), a Bacteriological Demonstration. Arrangements are also being made for a series of Microscopical Demonstrations illustrative of Tumours, Tuberculosis, etc.

Pathological Section of the Annual Museum.—Intimation has been received of the following exhibits for this Section of the Annual Museum: 1. Calculi removed by Lithotomy, by Professor George Buchanan. 2. Calculi removed by Lithotrity or by Scoop, by Professor George Buchanan. 3. Miscellaneous Objects removed from the Body, by Professor George Buchanan, namely: Bullets, Needles, Cases of Teeth, Impacted Pessaries, etc., also Isolated Bones of the Tarsus Excised. 4. Rhinoplasty; Wax Cast, by Professor George Buchanan. 5. Bladder and Urethra showing False Passages. 6. Selected Specimens from the Private Collection of Professor W. T. Gairdner. 7. A Series of Specimens of Tumours of the Brain, by Dr. Joseph Coats. 8. A Series of Specimens illustrative of Diseases of the Kidneys, by Dr. David Newman. 9. A Series of Specimens illustrative of Leprosy, by Dr. Beaven Rake (Trinidad). 10. A Series of Large Sections illustrating Malignant Tumours of the Lung; and a Series of Specimens illustrating Deformities of the Liver, by Drs. Woodhead and Bruce. 11. Drawings and Sections to illustrate Diseases of Bone and Joints, by Mr. F. M. Caird (Edinburgh). 12. A Series of Specimens illustrative of Diseases of the Heart, by Dr. John Lindsay Steven. 13. A Series of Myomata of the Uterus, by Dr. Joseph Coats. 14. A Series of Bacteriological Cultivations. By Mr. A. E. Maylard, B.S. 15. Sections of Primary Growths of the Pleura and Lungs, by Dr. George F. Crooke, Birmingham.

As space for the Museum is somewhat limited, gentlemen intending to send specimens should intimate their intention without delay to John Lindsay Steven, M.D., 34, Berkeley Terrace, Glasgow, Honorary Secretary of the Section of Pathology of the Annual Museum.

SECTION H.—OPHTHALMOLOGY.

Midwifery Class Room.

H. OPHTHALMOLOGY.—*President*, Thomas Reid, M.D. *Vice-Presidents*, J. R. Wolfe, M.D.; C. E. Glascott, M.D. *Honorary Secretaries*, Henry Bendelack Hewetson, M.R.C.S., 11, Hanover Square, Leeds; A. Freeland Fergus, M.B., 41, Elmbank Street, Glasgow.

Mr. Brudenell Carter will open a discussion on the Treatment of Senile Cataract. Drs. Prichard, Meighan, Mason, Teale, G. Anderson Critchett, Drs. C. Lloyd Owen, Charles G. Lee, H. Bendelack Hewetson, Esq., Karl Grossmann, J. H. Bell, and others have promised to take part in the discussion.

The President of the Section intends to give a Demonstration of several Instruments of Use in Ophthalmic Diagnosis.

The following papers are promised.

BENSON, A. H., M.D. 1. On the Treatment of Entropion and Trichiasis by the Transplantation of Buccal Mucous Membrane. 2. Hyalitis Punctata.

BICKERTON, T. H., M.D., Liverpool. Sailors and their Eyesight.
CARTER, R. Brudenell, Esq. Operation of Opening the Sheath of the Optic Nerve for the Relief of Pressure.
CRITCHETT, G. Anderson, Esq. Iridectomy and Sclerotomy in Chronic Glaucoma.
GROSSMANN, K. A., M.D. Colour-blindness, with a Demonstration of New Tests.
HEWETSON, H. Bendelack, Esq. General Neuroses having an Ophthalmic Origin.
JESSOP, W. H., M.D. Ocular Headaches.
LEE, C. G., Esq. Two Cases of Foreign Bodies.
LITTLE, D., M.D., Manchester. On Extraction of Senile Cataract, giving the result of 1,100 cases.
MACKAY, George, M.D., Edinburgh. A Contribution to the Study of Hemianopsia of Central Origin, with special reference to Acquired Colour Blindness.
MACKINLAY, J. G., Esq. On Cocaine.
MEIGHAN, T. S., M.D., Glasgow. On the Treatment of Symblepharon by Transplantation of Mucous Membrane from the Lip.
RENTON, J. C., M.D., Glasgow. The Value of the Cautery in the Treatment of Ulceration of the Cornea.
WILLIAMS, Richard, M.D., Liverpool. Three Cases of Conical Cornea treated by the Actual Cautery.

SECTION I.—OTOLOGY.

Biblical Criticism Class Room.

I. OTOLOGY.—*President*, Thomas Barr, M.D. *Vice-Presidents*, John Astley Bloxam, F.R.C.S.; J. J. K. Duncanson, M.D. *Honorary Secretaries*, Johnstone Macfie, M.D., 23, Ashton Terrace, Glasgow; James Black, F.R.C.S., 16, Wimpole Street, London.

The following special subjects have been proposed for formal discussion:

1. The Conditions calling for Perforation of the Mastoid Portion of the Temporal Bone, and the Best Methods of Operating; to be opened by Dr. F. M. Pierce, of Manchester. Mr. Peter McBride has promised a paper on this subject. Dr. D. Stewart, of Nottingham, and Dr. W. McEwen, of Glasgow, hope to take part in the discussion.

2. The True Value of those Aids to Hearing usually termed "Artificial Tympanic Membranes." Dr. W. L. Purves has promised a paper on this subject.

3. Adenoid Growths in the Naso-Pharynx; their Influence on the Middle Ear, and their Treatment. To be opened by Mr. Lennox Browne, F.R.C.S.Ed. Dr. Farquhar Matheson and Dr. R. McKenzie Johnston will take part in the discussion.

The following have promised papers.

BROWNE, Lennox, Esq. *(Title not received.)*
ELLIS, Richard, F.R.C.S. On the Fraudulent Treatment of the Deaf by Impostors.
TORRANCE, R., Esq. On Syphilitic Cochleitis.
TURNBULL, Lawrence, M.D., Philadelphia. On the History and True Value of those Aids to Hearing usually termed Artificial Tympanic Membranes.
WARDEN, Charles, M.D. *(Title not received.)*
WOAKES, E., M.D. Conclusions Based on One Thousand Cases of Post-nasal Growths treated by Operation.

Dr. Samuel Sexton, of New York, hopes to be present, and will give a communication on Excision of the Drumhead and Ossicles.

Dr. J. Clarence Blake, of America, hopes to be present to take part in the meeting.

SECTION J.—DISEASES OF CHILDREN.

English Literature Class Room.

J. DISEASES OF CHILDREN.—*President*, Walter Butler Cheadle, M.D. *Vice-Presidents*. James Finlayson, M.D.; Henry Ashby, M.D. *Honorary Secretaries*, George S. Middleton, M.D., 23, Sandyford Place, Glasgow; W. Arbuthnot Lane, M.S., F.R.C.S., 14, St. Thomas's Street, S.E.

The following two discussions will take place:

1. Diphtheria: *(a)* Etiology. *(b)* Relationship to other Infectious Diseases, and to other Forms of Sore Throat; Occurrence on Open Wounds and on Mucous Membranes other than those of the Throat. *(c)* Diagnosis. What are the Distinctive Features, especially those Distinguishing the Lesion in the Throat from other Forms of Sore Throat? Does Membranous Croup occur apart from Diphtheria? *(d)* Pathology and Sequelæ. *(e)* Medical Treatment. *(f)* Surgical Treatment; Tracheotomy; Tubage. The medical and general aspects of the subject will be introduced by Dr. A. Jacobi (New York), and the surgical aspect by Mr. R. W. Parker (London). Messrs. E. Owen, H. R. Hutton, Lennox Browne, R. N. Pughe, Howard Marsh, and Drs. W. T. Gairdner, George Buchanan, James Finlayson, Henry Ashby, H. C. Cameron, D. Newman, Thos. Buzzard, John Macintyre, Alex. Robertson, and J. S. Cameron will take part in the discussion.

2. Rickets: *(a)* Etiology and Prevention. *(b)* Its Connection with Syphilis and Scurvy. Is Enlargement of the Liver and the Spleen always present, more or less, in Rickets; or only in Cases of Syphilitic Origin? *(c)* Medical Treatment. *(d)* Surgical Treatment; at what Stage, and in what Way? The medical and general aspects of the subject will be introduced by the President, Dr. Cheadle, and the surgical aspect by Professor A. Ogston. Drs. Macewen, L. W. Marshall, H. Ranke (Munich), Thos. Buzzard, Henry Ashby, and Messrs. R. W. Parker, H. R. Hutton, R. Hagyard, E. L. Freer, John Gordon, R. N. Pughe, W. A. Lane, and Howard Marsh will take part in the discussion.

Drs. Jacobi (New York), Keating (Philadelphia), Ranke (Munich), Sanné (Paris), and Waxham (Chicago), and other members of the profession on the Continent have been invited.

The following have promised papers.

BROWNE, Lennox, F.R.C.S. Anatomical Facts in support of Intubation in Diphtheria.
CAMERON, J. S., M.D. Etiology of Diphtheria. (1) Predisposition from Recent or Existing Disease, especially Scarlet Fever; (2) Influence of Insanitary Surroundings, especially Rise and Fall of Subsoil Water.
CARMICHAEL, James, M.D. So-called Idiopathic or Simple Ascites in Children.
CHAFFEY, Wayland C., M.B. Statistics of Various Diseases of Children, with Reference to Measles and Whooping-cough, and to Family Predisposition to Consumption.
FINLAYSON, James, M.D. Evidence of the Occurrence of Laryngeal Diphtheria in Glasgow, in the Early Part of this Century.
HAGYARD, Robert, M.R.C.S. The Effects of Sunlight on Rickets in Children and in the Lower Animals.
LANE, W. A., F.R.C.S. Deformities of Rickets.

SECTION K.—PHARMACOLOGY AND THERAPEUTICS.

Conveyancing Class Room.

K. PHARMACOLOGY AND THERAPEUTICS.—*President*, James Morton, M.D. *Vice-Presidents*, John Dougall, M.D.; Theodore Cash, M.D., F.R.S. *Honorary Secretaries*, Alexander Napier, M.D., 3, Royal Terrace, Crosshill, Glasgow; Sidney Harris Cox Martin, M.D., 60, Gower Street, London, W.C.

A special discussion will be opened by Professor Theodore Cash, M.D., F.R.S., on Carbolic Acid, Antipyrin, Antifebrin, and their Allies, especially as regards their Antipyretic, Analgesic, and Antiseptic Actions. Drs. Walter G. Smith (Dublin), A. D. Macdonald, and Prosser James will take part in the discussion.

Dr. W. Allan Jamieson (Edinburgh) will show two cases of Xeroderma Pigmentosum.

It is expected that Professors Liebreich and Dujardin-Beaumetz will be present at the meeting. Dr. Dujardin-Beaumetz will contribute a paper on Phenacetin.

The following have promised papers.

DAVISON, James, M.D. The Pine Treatment.
DOUGALL, J., M.D., Glasgow. *(Title not received.)*
DRYSDALE, C. R., M.D. 1. On the Therapeutic Value of Alcohol. 2. The so-called Abortive Treatment of Syphilis.
JAMES, J. Brindley, Esq. Scabies and its Treatment.
KERR, J. G. Douglas, M.B. Thermal Treatment after Acute Rheumatism, with a Short Outline of the System pursued at Bath
MACDONALD, A. D., M.D. Three Cases of Poisoning.
PEARSE, T. F., M.D. The Treatment of Eczema.
SHOEMAKER, John V., M.D., Philadelphia. An Investigation of the Action of Naphthol β.
STOCKMAN, R. M.D Edinburgh. The Coca Alkaloids.

SECTION L.—LARYNGOLOGY AND RHINOLOGY.

Divinity Class Room.

L. LARYNGOLOGY AND RHINOLOGY.—*President*, Felix Semon, M.D. *Vice-Presidents*, George Hunter Mackenzie, M.D.; Peter McBride, M.D. *Honorary Secretaries*, D. Newman, M.D., 18, Woodside Place, Glasgow; A. E. Garrod, M.D., 9, Chandos Street, Cavendish Square.

The following subjects are proposed for special discussion:

1. The Use and Abuse of Local Treatment in Diseases of the Upper Air Passages. To be opened by Dr. de Havilland Hall (London) and Mr. Stoker (London).

2. The Causes, Effects, and Treatment of Nasal Stenosis. To be opened by Dr. Macintyre (Glasgow) and Mr. Creswell Baber (Brighton).

3. Hæmorrhages from the Pharynx and Larynx, and other Hæmorrhages which simulate these. To be opened by Dr. Percy Kidd (London) and Dr. Hodgkinson (Manchester) (probably).

The following gentlemen hope to take part in the discussions: Dr. Prosser James (London), Dr. McBride (Edinburgh), Dr. Charles Warden (Birmingham), Dr. Cartaz (Paris), and Mr. Richard Ellis (Newcastle-on-Tyne).

The following papers have been promised.

JOHNSTONE, R. Mackenzie, M.D. Account of a Case of Tumour of the Naso-Pharynx.
MCBRIDE, P., M.D., Edinburgh. On Hay-Fever and Allied Conditions.
MACINTYRE, J., M.D. Anatomical Demonstration of the Larynx.
MACINTYRE, John, M.D., Glasgow. The Use of Electricity in Diseases of the Throat.
NEWMAN, D., M.D. Two Cases of Complete Laryngeal Stenosis produced by Wounds of the Larynx in Attempted Suicides.

SPICER, R. H. Scanes, M.D. (1) Clinical and Pathological Observations on Affections of the Tonsils (Faucial, Lingual, and Pharyngeal) in the Light of Recent Views as to their Functions. (2) A Case of Lupus Vulgaris of the Upper Respiratory Tract—with Polypus (Lupous) of the Larynx.
WARDEN, C., M.D. *(Title of paper not yet received.)*

ANNUAL MUSEUM.

THE Annual Museum will be held on August 7th, 8th, 9th, and 10th, in the Examination Hall, Hebrew Class Room, and Chemistry Tutorial Class Room, of the University of Glasgow, and will be arranged in the following six Sections:

SECTION A.—Food and Drugs, including Antiseptic Dressings, and other Chemical and Pharmaceutical Preparations. (Honorary Secretary, R. S. Thomson, B.Sc., M.B., C.M., 3, Melrose Street.)

SECTION B.—Pathology, comprising Casts, Models, Diagrams, Microscopical Preparations, and Micro-organisms. (Honorary Secretary, J. Lindsay Steven, M.D., 34, Berkeley Terrace.)

SECTION C.—Anatomy, comprising Special Dissections, Methods of Mounting, Abnormalities, Drawings, Models, etc. (Honorary Secretary, J. Yule Mackay, M.D., 34, Elmbank Crescent.)

SECTION D.—Physiology, consisting of Apparatus, Microscopes, Microtomes, and Microscopical Preparations of Normal Histology. (Honorary Secretary, J. McGregor Robertson, M.A., M.B., C.M., 400, Great Western Road.)

SECTION E.—Instruments and Books, including Appliances—Medical, Surgical, and Electrical. (Honorary Secretary, J. Macintyre, M.B., C.M., 173, Bath Street.

SECTION F.—Sanitation (1) Domestic Sanitary Appliances, embracing all Improvements applicable to the Treatment of the Sick in Private Dwellings. (2) Personal Hygiene, including Dress and Gymnastic Appliances. (3) Ambulances, Carriages, and all other Appliances used for the Conveyance and Treatment of the Sick and Wounded, either in Civil, Naval, or Military Practice. (4) Drawings, Models, and Apparatus illustrative of the Ventilation, Lighting, and Draining of Hospitals. (5) Hospital Furniture. (6) Sanitary Appliances in connection with Educational Institutions and Public Buildings. (Honorary Secretary, 1, 2, 3, Robert Pollok, M.B., C.M., Pollokshields; Honorary Secretary, 4, 5, and 6, A. W. Russell, M.A., M.B., C.M., Western Infirmary.)

Intending exhibitors should communicate as early as possible with the Secretary of the Section in which they propose to exhibit, as the Museum Catalogue must be complete one month before the date of meeting. Inquiries as to advertisements in the Catalogue should be sent without delay to Dr. Thomson, 3, Melrose Street, Glasgow.

Honorary General Secretaries of Museum Committee, A. Ernest Maylard, B.S., M.B., 4, Berkeley Terrace; R. S. Thomson, B.Sc., M.B., C.M., 3, Melrose Terrace.

Honorary Local Treasurers, Joseph Coats, M.D.; Jas. B. Russell, M.D.

Honorary Local Secretaries, John G. McKendrick, M.D., F.R.S., 45, Westbourne Gardens, Glasgow; James Christie, M.D., Hillhead, Glasgow; John Glaister, M.D., 4, Grafton Place, Glasgow.

EXCURSIONS.

Descriptive Sketch of Excursion to Ayr and the Land of Burns.—The party, which has been limited to one hundred in number, will leave Saint Enoch station by special train about 10 A.M., and will arrive at Ayr about an hour afterwards. *En route* we will pass through Paisley, famous for its thread and its shawls, where several ancient and modern things of note are to be seen. The principal among the former is the old abbey, which, built about 1160, played a not unimportant part in the early history of Scotland. It is a very fine specimen of Gothic architecture, and is still in a very good state of preservation. It possesses an aisle which, because of an echo which is produced in it, is called the "sounding aisle." Of the latter places of interest there are the magnificent thread mills, the Clark town hall, the museum, and the observatory. Paisley, too, is proud to remember that in it were born Tannahill, the poet, Alexander Wilson, poet and ornithologist, and "Christopher North." It is expected that a short afternoon excursion will be made to this place during the meeting, when the above places of interest may be visited. Further on, we pass through Irvine, where the lover of poetry of Burns may see the MSS. of "The Cottar's Saturday Night," "The Holy Friar," "The Address to the Deil," and others. Ten miles still further we arrive at "Auld Ayr," a town having a population of over 20,000. The town possesses many handsome buildings, and many places of extreme interest to the follower of Burns's muse. It bulked very largely in the history of Scottish warlike times. It will be remembered that here, during the time of Wallace, occurred the massacre of many of the Scottish leaders, as also the retaliatory burning of the "Barns o' Ayr" by Wallace, when about 5,000 of the English perished by fire and the sword. It was also the centre of the operations of Robert the Bruce, upon whom, at a parliament held in 1315, in the church of St. John, the crown of Scotland had been settled by the chief ecclesiastics and nobility of Scotland: this church was long afterwards demolished by Cromwell, the tower being the only part which now remains. The Ayrshire men, as history records, stood well to the front in the dark days of religious persecution, and Ayr, Maybole, and Irvine sent its contingent to the field of Drumclog. Ayr is largely visited by tourists from all parts of the world for the interest which attaches to it from the writings of Burns, and from the fact that here he was born, and the cottage of his birth is still to be visited. Here we may visit also the "Twa Brigs," the old brig being now in a good state of preservation, although 600 years old; Alloway Kirk, in which the witches, etc., were supposed to be seen by Tam o' Shanter on the night of his fearful ride; the Tam o' Shanter Inn where Tam and Souter Johnny frequently met to satisfy their thirst over their foaming tankards of ale. But to return to our programme. On arrival at the station, vehicles await us to convey us through a very interesting part of Ayrshire scenery to Crossraguel Abbey, to Culzean Castle, and back by the Burns monument, Alloway Kirk, and Burns's cottage. On our route we visit in passing the following places of interest: the town of Maybole, Crossraguel Abbey ruins, Culzean Castle, Dunure Castle, and the places above mentioned on our return journey to Ayr. The town of Maybole is mentioned for the first time in an historical document bearing the date 1193, and is a very quaint old place. It is situated in the Carrick division of Ayrshire. The ruins of its old castle are still to be seen, although built in 1560. It was built by the Earl of Cassilis. It is stated that in one of its rooms the heroine of the ballad "Johnny Faa" was imprisoned for life, after having compulsorily witnessed the hanging of her gipsy lover. "John Knox's House" still stands. Here, in the house of the then provost, in 1562, the famous disputation took place between the Reformer and the Abbott of Crossraguel. The old tolbooth, or town prison, stands at the west end of the town, and formerly was occupied by the Kennedies of Blairquhan as their town house.

The Abbey of Crossraguel, now standing in ruins, is one of the finest Gothic remains to be seen in this country. It was built in 1244, in part, and was gradually enlarged in the succeeding years. The ruin is well preserved, and is situated about two miles from Maybole. Its grounds occupy eight acres, and, except on its south side, was enclosed by a wall. The ruins consist of the walls of the church and choir. On the east side the principal altar stood, and to its right is the vestry and the abbot's ecclesiastical court, "all entire, and arched very much in the style of the cathedral of Glasgow." With vaults and cells underneath and a tower on the east and west sides, the ruin is complete. The abbot with whom John Knox held the discussion was Quentin Kennedy, who was brother to the then Earl of Cassilis. He was the author of several well-known works.

Passing now coastwards, we reach Culzean Castle, the seat of the Marquis of Ailsa. This is one of the oldest castles in Ayrshire, but the present building only dates from 1777. Originally it was known as The Cove, and it then "consisted of a strong tower with minor buildings, in the usual style of the older feudal mansions." It belonged to Sir Archibald Kennedy, of Colaine (the local pronunciation of Culzean). It commands a picturesque situation, being placed on a rock about a hundred feet high, rising from the water by three natural coves (hence its original name). Its pleasure grounds occupy 700 acres, and its gardens are the most beautiful in Ayrshire. The founder of the present castle was the tenth Earl of Cassilis.

The ruins of Turnberry Castle are to be seen in the distance in a southerly direction. It was the birthplace of King Robert the Bruce, and it was here that the first meeting of Scottish nobles was held to support the claim of Bruce to the crown, and it was here that the first blow was struck for freedom, the castle under an English garrison being taken by the Scotch in the spring of 1307.

On our homeward journey we see the ruins of Dunure Castle, which is built on a cliff which overhangs the sea, and which was cut off on its landward side by a moat and drawbridge. It belonged to the Kennedys, and was a place of great importance

during the feudal conflicts in Carrick. It was in its "black vault" that Allan Stuart, the Abbott of Crossraguel, was slowly roasted alive; its precise situation, however, cannot now be identified.

Nearer Ayr we strike a little more inland to visit the monument erected to Burns, where are preserved many interesting relics of the poet, as the Bible which he presented to Highland Mary, the wedding-ring of Jean Armour, a snuff-box made of the wood of one of the rafters of Alloway Kirk, and copies of early editions of the poet's works. The grounds in which it is placed are tastefully laid out, and through them flows the river Doon. Close by is the "Auld Brig o' Doon," a one-arched structure of great antiquity, which is reserved for the sole use of pedestrians.

Not far from the monument stands Alloway Kirk, which dates from 1516, and which has been immortalised in "Tam o' Shanter." One of the windows is pointed out as the one through which the hero of that poem beheld the "warlocks and witches in a dance," with Auld Nick presiding over the revels. In the churchyard the poet's father is buried, his place of interment being marked by a plain upright stone, the poet himself being buried in Dumfries.

About a quarter of a mile nearer Ayr is Burns's cottage, to which many hundreds make an annual pilgrimage. It is a very humble, one-storey dwelling with a thatched roof, and here, on January 25th, 1759, was the poet born, the whole circumstances being narrated in one of his most racy songs. The interior, though remodelled somewhat, bears a close resemblance to what it did at the time of the poet's birth: its fireplace is exactly as it was, and there stands, beside the "set-in" bed, a "dresser" (a series of shelves on which was placed the domestic crockery) which belonged to the poet's father. Here, also, are deposited many relics which derive their interest from having belonged to or having been associated with the name of the poet: many of his MS. poems, his last writing-table, an old-fashioned eight-day clock belonging to the Burns family, his walking-stick, etc., are to be seen. A visitors'-book, in which visitors may inscribe their names, etc., lies here, and it is very interesting to turn over its pages and to note the visitors who have come from all parts of the world to pay their token of respect to the poet's name and fame.

We then proceed to the Station Hotel, where dinner awaits us, observing *en route* the Wallace Tower, a Gothic tower 113 feet high, and the beautiful spire of the Town Hall. After dinner we leave by special train for Glasgow, in time to permit of those of the party who so desire to leave by the late English mails.

FRANCIS FOWKE, *General Secretary.*

SPECIAL CORRESPONDENCE.

BERLIN.

[FROM OUR OWN CORRESPONDENT.]

Proposed Memorial to Langenbeck.—Can the Fœtus in Utero be Infected by the Mother?—Successful Treatment of Rumination.

THE committee appointed by the Berlin Medical and the German Surgical Societies to take steps for the erection of a memorial to Bernhardt Von Langenbeck, has just issued an appeal for subscriptions. The memorial is to be in the form of a building, the "Langenbeck-haus," which is intended to be a home for all medical associations, and a place for scientific gatherings. The names of the late Emperor Wilhelm I and his Empress Augusta stand at the head of the subscription list, and it was the Empress who suggested that the memorial should be a building rather than a statue of the illustrious surgeon.

Professor Max Wolff has published in Virchow's *Archiv* an elaborate paper on the much debated question whether microparasites can possibly pass out of the maternal into the fœtal blood through the placenta. He began his experiments with the anthrax bacillus and vaccine matter in pregnant animals. Wolff rejects mere clinical observations in such matters as uncertain, and liable to all kinds of fallacies. Only experiments in which one is able to infect the animal, either before or after conception has taken place, are of any value; by killing the mothers, one is able to interrupt the process at any time, and to examine the fœtus *in utero*, so that there can be no doubt about an exact bacteriological proof of inheritance. According to former opinions (Bruell, 1858; Davaine, 1867; Bollinger and Koch, 1875) the anthrax bacilli are never transmitted from the mother to the fœtus. But, according to more recent work done in Pasteur's laboratory (Koubassoff, Straus, Chamberland), micro-organisms may very easily pass through the placenta into the fœtus. Wolff has worked out this question experimentally with the most minute and laborious precautions, using in every case the three branches of the bacteriological method, namely, microscopic examination of organs, cultivation of bacteria, and inoculation. The result of the first method was entirely negatived in 29 animals. Of 156 cultures 150 remained sterile, while 6 gave a positive result. Of 29 animals inoculated 26 remained well. Where anthrax was found in the fœtus two of these methods always gave results, and only one in favour of infection of the fœtus by the maternal blood. For this reason, Wolff concludes that the separating wall of the placenta is not pervious by the anthrax bacillus, and attributes to defects in the technical process the few cases which occur to prove the contrary. Of course he does not deny that it is possible for bacilli to migrate through the placenta into the fœtus, but only under pathological conditions, in cases of hæmorrhage in the placenta, fœtal inflammations, convulsions, etc. Wolff also maintains that the vaccine contagium cannot pass through the placenta. Of twenty pregnant women, twelve were vaccinated with success, and their seventeen children were vaccinated on the first to the sixth day after birth. In every case well-defined pustules appeared, showing that the children were not in a state of immunity. It is now fully ascertained that children while yet in their mother's womb may contract genuine variola if their mother suffer from small-pox during pregnancy. Wolff, in admitting this fact, points out its rare occurrence, and explains it by the tendency to hæmorrhage so frequent in patients suffering from small-pox; in such pathological conditions, as has been said above, the blood may pass from the mother to the fœtus through the placenta.

Dr. Alt reports a case of rumination, which was cured in Professor Hitzig's hospital at Halle. There was found moderate dilatation of the stomach, imperfect closure of the cardiac orifice, and hyperacidity of the gastric juice. The patient used to swallow his food almost unchewed; the consequence was imperfect salivation, equally imperfect alkalinisation of the gastric juice, and a want of amylolytic ferment, followed by excess of hydrochloric acid in the stomach. The digestion of albumen was extremely rapid, while the digestion of starch was checked, and amylaceous matter had to be returned to the mouth, in order to be properly mixed with saliva. The treatment consisted in large doses of alkaline medicines, washing out the stomach, giving albuminous food, and galvanising the œsophagus. In a fortnight this condition (which up to the present has been looked upon as incurable) was completely removed.

CORRESPONDENCE.

THE LIFE-HISTORY OF A HÆMATOZOON.

SIR,—Though not concerning man directly, I think that the following news about the life-history of a hæmatozoon of the dog may offer such an interest to medical readers as to deserve a place in the columns of your wide-spread BRITISH MEDICAL JOURNAL.

In last April Professor B. Grassi, of the University of Catania, published[1] a note in which he stated that he had found within the body of the pulex of the dog different forms of embryonal filariæ, as they were phases of transformation of a nematode, in like manner of what has been described by Manson, and confirmed by myself, into the body of the gnats that have sucked the blood of man infected by filaria sanguinis hominis. And as Dr. Manson has clearly established that filaria sanguinis hominis completes its life in the pulex, so Grassi argued that the life-history of *Spiroptera sanguinolenta* (Rudolphi) is accomplished between dog and pulex. When that announcement was made I was just studying the hæmatozoa of dogs. So I have not delayed in verifying what has been found by Professor Grassi. The result of my researches will be communicated *in extenso* in the next sitting of the Società Toscana di Scienzi Naturali residing in this town, but I wish now to announce to you the conclusions of them.

1. By an accurate dissection of 110 fleas of the dog and 75 *Tricodectes latus* obtained from four dogs whose blood was previously ascertained to abound with embryonal filariæ, I found that not

[1] Ciclo Vitale della Spiroptera (Filaria) Sanguinolenta; Nota Preliminare, del Professore B. Grassi.

only the fleas, but also *Tricodectes latus* (the common louse of the dog) play the part of intermediary host of a hæmatozoon of the dog. 2. That this hæmatozoon is not *Spiroptera sanguinolenta* (Rudolphi) living in the walls of the œsophagus and of the thoracic aorta, but *Filaria immitis* (Leidy) or *Filaria hæmatobia* (Gruby and Delafond), which has been found by Ercolani and others to have its abode not only in the right cavities of the heart, but more often in the subcutaneous tissue of the dog. 3. That pulex, as it is announced by Grassi, as well as tricodectes (Melnikoff), are the intermediary host also of *Tænia cucumerina*. Thus we have a new and double example of an intermediary host that is ectozoon of the ultimate bearer of parasite. This condition explains how *Tænia cucumerina*, as well as *Filaria immitis*, may be found in great numbers in a single dog. I have examples of dogs that contained in the intestines more than a hundred individuals of *Tænia cucumerina*, and equally Grubb and Pourquier state that they have found one hundred individuals of *Filaria immitis* in the right cavities of the heart of a single dog.

But the new facts reinforce even more the hygienic precept for man of giving great attention to the cleanliness of the domestic dogs, and to limit, as far as possible, a close intimacy with this animal.—I am, etc.,

Dr. P. SONSINO.

11, Via San Lorenzo, Pisa, June 23rd.

P.S.—I may add that Bancroft, of Brisbane, in Australia, since 1879, had argued that the common louse of the dog (*Tricodectus latus*) is the immediate bearer of the larvæ of *F. immitis*. See a paper by the late Dr. Cobbold, "Observation on Filariæ," communicated to the Quekett Microscopical Club in February, 1880.

IRISH DIPLOMAS AND ENGLISH INSTITUTIONS.

SIR,—Your correspondent "Unionist" might with advantage have informed himself on the subject of which he wrote, before committing himself to the statement that "Licentiates of the Dublin College of Surgeons are alone entitled to hold the position of surgeon to an Irish county infirmary." Permit me to inform him that, from the year 1765 to 1876, the College possessed this privilege simply because for the greater part of that period, and until the passing of the Medical Act, no other means existed of guaranteeing the competency of a surgeon in Ireland, but in the latter year an Act was passed which opened up these institutions to all duly qualified surgeons. The College might have successfully resisted the passing of this measure, but it refrained from doing so, feeling that the monopoly could not be defended on the principle of justice, inasmuch as the *Medical Register* now affords the necessary guarantee of competency. The action of the College on this occasion supplies a good example for the English monopolists to follow if they are minded to act fairly towards their Irish and Scotch brothren. The exclusion rule which exists in English hospitals is as much an anachronism as the Irish county infirmary rule, and as its existence cannot be defended I am quite confident that none but those interested will approve of its perpetuation.—I am, etc.,

Dublin. ARCHIBALD H. JACOB, F.R.C.S.I.

SIR,—Your correspondent "Unionist" is in error when he states that "the Licentiates of the Dublin College of Surgeons are alone entitled to hold the post of surgeon to an Irish county infirmary." Such exclusiveness was terminated in Ireland by an Act of Parliament known as Meldon's Act.

Our contention is that, as territorial restrictions have been abolished by law as far as the public service and hospitals under Government control are concerned, they should no longer be upheld in the laws of any hospitals, either in England or Ireland. They have been abolished already in Ireland; we hope that ere long they will be abolished in England also.

The Council of our Association, at a recent meeting held in Cambridge, ordered a "statement" to be printed which embodies the arguments, from the Irish diplomate's point of view, against such restrictions. If any of your readers will furnish us with his address, we shall gladly forward him a copy.—We are, etc.,

JAMES STEWART, P. S. ABRAHAM, } Hon. Secs. Irish Med. Schools' and Graduates' Assoc.

30, Sackville Street, Piccadilly, W., July 9th.

ADDISON'S DISEASE.

SIR,—It has been one of my functions to endeavour to uphold the statement which I made at the time of Addison's discovery, "that the change in the capsule is peculiar, uniform in character, and primary in its nature" (Reynolds's *System*). Opinions adverse to this have continually arisen, but a thorough investigation of all the facts of the case have invariably overthrown them. The disease, as I have over and over again stated, is characterised in the first instance by the production of an albuminous material which greatly enlarges the organ; in this yellow nodules are formed, which, further caseating, constitute the tuberculous affection which Addison described. As far as I know, there has been no case yet reported in which bacilli have been found. This apparently tuberculous matter may undergo cretification or softening until no trace of the adrenal is left.

In the JOURNAL of June 30th a case is described by Surgeon Allan Perry of what he calls "sarcoma of the supra-renal capsules simulating Addison's disease," and adds the following quotation from Dr. MacMunn: "Many believe with Virchow that the train of symptoms, with bronzing of the skin, which are characteristic of Addison's disease, may be brought about by various morbid conditions of the adrenals." It is this opinion which I once more wish to controvert, and to maintain the opposite, as I have already stated in my text. I shall no doubt continue to do so until some fact is brought forward which will render my further endeavours useless. In the present instance I think Dr. Perry might well have been content to have allowed the case to stand as one of the more acute forms of Addison's disease as usually described, for he says the capsules were enlarged by a firm white structure, in which were imbedded yellowish nodules, and one of these was softening down. This is quite in correspondence with what I have said. Moreover, I might add that I know nothing of such a pathological fact in the history of tumours as a new growth entirely destroying two corresponding organs in the body and leaving no trace elsewhere.—I am, etc., SAMUEL WILKS.

Grosvenor Street, W., July 7th.

THE VARIETIES OF HEPATIC CIRRHOSIS.

SIR,—In the JOURNAL of July 7th, Dr. Saundby, referring to a paper of mine on the above subject, says that I was "evidently writing without ever having seen a case of true tubercular cirrhosis, as it is a universal affection of the liver." I certainly have not seen a case of general interstitial hepatitis due to tubercular disease; I do not think the evidence in favour of such a condition is clear, and a mere statement, even from Dr. Saundby, cannot annul the result of microscopic examinations. It is common enough to find extensive fibrous thickening round tubercular deposits, and in patients who die of phthisis there is often general cirrhosis; but this is due, I think, to obstruction to the flow of blood through the lungs, and indirectly through all the viscera, the kidneys and spleen generally being also affected; it is "cyanotic cirrhosis," in fact. Dr. Saundby continues: "He also says that acquired syphilis never causes cirrhosis; but in the paper of mine he is good enough to quote, though I can hardly believe he has read it, I published such a case." My real words were: "Acquired syphilis appears never to produce general cirrhosis;" that gummata form in the liver, and that waxy degeneration occurs as the result of syphilis, no one doubts. I cannot plead guilty to the heinous offence Dr. Saundby charges me with of not having read his paper; but the mere fact of his having "published a case" of "syphilitic cirrhosis" would not be decisive, unless there was absolutely no doubt as to the history; and if he will read his excellent paper again, he will see that in the case he considers so conclusive, the patient "admitted that he had drunk spirits freely;" and Dr. Saundby very truly observes: "It is difficult to say how much of the interstitial hepatitis was due to alcohol." How can such a case prove that general interstitial hepatitis is caused by syphilis? I have examined the lobulated cicatricial livers (such as those described by Lancereaux, etc.), and have found plenty of normal tissue; the syphilitic lesion may attack several foci, but cannot, in my opinion, be looked upon as general. The five cases given by Frerichs are good examples of the so-called proofs adduced; of these, two were inordinate drinkers, two had heart disease, and the other one had ordinary waxy liver. Like Dr. Saundby's case, they do not settle the question.—I am, etc., G. MUNRO SMITH.

Clifton, July 9th.

MODERATE DRINKING.

SIR,—As Drs. Isambard Owen and Holmes Joy object to my conclusion that the published returns of the comparative mortality of the abstaining and general sections of the United Kingdom and Temperance General Provident Institution (given in your columns by me) show the superior healthfulness of abstinence

over moderate drinking, on the ground that the general section comprises "careless" and "free" as well as what these gentlemen call "moderate drinkers," it is incumbent on them to define "moderation." It is quite possible we are not agreed on a definition. Once such a definition is accepted, the officials of this and other insurance companies with two sections can be asked for more detailed information. If I had anticipated this objection, I would have said "the superior healthfulness of abstinence over what is commonly regarded as 'moderate drinking'." I have always cherished the belief that the great majority of drinkers, especially of the more thrifty and thoughtful, assured, have been "moderate" in their habits. If I have been mistaken, then teetotal enthusiasts have vastly underrated the alcoholic indulgence of mankind.—I am, etc.,

NORMAN KERR, M.D.

42, Grove Road, Regent's Park, N.W., July 7th.

SIR,—Exception has been taken to the conclusions drawn from the statistics of the United Kingdom Temperance and General Provident Institution, which show that total abstainers from alcohol insuring in that office have, on an average, about six years longer to live than non-abstinent insurers. It is contended that this does not show the value of total abstinence from alcohol over strictly moderate but habitual use of that beverage. But it seems to me that that is not the point worth discussing. The really important point in the habitual use of alcohol by the general population is whether that use tends or does not tend, on an average, to increase longevity; and here the statistics cited by Dr. Kerr seem to me conclusively to indicate that a population of total abstainers would not only live longer, be capable of more muscular and mental exertion, and therefore be happier, than a non-abstaining population, but also that it would be far freer from disease. Clinical observation explains this. Most of us must have seen numbers of men with excellent organisations succumb after a certain number of years of habitual use of beer, wine, or spirits, whilst their totally-abstaining neighbours, much less fitted to acquire longevity, have lived long after them in comparative vigour and comfort.

Another insurance company, the Sceptre, last year (1887) mentions in its report that in the general or non-abstaining section of the company 110 deaths were expected to take place, and 84 died, or 76 per cent. of the expectation. In the temperance or abstaining section, 47 deaths were expected, but only 25 died—that is, 53 per cent. of the expectation.

I cannot help believing that facts like these, unless explained away, will soon force the mass of the members of the profession of medicine to enrol themselves in the ranks of habitual abstainers from alcohol when in health, as has been done by Dr. B. W. Richardson, Dr. Norman Kerr, and others.—I am, etc.,

London, July 10th. C. R. DRYSDALE.

SIR,—It is scarcely fair, when comparing the effect on longevity of total abstinence and moderate drinking, to exclude from the calculation all the cases of immoderate drinking, even those which are (at present) not called drunkenness, nor even excessive drinking, and are not only not considered immoral, but highly respectable. For, if the general moderate use of alcohol is the right and best course to advocate, many such cases are inevitable; while human nature and the nature of alcohol remain the same, there will always be a desire or feeling of need for more created in some persons by the alcohol they have accustomed themselves to take. This is as much a physical action of alcohol on nerve-tissue as any other tissue change produced thereby tending to shorten life.

It is an interesting fact that the difference between the two sections of the United Kingdom Temperance and General Provident Institution is much more marked in the case of "whole life" policy holders than in that of "endowment" policy holders; that is, it is greater after the age of 60 than before it. Dr. Isambard Owen's tables, though very fallacious in some respects, nevertheless show a smaller difference between the moderate drinkers and the abstainers (whose early deaths certain medical men were anxious to record) after the age of 30, and still less after 40. There can be no doubt that the higher mortality of elderly drinkers above that of elderly abstainers (without any possibility of a prejudiced selection of cases) is due to the slowly-produced degeneration of tissues resulting from the habitual use of alcoholic liquors.

Let me ask your readers' careful and candid attention to this point. Here is a life office which separates all the abstainers from its general list. The actual claims in the abstaining section are, on the average, 72 per cent. of those expected, according to the experience of several offices, on which the tables were calculated, which included all classes of drinkers and non-drinkers. In the general section (including all classes of drinkers only), the actual claims were an average of about 98 per cent. It is clear that, after deducting the abstainers, the ratio of immoderate drinkers to the rest, the really moderate drinkers, would be greater. Notwithstanding that, we find the mortality actually lower than an average population of insured lives! It is perfectly clear from this that the general section of this office is burdened with an exceptionally small proportion of immoderate drinkers, the tendency to increase the quantity being, no doubt, checked by the yearly exhibition of the superior longevity of the total abstainers. For all that, there is a difference of no less than 26 per cent. in favour of the abstainers—a difference utterly inexplicable, except on the ground that the habitual use of alcohol in moderate quantities day after day, month after month, and year after year, gradually produces degeneration and disease, and weakens the resisting power of the organism, no single dose, or even yearly quantity, having produced any gross disease. The individuals have been under the impression that the alcohol has been "doing them good;" as a matter of fact, it has been undermining their constitution.

If anyone objects that it has not been shown that a thimbleful of alcohol once a month does any permanent harm, I must decline the controversy. All this is utterly impractical. We have to deal with human nature and human habits as they are. It is very certain that, if we recommend moderate drinking of alcohol, we advise a course which is undefined, variable, elastic, and dangerous. The *onus probandi* of the harmlessness of these liquors in the smallest doses, commonly and regularly taken, certainly lies with those who assert it. Until such proof is forthcoming, it seems to me that the rule which common sense and common prudence dictate is "the less alcohol you take the better," which means in plain language "none at all." It would be just as reasonable to advocate the habitual moderate use of chloroform, ether, opium, or other narcotic, as the similar use of alcohol, though the ultimate effect of their really moderate use throughout life would be quite as difficult to demonstrate.—I am, etc.,

J. JAMES RIDGE, Honorary Secretary,
British Medical Temperance Association.

Enfield, July 10th.

DR. APOSTOLI'S TREATMENT OF UTERINE FIBROIDS.

SIR,—In the JOURNAL of June 23rd Dr. Drysdale gives a description of a case of uterine fibroid, because *he knew the result in this case*. The accompanying statement from the lady herself shows how difficult it often is to get an unbiassed opinion.

"Dr. Keith began to attend me about the middle of October last (the first application was made on the 24th), when the treatment commenced. I had great difficulty in walking or stooping, was frequently unable to pass water, and slept very badly. Menstruation was exceedingly painful, the swelling and pain commencing a fortnight after the conclusion of the period, continuing until after the next. When I left Dr. Keith's care early in April (the last application was made on the 1st), I could get about with comparative ease and comfort, slept well, and did not know when the periods were coming on except by date. This lasted until about three weeks ago. Since then I have not been feeling so well. I have had some pain around the tumour, which I think has somewhat increased in size, and altogether my condition has not been quite so satisfactory."

Her own physician writes: "I have seen her this morning, and consider the report she sent you a fair one concerning her case. I made a careful external examination on June 18th (the day on which she was subsequently seen by Dr. Drysdale), and consider the tumour about a third smaller than when she left Brighton in October last.—I am, etc.,

THOMAS KEITH.

42, Charles Street, Berkeley Square, W.

THE GENERAL MEDICAL COUNCIL AND MEDICAL PUPILLAGE.

SIR,—I will thank you to allow me to inform the professional masses that it is my intention (if assured meanwhile of support) to raise the question of the attitude of the JOURNAL of the Association towards the best interests of those masses, by moving an amendment to the Council's report at the Glasgow meeting. I emphatically protest against your silence over the recent illusory arrangement of the General Medical Council with regard to pupillage. The Council, when the disclosures of the ignorance of the belectured students forced it into doing something, so contrived

to do that something as to practically allow students to substitute one of their existing insufficient fields of instruction—that is, hospital out-patient departments—for that practical training which every disinterested person, including a large minority of the Medical Council at their November sitting, had been constrained to admit is an indispensable element in medical training. I shall not mince words, but plainly state that, had they not been an interested body, they could and would, with the evils of the present system proved home to them, have made pupillage compulsory instead of voluntary.

I would suggest that the Privy Council be appealed to; they are now lords of the profession, and when the next democratic Government comes into power it will be the fault of the professional masses if the General Medical Council be not made to feel the whip of its new master. The interest of the professional masses is quite as much involved as their dignity. At this moment our oligarchical medical rulers have reduced us to this level, that we cannot induct one of our sons into our own profession a shilling less than it will cost any lay member of the community to induct his into it. This was not formerly the case, and every one of those who went before us could give a property to each member of his family in the greater facilities which the latter enjoyed for entering their father's profession. We might, however, appeal in vain to the Privy Council if it were only the interests of a professional majority that were affected, but happily the widespread proofs that have now accumulated from the reports of visitors (visitors hostile to us, be it observed), and from the proceedings of the General Medical Council itself, demonstrate conclusively how entirely in the interest of the public we might address such appeal to the Privy Council. In the meantime the Association organ ought no longer to be permitted, without some protest, to betray our interests, and I consequently call on those who agree with me to promise me their support at Glasgow.—I am, etc.,

THOMAS LAFFAN.

Cashel, July 3rd.

THE BRITISH GUIANA MEDICAL SERVICE AND THE PLANTERS.

SIR,—As one of the old hands who was in practice in the colony before the Act of 1873, and subsequently until lately, I should like, with your permission, to lay before your readers, as briefly as I can, the whole subject, my only object being to do justice to the planter as well as our own profession; for I do not suppose anyone has been more thoroughly through the mill than myself. Leaving the Immigration Service in 1869, I started practice in British Guiana, being chiefly employed for the sugar plantations. Owing to circumstances which need not be entered into here, all medical men in the colony who had charge of coolie immigrants on the plantations were, in 1873, compelled by an Act, enforced from the Colonial Office, London, to become civil officers of the Crown or to resign. Like some others, I accepted the inevitable, though at a smaller salary, which was, however, I think, compensated to a great extent by the privilege of being on the civil list for pensions and the Widows' and Orphans' Fund. Those who had sufficient to live on or start elsewhere cleared out. This exodus, and the districts being made smaller, necessitated a larger supply of doctors, and then began all the difficulty. The planters found that instead of their old and tried family practitioners, men not of their choosing were forced upon them, men who, though capable, were to a certain extent novitiates in tropical diseases, and of these latter some departed in disgust owing to there not being at that time a full conception as to their pay and status. Naturally the planters often did not take to the new comers with good grace, being jealous and suspicious of them.

Again, the doctors were continually being changed from one place to another, mostly acting appointments, before the relations between patients and doctor had time to develop into friendship. The new medicos being often single men, there were not the old family friendly feelings and sociability. Yet had it not been for the kindness and hospitality of the planters, the new men would often have found themselves, not only homeless, but houseless, for the very uncertainty of their acting appointments prevented their forming homes of their own. I can bear testimony to the fact that in my day all reasonable alterations and hospital enlargements were, as a rule, cheerfully carried out by the planters, often at times when hampered by "low prices" for their sugar. Personally speaking, I could not sometimes have got through my official work had it not been for the generous assistance of the planting community, many comparative strangers. When one's own horses had run to grass it was the planter who cheerfully lent his horse and trap to convey the Government doctor along his weary and insectiferous journey.

But this letter has outgrown what I intended, and, should it be inserted, that it may be of some use is the wish of your obedient servant,

HENRY DALTON, M.D.,
late British Guiana Medical Service.

Harrogate, Yorkshire, June 25th.

*** Our correspondent's letter does not touch the point of medical interest which is at issue. It has never been said that all planters in British Guiana are careless of their duty to the coolie immigrants, or disposed to neglect their legal obligations. It was thought necessary some years ago to enact an ordinance to govern the traffic in coolies, and every planter ought loyally to fulfil the modest requirements as to wages and barrack and hospital accommodation made by the law. What actually happens is that when, on the reorganisation of the Medical Service, a medical inspector is for the first time appointed to make an independent report, his statement of defects in barrack and hospital accommodation and sanitary arrangements raise such a storm of indignation as to a disinterested person, looking at the whole controversy from a distance, appears to be irrational if the statements are as unfounded and as exaggerated as is said. The action of the Combined Court would seem to have intimidated the Colonial Office into consenting to remove the medical inspector from that office, and to employ him in some other capacity. Voltaire suggested that we hanged an admiral *pour encourager les autres*, and there is here another case to which his cynical witticism applies. If an officer is to be disgraced, or what is tantamount thereto, for making an honest report in compliance with the law of the colony, it is hardly probable that future incumbents of the office will dare to find fault, remembering that the Combined Court will reduce the salary to one cent per annum, and that the Colonial Office will think British Guiana a colony too insignificant and distant, and the welfare of the coolies too small a matter, to make it worth while to incur the expense of an inquiry.

NAVAL AND MILITARY MEDICAL SERVICES.

MEDICAL OFFICERS OF THE GUARDS.

THE *World* says: The recommendation of the Estimates Committee with respect to medical officers of the Brigade of Guards—that they should cease to be regimental and become departmental officers—will have occasioned no little disappointment, not in the regiments alone, but in influential quarters. When the question has been mooted before, interference with the Royal prerogative has been resisted. As a concession, it is likely that the regimental system will still be maintained in the three regiments of Household Cavalry. Of course those officers now in the brigade will be allowed to remain on. To remove them would be to commit an act of injustice which the Sovereign would scarcely be likely to sanction, considering the nature of the service for which these officers consented, on entering the brigade, to forego all rights which might have accrued to them had they remained on the general list.

*** We hear that the last two medical officers appointed to the Foot Guards were informed that their appointments were "provisional;" the officers previously appointed would, we take it, not be interfered with in any new scheme.

RELATIVE ADVANTAGES OF THE NAVAL AND MILITARY MEDICAL SERVICES.

N. L. C. writes: The following are taken from the second report of the Navy Estimates (printed June 8th, 1888), the answers are given by Mr. Dick, C.B., R.N. "Question 3331: The pay of army medical officers, is it higher in India?—Very much indeed. Q. 3333: Do they not get a colonial allowance in the Army Medical Service?—I think they get a colonial allowance, but not so high as in India, at Bermuda, Jamaica, Barbadoes, the Cape and so on. Q. 3334: Is it not a fact that if a naval medical officer is stationed at Hong Kong, and an army medical officer is stationed at Hong Kong, the naval medical officer will always draw the same pay without any increase, whereas the army medical officer will get double pay?—I believe so. Q. 3382: ——?—Army medical officers have those colonial allowances and the large allowances in India which our people do not have. Q. 3385: ——?—I think the army the favourite service, in consequence of the pecuniary advantages which accrue to medical men entering the army."

From the same report the effective pay of the naval medical officers is £142,000; and the non-effective pay, £112,000; the cost of providing the navy with medical attendance is £6 11s. per head of the whole number of men.

The information volunteered about army allowances by the Naval Director-General is entirely incorrect; he omitted to state that the reason why naval officers draw no extra allowances is that they carry their quarters, servants, food, drink, etc., with them, and in any part of the world their mess bill need not amount to more than two shillings a day (Admiralty Regulations). Allowances were created to meet extra expenses, and in the navy no such can arise.

Statistics of the Army Medical Department.

INQUIRER writes: Surgeon-Major Boileau tells us in the JOURNAL of July 7th the average total loss in the Medical Staff from 1880 to 1887 is 61, and that a medical officer of twelve years' service in 1887 had 325 steps between him and the administrative ranks, which would be the deputy surgeons-general. On consulting the *Army List* for June, 1888, I find 210 between the medical officer of twelve years' service and the junior brigade-surgeon. Now without speculating on an increasing average, if the average of 61 be taken, the medical officer of twelve years' service will be in a position to expect his promotion to the rank of brigade-surgeon in between three and four years, or when he is under sixteen years' service. I should like to ask Surgeon-Major Boileau if this is his view, or, if a wrong deduction, to kindly point out the mistake.

THE NAVY.

THE following appointments have been made at the Admiralty: JOHNSTON H. ACHESON, M.B., Surgeon, to the *Duke of Wellington;* JOHN M'ELWEE, M.D., Surgeon, to the *Asia*; PAUL W. FRASER, Surgeon, to to the *Pembroke;* D'ARCY HARVEY, M.B., Surgeon, to the *Impregnable;* FREDERICK W. COLLINGWOOD, Surgeon, to the *Indus;* REGINALD T. A. LEVINGE, Surgeon, to the *Duncan;* JOHN C. FERGUSON, M.B., Surgeon, to the *Vernon;* and EDWARD P. MOURILYN, M.B., Surgeon, to the *Excellent;* A. B. PAYNE, to be Surgeon and Agent at Deal; J. G. MARSHALL, to be Surgeon and Agent at St. Margaret's Bay and Cornhill.

Inspector-General HENRY JONES DOMVILLE, C.B., M.D., Honorary Physician to the Queen, died at South Hill, Paignton, on July 8th, in his 70th year. Entering the service as Surgeon, May 18th, 1839, he became Staff-Surgeon, November 9th, 1849; Deputy Inspector-General, November 8th, 1864; and Inspector-General, February 13th, 1875; and retired December 17th, 1878. From the *Royal Navy List* we learn that he served on shore throughout the Syrian campaign in 1840, with the Marine battalion at D'Jouni and Beyrout, and was present at the bombardment and capture of St. Jean d'Acre (war medal with Syrian clasp, Turkish medal for Acre); in New Zealand, while belonging to the *Tortoise*, he was on shore camping in the forests for twelve months in medical charge of a party of men cutting timber; was sent with a detachment of men in a hired schooner, *Three Bees*, to assist in quelling a disturbance among the natives at Tauranga; in boats of the *Philomel*, on the Coast of Africa, was engaged in capture of an armed felucca with a crew of sixty men, and mounting a long 24-pounder, 1849; volunteered for the Arctic expedition in search of Sir John Franklin, 1850; was sent to the *Dragon* and to the *Tiger* in 1852; engaged in the attack and destruction of the forts and batteries of Odessa; the *Tiger* was subsequently stranded in a fog about three miles from that town, and after several hours' exposure in a helpless condition to the fire of the enemy's riflemen and field batteries the ship was surrendered and the crew made prisoners of war. Under these circumstances the captain, one officer, and three men were dangerously wounded, and the former, with two others, underwent amputation during the engagement; General Baron Osten Sacken, in command of the army at Odessa, desiring to bear testimony to the conduct of Mr. Domville during and subsequent to the action, spontaneously presented him with a letter certifying to the zeal, courage, and professional skill evinced in his care and treatment of the wounded on that occasion; on returning to England he was employed in charge of small-pox and scarlet fever patients during an epidemic at Haslar Hospital; in the *Duke of Wellington* in the Baltic, employed blockading Cronstadt and other Russian ports, and present at the bombardment of Sveaborg (Baltic medal); was sent to Bermuda Hospital, 1865, and to Jamaica Hospital, 1874, on each occasion of the epidemic of yellow fever breaking out in those islands, and has served in Plymouth and Melville Hospitals, and the Royal Marine Infirmary at Woolwich. He was nominated a Companion of the Bath in 1867, and appointed Honorary Physician to the Queen in 1879. He was in receipt of a pension for long and meritorious service.

THE MEDICAL STAFF.

SURGEON-MAJOR R. W. TROUP, M.B., is promoted to be Brigade-Surgeon (ranking as Lieutenant-Colonel), *vice* James Paxton, M.D., retired. Brigade-Surgeon Troup's previous commissions are dated: Assistant-Surgeon, September 30th, 1863; Surgeon, March 1st, 1873; and Surgeon-Major, April 28th, 1876. He served with the Royal Artillery in the left column Dooar Field Force of the Bhootan Expedition of 1864-65, and was present at the capture of Fort Dalimkote and Stockades of Nagoo and Chamoorchie (medal with clasp); in the Ashanti war in 1874, when he was present with the 42nd Highlanders at the battle of Amoaful, capture of Becquah, battle of Ordahsu, and capture of Coomassie (medal with clasp); and in the Egyptian war of 1882, being present at the action at Kassasin on August 28th, and at the battle of Tel-el-Kebir (medal with clasp, and Khedive's Star).

Deputy Surgeon-General S. B. ROE, M.B., C.B., serving in the Madras command, has leave of absence four months on private affairs.

THE INDIAN MEDICAL SERVICE.

DEPUTY SURGEON-GENERAL J. HENDERSON, M.D., Madras Establishment, is permitted to retire on the ordinary pension, £700 per annum, *plus* the extra pension of £100 per annum. Dr. Henderson entered the service as Assistant-Surgeon, February 20th, 1856, and attained the rank of Deputy Surgeon-General, May 16th, 1885. He served during the Indian Mutiny in 1857-58, and received the medal for the campaign.

Surgeon W. H. QUICKE, Bombay Establishment, is appointed to officiate in medical charge of the 2nd Lancers, during the absence of Surgeon A. W. F. Street, D.S.O., in civil employ.

The services of Surgeon-Major H. ALLISON, M.D., Madras Establishment, are placed temporarily at the disposal of the Government of India for employment in the Military Works Department.

Surgeon-Major R. V. POWER, M.D., Madras Establishment, Medical Officer of the 12th Native Infantry, is appointed to the officiating medical charge of the Queen's Own Sappers and Miners.

Surgeon P. O. W. HALLEY, Bengal Establishment, is appointed to the officiating medical charge of the 36th Sikhs, *vice* Surgeon G. H. Fink, transferred temporarily to civil employ.

Surgeon G. F. W. BRAIDE, Bengal Establishment, is appointed to the officiating medical charge of the 1st Sikh Infantry, *vice* Surgeon A. R. Edwards, transferred temporarily to civil employ.

Surgeon A. O. EVANS, Madras Establishment, is transferred from Bassein to Akyab, Burmah, *vice* Surgeon C. T. Rundle, M.B.

Surgeon-Major J. NORTH, Madras Establishment, Medical Officer 1st Lancers, is appointed to act as Surgeon, Fourth District, and Professor of Medical Jurisprudence, Madras Medical College, during the absence of Surgeon-Major H. J. Hazlett on other duty.

Surgeon M. J. KELAWALA, Madras Establishment, doing duty in Upper Burmah, is appointed to the officiating medical charge of the 12th Native Infantry.

The services of Surgeon-Major W. G. H. HENDERSON, Bombay Establishment, are replaced at the disposal of the Government in the Civil Department.

Surgeon W. E. JENNINGS, Bombay Establishment, on general duty, Bombay District, Northern Division and Aden, is transferred to general duty, Quetta District.

Surgeon R. SHORE, M.D., Bengal Establishment, officiating Residency Surgeon, Nepaul, is appointed to officiate as Medical Officer of the Kotah and Jhalrapatam Agencies, during the absence on furlough of Surgeon J. Crofts, M.D.

The promotion of Surgeon-Major E. A. FITZGERALD, PETER CULLEN, M.D., and WILLIAM MOIR, of the Bengal Establishment, which has been already announced in the JOURNAL, has received the approval of Her Majesty.

The undermentioned officers have received leave of absence for the periods specified: Surgeon J. CROFTS, M.D., Bengal Establishment, medical officer of the Kotah and Jhalrapatan Agencies, for 18 months; Surgeon-Major A. M'M. PATERSON, Bengal Establishment, medical officer 31st Native Infantry, for one year on private affairs.

Surgeon M. B. BRAGANZA, Bombay Establishment, officiating in medical charge 19th Native Infantry, is transferred to general duty, Sind District.

Surgeon J. L. T. JONES, Bombay Establishment, on general duty Mhow Division, is transferred to general duty, Sind District.

ARMY MEDICAL RESERVE.

SURGEON G. D. P. THOMAS, 18th Middlesex Volunteers, to be Surgeon-Major (ranking as Major).

Acting-Surgeon HENRY WRIGHT, 1st Volunteer Battalion Lincolnshire Regiment (late the 1st Lincoln), to be Surgeon (ranking as Captain).

THE MILITIA AND VOLUNTEERS.

ACTING-SURGEON A. J. JEFFERSON, M.B., 1st Cheshire and Carnarvon Artillery, has resigned his appointment, which was dated October 9th, 1886.

Acting-Surgeon E. S. NORRIS, M.B., 4th Volunteer Battalion Oxford Light Infantry (late the 2nd Bucks), is promoted to be Surgeon in the same corps.

Surgeon J. G. WEBB, of the 13th Middlesex (Queen's Westminsters), has resigned his commission, which dated from January 30th, 1886.

Surgeon-Major C. W. MARRIOTT, M.D., 4th Battalion Royal Warwickshire Regiment (late the 2nd Warwick Militia), has also resigned his appointment, which bore date April 21st, 1875. He retains his rank and uniform.

MEDICO-LEGAL AND MEDICO-ETHICAL.

WHO IS TO PAY?

J.F.C. writes: Can you inform me what is the usual practice about paying lawyers' fees for deed of transference, etc., on purchasing a practice? I thought the vendor paid for deed, etc., but I have been told that it is usual to divide the expenses.

*** In the sale of a practice the custom is for the vendor's solicitor to prepare the deed of sale at the cost of his client, a fair copy of the draft of which should then be submitted for the approval of the vendee and his solicitor, the costs of the latter being paid by his client, or, in other words, the vendor and vendee each respectively pay their own costs. It may, perhaps, be well to add that in the case of a partnership being entered into, in contradistinction to the sale of a practice, the legal expenses are usually equally shared by the intending co-partners.

"DOCTORS' DIFFERENCES."

IN reference to the unsatisfactory and professionally regrettable "Case of Doctors' Differences in the Forfar Sheriff Court," while coinciding with our correspondent "that the family medical attendant who attended the child at its worst, was better able to judge of the extent of the injuries, and the cause of them, than the other medical men who only saw the child months afterwards," we are of opinion that no practical good would arise from critical examination of the evidence given by the respective practitioners engaged in the case; we therefore abstain from entering on the requested review. The lesson deducible may be regarded as important, in so far as the conflicting evidence clearly indicates the desirability of acting, in such cases, on the principle laid down in the following rule extracted from the *Code of Medical Ethics*, page 83:

"With the view to avoid the lamentable differences of opinion which, proclaimed in open court, have undoubtedly brought discredit upon medical evidence in general, and scandal on the profession at large, it cannot be too forcibly impressed upon the faculty that, in all such cases, *bonâ fide*, honest consultations should be freely held between the professional witnesses of the respective litigants; that differences of opinion should be courteously advanced, and carefully weighed and argued; that each with the other should be frankly ingenuous, and unreservedly open; or, in other words, that concealment or mental reservation in any form, either of facts or opinions, should be scrupulously avoided; and on the principle that truth and justice are the sole objects sought by the medical witnesses on either side, all feeling of the advocate or partisan should be thoughtfully eliminated and shunned: in fine, the skilled witness should never allow his personal feelings to overcome his sense of justice."

LADY LANSDOWNE has accepted the office of Lady President of the Central Committee of the Countess of Dufferin's Fund.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.—Thursday, July 5th.

Habitual Drunkards Act (1879) Amendment Bill.—This Bill passed through Committee.

Victoria University.—This Bill was read a second time.

Friday, July 6th.

Regulation of the Sale of Foreign Meat.—Lord LAMINGTON asked permission to bring in a Bill, consisting of one clause, divided into two sections, to compel tradesmen honestly to declare distinctly what they were selling in respect to the sale of meat, as was compulsory on them in regard to other articles of food.—The Earl of ONSLOW believed the law as it stood gave ample power for inflicting penalties on those who sold foreign for English meat.—The Bill was read a first time.

Tuesday, July 10th.

Habitual Drunkards Act (1879) Amendment Bill.—This Bill was read a third time and passed.

HOUSE OF COMMONS.—Thursday, July 5th.

Deficient Hospital Accommodation, etc., on Board Ocean-Going Steamers.—Dr. TANNER (the House being in Committee of Supply on the Civil Service Estimates) called attention to the incomplete medical provision and insufficient hospital accommodation on board ocean-going steamers, which had been made the subject of comment by the BRITISH MEDICAL JOURNAL. He had in previous years called the attention of the Board of Trade to the subject, but no efficient action seemed to have been taken. Last year it was officially stated that there was a special cabin always fitted up as a surgery. He however could say such was not the case. In about 96 per cent. of the large steamers crossing the Atlantic there was no such thing as a special surgery.—Sir M. HICKS-BEACH said he had gone into the question, both with the representatives of the shipping companies and also with the inspectors of the Board of Trade. He had been unable to find in the statements of the inspectors, any corroboration of the allegations made by the hon. gentleman, who, he thought, did not make a distinction between emigrant ships and vessels engaged in the ordinary passenger traffic. The regulations of the Board of Trade applied only to the former. It might be that after the ship left port, having passed the Board of Trade inspector, the accommodation referred to was utilised for other purposes. That was contrary to the law, but he would point out that it was only by the sanction of the medical officer of the ship that the hospital accommodation could be diverted to other uses. Therefore, what the hon. member alleged was, that the medical officers absolutely neglected their duties.—Dr. TANNER said that, on the contrary, he maintained that they did their duty as well as they could. If they attempted to report the breaches of the Board of Trade regulations which occurred on board their ships, they would be dismissed from their employment.—Sir M. HICKS-BEACH asked why the emigrants did not complain.—Dr. TANNER went on to urge that they were peasants unaccustomed to cities. The proper course would be to do what was done in respect of emigrants from England to Australia—to pay the medical officers a small stipend and make them responsible for the health of the emigrants.—Sir M. HICKS-BEACH said he would undertake that any statement placed before him should be thoroughly investigated. It would be impossible to institute any inquiries into these charges unless the names of the ships were given, though he should be sorry to publish anything which would injure the medical officers of the ships.

Charges Against a Public Vaccinator.—Mr. RITCHIE, in answer to Mr. M'LAREN, said the attention of the Local Government Board had been called to the charges against Mr. Loane, as public vaccinator in the hamlet of Mile End. The guardians, as soon as they were made aware of the charges in question, suspended Mr. Loane from the performance of his duties, and Mr. Loane had since relinquished his office of public vaccinator. It was not the practice of the Board to institute an inquiry into charges against a person who had ceased to be under their jurisdiction, but in deference to the wishes which the guardians had expressed, and in consideration of the gravity of the charges alleged, he had determined to institute an inquiry into the case.

Monday, July 9th.

The Local Government Bill.—Mr. BRADLAUGH (the House being in Committee on this Bill), on Clause 23 (Payments by County Councils in Substitution for Annual Local Grants out of Exchequer in Aid of Local Rates), moved to omit words which stated that the County Council should pay to the guardians or to the proper local authority such sums as the Local Government Board certified in substitution for local grants "towards the cost of drugs and medical appliances for payments to public vaccinators under Section 5 of the Vaccination Act, 1867." This amendment was negatived by 249 to 123.—Mr. BRUNNER moved an amendment to leave out of Clause 24 all the words from "but if" to the end of Subsection *b*. He said that by the Bill if a medical officer of health did not send in his returns to the Local Government Board, the latter might require the County Council to withhold half the salary to which he was entitled. That provision practically enabled a medical officer of health or inspector of nuisances who had quarreled with his District Council to fine them to the extent of one-half of his salary, as they were given no power to refuse him his salary if he did not send in his returns. The amendment, after being discussed, was by leave withdrawn.—Mr. RANKIN moved an amendment affecting the three Subsections relating to the payments to be made in respect of pauper lunatics. He proposed that the County Council should pay to the guardians a sum of not more than 3s. a week, and in no case exceeding the actual relief granted for each pauper lunatic chargeable to the county who should be certified to be a lunatic by the proper medical authority. The sum of 4s. contained in the Bill was, he argued, too high. It was the opinion of many competent and experienced persons that in a great number of cases imbeciles who were sent to asylums would be better off if they were in the homes of their friends. This amendment, after being discussed, was negatived.

Tuesday, July 10th.

Contagious Diseases Acts in India.—Sir J. GORST, in reply to Mr. W. M'LAREN, said the orders of the Government of India for the suspension of the Contagious Diseases Acts in Madras, Bombay, and Bassein were issued on May 9th. The Secretary of State had been informed, in answer to an inquiry made by him, that in Bombay the suspension did not take place till June 30th, but that the Government of India was making inquiries into the reason for the delay.

UNIVERSITY INTELLIGENCE.

VICTORIA.

THE CHAIR OF SURGERY AT OWENS COLLEGE.

A VERY largely attended meeting of the Manchester medical students was held at the Infirmary on Thursday, July 5th, to consider what action should be taken to acquaint the Council of Owens College with the view taken by them of the recent appointment to the Chair of Surgery in the College. The following memorial was unanimously adopted, and it was further resolved to forward copies to the members of the Council:

To the Council of the Owens College.

GENTLEMEN,—We, the students of the Manchester School of Medicine, desire unanimously to express to you, the Council of the Owens College, our regret and disappointment that you have deemed it necessary to withdraw the teaching of surgery in the Owens College Medical School from the hands in which it has been placed for several years past.

To the public medical careers of our teachers we must not here advert, for you have already reviewed the evidence relating thereto; but we respectfully represent to the Council our conviction that the present teachers have, in their past professional relations with us, acquitted themselves with much credit and honour, and that by their expulsion we are deprived of the extensive practical experience gained by many years of surgical practice in the Manchester Royal Infirmary, which, with the exception of the London Hospital in the East End, holds the first position in Great Britain in regard to the material of its surgical practice.

EDINBURGH.

IMPORTANT ALTERATION IN MEDICAL CURRICULUM.—An alteration of considerable practical importance for students has been made in the regulations for graduation in Medicine, having been approved by order of Her Majesty in Council. The alteration relates to the First Professional Examination, and provides "that students who profess themselves ready to submit to an examination in the first division of these subjects may be admitted to examination therein at the first period of examination after they have completed their attendance on the necessary classes; provided always that it shall be lawful for students to proceed to examination in the said subjects under the following alternative sub-divisions, namely (1) botany and natural history; (2) chemistry (including practical chemistry); (3) botany and

chemistry (including practical chemistry); or (4) natural history and chemistry (including practical chemistry) at the first period of examination after they have completed attendance on the relative classes, and to proceed to examination in the remaining subject or subjects at a subsequent period of examination." The alteration, it is expected, will be of great service to students in the way of permitting them at an earlier date to devote themselves to the more strictly medical portion of the curriculum.

FINAL EXAMINATION IN MEDICINE.—The final examinations for the degree of M.B. and C.M. have just concluded. The number of competitors is larger than in previous years. The percentage of rejections is reported as high.

LONDON.

CERTAIN changes in the examinations for the Degrees in Medicine have recently obtained the sanction of the Senate. Their adoption shows a liberal tendency. Botany is to be included in the list of optional subjects, under the head of Experimental Science, at the Matriculation Examination. At the Preliminary Scientific Examination the subject of "Mechanics" is to be materially lightened; the pass papers in Experimental Physics are to be of a less mathematical character; the use of instruments is to be added to the examinations in Experimental Physics; the syllabus in "Biology" is to be revised; and the subjects of the examination are to be divided into two sections—(*a*) Chemistry and Physics, (*b*) General Biology; and candidates may present themselves for one or both sections, and those who present themselves for both sections may be credited with either section in which they may have passed, although they may have failed to obtain a pass in the other. At the Intermediate Examination in Medicine, the total marks for the Pass Questions is to be 300; that for the Honours Questions, 480; and no candidate is to be placed in the Honours Division unless he obtains 240 marks. The regulations as to the Honours Examination will be revised; the syllabus of, and requirements in, the subjects of Materia Medica and Organic Chemistry are also to be reconsidered and revised. The M.B. Pass Examination is to be held twice a year. At the M.D. and M.S. Examinations candidates are to be allowed to submit a thesis upon a subject in Medicine, Surgery, Obstetrics, or Psychological Medicine, and if the thesis be accepted, are to be exempted from the written and clinical examination in medicine at the M.D. Examination, and from the equivalent examination at the M.S., subject to such examination on the thesis as the examiners may think fit. Registered medical practitioners of not less than three years' standing, and not less than twenty-five years of age, having passed the Matriculation and Preliminary Scientific Examinations, are to be admitted to the subsequent examinations for the Degrees in Medicine and Surgery without the interval prescribed by the regulations on producing certificates that they have gone through the required course of training at any time previously.

OBITUARY.

JAMES M. McCULLOCH, M.D.

WE have to record the death of Dr. James Murray McCulloch, Dumfries, which took place on June 25th, a few days before the completion of his 84th year. About two years ago his professional and other work began to be seriously interfered with by hoarseness and severe attacks of dyspnœa, which laryngoscopic examination showed to be due to a congested and paralysed state of the vocal cords. In January last the obstruction to breathing became so urgent that tracheotomy was performed, and though he rallied considerably after the operation, yet owing to his very advanced years complete recovery was hardly to be hoped for, and he died on the above date from exhaustion.

After an Arts course he graduated in medicine at Edinburgh (L.R.C.S., 1826, M.D., 1827), and then proceeded to London and Paris for further study. He came to Dumfries during the cholera epidemic of 1832, and for long has taken a leading position not only as a medical man, but in everything relating to the conduct of public affairs. He was widely known as a consultant over the whole of the South of Scotland and North of England, and his reputation was based, not only upon large experience, but upon a thorough and systematic acquaintance with the literature of his profession, such as few men under the pressure of an extensive practice are able to obtain. On many scientific subjects, moreover, not always directly connected with medicine, long and enthusiastic study had made him no mean authority. He was an ardent politician, and when in his prime had probably a greater hold upon his fellow-citizens than any other public man of his day. He was also widely known, and especially of late years, as a staunch temperance reformer.

In spite of occasional brusqueness of manner, his deep and genuine kindness of heart had endeared him to the memories of both rich and poor with whom he came in contact.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

SANITARY ASSOCIATION OF SCOTLAND.

THE fourteenth annual meeting of this association was held in Glasgow on July 4th and 5th under the presidency of Dr. John C. McVail, medical officer of health, Kilmarnock. There was a large attendance of members, and the Lord Provost opened the proceedings with an address of welcome to Glasgow. Dr. McVail then delivered an interesting address on the Methods and Objects of Preventive Medicine. He said that, broadly speaking, there are three great lines of defence in preventive medicine, sanitation, inoculation, and isolation. By sanitation he meant the production of such conditions of air and soil and water as shall not be consonant with the existence of the specific organisms of zymotic diseases. The perfecting of this first line of defence formed the daily and regular work of the sanitary inspector. The second line he had named inoculation as indicating a theory at present, rather than an actuality, as in only one disease (small-pox) was this method of protection of avail. In other diseases, as hydrophobia, the line was in active formation. The third method of protection was isolation, and to this some of the greatest triumphs of protective medicine were due. As regards the results of preventive medicine, Dr. McVail showed that in England and Wales no less than 100,000 lives were annually saved by its means. Dr. J. B. Russell then read a paper on the Sanitary Enfranchisement of the Rural Population of Scotland. He said all true sanitation must begin in the houses of the people, and must be specifically and directly maintained out of the pockets of the people, and controlled by their votes. Health administration must therefore be educative if it was to be successful. He then proceeded to review the present health administration in Scotland in burghal and rural areas, and of the rural parochial boards he said that they illustrated almost every vice and defect that could impair the efficiency of an administrative body. Dr. Russell then described the dreadfully insanitary condition of the poor in mining villages and rural areas, and closed by saying he had no scheme of local sanitary government to offer. He merely wished to fix attention upon the fact that well-nigh half the population of Scotland was disfranchised as regarded that function of government which they were assured was the first and highest, and to contend that enfranchisement was the only basis upon which a satisfactory scheme could be raised. Dr. Maitland Moir, Aberdeen, read a paper on the subject of zymotic diseases, in which he urged that students of medicine should have greater facilities than at present for acquiring a knowledge of zymotic diseases before they were licensed to practice. Dr. Eben. Duncan read a paper on the Dissemination of Infectious Particles by Air Currents.

The second day's proceedings began with an address by Ex-Bailie Crawford, Chairman of the Health Committee, Glasgow, on the health work of the city; then Mr. W. P. Buchan, sanitary engineer, read a paper on Some Late Improvements in House Drainage. Principal Walley, Royal Veterinary College, Edinburgh, read a paper On the Inspection of Meat in relation to our Food Supply, with special reference to Tuberculosis in Cattle. He considered (1) what meat was marketable, and what was unmarketable; (2) whether the rules usually followed in the inspection of meat were sufficient for the purpose, and, if not, how they could be improved; (3) what might be considered nocuous or harmful flesh; and (4) whether the inspection of meat was, as a rule, in proper hands. Mr. Peter Tyfe, sanitary inspector, Glasgow, submitted and explained a new smoke-testing apparatus.

The following office-bearers have been appointed for the ensuing year. Dr. J. C. McVail, Kilmarnock, President; Mr. Peter Tyfe, Glasgow, Vice-President; and Mr. George McKay, Govan, Secretary and Treasurer.

HEALTH OF ENGLISH TOWNS.—During the week ending Saturday, July 7th, 5,381 births and 2,710 deaths were registered in the twenty-eight largest English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had been 15.5 and 15.9 per 1,000 in the two preceding weeks, declined again to 15.0 during the week under notice. The rates in the several towns ranged from 9.1 in Brighton, 9.9 in Nottingham, 11.4 in Leicester, and 11.5 in Birkenhead to 18.9 in Bolton, 20.3 in Newcastle-upon-Tyne, 21.0 in Manchester, and 22.2 in Preston. The mean death-rate in the twenty-seven provincial towns was only 15.3 per 1,000, and was 0.5 below the rate recorded in London, which was 15.8 per 1,000. The 2,710 deaths registered during the week under notice in the twenty-eight towns included 276 which were referred to the principal zymotic diseases, against 248 and 304 in the two preceding weeks; of these, 94 resulted from diarrhœa, 63 from whooping-cough, 33 from diphtheria, 32 from measles, 25 from scarlet fever, 21 from "fever" (principally enteric), and 8 from small-pox. These 276 deaths were equal to an annual rate of 1.5 per 1,000; in London the zymotic death-rate was 1.9, while in the twenty-seven provincial towns it averaged only 1.3 per 1,000, and ranged from 0.0 in Plymouth and 0.3 in Hull to 4.4 and 5.6 in Cardiff and Preston. Measles caused the highest proportional fatality in Wolverhampton; whooping-cough in Cardiff and Manchester; and "fever" in Derby. The 33 deaths from diphtheria in the twenty-eight towns included 29 in London. Of the 8 fatal cases of small-pox recorded during the week under notice, 7 occurred in Preston and 1 in Bradford. The Metropolitan Asylums Hospitals contained only 3 small-pox patients on Saturday, July 7th, of whom 1 had been admitted during the week. These hospitals also contained 815 scarlet fever patients on the same date, against 820 and 845 on the two preceding Saturdays; there were 72 cases admitted during the week, against 61, 72, and 92 in the three previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 2.6 per 1,000, and was below the average.

HEALTH OF SCOTCH TOWNS.—In the eight principal Scotch towns, 813 births and 410 deaths were registered during the week ending Saturday, July 7th. The annual rate of mortality in these towns, which had been 20.0 and 18.2 per 1,000 in the two preceding weeks, further fell to 16.2 during the week under notice, but exceeded by 1.2 per 1,000 the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Greenock and Perth, and the highest in Edinburgh and Glasgow. The 410 deaths in these towns during last week included 37 which were referred to the principal zymotic diseases, equal to an annual rate of 1.5 per 1,000, which corresponded with the mean zymotic death-rate during the same period in the large English towns. The highest zymotic rates were recorded in Aberdeen and Glasgow. The 191 deaths registered in Glasgow last week included 6 from measles, 3 from whooping-cough, 2 from scarlet fever, 2 from "fever," and 4 from diarrhœa. The mortality from diseases of the respiratory organs in these Scotch towns was equal to 3.3 per 1,000, against 2.6 in London.

HEALTH OF IRISH TOWNS.—During the week ending Saturday, July 7th, the deaths registered in the sixteen principal town-districts of Ireland were equal to an annual rate of 19.2 per 1,000. The lowest rates were recorded in Sligo and Lisburn and the highest in Newry and Wexford. The death-rate from the principal zymotic diseases in these towns averaged 2.6 per 1,000. The 137 deaths registered in Dublin during the week under notice were equal to an annual rate of 20.2 per 1,000, against 20.7 and 24.8 in the two preceding weeks. These 137 deaths included 17 from the principal zymotic diseases (equal to an annual rate of 2.5 per 1,000), of which 6 resulted from whooping-cough, 6 from "fever," 3 from measles, 2 from scarlet fever, and not one either from small-pox, diphtheria, or diarrhœa.

STRAY DOGS AND RABIES.—There were captured and taken to the Battersea Dogs' Home by the police during the month of June 1,312 stray dogs. Thirty-four described as mad were killed in the streets. Of this number seven were known to be suffering from rabies. During the month 129 persons, of whom ten were constables, were reported to have been bitten by dogs.

HOSPITAL AND DISPENSARY MANAGEMENT.

THE VICTORIA INFIRMARY, GLASGOW.

THE ceremony of cutting the first sod for the foundations of the Victoria Infirmary was performed on July 4th by Mr. Rennie Watson, Chairman of the Executive Committee, in the presence of a large number of spectators. The site chosen for the new infirmary is on the sloping ground to the south-east of the Queen's Park, and is eminently suited from its elevated position to display the new buildings to advantage and secure a dry and bracing atmosphere. The infirmary will eventually consist of a central administrative block and pavilion blocks for patients at both sides of and behind the central block. The portions to be erected at present are the administrative block and a pavilion immediately behind, affording accommodation for sixty patients. Other pavilions will be added as funds permit, and the necessities of the district require. The architects are Messrs. Sellars and Campbell Douglas, Glasgow.

PROPOSED HOSPITAL FOR CONSUMPTIVES FOR GLASGOW.

DR. HUGH THOMSON has made a public appeal to the citizens of Glasgow to provide a special hospital for consumptives. This has frequently been spoken of before now; but, as Dr. Thomson says, the question has now assumed a new aspect, and deserves renewed consideration. He refers to the infectious nature of the disease, and to the great and just objection that is taken to the admission of tuberculous patients into a general hospital, and among patients whose low state of vitality renders them peculiarly susceptible to infection. He further points to the large proportion of deaths in Glasgow from consumption and its congeners, and to the chronic character of most of the affections in which tuberculosis plays a part, as powerful reasons why the treatment of tuberculous patients should be conducted in separate and specially-equipped hospitals.

THE NEW HOSPITAL FOR WOMEN, LONDON.

THE Lord Mayor presided, on Friday last, at the Mansion House, over a public meeting held in aid of the building fund of the New Hospital for Women, Marylebone Road. The Lord Mayor said that for twenty-two years the institution had carried on its important work without appealing to the public, but in consequence of the falling in of the lease, it now became necessary to rebuild the hospital, and public assistance was asked for. Sir James Paget, in a letter, expressed his willingness to subscribe, and Miss Florence Nightingale wrote, sending £50, and in expressing her approval of the work of the institution, said: "You want efficient women doctors, for India most of all, whose native women are now our sisters, our charge. (There are at least forty millions who will only have women doctors, and who have none.) But for England too you want them. Give them then, besides a women's school of medicine, a practical school in a women's hospital. Life and death depend on the training."

MEDICAL NEWS.

EXAMINING BOARD IN ENGLAND, BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the second examination in Anatomy only at a meeting of the Board of Examiners on July 5th, namely:—

C. G. Hoysted, of Charing Cross Hospital; C. G. A. Le Messurier, of St. George's Hospital; H. J. Curtis, of University College; C. S. Palmer and W. D. Slyman, of St. Bartholomew's Hospital; J. M. James and F. B. Peat, of St. Thomas's Hospital; W. H. Goodson and C. S. Kirton, of London Hospital; D. L. Freeland and A. Lawson, of Middlesex Hospital; and G. T. B. Blick, of St. Mary's Hospital.

Passed in Physiology only.

G. S. O. Howes, A. E. Norris, J. R. R. Pollock, and H. J. E. Wilks, of Guy's Hospital; C. A. Coventon, E. Henry, and W. W. Smith, of St. Bartholomew's Hospital; A. Dalzell, of St. Thomas's Hospital; G. Martyn, of King's College; A. J. Lattey, of St. George's Hospital; C. H. C. Visick, of University College; W. T. Davies and D. N. Morgan, of the London Hospital.

Passed in Anatomy and Physiology on July 6th.

G. H. Knapp, of Guy's Hospital; G. E. Newby, G. E. M. Wood, and P. Guinand, of University College; C. W. J. Chepnell, of St. George's Hospital, Edinburgh, and Mr. Cookes School of Anatomy; J. A. Atkinson, and F. D. Harris, of St. Mary's Hospital; A. D. Cooper, of Grant Medical College, Bombay; J. Kennedy, of London Hospital; W. M. Thomas, of Charing Cross Hospital; O. V. Pisani, of King's College; H. Reeks, of St. Bartholomew's Hospital.

Passed in Anatomy only.

R. W. Prentice, of King's College; W. R. Ashworth, of Westminster Hospital; I. N. L. Fletcher, of Charing Cross Hospital; W. E. Sargant and J. N. Martin, of St. Bartholomew's Hospital; F. B. Shaw, of Middlesex Hospital.

Passed in Physiology only.

E. H. Howell, of London Hospital and University College; W. Robinson, of Middlesex Hospital; H. L. Carre-Smith and R. D. Muir, of Charing Cross Hospital; W. Bligh, of Guy's Hospital; G. C. Davies, of St. Bartholomew's Hospital; C. D. Cooper, R. James, and J. C. Burton, of University College.

Passed in Anatomy and Physiology on July 7th.

S. H. Snell, of University College,

Passed in Anatomy only.

A. D. P. Dudley, of University College; A. Plumbe and H. Watts, of London Hospital; H. W. Gwyn and H. J. R. Jones, of London Hospital and Mr. Cooke's School of Anatomy; A. Graydon, W. F. E. Milton, J. H. Sims, and H. G. Williams, of St. Thomas's Hospital; A. Addie, J. A. Mortimer, J. M. Rogers-Tillstone, of St. Bartholomew's Hospital; L. A. Francis, of St. Mary's Hospital; E. Cornish and E. W. Wheatcroft, of Guy's Hospital; J. E. M. Jenkins, of Charing Cross Hospital; S. C. M. Nourse and F. H. R. J. N. Walker, of St. George's Hospital.

Passed in Physiology only.

A. G. Rider, W. H. J. Huthwaite, of University College Hospital; W. S. Mercer, of Charing Cross Hospital; H. de R. Morgan, G. Padmore and A. W. Read, of St. George's Hospital; A. D. Davies, of London Hospital; D. O. Jones and G. Lombardi, of Middlesex Hospital; E. J. Finch, of St. Mary's Hospital; J. K. Kempthorne, of King's College; J. E. S. Frazer, A. W. Tidbury, and C. H. Whiteford, of St. Bartholomew's Hospital.

Passed in Anatomy and Physiology on July 9th.

F. J. Charlton and J. G. Hewitson, of University College; C. S. Hawkes, of London Hospital; C. A. Lapthorn, of Middlesex Hospital; W. R. O'Reilly, of Westminster Hospital.

Passed in Anatomy only.

J. Cooper and J. K. Birdseye, of St. Bartholomew's Hospital; A. Haines, of St. Thomas's Hospital; R. H. Collins, of Charing Cross Hospital; J. M. Fry, of Westminster Hospital; J. B. Tindall, of King's College.

Passed in Physiology only.

E. C. Bridges, of St. Bartholomew's Hospital; S. H. Perry, of King's College; S. C. Smith, of Middlesex Hospital; C. E. A. MacLeod, of Westminster Hospital; J. H. F. Way, of St. Thomas's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following Member, having previously passed the necessary Examination, and having now attained the legal age (25 years), was, at the quarterly meeting of the Council on July 12th, admitted a Fellow of the College.

Kidd, Hugh Cameron, L.R.C.P.Lond., 17, Tavistock Road, Westbourne Park (diploma of Member dated June 1st, 1885).

The following gentleman, having previously passed the necessary Examination in Surgery, and having since obtained a Medical Qualification, was admitted a Member of the College.

Mason, Hubert Dempster, L.K.Q.C.P.I., Yardley Fields, Yardley, Worcester.

The following gentlemen having passed the necessary Examinations at a meeting of the Board of Examiners in Dental Surgery on June 20th, were admitted Licentiates at the same meeting, namely:

Bates, Reginald Henry, 63, Vincent Square Westminster.
Constant, Thomas Edward, 17, Harmer Street, Gravesend.
Digby, Everard, 8, Ruskin Road, Tottenham.
Fisk, Edgar Charles, 181, High Road, Kilburn, N.W.
Harris, Theodore William, Oak Lodge, Argyll Road, Ealing.
Hooton, William Arthur, Kersal Towers, Higher Broughton, Manchester.
Horne, Albert Driver, 84, Abbeville Road, North Clapham.
McDonald, William James, 4, Egbert Street, St. George's Road, N.W.
Minett, Thomas Samuel, 34, Chesterton Road, W.
Stack, Richard Theodore, 10, Westland Road, Dublin.
Todd, Frederick, Clock House, Catford Bridge, S.E.
Washbourn, Henry Addison, The Bank House, Middlesbrough.

MEDICAL VACANCIES.

The following Vacancies are announced:

BELGRAVE HOSPITAL FOR CHILDREN, 79, Gloucester Street, S.W.—Surgeon to Out-patients. Applications by July 18th to the Honorary Secretary.

BIRMINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Board and residence, etc. Applications by July 28th to the House-Governor.

BRISTOL GENERAL HOSPITAL. Assistant Surgeon. Applications by July 20th to the Secretary.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road.—House-Surgeon. Board and lodging. Applications by July 26th to the Secretary.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road.—Three Clinical Assistants. Fee, £5 5s. for three months. Applications by July 14th to the Secretary.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park.—Assistant Physician. Second Vacancy. Applications by July 27th to the Secretary, 24, Finsbury Circus, E.C.

CUMBERLAND INFIRMARY, Carlisle.—House-Surgeon. Salary, £70 per annum and pupils' fee, with board, lodging, and washing. Applications by July 24th to the Secretary.

CUMBERLAND INFIRMARY, Carlisle.—Assistant House-Surgeon. Salary, £40 per annum and pupils' fee, with board, lodging, and washing. Applications by July 24th to the Secretary.

HALIFAX INFIRMARY AND DISPENSARY.—Assistant House-Surgeon. Salary, £50 per annum, with board and residence, etc. Applications by July 24th to Dr. West-Symes, Hope Hall, Halifax.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician. Applications by July 14th to the Secretary.

LONDON TEMPERANCE HOSPITAL, Hampstead Road.—Senior House-Surgeon. Salary, 50 guineas per annum, with board and residence. Applications by July 28th to the Secretary.

MIDDLESEX HOSPITAL, W.—Physician for Skin Diseases. Applications by July 16th to the Secretary Superintendent.

MORPETH DISPENSARY.—House-Surgeon. Salary, £120 per annum, with furnished house, coals, and gas. Applications by July 28th to the Honorary Secretary.

NORFOLK AND NORWICH HOSPITAL.—Assistant-Surgeon. Applications by July 28th to the Secretary.

PARISH OF EDDRACHILLIS, Sutherland.—Salary, £150 per annum, with free house. Applications by July 15th to Mr. A. R. Cowie, Inspector, Scourie by Larg, N.B.

PARISH OF KIRKMABRECK, Kirkcudbrightshire.—Medical Officer for the Poor. Salary, £35 per annum. Applications by July 14th to Mr. J. Carson, Inspector of Poor, Creetown, N.B.

PARISH OF KIRKMICHAEL, Banffshire.—Medical Officer. Salary, £95 per annum, with house. Applications by July 31st, to Convener of Committee of Parochial Board, Tomintoul, Banffshire.

PARISH OF ST. GEORGE IN THE EAST.—Medical Officer for Infirmary and Workhouse. Salary, £300, with unfurnished house, etc. Applications by July 16th to J. R. Browne, Esq., Clerks Offices, Princes Street, Old Gravel Lane, E.

PLYMOUTH PUBLIC DISPENSARY.—Physician's Assistant. Salary, £60 per annum. Applications by July 17th to the Honorary Secretary, W. H. Prance, Esq., 7, Athenæum Terrace, Plymouth.

QUEEN'S HOSPITAL, Birmingham.—Resident Physician. Salary, £50 per annum, with board, lodging, etc. Applications by July 26th to the Secretary.

MEDICAL APPOINTMENTS.

ANDERSON, William A., M.B.Edin., Assistant Medical Officer Kent County Asylum, Maidstone, appointed Medical Officer to the Bucks County Asylum, Aylesbury, *vice* H. L. Grant, resigned.

BARTON, S. J., M.D., M.B., M.Ch., appointed Honorary Physician to the Norfolk and Norwich Hospital, *vice* Sir P. Eade, M.D., F.R.C.P., resigned.

BEARBLOCK, W. J., M.R.C.S., L.R.C.P., appointed Assistant House-Surgeon to the Royal Albert Hospital, Devonport, *vice* J. B. Bailey, M.B., C.M.Edin.

BEVERLEY, M., M.D., M.R.C.S.Eng., L.S.A., appointed Honorary Surgeon to the Norfolk and Norwich Hospital, *vice* T. W. Crosse, F.R.C.S., resigned.

BRACKENBURY, Henry B., M.R.C.S.Eng., L.R.C.P.Lond., appointed Resident Obstetric Assistant to Westminster Hospital.

CAMPBELL, R. J., M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Physician to Guy's Hospital.

CAUDWELL, Eber, M.R.C.S., L.R.C.P., Lond., appointed Senior House-Physician to Westminster Hospital.

CHARSLEY, Robert Stephen, B.A.Oxon, M.R.C.S.Eng., L.R.C.P.Lond., appointed Junior House-Surgeon to Westminster Hospital.

CROOK, H. E., M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Physician to Guy's Hospital.

EARDLEY-WILMOT, Robert, M.B.Lond., M.R.C.S., L.R.C.P., appointed Visiting Medical Officer to the Midland Counties Home for Chronic and Incurable Diseases, Leamington, *vice* J. J. W. R. Bryer, M.D., resigned.

ERSKINE, W. D., M.B., C.M.Glas., appointed Resident Assistant House-Surgeon to the Dundee Royal Infirmary, *vice* A. Wilson, M.B., C.M.Glas., resigned.

GRAHAM, C. W., L.R.C.P.E., appointed sole Resident Medical Officer of the Carlisle Dispensary, *vice* T. F. Foster, M.R.C.S.E., L.R.C.P.Lond., L.S.A., resigned.

GRIFFITHS, C. Niel, M.R.C.S.E., L.R.C.P., and L.M.Edin., appointed House-Surgeon to the London Throat Hospital, Great Portland Street.

GUISE-MOORES, S., L.R.C.P.Lond., M.R.C.S., appointed Assistant House-Surgeon to the South Devon and East Cornwall Hospital, Plymouth, *vice* P. H. Whiston, resigned.

LAMBERT, Frederick Samuel, M.R.C.S.Eng., L.R.C.P.Lond., appointed Junior House-Physician to Westminster Hospital.

MCILROY, John Black, M.R.C.S.Eng., L.R.C.P.Lond., L.S.A., appointed Senior House-Surgeon to Westminster Hospital.

METZGAR, C., F.R.C.S.E., L.R.C.P.Lond., appointed House-Surgeon to Guy's Hospital.

OLIVER, F. W., B.A., D.Sc., appointed Lecturer on Botany at University College, *vice* Professor D. Oliver, resigned.

POOLMAN, A. E., M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Surgeon to Guy's Hospital.

RICHARDS, William, M.B., C.M.Edin., Resident Surgeon Birmingham General Dispensary, appointed Resident Surgeon of the Highgate Branch of the Birmingham General Dispensary, *vice* J. H. North, M.R.C.S., L.R.C.P., resigned.

SOUTER, J., M.B., C.M., appointed Medical Officer to the Duffus Parochial Board, *vice* J. Ross, M.D., deceased.

VINES, C. S., M.R.C.S.Eng., L.R.C.P.Lond., appointed Resident Medical Officer to the Ramsgate and St. Lawrence Royal Dispensary and the Seamen's Infirmary, *vice* J. H. Blakeney, L.R.C.P., Lond., M.R.C.S.Eng., resigned.

WILLETT, E. W., M.B., M.R.C.S., appointed Honorary Surgeon to the Western General Dispensary, Marylebone Road, *vice* S. Paget, F.R.C.S., resigned.

THE annual meeting of the Association for the Oral Instruction of the Deaf and Dumb was held on Thursday, July 5th, at the Training College, 11, Fitzroy Square, W., under the presidency of Dr. Lubbock. The report stated that 36 boys and 20 girls had been in attendance. Two grades of certificates were granted to students in the Training College: a first class for head, and second for assistant teachers. During the year, 11 female teachers had attended the Training College, of whom 6 had obtained first-class and 2 second-class certificates. To give a deaf child full advantage of the oral system, he should as far as possible be precluded from all other means of communication. The director (Mr. William Van Praagh) stated that all who had been trained in the College were doing well. One lady, after 9 years' experience, was going out to China as a missionary. A short examination of the pupils was then held, questions being put to them, which they by lip-reading readily understood and readily answered, also writing down words and figures at dictation. The older pupils who had been some length of time in the College held prolonged conversations with Mr. Van Praagh, two reading at some length quotations from Tennyson's "Charge of the Light Brigade." Sir W. B. Dalby made a strong appeal for pecuniary assistance to place the institution in a more prosperous position.

GLASGOW SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.—During the month of June 103 cases, involving the welfare of 136 children, and 6 old cases, concerning 10 children, have been dealt with. Of the whole number, 117 have been placed in more favourable circumstances, either in training homes, or industrial schools, or hospitals, etc., as seemed best. Temporary shelter had been given to 117, and 637 meals had been supplied, while 22 children had been clothed. Action had been taken with effect against some parents. One case deserves attention. It was that of a child 13 months old, which was so emaciated that it weighed only 9 lbs., and it died sixteen hours after admission to the shelter. The father becomes entitled to £3 from an insurance society, but against him criminal proceedings are being taken. Such cases show the great need for such work as this society does, especially in large cities.

BURIAL REFORM.—At a meeting of the Kensington clergy, presided over by the Hon. and Rev. E. Carr Glyn, it was resolved: "That the prevalent mode of retaining in the neighbourhood of great populations vast accumulations of human remains in every stage of decomposition is repulsive, utterly indefensible, and seriously and increasingly dangerous to the public health, and that the Home Secretary be memorialised to inquire into the condition of cemeteries and the mode of burial adopted, with a view to legislation." Similar resolutions have recently been passed at meetings presided over by the Bishop Designate of Bedford, the Hon. and Rev. Canon Leigh, and others.

The Hospital Saturday collection in Woolwich amounted this year to £207 10s.—£60 in excess of any former collection.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

KENYON.—On July 9th, at Hooton Pagnell, near Doncaster, the wife of G. Herbert Kenyon, M.D., of a son.

STIVEN.—July 9th, at the Manor Lodge, Harrow-on-the-Hill, the wife of E. W. Flemyng Stiven, of a son.

MARRIAGES.

DRAKE—BRYDEN.—July 5th, at St. John's Catholic Church, Tiverton, Devon, by Rev. W. Walsh, J. H. Drake, L.R.C.S. and P.Edin., only son of the late Vice-Admiral John Drake, of Castle Thorp, Bucks, to Emily Mary, eldest daughter of Richard Bryden, M.R.C.S.Eng., of Beech House, Uffculme, Devon.

HUBBARD—VIZARD.—On the 10th July, 1888, at St. Paul's Church, Hemel Hempstead, by the Rev. Edward Gallop, Arthur John Hubbard, M.D., Durham, L.R.C.P.Lond., M.R.C.S.Eng., son of the late John Waddington Hubbard, M.R.C.S., L.S.A., formerly of Market Bosworth, to Charlotte Marian, youngest daughter of the late Edward Vizard, Esq., formerly of Dursley.

DEATH.

WINDLE.—July 8th, at Ivy House, Ovenden, near Halifax, Mary Osyth, wife of John T. Windle, M.D.Aberd., aged 32 years.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St.Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).;

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's—1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY .....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 8; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

ABSCESS OF ANTRUM OF HIGHMORE.

M.B., M.A., asks for some advice as to what to do with an abscess, evidently in the antrum of Highmore. The upper right molar has been drawn, and a probe can be passed right up into the antrum, and matter flows freely. But the external opening keeps closing up, and the face swells, causing disfigurement and pain, until the discharge is forced through the old channel where the tooth has been extracted.

ANSWERS.

B.M.A.—Superfluous hairs can be removed by electrolysis. We cannot recommend individual practitioners. "B.M.A." should consult a physician who gives special attention to diseases of the skin.

NOTES, LETTERS, ETC.

THE LUCE FUND.

AMOUNT already subscribed, £84 18s. 6d.—Dr. Harris, £1; Mr. Bickerton, 10s. 6d. Further donations in aid of Mrs. Luce will be gratefully received by Dr. Caton, 31, Rodney Street, or by Dr. Sheppard, 64, Durning Road, Liverpool.

MODERATE DRINKING.

SURGEON G. F. POYNDER (Gravesend) writes: A good definition for the above, apparently, has yet to be found. What one considers moderate, another may consider immoderate. If, however, we look on alcohol as a poison, and to some a very insidious poison, it behoves us to be very cautious how we recommend its use at any time, and more particularly its habitual use, even in moderate (?) quantities.

A SOURCE OF INFECTION.

LYING-IN HOSPITAL SURGEON writes: I read with much surprise a letter in the JOURNAL from Dr. A. D. Macdonald, of Liverpool, where he suggests that the chemist should lend a syringe to women in childbed. If he desired to spread contagion, and have an epidemic of septicæmia among his patients, he could not suggest a more effective plan of propagating it.

I have several times found septic conditions carried from one patient to another by the practice of borrowing syringes. Dr. Macdonald's favourite antiseptic seems to be iodine. After a large experience in both hospital and private lying-in cases, I have found corrosive sublimate more effective.

DR. ARCHIBALD D. MACDONALD (Liverpool) writes: Not to occupy space, and as I hope to deal shortly with the subject elsewhere, I pass by irrelevancies and fallacies in "M.D.'s" reply to my letter. The syringe and catheter were —I quite understood, contrary to his mis-statement—aseptic when he began to use them. But his finger was not aseptic at the time of his first vaginal examination during the labour, otherwise septicæmia would not have supervened "immediately after" parturition was accomplished. If then the antiseptic irrigant which streamed through the syringe were not capable of maintaining its inner surface in an aseptic condition, how could "M.D." expect to purify the interior of the uterus by the douche he used? He might as well have used boiled water. And if the exterior of the syringe were not capable of being purified, what about his own hands? How in that case has he, if he have, put them "beyond the possibility of future harm." Has no further case of septicæmia occurred in his practice? And if he have efficiently disinfected his hands the syringe could, "without burdening his conscience with doubtful economy," have been disinfected in the same manner. For my views on the subject, "M.D." will permit me to refer him to this JOURNAL for September 3rd, and to the *Lancet* of December 3rd, last. I strongly advise him to try the iodine, as it has proved in the experience of others, as well as myself, to be efficient and not a sham.

SYPHILIS AND CANCER.

A STUDENT OF DISEASE writes: It would seem, from Sir William Stokes not referring to the remarkable announcement made many years ago by Leroy d'Etiolles on the connection of syphilis and cancer, that the distinguished professor was ignorant of its existence. Now it appears that the French surgeon "found one in five cases of cancer ascribed to syphilis by the practitioners of France." On this statement, recorded by Walshe (*On Cancer*, p. 155), this pathologist however remarks: "The comparative immunity of prostitutes from the disease in the organs most likely to suffer militates most strongly against the accuracy of these opinions and results." I should much like to know if this belief in the non-influence of a life of prostitution is generally held.

COMMUNICATIONS, LETTERS, etc., have been received from:
Mr. G. P. Atkinson, Pontefract; Dr. J. Pietersen, Windermere; Dr. A. T. Brand, Driffield; Mr. R. Atkinson, Halifax; Sir Edward Clarke, M.P., London; Mr. W. H. Howe, London; Dr. Louis Parkes, London; Mr. A. W. Pullin, Bradford; G. B. White, M.B., Dublin; Dr. Belliard, Paris; Mr. G. Munro Smith, Clifton; Professor Windle, Birmingham; Mr. H. J. Swank, London; Mr. B. L. Shroff, Bombay; Dr. Cullimore, London; Mr. H. G. L. Stevens, Wolverton; Mr. H. C. March, Rochdale; Our Swiss Correspondent; Our Berlin Correspondent; Dr. Thomson, Ampthill; Mr. Carl Siewers, London; Mr. W. Williams, Oswestry; Mr. M. C. Moxham, Stroud; Mr. R. James, London; Mrs. E. R. Smith, Southwick; Mr. H. L. Hoops, Eccles; Dr. Jacob, Sandycove, Dublin; Mr. J. Ostell, Carlisle; Mr. W. H. Crockwell, Manchester; Mr. W. H. Spurgin, Maryport; Mr. A. Hulme Birmingham; Mr. A. N. Turner, Anerley; Dr. Norman Kerr, London; Mr. T. A. Goodfellow, Manchester; Dr. W. Bruce, Dingwall; D. Arthur, M.B., New Galloway; Mr. A. Hayes, Cairo; Mr. W. M. Knipe, Melbourne, Derby; Dr. Robert Kirk, Glasgow; Dr. A. Sheen, Cardiff; Dr. A. Young, Edinburgh; Mr. P. H. Edwards, Sutton Coldfield; Dr. Macpherson, London; Miss A. McConnell, London; Dr. Carey Combs, Castle Carey, Somerset; Mr. A. J. Harrison, Clifton; Mr. H. W. Williams, Cheltenham; Dr. Hime, Bradford; Mr. E. K. Campbell, London; Mr. A. Roberts, Keighley; Mr. J. Ramsay, York; Mr. E. B. Gray, Oxford; Dr. Mickle, London; Dr. S. Wilks, London; Dr. Kelly, Taunton; Dr. J. Woodman, Exeter; Dr. J. Wigmore, Tiverton-on-Avon; Dr. W. Pearce, London; Dr. F. T. Heuston, Dublin; Mr. W. Philson, Cheltenham; Dr. G. Cordwent, Milverton; Mr. F. A. Saunders, Crail, Fife; Messrs. H. J. Rowntree and Co., York; Mr. A. G. R. Foulerton, Rochester; B. M. A.; The Secretary of the Sanitary Institute, London; Mr. F. Shapley, Sidcup; Dr. H. Mackenzie, Edinburgh; Mr. C. M. Jessop, London; Mr. J. Taylor, Clifton; Miss Newton, Upton; The Secretary of the Medicine Section of the Glasgow Meeting, Glasgow; Dr. E. West Symes, Halifax; Dr. J. L. Nevin, Ballymoney; Dr. Homans, Boston, U.S.A.; Mr. J. R. Upton, London; Messrs. Paige, Kelly, and Crylls, Redruth; Mr. S. G. Turpin, Midleton; Mr. T. Vincent Jackson, Wolverhampton; Dr. Clifford Allbutt, F.R.S., Leeds; Messrs. Thos. Christy and Co., London; Dr. Hughlings Jackson, London; Dr. W. T. Gairdner, Glasgow; Dr. Sturges, London; Mr. Hurry Fenwick, London; Dr. J. Keser, London; Dr. Francis Warner, London; Dr. Illingworth, Accrington; The Secretary of the Devonshire Hospital and Buxton Bath Charity, Buxton; Dr. Kelly, Taunton; Mr. H. Sell, London; Mr. William Anderson, London; Dr. Cator, Liverpool; Dr. Eardley Wilmot, Leamington; Mr. W. A. Becket, London; Mr. J. H. Hill, London; Mr. J. P. Hunt, London; Mr. G. F. Poynder, Gravesend; Lord E. S. Churchill, Castlemead, Windsor; Mr. T. H. Atkins, London; Dr. J. Burney Yeo, Edinburgh; Dr. G. C. Kingsbury, Blackpool; Mr. E. C. Green, Derby; Dr. Skene Keith, London; Mr. W. Boyce, Shrewsbury; Mr. S. Felce, London; Mr. J. Hutchinson, London; The Dean of the Guy's Hospital Medical School, London; Mr. J. Stewart, Clifton; Mr. W. H. Brown, London; Mr. J. A. Palanque, Manchester; Dr. J. J. Ridge, Enfield; Mr. W. T. McGowen, Bradford; Dr. Gumpert, Prague; Dr. P. M. Deas, Exeter; Dr. W. Wylie, Skipton; The Wood Wool Company, London; Dr. C. R. Drysdale, London; Mr. Waller, Sydenham; Mr. J. H. Hill, London; Mr. W. J. Morris, Portmadoc; Mr. H. W. Dillon, Dublin; Dr. W. H. Ormsby, Dublin; Mr. W. Rickards, M.B., Birmingham; Mr. H. Adcock, London; Sir William Mac Cormac, London; Dr. W. H. Anderson, Maidstone; Dr. W. T. Gairdner, Glasgow; Dr. F. Fraser, Tonbridge; Mr. A. W. Pearse, Pontesbury; Mr. Shirley F. Murphy, London; Mr. R. J. H. Scott, Bath; Mr. J. F. Andrews, London; Dr. Rentoul, Liverpool; Mr. Benham, London; Dr. Edwardes, London; Mr. C. A. Van Geyzel, Aberdeen; Lieut.-Col. W. J. Bryes, London; Dr. Danford Thomas, London; Mr. A. E. Barrett, London; Mr. R. E. Hunt, Accrington; Mr. R. S. Charsley, London; Mr. J. B. Bailey, London; Mr. T. S. Ellis, Gloucester; Mr. A. H. Leech, Bury St. Edmunds; Dr. J. Mackenzie Booth, Aberdeen; Dr. R. M. Simon, Birmingham; Captain A. S. Hiucks, London; Mr. A. E. Boyce, Norwich; Mr. C. B. Lockwood, London, etc.

BOOKS, ETC., RECEIVED.

The Natural History and Epidemiology of Cholera. By Sir J. Fayrer, K.C.S.I., LL.D., M.D., Q.H.P., F.R.S. London: J. and A. Churchill. 1888.

Diseases of the Skin. With Seventy-Six Illustrations. By H. Radcliffe Crocker, M.D.Lond. London: H. K. Lewis. 1888.

The Treatment of Hæmorrhoids. By Silas T. Yount, M.D. Second Edition. Lafayette, I.M.D.: The Echo Music Co. 1888.

Irish Health Resorts and Watering Places. By D. Edgar Flinn, F.R.C.S. London: Kegan Paul, Trench, and Co. 1888.

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NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-Offices letters addressed to initials only.

REMARKS
ON
THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE BRAIN.

Delivered at a Meeting of the Worcestershire and Herefordshire, Bath and Bristol, and Gloucestershire Branches.

By J. HUGHLINGS JACKSON, M.D., F.R.C.P., LL.D., F.R.S.,
Physician to the Hospital for Epilepsy and Paralysis; and Physician to the London Hospital.

(*Concluded from p. 61.*)

I NEXT speak in some detail of the methodical investigation of particular cases of brain disease, and shall deal with questions of treatment at several stages of the inquiry. The clinical problem of what we call *a* disease is threefold—anatomical, seat of lesion; physiological, functional nature of lesion; pathological, disorder of the nutritive process. The division into structure, function, and nutrition is, of course, arbitrary, but it is a convenient one. I may now say, once for all, that I use the term functional in its meaning as the adjective of the word function. I do not believe that there can be any kind of symptoms without abnormal changes, however slight they may be in some cases (see an able paper by Dr. Allchin, *Westminster Hospital Reports*, vol. ii). Hence, when speaking of cerebral and cerebellar tumours, and other masses, I used the expression *gross* organic disease, not doubting that there is some organic change, however minute it may be, and, as yet undiscoverable, even in epilepsy proper, in chorea, in neuralgia, etc. There are two diametrically opposite kinds of functional changes. 1. Degrees from slight defect to loss of function. 2. Degrees from slight to excessive exaltation of function. The former, negative state of function, exists in cases of paralysis, the latter, positive (super-positive) state of function in cases of epilepsy, chorea, tetanus, etc. I never use the expression "disorder of function," but speak of degrees of negative functional states, and of degrees of states of over-function. The two may co-exist. Some elements of the set of motor nervous arrangements representing a muscular region may have lost function, whilst other elements of the same set may be in over-function. For example, we find not rarely persisting hemiplegia and occasional convulsion of the muscular region paralysed.

One advantage of the scheme of investigation by the triple division is that we learn by it where our knowledge is deficient. Indeed, of some cases of nervous disease it would be commonly said that we know symptoms only. The scheme enables us to separate definitely what we know from what we only suppose. In chorea we know that there is the second kind of functional lesion; at any rate, it is an irresistible inference that the movements depend on unduly high instability of nerve cells.[3] But we do not know the seat of that lesion, nor the pathological processes leading to it. On the anatomy and pathology of chorea all of us have hypotheses only, My speculation is that, anatomically, the lesion is of some convolutions of the motor area, and that the pathology in most cases is plugging of arterioles.

In illustration of the triple method I shall take a case in which our knowledge is fairly complete, an ordinary case of hemiplegia. Before I do this I will once more speak of types. As to range, I make two types of hemiplegia. In most cases the arm suffers more than the leg, in some the leg more than the arm. The division arm-type and leg-type is of practical importance. Were I obliged to be paralysed of the left side I should prefer the ordinary variety of hemiplegia, in which the arm suffers more than the leg, as I could do indifferently well without the use of the *left* arm, and could get about if the leg were only slightly paralysed. If the paralysis were to be of the right side, I would far rather that the leg suffered more than the arm, particularly because I should, the cerebral lesion being farther back, have little or no defect of speech.

Taking for illustration the arm-type of hemiplegia, we may conveniently make three degrees of it. 1. Paralysis of the face, tongue, arm, and leg. 2. Greater paralysis of these parts, and also turning of the head and eyes from the side of the body paralysed. 3. Universal powerlessness (strictly not a degree of, but one beyond, hemiplegia). I pass over the third degree, as the situation is too complex for illustration. I remark of the second that the additional symptoms, so to call them, betoken a grave lesion. I speak of the first degree only when illustrating the triple method of investigation.

From the external region affected we infer, let us say, that there is a lesion of the motor, anterior, part of the internal capsule; that is the anatomical part of the clinical problem. Next, since the phenomena in the muscular region affected are negative, paralytic, we conclude that the function of fibres of the internal capsule is lost; most often they are destroyed. This is the physiological part of the clinical problem.

It may seem a pedantic refinement to distinguish between loss of function and pathological process in cases where, for example, a clot has destroyed fibres, where the function and the fibres are gone together by one blow. Not so, since the hemiplegia depends on loss of function, *however produced*—by softening, by clot, by tumour, or by mechanical injury; we may be sure of the abnormal *physiological* state, loss of function, and yet have to wait for the necropsy to tell us the nature of the *pathological* process which produced it. Again, although in most cases of hemiplegia there is destruction of fibres, there is in the epileptic hemiplegia of Dr. Todd—post-epileptiform hemiplegia, I call it—(temporary) loss of function of fibres and no destruction of them. As some would put it, hemiplegia is "only a symptom;" but it is a symptom always signifying the abnormal physiological state, loss of function, although the pathological processes effecting that loss are various. When we come to consider the other kind of functional change—exaltation of function, hyper-physiological states—the distinction between abnormal (crude) physiological states and the pathological processes producing them is of supreme importance; hence, one reason for insisting now on the distinction in simple cases between loss of function and the pathological processes producing it.

So far we have dealt expressly with but two elements, anatomical and physiological, of the threefold clinical problem; we have not yet, except incidentally, said anything on the most medically important element, the pathological. Whilst anatomically we say of a case of hemiplegia that the lesion is (1) of the internal capsule, that (2) physiologically it is a negative functional state, we may be able to complete the clinical problem by concluding that (3) the pathology is cerebral hæmorrhage. I speak first of what I may call the rough and immediate pathology of hemiplegia. I say rough and immediate because, for example, to speak of the pathology of a case of hemiplegia as being cerebral hæmorrhage is to speak very inadequately. Destruction of fibres by clot is a quasi-traumatic lesion; cerebral hæmorrhage is often but an incident—a very calamitous one—in an exceedingly wide, indeed universal, pathology. We have two kinds of evidence bearing on the "rough pathology" of hemiplegia: (A) mode of onset; (B) the patient's general pathology. I can only consider some modes of onset.

(1) If the paralysis begins very locally—say in the hand—increases in degree and in range very slowly, day by day and week by week, there is great likelihood of tumour of the opposite cerebral hemisphere. I confess that I have twice been wrong in the diagnosis of cerebral tumour from "slow hemiplegia." If with such hemiplegia there be also double optic neuritis, we may be confident of tumour or some other kind of adventitious product. Again, if there be no severe headache and no optic neuritis with this "slow hemiplegia," yet if there be with it gradual and "even" degradation of mind, there is most probably a large tumour (or other mass) deep in the white substance of the opposite cerebral hemisphere. (I should not in such a case advise operation.) In young children, when the adventitious product in one cerebral hemisphere is very large, the head gets bigger, the sutures widening, as happens also in some cases of tumour of the middle lobe of the cerebellum; in the former there is some hemiplegia, in the latter reeling gait. When the motor symptoms are little marked, and when the child is young and very ill or indocile, the differential diagnosis is far from easy.

I should in early stages of "slow hemiplegia" treat for syphi-

NOTE.—On page 61 of last week's issue, second column, third and fourth line from bottom, omit "*an explanation of difficult problems.*"

[3] There is, however, with the over-development of some movements loss of other movements of the same muscles; the two opposite functional lesions, the inference is, co-exist in chorea. In some cases the paralysis (that is, loss of movements) preponderates (see Gowers's *Diseases of the Nervous System*, vol. ii, p. 554, on "Paralytic Chorea."

lis. But I wish to say very prominently that hemiplegia so coming on is, in my experience, exceedingly rarely owing to syphilis. In an article, "The Syphilitic Affections of the Nervous System," *Journal of Mental Science*, July, 1875 (also *Medical Times and Gazette*, May 23rd, 1868, p. 551, *et seq.*), I put down "slow hemiplegia" as one of three varieties of "syphilitic hemiplegia;" but since that time I have not seen a single case of such hemiplegia owing to a syphilitic tumour—of course I speak of cases completed by necropsy. Two other very common types or varieties of "syphilitic hemiplegia" will be spoken of further on.

(2) If the hemiplegia is found immediately after an epileptiform seizure which began very locally—say in one thumb—I should conclude that there was disease of some part of the cortex in the Rolandic region of the opposite side of the brain.[9] Of course the practical question in diagnosis here is the cause of the fit of which the hemiplegia is a consequence; it is a post-epileptiform hemiplegia. In such cases the disease is most often tumour; it certainly is not always so; there may be plugging of cortical arteries. I say nothing of guessing, but submit that we can only confidently *diagnose* tumour as the cause of epileptiform seizures if there be also double optic neuritis. I have not yet seen a case followed by necropsy, the two symptoms—the epileptiform seizure and double optic neuritis—co-existing, in which I did not find cerebral tumour.

To ascertain whether epileptiform seizures do or do not depend on cortical tumour is important with regard to surgical interference. Were I subject to frequent epileptiform seizures always beginning in the *left* thumb, I would have the "discharging lesion" cut out, even if I could know that there was no tumour as an inducing cause of it; if tumour were found, of course that should be cut out too. In the case mentioned (page 63, operation by Horsley) I advised operation, although I could not tell whether or not that patient's fits depended on tumour. Enough of the cortex should, for cure of the fits, be cut out to produce considerable paralysis of the part in which the convulsion begins. I spoke of fits beginning left-sidedly; on account of the "speech centre," operations on the left cerebral hemisphere are more serious than operations on the right.

To return to the hemiplegia. Although post-epileptiform hemiplegia so often depends on tumour, it is transitory; it depends very indirectly on the tumour. We now come to some further considerations also of practical value.

The tumour causing epileptiform fits is sometimes syphilitic; the sequent hemiplegia is one type or variety of "syphilitic hemiplegia." But to say that syphilis (a syphilitic tumour, gumma, of the cortex) "caused the hemiplegia," is to speak very vaguely. Here we have a most excellent example of the indirect way in which syphilis "causes" nervous symptoms. It is a long cry from syphilis to this variety of what we call "syphilitic hemiplegia;" let us look at the stages from syphilis to the paralysis. First there is slowly formed a syphilitic tumour; next this *causes the cause* (the direct cause) of the fits. By some process, there is produced high instability of cells near the growth (presumably in the order from smallest towards largest) a persisting local condition which, although produced by, is secondary to, the syphilitic tumour and is itself not syphilitic. This secondary and non-syphilitic change has become independent of the syphilitic tumour, being established it is automonous; it is then an energetic "hyper-physiological parasite;" there is what I call it a "discharging lesion" or "physiological fulminate," or, sometimes using Horsley's term, an "epileptogenous focus." In still other words there is produced a functional change, in the proper sense of the term functional, one of high instability of nerve cells. This change is not a pathological one, but is an hyper-physiological state, a crude physiological state; it is the *result* of a pathological process entailing, no doubt, destruction of some cells, but yet increased nutrition (presumably of an inferior kind), and consequently unduly high tension and instability of others. There is, I imagine, an encephalitis provoked by the syphilitic tumour, not in its individual character as a *syphilitic* product, nor even in its more general character as a tumour, but in its most general character, that of a "foreign body." So to speak between the "foreign body" and the high instability of cells making up the "discharging lesion," comes the active pathological process, a local encephalitis. Putting part of the foregoing otherwise: the secondary change induced is the same, whether the tumour be a glioma or a syphiloma.[10] So then the change on which the fits directly depend is *post*-syphilitic, or, if we take into account the disordered nutritive process, which I imagine to be a local and limited encephalitis, it is *post-post*-syphilitic. The hemiplegia, on any hypothesis as to the exact nature of the negative central change immediately answering to it, is a still more indirect result of syphilis; I imagine, essentially adopting Todd and Robertson's hypothesis, that it depends directly on loss of function of fibres of the pyramidal tract; they being, it is suggested, exhausted by the excessive discharge in the preceding fit. At any rate there is some negative central change.[11] Here we have in sequence the two opposite kinds of functional, abnormal physiological, change; there is high instability of cells, over-function, and following sudden, etc., discharge of those cells, there is temporary loss of function of nerve fibres. Neglecting the hypothetical encephalitis, this type of "syphilitic hemiplegia" is "caused by syphilis" in a triply indirect way.

We have two kinds of treatment for this variety of "syphilitic hemiplegia;" treatment for syphilis, and treatment, for the most part empirical (bromides), for the fits; the post-epileptiform hemiplegia (or, after partial fits, monoplegia) requires no treatment.

3. If the hemiplegia comes on deliberately, say in half-an-hour, or if the patient tells us that he was paralysed on getting up in the morning—hemiplegia without defect of consciousness—the presumption is for local softening from plugging of the middle cerebral artery, or more likely of some branch of that vessel.

4. If the hemiplegia comes on rapidly with loss of consciousness, or if coma soon follows a deliberate onset, the presumption is for cerebral hæmorrhage.

We have, however, to bear in mind that 3 and 4 are only empirical rules. Strictly, we should speak of degrees of "gravity" of lesions, using that term to include both quantity destroyed and rate of destruction. Comparatively slow blocking of the main trunk of the middle cerebral artery (as in a third type of "syphilitic hemiplegia" I have yet to remark on) may be unattended by what would be commonly called *loss* of consciousness, whereas sudden blocking of that main trunk by an embolon might entail temporary coma. There are other qualifications to the Rules 3 and 4. We have to rely upon the patient's general pathology. I give but one illustration. If the patient have atheromatous arteries, hypertrophy of the left ventricle, and chronic renal disease, we conclude for clot, in whatever way the hemiplegia came on, and whether it be slight and transient or perfect and permanent.

Omitting much, I make two further remarks on diagnosis between clot and softening. If a patient have double, or even unilocular, optic neuritis (the latter is very rare in physicians' practice), the hemiplegia coming on rapidly with, or even without, loss of consciousness, is probably owing to hæmorrhage from a vascular tumour of the opposite cerebral hemisphere.[12] Here we must, however, exclude Bright's disease, it being remembered that sometimes with Bright's disease, and without intra-cranial tumour, we have optic neuritis indistinguishable from that which tumour most often produces. Certain well-known abnormal changes in the fundi in Bright's disease are not always "characteristic," as we used very many years ago to say, of that disease. Again, suppose

[9] Beevor and Horsley find that, in the monkey, the particular part of the cerebral cortex where the thumb, which has a wide representation in the cortex, is *most especially* represented is about the junction of the lowest and middle thirds of the ascending parietal convolution.

[10] Illustrating by another secondary change; optic neuritis from syphilis is not syphilitic optic neuritis; any sort of tumour or mass in the brain produces just the same kind of change in the optic discs as any other does.

[11] I suppose that the negative post-epileptiform change answering to the paralysis is above the anterior horns (except perhaps for exhaustion of inhibitory centres, Gowers's), where there are exaggerated knee-jerk and foot clonus. I published a case of this kind (*Medical Times and Gazette*, February 12th, 1881, On a Case of Temporary Left Hemiplegia, with Foot Clonus and Exaggerated Knee Phenomenon, after an Epileptiform Seizure beginning in the Left Foot). The estimation of the different conditions of the "deep reflexes" after epileptiform and epileptic fits is very important. (See a very important paper by Beevor, *Brain*, 1882, On Knee-jerk, and Foot Clonus, Plantar Reflex and Conjugate Deviation of the Eye, after Epileptic Fits.) When there is exaggeration of the "deep reflexes," there is a degree of functional change not spoken of in the text; certain anterior horns are in over-function from, I think, loss of control. This degree of functional change is not the result, not the direct result, of any pathological process; it ought to be most carefully distinguished from the degree constituting a "discharging lesion," or we shall misinterpret some symptomatic conditions, post-epileptic states (mania, etc.), for example.

[12] I have spoken, it will be seen, of three very different ways in which hemiplegia may be associated with tumour of the cerebral hemisphere (1) slow hemiplegia from gradual destruction, (2) post-epileptiform hemiplegia, and (3) hemiplegia by hæmorrhage from a tumour.

a patient, say a young patient, has cardiac valvular disease, then, if hemiplegia comes on suddenly with deep loss of consciousness, we must not be sure that there is embolism; there may be cerebral hæmorrhage from rupture of a large aneurysm of some branch of the middle cerebral artery. I do not know how to distinguish be- the two possibilities.

To shorten my subject, I shall now arbitrarily suppose that the lesion causing the hemiplegia is local cerebral softening from plugging of an artery. Some general remarks are needed before going further. Cerebral softening is always local; and (excluding softening about tumours and other obviously exceptional cases), it is localised by vessels, mostly arteries, and, as a matter of fact, the middle cerebral artery, or some branch of it, is nearly always the vessel plugged; thus, the two great symptoms of softening of the brain are hemiplegia and aphasia, sometimes both together. There is no such disease as "general softening" of the brain. Some cases so-called are cases of cerebral atrophy, of general paresis, or are cases of cerebral tumour. Reasserting that softening of the brain is local, and that it is practically an affair of plugging of cerebral arteries, the next remark is that there are two processes of plugging—thrombotic and embolic. In the former, the vessel is "crusted up," because the artery, mostly atheromatous, but sometimes the subject of a syphilitic change, is roughened in its interior, or narrowed, or both; here the artery is in *fault*. In embolism the artery may be, and often is, quite healthy, *innocent*, and is corked up by something coming from a distance, in most cases, from the valves of the heart. No doubt there is sometimes partial occlusion by an embolon, complete closure of the artery being effected by superinduced thrombosis. We sometimes hear of "extension of softening." I know of none, except possibly by plugging of other arterial branches, supplying parts near the already softened part; this is not, however, properly speaking, *extension* of, but additional softening. It is common enough to find general mental deterioration slowly following a local cerebral lesion, clot, or softening, which has produced hemiplegia. The patient suffers from defect of memory, and is incapable of sustained intellectual exertion. He is "more emotional" (really there is here loss or defect of the highest ["finest"] with increased manifestation of the lower ["coarser"] emotions). But I presume that the intellectual and emotional deterioration are owing, not to softening nor to extension of softening, but to widespread partial atrophy of convolutions.

It is needless, for my present narrow purpose, to speak of the differential diagnosis between thrombosis and embolism as a cause of the local softening which produces hemiplegia. The commonest condition for the thrombotic process is arterial atheroma. I wish to speak of a rarer cause of thrombosis of the middle cerebral artery—of a third Type or variety of "syphilitic hemiplegia." We shall see another way in which syphilis produces nervous symptoms indirectly.

I do not deny that syphilis may "attack" proper nervous elements, nerve cells, and fibres of nervous organs directly, or be an important factor towards their degeneration. I say nothing here on that question. In cases of "syphilitic nervous affections" of which we *know* the morbid anatomy, the direct "attack" is upon non-nervous ingredients of nervous organs. When there is a syphilitic neuroma, as it is often called, say the trunk of the third nerve is affected, the action of syphilis on nervous elements is indirect, but yet most nearly direct; an overgrowth of connective tissue there and then squeezes nerve fibres. The process by which syphilis produces the type or variety of "syphilitic hemiplegia" I am about to remark on is far more indirect, although not so indirect as is the one whereby the type recently considered (post-epileptiform hemiplegia) is produced. There is first slowly established syphilitic disease of the middle cerebral artery or of some branch of it: so far all may go indifferently well. But the diseased artery becoming narrowed, something happens which is not syphilitic. Thrombosis occurs, and thereupon ensues local softening of the brain, causing hemiplegia of deliberate onset, without loss of consciousness, but, perhaps, if the main trunk be plugged, with considerable stupor. I fear that it is not always realised that in this type of "syphilitic hemiplegia" there is softening of the brain; that there is essentially the same change (I have not yet seen red softening in such cases) as that which occurs when an atheromatous artery is thrombosed, or when a healthy one is corked up by an embolon. The real nervous change, the one on which the paralysis in this type of "syphilitic hemiplegia" *directly* depends is not a syphilitic change at all; it is post-syphilitic. I have assumed that the arterial disease is syphilitic, have spoken as if we had had the necropsy first. I must next speak generally of the diagnosis of "syphilitic affections of the nervous system," in order methodically to answer the question, "Is this patient's hemiplegia syphilitic?"

It would be wasting time to speak of such evidence as clear signs of syphilis in visible parts of the patient's body; this is, of course, the best kind of evidence, and no one is likely to ignore it. There is another kind of evidence which is of great value in diagnosis when that just spoken of is not to be had. I must premise that the hemiplegia itself, its kind, degree, and mode of onset do not help us. I submit three dicta on syphilitic nervous affections: (1) *No single nervous symptom is characteristic of syphilis:* (2) *It is the disorderly grouping (random association) of certain nervous symptoms, or the disorderly or random succession of certain nervous symptoms which is most characteristic of syphilis.* The third dictum, *that syphilis produces nervous symptoms indirectly*, has been insisted on when dealing with the two types of "syphilitic hemiplegia." I will give but one illustration of a medley of symptoms often pointing to syphilis. If a man have paralysis of parts supplied by one third nerve and hemiplegia of the *same* side, there are certainly two lesions, and there is in that "random association" very strong empirical evidence of syphilis. I now speak of treatment of "syphilitic hemiplegia." We must take a realistic view of the situation. Although it is, for many clinical purposes, convenient to use the term "syphilitic hemiplegia," it would be monstrous to think of a case of hemiplegia as "caused by a syphilis," without tacit analysis of the real state of things in each case.

The third type of syphilitic hemiplegia is for direct treatment of the paralysis itself, a case of local cerebral softening, a non-syphilitic change, although produced by thrombosis of a *syphilitically* diseased artery. What will drugs do towards ridding the patient of his paralysis? Nothing. No drugs can do anything whatever, good or bad, for cerebral softening; softened brain is not brain at all, it is dirt in the brain. More generally, he who is treating by drugs hemiplegia owing to softening, however produced, or to clot, is treating a hole in the brain. Even supposing that vigorous anti-syphilitic treatment had swept away all syphilitic changes from every part of the patient's body, it would have done nothing for the *post-syphilitic change*, the softening. And if we had drugs which could dissipate the plug in the vessel (I know of none), they would have to do it with marvellous quickness, or the nerve tissue would be dead by starvation before circulation was re-established. And yet, without any inconsistency, I treat actively by mercurials and iodides in early stages of the variety of "syphilitic hemiplegia" under remark; for there is a reasonable probability that other cerebral arteries may be syphilitically diseased, and, by acting on them in early stages of syphilitic growth, we may obviate plugging of them, and thus prevent other local cerebral softenings. We must bear in mind that many syphilitic diseases of the nervous system are post-syphilitic *in time*. It is only in recent syphilitic changes most nearly directly affecting nervous elements, as when nerve trunks are diseased, that we can hope for very happy results. I imagine that most cortical gummata are well established ("firmly rooted") before they produce serious symptoms in their character of "foreign bodies;" hence the importance of active treatment of headaches in the syphilitic, especially if the pain be of one side of the head. There is a fallacy as to the effects of treatment of the third type of "syphilitic hemiplegia" to be now pointed out.

It may be said that, as a matter of fact, some of the patients who present this type of "syphilitic hemiplegia" get rid of their paralysis on treatment by mercury and iodides. To that I can testify, but I submit that our drugs do not cure them. Why, then, does the patient get well? Not from roundabout supply of blood, by anastomosing vessels, to the part of which the proper artery is blocked, for the central branches of the middle cerebral artery have no, or next to no, anastomosis; the boycotting is effectual. Nor will it do to invoke shrinking or abrogation of the plug; that would occur too late. The *fact* is that patients recover from hemiplegia when the destruction which caused that paralysis remains, provided the lesion be limited in extent. For after such recoveries we may find when, later on, the patient dies from some non-cerebral disease, that a small part of the brain has been annihilated; there is a hole where nervous elements once were.[13] Degree of re-

[13] I here quote from the abstract of the report of a case of a patient of mine published in the JOURNAL, August 30th, 1873, p. 254. A gentleman, aged 38, in apparently good general health, was first seen in July, 1867, for recent (July 11th) paralysis of the parts supplied by the left portio dura nerve, and for recent

covery depends to some extent on the exact position of the lesion; I am speaking of cases of patients who do recover; and I mean what we call recovery, not contending that there is absolute restoration of power in any case. Deficient dexterity may show loss of some "fine" (most special) movements: and too early fatigue of the "recovered" limbs means some paralysis, as does, also, undue slowness of motion of them. Speaking generally of all kinds of destructive lesions, I would suggest (I cannot speak definitely) that if a small quantity of a nervous organ be destroyed, there is recovery; if a large quantity, there is some recovery; if of a very large quantity, scarcely any. Some cases of hemiplegia, where the paralysis is very slight and also transitory, may be explained by the hypotheses that they are "functional," or that they are "owing to gout," or to liver and stomach derangement, or to constipation, and so on. The simplest hypothesis for these cases is, I submit, that there is a local destructive lesion, but a very small one.

The process of recovery is obviously of vast importance for our consideration in regard to rational treatment of some cases of very serious brain disease; for if recovery be spontaneous, we may err in attributing it to the effects of our remedies, and thus our opinions on therapeutics become untrustworthy. Why do patients recover from hemiplegia when the loss of nerve tissue is permanent? The reply is hypothetical. There are, according to degrees of gravity of the destructive lesion, degrees of recovery. I should put down paralysis at the onset to the destruction effected, and attribute degrees of recovery to degrees of compensation; nervous arrangements near to those destroyed, having closely similar duties, come to serve, not as well, but, according to the degree of gravity of the lesion, next and next as well as those destroyed. Let us take for illustration the second degree of hemiplegia, supposing it to be owing to hæmorrhage. I should attribute the paralysis which the lateral deviation of the eyes (neglecting that of the head) signifies to the same cause as I should the rest of the paralysis, should say that nervous arrangements[1] for some ocular movements had been annihilated, should do so if I could at that time know that the deviation would pass away. I should not explain the recovery from this very definite and most particular symptom by the hypothesis of subsidence of initial shock, or by that of diminished congestion or œdema round about the lesion; these may be slight factors. When the patient recovers from the second to the first degree of hemiplegia, that is, when the lateral deviation of the eyes has gone, the recovery on my hypothesis could not be owing to restoration of lost nervous arrangements for ocular movements. But there are, I contend, innumerable other nervous arrangements for ocular movements remaining, and by them there is compensation for those annihilated, so that the patient seemingly moves the eyes as well as ever. I insist strongly that there may be loss of some *movements* of a parts when there is no discoverable *inability in the muscles* of that part for all other movements. We must most carefully distinguish between loss of movements and inabilities in muscular regions. As perhaps the two expressions are not clear I give an illustration. Loss of speech, say an ordinary case of perfect aphasia, is a psychical loss, and we have nothing to do with it except as evidence of a correlative physical negative condition. This is destruction of nervous arrangements for certain very complex, etc., *movements* of the muscles of the tongue, lips, palate, etc. (surely there is loss of those movements the patient can no longer make); but the muscles of those parts are not unable for all other *movements;* indeed, they may even serve elaborately in articulation when the speechless patient swears. There is here, to my thinking, as certainly paralysis, *in the sense of loss of movements*, as there is in the same sense in the hemiplegia along with the aphasia, there being greatly more compensation in the former.

Let me give what I think is a crucial demonstration of the general truth of the dictum that there may be paralysis in the sense of loss of movements without discoverable muscular inability. Horsley and Semon find that faradaic excitation of a certain part of the cortex of a monkey on either side of its brain puts both vocal cords in activity; this shows that movements of *both* cords are represented in *each* of the bilateral centres. Next, ablation of either of the twin centres produces no obvious inability in either of the two cords, although of necessity "half" the *movements* of them are permanently lost, so to say, have been cut at. There is here immediate and, apparently, absolutely complete compensation. The facts of these experiments are in accord with Broadbent's well-known hypothesis, now just twenty-two years old. I consider that in cases of aphasia there is loss of many movements of the vocal cords, although the patient's voice is not morbidly affected; he may be able to sing. Before leaving this part of my subject I would say that the foregoing remarks on Compensation imply that I do not accept the current hypothesis as to the nature of Localisation ("abrupt localisation") any more than I do the one sometimes called Universalisation. I have restated the hypothesis I hold in the third Croonian lecture, 1884 (BRITISH MEDICAL JOURNAL, April 12th, 1884). Questions as to the correct principle of localisation are not of mere theoretical interest; their discussion is not out of place in this address if they bear on the process of recovery. I would refer those interested in localisation to a paper, very important in many other ways, by Beevor and Horsley (*Phil. Trans.*, vol. 178 (1887), B. pp. 153—167). Without, of course, committing these able observers to any hypothesis of mine, I may say that the facts of certain experiments they made on part of the cerebral cortex of monkeys seem to me to be in great disaccord with the current doctrine of localisation.

I go on to speak further of the treatment of cases of hemiplegia, or rather, I should say, of the patients who present this symptom, now supposing syphilis to be excluded. In many of them there is an imperious necessity for treatment. This time the illustration shall be hemiplegia owing to cerebral hæmorrhage, the clot being the rough and immediate pathology of the case. Since we can do nothing for the clot (which although *in the brain* is really *out of the body*, being to all intents and purposes a "foreign body"), and since the nerve fibres broke up are non-existent, we widen our investigation to find out what we can do for our patient. We examine him all over, our aim being to discover why a diseased cerebral artery burst, in order that, by properly directed treatment, we may prevent bursting of other arteries. Let us take *part of* a hemiplegia, slight facial monoplegia, sufficiently described for our present purpose by saying that it is of the cerebral type. This paralysis is sometimes very transitory, but when it has disappeared we have often enough serious conditions to treat. If the patient's arteries be unsound (atheromatous and probably then miliary aneurysms of the cerebral vessels), and if he have hypertrophy of the left ventricle and renal disease, the probability is that the facial paralysis is owing to a cerebral hæmorrhage; because of the slightness and transitoriness of it, we conclude that the clot is a very small one. In all cases of cerebral hæmorrhage the condition of the arteries (statical as atheroma, dynamical as degrees of tension) is a thing of first importance; by instinct, so to speak, I feel the pulse first of all in the examination of a case of brain disease; we never fail to examine the urine. If we could imagine a doctor neglecting one part of his patient's case, he had better neglect the paralysis than the evil triad I have mentioned, important parts of the wide universal pathology which is the basis of the incidental pathology, clot, which I call the rough and immediate pathology of some cases of hemiplegia. The wide pathology is the proper field of our treatment. To give "nervous remedies,' hypophosphites, strychnine, and so forth, for the cure of paralysis from cerebral hæmorrhage, is really to do nothing of value in a formal way; we have to neglect the paralysis so far as drug-treatment of it goes. Massage and gentle faradisation of the paralysed limbs will be of some service whilst we are waiting for Compensation; they will be useful as an artificial exercise. To diminish the quantity of highly nitrogenised food, to look after the digestion, to keep the patient's bowels free, is the best style of treatment. If arterial tension be high we may give small doses of mercury and saline aperients. I forbid cold bathing. I never prescribe strychnine, having no faith in it as a "nervous remedy" for lesions answering to cerebral paralysis; it, among other doings, stimulates the vasomotor centre, and thus will help to increase arterial tension. Our general treatment would be the same if the "rough pathology" of a case was epistaxis or retinal hæmorrhage,

partial deafness of the left ear. There were also remains of paralysis of the right leg, which had begun in April. He rapidly got rid of all his nervous symptoms after taking iodide of potassium; but he did not continue the drug, because he believed all his ailments to be owing to ague poison. He had been in the West Indies, and still remained subject to slight shivering attacks; he had had primary syphilis fifteen years before. He remained well until March 2nd, 1868, when he became hemiplegic of the left side. *He would not take any drugs except aperients.* Nevertheless, in about a week he was apparently well again; but on March 21st he was found apoplectic and again hemiplegic—this time of the right side. He died next day. At the necropsy there were found diffluent softening of part of the right corpus striatum, and also softening of the left corpus striatum. There was syphilitic disease of each middle cerebral artery. Thrombosis of each at the part diseased accounted for the two local softenings, and for the two attacks of hemiplegia related to them.

[1] Strictly, annihilation of fibres passing between nervous arrangements of the middle and lowest motor centres.

events of very evil significance in cases of chronic Bright's disease.

The results of the measures one adopts for diminishing arterial tension are not always pleasing to the patient; perhaps sometimes we have too much zeal. A certain degree of arterial tonus is necessary for everybody's well-being; the more blood is in the arteries, the less is in the capillaries, that is, the less is close to the tissues. To an increased degree of arterial tonus the cheering effects of a cold bath are due, a luxury few people after fifty ought to indulge in. I submit that a healthy degree of arterial tonus is kept up by a normal degree of waste nitrogenised products in the blood, the "natural stimulant," I imagine, of the vasomotor centre, as venous blood is the natural stimulant of the respiratory centres.[15] In Bright's disease and in gouty states there is an excess of these "natural" stimulants and very likely presence of some unnatural ones, whereby I suppose the vasomotor centre is over-stimulated; hence excess of arterial tonus, or, as we call it when morbid, high tension. I have heard an eminent medical man say that he felt best when a little gouty; I suppose he had then a slight extra degree of tonus, so that his brain had a better supply of blood; the cerebral arteries, having less muscular tissue than most other arteries, would be less constricted. But in a high degree of tonus, high tension, such a feeling of well-being is more pleasant than safe. I think there is something in the statements we hear about patients who die of apoplexy, that they had felt unusually well just before the onset of their illness, that is, before a fatal cerebral hæmorrhage, that is, before the bursting of a cerebral artery. If we reduce our patient's arterial tension, perhaps sometimes too much, by low diet and purgatives, he "feels weak" and is very naturally dissatisfied until it is explained to him that he had better be safe than have a feeling of well-being from undue arterial tension. Many a man with chronic Bright's disease lives on the brink of cerebral hæmorrhage; the less he lives the longer will he live; but if he tries to get the most out of himself and is careless of his diet and of the state of his bowels he may be high up in a certain kind of health, so to call it, only for a sudden fall to a low level of disability or to death.

I will now speak more generally on the essentially non-nervous nature of many diseases called nervous. For a realistic consideration of the pathology of any case of disease of the brain we have to consider whether or not the morbid change *begins in* nervous or in non-nervous *elements* of nervous *organs*. Hemiplegia is not a nervous disease at all in the strict sense; it is in most cases an arterial affair. For my part I do not believe in the existence of "emotional hemiplegia" (or of emotional aphasia either); at any rate, I shall ignore it here, and also cases of so-called hysterical hemiplegia. I go on to say of nearly all diseases of the brain of which there is a known morbid anatomy, that they are not nervous diseases in the strict sense; they are damages of nervous organs, but their pathology is not primarily nervous, that is, the morbid change does not *begin in nervous elements* of the nervous organ damaged. Here is a very important question regarding fundamental pathological diagnosis and also treatment. A nervous organ, besides what we may call its proper ingredients, nerve cells and fibres, contains connective tissue and blood vessels; the latter for some purposes we may call compound tissues. It may be that in some diseases the nervous elements are the first to go wrong, as in what is called parenchymatous atrophy of the optic nerves, and in the "degenerative diseases" of the nervous system. Saying nothing whatever for or against this hypothesis, I urge again that most nervous diseases of which we *know* the morbid anatomy are not nervous in the sense that the pathological changes begin in the proper, nervous, *elements* of nervous *organs*. This dogma I have already repeatedly illustrated in this address, especially when analysing the state of things in "syphilitic hemiplegia."

There is a class of nervous diseases (often called the "neuroses") in which there is no morbid change. I mean, of course, that there is not one yet for us. There is a morbid change, no doubt a minute one, but we have not discovered it. The term "functional" is sometimes applied to some cases of this class in the sense that there is no morbid change answering to the symptoms. I never use the term functional in that way in scientific exposition (*vide supra*). In cases of the two neuroses, epilepsy and chorea, there is evidently abnormal function in the true sense of the word (an exaltation of function issuing in strong discharges), implying abnormally increased nutrition (pathological process) from some cause. What we do not know is the pathological process productive of this functional abnormality. Strange to say, confident opinions are expressed that the neuroses are of purely nervous origin and that they occur, in "neurotic" families, interchangeably by inheritance. Is this because they have as yet for us *no* "morbid anatomy?" Of course, it is quite a legitimate hypothesis that the neuroses are nervous diseases in the sense that nervous elements are primarily in fault. But, as we *know* nothing of their pathology, it is an hypothesis only. It is equally legitimate for me to put forward another hypothesis as to one of them—epilepsy proper. That hypothesis is that, in most cases of this disease, the pathology is primarily arterial (sometimes, I think, venous) and only secondarily nervous, in the same way that most cases of hemiplegia are primarily arterial and only secondarily nervous. The facts that an epileptic patient's blood relatives had apoplexy, hemiplegia, meningitis, tumour of the brain, etc., supply no evidence whatever towards proving that he inherits a tendency to disease *beginning in* nervous elements; do not warrant the inference that his epilepsy is strictly a nervous affection—one primarily nervous. On the contrary, such evidence tells quite the other way. If it have any bearing it points to a primarily non-nervous and to only a secondarily-nervous pathology of the epilepsy, because the "nervous diseases" in the patient's family are not nervous diseases at all in the strict sense, although they are damages of nervous organs. The occurrence of chorea and migraine in the patient's blood relatives does not decide the question either way, because we have no certain knowledge of the pathology of these two morbid affections. The hypothesis I put forward as to the pathology of most cases of epilepsy (and for most cases of migraine and chorea too[16]) is that it is plugging of small cerebral arteries and its consequences.

It is quite reasonable to consider first simpler cases of "fits," epileptiform seizures, to see if their pathology countenances the hypothetical pathology I have submitted of epilepsy proper. I am not aware that anybody believes that the pathology in any case of epileptiform seizures is primarily nervous; that there is a nervous change (one of exaltation of function) is obvious enough, the occasional nervous discharges (liberations of energy) declare that there is. The nervous change is secondary, and is often determined by tumours and other masses; on this matter I have, in an earlier part of this address, said enough. But in some cases the (secondary) nervous state is a result of plugging of arteries;[17] in these cases the hyper-physiological or functional change, that of the nerve cells ("discharging lesion") is in an arterio-cortical region, and is a very local one. The group of highly over-unstable cells making up the "discharging lesion" is certainly in but one side of the cerebrum, although sudden, etc., discharge of that lesion will, if

[15] The hypothesis more generally is that there is in health Chemical Regulation, so to call it, by natural stimulants in addition to, or rather as an aid to, physiological regulation by nerve centres and nerves, and that some particular morbid effects are the results of excess of those stimulants. I have (*Brain*, April, 1886) suggested that the convulsion in laryngismus stridulus is owing to supervenosity, to an excess of a "natural stimulant" of the respiratory centres. In the same way I think it likely that rigor is owing to an excess of the natural stimulant of the vasomotor centre, and very likely that some convulsions in kidney disease (not those which are unilateral) are owing to excessive stimulation, primarily of various "regulating centres" in the medulla oblongata, by waste products which the kidneys ought to, but cannot efficiently, eliminate. [Consider in this connection convulsions in animals after injection of the poison absinthe, and especially Dr. George Johnson's researches on convulsions in man consequent on poisoning by camphor. (*Medical Lectures and Essays*, p. 311.)] Dr. Maclagan, in his work on Fever, makes the very interesting and, as I think, most important remark, that heat is the natural stimulus of the heat-inhibiting function and that accumulation of heat in the system naturally excites that function to increased activity and may at length exhaust it. In some cases of jaundice the pulse is less frequent than normal, possibly by action of bile acids. The mode of action of bile acids on the circulation is not known, and it would be premature, for several reasons, to conclude that there is in such cases an excess of a natural stimulant to the ends of the vagi.

[16] Dr. George Johnson, *op. cit.*, p. 510, writes: "Chorea is sometimes associated with, and apparently caused by, capillary embolism in some portions of the brain near the corpus striatum."

[17] I have never believed that the local high instability of cells *directly* causative of epileptiform seizures is produced by tumour only. I put forward the speculation that seizures of this kind (I then called them unilateral convulsions) sometimes depend on embolism (*London Hospital Reports*, 1864, vol. i. pp. 465-6), making the crude and, at that time, the following much too-confident statement: "They are, I am convinced, not infrequently the result of plugging of branches of the middle cerebral, partial occlusion of its main trunk or some of its branches." To the same effect: *Med. Times and Gazette*, August 13th, 1864, p. 167. I have re-stated the hypothesis I hope more clearly and correctly (*St. Andrews Med. Grad. Trans.*, vol. iii. 1870; *Reynold's System of Medicine*, vol. ii, second edition, pp. 284-5). I have stated it with regard to both epileptiform seizures and epilepsy proper (*West Riding Asylum Reports*, 1873, vol. iii, pp. 328 and 329; *Med. Press and Circular*, January 26th, 1876; *Med. Times and Gazette*, January, 1879.) Frank and Pitres (*Archives de Physiologie*, August 15th, 1883, No. 6) found that out of seventy-one cases of what I call epileptiform seizures, there were tumours in thirty-two cases, "ramollisements inflammatoires ou emboliques" in sixteen; in the rest various other lesions.

the discharge be strong enough, produce *universal* convulsion. The conclusion is that in some cases of epileptiform seizures a local "discharging lesion" is a secondary result of abnormal nutrition consequent on plugging of arterioles; in other words, that the pathology is exactly the same as that of most cases of hemiplegia. The abnormal *physiological* state of nervous elements (the secondary nervous state) in the two is diametrically opposite; in the former case the change we are concerned with is a *plus*, in the latter a *minus* functional change, and is often actual destruction; in both cases the secondary—the nervous—state is persistent; in the former there are occasional excessive developments of movements (convulsions); in the latter there is permanent loss of movements. Why in the former case there is produced high instability of cells (and no doubt destruction of many others) and in the latter destruction only, may possibly depend on differences in the degree of anastomosis of central and cortical branches of the middle cerebral artery; the former having none or next to none, the latter varying in that respect in different persons and in the same brain in different branches. Complete arrest of circulation in an arterio-cortical area would produce destruction of nervous elements; but some anastomosis might lead to a comparative restoration of circulation, otherwise to *comparative stagnation*—to a semi-stagnant patch. Such a condition is likely to cause destruction of cells in the central part of the arterial area, and is one favourable for over-nutrition of an inferior kind of those at its periphery. I have suggested that there is substitution nutrition, a replacement of phosphorus by nitrogen; the nervous matter resulting, although of a different composition and more "explosive," being of the same constitution as in health. I have since my earliest scientific studies of epilepsy (1864) been interested in its arterial pathology, having been so long ago much impressed by the occurrence of convulsions beginning in parts presumably paralysed from the effects of embolism.

In some cases of epileptiform seizures we may carry out the threefold investigation of the clinical problem they present to definite conclusions. *Anatomical*, the lesion is of this or that part of the cerebral cortex; *physiological*, it is local high instability of cells of that part; *pathological*, the disordered nutritive process is a result of occlusion of an artery supplying that part. Here the distinction between functional state and pathological process leading to it is not a pedantic refinement as it may have seemed to be in the case of hemiplegia.

I think the hypothesis that the primary change in most cases of epilepsy proper is arterial is countenanced by analogy—that there is in some cases of it as well as in some cases of epileptiform seizures a change of high instability of cells consequent on plugging of a small arterial branch—that there is thus produced what I call a "discharging lesion," a change of a few nerve cells of some limited part of the cortex, other than that of the so-called motor region, of one side of the brain; a persisting but yet varying, very local, hyper-physiological state.

It follows from what I have said that I no more believe that fright, overwork, indigestion, masturbation, etc., "cause epilepsy" than I believe that they cause hemiplegia; all that anybody can know is that such "causes" sometimes precede the first epileptic fit. Taking but one of these so-called causes, fright: if a patient has his first epileptic fit directly after a fright, I should conclude that there had been produced by some pathological process a "discharging lesion," one nearly ready to discharge, and that the physical disturbance during the emotion, fright, was only the determining cause of the first "explosion." Similarly for chorea. It is notorious that chorea frequently follows fright, and the current hypothesis is that fright is one of the causes of this disease; the hypothesis I hold as to the relation is that fright (its physical condition) is but a determining cause of discharge of nerve cells already highly over-unstable. To return to epilepsy. If arterial plugging (cortical) leads to the destruction of some cells and also to over-nutrition and consequent high instability of others, we have to account for loss of movements as well as for convulsion. For the highest centres ("organ of mind") are, I submit, sensori-motor, and the lesion in epilepsy proper is, one must suppose, of these centres. I think we may say that the higher the nervous centres the less serious (as to movements) is a "destructive lesion," and the more serious is a "discharging lesion;" for the higher the centre the more complex, etc., it is, and thus the greater is the compensation for negative functional lesions and also the greater the co-operation in excess for super-positive functional lesions. Compensation and Co-operation in excess will be greatest in the highest centres. The epileptic, so to say, carries about with him a hyper-physiological parasite, a part of his highest centres of no use for normal function (but for which, as a loss, there is nearly absolute compensation), and which is worse than useless (a "mad part"), for when it discharges it produces widespread or universal convulsion by compelling healthy nervous arrangements to co-operate in its excess. I suppose, however, there is loss of some movements from negative lesions of the highest centres, in spite of there being no discoverable inability in any muscular region (*vide supra*).

It follows from the hypothesis I hold as to the physiology and pathology of epilepsy that I do not entertain the hypothesis held by many medical men that there is *any relation of community of character* between epilepsy proper and insanity. There is, I think, no such relation between the pathological and physiological state of the brain in epilepsy and the pathological and physiological state of it in insanity. There is *a relation of sequence* often enough; not rarely there is temporary mania after a fit, and sometimes chronic mental failure occurs in epileptics; that relation of sequence is quite a different thing from a relation by community of character.

I will make a few remarks on the treatment of epilepsy proper. For the negative functional state in hemiplegia we can do nothing; nervous elements are in most cases gone, and in post-epileptiform hemiplegia the paralysis needs no treatment. In epilepsy the other, the diametrically opposite, kind of functional state is a very different thing in its therapeutical bearings. It is notorious that our treatment of epilepsy is deplorably unsatisfactory, and if my hypothesis be correct—that there is a persisting local lesion in the highest centres of one side of the brain—there are good reasons for it. The radical cure of epilepsy, as of epileptiform seizures, is for the surgeon to cut out the "discharging lesion;" but in no case of epilepsy proper do we as yet know its exact position; it will differ in different epilepsies. Still we may interfere for good in the local over-active process of nutrition, always going on, which keeps up the high instability of cells of the "discharging lesion."

Apart from any particular hypothesis as to its pathology, the excessive liberation of energy by the "discharging lesion" of necessity implies the taking in of a large amount of materials having potential energy—that is, increased nutrition. Some of the measures found beneficial in cases of epilepsy are presumably owing to reduction of the local nutritive process in the arterio-cortical area, so that there is less active nutrition and more stable tissue. It is a very old recommendation that epileptics should eat but little flesh-meat—highly nitrogenised food. On this I insist, excluding obvious exceptions. It is a good plan to name the number of ounces of meat, a guide being that the middle diet at hospitals is four ounces. Epileptics should eat less, regard being had to their work, etc. They must be content "to live on a lower level." They should have much exercise. The presumption is that the empirical remedy bromide, possibly by substitution nutrition, leads to formation of more stable nervous matter. Belladonna has had great repute, and no doubt does some good (I advise it especially in nocturnal epilepsy, a big dose at bedtime). I never give it alone, so can say nothing certain as to its individual value. Speaking very generally, we may say that, experimentally, belladonna induces a negative state of inhibitory and secretory nerves, leucenteric fibres; it stimulates centres which govern those parts of the body by intermediation of motor, polic-enteric nerves.[18] Its action is, however, very complex. Thus atropine injected into the carotid stimulates the vagus origins and renders the heart's beats less frequent; the latter action is on the vagus ends. In epilepsy we dare not give such large doses of belladonna as the experimentalists can to animals, but we should give the drug until some physiological effect is produced—drying of the mouth, for example. In the doses we can give it will not, I should imagine, influence the "discharging lesion;" but it may act beneficially in that the effects of the epileptic discharge will be less upon important parts of the body as they are supplied by inhibitory nerves, and more on them as they are supplied by motor nerves. I suppose it is better for the currents consequent on excessive cerebral discharge to pass by the accelerator fibres to the heart than by the inhibitory vagus fibres. I submit that the leucenteric fibres are those most affected by the epileptic discharge, and that they are those first exhausted (so during fear). They are pre-

[18] Here, once more using Gaskell's terms, I would urge that by aid of his thoroughly practical work and brilliant generalisations our scientific studies of many nervous diseases will be very much facilitated.

sumably later developed (hence great tolerance of belladonna by young children), and thus fail first in dissolution.

It is well known that in pernicious diabetes sugar disappears from the urine during febrile ailments, the explanation being, I suppose, that the dilated hepatic arterioles do not then get so much blood as when general arterial tension is normal. (If the splanchnic nerves are divided before experimental injury to an animal's "diabetic centre," there is no glycosuria.) It is known, too, that in febrile diseases epileptic attacks usually cease. I suppose that in this condition, arterial tension being relaxed, or during the stage of febrile disease when it is relaxed, the semi-stagnant patch—"discharging lesion"—in the cortex gets less blood. Is it possible that the good effects of a seton in some cases of epilepsy are owing to the induction of a slight, miniature febrile condition? I suppose that nitroglycerine is given in epilepsy to produce general arterial relaxation. I have as yet but little experience of this remedy. Increase of arterial tension would be another reason for diminishing in an epileptic's diet the quantity of highly-nitrogenised food; for during high arterial tension, which much food of that kind may induce, the "semi-stagnant patch" may get more blood than if the patient has a simpler diet. On the great importance of degrees of arterial tension in epileptics Dr. Broadbent insisted strongly in his Croonian Lectures (1886), and since hearing them I have paid very particular attention to states of the pulse in epileptics. Besides ordinary care of the bowels and dietetics, we may give occasional small doses of blue pill when there is undue arterial tension. We should in such cases not give strychnine.

In cases of epilepsy the patient should "avoid excitement." But in young people we may err in being too strict; we may narrow a young epileptic girl's life too much by forbidding the amusements proper to her age. If she have a fit soon after a hearty game or a dance, it is, I think, only the premature development of a fit nearly due.

ON THE EXCRETION OF REDUCTION PRODUCTS OF HÆMATIN IN DISEASE.[1]

By C. A. MACMUNN, M.A., M.D.Dub.,
Wolverhampton.

I MUST apologise for having brought a subject under your notice which may appear to be more of interest to pathological chemists than to medical men. I should not have presumed to do so were it not that some of the facts to which I wish to call attention have such an obvious bearing on pathogenesis, that they may be considered really more of medical than of chemical interest.

The subject is a difficult one, and to many may appear very dry, but that is not the fault of the subject, but is due to the fact that very few care to make themselves acquainted with the methods of spectrum analysis, and are not, therefore, in a position to understand the results.

For twelve years I have devoted much of my leisure time to the application of the spectroscope to biology in general, and, when I have had material to work upon, to that special branch of biology with which we are all concerned. During that time many new and interesting facts have presented themselves which, when their full significance is understood, must help to throw light on many now difficult problems.

In the present paper I wish to direct attention to the occasional presence of reduction products of hæmatin in pathological urine. In order to make this subject clearly understood it will be necessary to go somewhat into detail, and to refer incidentally to other kindred subjects.

Every medical man is more or less interested in the chemistry of urine, and most of us would like to know the cause of the increase of colour which that fluid undergoes in disease, or the actual change of colour from pale yellow to brown and black, which it often shows under certain conditions. It is easy enough to detect bile-colouring matter or blood-colouring matter by our rougher chemical tests; but there are other colouring matters present which cannot be detected by any other method but the spectroscopic one.

It may be asked, "And if you find out that a certain colouring matter is present, of what use is that knowledge?" So far, indeed, as the mere presence of a colouring matter is concerned, if we had to do only with that colouring matter, its detection could not add much to our knowledge, because we know that pigments in themselves are not poisonous substances. But if we can tell how these things are produced in the organism, we have a clue to the processes by means of which other things with which the pigments are associated are produced; and, considering how little we do really know of these processes, in other words, of the metabolic changes which characterise disease, anything must be considered of importance which will help us to understand these changes. If we know that a certain colouring matter can only be produced out of the body by a very energetic reduction or oxidation process, we know that in the body it must be produced in the same way. These pigments are, in fact, finger-posts, indicating accurately the metabolism that is taking place in the organism under normal and diseased conditions.

A definite and accurate knowledge of the colouring matters of urine will help the diagnosis of disease also, but we have a great deal to learn yet. We must not be content with a superficial examination of urine by means of the spectroscope. The colouring matters must be isolated, and the changes which their solutions undergo on the addition of different reagents must be studied patiently and carefully. The most apparently trifling differences have to be noted, for it is these things which teach us so much. The accusation of being careless in things chemical is frequently brought against the medical profession, and often with good reason; and yet if a man tries to bring in more refined methods of analysis, and devotes his time to their study, he is, on the other hand, liable to be called theoretical and a scientific enthusiast.

Most of the pigments in man's body are derived from the red colouring matter of the blood, hæmoglobin, either immediately or remotely, by destructive metabolism—catabolism; while others are built up from simpler radicals by a constructive metabolism—anabolism. Among the former are the colouring matters of bile, and some of those of urine, with others such as melanin (but it would appear that melanin may sometimes owe its source to other things). Among the latter, or those not derived from hæmoglobin, are the lipochromes or colouring matters of fat, formerly known as luteins, apparently the yellowish-red pigment of muscle, which I discovered and named "myohæmatin,"[2] and a class of pigments found in various tissues and organs, also discovered by me and named "histohæmatins." The products of decomposition of indoxylsulphate of potassium—indigo-blue and indigo-red, the derivatives of skatol and other pigments—also owe their origin to another source than hæmoglobin.

That bilirubin, the red colouring matter of bile, is derived from blood is proved by the fact that an identical substance occurs in old blood extravasations which is known as hæmatoidin, and that biliverdin, or the green colouring matter of bile, is also often directly derived from blood is proved by the fact that it occurs in the placenta of the bitch, also in the egg-shells of some birds, where it is often accompanied by hæmatoporphyrin (Sorby). Dr. Carter, of Birmingham, once sent me a bright green specimen of hydrocele fluid, the colour of which I found was due to biliverdin, and in that case its origin was definitely traced to an old hæmorrhage into the tunica vaginalis.[3] A curious proof was afforded of the truth of this assertion by an examination of the common red sea anemone, *Actinia mesembryanthemum*.[4] In this lowly organised animal I found that a substance occurred in ectoderm and endoderm which could be made to show the bands of reduced hæmatin by appropriate treatment, and between these layers is a bright green deposit, which I found to consist of a pigment which was quite indistinguishable from biliverdin. Hence, although the examination of the lowest animals may seem at first sight superfluous, yet we often come upon facts, during such examination, which throw a vivid light upon questions of physiology and pathology.

Colouring Matters of Urine.—If you will take up almost any book on the chemistry of urine, you will find a very confused account of the colouring matter of that fluid. Some of the German textbooks are not included under this statement, as doubtful matters are as a rule left out of them. In some of these manuals you will find Heller's test for "urophain" and tests for "urohæmatin," although these substances are only of historical value.

[1] Read before the Staffordshire Branch.

[2] MacMunn: Researches on Myohæmatin and the Histohæmatins, *Philos. Trans. Roy. Soc.*, Part I, 1886.

[3] MacMunn: Observations on the Colouring Matters of the so-called Bile of Invertebrates, etc., *Proc. Roy. Soc.*, No. 226, 1883.

[4] MacMunn: Observations on the Chromatology of Actiniæ, *Philos. Trans. Roy. Soc.*, Part II, 1885.

as Hoppe-Seyler has long since shown. In fact, the darkening which takes place on treating urine with strong mineral acids, and with these aided by heat, is due to the oxidation of several chromogens, not to the change of one, such as indican (=indoxyl-sulphate of potassium), urobilin, urochrome, and what Udranszky[5] calls the "humus substances," and probably in some cases skatol compounds, and other bodies mostly belonging to the aromatic series. We only possess definite knowledge of a few urinary colouring matters. Among these I will here refer to the urobilin series only. Thudichum's urochrome does not belong to that series, as I have satisfied myself, and I am not, therefore, called upon to say anything about it.

In 1880[6] I published a paper in the *Proceedings of the Royal Society*, in which I endeavoured to show how some of the urinary colouring matters could be definitely traced back to, and artificially prepared from, hæmatin and the bile pigments, and are therefore derived ultimately from hæmoglobin. I have recently gone over the same ground again, provided with better appliances, and I have confirmed the results contained in that paper so far as I have gone, but I have also found that our present views as to the identity of hydrobilirubin and urobilin, and on some other points, require considerable modification.[7] Some of these points will be referred to further on.

If you examine normal urine with the spectroscope, you may or may not see that a shading or band is present at the F line. It may be necessary to add a little acid to the urine, such as hydrochloric or nitric, when as a rule it comes into view. When you examine high-coloured urine, such as you find in febrile cases, this band is generally very dark. Jaffé[8] was the first who described the colouring matter to which the band is due, and he called it urobilin. He found that it was often absent in normal urine when freshly passed, but that on standing it appeared. Hence, he argued, there is a colourless substance or chromogen present in normal urine, which on standing exposed to the air becomes oxidised into urobilin. I thought I had evidence of the presence of two chromogens in urine; one that of normal, the other that of pathological urobilin, but it may be that the continued action of reducing substances in the urine may account for this. The matter is, however, not exactly as Jaffé described it. Immediately after the urine is passed the band may be seen, shortly afterwards it becomes invisible, because the pigment becomes reduced by some reducing substance in the urine; when acid fermentation begins in the urine it again becomes visible, owing to the influence of oxidation; and it may again disappear when the urine undergoes ammoniacal fermentation. Jaffé found this colouring matter most abundantly in febrile urine. He also found that a body of similar spectroscopic characters could be obtained from bile by the action of hydrochloric acid.

Maly[9] next succeeded in converting bilirubin into a substance which he took to be urobilin. He obtained it by acting on bilirubin with sodium amalgam, and he called this new substance hydrobilirubin, assuming that one molecule of hydrogen and one of water were added on to the bilirubin. Vaulair and Masius,[10] and Maly[11] subsequently, stated that the colouring matter of fæces—named stercobilin by the two first observers—was identical with Jaffé's urobilin.

Lastly, Hoppe-Seyler[12] found that a substance with the same optical and other characters as urobilin could be obtained by the action of tin and hydrochloric acid on hæmatin. It is unnecessary to quote the observations of others, which are numerous. These observers based their conclusions as to the identity of the above-mentioned pigments on the following characters: (1) On the presence of a band at F in acid solutions of the respective pigments; (2) On the green fluorescence which neutral solutions assume when treated with ammonia and zinc chloride; (3) On the shifting of the band at F towards the red end of the spectrum under the influence of caustic alkalies or on the addition of zinc chloride and ammonia; and (4) On the solubility of these pigments.

But these observers, and others also, did not notice the absorption bands which occur in the red half of the spectrum, not only in neutral solutions, but also in those to which ammonia, ammonia and zinc chloride, zinc chloride alone, and caustic soda have been added.

I called attention to these bands in the papers referred to below.[13] At first it was supposed these bands were due to the presence of impurities, but it would now appear that they are not, and that they belong to the same pigments which give the band at F. The solutions have to be examined first in deep, then in less deep, and finally in shallow layers; it is only by doing so that we can see all the bands of each spectrum.

I have found, and I believe my conclusions may be accepted as true, that observers have included under the name urobilin at least three pigments, namely, 1, normal urobilin; 2, pathological urobilin; and 3, urohæmatoporphyrin. These conclusions are based, not on the mere examination of urine itself, but on the examination of solutions of the isolated pigments. In every instance the pigment was isolated as follows: The urine was treated with neutral and basic lead acetate until the filtrate was free from colour, the precipitate was acted on by rectified spirit and sulphuric acid (in the proportion of 3 c.c. H_2SO_4 to 17 rectified spirit), and again filtered; the filtrate was now diluted with water and agitated in a separating funnel with chloroform, the chloroform when it had separated was removed, and evaporated on the water bath. Sometimes it may be necessary to wash the chloroform again with water. If normal human urine be treated in this way we find that although the pigment in naked-eye appearances resembles very closely pathological urobilin, yet in its solutions certain differences are apparent when these are examined with the spectroscope. In neutral or acid solutions only one band at F is seen, none are seen in the red half of the spectrum. This band at F is not nearly as dark as the corresponding one of pathological urobilin: it has washed-out edges, and it is not merged into a less shaded band extending towards the violet end of the spectrum as is the corresponding band of pathological urobilin. Then, again, if we treat its alcohol solution with the reagents mentioned above, we find that it differs from pathological urobilin in many particulars.

From this description it may be inferred wherein the principal differences between normal and pathological urobilin lie, but besides, ammonia, ammonia and zinc chloride, zinc chloride alone, and caustic soda develop in alcohol solutions of pathological urobilin certain absorption bands, which are not seen in similar solutions of the normal pigment, and which prove that in the majority of cases pathological urobilin is derived from hæmatin by a *reduction* process. The third colouring matter which observers had confused with those just mentioned is one which is of very great importance from a medical point of view. I named it urohæmatin[14] at first, but finding afterwards that it is closely related to hæmatoporphyrin, which is a decomposition product of hæmoglobin or hæmatin, and got from these by the action of strong sulphuric acid, I changed its name to urohæmatoporphyrin.[15] In acid solutions this also gives a band at F, but also two others very characteristic—one narrow at D, another in the green; and in an alcoholic solution, after adding ammonia, no less than five characteristic absorption bands. Now all of these colouring matters are very easily distinguished from each other, and yet all give a band at F in acid solution; all give a green fluorescence with zinc chloride and ammonia, and correspond to the description of urobilin given by the above observers.

Artificial Preparation of these Colouring Matters.—In a paper already referred to I made the following remarks:[16] "It is probable that a knowledge of how the urinary pigments can be prepared artificially will be of great use in enabling us to understand how they are produced in the body. Thus the knowledge of the fact that the spectrum of urobilin varies according to the amount and kind of oxidation, or reduction, or both, to which it has been subjected in the body, which I shall endeavour to show is the case, is of great importance, especially as we can produce in the laboratory pigments (from bile and blood-colouring matter), by a greater or less amount of oxidation or reduction, or of both combined, which can be made to resemble exactly pigments obtained from urine in health and disease." It is evident that we may meet with pigments in urine which do not correspond exactly to either of those mentioned, but intermediate between

[5] Udranszky: *Zeit. f. Physiol. Chem.*, Band xi, Heft 6, 1887; and Band xii, Heft 1 and 2, 1888.

[6] MacMunn: Further Researches into the Colouring Matters of Human Urine, etc., *Proc. Roy. Soc.*, No. 208, 1880.

[7] MacMunn: *Proc. Physiol. Soc.*, Oxford meeting, March, 1888.

[8] Jaffé: *Centralbl. f. d. Med. Wiss.*, 1868, No. 16; *Arch. f. Pathol. Anat.*, Bd. xlvii, s. 1.

[9] Maly: *Ann. Chem. Pharm.*, Bd. 161, s. 368, and Bd. 163, s. 77.

[10] Vaulair and Masius: *Centralb. f. d. Med. Wiss.*, 1871, Nr. 24.

[11] Maly: *Centralb. f. d. Med. Wiss.*, 1871, Nr. 54.

[12] Hoppe-Seyler: *Handbuch der Phys. und Path. Chem. Analyse*, 4 Auflage, s. 214, and *Med. Chem. Unter.*, Heft 4, s. 534.

[13] MacMunn, *Proc. Roy. Soc.*, Nos. 206 and 208, 1880.

[14] *Ibid.*

[15] MacMunn: Observations on some of the Colouring Matters of Bile and Urine, etc., *Journ. Physiol.*, Nos. 1 and 2, vol. vi.

[16] MacMunn: *Proc. Roy. Soc.*, No. 208, 1880, p. 206.

any two of them, but even then there is no difficulty in saying definitely how they have been produced in the organism, and I think this is a great advance, for we cannot say as much for other constituents of urine; so that here we see how the spectroscopic has outstripped other methods of analysis.

It would *a priori* seem likely that normal urobilin should follow the same law, as for instance, urea, and be a complete metabolite of hæmoglobin, as urea is that of proteids, and a metabolite produced by an oxidation process, for in health oxidation overbalances reduction. All the experiments which I have made do in truth point to this conclusion. I was first led to this conclusion by studying the Gmelin-Heintz reaction [17] with the spectroscope. This, as every medical man knows, is the test by means of which we recognise the presence of bile pigment in pathological fluids. If we add impure nitric acid (containing nitrous) to a solution containing bilirubin, a series of colour changes are produced, the fluid becoming green, blue, violet, red, and lastly yellow, then colourless. If the fluid be examined with the spectroscope while these colour-changes are in progress, a band will be seen to appear before D; then this darkens, and another appears at F. Another then appears after D, and now all these bands are visible together. Soon the band after D fades away, to be followed by that before D. The band at F is very dark at one stage of the reaction, fainter as it progresses, until it finally disappears. It seemed to me that the dark band at F was like that of pathological urobilin, and the fainter one into which the dark one changed like that of normal urobilin; and so it proved. The pigment which gives the fainter band at F is that known as choletelin, and, on isolating this substance, I found that it bore a very striking resemblance to normal urobilin. I failed to prove that the pigment which gave the dark band was identical with pathological urobilin, but, on reducing choletelin with sodium amalgam, I found that it did closely resemble pathological urobilin. Hence I was led to think that normal urobilin is a fully oxidised body, and pathological urobilin a less oxidised one. It may appear paradoxical that pathological urobilin should be an intermediate product of oxidation of bile-pigment, and a product of reduction of hæmatin, yet such is the case. Liebermann also has concluded that the continued reduction of choletelin produces a similar substance to hydrobilirubin. Further, I found that, if you shake human bile with chloroform, you obtain a solution free from bands; but, if you let it stand, the same bands as those seen in the Gmelin-Heintz reaction come gradually into view. And I afterwards found that human bile contains a substance which is easily changed into a urobilin-like pigment by oxidising agents such as peroxide of hydrogen. But I found that I could obtain an artificially-prepared substance from hæmatin with greater ease than from bile-pigment, and this bore even a more striking resemblance to normal urobilin.

If blood—preferably from the sheep—be treated with rectified spirit acidulated with sulphuric acid and filtered, a solution of acid hæmatin is obtained. If to this solution peroxide of hydrogen[18] be added until the bands of acid hæmatin have disappeared, and then water be added, and the solution agitated in a separating funnel with chloroform, the chloroform separated off and evaporated on the water-bath, a residue is obtained bearing a most striking likeness to normal urobilin. Its solutions—especially if acid be added—show a faint band at F; and, if a rectified-spirit solution be treated with ammonia and zinc chloride, we can see a fine green fluorescence. Sometimes it may be necessary to reduce the pigment in the rectified-spirit solution for a short time with sodium amalgam, as it is not easy to know until afterwards whether the right quantity of peroxide of hydrogen has been added; then acidulate with sulphuric acid and agitate with chloroform as before, and evaporate this. The pigment thus obtained cannot be distinguished from normal urobilin either spectroscopically or as regards solubility. By further reduction with sodium amalgam, it can be made to resemble pathological urobilin—in this point resembling choletelin.

Hence normal urobilin must be an oxidation product, and its origin in the body can be explained. It is needless to say that this has a most important bearing on medicine. Suppose we have a bile-pigment, such as bilirubin, present in the blood, and that there is not enough oxygen present to convert it into a lower metabolite, we should then have jaundice produced, provided the bile-pigment is not excreted fast enough. Some years ago,[19] I tried to show that cases of so-called hæmatogenous jaundice, in which no obstruction to the flow of bile into the intestine can be found, might be explained by the oxidation theory. But, in some cases included under this name, it would appear that the rapid destruction of red blood corpuscles may lead to the formation of such a relatively large quantity of bilirubin in the blood itself that, even if the oxidising process were not interfered with, the tissues could hardly escape being deeply stained. Besides, the presence of any detectable amount of bilirubin in human blood is very doubtful. The blood-serum of the horse contains bilirubin, according to Krukenberg, but then the horse does not possess a gall-bladder.

In accounting for the presence of pathological urobilin in urine, we meet with greater difficulties. If Maly's view be true, that urobilin—by which Maly really means hydrobilirubin—is produced by reduction of bilirubin, pure and simple, then it cannot well be an intermediate product of oxidation (of bilirubin). But I find that Maly's hydrobilirubin is not identical with either normal or pathological urobilin. If pathological urobilin be ever derived from bile-pigment, it is a more complete metabolite than is hydrobilirubin; the latter seldom occurs in urine, and, when it does occur, it is probably present in those cases where the patient is recovering from jaundice, when absorption of relatively large quantities of bile-pigment from the tissues is taking place. In working at hydrobilirubin, I found—strange to say—that sodium amalgam leads to the formation of bodies similar to those which form during the Gmelin-Heintz reaction; for instance, during one stage bilicyanin is formed, and this, we know, is considered to be an oxidation product. Hoppe-Seyler has, indeed, tried to show that nascent oxygen plays a considerable part in the action of sodium amalgam. Whether this be so or not, there are absolute proofs in support of my view that neither pathological nor normal urobilin is identical with hydrobilirubin; and Le Nobel [20] has come to a similar conclusion. I hope to publish results shortly which will place this matter beyond doubt.

I have shown elsewhere that stercobilin,[21] the colouring matter of fæces, bears a very close resemblance to pathological urobilin, and may be its source in some cases. If this be so, then we can easily explain the depression of spirits, the langour, pain in the limbs, and other well-known symptoms which frequently accompany its presence in urine, for stercobilin cannot well get into the circulation without being accompanied by various poisonous alkaloids—ptomaines which we know arise during the action of the digestive and putrefactive ferments on food-products. But in many cases I find that what at one stage of my knowledge I should have taken for pathological urobilin can be proved by appropriate treatment to be a direct derivative of hæmatin, and closely connected with the next pigment which we have to consider.

This third pigment, to which I previously referred as urohæmatoporphyrin, is one of great importance. I cannot here say anything very definite as to its relationship to pathological urobilin, although, according to Le Nobel,[22] it can be converted into a urobilin-like body, "urobilinoidin," by further reduction, but I hope shortly to publish some results which will show this connection more clearly.

To appreciate the activity of the morbid chemical process by which urohæmatoporphyrin is produced in the body, let us for a moment consider how hæmatoporphyrin is produced. It is produced by dissolving hæmatin, which is itself a decomposition-product of hæmoglobin, in strong sulphuric acid, filtering through asbestos, pouring the filtrate into water, and adding ammonia, when flocks of hæmatoporphyrin separate out, which can be filtered off, and purified. Urohæmatoporphyrin is obtained by the action of zinc and sulphuric acid on hæmatin, aided by heat, and the process is not completed for a considerable time. We may, therefore, wonder how such an energetic process can go on in the body. Of course this pigment is produced in the body, where it never arises in sufficient quantity to be excreted as such in the urine, except under pathological conditions, by the action of an energetic fermentation attended by reduction, and we may safely suppose that other things, such as leucomaines, must be produced with it, by means of the same active reduction, which things are not quite so harmless as it is. I presume that in the majority of

[17] MacMunn: Spectroscope in Medicine, 1880, and *Proc. Roy. Soc.*, No. 208, 1880, p. 215, etc.

[18] MacMunn: *Proc. Roy. Soc.*, No. 208, 1880, p. 226.

[19] MacMunn: On Urobilin, etc., *Dub. Journ. Med. Sc.*, 1880.

[20] Le Nobel: Ueber die Einwirkung von Reductionsmitteln auf Hæmatin und das Vorkommen der Reductionsproducte in pathologischem Harne. *Archiv. f. d. Ges. Phys.*, Band xl, 1887.

[21] MacMunn: *Jl. Physiol.*, Nos. 1 and 2, vol. vi.

[22] Le Nobel: *loc. cit.*

cases it is formed from hæmoglobin, but it may also be formed from the colouring matters which I referred to before as myohæmatin and the histohæmatins. I have two good reasons for saying so: (1) I procured hæmatoporphyrin[23] from these pigments; (2) hæmatoporphyrin occurs as such in the integument of some invertebrates[24] in which no hæmoglobin but a histohæmatin is present, for example, slugs, star-fishes, and the mollusc *Solecurtus strigillatus*, as I have shown.

Urohæmatoporphyrin is not confined to the urine of acute rheumatism, as I at one time supposed;[25] for although it is found in the urine of that disease in greatest abundance, and in its most typical condition, I have found it also present in the following, and perhaps other diseases, namely, so-called idiopathic pericarditis, Addison's disease, cirrhosis of the liver, croupous pneumonia, Hodgkin's disease, measles, typhoid fever, meningitis, and peritonitis.

From a careful consideration of the conditions under which this pigment may appear in urine, I conclude that it may be present (1) when an excessive destruction of hæmoglobin or the histohæmatins is taking place, the glands which are concerned in the further downward metabolism of these effete pigments being unable to deal with the excess of effete pigments present in the blood; (2) where the pigment-metabolising glands are diseased, as in Addison's disease and cirrhosis of the liver. The products of destructive metabolisms of these colouring matters—hæmoglobin and the histohæmatin—are got rid of as bile pigments and urobilin under normal conditions, but under diseased conditions the urobilin is replaced altogether, or it may be supplemented, by urohæmatoporphyrin. Probably an increased destruction of hæmoglobin takes place in inflamed organs, and the altered pigment being in a condition of chemical instability comes under the influence of some energetic reducing ferment. It might be suggested that bacteria are the agents concerned in this fermentation, for we know some of these organisms exercise a reducing, others an oxidising, action, but no bacteria are present in some of those diseases in which urohæmatoporphyrin is found.

Le Nobel, of Leyden,[26] has repeated my experiments on urohæmatoporphyrin, and although he differs from me in a few minor details, he has fully confirmed these results. He thinks that the above pigment, whether in urine or prepared artificially, is a mixture of two, but he did not study the action of ammonia on the band at F. This is the only point of difference between us worth mention. He objects to the name urohæmatin, which I abandoned in 1885, and another criticism of his is based on a mistranslation of one of my papers. Le Nobel has also found that hæmatoporphyrin is converted into urohæmatoporphyrin by the action of acetone or aldehyde, and he suggests that it is by the action of these that derivatives of blood-colouring matter may arise in the body, but this is "not proven," and the explanation is rather far-fetched. He also suggests that a reduction product of hæmatin, what he names "urobilinoidin," may have been mistaken for urobilin by Kunkel,[27] who shows that the latter is increased in amount after the absorption of large blood extravasations,[28] and that the increase of urobilin in fever which Leube and Stokvis[29] attributed to increased destruction of hæmoglobin, may have been due to an increased excretion of urobilinoidin also. I myself am quite satisfied, as I said above, that what has been taken for pathological urobilin, and so named by myself, is in many cases a direct metabolite of hæmatin produced by an energetic reduction process. I would here protest against the prevalent idea that the occurrence of (pathological?) urobilin is diagnostic of the existence of pelvic hæmatocele. It may have been present in some cases, but it is just as likely to be absent in others.

Besides urohæmatoporphyrin, other metabolites of hæmoglobin may be present in urine. In the urine of a case of purpura hæmorrhagica, my friend Dr. Armitage and I found a substance present which, on the addition of one drop of sulphide of ammonium, changed into reduced hæmatin; had hæmoglobin or methæmoglobin been present, reduced hæmoglobin would have been obtained. Here evidently the circulating hæmoglobin had undergone some profound change.

Lately Drs. Lewin and Posner[30] have found such hæmatin-like pigments in urine; but they are wrong in supposing that in the majority of such cases the hæmatin has a renal origin; nothing but prolonged contact with acid urine could change hæmoglobin into hæmatin, and if freshly passed urine shows the reduced hæmatin bands when treated with a trace of ammonium sulphide, the blood has probably undergone some change before it has reached the kidney.

The interesting observations of Mr. Bond,[31] of Leicester, show that the hæmoglobin of the blood is more prone to crystallise, and is therefore more chemically unstable in some diseases than in others.

In intermittent hæmoglobinuria I have found in every instance, where it was not due to a vasomotor disturbance in the kidney itself, that all the blood-colouring matter present in the urine had been changed into methæmoglobin. If the statement of Hoppe-Seyler[32] be correct that when the urine contains methæmoglobin it also frequently contains bile acids, we have a clue to the causation of intermittent methæmoglobinuria. For if we suppose, that through some vasomotor disturbance of the hepatic circulation, some poison, such as an incompletely metabolised product of digestion or active ferment or the bile acids could pass over into the blood of the hepatic vein and thence into the general circulation, it could hardly fail to change a part of the circulating hæmoglobin into methæmoglobin, the latter would then become dissolved in the plasma—as is the case in methæmoglobinuria—and be excreted by the kidney.

There is one point in connection with urohæmatoporphyrin to which I should like to refer; it is this: The presence of this colouring matter in the urine of a case which is suspected to be of rheumatic origin should intensify our suspicion. It is almost always present in acute rheumatism. Hence the spectroscope may help one at times to settle a doubtful diagnosis.[33]

Another fact which cannot fail to strike anyone is that in febrile cases we have a *reduction* product of hæmatin present in the urine; we have been taught that the febrile process is accompanied by increased oxidation; but it is just the opposite—it is characterised by increased reduction.

For maps of spectra mentioned here the various papers referred to in the foot-notes can be consulted, where the other characters of those pigments, so far as I have been able to study them, are given.

WHAT IS STONE IN THE BLADDER? A REJOINDER.

By SIR HENRY THOMPSON, F.R.C.S., M.B.Lond.,

Consulting Surgeon to His Majesty the King of the Belgians; Consulting Surgeon and Professor of Clinical Surgery to University College Hospital, etc.

A FEW lines will, I hope, suffice to deal once more with the simple question I proposed above, and also with the long article raising numerous side issues—extremely tempting to reply to, if I had either time or taste for controversy—which Dr. Freyer has thought it necessary to write.

I must remark that the first statement he makes begs the question. He says: "Hitherto the universally accepted definition of stone in the bladder was any calculous formation, no matter of what size, which failed to pass out of the bladder spontaneously, and for the removal of which an operation was necessary."

But this is precisely the matter in dispute, and the contrary is in my opinion the fact. Surely it is notorious that small concretions and even large ones have been washed out, and removed from the bladder by forceps from time immemorial. But the procedure has never taken rank as "an operation for stone." I have operated for them thus and also by crushing them, many more than a hundred times, recording operations for "gravel" or "concretion," rigidly excluding them from my series of stone

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[23] MacMunn: Further Observations on Myohæmatin and the Histohæmatins, *Jl. Physiol.*, vol. viii, No. 2.

[24] MacMunn: On the Presence of Hæmatoporphyrin in the Integuments of Certain Invertebrates, *Jl. Physiol.*, vol. vii, No. 3; and On the Hæmatoporphyrin of Solecurtus strigillatus, *Jl. Physiol.*, vol. viii, No. 6.

[25] MacMunn: JOURNAL, December 1st, 1883.

[26] Le Nobel: *loc. cit.*

[27] Kunkel: Virch. *Arch.*, vol. 79; quoted by Le Nobel, *loc. cit.* Cf. Ziegler's *Pathological Anatomy*, by MacAlister, vol. i, art. 68, and vol. ii, art. 268. This book contains many references to the subject.

[28] In two cases of this kind of which I have examined the urine, I have found pathological urobilin in large amount. In one I could prove that it had been derived from hæmatin, that is, the pigment closely resembled urobilinoidin.

[29] Leube: Die Lehre vom Harn; Stokvis: Besprechungen; *Deutsches Archiv. für Klin. Med.*, 1883.

[30] Lewin and Posner: Zur Kenntniss der Hæmaturie, *Centralb. f. d. Med. Wiss.*, No. 20, 1887.

[31] Bond: A Contribution to the Pathology of the Blood, *Lancet*, September 10th and 17th, 1887.

[32] Hoppe-Seyler: quoted by Charles in his book on *Physiological Chemistry*.

[33] JOURNAL: December 1st, 1883, and February 4th, 1888.

cases. Not a few of these were removed many years ago with Clover's aspirator, which I was in the habit of using to discover and remove these small bodies. Thus, among many other cases in my collection is one, in 1872, of 500 small concretions, weighing together a drachm or more, all thus removed, but never recorded as an operation for stone. It was an operation for gravel, a proceeding which Dr. Freyer appears to ignore; for one of the cases in which he has merely washed out a particle weighing 2 grains, is actually recorded as an "operation for stone!" He says, and rightly, that there is no hard-and-fast line in the matter of weight between stone and concretion. Then, if a 2-grain stone be admissible, why not a 1-grain, or a ½-grain stone, or less, if the patient fails to pass it naturally? Is there henceforth to be no operation for gravel or concretion, in order that stone operations may be multiplied?

But Dr. Freyer quotes a definition of stone I formerly made, and says I have recently modified it. That is precisely the course I desired to take, and intimated it in my lecture in autumn 1887. When making the first, I confess I never supposed any English surgeon was likely so to construe it as to regard a tiny piece of gravel as "a stone in the bladder." The intention which prompted the later remarks—and I had a very distinct one—pointed quite in a different direction. Hence it was a matter of astonishment and severe disappointment to me, who respected and admired Dr. Freyer's skill and energy, to learn that he condescended to record these trifles in terms which have never been used before. For I have the means of knowing that such a precedent is opening the door to practice outside our profession, of a very questionable kind.

To close a paper already too long, I think there is little doubt, judging from the opinions which have reached me here, and from abroad, that the common sense of the profession will exclude a trifling concretion of 2 or 3 grains from taking rank under the well-known and time-hallowed term a "stone in the bladder." A hard-and-fast line being impossible, most surgeons will probably agree that a product at least four or five times that weight might be held to constitute the smallest size to which that title should be applied. In my own collection there is nothing less than 20 grains.

To that common sense I leave the verdict, feeling more strongly than ever, after reading Dr. Freyer's second communication, how necessary it was to raise this question. I did so with great reluctance, and with a feeling of infinite regret that a paper of Dr. Freyer's should have furnished the occasion.

PERFORATION OF THE PERINEUM DURING LABOUR.

By JAMES FERGUSON, M.B., C.M.,
Perth.

Case I.—On March 13th, 1887, I attended Mrs. J., aged 25, in her first confinement. On arrival I found a well-advanced second stage, with an occipito-anterior position of the head. The patient's condition was good, the pains frequent and strong, and everything seemed to favour a normal termination. After a short time, with my finger over the fourchette, I was conscious of a sudden considerable movement of the child's head, followed by a profuse rush of fluid, both felt and heard, all this coinciding with the height of a pain. Immediately exposing the maternal parts, I was impressed by the enormous distension of the sacral portion of the pelvic floor, including the anterior wall of the rectum, and just in front of the anus noted a nearly triangular space of dark colour, which on closer examination proved to be nothing else than a portion of the child's scalp applied to a tear in the perineum.

Finding the margin of the vulva lying quite flaccid and free from pressure, my first thought was to hook it backwards, so as to bring it into the axis of expulsion, meanwhile detaining the head in the pelvis by my own efforts, the patient being ordered to desist from hers. But the uterus seemed only aroused to increased energy by the measures adopted, and, in brief, within a few seconds a male child of average proportions passed wholly through the abnormal outlet. The placenta was suddenly extruded by the same opening in a few minutes. Examination showed the rupture to extend through the external sphincter ani, while anteriorly almost an inch of skin separated the perforation from the vulvar orifice; the posterior vaginal wall was torn for an inch and a half upwards.

The injured parts were smeared with eucalypto-vaseline (1 to 9) as the only antiseptic at hand, and then appropriately brought together with carbolised catgut. Two sutures in the vaginal wound and half a dozen in the perineum were used. Opium was prescribed, to favour constipation rather than to soothe pain, which was not complained of after the suturing, and the subsequent treatment fell to my friend, Dr. Sinclair Kennedy, in whose detention I had been temporarily acting in the case. Antiseptic injections and applications were employed, and the bowels not moved till the ninth day. By this time the wound had healed, for the most part as if by first intention, and the patient described herself as only uncomfortable by being kept in bed. The temperature never passed 99° F. By the twenty-first day the patient could walk, and alleged she felt no pain.

Meanwhile, Dr. Kennedy had ascertained an abnormality of the pelvis which quite accounted for the abnormal labour, and by his kind request I was allowed to confirm his observation. The chief facts were an unusual depth of the symphysis pubis and undue narrowness of the pubic arch. The vertical measurement of the former, allowing freely for its soft coverings, was fully three inches and a half, an excess of two inches over that commonly assigned to the female symphysis. Exact measurements of the arch were not possible, but the male type was very perceptibly presented, an acute angle taking the place of the rounded arch, and the pillars approximating in a corresponding manner.

Case II.—Called to Mrs. P. in her third confinement on April 2nd, 1888, I found the head approaching closely to the perineum. The finger also detected a hard wedge of tissue extending upwards and backwards from the vulva, which suggested inquiry about former labours. My patient told me that at her previous delivery forceps were used by a doctor well-known in obstetric work in the town she then lived in, and that, though nothing was said about a tear at the time, for weeks after she began to move about "something like a piece of flesh hung down," and caused much pain, especially when sitting. As the child's head distended the perineum, the above-mentioned wedge persisted in passing doggedly forwards, refusing to share in the dilatation, and carrying the labia before it. Instructing the patient to use no voluntary efforts, and to cry out during the pains, I pressed the head backwards and upwards towards the sacrum, and attempted to dilate the vulva by stretching with two fingers over the fourchette (an old method recently revived, *vide* Journal, 1886, vol. i, p. 12). The head was then allowed to come down with a minimum of pressure, the hand trying to guide it forward past the obstruction. Despite these methods, however, the hard body still advanced before the child, and I was alarmed to detect a sudden yielding of the perineum just in front of the anus during a pain. Recognising only danger in further delay, I pushed the head clear away from the pelvic floor, and with some difficulty—continuous uterine effort having been provoked—adjusted the forceps and delivered by the vulva, its margins yielding freely. The perineal wound was afterwards found to be almost three-quarters of an inch in length, communicating with the vagina, the sphincter escaping by a thin cord of skin. The wedge behind the vulva consisted of cicatricial tissue, passing about an inch upwards and obliquely backwards, and, strange to remark, bore trace of only the slightest laceration. A deep and superficial stitch having been inserted, and weak lotions of Condy used, the patient made an unretarded recovery, the wound healing apparently by first intention.

The treatment of perineal lacerations being a subject on which conflicting opinions prevail, the last-mentioned case may be regarded as evidence of some value on one side of the question. It is clear that a not inconsiderable tear at the time of the second confinement was ignored, and was the cause of much suffering for weeks afterwards. Not only so, but the closer apposition of the torn surfaces secured by timely stitching would have saved the patient suffering at her third confinement, and averted the risk of an "accident" of a serious nature, and one which would have certainly occurred had not professional assistance been at hand. May I not also ask, supposing more serious injury had occurred, despite attempts to avert it, on whom would any possible discredit have fallen, the first or the second practitioner?

As to the treatment appropriate to those cases of central rupture which are recognised before the birth of the child, Charpentier has advised that, to save the sphincter ani from danger, the tear should be carried forward by a cut into the vagina.

The above case proves, however, that, in certain instances at least, we have in the forceps an aid that obviates any extension of wounded surface.

AMAUROSIS AND STRABISMUS FROM ASCARIS LUMBRICOIDES.

By JABEZ HOGG, M.R.C.S.,
Consulting Surgeon, Royal Westminster Ophthalmic Hospital.

From a record of cases, carefully tabulated and extending over many years, I find that strabismus in young children is more frequently due to the irritation of intestinal worms than is generally stated in manuals of eye diseases. It is, however, quite an uncommon thing to find reflex amaurosis and strabismus associated in one and the same person, and arising from the same cause—the presence of worms. In the case I am about to narrate there is one other feature which renders it of more than ordinary interest. My little patient, barely three years old, was, when she came under my care, the intermediary hostess of three kinds of entozoa—namely: oxyurides (the little thread-worm), tænia (tape-worm), and ascaris lumbricoides (round worm). On searching through the medical journals, I have not met with a parallel case, and I have discovered only a very few cases of reflex amaurosis from worms, one of which, narrated by Dr. Burgers, was published in the British Medical Journal of 1862. A still smaller number of cases have also been reported in which, it is said, death has resulted from the perforation of the intestine by ascaris lumbricoides. It is said that the three kinds of worms named by me will not exist together. It is difficult enough to account for their presence in the intestine of so young a child, and belonging as she did to the middle class of society. Polluted drinking-water is the carrier of filariæ, and this might have been unwittingly used by the nurse to mix with the milk which formed the staple food of the child. It is known, too, that the ova and embryos of parasitic worms will occasionally undergo a passive migration; that is, direct from intestine to intestine, and without passing through an intermediary host. It is quite possible, therefore, for embryos to be conveyed in the blood of the mother to the fœtus *in utero*, and not reach their final stage until some months after the birth of the child. In my case, there was no history of the kind; the mother is quite certain she never was afflicted with worms, but, curiously enough, on going back another generation, the grandmother had passed several tape-worms after she was married. When Mrs. D. consulted me about her child's sight, the ordinary symptoms of worms were mostly absent. Her sleep was not disturbed; she had no nasal irritation; no craving for food of any kind; disliked meat, and had a small and capricious appetite; her daily food consisted for the most part of milk and bread and light sweet puddings. She was spare in body, weak in her legs, and her movements were consequently slow, passing from one chair to another by touch. This the mother attributed to the loss of sight, which had now persisted for more than a year. Her speech was very defective; her vocabulary consisting of a few unintelligible sounds, just sufficient to make her wants known to her nurse, and no more. When placed in front of a strong light, the eyeballs rapidly moved upwards, the irides being concealed by the upper lid. From this cause, and that of the persistent squint, I was quite unable to make any ophthalmoscopic examination. I, nevertheless, came to the conclusion, not shared in by anyone who had previously seen the child, that the strabismus at all events was symptomatic of worms. I accordingly prescribed anthelmintics, commencing with scammony and jalap, which, after the administration of a second powder, gave the first intimation of the correctness of my diagnosis, as it brought away a large number of ascarides. My next remedy, filix mas, dislodged a portion only of a tape-worm, eighteen inches long; other portions came away some days afterwards; and I next prescribed three-grain doses of santonin at bedtime, to be followed by a full dose of castor-oil the following morning. This treatment proved very effectual; the first powder brought away five or six large lumbrici. In the course of the following fortnight, five or six and twenty round worms, measuring from four to eight inches in length, were expelled; the relief obtained by the little patient was most gratifying to behold. Two months have elapsed. She is recovering her sight, and the strabismus has entirely disappeared. Her bodily health is quite changed for the better; she is strong on her feet, can walk a considerable distance, and has gained in intelligence and in speech—is, in fact, an altered child. From the large size and strength of the female lumbrici, I should not have been surprised if perforation of the intestine, in one so young and delicate, had taken place before I succeeded in dislodging all the worms.

CLINICAL LECTURE ON CERTAIN OPERATIONS ON THE EYE.

By C. BELL TAYLOR, F.R.C.S. and M.D.Edin.,
Surgeon to the Nottingham and Midland Eye Infirmary.

Gentlemen,—Of the operations you have seen, there are three only to which I wish to call your attention. The first of these was the case of stenosis of the lachrymal duct, which was dilated without slitting the punctum. This is easily accomplished with the probe which I have had modelled by Messrs. Weiss, on the pattern of Weber's canaliculus knife (Fig. 1), and the results, as you may imagine, are much more satisfactory than when the sucker-like function of the punctum is permanently destroyed, as in the usual operation, by conversion into an open channel.



Fig. 1.

The second was an exceedingly obstinate case of trichiasis and entropion specially affecting the upper lid. The patient, aged 49, who had travelled a considerable distance in the hope of relief, has been twice operated on elsewhere without lasting benefit, and was so blind on admission that she could not get about alone. In these cases I make a perpendicular incision at each extremity of the lid, evert it, and connect the two incisions by a deep cut on the inside right down to the cuticle, just within the roots of the lashes, as in Burow's operation. (Fig. 2.) I then take a piece of skin from the upper lid, and, retaining a broad pedicle, transplant it into the wound thus made. The approximation of the edges of the gap in the upper lid by sutures everts the lashes, and the transplanted skin effectually prevents any return to their abnormal situation.

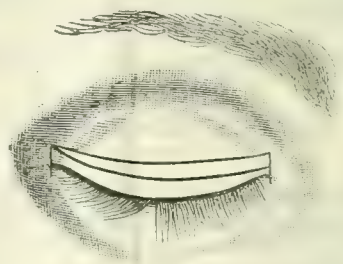


Fig. 2.

I devised this operation some years ago, and have never known it fail to cure this obstinate and most distressing affection. The flap, prior to transplantation, is outlined in the accompanying woodcut.

The third case was one of cataract, in which the lens was, as you saw, removed without excision of any portion of the iris; and, in calling your attention to these patients, permit me to remind you that the ideal of success in cataract extraction, the success without restriction, the success which has nothing to fear for the future is in language which I quote from Suarez de Mendoza:—"Extraire tout le cristallin opacifie sans perdre une goutte d'humeur vitrée, obtenir une cicatrisation regulière sans enclavement iridien ni capsulaire, une pupille nette et sans la moindre opacité, en conservant l'iris mobile et libre de toute synéchie."

Such, gentlemen, were the indications which have been fulfilled in every particular, under singularly adverse circumstances, in the patient you have just seen, who is 73 years of age, and who, as you have noticed, presents that peculiar complexion, the result of heart disease and impeded respiration, which is known as "blue skin." She is also very deaf, and strangely irritable. I operated upon her here on March 18th; and on the 20th, two days later, owing to some dispute with the nurse, she

insisted upon leaving the hospital, which she did without seeing me, so that the after-treatment usual in such cases was not carried out at all. Now, as you see, the eye is absolutely perfect, the pupil central and movable without the slightest adhesion or trace of capsule, and the incision so placed that it requires careful scrutiny to detect its site.

I have lately operated upon upwards of seven hundred cases of cataract without iridectomy, and must say that the result of my experience (which is now very considerable, both with and without excision of the iris) leads me to the conclusion that iridectomy, as a part of the operation of extraction, ought to be reserved for complicated or exceptional cases.

THE TREATMENT OF HÆMORRHAGE IN FIBRO-MYOMATA BY HYDRASTIS CANADENSIS.

By HENRY T. RUTHERFOORD, B.A., M.B.,Cantab., M.R.C.P.,
Assistant-Physician, Chelsea Hospital for Women.

Hydrastis Canadensis as a hæmostatic agent in various uterine disorders does not seem to me to have met with as cordial an acknowledgment, in this country at least, as it deserves. In France, Germany, and America the drug has had extended trials, and the published results are most satisfactory.

In the following five cases of uterine fibroids hydrastis was used with success:—

Case I.—R. B., aged 38; married, but has had no children. For the last five months she has noticed a swelling in the stomach, which is slowly increasing. Catamenia are irregular and too frequent; they last one week or longer, the quantity being very profuse and much greater than formerly. She has constant dragging pains in the abdomen. Micturition is frequent. On vaginal examination an irregular hard nodulated fibroid tumour was found occupying the left iliac fossa, reaching almost to the umbilicus and passing to the right of the median line. The fundus uteri could not be distinguished. On April 2nd, 1886, the patient was ordered a mixture containing twenty minims of the tincture of hydrastis, to be taken every four hours. A great improvement in the patient's condition immediately set in, and after continuing this treatment for some time, the patient discontinued coming to the hospital as she considered herself well.

Case II.—Mrs. M., aged 46; childless. Complains that for the last ten years her abdomen has been gradually enlarging. Her periods have always been profuse, lasting sometimes for three weeks. On examination the anterior lip of the cervix was hard and greatly enlarged. Occupying the left side of the abdomen was a hard irregular fibroid tumour, reaching as high as the umbilicus and extending outwards to the flank. Uterine sound passed five inches. On April 2nd, 1886, the patient was ordered fifteen drops of tincture of hydrastis thrice daily. On June 18th an improvement had set in, "the catamenia are regular; duration five days; quantity moderate." At this visit liquor strychniæ and calumba were added to the hydrastis. The patient has had no more floodings.

Case III.—D. B., aged 47, married, has had three children and several miscarriages. Complains of a swelling in the left side of the abdomen, which was first noticed some months previously. Her periods are regular, but very profuse, lasting sometimes fourteen days. Has had several attacks of metrorrhagia during the last three months. During March, 1887, she had three severe attacks of hæmorrhage. On examination, a copious sanguineous discharge was present. The whole uterus was enlarged, the uterine cavity measuring four inches. To the left, and above the fundus uteri, was a hard rounded fibroid tumour, which passed into the pelvis. On April 15th, 1887, she was ordered twenty drops of hydrastis in an ounce of quassia, thrice daily. At the end of a fortnight the sanguineous discharge had greatly lessened, and soon ceased. On June 24th my notes say: "Flooding entirely ceased." On January 20th, 1888: "The patient still continues free from floodings; periods regular, not as profus as formerly, duration shorter."

Case IV.—S. S., aged 51, married, has had four children, consulted me in April, 1887, for "bleeding from the womb, which has continued off and on since December, 1886." Menstruation was quite regular until Christmas, the flow lasting a week and being rather profuse. On examination a fibroid tumour was found occupying the anterior and left lateral wall of the uterus. The new growth rose about an inch above the fundus uteri. The uterine cavity measured 3½ inches. The patient was ordered a mixture containing bromide of potassium and ergot, but a fortnight after her first visit "the hæmorrhage was still excessive." On May 20th, as the flooding still continued, a mixture of bromide of potassium and twenty drops of hydrastis was ordered to be taken every four hours, with the result that the flooding soon ceased. On July 1st my notes say: "Slight pinkish discharge at times only." The mixture was continued, and, on October 14th, my notes say: "The last catamenial period came on on October 9th, lasted five days, was not profuse." The patient is regular every month. There was no trace of malignant disease in this case, though the possibility of such disease was suggested.

Case V.—E. C., aged 36, married, has had seven children, complains of flooding which first began with each menstrual period, but is now almost constant. For some time past has noticed a lump in the right side of the abdomen. For the past six weeks has been flooding very severely. On examination, the uterus was enlarged and rose above the pubes. The whole organ was large and bulky. On the right, and in front of the uterus was a fibroid the size of a cocoa-nut, occupying chiefly the right iliac fossa. On September 2nd, 1887, a mixture of bromide of potassium and ergot was ordered, with a pill of cascara sagrada. The metrorrhagia was lessened, but not stopped. On September 30th, as the ergot did not control the hæmorrhage, a mixture of hydrastis and bismuth was ordered. The floodings now ceased, and on December 30th my notes say: "Floodings have ceased for a considerable time. Patient considers herself well." To these cases others might be added, in which hydrastis checked the hæmorrhage immediately, but their narration would be a repetition of the foregoing.

The two most reliable preparations of this drug are the tincture, in doses of fifteen minims to one drachm, and the fluid extract in doses of fifteen minims to half an ounce. I have invariably used the tincture with very satisfactory results. As regards its action on the human body, if we may judge from experiments made on rabbits, it would seem to be a vaso-constrictor in ordinary medicinal doses, while in large or toxic doses it is a dilator. Fellner, in a series of experiments made with this drug on rabbits, noted uterine contractions; and according to Wilcox these contractions are "unaccompanied by the distressing cramps of ergot or the flooding from the alternate contractions and relaxations." Woltering confirms the favourable results obtained with this drug by Fellner and others, and mentions cases in which the uterus measured, in one case eight centimètres, in another nine centimètres, and hæmorrhage was an alarming symptom. The hæmorrhage soon ceased on the administration of hydrastis, and the condition of the patient was greatly improved. Schatz denies its action on the muscular fibres of the uterus, but gives as one of the indications for the use of the drug hæmorrhage due to submucous fibroids. Pallin has used this drug with good results, not only in uterine fibro-myomata, but in other conditions in which hæmorrhage has been the chief symptom; but his results in five cases of fibroid tumours are not altogether conclusive, as other drugs were ordered with the fluid extract. In the cases I have recorded above, while hæmorrhage was decidedly controlled by the use of hydrastis, its effects upon the size of the tumours were *nil*, at least so far as I could judge, and I was careful to note this point as accurately as possible. The administration of ergot causes in some patients an obstinate constipation, and frequently brings about derangements of the digestive tract. Hydrastis, on the contrary, can be taken continuously for a considerable time without any ill effects, and will be found to improve digestion and act as a stomachic tonic. Ergot again frequently causes painful uterine contractions, while patients to whom hydrastis is administered are entirely free from these pains.

Many patients with uterine fibroids come to us complaining of the excessive hæmorrhage which is slowly but surely draining their system; the size of the tumour seems to cause them no inconvenience as in Case II, where the tumour had been noticed for ten years, and were it not for the menorrhagia and metrorrhagia we might perhaps never see them. Many patients, again, will not submit to the treatment by electrolysis, as the process occupies too much of their time, and the ultimate result of this method of treatment does not appear to them to compensate in a sufficient way the time they will have to devote to it; in some

few again ergot seems to have no effect in checking hæmorrhage, as was the case in Mrs. E. C., Case v, or it may cause great disturbance of the digestive tract. Where these conditions exist I believe hydrastis, either as the tincture or the fluid extract, the two most reliable preparations, will be found of value, and it deserves a fuller and more extended trial than has hitherto been given it in this country.

SURGICAL MEMORANDA.

TRAUMATIC SEPARATION OF THE SUPERIOR TIBIAL EPIPHYSIS.

R. L., aged 8 years, was admitted into the Adelaide Hospital under my charge on May 7th, 1888, suffering from the result of an accident which occurred in the following manner.

On May 1st, he was running in a schoolroom from two other boys, and, in order to escape, attempted to force his way between two desks which were then pushed together by the other boys, the injury occurring while attempting to wrench his leg free. At the time of the accident he had but little pain, and was able to walk home, where he was kept in bed and stupes applied, a large amount of swelling supervening in a few hours.

On examination, I found all the local evidences of acute synovitis of the knee-joint, while free movement was to be obtained between the superior epiphysis of the tibia and the shaft, there being, however, no crepitus.

This lesion has been but rarely recorded, the only cases I am aware of being those mentioned in Ashurst's *Encyclopædia*, namely, one quoted by Holmes from R. W. Smith, one by Stimson, one by Ashurst, and that mentioned by Madame Lachapelle; of those the only case presenting a history resembling that of mine being the one mentioned by Ashurst.

FRANCIS T. HEUSTON, M.D., F.R.C.S.I.,
Dublin. Surgeon to the Adelaide Hospital.

ACUTE IDIOPATHIC ABSCESS OF THE LEFT ORBIT.

PRIVATE W. W., was admitted to hospital with œdema of the lids and hyperæmia of the conjunctivæ of the left eye. The next day the eyeball was prominent and immovable, the pupil dilated and fixed, and there was great chemosis. Vision was impaired. The protrusion increased until the eye could not be covered with the œdematous lids, and the loss of vision complete. The displacement of the eye was downwards and inwards. Fluctuation was detected at the inferior and outer angle, and the abscess opened. Linseed poultices were applied for the first forty-eight hours, and afterwards warm water dressing. There was an ulcer at the lower and outer angle of the cornea, and sympathetic ophthalmia of the right eye. The protrusion of the eyeball did not completely subside until the thirty-sixth day. Vision commenced to return on the seventh, but he did not completely regain his sight until the twenty-fifth day. He was discharged, with normal vision in both eyes, on the fifty-fourth day.

Remarks.—The case was first thought to be erysipelas; there was no history of any injury. Although free exit was given to the pus the protrusion was a long time subsiding.

J. C. CULLING, Surgeon M.S.

OBSTETRIC MEMORANDA.

A CASE OF PUERPERAL ARTERIAL THROMBOSIS.

ON September 21st, 1886, I was called to see Mrs. B., aged 21, who was said to be in a fit. I found her unconscious. Her friends gave me the following history:—She had been in a bad state of health for eighteen months, and two weeks before my visit had had a miscarriage of a six and half-months' fœtus, dead. The midwife in attendance stated that no unusual quantity of blood had been lost at the time. This was the second pregnancy. No history of rheumatism.

The following morning I found consciousness partially restored, the patient aphasic, the right side of face and right arm and leg paralysed. The body was sparely nourished and extremely anæmic. A blowing systolic murmur could be heard over the cardiac area, loudest in the third costal interspace, apex beat situated in left nipple-line, in the sixth interspace: a loud *bruit-de-diable* in the veins at root of the neck. A slight lochial discharge still present with normal odour. Urine, specific gravity, 1018; no albumen.

The diagnosis was "aphasia and hemiplegia following embolism (or thrombosis) of left middle cerebral artery." On October 5th pain was complained of at the back of the left knee-joint (which I may mention had been kept more or less continually flexed), the pain followed the line of the popliteal artery, the limb was cold beyond and no pulsation could be detected in the anterior and posterior tibial arteries. In the course of a few days, however, the pulse returned faintly in both.

On October 21st the patient was seized with severe pain on the left side beneath the lower ribs. The area of the pain appeared to correspond very nearly with that of the spleen. On October 28th the patient complained of pain in the right axilla, following the line of the axillary and brachial arteries, the arm was cold and hyperæsthetic, and the pulse absent in the brachial and radial arteries. The pulse reappeared at the wrist on November 5th. The patient gradually became weaker, hypostatic congestion of the lungs set in, and she died towards the end of November. No *post-mortem* examination was allowed.

This appears to be one of those rare cases of puerperal arterial thrombosis; the arteries implicated being the right axillary, left popliteal, left middle cerebral, and splenic (?).

It is interesting to note that in the arm and leg, the obstruction took place in the arteries which in the case offered most resistance to the onward flow of the blood. On account of the paralysis the right arm was kept down by the side. The axillary artery was thus kept constantly bent, while the left knee was almost always in a bent position (the reason the patient gave was that one was better able to move in bed), so that the popliteal artery was kept curved more than was natural.

According to authorities the nature of the thrombosis is obscure. Though several factors, which are supposed to favour coagulation of blood, were present in this case: 1, anæmia; 2, puerperal effete materials in the blood; 3, weak heart; 4, increase of fibrin during pregnancy.

Glasgow. S. GEORGE CAMPBELL, M.D.Edin.

CLINICAL MEMORANDA.

"PADDLING."

Now that the annual exodus of Londoners and others to the seaside is at hand, it may be of use to draw attention to the dangers and evils of the amusement called "paddling."

"Paddling" in the sea is chiefly indulged in by children (although an adult may occasionally be observed taking his pastime therein), and numbers may be constantly seen, with their clothes tucked up to their hips, immersed almost so high in cold water, while a hot sun is beating on their heads. A common result is a condition resembling heatstroke. The victim is feverish and restless, complaining of headache and nausea. The head is hot while the extremities are cold. Jactitation of the limbs is commonly seen, and vomiting is a frequent symptom. The conjunctivæ are congested, and there is intolerance of light and sound. Twice I have seen peritonitis brought about by this dangerous practice, and in several cases the symptoms attributed to "paddling" have been sufficiently serious to cause anxiety. But it is surprising that, among so many offenders, there should be so few sufferers. The symptoms, however, in many cases may not be sufficiently severe to render the attendance of a medical man necessary; and numbers of children are, doubtless, languid and poorly, suffering from headache and *malaise* from this cause, while the parents account for the disturbance by the theory that "the climate is too strong for them," or that "sea air does not agree with their livers," or some such inscrutable explanation, as is often heard from the mouth of the layman.

If "paddling" must be allowed—if, as some parents and guardians say, the child insists upon it—a degree of safety is insured by making the child leave the water frequently, and run about on the shore. The limbs thus become warm again, and some danger is avoided at the expense of the skin, which is apt to become inflamed and blistered by the sun. This, however, is a minor evil.

The treatment which I constantly employ in cases of heatstroke from "paddling" is to make the patient paddle, as it were, at the other end. That is, the use of hot mustard and water to the extremities, while douches of iced water are applied to the head, is the most satisfactory as it is the most rational way of dealing with such cases. To relieve congestion of the internal organs, a

brisk purge is also needed; and, however rapid the recovery, I find that the lesson is effectual, and the indiscretion is not repeated.

Broadstairs. THOS. F. RAVEN, L.R.C.P., etc.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

THE GENERAL HOSPITAL, BIRMINGHAM.

COMPOUND FRACTURE OF THE PATELLA TREATED BY SUTURE.

(Under the care of WILLIAM F. HASLAM, F.R.C.S., Assistant-Surgeon to the Hospital.)

A. J., aged 30, was admitted on December 28th, 1886, at 1 A.M. He had fallen through a skylight on to his left knee, a distance of about eighteen feet, and had a scalp wound about three-quarters of an inch long between the frontal sinuses, a radiating wound of the nose communicating with a fracture of the nasal bones, and a compound fracture of the left patella. At 11.30 A.M. the wound over the knee was enlarged by a vertical incision. The fascial and subcutaneous tissues were found to be extensively bruised, so much so that it was obvious there would be much suppuration. The patella was fractured transversely about its centre, and there were four small fragments almost entirely detached from its outer border; the joint was full of blood. The wound was then carefully cleaned, all dirt removed, the worst of the bruised tissues cut away, and the joint thoroughly washed out with a solution of carbolic acid (1 in 40). The small loose fragments of patella were cut away, and the two remaining ones drilled with a small gimlet from their anterior to their fractured surfaces, a single stout silver wire inserted, and, after a small section of cartilage had been removed from the posterior part of each, they were firmly and accurately approximated. A large drainage-tube was put into the joint on each side, through incisions made for the purpose; others were placed outside the capsule, so as to drain all pouches where it was thought that matter might collect; the skin wound was brought together with wire sutures, and a tube placed in each end. The carbolic spray was used.

December 29th. Has had a good deal of pain in the knee; the dressings were changed, and the back splint changed for a "Neville's;" temperature in the morning 99.6°, in the evening 101.6°.

December 30th. Very comfortable, temperature 100.4°.

January 1st, 1887. Knee dressed, the two small tubes in the operation wound removed, the others shortened. Temperature 101° in the morning, 99° in the evening.

January 3rd. Dressed. Three sutures removed; some sloughing of the skin at the lower end of the incision. The tubes from the joint removed. Temperature 99.8°.

January 5th. Dressed; sloughing of skin increasing.

January 6th. Temperature in the evening 101°. Some pus was found shut up at the seat of fracture in the nasal bones; this let out.

January 8th. Temperature 100°. Knee dressed; the skin wound suppurating freely, the three remaining sutures removed, and a quantity of sloughing aponeurotic tissue seen over the patella; some of this removed. A collection of pus found between the skin and the capsule of the joint on the inner side; this let out, and a drainage-tube inserted. From this time he progressed favourably; small collections of pus were found, and opened from time to time; he had little or no pain, and his temperature was only once as high as 99.4°. The incision over the patella was converted into a long granulating wound by the sloughing that took place, and the end of the wire suture in the patella projected through the granulation; this was removed on March 5th, the wound at this time being dressed only once a week.

March 26th. Healing well; the spray left off.

April 2nd. Removed to the Jaffray Branch Hospital. He remained there until the early part of July, by which time the wound had healed. He would not permit any attempts at passive motion to be made, being perfectly satisfied with a stiff knee. On his discharge he returned to his former occupation as a porter in a large shop, and has been doing from twelve to fourteen hours' work a day ever since. At the present time he knee is firmly fixed in a slightly flexed position, the patella has united by bone, and can be moved a very little from side to side. As far as can be made out without an anæsthetic, there is no movement in the knee itself.

REMARKS.—There are several points of interest in this case. 1. It illustrates how the introduction of the antiseptic system has enabled surgeons to save limbs that would formerly have been removed. 2. By careful attention to drainage, the knee-joint was kept free from pus, though suppuration was going on freely above it. 3. The occurrence of bony union, and the fact that within seven months of the accident the patient was able to resume his work, and to be walking about all day; a result we could not look for so soon after a simple fracture treated without suture.

HOSPITAL FOR WOMEN, SOHO SQUARE.

HYDRAMNIOS SIMULATING OVARIAN TUMOUR, WITH PREGNANCY: ABDOMINAL SECTION: DELIVERY PER VIAS NATURALES: RECOVERY.

(Under the care of Mr. H. A. REEVES.)

[Reported by G. H. BURFORD, M.B.]

D. D., aged 21, married some four years, was sent into hospital on November 21st with a large and rapidly increasing abdominal tumour. She stated that a month previously, being then four months' pregnant, she had, through fright, fallen downstairs, since which time distension of the abdomen had continuously developed, concurrently with acute and perpetual pain in both flanks. No other obvious result of the injury had been diagnosed. There existed also dyspnœa on exertion, inability to adopt the recumbent posture, and commencing œdema in the feet.

She remained under observation in the hospital for a fortnight, and the abdominal swelling increased almost daily. A large pyriform mass, cystic and fluctuating, occupied the left flank, and extended upward under the ribs. In the right flank was another cystic tumour, more rounded and smaller. Fluctuation and vibratile thrill, easily elicited in some axes of the whole mass, were in others totally wanting. Vaginal examination showed the usual signs of pregnancy.

The patient's condition grew steadily worse; with frequent dyspnœa and acute nocturnal pain, the abdominal swelling grew barrel-like in contour, and the skin tightly stretched over its surface. The hypotheses of ovarian cyst with pregnancy, of hydramnios, and of other cognate conditions were discussed; but as the tumour was bipartite and asymmetrical, as no uterine contractions could be felt, and no fœtal heart-sound demonstrated, Mr. Reeves decided to perform exploratory abdominal section.

On December 8th, a long median exploratory incision was made, exposing an asymmetrical tumour, which proved to be entirely uterine, blocking the pelvis, and extending up to the ensiform cartilage. Only with much traction could the abdominal wall be sutured, and this, with the daily increasing distension, the paper-like thinness of the uterine wall, and the acute distress of the patient, decided the question of immediate forced labour. Dr. Holland accordingly dilated the os, ruptured the membranes, and evacuated the uterus of several gallons of amniotic fluid, and twins of about four to five months' fœtal life. The uterus contracted, the abdominal incision was at once freed from strain, and no uterine hæmorrhage ensued.

The puerperium ran an ordinary course. No cellulitic deposit occurred; lochia as usual, intra-uterine douches of iodidised water being used daily. The abdominal section caused a little anxiety. With some abdominal distension the temperature on the fourth day rose to 104°, and calomel was given to cut short any peritonitis. The drug acted freely, the distension went down, and the temperature fell accordingly, though not to normal.

For some time the patient remained in hospital to recuperate; but anæmia persisted, together with nocturnal and sometimes also diurnal rises in temperature. She was ultimately sent to a convalescent home at Brighton on January 26th. Some time after her return home she reported herself at hospital, and was then ruddy and stouter, and expressed herself as feeling perfectly well.

REMARKS.—Hydramnios attaining such considerable dimensions by the fifth month of pregnancy is somewhat rare, and this lent additional difficulty to early diagnosis. No albuminuria existed while in hospital, before, or after operation, though there was a previous history of rheumatic fever.

REPORTS OF SOCIETIES.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

FRIDAY, JULY 6TH, 1888.

J. W. HULKE, F.R.S., President, in the Chair.

Vernal Conjunctivitis.—Dr. ADOLF BRONNER (Bradford) related three instances of vernal conjunctivitis. In the first, a boy aged 10, the typical changes described by Sämisch and others were present on the limbus, cornea, and conjunctiva of the upper lid. In the second, a youth of 18, the limbus only was effected. The third patient was a woman, aged 30; the limbus was much affected, and the conjunctiva of the upper lid slightly. He did not regard vernal conjunctivitis as a separate disease, but rather as a hypertrophic form of chronic conjunctivitis, not rare in children, and generally classified under follicular conjunctivitis.

On Hæmorrhage after Iridectomy.—Dr. BRONNER also made a short communication on a suggestion by Dr. Bell for preventing hæmorrhage into the anterior chamber after iridectomy. It consisted simply in placing the iridectomy scissors in boiling water just before use. This was often efficacious, but in some cases, especially cases of glaucoma, there was, nevertheless, abundant hæmorrhage.

Embolism of the Retinal Artery cured by Massage.—Dr. MULES related the case of a young woman, aged 21, who perceived a blank over a portion of the upper segment of her right visual field. Within an hour she was at the Manchester Eye Hospital. Her right visual field was found contracted above. Seen under direct ophthalmoscopic examination, the fundus showed a blocked lower retinal artery, the clot, which was colourless, being visible, and extending from the entrance on the disc to the first bifurcation; the plugged vessel looked as if it had been stuffed with cotton wool. The retina was slightly œdematous. Massage was tried, and the clot disappeared, sight at once improved, and the vessel was seen well filled. Certain difficult points of diagnosis and pathology were submitted to the members for explanation. Charts taken by McHardy's perimeter, by Dr. Griffith, Dr. Roberts, and Dr. Mules, were shown, explaining the course of the field changes. The patient's physical condition was normal.—Dr. MONEY asked what evidence there was that this was a case of embolism. He further asked whether the patient was the subject of migraine, as in cases of nerve storm of that character vascular spasm was well known.—Dr. W. J. COLLINS asked whether there was leukæmia, and thought that, if so, the white appearance might have been due to the clot being entirely composed of leucocytes.—Mr. FROST thought that the white appearance was not due to clot, but to emptiness of the vessel.—Mr. JESSOP wished to know what was the condition of the vessels beyond. He had seen a somewhat similar case about two hours after the occurrence. He had tried nitrite of amyl, but without improvement.—Mr. GUNN asked as to the condition of the vein.—Dr. ABERCROMBIE referred to a paper by Mr. Priestley Smith on the association of spasm of the retinal artery with uterine or ovarian disorder, and asked whether this might not have been of that nature. He thought that the condition described was unlike embolism.—Dr. MULES, in reply, said that his first idea was against the theory of embolism. Dr. Graefe, whom he consulted, considered it undoubtedly a case of embolism. Professor Hirschberg thought that the appearance was due to aggregation of white corpuscles, and that the embolism was further back. It was noteworthy that the massage was completely effectual in removing the clot. A year previously the patient had a similar occurrence, and recovered at once upon rubbing her eye. The patient was a very healthy young woman, not subject to migraine, and free from menstrual disorder.

Secondary Hæmorrhage after Iridectomy for Glaucoma.—Dr. ROCKLIFFE contributed notes of a case of secondary hæmorrhage after iridectomy for glaucoma. Mrs. D., aged 56, the subject of chronic glaucoma, had iridectomy performed at 11 A.M. on March 17th, under cocaine. The wound was dressed with eserine and cotton-wool. She drove home—a ride of ten minutes—and remained well until 5.30 P.M., when sudden hæmorrhage set in. A large clot protruded through the iridectomy incision. The eye was enucleated on the third day.—Mr. HULKE asked what anæsthetic had been used. The hæmorrhage was too early to be called secondary.—Mr. LAWFORD said cocaine was used.—Mr. SIMEON SNELL had had a case of severe hæmorrhage soon after iridectomy; the eye shrank, but was not removed.—Mr. GUNN thought the case one of exaggerated hæmorrhage, like those more numerous ones in which extravasation occurred between the retina and choroid.—Mr. MCHARDY agreed with Mr. Gunn, and said that he did not perceive what good there was in leaving the globe after such an accident had happened. The accident only showed how necessary it was to avoid any exertion on the part of the patient after iridectomy for glaucoma.

Partial Ophthalmoplegia.—Dr. ROCKLIFFE also communicated a case of this occurrence in a clerk, aged 23. There was dimness of vision and pain in the right eye when looking at near objects. Eserine and spectacles + 1 D were prescribed. Eighteen months afterwards internal strabismus of the right eye, with diplopia of one week's duration, occurred. The vision was normal, with homonymous diplopia. Both pupils were widely dilated and fixed, but the range of accommodation of the left eye was six inches. There were no other symptoms. Iodide of potassium, the intermittent current, and mercury, were prescribed. There was a remarkable toleration for mercury and iodide.

Card Specimens.—The following card specimens were shown, namely, Mr. JONATHAN HUTCHINSON, jun.: Traumatic Choroiditis.—Mr. MARCUS GUNN: Closure of Perforated Corneal Ulcer by Transplanted Conjunctiva.

Annual General Meeting.—The business of the annual meeting was then taken, the Secretary reading the report of the Council, which showed that the roll of the Society had now reached 218 members, the highest number yet attained. The report referred to the share taken by the Society in promoting the Donders Memorial Fund.—On the motion of Mr. POWER, seconded by Dr. STEPHEN MACKENZIE, the report was adopted.—The PRESIDENT then read a letter from Professor Donders, warmly thanking the Society for the kindness shown him by the members, and transmitting a medal struck in commemoration of the event.—The TREASURER (Dr. Ord) presented the balance-sheet, duly audited.—The ballot for the election of officers and Council for the ensuing session was then taken, and, on the proposal of the PRESIDENT, a hearty vote of thanks was recorded to the retiring Secretary, Dr. Sharkey.

EPIDEMIOLOGICAL SOCIETY OF LONDON.

WEDNESDAY, JUNE 13TH, 1888.

R. THORNE THORNE, M.B., President, in the Chair.

Diphtheria and its attendant Throat Illness.—Dr. ARTHUR DOWNES read a paper on this subject in which, after pointing out that the incidence of diphtheria on the great towns had markedly increased since 1881, he proceeded to consider the relationship of this disease to "croup" and to the minor throat illness which so constantly attended it. Examples from his official experience were given in illustration of the danger to the public health which the present nosological chaos entailed. He contended that the throat illness associated with epidemic diphtheria, using the word in its narrowest sense, was absolutely *ejusdem generis*. Referring to theories of development of diphtheria from simple sore throat by a process of evolution, he observed that none of the supposed transformations of harmless into pathogenic organisms had stood the test of criticism, and finally that in Dr. Burdon-Sanderson's well-known experiments on infective inflammations there was nothing to show that the results were not simply due to the survival of a particular pathogenic organism over all others in successive cultivations. Epidemics of diphtheria in rural districts were of two kinds, "smouldering" and "explosive." In the former, unrecognised cases commonly bridged the gaps between the severer outbreaks. The explosive type of outbreak seemed often to be occasioned by increased infectiousness of some particular case. History seemed to afford a parallel example of sudden exaltation of infectious virulence in the well-known outbreaks of typhus known as the Black Assizes. Virulence of an epidemic and spreading power, however, though usually associated, were not necessarily concomitant. The usual mode of spread of diphtheria by ordinary personal infection and occasionally by fomites was illustrated by examples. Milk epidemics were unknown in the author's rural districts, where little milk is consumed, and no evidence exists of water-spread diphtheria. Dr. Downes related a remarkable example of outbreak of membranous sore throat extending over a period of five years, and ceasing suddenly and entirely on remedying a definite soil-pipe defect, but as the outbreaks never spread beyond the one house, and the cases were not followed by any typical sequelæ, he considered their relationship

to true diphtheria unproven.—In the discussion which followed, the PRESIDENT, Drs. BUCHANAN and MICHAEL TAYLOR, and Mr. JACOB took part.

Vaccination and Small-pox Scars.—A paper was read by Dr. ROBERT CORY, on the condition as to vaccination of 1.50 persons scarred by small-pox, in which he stated that 53.2 of these persons were unvaccinated, and that they had come under his observation in the out-patient department of St. Thomas's Hospital and the vaccination stations with which he was connected. They were, he said, derived from a community in which the vaccinated were to the unvaccinated in the rough proportion of twenty to one, and that many of the smaller (unvaccinated) class had already perished from small-pox, leaving fewer survivors, unvaccinated persons dying in larger proportions than vaccinated when attacked with small-pox. Those who were admittedly unvaccinated were attacked at the average age of 7.02 years; those alleged to have been vaccinated, but who bore no mark of the operation at the average age of 13.46 years; while those who possessed one, two, three, and four infantile vaccination marks had the disease at the average age of 17.2, 18.2, 19.5, and 19.75 years respectively. The history was also given of fifteen persons who had lost their eyesight from small-pox; they were attended by Dr. Brailey, who record that seven were unvaccinated, while four others, alleged to be vaccinated, bore no marks. The unvaccinated were attacked at the average age of 9 years, the four alleged vaccinated cases at the average age of 8.2 years. The two who possessed one scar had an average age of 19 years before attack, and two who had more than one scar 30 years before being attacked, thus showing that upon the character of the vaccination depends the duration of freedom from loss of eyesight and permanent disfigurement.—In the discussion which followed, the PRESIDENT, Drs. BUCHANAN and LLOYD, and Mr. COLLINS took part.

REVIEWS AND NOTICES.

DISEASES OF THE SKIN. By W. ALLAN JAMIESON, M.D., F.R.C.P.Ed., Extra Physician for Diseases of the Skin, Edinburgh Royal Infirmary; Lecturer on Diseases of the Skin, School of Medicine, Edinburgh. Edinburgh: Young J. Pentland. 1888.

DR. JAMIESON tells us in his preface that in the kingdom of Nature there are periods during which the continuity of evolution seems suspended and rest reigns; and in the domain of science there are similar epochs, when activity alternating with comparative repose prevails. He thinks that there is repose at present in the dermatological world. It is well, indeed, that it is so; for no one can deny the intense activity of what we may call the eruptive period. Dr. Jamieson has taken advantage of the temporary lull to produce a book on dermatology, and we congratulate him on the result of his labours.

On the title page we see the usual formula—a manual for practitioners and students. It is not by any means a mere handbook for students, though thoughtful senior students may read it with benefit; it is rather a series of highly philosophical essays on certain selected subjects, with each of which the author is himself familiar. Taking this view we feel that Dr. Jamieson is quite at liberty to make his own selection, and to proportion as he thinks fit the appropriate space for each subject.

The chief charm of the work as a whole is its literary style. It is refreshing to read such vigorous, lucid English, without one ambiguous line. It reminds us more of Watson's *Physic* than any more recent work.

The first chapter contains a sketch of the structure and physiology of the skin and its appendages. The former is most complete, but the physiology does not receive the attention it deserves. For example, there is no reference to the important question of cutaneous absorption. There is much of interest concerning hair and its development. Dr. Jamieson says that as a result of the researches of Liebreich on lanolin, hair is raised to a higher position than formerly. It must now be regarded as a living organised structure which has a feeble yet defined power of elaboration, and that the sudden blanching of the hair is thus not so miraculous as has been supposed.

The second chapter is an original explanation of some of the causes which regulate the localisation of skin diseases. It should be read with care, as it throws a clearer light into the obscure region of etiology.

The mode of studying skin diseases occupies the next few pages, when we pass to a concrete chapter on the primary and secondary lesions, and a brief notice of classification. Dr. Jamieson has not made any attempt to modify or improve any existing classification, nor has he offered us a new one of his own. We cannot help thinking that he might have done the latter with advantage. The subject has not yet been marshalled in such a manner as to leave no room for improvement. Dr. Jamieson considers that on the whole Dr. Bulkley's classification is the best, and he gives it in its entirety. It is curious to note that the author does not follow the order of this in the text, nor does he in fact give a description of all the diseases named. We have said that Dr. Jamieson is at liberty to make his own selection, but still a book of this importance can hardly be said to be complete when such important subjects as pemphigus, purpura, rodent ulcer, and the various drug eruptions are not described. It is true that these matters are touched on incidentally under other headings; thus, pemphigus is mentioned in connection with exfoliative dermatitis, interesting enough no doubt, but hardly fair to pemphigus. This poor Cinderella is dismissed in these words: "Till we know what pemphigus really is, we can say no more of it than that it is a disease characterised by the successive formation of bullæ." We shall never know what it is if so great an authority practically ignores its existence. Again, purpura, in the form of purpura rheumatica is mentioned in the chapter on erythema, but no notice is taken of iodic, syphilitic, or other kinds of purpura; the same criticism we must apply to rodent ulcer. Surely this disease is of sufficient gravity to merit a section to itself, yet it only appears for the purpose of assisting in the diagnosis of syphilis.

To the busy practitioner, the most practical and suggestive portion of the book is the hundred pages or so devoted to the consideration and treatment of eczema. Taken by itself it is of sufficient importance to establish the reputation of the author as a clinical observer. It is quite impossible to quote to advantage any portion of this excellent section, but we may draw attention especially to the clear subdivision of the treatment; for example, ointments are not spoken of in the usual crude manner, but are subdivided into cooling, penetrating, continuous, and stimulating ointments, and other remedies are considered in the same comprehensive way.

We have had the greatest possible pleasure in reading this book, which is marred by only one regret, and that is that the coloured illustrations are not up to the high standard of the text.

It was Lord Bacon who said that "Some books are to be tasted, others to be swallowed, and some few to be chewed and digested." This classical work, by Dr. Jamieson, is one of the last class, and as such we strongly recommend it to the profession.

CURVATURES AND DISEASES OF THE SPINE. By BERNARD E. BRODHURST. Pp. 133. London: Churchill.

MR. BRODHURST has given us in a fourth edition the benefit of his experience in connection with disease of the spinal column, including the forms of curvature unassociated with destructive disease of the vertebræ, and vertebral caries and its results.

About one-half of the volume is devoted to the consideration of lateral curvature. The predisponents to this condition—debility and rickets—are briefly alluded to, and the cases are then grouped under the headings of the main proximate causes, such as prolonged fatigue, bad habits of sitting and standing, defects of one or other lower extremity (flat-foot, in-knee, hip-disease), disproportionate use of one or other arms, and, more rarely, persistent muscular spasm, developmental abnormalities, and certain diseases of the pleura and lung. Mr. Brodhurst believes that the deformity is most commonly initiated by flat-foot or in-knee, the inefficiency of the defective member leading to a tilting of the pelvis in order to bring the line of gravitation over the opposite hip; as a consequence of this the vertebral column, carried with the pelvis, necessarily tends to incline in such a manner as to throw the head and thorax out of the vertical line, and it is to prevent this loss of equilibrium that compensating curves are formed, first in the lumbar, afterwards in the dorsal and cervical region. This theory is, however, of less general application than might be imagined; flat-foot and in-knee are indeed frequent in association with spinal curvature, but it is not always clear that they are the primary conditions; and while in many cases it appears far more probable that the deformities in the extremity

and in the vertebral column are merely associated effects of a common cause, there are others in which it is possible that the former are even the result of a pre-existing deflection of the spine. In illustration of another supposed factor in the production of lateral curvature, Mr. Brodhurst quotes two examples, that of nursemaids who carry children upon one arm, and that of persons who have undergone amputation of one upper extremity. In both of these instances, however, there is an element for consideration which is probably more important than the excessive use of the one limb, namely, in the one case the unevenly distributed weight of the child telling upon an enfeebled column; in the other a loss of equilibrium consequent upon the mutilation. Rachitic scoliosis is of course treated separately, in view of the special trophic lesion in the bony framework.

A chapter upon the "formation of spinal curves" gives a summary of the various theories in explanation of what is perhaps the most interesting feature of the disease, the rotation of the vertebræ, but it cannot be said that any of the views brought forward do much to solve the problem. The authorities even disagree as to whether the rotation is a primary feature in the deformity or a result of the lateral displacement. Mr. Brodhurst believes that it is secondary, and that it is due to abnormal pressure on the concave side of the spinal curve, and to the absence of pressure and support on the side of the convexity. In any case, however, it is this rotation which gives rise to the most striking and pathognomonic signs of the disease in its more advanced stages, and the author wisely directs especial attention to its manifestations.

The associated changes in the shape of the thorax and pelvis are pointed out, and the possible effect of spinal curvature upon the functions of the female pelvis is, of course, referred to. This is fully recognised by obstetricians, but it is doubtful whether surgeons are equally alive to one of the results of the same condition in the male pelvis referred to by Mr. Brodhurst, the twisting of the urethra from its proper course, and the consequent risk of embarrassment in the attempt to introduce a catheter in a case of the kind.

As to treatment, the author holds forth against the abuse of Sayre's jacket and other like appliances; but in place of these he is in favour of a special apparatus with plates adjusted for the support of the convexities of the curves. He does not, however, give any figure of the instrument, although we have two of the usual comparative sketches of "before" and "after" to show its efficiency. The employment of carefully-regulated gymnastic exercises, which in the great majority of cases must be the sheet-anchor, is dismissed very briefly.

The section dealing with disease of the spine and angular curvature is much less full and complete than the last. It is, in fact, singularly meagre, both in its pathological and therapeutical aspects. The signs and treatment of psoas abscess are discussed with little of the thoroughness to be expected in a monograph, and the more modern operations are almost completely ignored.

It is difficult to pronounce a verdict upon Mr. Brodhurst's book without knowing more of its object than appears in the preface or text. If it be intended as a guide for the student and practitioner, it is decidedly lacking in the kind of detail and completeness that would make it of real service. If it be intended for the general public, it may be regarded as a sufficiently clear general statement, free from unnecessary technicalities, and written with much fulness of experience. There is nothing that can claim the credit of novelty or originality in the matter; but the manner is good, and, so far as the book goes, it is, in the main, sound. We only regret that it does not go further.

PRACTICAL ZOOLOGY. By Professor M. MARSHALL and Mr. C. HURST. London: Smith, Elder, and Co. Second Edition.

THE first edition of this useful manual was reviewed in these columns a few weeks back. The new edition differs from the previous one chiefly in the introduction of several new figures, only a few slight alterations having been made in the text. The additional figures include pictures of *Amœba* and *Vorticella* in various phases of their life-history; these are very excellent representations of the animals, and reflect great credit on the wood-cutter for the artistic effect produced, the hard lines usually seen in such drawings being here absent. Most of the other new figures are also very useful; but of the introduction of such drawings as those of the crayfish's appendages and rabbit's vertebræ, although accurate, we must express disapproval. One of the chief features of "Marshall and Hurst," in distinction from certain other students' aids to practical zoology, was the limitation of the figures to such as were more or less diagrammatic, or represented structures which are difficult for the student to make out without help, for it is a very important point in teaching this subject to induce the student to draw the various parts of the animals from the subjects themselves. But the introduction of figures of such structures as the student can readily see for himself seems to us a great mistake; for the student, having good pictures at hand, does not take the trouble to identify the various parts in the actual object, and probably does not read the description of those objects in the text. However detailed may be the instructions for dissection, a student requires some personal assistance for a thorough mastering of the subject. The "manual" should be an accompaniment to, and not a substitute for, personal help. Letting that pass, the book is so carefully written and so trustworthy that such an error of judgment may well be overlooked.

THE HUMAN FOOT IN HEALTH AND DISEASE. By J. RHYS, M.R.C.S. 95 pp.

To condense any work successfully is a far more difficult task than is usually believed, and requires not only an exhaustive knowledge of the subject, but the special and by no means common faculty for "boiling down" the raw material provided by original workers. To condense a technical work in such a manner that it shall be intelligible and useful to the general public almost calls for genius. Now to describe the human foot at all is not easy even for a highly trained anatomist and physiologist, and, to summarise its diseases, nothing less than the widest surgical experience is essential. Mr. RHYS has had the courage to undertake the double labour in a pamphlet of 95 pages.

The book, we are told, was originally intended for the enlightenment of the shoemaker, and we know of no artisan who stands more in need of scientific guidance; but we are at a loss to see what possible benefit he could derive from such information as the following, unaccompanied, be it understood, by any explanatory diagram: "The huckle-bone is in contact with the heel-bone behind and below, and is connected with another bone in front, called the scaphoid, from its resemblance to a boat; there is another bone situated beneath these three, called the cuboid, from its shape being like a cube." Again, the reader is told that the foot is a lever of the first order, the power being at the heel, the fulcrum at the ankle, and the weight at the toes: but there is no hint that this is only the case when the member is raised from the ground, and that, in standing and walking, the positions which the shoemaker is especially called upon to consider, the order of things is entirely changed. Then, again, with respect to muscular action, we find the peroneus longus has nothing better to do than to raise the outer border of the foot; the tibiales anticus and posticus get off no less lightly, but, in revenge, the flexor longus pollicis is called upon to raise the entire body upon the tip of the big toe. As to the arrangement and position of the "leaders," there is no diagram, and the learner is left to form a mental picture from such verbal indications as those quoted above.

Deformities and diseases of the feet are disposed of under the headings of corns, ingrowing nails, bunions, chilblains, gout, rheumatism, diseases of the joints, flat-foot, contraction of the knee *(que diable allait-il faire dans cette galère?)*, periostitis, ostitis, and club-foot. In club-foot the author informs the aspiring workman that "all the bones are normal in shape and size, but, owing to the balance of power between the antagonistic muscles, which move the foot, being interfered with, the bones are forcibly drawn from their natural position, although not to the extent of complete dislocation." To the management of this "readily curable" complaint he then devotes over twenty of his ninety-five pages—to the great discomfiture, we should imagine, of poor Crispin, who is no more likely to be called upon to treat a case of club-foot than to calculate the time of an eclipse.

Finally, we have a chapter on "Boots, and their makers and wearers." It is not easy to say whether the shoemaker will thank him for taking two pages to prove that the right boot will not fit the left foot; and his dictum that, "provided there is sufficient room for the natural play of the foot, the shape of the toe (of the boot), pointed or otherwise, is a matter of perfect indifference," is rather deficient in lucidity.

In conclusion, the object of the book is good; the achievement

fails altogether to attain its purpose. A little knowledge upon almost any subject is a very desirable thing; but unless the knowledge be well digested and free from taint of error, it is far worse than ignorance.

NOTES ON BOOKS.

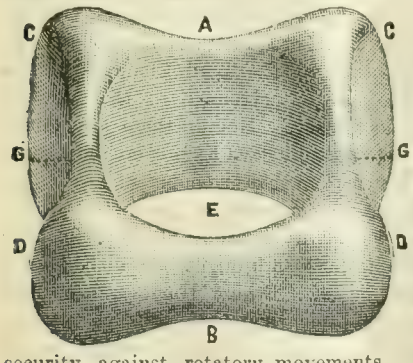
On Sterility and Impotence in Man. By R. ULTZMANN. Translated, with Notes and Additions, by ARTHUR COOPER. (London: H. K. Lewis.)—We view with approbation any endeavour to place this subject upon a scientific basis. Dr. Ultzmann has gone far in this direction, and his work is worthy of much commendation. It comprises four well-written chapters on sterility, the treatment of sterility, impotence, and the treatment of impotence. The translator, who has performed his task exceedingly well, has added almost an equal bulk of new matter. Attention is drawn to the very important fact that the cause of sterility lies more frequently in the male than is usually thought to be the case. We think this small work well worthy of perusal.

Pocket Therapeutic Notes on New Drugs and Remedies, improved Pharmaceutical Preparations, and Medical Specialities, first edition. (Bristol: Ferris, Boorne, Townsend, and Boucher. 1888.)—This handy little volume contains an alphabetical list of many new drugs and preparations, with short notes on their therapeutical value and a statement of their present retail price. It has already been necessary to add an appendix containing short articles on some of the very latest remedies, as, for example, phenacetin, sulphonal, and ustilago maidis. The volume combines the advantages of an "extra pharmacopœia" and a price list, with some disadvantages, however, chief among which we may note the interpolation of a string of testimonials to the value of nepenthe. The publication of such testimonials at all is undesirable, but if Messrs. Ferris consider it advisable to resort to this method of recommending their preparations the matter ought to appear among the advertisements at the end.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

DR. HOFMAN'S IMPROVED PESSARY.

WE have received a sample of this pessary, which differs from the shape originally devised by Dr. Hofman some years ago, in the following particulars, namely: (1) It takes up less room; (2) it is said to be so constructed as more closely to conform itself to the anatomy of the parts. These advantages are both secured chiefly by the adoption of the lateral concavities G, corresponding with the anterior concavities A B.



Another variation from the original pessary consists in replacing the convexity of the elevation of the superior-posterior surface C by a central depression corresponding with the depression of the anterior superior surface.

The pessary is thus allowed to rise higher in the posterior *cul-de-sac*, gives support to the body of the uterus itself, and additional security against rotatory movements. The anatomical pelvic pessary contracts towards its base, with an opening in its centre (E) large enough to receive the entire neck of the uterus without pressing upon it. The opening being shaped to the outlines of the organ, protects the os uteri from friction in cases of inflammation or ulceration. The posterior and interior surfaces (A and B) being concave, give protection both to the rectum and to the neck of the bladder.

The elevation (C) upon the superior-posterior surface is concave, and fits into the *cul-de-sac*. The lateral grooves or concavities (G) receive the distributed or equalised pressure from the lateral soft parts, and effectually prevent frictional rotation.

There are two transverse grooves (D) on its superior surface (one on each side), which allow the pessary to rise a little higher up, and which at the same time give support to the broad ligaments of the uterus. Its diameter is longer transversely than antero-posteriorly. The neck of the uterus (in fact the whole of the uterus) occupies the large central opening, and is kept in its natural position by the pessary being pushed upwards by the contraction of the soft parts upon its tapering lower extremity. Its anterior surface (F) slopes backward, thus allowing the anterior wall of the vagina to approximate the posterior wall almost immediately in front of the pessary. The superior extremity of the vagina resting upon the superior surface of the pessary, and in close contact all around it, it is retained in its position by the law of suction, and is in perfect anatomical harmony with the surrounding parts. Thus it gives relief to all the various displacements—prolapsus, partial and complete; ante- and retro-version; retroflexion and anteflexion.

Another form of the pessary has, it is said, been used with great success in the treatment of ulcerations of the uterus, chronic inflammations, etc. This pessary has a thin india-rubber covering or sack over its lower opening (E). The sack can be filled with cotton or sponge, etc., saturated with the proper remedial agent. If liquid applications seem desirable, the liquid is injected into the sack by means of a correctly flexed uterine syringe after the pessary has been placed into its proper position. By this means the local applications can be made without affecting or coming in contact with the neighbouring parts.

The pessaries may be obtained from Messrs. Krohne and Sesemann, of 8, Duke Street, Manchester Square, W.

IODISED OIL—OLEUM IODI.

THE Blytheswood Chemical Company, Govan, have recently brought out a preparation under the above name. It is stated by the makers to be "a solution of pure iodine" and to contain "ten grains of iodine" in each fluid ounce. The iodine, however, does not exist in the free state but in a combined form, and hence causes no discoloration of the skin when applied as a paint or as a liniment. The so-called oil is calculated to be useful in all cases in which the employment of tincture or liniment of iodine is indicated, excepting those where strong counter-irritation is required. "Oleum iodi" can be rubbed on the affected parts by the hand, when it not only acts as a lubricant but the combined iodine it contains is readily absorbed. It is miscible with both water and spirit, so that when necessary its strength can be increased by the addition of tincture of iodine or diminished by the addition of water. The agents for its sale are Messrs. Lorimer and Co., of Britannia Row, London, N.

CALVERT'S CARBOLIC MEDICAL SOAP.

MESSRS. F. C. Calvert and Co., of Manchester, the well-known manufacturers of carbolic soap, have submitted to our notice a very portable form of their 20 per cent. carbolic soap. It is made of the consistency of jelly and is put up in collapsible tubes with screw caps. A little can readily be pressed out into the palm of the hand and used as an ordinary soap. The screw cap can be then replaced and the tube be returned to the pocket. We have practically found the soap of great value as a deodorant after *post-mortem* and similar work.

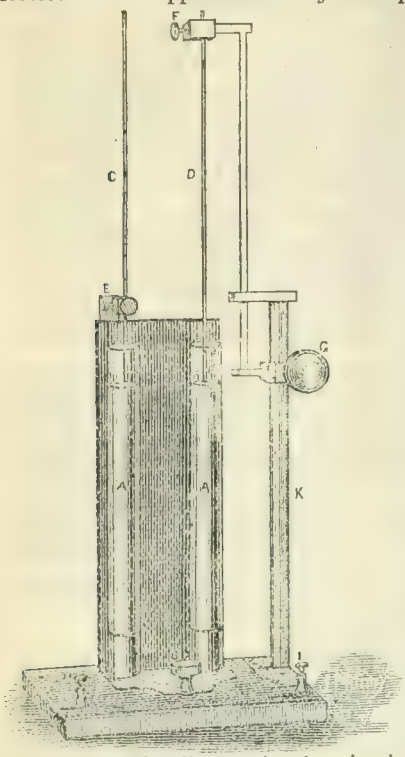
A LIQUID RHEOSTAT.

BY R. MILNE MURRAY, M.A., M.B., F.R.C.P.ED.

THE accompanying woodcut represents a form of liquid rheostat which I have devised, and have been using for some months past as part of the apparatus for the galvanic treatment of uterine diseases. I have found it convenient and efficient, and its description may prove of interest to others carrying out the same treatment.

A A are two stout glass tubes, nine inches in length and one inch in diameter. These are cemented into two brass cups, soldered to a thick plate of copper, which is fixed by the screw B to the base of the instrument. These tubes are filled to within an inch of the top with a dilute solution of cupric sulphate. The current enters

by the binding screw H, passes along a metal strip running up the back of the upright to the clamp E, which holds the stout copper rod C. As the instrument is shown, the copper disc in which the rod C ends is just immersed in the liquid in the left tube. The current accordingly descends through this column of liquid, crosses to the opposite tube by the copper base plate, ascends through this tube to the disc and rod D, which is held by the clamp F.



This clamp is attached to a brass rod, which can be lowered by turning the milled head G, which rotates a pinion gearing into a rack cut on the pillar K. This pillar is connected at its base to the binding screw I, by means of which the current leaves the instrument. The mode of using the instrument is sufficiently simple.

The rods C and D are set as shown in the cut; the positive terminal of the battery is connected to the binding screw H; the binding screw I is connected to one terminal of the galvanometer. The rheophores are connected to the negative terminal of the battery and the other binding screw of the galvanometer. The electrodes having been adjusted to the patient and the connections made, the collector is slowly rotated until the requisite number of cells are in the circuit. With forty large Leclanché cells the deflection will indicate from five to ten milliampères, an amount of current almost imperceptible to the patient. The clamp E is now slackened, and the rod C carefully and slowly pushed down into the liquid until the disc touches the copper base. This, of course, cuts out the left column, and the galvanometer will indicate from forty to sixty milliampères. As soon as the patient has become accustomed to this amount of current, the milled head G may be slowly rotated, so as to depress the rod D until the requisite amount of current has been obtained.

The solution I have found most suitable is one composed of one part of a saturated solution of sulphate of copper and eight parts of water.

The advantages claimed for the instrument are these:

1. Its high total resistance enables the full battery strength to be switched on without inconvenience.

2. By the simple way in which the left rod is attached, a large part of this resistance can be readily removed.

3. The rack and pinion arrangement enables the rest of the resistance to be very gradually reduced without any risk of interruption or sudden variation of the current.

THE ORDER OF ST. JOHN.—The Order of the Hospital of St. John of Jerusalem, which five hundred years ago was a most striking and practical order of chivalry, had fallen into decay, and was likely soon to have become extinct, had not the great development which has been given to its ambulance department, familiarly known as the St. John Ambulance Association, infused into it new life. To the generous aid of many members of the medical profession, who, as teachers and organisers, have worked hard for the Ambulance Association, its early success was almost entirely due, and its present work could not be maintained without their continued aid. The utter absence of any recognition of this debt, which is apparent in the reports of the Great Function on July 18th, when the Prince of Wales was installed as "Grand Prior," appears to call for some comment from us; but we hope that this reference may render it unnecessary for us to recur to the matter in the future.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, JULY 21ST, 1888.

THE LOCAL GOVERNMENT BILL:

CORONERS AND MEDICAL OFFICERS OF HEALTH: AMENDMENTS OF THE PARLIAMENTARY BILLS COMMITTEE.

Two highly important clauses were added to the Local Government Bill in Committee on Wednesday, both of which are of considerable promise for amendment in public departments in which the medical profession are interested, for their own sake and for the public weal. In both, the Parliamentary Bills Committee of the British Medical Association has been able to exercise an important influence on the course of legislation; and that influence has been exercised in accordance with principles and on lines already discussed and approved by the Association. It has been exercised not selfishly or in support of interests opposed to the general good, but under conditions and in directions which can but be generally beneficial, and will reflect honour on the profession and increase the claims of the profession and the Association to public estimation.

The election of coroners by freeholders has long been recognised as a great abuse. The absence of a register, the cost of scrutiny, the facilities for multiplying bogus freeholders' and "graveyard" franchises, has more than once made the office of coroner the sport of the least scrupulous and wealthiest candidate. The expenses of election have often been excessive, and sometimes almost ruinous to candidates, and the mode of election left an open field to a variety of malpractices. The Bill for amending the mode of election of coroners, brought into the Upper House by the Lord Chancellor, proposed to transfer the power of selection to the Lord Chancellor, thus adding a most undesirable mass of patronage to that already possessed by that high functionary. Nor is there any doubt that the patronage so vested would have been exercised almost exclusively in favour of lawyers; so that the opportunity of office which the medical aspirants for coronerships have so often succeeded in obtaining, and have very worthily filled, would have been swept away. This matter was brought before the Parliamentary Bills Committee by Mr. Ernest Hart, and he was authorised to endeavour to obtain the transfer of such selection from the Lord Chancellor to the County Councils to be created by the Local Government Bill now before the House of Commons. The results have been very successful. Lord Herschell and other leading members of the House of Lords approved and adopted the principle, and the Lord Chancellor

ultimately accepted the amendment in the sense proposed. There was, however, an obvious difficulty, in that the Local Government Bill is not yet law, and no such bodies as County Councils at present exist. This difficulty has been got over by using a general phrase in the Bill as it was passed through the Lords. Meanwhile the House of Commons has adopted a new clause in the Local Government Bill which expressly confers on the County Councils the power of electing coroners. The County Councils will be representative bodies of high character. The Coroners' Society has already expressed to the Parliamentary Bills Committee, through Dr. Danford Thomas, its approval of this amendment, and there can, we think, be little doubt that a satisfactory reform has thus been effected.

The new clause added to the Local Government Bill giving to such County Councils power to appoint a county medical officer subject to arrangement with the District Councils (the existing local authorities), is a matter of wide importance. When the British Medical Association first took upon itself the highly responsible and valuable duty of urging on the country the duty of creating a provision for sanitary inspection and administration throughout the country, it was aided and guided by distinguished men, of whom many have disappeared, especially by Stokes, Farr, Rumsey, Sibson, A. P. Stewart, W. H. Michael, Acland, and Carpenter, and the present Chairman of the Parliamentary Bills Committee. To their untiring efforts and to the able and instructive documents which, in concert with the Social Science Association, they year after year presented to the Government, was mainly due the Royal Sanitary Commission and the subsequent Public Health Act, of which Mr. Stansfeld was the official author. That most able and vastly important measure created a great system of local sanitary administration and a new class of medical officers of health. No one can doubt the vast benefits which have accrued to the country from this measure and from the influence which this army of sanitarians has been able to bring to bear in their respective localities.

The leading principle of effective administration, however, which the Royal Commission laid down, and which Mr. Stansfeld himself professes to hold in view, was the creation of a county authority over an adequate area, which authority should be able to appoint qualified medical officers, able to devote the whole of their time to the duties of their office. Mr. Stansfeld endeavoured to attain this end by the "permissive" method so much approved by our legislators generally in dealing with sanitary subjects, and held out as a premium the half-payment of salaries by the central authority at Whitehall to such small local authorities as chose to combine or otherwise to fulfil the required conditions of good sanitary administration. Special inspectors were, moreover, sent down into the country to preach combination. It is notorious that, where such combinations have been carried out in good faith, and remained permanent, the sanitary results have been admirable. On the other hand, it has over and over again been officially reported that the subdivision into petty districts, with parsimonious, prejudiced, impoverished, or obstructive authorities has been a great impediment to efficient sanitation. The boon of the half-payment was apt to be rejected by boards which preferred the principle that "every man should be entitled to wallop his own nigger;" and many appointments were made, with nominal salaries, and under conditions which indicated that vigorous action would be regarded with displeasure (and probably visited with early dismissal), and that the duties should be as nominal as the salary.

The absence of any county authority, other than that created *ad hoc* by special sanitary combinations, has been a great obstacle to the scheme of sanitary administration over adequate areas, by a competent body possessing and paying a suitably qualified officer able to devote his whole time to the work. The creation of County Councils by the Local Government Bill afforded an obvious opportunity of carrying on the good work in the manner which the highest medical and legislative authorities have always agreed to be the effective and proper manner. This duty was indicated by Mr. Ritchie in the original text of the Bill, but no suitable provision was made for informing the Council, or for providing it with medical machinery for administration.

The Parliamentary Bills Committee, acting on the lines laid down since first the Association has dealt with the subject, and finding that the Council of the Society of Medical Officers of Health unanimously concurred in their view that the new County Councils should be provided with a county medical officer, passed a resolution to that effect, and brought the earlier documents of the Association—practically the report of the joint committee of the British Medical and Social Science Associations adopted at the annual meeting of 1871—under the notice of Mr. Ritchie, Mr. Stansfeld, and Sir Lyon Playfair. In the end, Mr. Stansfeld drafted a very moderate and permissive clause on these lines, which the House of Commons adopted almost without discussion. We hope that that it will be found to work well, but no doubt it will only be partial in its operation at first. Sir W. Foster's clause, requiring that after a certain date new candidates for the office of medical officer of health who have not previously held office shall possess a diploma of sanitary science is in accordance with healthy precedents, and suits the requirements of to-day.

THE INDIA OFFICE AND THE ARMY MEDICAL SCHOOL.

We have in this Journal had occasion over and over again to comment on the practice of "doing and undoing," more particularly with reference to the Medical Service of the Army. It is with much regret we learn that the India Office is about to follow the example of the War Office in this particular. In our issue of July 14th we contrasted the care taken by the French Government to secure the best possible practical instruction for the medical officers of the Army with the half-hearted indifference of the authorities in this country on the subject. When the Army Medical School was organised, the Secretary for India recognised the fact that if special instruction for army medical officers was needful to meet the wants of the time and the demands of the public, the same was needful for the Medical Staff of an Army which, more than any other under the Crown, was liable to be frequently engaged in military operations under climatic conditions most trying to the health of the troops engaged. Accordingly the medical officers of the Indian Army were made to pass through

the same course of special instruction, and to undergo exactly the same final examination as their brethren of the Home Service. It has now come to our knowledge that "undoing" is to be the order of the day; that the medical officers of the Indian Army are no longer to be instructed in the specialities of Army Medical Service, and are, so far, to take an inferior position to the same class in the British service, strictly so-called. The question naturally arises, why? The only answer we have been able to get in reply to this question is, "that it is no longer necessary." Again we ask, why? We are told that the officer now or lately at the head of the Medical Service in the Bengal Presidency, when asked the question, said so. As there must be some reason, good or bad, for tendering such advice to his Government, we naturally inquired the reason, and were informed, on what we deem good authority, that the officer referred to was of opinion "that the required special instruction can be given in the hospitals of India."

Our readers already acquainted with the elaborate measures taken in France, and, up to the present time, in the Army Medical School at Netley, will naturally inquire whether in the "hospitals of India" any such measures have been taken to give this instruction. The medical officers of the army of India were, as we all know, distributed among the three Presidencies of Bengal, Madras, and Bombay. Has the Government of India gone to the great expense of providing, even in one of the "hospitals of India" at each of the Presidencies, the needful teaching staff, teaching plant, hygienic laboratory, library, and museum for this purpose? Nothing of the kind. What this curiously incompetent adviser of his Government meant was this, and only this: that in the "hospitals of India" young medical officers would have an opportunity of seeing and studying the diseases of India, just as they have now, *minus* the special training to qualify them for duly benefitting by what they see and study.

If the Government of India, following the advice given, are prepared to supply three schools for special instruction, one for each Presidency, then they are guilty of a piece of absurd extravagance. If, on the other hand, they think no special instruction necessary—that every medical officer in the future must, as of old, work out for himself in the dear school of experience all that is expected of army surgeons of the present day—they are guilty of an act of folly and retrograde policy under the guise of economy without a parallel in the present day.

Before finally determining to act on the senile advice of an officer known in his own service chiefly as an accomplished photographer, would it not be prudent to take counsel with wiser men with some special knowledge of the matter in hand? If, acting on the advice of this photographic specialist, the result is that the great Medical Service of India, now doing such splendid work, loses something of its *prestige* and present high standard of efficiency, the Government of India will, in such a case, be, as lawyers say, "estopped" from joining in the outcry that invariably arises when shortcomings, real or supposed, can be charged against medical officers in India or elsewhere.

We, with all earnestness, and in the name of the medical profession, advise the Secretary for India not to sanction what is not only a retrograde measure, but one unworthy of a great Government and its high responsibilities.

MODERN ART FROM THE PHYSIOLOGIST'S POINT OF VIEW.

Sir John Millais has contributed to a recent number of the *Magazine of Art* an article entitled "Thoughts on our Art of to-day," which presents many points of interest. The author is a thorough optimist, and believes that ability and talent are as abundant as ever, and that art has not degenerated, but that the demands of art have changed and expanded with the advance of time. It may be pointed out that the intelligence and taste of the public have changed also; a considerable amount of knowledge of the physiology of expression is diffused among us, so that the average man is much more a student of human form and action than in former times. All educated people look at, and, to some extent, admire and learn from the best productions of art. What is it that the artist tries to teach in his figure paintings? We do not here refer to Sir John Millais's works, or those of any particular artist. The author complains of the art critic that "he makes no allowances for the charm of mutilation or the fascination of decay." He does not say that such cause of admiration is to be defended, but that it is popular; he says, on the other hand, that "the great painters all painted in *bright* colours, such as it is the fashion nowadays for men to decry as crude and vulgar." Having referred to the prevalent taste which leads many men never to have green in a picture, and who will even stipulate when giving a commission that the canvas shall contain none of it, he says, "But God Almighty has given us green, and you may depend upon it it is a fine colour." In this ejaculation, in contrast to admiration of the professional art critic for "the charm of mutilation, or the fascination of decay," we see an indication of the desire of the physiologist to find expression of the artist's idea of the perfect man in noble attitude and action, such as may elevate and instruct; the beholder may then say, "Here is what a man may be and do." To express on canvas, as the writer may do in word-painting, the higher being and lives of men, is worthy of the artist and his noble profession. Sir John appeals to Nature's work as a defence for introducing a colour which happens to be out of fashion with a certain set of critics; we would add like remarks as to modes of expression in figures which are in vogue among some painters. Should we be called upon to admire the semblance and attitudes of maudlin weakness and hysteria sometimes represented in females as forms of beauty? or complexions showing the sickliness of anæmia or gross asymmetry of the body, and infants far gone in marasmus; figures with most of the mobile features and members hidden or absent from the individual, figures with forms of beauty but destitute of the expression of brain action? We are interested in the artist's work, not only because it is beautiful, but because it may teach us something of the more perfect types of the human figure in rest and in action, and may put before the public that which they tend unconsciously to imitate in gait and bearing. A good figure is a good teaching; children may be impressed and instructed by the picture of a noble man or woman, as well as by the story of noble deeds. We are glad

to think with Sir John Millais that the present generation of young men is no more retrocedent in power in art than in science and literature; it would be sad if it were otherwise.

We may learn many things from art besides the admiration of beauty; workers in the profession of art inherit a mass of knowledge as to the types of human form and action of great value to the physician, who studies human perfections as well as its weaknesses. The artist's work is in many ways the reverse of that of the scientist. It has been said, "A work of art can only be said to be finished when all traces of the means whereby its completion has been arrived at have entirely disappeared." The scientific worker desires not only to arrive at a satisfactory end of his work, but also to demonstrate, if possible by specimens, the steps of the inquiry by which his conclusions were reached; the amateur artist is sometimes satisfied with producing an effect pleasing to the eye, without analysing the means he uses. This remark may be applied to figure compositions—an effect in figure painting may be beautiful without being admirable; it may not represent a healthful man or woman, though put forward as the artist's representation of youthful beauty. Just so in social life; attitudes are sometimes adopted as being attractive which we commonly see as indications of weakness, nervousness, or hysteria. We would urge upon the art student the study of the physiology of expression; it is a delightful study, and one that can be carried on in any place where there is man, woman, or child, as is well illustrated in the works of Leonardo da Vinci and Sir Charles Bell, all mankind are his subjects for a study; fine mobile expression in face and limbs may be seen in poorly cut bodies, and in the study of defects he will learn to avoid them.

All students must advance their education with the advance of the times: the art student has given more attention to anatomy than to physiology as a science, yet his work is eminently concerned with the physiology of brain expression. Sir John Millais, speaking of young men of talent, says, "We must not forget that only by insistence upon their individuality of conception and expression can they hope to advance to the first rank." We submit that to conceive a figure well, it is advisable to be able to describe action and attitudes of the human body, and to know something of the causes, as well as the circumstances, which produce them. Several artists have said that it is so difficult to paint hands, and that this explains why they are so often omitted in figure sketches, yet it is well known that after the face these members are the most expressive of brain condition. Are hands generally represented free to express the mental state, or occupied in holding an object, in resting, or hidden and got rid of where they cannot be seen? Does not this arise from want of study of expression in the human hand? Our author gives his personal experience thus: "Sometimes as I paint I may find my work becoming laborious, but as soon as I detect any evidence of that labour, I paint the whole thing out without more ado." If fatigue incapacitates an artist's hand for good work, this may give the clue to the meaning of the signs of weakness too often seen in figures drawn on canvas with heads and backs bent, and hands which indicate weariness in the living model, only too truly imitated when the draughtsman is incapable of seeing the signs of fatigue in the subject of his study. Further study of the physiology of expression might enable the young artist better to conceive his figures, and to model them to express the ideas he wishes to convey.

ROYAL COLLEGE OF SURGEONS.

At the quarterly meeting of the Council, last week, Mr. Savory was re-elected for a fourth term as President, and Messrs. Hulke and Heath were elected Vice-Presidents for the coming year. The authority and position of the President we recognise; with the professional repute and opinions of the Vice-Presidents we are not unacquainted. No doubt the lovers of the old order of things in College politics will look upon the result of the last Council meeting as a triumph, or at least as a gain to their cause. A calm consideration of facts will show that the truth is otherwise; it is the advocates of reform who have brought about the discontinuance of the old objectionable system of allowing each member of Council to gravitate into the chair. A Council must have a ruler, an arbiter, a President in fact, but the duty of councillors is to give counsel; many men are well fitted, through experience and wisdom, to tender good advice, and to move important resolutions, without necessarily possessing either the authority, the power, or the will, to rule their brethren in Council. On the other hand, men of authority in the profession find their way into the Council and are fitted to be Presidents. The principles just laid down were overlooked as long as the Fellows and Members took no interest in College matters. As soon as they began their steadily increasing systematic pressure, certain abuses at once commenced to disappear, or to modify themselves so as to grow harmless. Representative meetings were resumed and are continued. The candidates for the diplomas were no longer examined in anatomy and physiology by venerable surgeons who had seldom studied any department of the latter science for many years. Lastly, a wholesome check was put upon the rotation system of electing Presidents, so that more or less representative men alone received the honours of the chair. Can it be doubted that the same results would be seen were the President to be directly elected by the Fellows and Members? Such a consummation is devoutly to be wished, it would encourage the leaders of surgery to keep in touch with their humbler colleagues, and not to soar beyond them, and to suffer from shortness of memory, as chiefs of anything in this world are wont to do. Much remains to be done, and what has been effected will encourage us to further efforts. Men more in sympathy with reform than the present President must some day be placed in the chair, though a judicious selection of candidates for every July election would soon make the Council powerful enough to control even a strong President in a wholesome manner. Whether the Fellows have displayed a praiseworthy activity and a wise selective influence at the last election is a matter of opinion. That it was the last under old regulations was no excuse for relaxation of vigilance. The selection of strong men in due time, and not too late, and the rejection of even the most talented and respected opponents of reform are duties which allow of no relaxation. The holders of the higher diploma will lose influence if they refuse to take active interest in the Council elections.

THE Bradshawe Lecture before the Royal College of Physicians of London will be delivered on August 18th, at 4 P.M., by Dr. William Carter. The subject will be "Uræmia."

THE honorary degree of M.D. has been conferred upon Dr. Hughlings Jackson, F.R.S., by the Faculty of Medicine and Surgery of the University of Bologna upon the occasion of the octocentenary of that university.

A BRONZE statue of Dr. Josiah Bartlett was unveiled at Amesbury, Massachusetts, on July 4th. Dr. Bartlett, who was at one time actively engaged in the practice of medicine, signed the Declaration of Independence, and subsequently served as Governor of the State of New Hampshire.

THE Chairman of the Parliamentary Bills Committee had an interview with influential members of the House of Commons this week, with the view of taking steps to bring under the notice of the House the cases of Dr. Hime (Bradford) and Dr. Bond (Gloucester) at the earliest opportunity. Sir Lyon Playfair has undertaken to give his attention to the subject.

THE ROYAL COMMISSION ON UNIVERSITY EDUCATION IN LONDON.

THE Royal Commission on University Education in London has commenced to take evidence from the metropolitan medical schools. Dr. Allchin attended as a representative of the five smaller schools, and his examination was not concluded when the Commission adjourned. The medical schools of St. Bartholomew's, Guy's, the London, and St. Thomas's Hospitals will each tender evidence separately. It will be recollected that representatives of University and King's Colleges have already been examined.

LEGISLATION FOR INEBRIATES.

THE Habitual Drunkards Act Amendment Bill finally passed the Houses of Parliament on Tuesday, July 17th. This, the first permanent legislation in the interests of the inebriate in the United Kingdom, is the result of many years effort by the British Medical Association, aided by other bodies. While there are some practical improvements of the former temporary Act, the great step now gained is the permanence of the Inebriates Act. In future the labour of securing the existence of legislation will be saved, so that all the energies of the Association can be devoted to amendment and extension. To celebrate the enactment of a permanent law, the members of the Habitual Drunkards Committee of the Association will be given a reception on the afternoon of Friday, July 27th, in the rooms of the Medical Society of London, by the President of the Society for the Study and Cure of Inebriety.

REMARKABLE FECUNDITY.

A REPORT of a case of remarkable fecundity, rivalling that recently reported from Castagnola, in Switzerland, comes to us from France. A woman named Aumont, residing at St. Julien de Varaville (Manche), gave birth to five children, three on June 4th and two more on June 5th; the five children—four boys and one girl—lived for several days. The history of the family of the father in the Swiss case showed a remarkable tendency to plural births, and something of the same kind may be traced in this case, for Madame Aumont has given birth to eleven children, though only confined four times; the first time she had a daughter, the second time two daughters, the third time three sons, and the fourth time four sons and one daughter.

A SAVAGE PREJUDICE.

SURGEON-MAJOR E. LAWRIE, in his report on medical administration in the dominions of the Nizam, during 1887, gives a curious instance of the strength of the prejudice against amputation of a limb which survives among semi-civilised people. A native was severely bitten in the foot by a tiger, and after an attempt to save the foot had been made, the patient consented to amputation, but his friends objected that he would be of no use without a foot, and that they would rather he should die. "As the patient was old enough," writes Dr. Lawrie, "to judge for himself, I turned the friends out of the hospital and took the foot off. They returned, armed to the teeth, after the operation was completed and, if it had not been for a very strong guard, would certainly have attacked us. Being foiled in this, they entirely deserted the man whose foot had been amputated. We were obliged to keep him in the hospital for months, as he could get no food outside, and if His Highness the Nizam had not taken him into his service, he would have been there still, or died of starvation."

BETHLEM ROYAL HOSPITAL.

RUMOURS of important changes in the medical staff of Bethlem Royal Hospital have for some time been prevalent. It is now known that the Resident Physician, Dr. George H. Savage, has resigned his post, and that his successor has been decided upon. The intelligence of his retirement will be received with sincere regret by all who are connected with, or are interested in, the welfare of this excellently conducted charity. Dr. Savage has filled the office for about ten years, and during that period has given the greatest satisfaction to the governors and the friends of patients. By the members of the household and by the patients he will be greatly missed, the more so as his connection with the institution commenced nearly twenty years ago, when he was appointed Assistant Medical Officer. Dr. Savage has been able to make Bethlem Hospital a place for clinical instruction, a well-known medical school such as a Royal Hospital for the insane in the metropolis ought to be. It is to be hoped that the wards will be open to the Lecturer on Psychological Medicine at Guy's, after he has severed his official connection with Bethlem. We are glad to hear that the governors believe they have found a good successor to Dr. Savage in the present Assistant Medical Officer, Dr. Percy Smith, who has for some years held office, and become thoroughly acquainted with the working of the Hospital. There will no doubt be a keen competition for the post rendered vacant by the appointment of Dr. Smith to the superintendency.

THE MEDICAL OFFICERSHIP OF HEALTH FOR BRADFORD.

A LETTER from Dr. Hime will be found in another column dealing with the statements made concerning him by members of the Bradford Town Council, and particularly with that of delay in proceeding to Paris after he had received money for the purposes of paying his expenses when under the treatment of M. Pasteur. Dr. Hime finds as little difficulty in disposing of this insinuation as he does of all others. He merely delayed twenty-four hours in London with the object of consulting Professor Cheyne. The story is not worth pursuing further. It is a melancholy instance of a corporation dismissing its medical officer of health without reason, and shows the need for the existence of some competent authority to intervene and prevent an act of signal injustice. Dr. Hime's case does not stand alone. Recent events have tended to show that the position of the medical officer of health is surrounded with difficulties which make it imperative that the earliest opportunity should be taken for ensuring to him a permanent tenure of office. A step in the right direction has been taken by the House of Commons at the instigation of Mr. Stansfeld. County Councils are to be permitted to appoint one or more medical officers of health, and District Councils may avail themselves of their services on contributing to their salaries. Whether they will care to do this the future must decide, but if County Councils know their

business they will not be slow to give District Councils the opportunity of sharing in the services of really capable men. Further, the appointments thus made by the County Councils will, we hope, not be subject to the same disadvantages as those which are made under the present system of combination of districts. They will, we anticipate, be for life, and thus for these officers there will be a prospect of certainty of tenure of office during good behaviour. With appointments such as that of Dr. Hime the case is different; there will still remain the prospect that at the end of a term of years some dissatisfied town councillor will move his colleagues not to reappoint the officer. This must inevitably be amended, for good men will not take office under such conditions. The public must decide whether they will be well or badly served; if they desire the former nothing short of some system which will make the health officer more independent will suffice. Health officers must be appointed for life, and only be removable with the consent of a central authority. If the treatment Dr. Hime has received at Bradford should lead to the acceptance of this principle he will feel he has not suffered in vain.

DANGERS OF THE SOMNOLENT STATE IN TRAVELLING.

THE Paris correspondent of the *Daily Telegraph* narrates a case illustrating the well-known fact that in a semi-unconscious condition illusions are easily produced which may have disastrous results. A man, and a woman with her young infant, were the sole occupants of a compartment in the train running from Lille to Paris. It was evening, and the man fell sound asleep; when he partially awoke, the woman was feeding her infant from a bottle of milk. The half-awakened traveller appeared greatly frightened and shrank into the corner; soon he screamed and cried for assistance, and finally pulled the alarm-bell, and, opening the door, he fled to a neighbouring carriage, to which he clung. He subsequently stated that he had gone to sleep, when he was suddenly awakened by a lady who, with menacing gestures, pointed a revolver at his head. He called out for help, and effected his escape from his would-be murderess. When seen he was "all of a tremble," and he believed fully that, but for his promptitude, he would have been assassinated. It appears that he mistook the baby's bottle for a revolver. The case was investigated by the police, and there appears no doubt of its authenticity. Such cases of mental terror and illusions on suddenly awaking from sleep are common among children, but do not often occur in adults; but when they do occur in a severe form important results may follow, as in the case narrated. In children such conditions often lead to permanent impressions on the brain, producing attacks of recurring mental terror and consequent brain exhaustion.

DEATH UNDER CHLOROFORM.

THE following particulars of the death of a patient in the Royal Berks Hospital, when under the influence of chloroform, have been forwarded to us by the House-Surgeon, Mr. E. Deane, L.R.C.P., etc. The patient was a man, aged 26, who was admitted to the hospital on March 13th, 1888, for large urethral calculus, which was extracted successfully by median perineal section, the patient taking chloroform very well. After the operation a small perineal fistula was left, which it was thought desirable to close; accordingly, on June 29th, the patient having been duly prepared (bowels opened, and allowed no food after breakfast), chloroform was administered by Mr. Deane on a Skinner's inhaler. The patient did not seem to take it well, his breathing being rather bad. In about twenty minutes' time, the operation being nearly completed, the patient was sick, and directly afterwards the pulse stopped. The usual means of resuscitation were adopted without avail for fully half an hour. The total quantity of chloroform used was one ounce. The heart was examined before administration; no valvular disease was detected. At the *post-mortem* examination the heart was found perfectly empty, and the muscles thin and flabby. There was no valvular disease, and the other organs were normal.

MEDICINE IN THE LAY PRESS.

THE "able editor" is proverbially infallible, and assuredly we should be the last to question his prerogative. If, however, the Achilles of the daily press has a vulnerable heel, it is to be found in the domain of medicine. The comments of the newspapers on medical topics too often tend rather to the amusement than to the edification of the professional mind. Not long ago the wildest havoc was played with the pathology and surgery of the larynx, and the spectacle, dear to the gods, was presented day after day of good men struggling with the adversity of having to "explain" matters which they themselves did not in the least understand. Now, incised wounds of the throat have taken the place of cancer, and the phrenic nerve and carotid artery that of the vocal cords and the epiglottis. An evening paper lately made the startling announcement that General Boulanger was in danger of suffocation "by *hæmaturia* in the respiratory channels!" A little time before, the Paris *Figaro* had thrilled its readers with a sensational account of the agonies which the Emperor Frederick did *not* suffer, but which the French scribe thought he ought to have suffered. If the public insists on having the sick-room of distinguished patients turned into a clinical theatre for its delectation, it would be well that the demonstrators should be persons having some rudimentary knowledge of their subject.

ELECTRIC SUNSTROKE.

AT a recent meeting of the Paris Surgical Society, Dr. Terrier presented a communication from Dr. Defontaine, Chief Physician at the Creusot Steel Works, on "electric sunstroke"—or, rather, "electric light stroke." At present the electric light is used at these works for producing the high temperature required in casting and welding metals, metals placed in the electric arc melting as if by magic, and even steel becoming as soft as butter. At Creusot an electric furnace has already been in use for some time. The electric arc in which the metals are placed is of enormous intensity, its light, concentrated on some few square centimètres, being equal to 10,000 Carcel lamps, or more than 100,000 candles. The dazzling light is wonderful to look at, but great care has to be taken in doing so, as unprotected persons ten mètres distant, although feeling no heat, experience an acute pain in every respect resembling that of sunstroke. Even if the light be often discontinued for a while, those engaged in these experiments experience after one or two hours a painful sensation in the throat, face, and temples, whilst the skin assumes a copper-red hue. Generally the eyes are protected by means of darkened glasses, such as are used when looking at the sun; but, in spite of this precaution, the retina becomes so affected that for many minutes afterwards those engaged in the work are unable to see any objects at all in daylight, and for more than an hour afterwards all objects assume a yellow colour. In the pupil of the eye an irritation is caused, which lasts for forty-eight hours afterwards, and which is followed by a very painful sensation, as if some foreign substance were introduced under the eyelids. The discharge of tears is also very copious for twenty-four hours. Simultaneously headache and sleeplessness are experienced, which are caused partly by the copious discharge of tears and partly by the pain and the feverish state of the body. Finally, during the next few days the skin of the face begins to peel off; this ceases only on the fifth day. Those who have seen Alpine guides returning from an ascent of the glaciers in the middle of the summer can form an idea of the effect produced by the electric sunstroke. The

skin peels off in large patches, and the face assumes a pretty pink colour. With the natural sunstroke heat plays an important part, if not the most important part, but with the electric sunstroke not the slightest heat is experienced. A couple of mètres from the light itself there is hardly any trace of a rise in temperature. All the heat is concentrated in the electric arc, and still persons twelve mètres distant from the light may be struck by the electric sunstroke. Therefore, the cause must be ascribed to the intense light alone; only the light causes this irritation of the eyes and skin, and that is an interesting fact, still further proving the great *rôle* played by light in certain biological phenomena. It is not the first time that attention has been drawn to the effect of the electric light upon the eye; but Dr. Defontaine has had an opportunity of studying the question at Creusot in a manner which has hitherto not been vouchsafed anyone. As regards the skin, the redness and inflammation appear first; then follow itching and a more or less perceptible tickling, with a sensation of discomfort and anxiety; and finally, the exact symptoms which accompany the common sunstroke. The irritating feeling disappears after three days, and in the course of the next few days the skin begins to peel off, either in strips or in little patches, according to its being more or less inflamed; and, with respect to the visionary organs, the affliction might be called "electric inflammation of the eyes." Sometimes the inflammation is mild, sometimes more severe, and it is often accompanied by serious consequences. At times also the symptoms may appear very threatening; but in the course of a few days they decrease, and finally disappear entirely. It is, however, possible that permanent injury may nevertheless have been caused to internal parts. As will therefore be seen, the electric light must not be played with, and the men employed in the electric furnace at Creusot always take the precaution to wrap up carefully face and neck. Anyone who desires to see the furnace close by should be most strongly recommended to have a shade before his face, and protect the eyes with red or yellow glasses, such as are worn by engineers engaged in metallurgical operations. And this precaution applies, of course, to all seasons, as naturally the electric light is not, like the sun, dependent upon these.

COLLEGES FOR WOMEN.

THE higher education of women is looked upon with a hesitating approval by many medical men, because it is seen that often during a prolonged period of severe study they fail in health, and the resulting troubles are not unfairly attributed in many cases to the college curriculum. This is the case in America as well as in this country, and, though we all desire to see women enabled to become strong and self-helpful by means of a wise education, much care is required to see that no overstrain or exhaustion results. Dr. Reed, of Cincinnati, speaks of seeing many cases of physical failure, with loss of appetite, headache, vague pains, emaciation, and anæmia, with dysmenorrhœa, occurring in young women during their educational duties; this he considers due to "an ultra-mental mood which is inimical to the physical welfare of the pupil." He believes, however, that in the present generation the health of the children is better, and that the teachers have a finer stamina. The remedy he suggests is more attention to physical culture and recognition of the principle that education, to effect its true ends, must develop co-ordinately the mental and physical qualities of the organism. Education is important, because it is to wisely-regulated training that we must look for improvement of the brain power of women and the removal of many neuroses. Earl Granville, when speaking at the College for Women, Gordon Square, referred to the great change that had come over public opinion as to the necessity of giving the advantages of education to women, not only for their own benefit, but also for that of the community as a means of elevating society, and raising women to a position of greater independence and self-reliance. Conditions are more likely to be favourable to health in college life than in London lodgings, and the provision of such means of social life will be welcome to many students. Aberdeen Hall, Cardiff, is another college open to women who are desirous of a university training, and has met with much success, showing that there is a general demand for education. While advocating these attempts to give higher education to women, we must point out the necessity of attending to the laws of hygiene, especially during periods of rapid growth of brain and body. Let students work for their own improvement, and let those in charge of them see to healthful surroundings, and watch the actual conditions of the brain and body as the student's life proceeds. The student should attend to her duties in study and recreation, while the superintendent trains herself to observe any signs of the commencement of such common conditions as lowered nutrition, exhaustion, or defects in physique.

A SUCCESSFUL CASE OF TOTAL EXTIRPATION OF THE LARYNX.

A CASE in which the whole of the larynx was extirpated for epithelioma was communicated to the meeting of the Victoria Branch of the British Medical Association, on April 25th, 1888. The patient was a man, aged 62, a native of Germany, residing at St. Kilda, Victoria, who began to lose his voice in the early part of 1887, when Dr. Cox, of Melbourne, diagnosed a smooth growth below the left vocal cord, but the patient refused treatment. His voice was regained for about four months, but he again became hoarse, and in September he began to suffer from cough, attacks of spasm, and inability to lie down. Laryngoscopic examination on October 1st showed a small ulcer below the left vocal cord, and Dr. W. Gardner, of Adelaide, who happened to be in Melbourne, concurred with Dr. Cox in making the diagnosis of cancer. Dr. Cox then removed with the laryngeal forceps a small portion of the growth, which was examined by Professor Allen, who pronounced it to be epithelioma. On the following day Dr. Gardner, assisted by Drs. Cox and Yorke, removed the whole of the larynx. Next morning the patient almost died of suffocation from blocking of the tracheotomy tube; but Dr. Yorke sucked the tube clear, and restored the patient by performing artificial respiration. After that his progress was uninterrupted. Jelly was taken by the mouth on October 10th; on the next day he was able to get up, and on Christmas Day he was able to go out in the city unattended. The patient attended the meeting of the Branch in excellent health; there were no signs of recurrence of the disease, and he could speak in a whisper intelligible to those around. An artificial larynx of silver was made for him, but he preferred not to use it. The report published in the *Australian Medical Journal*, May, 1888, contains an addendum by Dr. Gardner, giving his reason for preferring total extirpation as a rule. There are (1) diminished probability of recurrence *in situ*; (2) diminished risk of blood and pus passing down the wound into the trachea, this being prevented by the immediate insertion of a rectangular tube into the trachea; (3) greater facility in administering the anæsthetic during the later stage; (4) scepticism as to the results after partial excision turning out eventually to be so much better as is now said; (5) dimished risk of perichondritis. In this particular case the disease was so nearly in the middle line that removal of half the larynx was contra-indicated. Examination after removal showed that all the cartilages of the larynx were so completely ossified that to obtain a view of the interior it was necessary to split the organ down both back and front. The growth infiltrated the soft tissues immediately below the left vocal cord, which was itself ulcerated at its posterior part. The growth extended downwards to the lower border of the cricoid cartilage,

and was broken down in the centre, leaving a rounded ulcer with hard irregular edges. It may be added that the time occupied by the operation from the commencement of the administration of chloroform was fifty-five minutes, and that the highest temperature after the operation was 100.4° F.

CREOLIN AS AN INTERNAL MEDICINE.

Dr. A. Hiller, Privat Docent in Breslau, publishes some remarks on this subject in the *Deutsche Med. Wochenschr.*, July 5th, 1888. The antiseptic properties and comparative innocuousness of creolin, as used externally, have been made known by Fröhner and E. v. Esmarch, and their conclusions are also confirmed by Dr. Hiller. But creolin is of the greatest use in various diseases of the stomach and intestines. Its anti-zymotic influence comes out most clearly when employed against the numerous processes of fermentation and decomposition which accompany most, if not all, such diseases. "Its freedom from poisonous effects, and its perfectly non-irritant effects, make it an ideal antiseptic for the above group of diseases." Dr. Hiller asserts that creolin, given in strong gelatine capsules, in doses of between three and fifteen grains three times a day, promptly and certainly relieves meteorism from whatever cause, whether constriction, typhlitis, catarrh, atony, or ileotyphus, and hopes thus to prevent perforation in the latter case. It was found equally efficient in simple flatulence, gastric dilatation, acute and chronic gastric catarrh, and diarrhœa. Given in a case of tænia and one of oxyuris, its action was prompt and efficient as an anti-parasitic. But creolin appears unfitted for children, owing to their inability to swallow capsules. Creolin may also be used to irrigate the rectum in carcinoma cases; used thus in solutions of 1 in 500 it acts like a charm in purulent cystitis (Jessner, *ibid.*, 1881). This glowing account by Dr. Hiller ought to call attention to this substance.

THE MARBURG OBSTETRIC HOSPITAL.

Dr. von Ahlfeld gives an account of the work of this institution for the year ending March 31st, 1888, in the *Deutsche Med. Wochenschr.*, Nos. 23, 24, 25, and 27, together with practical comments. Extreme vomiting and ptyalism were observed twice; this condition is ascribed to exaggeration of the usual reflex neurosis, and the horizontal position for some time after food is recommended. Renal disease occurred twice, and other cases are also adduced to show that *post-partum* hæmorrhage is common in women with diseased kidneys. Some ascribe this to hypertrophy of the heart, others to vascular disease, and others again to lessened coagulability of the blood. There were 6 cases of twins; and of the 314 children born, 155 were boys and 158 girls (in 1 abortion, sex not stated); Cæsarean section was done once. The chief interest of Dr. von Ahlfeld's report lies in the fact that the cases were interfered with as little as possible. The forceps were applied in only 3 cases. This experience is probably unique, namely, 308 labours in a public institution, with the use of the forceps only 3 times. Crédé's "grip" was only employed 3 times, and manual removal of the placenta was only done once. The expectant method was employed, and with the best results; the patient lay undisturbed after the delivery of the child for an hour and a half, and then, after the bladder was emptied, the placenta was gently expressed by pressure from above (260 cases; in 39 it was spontaneously extruded). Since the abandonment of Crédé's method *post-partum* hæmorrhage has been reduced to a minimum in this institution. A small pamphlet on this subject has just appeared: *The Expectant Method, or Crédé's Grip (Abwartrude methode oder Crédé'schen Handgriff*, Leipzig, 1888), which deals with the physiology and management of the puerperium. The violent interference with the uterus which the use of Crédé's method involves has always seemed highly irrational to many obstetricians. Cephalic version was effected three times, podalic version three times, and combined podalic version twice. To recur to the forceps, the use of the "birth-stool" is substituted in the cases in which they are usually employed in this country. Two chairs are placed side by side, in contact posteriorly, but separated anteriorly, and the woman sits over this triangular interval. As soon as the head is born, she is carried into bed, where delivery is completed. There were numerous cases of narrow pelvis, three of pronounced ricketty pelvis, and one of spondylolisthesis.

RESECTION OF INTESTINE FOR INTUSSUSCEPTION.

Dr. Vasilieff describes in the *Chirurg. Vestnik* the case of a convict, aged 25, who was seized with abdominal pain and vomiting. Laparotomy was performed in the prison hospital at Warsaw. A swelling was soon detected in the right hypogastrium, when the hand of the operator was passed into the abdominal cavity. This swelling was drawn forwards, and found to be an advanced invagination of the ileum into the colon; there was a very long mesocæcum. The invaginated small intestine could not be reduced, so an elastic ligature was tied around the gut in two places, and the ileum and mesentery were divided. Then the invaginated ileum was readily extricated and about seventeen inches were resected. The abdominal cavity was well washed out with a solution of sublimate, and the cut ends of the gut were fixed by sutures to the abdominal wound. Much gas and fæcal material escaped when the ligatures were untied. At the third week the patient had an attack of hypostatic pneumonia, but recovered. At the sixth week Dr. Vasilieff did an operation for the cure of the artificial anus. About six inches more of the intestine were resected, and the cut ends united by Czerny's suture. On the third day a motion was passed, but on the fifth fæces were found in the dressings. Three attempts to close the fæcal fistula by suture failed. Digital exploration showed that a spur or valve was beginning to form. To this spur a pressure-forceps was applied; it fell off on the third day. Ultimately the fistula was completely cured.

SCOTLAND.

UNIVERSITY OF ABERDEEN.

We regret to hear that Mr. James Brazier, Professor of Chemistry in the University of Aberdeen, is about to resign his chair in consequence of ill-health. A large meeting of the students was held on July 12th, and a committee appointed to draft a letter to the professor expressive of their sympathy and esteem.

NEW MEDICAL SOCIETY, STIRLING.

A meeting of the leading medical men of Stirling was held on July 13th to consider a proposal made by Dr. Drew to form a new medical association, to be called the Stirling Medical Society. Dr. Johnston presided, and the scheme was unanimously adopted, Dr. Drew being appointed Honorary Secretary.

EDINBURGH PHILOSOPHICAL INSTITUTION.

At the invitation of the Committee, Sir Morell Mackenzie has consented to deliver a lecture at the Philosophical Institution on some subject connected with the voice. Tuesday, November 13th, is the date fixed for the lecture.

CHILDREN'S FRESH-AIR FORTNIGHT.

The Committee in charge of this scheme are still busily engaged trying to dispose of the multitude of applicants for the benefits of the scheme. Since May 15th 1,800 children have been sent to the country for a fortnight's holiday, and the past week, the beginning of the Glasgow Fair week, was the heaviest they have had.

GLASGOW UNIVERSITY.

THE Summer Session of the University came to a close last week, but the oral examinations in the final examinations for degrees in medicine still continue, owing to the unprecedentedly large number of candidates, 134. The Graduation Ceremony will be held on the 26th inst.

THE CHAIR OF ANATOMY IN DUNDEE.

DR. JOHN YULE MACKAY, Senior Demonstrator of Anatomy in Glasgow University, is a candidate for the Dundee chair. Dr. Mackay's recent contributions to the morphology of the vascular system have obtained for him well-merited recognition as an earnest worker in anatomical science, and, being in full charge of the practical anatomical work at Glasgow, he has had very extensive experience in teaching and demonstrating and in the management of a practical anatomical school.

ROYAL SOCIETY OF EDINBURGH: THE HEALTH OF MINERS.

AT a meeting of the Royal Society of Edinburgh on July 9th, Dr. T. G. Nasmyth communicated a paper on the air in coal mines and its effects on the health of miners. He indicated that the temperature of mines taken 1,000 yards from the downcast shaft differed but little, and only in the direction of greater uniformity, from the temperature recorded in the open air. In respect to carbonic acid, the state of the coal mine was not worse than that of one-roomed houses and badly-ventilated factories and schoolrooms. His experience went to show that phthisis was not common among miners. There was no disease peculiar to miners, and no diseases existed in excess among them. The conditions of a miner's occupation were as favourable as those of any other workmen.

LUNACY IN SCOTLAND.

THE thirteenth annual report of the General Board of Commissioners in Lunacy for Scotland states that 11,609 insane persons were under their cognisance on January 1st last, and of these 9,760 were maintained by the rates, 1,797 from private sources, and 52 at State expense. During 1887 there was a total increase in the number of registered lunatics of 304, of whom 172 were in asylums and similar establishments and 132 were maintained in private dwellings. The Commissioners think that, in some establishments, more frequent probationary discharge should be favoured in the cases of patients whose fitness for residence in private dwellings may be uncertain, and that it would lead to a larger number of permanent discharges than at present exists. They report as overcrowded the Aberdeen Royal Asylum, Argyll and Bute District Asylum, and Ayr Asylum. The Glasgow Royal Asylum is stated to be managed with great ability.

PRESUMPTION OF LIFE (SCOTLAND) BILL.

THE Lord Advocate and Solicitor-General for Scotland have introduced a Bill "to alter the law as regards presumption of life in persons long absent from Scotland." Its main provisions are, that the Presumption of Life Limitation (Scotland) Act of 1881 is hereby repealed. That when any person has disappeared and has not been heard of for seven years or upwards, the Court, on petition, after due inquiry, may find that such person has disappeared, and that he shall be presumed to have died exactly seven years after the date on which he was last known to be alive, and that his heirs shall be entitled to succeed to the estate of said person as if the said person had actually died at the date on which he is presumed to have died. That said person must have been a domiciled Scotsman at the date at which he is presumed to have died and that such decisions of Court shall be entered by the Registrar in a public register. In the event of the person who has disappeared turning up within fourteen years after the date of his presumed death, he shall be entitled to reclaim his estate, but after the expiring of fourteen years his claim shall be barred. This Act shall not apply to any claim under a policy of assurance upon the life of any person who has disappeared.

IRELAND.

DR. WALTER GEORGE SMITH, the present Professor, has been appointed King's Professor of Materia Medica at the King and Queen's College of Physicians, Ireland, for the further term of seven years from October 18th next.

MEATH HOSPITAL.

AT a meeting of the Medical Board of the Meath Hospital on Thursday, July 12th, the resignation of Mr. James Wharton was accepted, and a resolution expressing deep regret at the loss of his services as surgeon was carried unanimously.

THE OUTBREAK OF MEASLES AT CAPE CLEAR.

ONE of the residents, a woman named Driscoll, who fled from the island, has been admitted to Skibbereen Hospital, suffering from measles. Two of her cousins died, it is stated, within a couple of hours of the same malady before she left. The epidemic has almost disappeared.

BELFAST DISPENSARY DISTRICT.

AN election of medical officer of No. 1 District took place on July 16th, to fill the vacancy caused by the appointment of Dr. Clements as Medical Inspector to the Local Government Board. There were four candidates, but the contest lay virtually between Dr. Ferguson and Dr. Scott. On the final ballot the former was elected.

SIR WILLIAM STOKES.

ON Thursday last Sir William Stokes, senior surgeon to the Richmond Hospital, was elected surgeon to the Meath Hospital, in room of Mr. James Wharton, resigned. The appointment was a foregone conclusion. Sir William Stokes was formerly surgeon to the Meath Hospital, and migrated to the Richmond several years ago. His reason for now returning to his original position is the somewhat insecure position in which the House of Industry Hospitals have been placed by the report of the recent Commission, although the Government has not yet given any positive assurance of an intention to deal with the public grants at all.

THE PURIFICATION OF SEWAGE.

THE question of the purification of sewage has lately been engaging the attention of the Belfast Town Council, and at their request Mr. A. G. Haddock of Owens College, Manchester, has been in Belfast, and has performed some very interesting experiments. In one of these a quart of a patent disinfecting and deodorising fluid was added to a trough containing 100 gallons of sewage matter, with the result that in a quarter of an hour all odour was removed, and the sewage matter was found to be divided into a solid and perfectly inodorous sediment, and a supernatant fluid consisting of water in a state of tolerable purity. The experiments were watched by a Committee of the Town Council, among whom were Dr. Whittaker, Dr. Graham, and Dr. Stewart, and we understand that the members of the Committee were favourably impressed with the method.

ANOTHER BIOLOGICAL STATION.—It is stated that a station for the study of marine zoology will shortly be established at Ostend under the auspices of four Belgian universities.

MEDICAL MAGISTRATE.—Mr. Lewis Mackenzie, F.R.C.S., L.R.C.P., Coroner of Tiverton, has been appointed a magistrate of that borough.

THE GROCERS' COMPANY SANITARY SCHOLARSHIP: TUBERCULOSIS AND TABES MESENTERICA.

On Tuesday, July 10th, Dr. G. Sims Woodhead, Superintendent of the Royal College of Physicians Laboratory, Edinburgh, and Sanitary Scholar of the Grocers' Company, gave his second lecture on Tuberculosis.

He observed that it was now generally accepted that all cases of rapid infective phthisis were the result of the action of the tubercle bacillus, although certain lesions might be produced by other and non-specific irritants. But even in stonemasons' phthisis some of the lesions produced were tubercular, and the bacilli had been demonstrated in certain of the new growths. By the researches of Julius Arnold on the course taken by inhaled dust, it had been shown that a very important part was played by the walls of the small bronchi in the disposal of inhaled dust particles; subsequently the alveolar epithelium underwent proliferation which might terminate in catarrhal pneumonia; next, the pigment granules found their way into the lymph spaces around the air vesicles, then into the lymphatics in the interstitial and interlobular tissue, into the peribronchial and perivascular lymphatics, and lastly to the glands at the root of the lung, either directly or by the deep layer of the pleura over the surface of the lung. The tubercle bacilli, finding entrance through the alveolar epithelium, upon which they acted as an irritant, might follow the same course.

He next referred to the various types of tubercular phthisis which had been described, from the small grey gelatinous or fibroid nodule to the large caseous masses leading to cavity formation. The specific bacillus had been found in all forms, and there could be no doubt that all the forms were essentially the same; the differences observed being due firstly to the resisting power of tissue attacked, and secondly to the number and activity of the attacking bacilli.

If the behaviour of other tissues under the action of mechanical or micro-organismal irritants were borne in mind, there would be little cause for wonder that there should be these numerous varieties of manifestation of the action of the specific irritant in tuberculous lungs. In connection with this statement, the importance of the intercurrence of suppurative changes, evidently set up by the activity of a different micro-organism, was insisted on.

A study of the cases collected showed that in children, the cavities and caseous masses were not, as in the adult, usually confined to the apex, but were, as in monkeys and other animals, scattered throughout the lung, a fact which might be explained on the supposition that in such cases the general predisposing causes of tuberculosis were acting quite apart from those of local origin. Where these local predisposing causes came into play, the seat of election in children was not the apex, but the root of the lung, the posterior base, or the free edge.

The general tubercular affection of the lung in children appeared to be almost invariably associated with one of three conditions: (1) simple capillary bronchitis and catarrhal pneumonia such as frequently follow or are associated with measles, diphtheria, whooping-cough, or other similar conditions; (2) general dispersion from some localised nodular mass, often a small cavity which eventually opens into a bronchus; or the centre for dispersion might be the glands at the bifurcation of the trachea, which softened and opened into the trachea, or the wall of the bronchus itself, which became the seat of tubercular ulceration; (3) a practically inactive condition of the lymphatic glands, as when they are caseous, or where they were altered in structure or choked by the presence of foreign particles.

The fact that the seat of election of tubercle in children was the root was attributed to tuberculisation of the glands, and it was pointed out that the very free lymphatic anastomoses in the lung rendered it improbable that the lymph stream always flowed in one direction. When the glands were incapacitated by carious degeneration there might be a backward flow into other glands and into the deep layer of the pleura. Tubercle in children was also often seen at the posterior part, and at the free edges of the lung; it was to be traced to obstruction and collapse, and the association of tubercle of the bone with pleurisy and peritonitis was dwelt upon.

Dr. Klein and Dr. William Hunter had both laid great stress upon the fact that foreign materials which found their way into the abdomen were soon passed on to the under surface of the diaphragm; and Dr. Hunter, in his experiments on the absorption of injected blood from the abdomen, demonstrated most clearly the presence of blood corpuscles, comparatively little altered, first between the liver and the diaphragm, and secondly in the lymphatics of the diaphragm. The bearing of this on the adhesions of the liver to the diaphragm were exceedingly important, as were also Klein's observations on the paths taken by foreign particles after passing from the abdomen.

Reference was next made to the vascular changes which had been recorded by Cornil, Hübner, Greenfield, Hamilton, and other observers, and the opinion was expressed that acute miliary tuberculosis was the result of spreading of the infective material by the blood-vessels. Weigert had been the first to show that this might occur through ulceration of the pulmonary vein; Ponfick had first stated that the bacilli might pass from a tubercular thoracic duct into the venous, and thence into the general circulation; and Dr. Coats had pointed out that a limited distribution of tubercle by the blood might be due to the passage of bacilli into the minute venous radicles in the glands in which tuberculous changes were occurring. That bacilli were found in the blood had been frequently demonstrated, and quite recently several cases had been recorded in which general tuberculosis had come on after haemorrhages in patients suffering from apical phthisis; all these cases were developed in from seventeen to twenty-five days, just the period given by Koch as that required for the development of tuberculosis when produced experimentally. In some of these cases bacilli were present in the emboli, or might be distributed through the embolic area, and make their way from the capillary vessels into the lymph vessels.

Dr. Woodhead fully adopted the view that tuberculosis was a comparatively curable disease; in proof of this he quoted the cicatrices often found in the lungs of old people, and in fact at every age. Milk, air, and food might all convey the bacillus, and the general health of the patient had most to do with the resisting power of the tissues. Bacilli attacking a healthy gland would be rapidly disposed of; but in a weakly child, with its weakly tissues and imperfect nutritive and excretory power, the gland tissue gave way on the slightest stimulation, and cold abscess was the result.

Children of low vitality were scrofulous because the introduction of a comparatively small number of bacilli brought about complete degeneration of the lymphatic glands. Bacilli differed in number but not in character, and if once a cultivation could be obtained from a cold abscess—a somewhat difficult matter—well-marked tuberculosis might be produced by inoculation with it.

The question of the structure and importance of giant cells was then touched on. In some instances a giant cell was produced by proliferation of endothelial cells within a lymph space; in others by fusion of a collection of cells which, under the stimulus of the bacilli, proliferated at the margin and degenerated at the centre; in others by fusion of endothelial cells of the air vesicles; in others by proliferation within small blood-vessels: in others in gland ducts (testicle, liver, mamma). Presence of these giant cells afforded evidence that the cells were making a determined resistance against the advances of the bacilli. In many cases where the giant cells with their rings of nuclei were best marked, very few bacilli were to be found, as they had been destroyed by the phagocytes at the margin—that is, the active cells with deeply-stained nuclei. In other cases, however, the bacilli had taken the place of the nuclei at the margin of the giant cell, the boundary line in such cases being determined for a time by the basement membrane of the tube in which the mass was formed.

PARLIAMENTARY BILLS COMMITTEE.

A meeting of the Subcommittee on the Coroners' Bill took place on July 2nd, at which there were present: Mr. Ernest Hart, Dr. Carpenter, Mr. Sibley, and Dr. Danford Thomas.

The Chairman said it would be remembered that the Committee, while admitting the necessity of a reform in the mode of appointing county coroners, which was at present election by a very unsatisfactory register of freeholders, and liable to great abuse in a large variety of ways, objected to the power which the Draft Bill gave to the Lord Chancellor to appoint coroners. The idea of the Committee was that the power of election should be placed in the hands of the new County Councils if and when created by the Local Government Bill. He (the Chairman) communicated that

view to some of the leading legal authorities in the House of Lords; and when the House of Lords recently went into Committee on the Bill, it was seen that the view of this Committee was urged by Lord Herschell, by the Earl of Kimberley, Lord Cowper, and others. The Lord Chanceller said he was disposed to accept some form of amendment which should vest the power of appointment in the county authority. The Lord Chancellor indicated that if the County Councils should come into existence, the form of amendment which he would favour would be an amendment vesting the power of appointment in a joint committee of the County Council and of the Justices of Quarter Sessions; and other persons, among whom was the Earl of Faversham, seemed to favour such a joint committee. The debate which took place in the House of Lords left the matter unsettled, except that the amendment of Lord Herschell was carried, and placed the appointment in the hands of "the county authority," leaving it undecided as to what "the county authority" should mean. They (the Committee) had the satisfaction of knowing that the view they urged had prevailed in the House of Lords; and so far he (the Chairman) thought they had done a useful work. Dr. Danford Thomas had reported that the Coroners' Society took the same view. The Coroners' Society had sent in a petition, and had had an interview with the Lord Chief Justice, who promised to forward their wishes in support of the Committee. The Chairman said the next point in the Bill was the provision for holding inquests in cases of fire: Clause 2, Section 1, which read, "A coroner shall have jurisdiction to inquire into the cause of any fire occurring within his jurisdiction."

Dr. DANFORD THOMAS said the Coroners' Society proposed that Subclause 2 of Section 2, should be wholly omitted.

The CHAIRMAN: That does not concern us.

Dr. DANFORD THOMAS said it had been suggested that the coroner should have the power to commit in cases of arson.

Dr. CARPENTER asked Dr. Thomas if he thought it a wise provision to throw upon the coroner the duty of holding inquests on fires?

Dr. THOMAS replied that the coroner would have discretionary power.

Dr. CARPENTER thought it was not wise for a coroner to be engaged in so much work outside that of loss of life.

The CHAIRMAN thought it would tend to kill medical coroners.

Mr. SIBLEY concurred.

It was pointed out that it was the revival of an ancient custom. Northampton still held the right, never having allowed it to lapse.

The CHAIRMAN asked Dr. Danford Thomas whether he had any suggestions to make for improving the office generally.

Dr. CARPENTER thought it would be a pity to allow the Bill to become law without some steps being taken to try and make the office of more importance, rather than diminishing it.

The appointment of assessors was discussed and the following motion was agreed to:

"That the coroner should have power, whenever he thinks it necessary, to call in for his assistance a legal, medical, or scientific expert to act as assessor to the court, and who may give evidence if required to do so; and that he shall have power to remunerate such expert on a scale to be settled by the county authority with the approval of the Lord Chancellor."

Dr. DANFORD THOMAS said Mr. Ritchie was about to introduce a clause into the Local Government Bill which provides for coroners continuing in office in both portions of the county, for which they have hitherto acted, and that if any portion of emoluments are lost by division of such county, they should receive compensation as if they were county officers under the same Act. Dr. Danford Thomas called the attention of the Committee to the fact that the superintending medical officer of every lunatic asylum was required by the Act to notify to the coroner every death that occurred there. He referred to a recent experience in which he had received from a medical officer of an asylum a notice to the effect that a patient had died of "exhaustion from pneumonia and melancholia." In this case it had not been deemed necessary to inform him (Dr. Thomas) that a *post-mortem* examination had revealed the fact that the man had severe fractured limbs. He thought the coroner should have the power to ask for such details as might be necessary. The coroner was called upon to decide at once whether he would hold an inquest or not. If he did not reply within twenty-four hours the body was buried. The body was not in his legal custody until he received notice, but a *post-mortem* examination might be performed by the medical officer immediately after death.

Dr. MICKLE observed that he could speak for the vast majority of those in charge of lunatics. In every case he knew where the patient suffered any injury, full details were sent to the coroner, who was asked whether he wished to hold an inquest or not.

Dr. LANGDON DOWN said he was in the habit of sending to the coroner a duplicate of the notice sent to the Commissioners of Lunacy.

Dr. DANFORD THOMAS said there seemed to him to be no law compelling a medical officer to do so. If he as coroner ordered a *post-mortem* examination, it was only a second-hand one.

The CHAIRMAN suggested that Dr. Danford Thomas, on behalf of the Coroners' Society, should draw the attention of Sir Edward Clarke to the point, and get a clause inserted. He thought it was very essential such particulars should be furnished.

SCOTCH UNIVERSITY AND COLLEGIATE BILLS.

St. Mungo College Bill.—A public meeting of the citizens of the eastern and central districts of the city was held on July 9th, in Blackfriars Hall, Glasgow, to consider the St. Mungo College Bill. Preceptor Osborne presided, and the following resolutions were unanimously adopted: 1. That since the removal of the University from its former site in the High Street, a great want of local teaching for graduation has been felt in the central, eastern, and north-eastern districts of Glasgow. 2. That in the interests of the patients and teaching and study of medicine, it is imperative that the school of medicine in connection with the Royal Infirmary be erected into a College of the University. 4. That in the interests of higher education in the eastern and north-eastern districts it is expedient that the proposed college in connection with the infirmary should embrace all departments of science, languages, philosophy, law, and other subjects of a liberal education. It was further moved that the meeting should petition Parliament in favour of the St. Mungo College Bill. In connection with the same Bill the Secretary for Scotland received a deputation from Glasgow at Dover House on July 13th. The deputation consisted of Dr. W. G. Blackie and Dr. McVail, managers of the Royal Infirmary; Lord Dean of Guild Walls and Sir James Bain representing the Merchants House of Glasgow; Mr. Tullis and Mr. Samuel Marks from the Trades House; Rev. Dr. Watt from Glasgow University Council Association; Mr. John Anderson and Rev. Thomas Somerville representing public meetings of citizens, and was accompanied by the members of Parliament for the city and others. The deputation urged upon Lord Lothian the insertion of a clause in the Universities Bill which would enable the Commissioners to affiliate the medical school in connection with the Royal Infirmary to the University, that course being rendered necessary owing to the impossibility of passing the St. Mungo College Bill this session. In his reply, Lord Lothian said he had been much impressed by the evidence of the great interest shown by Glasgow in the formation of the St. Mungo College, but he could scarcely agree to insert such a clause as was proposed, as it would be doing in the case of St. Mungo College what the Bill said ought not to be done in any case—affiliation without consent. He thought the supposed opposition of the University to affiliation had been exaggerated, and suggested that St. Mungo College should first be endowed and incorporated, and its promotors would then find that the strength of public opinion would be such as to overcome any University opposition to affiliation.

Universities (Scotland) Bill.—Some opposition to this Bill is to be made in the House of Commons. There are now four notices on the paper antagonistic to its further progress. Mr. Hunter, regarding the constitution of the Commission as unsatisfactory, will move that it is not expedient to proceed with the Bill this session. Mr. Esslemont and Mr. Bryce have tabled resolutions against the continuance of ecclesiastical or theological tests; and Mr. Wallace considers that no Bill will be satisfactory which does not provide for granting degrees to all candidates who can prove themselves possessed of the requisite knowledge, culture, or skill, wherever and however acquired.

MEDICAL MAGISTRATES.—Mr. W. C. Watson, M.R.C.S.Eng., L.R.C.P.Ed., has been appointed by the Lord Chancellor a magistrate for the city of Chester.—Mr. J. H. Salter, of Tolleshunt D'Arcy, Essex, has been appointed a Justice of the Peace for the county of Essex.

[Translation.]

MEDICAL PROTOCOL CONCERNING THE RESULT OF THE EXAMINATION OF THE BODY OF HIS MAJESTY THE LATE EMPEROR AND KING FREDERICK THE THIRD.

Schloss Friedrichskron, June 16th, 1888.

In the neck there is a stitched-up linear wound 6½ centimètres long, with rather dry edges, on the right side of which is situated a flat pale protuberance, 2 centimètres high, 1.5 wide and 0.5 thick. Inside the wound is a large quantity of cotton-wool with bismuth, after the removal of which a cavity is left measuring 5 centimètres in depth and almost as much in length, the opening of which, after removal of the stitch, gapes to the extent of about 2½ centimètres. Moreover, the edges of the wound are tolerably hard, rather raised, and moderately tense. An incision was next made in the middle of the sternum and from thence carried subcutaneously upwards on the right by the side of the wound in the neck up to the incision made over the carotid artery on the occasion of the injection.[1] An incision made through the nodule above-mentioned revealed a faintly-reddish and, in the deeper parts, rather whitish, moderately compact tissue, from which a whitish juice escaped on scraping. The nodule was situated in the skin and partly in the subcutaneous tissue, but the underlying muscles were entirely free.

A similar incision was next made on the left side. Here also the muscles on the lateral parts were normal, but in the upper parts they were very tense. Immediately in front of the larynx there was a large tumour on the left side, in the deeper parts of which a medullary-looking infiltration was seen.

On more extensive exposure of the thorax considerable ossification of the first rib on the left side became visible. On opening the chest, the lungs, which were pale grey, filled the pleural sacs almost completely and covered the heart. On the left side could be seen several small prominences, beneath which could be felt hard nodules covered with layers of loose connective tissue. Only at one place, near the anterior border, there was a fairly well-defined lobular polygonal area, with dull, rather uneven surface. The left lung, on being pulled out, appeared outwardly quite healthy at its posterior, lower, and upper aspects; it was everywhere full of air, down to the lowest fringes of the lower lobe, close above the diaphragm.

Very slight hypostatic congestion; the collapsed patches in the base contained dilated bronchial tubes, partly surrounding which were layers of extravasated blood. On section a large number of foci were found in the interior of the lobe, most of which showed much hæmorrhagic infiltration round about, and presented a granular surface on section, while in the centre were a large number of smaller yellowish-white nodules arranged in groups. In some places the foci were of the size of a pea, and contained material resembling pus; in others the whole mass was still solid. Scattered throughout the upper lobe were found similar very pale foci, in which a large number of small yellowish nodules were closely packed together.

In the foci in the anterior border, which have already been mentioned, very thick discoloured clots were found inside the much dilated bronchial tubes, while the neighbouring parts showed thickening of the connective tissue. On slitting up the bronchial tubes in the lower lobe, they were found dilated throughout, with thickened walls, the mucous membrane lying in longitudinal folds; inside were discoloured *débris*.

On the right side precisely similar conditions existed. The apex was perfectly free, but at the posterior and lower part of the lung almost the same conditions of collapse, together with numerous small foci, were found, and similar bronchiectases. In the pleural sacs there were no further contents. In taking out the larynx the incision was carried immediately in front of the vertebral column and just behind the œsophagus. In the anterior mediastinum a fair amount of fatty tissue was found; the glands were slightly reddened, but otherwise unchanged. The larynx and œsophagus were exposed and ligatured. On the left side of the neck close to the jugular vein was a lymphatic gland about as large as a pigeon's egg, which in its interior showed a medullary-looking partly yellowish spot. On slitting up the œsophagus there was found, immediately behind the cricoid cartilage, a collection of brownish and whitish membranes; on pushing these aside, no trace of perforation was found. Epiglottis large, smooth; edge normal.

The ary-epiglottic ligaments, especially the left, somewhat swollen, œdematous, but without ulceration. The space at the back between the arytenoid cartilages rather deep, but also free from ulceration. Just at the base of the epiglottis on the left side there was a medullary nodule as large as a cherry; near it was a smoother one, and still more externally some smaller (younger) ones. In addition to this there was a large surface 9 centimètres in length, covered throughout with gangrenous shreds. The lower edge was formed by the trachea. From that point to the thyroid cartilage no cartilaginous structure was found nor other tissue of the trachea.

Of the thyroid cartilage itself only the upper portions of the wings, together with the cornua, were found. The distance of the lower end of the tracheal wound from the lower end of the ulcer measured two and a-quarter centimètres. This lower edge was moderately clean-cut, extending through the mucous membrane, and presenting below small grey granulations which covered an area of about half a centimètre. Then followed normal mucous membrane over the still existing tracheal rings. In the tissue of the still existing part of the trachea there was no evidence of cicatrisation, but purely normal conditions. Herewith the examination of the body ended, and the latter was sewn up in the most careful manner.

The macroscopic changes observed were summed up by Dr. Waldeyer and Virchow as follows:—

Cancerous destruction of the larynx, with secondary disease of a rather large lymphatic gland at the lower part of the left side of the neck, and a cutaneous nodule on the right side near the wound. Œsophagus unaffected. Inflammatory destruction of the upper portion of the windpipe and the neighbouring parts. Numerous bronchiectases, with putrid contents. Near these, broncho-pneumonic suppurating gangrenous patches.

(Signed)

Count Stolberg-Wernigerode.	Leuthold.
Morell Mackenzie.	von Bergmann.
T. Mark Hovell.	Virchow.
von Wegner.	Waldeyer.
Bardeleben.	Bramann.

Report of Professors Virchow and Waldeyer on the Microscopic Examination of Particular Sections from the Body of the late Emperor Frederick.

1. The larger nodule at the base of the epiglottis shows, on the outside, still unchanged mucous membrane with cylinder epithelium, but in the interior, an alveolar structure with epidermoidal contents. The cells of the latter are large and highly developed; concentrically arranged cell-groups were not observed.

2. The cutaneous nodule on the right side of the wound in the neck is covered with extremely attenuated, but otherwise unchanged, epidermis; the cancerous proliferation reaches close to the surface; its chief development is situated in the deeper parts, where also, here and there, "nests," with a concentric arrangement of cells, occur. Some normal constituents, such as sweat-glands, are to be seen between the cancerous masses.

3. The lymphatic gland on the left side of the neck shows the highest degree of change. The normal structure has disappeared, and is replaced by a loose alveolar tissue, the spaces of which are closely filled with epidermoidal cells having large nuclei; many of these cells possess small, bristle-like fringes (*Bürstensäume*).

4. The contents of the bronchial tubes correspond exactly in their composition with the description given by the undersigned Professor Virchow (in his report of May 19th of the present year) on the solid particles found in the expectoration. Moreover, in certain places, a more abundant collection of small, bright fat-globules, like the globules in milk, was observed.

5. In the foci in the lungs were found thick clusters of pus cells, but no cancer cells. The natural alveolar structure was still perfectly distinct.

(Signed) { Rudolph Virchow. / Wilhelm Waldeyer.

[1] For embalming purposes.

The foundation stone of the New French Hospital will be laid this day, Saturday, July 21st, by his Excellency Senator W. H. Waddington, French Ambassador, at four o'clock.

TESTIMONIAL TO DR. T. W. HIME.

THE numerous friends of Dr. Hime, in Bradford, having failed to influence the Town Council to reappoint him, have determined to present him with a purse of money, "as a mark of their approval of the manner in which he has discharged his duties, and of their regret that through the action of the Sanitary Committee, the town has been deprived of his valuable services." They feel "that the question of the security of tenure of office of so important an official as the medical officer of health involved in his case has more than a local importance, and is of special interest to the medical profession throughout the country." The hope is expressed that the occasion may be the commencement of a successful movement to obtain for all medical officers of health the right of appeal to the Local Government Board, in order that they may be able to perform their duties with due security and independence. The medical profession in Bradford have most cordially supported Dr. Hime, and two of its leading members are on this committee.

The *Chairman of Committee* is Sir Henry Mitchell; *Treasurer*, Mr. F. R. Pesel, and the *Honorary Secretary*, Mr. W. P. Byles. Contributions may be sent to the Treasurer, Oak House, Bradford, or direct to the Bradford Old Bank, Limited.

The following are among the subscriptions already promised:—

	£	s.	d.		£	s.	d.
Sir Henry Mitchell, J.P. ...	50	0	0	I. Sonnenthal	5	0	0
Sir Jacob Behrens	25	0	0	B. Cohen	5	0	0
J. Moser	50	0	0	Gustav Hoffmann	5	0	0
E. Wall	25	0	0	John M. McLaren	5	0	0
Julius Delius	20	0	0	Joseph Hall (per Mr. Cass) ...	5	0	0
Victor Edelstein	20	0	0	Dr. Brown	3	3	0
John Cass, J.P....	10	0	0	Rev. W. H. Keeling	2	2	0
H. Averdieck	10	0	0	F. R. Pesel	2	2	0
Alderman Hardaker	10	0	0	M. Paterson	2	2	0
W. C. Lupton	10	0	0	Dr. Goyder	2	2	0
Drs. H. and A. Bronner ...	5	5	0	Dr. Bell	2	2	0
Black and Eade...	5	0	0	Dr. Major	2	2	0
W. P. Byles	5	0	0	R. H. Meade	2	2	0
Dr. Rabagliati	5	0	0	A Friend	2	0	0
George F. Dawson, J.P. ...	5	0	0	Leopold Lewis	1	1	0
M. Hertz and Co.	5	0	0	Rev. A. J. G. Nash	1	1	0
Leopold Fulda	5	0	0				
Emil Moser	5	0	0		317	4	0

THE CHAIR OF SURGERY AT OWENS COLLEGE, MANCHESTER.

ON Tuesday, July 17th, a large and enthusiastic meeting of past and present students of the Owens College Medical School was held in the Free Trade Hall, Manchester, J. Sheldon Withers, Esq., M.R.C.S., L.R.C.P., in the chair. There was a good attendance of practitioners, and letters from others were read, expressing regret at their inability to be present and sympathising with the object of the meeting.

The CHAIRMAN, after explaining the method of proceedure followed in the election to professional appointments at the College, went on to say that the meeting did not in the least impugn the motives of the Council, which was composed of men for whom they had the deepest regard, but it was quite open to them to conclude that the Council had made a mistake, and quoted instances where such mistakes had been made elsewhere and had since been acknowledged.

The following resolution, to be forwarded to the Council of the Owens College, was proposed and passed unanimously:—

That this meeting of past and present students of the Owens College Medical School desires to approach the Council of the College with the greatest respect, and to express to the Council its regret that the claims of its own candidates for the chair of Surgery should have been, as it thinks, so slightly regarded, a neglect for which it has failed to find any sufficient justification, and one which it believes will be injurious to the best interests of the students.

In the discussion on the resolution the speakers were unanimously of opinion that, in the election, substantial attainments had been passed over, and that the decision had been determined by claims of a more uncertain and speculative nature. It was pointed out that among the Manchester candidates there were men of distinctly greater merit in regard to university career, qualifications, experience in the practice and teaching of surgery, contributions to purely surgical literature, and present clinical opportunities, arising from the fact that they are all hospital surgeons, whereas the new professor has no beds at his disposal. It was maintained that the action of an institution in rejecting the claims of its *alumni* to fill its appointments practically amounts to a confession of weakness in its past teaching. It was, moreover, regarded as a wholly undeserved slight on English qualifications that in recent years they should have been so lightly esteemed in the matter of appointments at the Owens College, the Manchester Royal Infirmary, and other hospitals of the town, and as being exceedingly discouraging to students of medicine in the Owens College.

The following resolution, to be presented to the Medical Board of the Royal Infirmary, was also passed unanimously:

That this meeting of past and present students of the Owens College Medical School desires to express to the Medical Board of the Manchester Royal Infirmary its regret at the result of the recent election to the chair of Surgery in the College. It is of opinion, from past experience of you as teachers, that the interests of the students and of the institutions concerned would have been best promoted by a recognition of the fitness of those of your number who were candidates for the post.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING FOR 1888. ELECTION OF MEMBERS.

ANY qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

A meeting of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary*.

BRANCH MEETINGS TO BE HELD.

OXFORD AND DISTRICT BRANCH.—The annual meeting will be held at the Radcliffe Infirmary, Oxford, on Friday, July 27th, at 3.30 P.M. Members wishing to read papers or show cases or specimens are requested to give notice to the Honorary Secretary, W. Lewis Morgan, 42, Broad Street, Oxford.—S. D. DARBISHIRE and W. LEWIS MORGAN, Honorary Secretaries.

DORSET AND WEST HANTS BRANCH.—The next meeting will be held at Swanage on Wednesday, July 25th, 1888. The business meeting will be held at the Royal Victoria Hotel, at 2.30 P.M. Agenda: Place of the autumn meeting. Election of new member of the Branch: Candidate: Gough Ashton, M.B., Portland. Discussion: Pleuritic Effusion. Communication: Mr. A. Kinsey Morgan: Notes on a Case of Abdominal Tumour. Dinner at 4.45 P.M.; charge, 6s. each, without wine. Members intending to be present are requested to communicate with Mr. Delamotte, Swanage, on or before Monday, July 23rd.—WILLIAM VAWDREY LUSH, M.D., Weymouth, and C. H. WATTS PARKINSON, Wimborne, Honorary Secretaries.

ABERDEEN, BANFF, AND KINCARDINE BRANCH.—The annual meeting of this Branch will be held at 198, Union Street, Aberdeen, on Saturday, July 28th, at 1 P.M., the President, Dr. Smith, of Kinnairdy, in the chair. Business: 1. Minutes, etc. 2. President's address. 3. Ballot for admission of Dr. W. Alexander, Tarland; Dr. Arthur Keith, Marischal College; Dr. D. A. Shirres, Tarves; and Dr. George Williamson, Stonehaven. 4. Council's report and Treasurer's balance-sheet. 5. Election of President-elect for the ensuing year. 6. Election of two Honorary Secretaries. 7. Election of Honorary Treasurer. 8. Election of Members of Council (see Rule 8). 9. Selection of place of next June meeting. There will be a dinner provided at the Palace Hotel, Aberdeen, thereafter, at 3 P.M.; price, including attendance but exclusive of wine, 5s. per head. Those intending to be present are requested to send notice to Dr. Mackenzie Booth, 231, Union Street, Aberdeen. Members desiring photographs of summer meeting may have either of the groups from Messrs. G. W. Wilson and Co., Crown Street, price 6d. each.—ROBERT JOHN GARDEN and J. MACKENZIE BOOTH, Honorary Secretaries.

CAMBRIDGESHIRE AND HUNTINGDONSHIRE BRANCH.

THE annual meeting of the Branch was held at Ely on Friday, July 6th. A luncheon was given at the house of Mr. F. M. Beckett, the President-elect, followed by a meeting in the Public Room, which was attended by about twenty members.

Council and Officers.—The retiring members of the Council of the Branch were re-elected. Mr. D. B. Balding, of Royston, was re-elected representative on the Parliamentary Bills Committee; Dr. Anningson was re-elected Secretary, and representative on the Council of the Association.

New Members.—The following gentlemen were elected members of the Branch: Dr. C. W. Sessions Barrett, Huntingdon; Dr.

Whitfield Perkins, Fulbourn; Mr. D. J. Rygate, Cambridge; Mr. Joseph Griffiths, Cambridge; Mr. Spencer Harris, Ely.

Next Meeting.—The SECRETARY related the negotiations which had been conducted by the Council with the South Midland and East Anglian Branches respectively.—Dr. BARNES, President of the East Anglian Branch, who was present, gave a cordial invitation for a conjoint meeting at Sudbury, but as the South Midland Branch had already passed a special resolution to arrange a conjoint meeting, it was resolved to refer the choice of a place of meeting to the Council.

President's Address.—Mr. F. M. BECKETT, the new president, was then introduced by the retiring President, Mr. H. CRIBB, and delivered his address. He alluded to the annual death-rate of Ely, namely, fifteen, as being smaller than that of any other place in England, and, in regard to longevity, he said that there were persons who had attained the ages of 90 and 96, and possessed unusual mental and physical activity, while there had been recent cases of individuals surviving to the ages of 101 and 102. Those persons lived in the lower, and presumably the less healthy, part of the town. They were not, he assumed, temperate individuals, but possibly the reverse, yet all the organs of their bodies were so beautifully balanced that no unequal wear or strain on them occurred. He expressed the regret felt by Lady Alwyne Compton at her inability (owing to absence from home) to be present at tea in the Palace Gardens, but she had deputed Mrs. Merivale to act in her stead.

Payment to Medical Witnesses.—Mr. D. B. BALDING made a communication on the inadequate payment allowed to medical witnesses at assizes and sessions in criminal cases, and moved a resolution.

Papers, etc.—The following papers were read and discussed: Professor HUMPHRY, F.R.S.: On the Localisation of Cerebral Lesions, illustrated by models.—Mr. LAURENCE HUMPHRY: 1. Sudden Death from Cerebral Affection three years after Severe Blow on Head; Necropsy. 2. Case of Ptosis and other Cerebral Symptoms following Head Injury.—Mr. JOSEPH GRIFFITHS: Aneurysms of Aorta, illustrated by specimens.—Dr. MORRIS exhibited and described an unusual specimen of Perforating Ulcer of the Stomach.

Dinner, etc.—In the afternoon the members were invited to tea in the garden of the Bishop's Palace, and in the evening they dined at the Lamb Hotel. The Rev. Canon J. H. Crosby kindly conducted some of the visitors over the Cathedral.

SHROPSHIRE AND MID-WALES BRANCH.

THE annual meeting of the Branch was held at the Salop Infirmary on Tuesday, July 3rd, at 2 P.M. The President, Mr. T. MORGAN, occupied the chair.

Election of Officers.—The following officers were elected: *President-elect:* H. J. Rope. *Honorary Secretary:* Edward Cureton. *Branch Representative on the Council of the Association:* J. D. Harries. *Branch Representative on the Parliamentary Bills Committee:* Alfred Eddowes, M.D. *Branch Council:* The Branch Council for the past year was unanimously re-elected.

Report of Council.—The report stated that the Council had met four times during the past year; that one half-yearly meeting had taken place on March 27th at the Salop Infirmary, the members being subsequently hospitably entertained by the past President, Mr. W. Eddowes. With regret the Council had to report the death of one member, Dr. Mark Long, of Ludlow, and that there had been three resignations; while, on the other hand, eleven new members had been elected, bringing the total number of members up to ninety-seven. The financial statement showed a balance of £20 7s. 9d., which has been duly vouched for by the Branch auditor.

The PRESIDENT substituted for an address a brief record of some unusual cases which had occurred in his practice several years ago.

Papers, etc.—Mr. ROBERT JONES, of Liverpool, gave a practical demonstration on Muscular Shortening, Fracture of Patella, and the Tests of Recovery from Joint Disease.—Dr. CHARNLEY read a paper on Toxic Amblyopia, illustrating perimetric charts and records of cases.—Mr. NEECH described a case of Addison's Disease, which he had brought with him for the members present to examine.—The HONORARY SECRETARY showed for Dr. W. H. PACKER an interesting case of Prolonged Constipation in a Child, eight years of age, the child appearing to be fairly well nourished; the mother stating that the bowels acted, as a rule, four times a year. The descending colon was plainly felt distended with fæcal matter.

Messrs. Lynch and Co. showed a selection of Surgical Instruments; as did also Mr. Eggington, of Manchester.

Annual Dinner.—The members subsequently dined together at the Raven Hotel, when the usual loyal and other toasts were proposed and duly honoured.

ABERDEEN, BANFF, AND KINCARDINE BRANCH.

THE summer meeting of this Branch was held in Gight Castle on Wednesday, June 20th, and there was a large attendance of members and medical friends. Dr. SMITH, of Kinnairdy, President, occupied the chair.

Minutes and Nominations.—The minutes of the last meeting were read and approved, and Dr. William Alexander (Tarlant), Dr. Arthur Keith (Marischal College), Dr. D. A. Shirres (Tarves), and Dr. George Williamson (Stonehaven), were nominated for ballot at the annual meeting of the Branch.

New Members.—Dr. Jenkyns (Belize, British Honduras), Dr. W. L. Mackenzie (Royal Infirmary), Dr. W. R. C. Middleton (Royal Infirmary), Dr. Rannie (Peterculter), Dr. Riddell (Ferryhill Place), and Dr. A. Murray Will (Royal Infirmary), were balloted for and admitted members of the Branch.

Paper.—A paper on the Braes and Castle of Gight, by Dr. ALEXANDER CRUIKSHANK, was read, in which he described the scenery, geological characters, and history of the place.

Dinner.—After the business meeting the party dined in a marquee in the grounds of Gight, under the presidency of Dr. Smith; and photographs of the members were taken by Dr. McKenzie Davidson.

NORTH OF IRELAND BRANCH: ANNUAL MEETING.

THE tenth annual meeting of this Branch was held in the Royal Hospital, Belfast, on Wednesday, July 11th. The President (Dr. J. M. PALMER, Armagh) occupied the chair, and there was a very large attendance of members.

The minutes of the last annual meeting having been read and confirmed, the annual report of the Council and the statement of the Treasurer were submitted and adopted.

Report of Council.—The report stated that there were now 66 town and 153 country members, making a total of 219. There had been four meetings, at which the communications and discussions on almost every branch of the science of medicine had been of remarkable interest.

Treasurer's Statement.—The Treasurer's statement showed that, after meeting all liabilities, there was a balance in hand of £45 19s. 11½d. A suggestion was made that the Council of the Branch should consider the question of utilising this balance for publishing the communications of the members.

Election of Office-Bearers.—The following were elected office-bearers for the ensuing year:—*President:* Professor Dill, M.D. *Vice-Presidents:* Dr. St. George (Lisburn) and Dr. Whitla. *Members of Council: Town,* Professor Cuming, M.D., Dr. McKeown, Mr. John Fagan, Dr. Dempsey, Dr. Walton Browne, Dr. Esler, Dr. J. W. T. Smith, Dr. Nelson; *Country,* Dr. E. C. Thompson (Omagh), Dr. Maconchy (Downpatrick), Dr. Kidd (Ballymena), Dr. Palmer (Armagh), Dr. Bernard (Derry), Dr. Stewart (Ballymena), Dr. Frazer (Armagh), Dr. Dunlop (Holywood). *Treasurer and Secretary:* Dr. Gray (Castlewellan) was re-elected Treasurer, and Dr. Byers was re-appointed Secretary. *Representatives on the General Council:* Dr. Byers and Professor Dill, M.D., were appointed.

Parliamentary Bills Committee.—Dr. Esler and Dr. Stuart (Ballymena) were re-elected.

Annual Dinner.—Dr. ESLER moved that Rule XXI of the Branch be rescinded: "A dinner, or such other social entertainment as may be determined shall be provided on the day of the annual meeting." It was decided to allow this motion to remain on the books for a year.

President's Address.—Dr. J. M. PALMER then delivered an address on the present position and prospects of the medical profession. On concluding, a warm vote of thanks was passed to Dr. Palmer, and he was requested to allow his address to be circulated amongst the members of the Branch.

Communications.—Dr. O'NEILL showed a patient operated on for Extensive Disease of Foot, and also a patient operated on for Cleft-palate, and read notes of each case.—Dr. MACONCHY showed a Fibro-sarcomatous Tumour (four pounds ten ounces in weight)

removed from the left mamma.—Mr. HENRY BURDEN showed and described the following microscopic preparations: (1) Section of Rat's Testicle, prepared by a New Method; (2) Myeloid Sarcoma; (3) Melanotic Tumour; (4) Cavernous Angioma.—Dr. BYERS showed a specimen of Cystic, Hydatid, or Vesicular Degeneration of the Chorion, and gave a short account of the pathology.—Dr. O'NEILL showed for Mr. FAGAN (who was unable to be present) a patient on whom he had performed Resection of the Wrist-joint; a Portion of Bowel, the Seat of Cancerous Stricture, removed for Intestinal Obstruction; a portion of Saphena Vein the Seat of an Aneurysm; also an Ovarian Tumour, successfully removed.

New Members.—The following were elected: Dr. Gibson, Dr. Mackisack, Dr. Leslie, Mr. M'Kinney, Dr. Lewers, Dr. Tweedie, Dr. Williamson (Belfast), Dr. G. Browne (Galwally, Castlereagh, Belfast), and Dr. Marshall (Markethill).

Dinner.—The annual dinner was held on the same evening in the Royal Avenue Hotel. Dr. Palmer presided, and Professor Dill acted as Vice-Chairman. Nineteen members were present, and through the kindness of Dr. J. A. Lindsay, Dr. Mackenzie, and Dr. Macaw, an excellent musical programme was provided.

NORTH OF ENGLAND BRANCH.

THE twenty-fourth annual meeting was held at the Hydropathic Establishment, Hexham, on Thursday, July 12th, at 2.30 P.M. Twenty-five members were present.

President's Address.—After the reading of the minutes, the retiring President (Dr. Foss) vacated the chair in favour of Dr. Maclagan, the new President. The PRESIDENT then delivered his address, in which he dealt with many interesting points in sanitary science.

Votes of Thanks.—A vote of thanks to the President for his address was proposed by Dr. PHILIPSON, seconded by Dr. J. DRUMMOND, and carried by acclamation.—Votes of thanks to the retiring President, to the Council, and to the officers of the Branch, were moved by Dr. OLIVER and Dr. GOWANS, and adopted.

Reports.—The report of Council, the Treasurer's report, the report from the representative on the Parliamentary Bills Committee, and the statement of members, were read and adopted.

Programme of Meetings.—On the motion of Dr. MURPHY and Dr. BLANDFORD it was resolved that the annual meeting in 1889 take place at Durham; the autumnal meeting, 1888, at Middlesbrough; the spring meeting, 1889, at Tynemouth; the clinical meeting, October, 1888, at South Shields; the microscopical meeting, May, 1889, at the new College of Medicine, Newcastle, and the pathological meeting, June, 1889, at the Newcastle Infirmary.

Council and Officers.—It was resolved further: that Dr. Barron, of Durham, be President-elect; that the Council be re-elected, but that Dr. Foss replace Mr. Rutherford Morison, who has left the South Durham District, which he represented; and that Mr. Williamson be re-elected as Honorary Secretary and Treasurer. It was also resolved that Dr. Philipson should continue to represent the Branch on the Parliamentary Bills Committee; and that Dr. Drummond and Mr. Williamson represent the Branch on the Council of the Association.

Dinner.—The members dined together at the Hexham Hydropathic Establishment, to the number of twenty-eight. As it was a beautiful summer evening, the happy suggestion of doing away with after-dinner speeches was acted upon, and the rest of the time was spent in the grounds of the establishment.

NORTH WALES BRANCH.

THE annual meeting was held at the Assembly Rooms, Dolgelly, on Monday, July 9th, Mr. CHARLES WILLIAMS, J.P., D.L., in the chair, when a good number of the members attended.

New Members.—David Edwards, M.B., and J. Owen Jones, M.B., Llanfair, were admitted members of the Branch.

Future Meetings.—Llangollen was selected as the place to hold the intermediate meeting, and Bettwsycoed the annual.

Officers and Council.—On the motion of Mr. W. J. RICHARDS, Bangor, seconded by the PRESIDENT, Mr. Evan Williams, of Llangefni, was unanimously elected President for the ensuing year. The Honorary Secretary and Honorary Treasurer were re-elected. Dr. Emrys Jones, of Manchester, was elected the representative of the Branch on the Parliamentary Bills Committee; and the Honorary Secretary was re-elected representative on the Council of the Association. Messrs. T. Evans Jones (Llanrwst), Hughes (Llangollen), W. Jones (Ruabon), R. D. Evans (Blaenau Festiniog), W. Thomas (Rhyl), and R. Arthur Prichard (Conway), were elected the District Council for 1889.

Report of Council.—The report of the Council of 1888, which was read by the SECRETARY, showed the continued progress of the Branch, and that its finances were in a satisfactory condition. Attention was drawn to the fact that the Apothecaries' Society had successfully prosecuted an unqualified practitioner in the neighbourhood of Rhyl, and requesting the co-operation of the members by giving information in similar cases which may come under their cognisance. The amendments of the Parliamentary Bills Committee to the Lunacy Amendment Act were considered, and it was suggested that the Secretary should communicate with the members of Parliament of the district, kindly requesting their support.

Travelling Expenses of Branch Representatives.—It was unanimously resolved: "That the travelling expenses of the representative of the Branch to the meetings of the Council should be defrayed out of the funds of the Branch."

President's Address.—The PRESIDENT then retired in favour of his successor, E. J. LLOYD, M.D., Bangor, who gave an address on the Recent Progress in the Science and Practice of Medicine and Surgery, for which a cordial vote of thanks was accorded him.

Communications.—Dr. EMRYS JONES communicated the history, and showed specimens with microscopical sections, of Epithelial Tumour of the Cornea, and a Sarcoma of the Choroid.—Mr. F. H. T. GROSHOLZ (Towyn) read a paper on Herpes, which gave rise to a discussion on the causation and treatment of the disease.—Mr. H. LLOYD WILLIAMS showed a case of Fracture of Skull, with a good deal of Depression, over the Temporo-Parietal Region, where trephining had been used, with a most complete recovery.

Dinner.—After the meeting, the members, with a few friends, dined at the Golden Lion Royal Hotel.

BATH AND BRISTOL BRANCH.

THE annual meeting of this Branch was held at the Royal Mineral Water Hospital, Bath, on Thursday, June 28th.

President for the Ensuing Year. The retiring President, Dr. G. F. BURDER, having made a few remarks, resigned the chair to Mr. J. HINTON, who delivered an able and interesting address.

Vote of Thanks.—A vote of thanks to Mr. J. Hinton for his address was moved by Dr. BEDDOE, seconded by Mr. R. S. FOWLER, and carried unanimously.

Report of Council.—Mr. R. G. H. SCOTT, Honorary Secretary for Bath, read the report, which stated that the Branch continued to keep up its numbers, which were now 247. There had been 15 resignations, chiefly owing to members having left the district; 18 new members had been elected, and 3 had died, namely, Messrs. H. Laxton, of Clifton; G. Smith, of Westbury-on-Trim, and G. Terry, of Mells; the latter died from the effects of a fall from his horse whilst visiting his patients. Fifteen papers had been read at the ordinary meetings during the session. One of the ordinary meetings had, according to rule, been devoted to the discussion of a special subject. It took place at Bath, and "The Etiology, Diagnosis, and Treatment of Diphtheria" was brought before the meeting in a short and practical paper by Dr. Brabazon. During the past year two members, namely, Dr. Marshall and Dr. Shaw, had been the victims of a legal prosecution in a case of lunacy. The Council had drawn up an address congratulating them on the successful issue of the case, which it was hoped all the members would sign. A Subcommittee had been formed to consider the Lunacy Acts Amendment Bill, and to take such steps in the matter as might seem advisable. A joint meeting of the Bath and Bristol, Worcestershire and Herefordshire, and Gloucestershire Branches had been held at Gloucester on June 19th, when an address was given by Dr. J. Hughlings Jackson on "The Diagnosis of Brain Disease." This has since been published in the JOURNAL (see pp. 59 and 111). The balance sheet showed a balance in hand of £19 4s. 0½d.; the Council therefore recommended a donation of £3 3s. to the Medical Benevolent Fund. The following gentlemen were elected on the Local Council: for Bath, Mr. Waugh, Mr. Harper, Dr. Spender, and Mr. Gaine; for Bristol, Dr. E. L. Fox, Dr. J. G. Swayne, Mr. F. P. Lansdown, Dr. R. S. Smith, and Mr. F. R. Cross.

It was proposed by Mr. J. K. GREEN, seconded by Dr. CROSSMAN, and carried unanimously, "That the report now read be adopted and entered on the minutes."

President-elect.—Dr. E. LONG FOX proposed, seconded by Mr. A. WAUGH, and it was carried by acclamation, "That Dr. W. J. Fyffe be appointed the President-elect."

Vote of Thanks to the Retiring President.—It was proposed by Dr. HENSLEY, seconded by Dr. SWAYNE, and carried unanimously, "That the best thanks of the Branch should be given to Dr. G. F. Burder for his able conduct in the chair during the year."

Vote of Thanks to the Council and the Honorary Secretaries.—Mr. SWAYNE proposed and Mr. F. COWAN seconded a vote of thanks to the Council and the Honorary Secretaries, with a request that the latter should continue in office during the ensuing year. This was carried unanimously.

Representatives on the General Council.—On the motion of Mr. J. S. BARTRUM, seconded by Dr. FYFFE, Mr. F. Mason, of Bath, and Dr. E. Markham Skerritt, of Clifton, were unanimously elected to represent the Branch upon the General Council.

Representative on the Parliamentary Bills Committee.—Mr. R. CROSS proposed, Mr. C. HOPKINS seconded, and it was carried unanimously, "That Dr. A. J. Harrison be appointed as representative of the Branch on the Parliamentary Bills Committee."

A vote of thanks to the Governors of the Royal Mineral Water Hospital for the use of their board-room was carried unanimously.

Dinner.—The members afterwards dined together in the Grand Pump Room Hotel.

BRITISH MEDICAL ASSOCIATION.

FIFTY-SIXTH ANNUAL MEETING.

THE fifty-sixth Annual Meeting of the British Medical Association will be held at Glasgow, on Tuesday, Wednesday, Thursday, and Friday, August 7th, 8th, 9th, and 10th, 1888.

President: John T. Banks, M.D., D.Sc.(Hon.), F.K.Q.C.P.I., Regius Professor of Physic in the University of Dublin.

President-Elect: Professor W. T. Gairdner, M.D., LL.D., Professor of Medicine in the University of Glasgow.

President of the Council. Thomas Bridgwater, M.B., J.P., Harrow-on-the-Hill.

Treasurer: Constantine Holman, M.D., J.P., Reigate.

An Address in Medicine will be delivered by Thomas Clifford Allbutt, M.D., F.R.S., Consulting Physician, Leeds General Infirmary.

An Address in Surgery will be delivered by Sir George H. B. Macleod, M.D., Surgeon in Ordinary to Her Majesty in Scotland.

An Address on his "Recent Investigations in Surgery" will be given by William Macewen, M.D., Lecturer on Clinical Surgery, Glasgow Royal Infirmary.

An Address in Physiology will be delivered by John Gray McKendrick, M.D., LL.D., F.R.S., Professor of Institutes of Medicine, University of Glasgow.

All the rooms required for the purposes of the meeting will, by the kindness of the authorities, be provided in the University of Glasgow.

PROGRAMME OF PROCEEDINGS.

TUESDAY, AUGUST 7TH, 1888.

9.30 A.M.—Meeting of 1887-1888 Council. Randolph Hall.
11.30 A.M.—First General Meeting. Report of Council. Reports of Committees. Bute Hall.
4 P.M.—Service in the Cathedral. Sermon by the Very Rev. John Caird, D.D., LL.D., Principal and Vice-Chancellor of the University of Glasgow.
8.30 P.M.—Adjourned General Meeting from 11.30 A.M. President's Address. Bute Hall.

WEDNESDAY, AUGUST 8TH, 1888.

9.30 A.M.—Meeting of 1888-89 Council. Randolph Hall.
10.30 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Second General Meeting. Address in Medicine by Thomas Clifford Allbutt, M.D., F.R.S. Bute Hall.
9 P.M.—*Conversazione* given by the Principal and Professors of the University.

THURSDAY, AUGUST 9TH, 1888.

9.30 A.M.—Address on his Recent Surgical Investigations by William Macewen, M.D. Bute Hall.
11 A.M.—Meeting of Council. Randolph Hall.
10.30 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Third General Meeting.
Address in Surgery by Sir George H. B. Macleod, M.D.
Presentation of Gold Medal of Merit to Dr. Ormerod.
} Bute Hall.
7 P.M.—Public Dinner. St. Andrew's Hall.

FRIDAY, AUGUST 10TH, 1888.

10.30 A.M. to 1.30 P.M.—Sectional Meetings.
2.30 P.M.—Concluding General Meeting. Address in Physiology by John G. McKendrick, M.D., F.R.S. Natural Philosophy Class-room.
9 P.M.—*Conversazione* given by the Corporation of Glasgow at St. Andrews Hall.
Garden Party given by the Faculty of Physicians and Surgeons at the Botanic Gardens.

SATURDAY, AUGUST 11TH, 1888.

Excursions:—(1) Lanark and Falls of Clyde; (2) Ayr and the Land of Burns; (3) the Perthshire Highlands, Lochearnhead and Crieff; (4) Callender and the Trossachs (Loch Katrine); (5) Arran; (6) Stirling, Bridge of Allan and Dumblane Cathedral; (7) Rothesay and the Kyles of Bute; (8) Loch Lomond.

*** *Members proposing to attend the Annual Meeting are particularly requested, upon arriving at Glasgow, to proceed to the Reception Room, in the Vestibule of the Chief Entrance the University (1) enter their names and addresses, obtain their Members' Tickets and Daily Journals; (2) inquire for telegrams and letters; (3) consult the list of lodgings and hotels, etc.*

It has been arranged that the members of the Association are to be invited by the Executive Committee of the International Exhibition to a reception in the Picture Galleries of the Exhibition on the afternoon of Wednesday, August 8th, at half-past 4 o'clock. The authorities have most kindly offered to grant special tickets of admission to members of the Association and to any friends who may accompany them to the Glasgow meeting. These tickets will be sold in the Reception Room at 3s. each; they will be available during the whole time of the meeting, and will confer on the bearer all the privileges of a season ticket holder.

The following discussions and papers are promised up to the present time:—

SECTION A.—MEDICINE.

Humanity Class Room.

A. MEDICINE.—*President*, Professor T. McCall Anderson, M.D. *Vice-Presidents*, R. L. Bowles, M.D.; George F. Duffey, M.D. *Honorary Secretaries*, J. McGregor Robertson, M.A., M.B., 400, Great Western Road, Glasgow; Robert M. Simon, M.D., 27, Newhall Street, Birmingham.

The President will open the proceedings by introducing a discussion on the Diagnosis and Treatment of Syphilitic Disease of the Nervous System. Dr. Thomas Buzzard, Dr. T. S. Clouston, Dr. William Moore, Dr. Ross, Professor Grainger Stewart, Professor Julius Dreschfeld, Dr. J. G. Sinclair Coghill, Dr. Francis Warner, Dr. Frederick Bateman, Dr. C. R. Drysdale, Dr. C. W. Suckling, Dr. Andrew Smart, Dr. Alex. Robertson (Glasgow), and Dr. David Drummond will take part in the discussion.

On the third day of the sectional proceedings, the Value of Inhalations in the Treatment of Lung Disease is set down for discussion, to be opened by Dr. C. Theodore Williams. The following gentlemen have already indicated their intention to engage in this discussion: Dr. Burney Yeo, Dr. W. W. Ireland, Dr. C. F. Knight, Dr. J. A. Lindsay, Dr. J. G. Sinclair Coghill, Dr. Andrew Smart, Dr. J. O. Affleck, Dr. B. W. Philip, and Dr. E. Markham Skerritt. Dr. Andrew Smart will show New Respirators.

Drs. Byrom Bramwell and Milne Murray will give a demonstration of their Method of Graphically Recording the Exact Time Relations of Cardiac Sounds and Murmurs.

The following papers have been promised.

AFFLECK, J. O., M.D. Two Cases of Raynaud's Disease (Symmetrical Gangrene). Illustrated by paintings of the affected parts, and by microscopical sections of affected nerves.
BOWLES, Robert L., Esq. An Investigation into the Causes of Stertor in Animals.
COGHILL, J. G. S., M.D., Ventnor. The Treatment of Phthisical Pyrexia.
COUPLAND, Sidney, M.D. A Case of Subphrenic Abscess.
DRUMMOND, David, M.D. On the Diagnosis and Prognosis of Tubercular Meningitis.
DRUMMOND, Edward, M.D., Rome. Fever at Rome.
FINLAY, David W., B.A., M.D. Bronchiectasis treated by Incision and Drainage.
FREW, W., M.D., Kilmarnock. Prevalence of Cerebro-spinal Fever in Scotland.
GARRY, T. Gerald, MD., M.Ch. Massage: When and How to Use it.
GREENE, G. E. F., L.K.Q.C.P. A Note on a Recent Epidemic of Erysipelas.
HANDFORD, H., M.D. The Influence and Position on Cardiac Murmurs and the Condition of the Heart in Anæmia (Chlorosis).
HARRISON, A. J., M.B. Further Researches on the Treatment of Tinea Tonsurans. Illustrated with photographs.
HAYCRAFT, Professor J. Berry, and WILLIAMSON, R. T., M.D. Demonstration of a Clinical Method for Quantitatively Determining the Alkalinity of the Blood.
JONES, A. Orlando, M.D. A New Remedy for Some Forms of Heart Disease.
LAFFAN, Thomas, Esq. 1. Our Exaggerated Estimate of the Value of Beef-tea. 2. Illustrations in Cardiac Prognosis.
LUFF, Arthur P., M.B., B.Sc. The Ptomaines or Animal Alkaloids, and their Relation to Disease.
MURRAY, Dr., Forfar. On Disposal of Sewage.
MYRTLE, A. S., M.D., Harrogate. Neurasthenia, True and False: Diagnosis and Management.
OLIVER, Thomas, M.D., Newcastle. Clinical and Pathological Bearings of Malformation of the Heart as seen in (*a*) Patent Foramen Ovale, (*β*) Imperfect Ventricular Septum.

Smart, Andrew, M.D., Edinburgh. Communication on some Forms of Undescribed Respiratory Neuroses; their Clinical and Physiological Aspects.
Strachan, John, M.D. (Dollar). A Case of Pernicious Anæmia Successfully Treated by Arsenic.
Strahan, John, M.D. (Belfast). Asthenia in Acute Disease, and its Management.
Suckling, C. W., M.D. Notes on Peripheral Neuritis and on its occurrence in Brassworkers.
Tomory, J. K., M.B. East African Fever, with special reference to Climatic Conditions.
Wallace, —, M.D., Liverpool. Note on Some of the Bad Effects of Tight Lacing.
Warner, Francis, M.D. Syphilitic Meningitis causing Imbecility.

Dr. Russell Reynolds, and Dr. F. W. Pavy have also intimated their intention to take part in the proceedings of the Section.

Section B.—Surgery.

Chemistry Class Room.

B. Surgery.—*President*, George Buchanan, M.D. *Vice-Presidents*, James Dunlop, M.D.; Charles Robert Bell Keetley, F.R.C.S. *Honorary Secretaries*, David Neilson Knox, M.B., 8, India Street, Glasgow; Walter Pye, F.R.C.S., 4, Sackville Street, Piccadilly, London, W.

As already announced, in this Section discussions have been arranged for on the following subjects:

1. The Surgical Treatment of Abscess of the Lung and of Empyema. To be introduced and supported by Mr. T. Pridgin Teale (Leeds), Sir Spencer Wells (London), Mr. A. Pearce Gould (London), Mr. R. J. Godlee (London), Dr. J. Ward Cousins (Portsmouth), Dr. T. Laffan (Cashel), and Mr. W. Thomas (Birmingham).

2. The Operative Treatment of Club-Foot. To be introduced and supported by Sir William Stokes (Dublin), Mr. E. Lund (Manchester), Dr. Alexander Ogston (Aberdeen), Mr. R. W. Parker (London), Mr. E. M. Little (London), Mr. John Chiene (Edinburgh), Mr. W. J. Walsham (London), and others.

The following papers have also been promised.

Benton, Samuel, Esq., London. On the Treatment of Stricture of the Rectum by Electrolysis.
Bishop, E. Stanmore, Esq., Manchester. Some Cases of Osteotomy, with an Apparatus for fixing the Lower Limbs after Division of the Bones.
Browne, G. Buckston, Esq., London. An Explanation of the way in which Calculi in the Male Urinary Bladder sometimes escape Detection by the Sound, with a description of a New Form of Sound.
Browne, Lennox, Esq., London. Tubage of the Larynx.
Carmichael, Archibald, M.D., Barrow-in-Furness. A Case of Gastrostomy, with Exhibition of Patient.
Clark, Sir Andrew, London. The History of a Case of Catheter Fever.
Clarke, W. Bruce, Esq., London. Prostatic Abscess and its Consequences.
Cousins, J. Ward, M.D., Portsmouth. (1) New Apparatus for Treatment of Fractures of Lower Jaw; (2) New Evacuator for Litholapaxy and other Bladder Operations.
Duncan, John, M.D., Edinburgh. The Value of Electrolysis in Angioma and Goitre.
Fenwick, E. Hurry, Esq., London. Notes from the Experience of 550 Cases of Organic Stricture of the Urethra.
Fleming, W. J., M.D., Glasgow. 1. On Continuous Extension in Spinal Curvature. 2. On the Treatment of Perineal Fistula.
Harrison, Reginald, Esq., Liverpool. On an Improvement in the Construction of Ships' Berths, relative to the Treatment of some Surgical Injuries and Diseases at Sea (with models).
Keetley, C. R. B., Esq., London. Plastic Amputations of the Foot.
Laffan, Thomas, Esq., Cashel. On Sarcoma.
Lloyd, Jordan, Esq., Birmingham. Inflammatory Disease of the Seminal Vesicles.
Marcus, Hugo, M.D., Paris. *(Title not received.)*
McIntyre, John, Esq., Glasgow. The Electric Illumination of the Cavities of the Body.
Morton, James, M.D., Edinburgh. On Spina Bifida, with exhibition of cases successfully treated some years ago.
Murphy, James, M.D., Sunderland. (1) A Case of Gastrostomy, with Exhibition of Patient Eleven Months after Operation. (2) Hysterectomy per Vaginam for Uterine Fibroids, *morcellement* as practised by M. Péan.
O'Callaghan, Robert, F.R.C.S., Carlow. A Case of Laparotomy for Strangulated Umbilical Hernia; Radical Cure, with a Method of Operating.
Owen, Edmund, Esq., London. A Case of Intra-cranial (Subdural) Hæmorrhage; Localisation; Trephining; Recovery.
Pearse, T. Frederick, Esq., M.D., London. (1) On Puncture of the Bladder; (2) On Gonorrhœa in Women.
Rake, Beaven, M.D., Trinidad. The Value of Nerve Stretching in Leprosy, based on One Hundred Cases.
Renton, J. Crawford, Esq., M.D., Glasgow. A Case of Severe Deformity of Lower Lip restored by Mr. Teale's operation six years ago.
Robson, A. W. Mayo, Esq., Leeds. (1) Prostatectomy, a Sequel of the Operation of Suprapubic Lithotomy in cases of Prostatic Enlargement. With Cases. (2) A Series of Cases of Macewen's Operation for Genu Valgum.
Roth, Bernard, Esq., London. On Scoliosiometry, or an Accurate and Practical Method of Recording Cases of Lateral Curvature of the Spine.
Smith, Noble, Esq. Demonstration of the Reduction of Fractured Vertebræ, and the application of Apparatus to Control the Spine.
Stokes, Sir William, Dublin. Modification of Gritti's Amputation; and will show Casts of Stumps.
Tait, Lawson, Esq., Birmingham. A Second Series of One Thousand Consecutive Abdominal Sections.
Thomson, Wm., Esq., M.D., Dublin. On Excision of the Knee-joint.
Thorburn, Wm., Esq., Manchester. The Distribution of Paralysis and Anæsthesia in Injuries of the Cervical Region of the Spinal Cord.
Valcourt, Th. de, Esq., M.D., Cannes. Winter Sea-baths at Cannes in cases of Scrofulous Disease.

Section C.—Obstetric Medicine.

Medical Jurisprudence Class Room.

C. Obstetric Medicine.—*President*, Thomas More Madden, M.D. *Vice-Presidents*, William Leishman, M.D.; J. Halliday Croom, M.D. *Honorary Secretaries*, William Walter, M.D., 20, St. John Street, Manchester; W. L. Reid, M.D., 7, Royal Crescent, Glasgow.

The following two special discussions will take place:—

1. On Intra-uterine Death; its Pathology and Preventive Treatment. To be opened by Professor Simpson. The following gentlemen will take part in the discussion:—Drs. R. Barnes, Graily Hewitt, More Madden, W. O. Priestley, John W. Byers, Hugo Marcus, and A. D. Leith Napier.

2. On Obstructive Dysmenorrhœa and Sterility. To be opened by Dr. Halliday Croom. The following gentlemen will take part in the discussion:—Drs. Aveling, Bantock, F. Barnes, R. Barnes, Cranny, Duke, Edis, Graily Hewitt, Macan, More Madden, Professor Stephenson, J. W. Taylor, W. Walter, J. W. Byers, Hugo Marcus, and Dr. Braithwaite.

Dr. Samuel Sloan (Glasgow) will show his Antero-posterior Compression Forceps, and will explain their use in Flat Pelves.

Wm. Walter, M.D., Manchester, will exhibit his instruments for Securing the Broad Ligaments during Extirpation of the Uterus per Vaginam.

William L. Reid, M.D., Glasgow, will show and describe an instrument for the Rapid Dilatation of the Cervix Uteri.

The following papers are promised.

Apostoli, G., M.D., Paris. On Some Novelties in the Electro-Therapeutics of Gynæcology.
Aveling, J., M.D. The Treatment of Uterine Tumours by Electricity.
Barnes, R., M.D. Analogies between Menstruation and Gestation and Puerpery in their Physiological and Pathological Relations.
Braithwaite, James, M.D., Leeds. 1. Cases of Mechanical or Irritative Treatment of Amenorrhœa. 2. The Treatment of Intractable Cases of Retroflexion.
Butler-Smythe, A. C., F.R.C.S.Ed., London. Acute Mania following Removal of a Papillomatous Cystic Tumour of the Ovary and Rupture of the Intestine by Enema; Recovery.
Cameron, John M., M.B., Old Kilpatrick. A Case of Erysipelas in a Pregnant Woman, with the Birth of an Erysipelatous Child.
Cameron, Murdoch, M.D., Glasgow. 1. On Cæsarean Section, with Notes of a Successful Case. 2. On the Thermostatic Nurse, with Cases.
Croom, J. Halliday, M.D., Edinburgh. (1) On the Remote Effects of Removal of the Uterine Appendages. (2) On Some Points in the Pathological Anatomy of Incarceration of the Retroflexed Gravid Uterus.
Duke, A., F.K.Q.C.P., Dublin. (1.) On the Rapid Expansion of the Cervical Canal by a New Method. (2) Tractors and Belt for Additional Power in Forceps Cases, as an Alternative to Craniotomy.
Hart, D. Berry, M.D., Edinburgh. Successful Case of Cæsarean Section (Porro's modification).
Imlach, Francis, M.D., Liverpool. The Function of Anæmia in Gynæcology.
Kennedy, Hugh, M.D., Dublin. Notes on the Treatment of Lacerations of the Cervix Uteri.
McDonald, A. D., M.D., Liverpool. (1) A Case of Extra-uterine (Ruptured Intra-Ligamentous) Pregnancy. (2) Non-communication of Scarlet Fever to a Puerperal Patient.
Madden, More, M.D., Dublin. 1. On the Causes and Treatment of Pseudocyesis. 2. On the Rapid Curative Treatment of Cystitis in Women.
Marcus, Hugo, M.D., Paris. *(Title not received.)*
Martin, J. M., M.D. On Some Points in the Pathology of Carcinoma of the Uterus.
Napier, A. D. Leith, M. D., London. The Treatment of Habitual Abortion.
Routh, A., M.D. Headaches of Pelvic Origin.
Stephenson, William, M.D., Aberdeen. On the Influence of Permanganate of Potass on Menstruation.
Tait, Lawson, Esq., Birmingham. The Treatment of Uterine Myoma.
Wallace, J., M.D., Liverpool. Note on Three Forms of Fallopian Disease. (1) Subinvolution (open tube). (2) Hypertrophy (open tube). (3) Complete Stenosis (Inflammatory).

Section D.—Public Medicine.

Greek Class Room.

D. Public Medicine.—*President*, Henry Duncan Littlejohn, M.D. *Vice-Presidents*, James Christie, M.D.; D. Page, M.D. *Honorary Secretaries*, Ebenezer Duncan, M.D., 4, Royal Crescent, Crosshill, Glasgow; John C. McVail, M.D., Holmhead, Kilmarnock.

1. Sanitary Legislation. This discussion will be introduced by the Opening Address of the President of the Section.

2. The Communicable Diseases Common to Man and Animals, and their Relationships. Discussion to be opened on the second day of the sectional meetings by George Fleming, LL.D., F.R.C.V.S., Chief of the Veterinary Department of the Army. Professor Edgar Crookshank, King's College; Dr. J. B. Buist, Edinburgh; Dr. Edington, Edinburgh; Professor McCall, Veterinary College, Glasgow; Dr. Edward Seaton, St. Thomas's Hospital; Dr. George Thin, London; Dr. Henry Tomkins, Leicester; Principal Walley, Royal Veterinary College, Edinburgh; Dr. G. Sims Woodhead, Edinburgh, will take part in the discussion.

3. The Disposal of Sewage *(a)* in Large Towns; *(b)* in Small Towns and Country Districts. Discussion will be opened on the third day by Dr. James B. Russell, Medical Officer of Health, Glasgow.

The following papers are promised.

BROWN, William, F.R.C.S., Carlisle. Report on Outbreak of Typhoid Fever, Associated with an Infective Fever among Cows.
CARPENTER, Dr. Alfred, Croydon. On Disposal of Sewage.
CHURTON, T., M.D., Leeds. On Some Researches in the Homes of Hospital Patients and of Holiday Children.
DRUMMOND, Edward, M.D., Rome. On Malaria.
DRYSDALE, Charles R., M.D. 1. On Indigence as a Main Cause of High Death-rates. 2. The Berlin and Parisian Sewage Farms.
HIME, T. W., M.B. Milk Scarlet Fever.
HOPE, E. W., M.D., Liverpool. On the More Recent Phases in the Decline of the Liverpool Death-rate.
JAMES, J. Brindley, Esq., London. On a Minister of Public Health.
KERR, Norman, M.D. Some Risks of Sanitation.
LITTLEJOHN, Dr., Edinburgh. On Disposal of Sewage.
MURRAY, Wm., M.D., Newcastle-on-Tyne. On Starving into Health.
NASMYTH, T. G., F.R.S. A Report on the Chemical and Biological Conditions of the Air of Coal Mines, together with Mortality Statistics of a Mining District, being a report to the Scientific Grants Committee of the British Medical Association.
PRINGLE, Surgeon-Major Robert, M.D., late of the Sanitary Department Her Majesty's Bengal Army. (1) On Sheffield and Leicester Compared as Regards Small-pox Prevalence. (2) The Condition of Water-Supply for Drinking Purposes in Public Fountains, Railway Stations, etc.
SEATON, Edward, M.D., London. On Epidemic of Ephemeral Fever.
SIMPSON, —, M.D., Medical Officer of Health, Calcutta. On Cholera and its Fostering Conditions in the Endemic Area.
SUTHERLAND, J. Francis, M.D. National Sanatoria.
TOMKINS, H., M.D., M.O.H., Leicester. Some Bacteriological Researches in connection with Summer Diarrhœa.
WHITELAW, Dr., Kirkintilloch. On Disposal of Sewage.

SECTION E.—PSYCHOLOGY.

Hebrew Class Room.

E. PSYCHOLOGY.—*President*, James C. Howden, M.D. *Vice-Presidents*, James Rutherford, M.D.; Julius Mickle, M.D. *Honorary Secretaries*, A. R. Urquhart, M.D., Murray House, Perth; Alex. Newington, M.D., Ticehurst, Sussex.

Dr. J. C. Howden, the President of the Section, will deliver an Address.

Dr. C. M. Campbell will introduce a discussion on the Uniform Recording of *Post-Mortem* Examinations in Asylum Reports.

Dr. A. Campbell Clark will introduce the following subject: The Sexual and Reproductive Functions—Normal and Perverted—in Relation to Insanity. 1. Menstruation: its Commencement, Irregularities, and Cessation; 2. The Sexual Instinct and its Abuse; 3. Pregnancy, Parturition, the Puerperal Period, and Lactation.

Dr. Clouston will initiate a discussion on the Principle of Construction and Arrangement of an Asylum for Private Patients of the Richer Classes.

The following papers are promised.

BEACH, Fletcher, M.D. Cases of Disease of the Brain in Imbeciles.
BENEDIKT, Professor, Vienna. The Clinical Results of Craniometry and Cephaloscopy in Diseases of the Mind and Brain.
MERCIER, Charles, M.B. Expert Evidence in Lunacy Cases.
MICKLE, W. J., M.D. Note on Antifebrin.
SAVAGE, George, M.D. Mental Disorders associated with Engagements and Marriage.
TUKE, Hack, M.D. On Hallucinations.
WARNER, Francis, M.D. 1. Methods of Examining Children in Schools as to the Development and Condition of Brain.
WIGLESWORTH, J., M.D. The Pathology of Delusional Insanity (Monomania).
WOODS, Oscar T., M.D. Notes on a Case of Folie à Deux in Five Members of the same Family.

SECTION F.—ANATOMY AND PHYSIOLOGY.

Anatomy Class Room.

F. ANATOMY AND PHYSIOLOGY.—*President*, John Cleland, M.D., LL.D., F.R.S. *Vice-Presidents*, R. J. Anderson, M.D.; Henry Edward Clark, F.F.P.S.G. *Honorary Secretaries*, John Barlow, M.D., 27, Elmbank Crescent, Glasgow; Charles Barrett Lockwood, F.R.C.S., 19, Upper Berkeley Street, Portman Square, W.

C. B. Lockwood, F.R.C.S., will introduce a discussion on the Teaching of Anatomy; and will show sections illustrating the Development of the Organs of Circulation and Respiration.

The following papers are promised.

ANDERSON, Professor R. J., M.D. Pelvic Epiphyses.
BROOKS, Henry St. John, M.D. On the Morphology of the Epitrochleo-anconeus or Anconeus Sextus (Gruber).
BROWN, J. Macdonald, M.B., F.R.C.S. 1. The Construction of the Cardiac Ventricles in the Mammalia. 2. Arrested Twin Development.
CLELAND, Professor, M.D., F.R.S. On the Nature of Certain Forms of Double Monstrosity.
COLLIER, Mark P. Mayo, M.B., F.R.C.S. On the Mechanism of the Heart and Pulse.
ECCLES, A. Symons, M.D. The Internal and External Temperature of the Human Body as modified by Muscle Kneading, with Sphygmographic and Sphygmo-manometric Records.
HAYCRAFT, Professor J. Berry, and Dr. W. E. CARLIER. 1. Morphological Changes which occur in Blood during its Coagulation. 2. Demonstration of Human Blood retained in a Fluid Condition when Suspended to Castor Oil.
HAYCRAFT, Professor J. Berry. Recent Investigations on the Production of Taste and Smell.
LANE, W. Arbuthnot, M.B., F.R.C.S. The Influence Produced by Excessive Strain upon Muscles and Ligaments (to be illustrated by specimens).
MACDONALD, Greville, M.D. On the Mechanics of the Nose, as regards Respiration, Smell, and Taste.
MURRAY, R. Milne, M.B., F.R.C.P.E. Will Show an Arrangement for the Investigation of the Action of Measured Galvanic and Faradic Currents on Tissues.
PATERSON, A. M., M.D. 1. On the Position of the Vertebrate Limb, considered in the Light of its Innervation and Development. 2. Congenital Diaphragmatic Hernia in an Infant.

SECTION G.—PATHOLOGY.

Law Class Room.

G. PATHOLOGY.—*President*, Sir William Aitken, M.D., LL.D., F.R.S. *Vice-Presidents*, Alexander Davidson, M.D.; Joseph Coats, M.D.; Charles Roy, M.D., F.R.S. *Honorary Secretaries*, G. Sims Woodhead, M.D., 6, Marchhall Crescent, Edinburgh; J. Lindsay Steven, M.D., 34, Berkeley Terrace, Glasgow.

Arrangements are being made to hold a discussion on Cancer originating apart from Epithelial Structures, in which Mr. Lawson Tait (Birmingham), Dr. Joseph Coats, Dr. John Carlyle (Greenock), and others are expected to take part.

The following papers have been promised.

BRUCE, Alex., M.B., F.R.C.P.Edin. On Disseminated Sclerosis.
COATS, Joseph, M.D. On a Case of Lipæmia in Diabetes, with Suggestions as to the Source of the Fat.
CROOKE, G. F., M.D., Birmingham. (1) Histological Examination of Organs in Two Cases of Purpura Hæmorrhagica. (2) Cancrum Oris Terminating Fatally with Hæmorrhagic Myocarditis.
CROOKSHANK, Professor Edgar, M.B. (1) On Anthrax in Swine. (2) On Tuberculosis in Swine. (3) On Tubercular Cows Milk. (4) On Human and Bovine Actinomycoses.
GREVES, E. Hyla, M.D., Bournemouth. Notes on the Pathology of a case of Pseudo-hypertrophic Paralysis.
DELÉPINE, Sheridan, Esq. A Few Uncommon Forms of Sarcoma. (Specimens to be shown.)
HUNTER, W., M.D. On the Pathology of Pernicious Anæmia.
KENNEDY, —. On Case of Cystic Kidneys and Liver.
MAPOTHER, E. D., M.D., Dublin. An Anomalous Form of Eczema.
MAYLARD, A. E., M.B., B.S.Lond. The Results of some Bacteriological Cultivation Experiments with Iodoform.
NUNN, T. W., Esq., F.R.C.S. Exhibition of a Selection of Microscopic Sections of Cancerous Tissues.
O'CONNOR, Bernard, M.D., M.R.C.P. Hydatids of the Spleen, Liver, and Brain.
RAKE, Beaven, M.D.Lond., Medical Superintendent of the Trinidad Leper Asylum. The Percentage of Fibrin in the Blood of Lepers.
ROY, Professor C. S., F.R.S., and ADAMI, J. A., M.A., M.B. On Failure of the Heart from Overstrain.
RUSSELL, William, M.D. The Pathology of Pernicious Anæmia.

The following gentlemen have also intimated their intention of contributing to the business of the Section by reading papers or otherwise: Professor Greenfield, Professor Roy, Professor D. J. Hamilton, Dr. William Hunter, Dr. Barrett (Edinburgh), Dr. McFadyean (Edinburgh), Alex. Edington, M.B. (Edinburgh), etc.

Demonstrations.—Dr. Alexander Bruce (Edinburgh) will give a Magic Lantern Demonstration on Diseases of the Spinal Cord; and Alexander Edington, M.B. (Edinburgh), a Bacteriological Demonstration. Arrangements are also being made for a series of Microscopical Demonstrations illustrative of Tumours, Tuberculosis, etc.

Pathological Section of the Annual Museum.—Intimation has been received of the following exhibits for this Section of the Annual Museum: 1. Calculi removed by Lithotomy, by Professor George Buchanan. 2. Calculi removed by Lithotrity or by Scoop, by Professor George Buchanan. 3. Miscellaneous Objects removed from the Body, by Professor George Buchanan, namely: Bullets, Needles, Cases of Teeth, Impacted Pessaries, etc., also Isolated Bones of the Tarsus Excised. 4. Rhinoplasty; Wax Cast, by Professor George Buchanan. 5. Bladder and Urethra showing False Passages. 6. Selected Specimens from the Private Collection of Professor W. T. Gairdner. 7. A Series of Specimens of Tumours of the Brain, by Dr. Joseph Coats. 8. A Series of Specimens illustrative of Diseases of the Kidneys, by Dr. David Newman. 9. A Series of Specimens illustrative of Leprosy, by Dr. Beaven Rake (Trinidad). 10. A Series of Large Sections illustrating Malignant Tumours of the Lung; and a Series of Specimens illustrating Deformities of the Liver, by Drs. Woodhead and Bruce. 11. Drawings and Sections to illustrate Diseases of Bone and Joints, by Mr. F. M. Caird (Edinburgh). 12. A Series of Specimens illustrative of Diseases of the Heart, by Dr. John Lindsay Steven. 13. A Series of Myomata of the Uterus, by Dr. Joseph Coats. 14. A Series of

Bacteriological Cultivations. By Mr. A. E. Maylard, B.S. 15. Sections of Primary Growths of the Pleura and Lungs, by Dr. George F. Crooke, Birmingham.

As space for the Museum is somewhat limited, gentlemen intending to send specimens should intimate their intention without delay to John Lindsay Steven, M.D., 34, Berkeley Terrace, Glasgow, Honorary Secretary of the Section of Pathology of the Annual Museum.

Section H.—Ophthalmology.

Midwifery Class Room.

H. Ophthalmology.—*President*, Thomas Reid, M.D. *Vice-Presidents*, J. R. Wolfe, M.D.; C. E. Glascott, M.D. *Honorary Secretaries*, Henry Bendelack Hewetson, M.R.C.S., 11, Hanover Square, Leeds; A. Freeland Fergus, M.B., 41, Elmbank Street, Glasgow.

Mr. Brudenell Carter will open a discussion on the Treatment of Senile Cataract. Drs. Prichard, Meighan, Mason, Teale, G. Anderson Critchett, Drs. C. Lloyd Owen, Charles G. Lee, H. Bendelack Hewetson, Esq., Karl Grossmann, J. H. Bell, and others have promised to take part in the discussion.

The President of the Section intends to give a Demonstration of several Instruments of Use in Ophthalmic Diagnosis.

The following papers are promised.

Benson, A. H., M.D. 1. On the Treatment of Entropion and Trichiasis by the Transplantation of Buccal Mucous Membrane. 2. Hyalitis Punctata.
Bickerton, T. H., M.D., Liverpool. Sailors and their Eyesight.
Carter, R. Brudenell, Esq. Operation of Opening the Sheath of the Optic Nerve for the Relief of Pressure.
Critchett, G. Anderson, Esq. Iridectomy and Sclerotomy in Chronic Glaucoma.
Grossmann, K. A., M.D. Colour-blindness, with a Demonstration of New Tests.
Hewetson, H. Bendelack, Esq. General Neuroses having an Ophthalmic Origin.
Jessop, W. H., M.D. Ocular Headaches.
Lee, C. G., Esq. Two Cases of Foreign Bodies.
Little, D., M.D., Manchester. On Extraction of Senile Cataract, giving the result of 1,100 cases.
Mackay, George, M.D., Edinburgh. A Contribution to the Study of Hemianopsia of Central Origin, with special reference to Acquired Colour Blindness.
Mackinlay, J. G., Esq. On Cocaine.
Maxwell, P. W., M.D. Chronic Nasal Catarrh as a Reflex Course of Accommodative Asthenopia.
Meighan, T. S., M.D., Glasgow. On the Treatment of Symblepharon by Transplantation of Mucous Membrane from the Lip.
Renton, J. C., M.D., Glasgow. The Value of the Cautery in the Treatment of Ulceration of the Cornea.
Williams, Richard, M.D., Liverpool. Three Cases of Conical Cornea treated by the Actual Cautery.

Section I.—Otology.

Biblical Criticism Class Room.

I. Otology.—*President*, Thomas Barr, M.D. *Vice-Presidents*, John Astley Bloxam, F.R.C.S.; J. J. K. Duncanson, M.D. *Honorary Secretaries*, Johnstone Macfie, M.D., 23, Ashton Terrace, Glasgow; James Black, F.R.C.S., 16, Wimpole Street, London.

The following special subjects have been proposed for formal discussion:

1. The Conditions calling for Perforation of the Mastoid Portion of the Temporal Bone, and the Best Methods of Operating; to be opened by Dr. F. M. Pierce, of Manchester. Mr. Peter McBride has promised a paper on this subject. Dr. D. Stewart, of Nottingham, and Dr. W. McEwen, of Glasgow, hope to take part in the discussion.

2. The True Value of those Aids to Hearing usually termed "Artificial Tympanic Membranes." Dr. W. L. Purves has promised a paper on this subject.

3. Adenoid Growths in the Naso-Pharynx; their Influence on the Middle Ear, and their Treatment. To be opened by Mr. Lennox Browne, F.R.C.S.Ed. Dr. Farquhar Matheson and Dr. R. McKenzie Johnston will take part in the discussion.

The following have promised papers.

Browne, Lennox, Esq. *(Title not received.)*
Ellis, Richard, F.R.C.S. On the Fraudulent Treatment of the Deaf by Impostors.
Lewis, Christopher, M.D., Birmingham. A case of Severe Cellulitis of the Neck, with Partial Paralysis of Right Arm, following Acute Otitis Media, caused by a Blow.
Matheson, Farquhar, M.B., London. A brief communication on the Symptomatic Relation between Stammering and Stuttering and Diseases of the Nose and Nasopharynx.
Torrance, R., Esq. On Syphilitic Cochleitis.
Turnbull, Lawrence, M.D., Philadelphia. On the History and True Value of those Aids to Hearing usually termed Artificial Tympanic Membranes.
Warden, Charles, M.D. *(Title not received.)*
Woakes, E., M.D. Conclusions Based on One Thousand Cases of Post-nasal Growths treated by Operation.

Dr. Samuel Sexton, of New York, hopes to be present, and will give a communication on Excision of the Drumhead and Ossicles.

Dr. J. Clarence Blake, of America, hopes to be present to take part in the meeting.

Section J.—Diseases of Children.

English Literature Class Room.

J. Diseases of Children.—*President*, Walter Butler Cheadle, M.D. *Vice-Presidents*, James Finlayson, M.D.; Henry Ashby, M.D. *Honorary Secretaries*, George S. Middleton, M.D., 23, Sandyford Place, Glasgow; W. Arbuthnot Lane, M.S., F.R.C.S., 14, St. Thomas's Street, S.E.

The following two discussions will take place:

1. Diphtheria: *(a)* Etiology. *(b)* Relationship to other Infectious Diseases, and to other Forms of Sore Throat; Occurrence on Open Wounds and on Mucous Membranes other than those of the Throat. *(c)* Diagnosis. What are the Distinctive Features, especially those Distinguishing the Lesion in the Throat from other Forms of Sore Throat? Does Membranous Croup occur apart from Diphtheria? *(d)* Pathology and Sequelæ. *(e)* Medical Treatment. *(f)* Surgical Treatment; Tracheotomy; Tubage. The medical and general aspects of the subject will be introduced by Dr. A. Jacobi (New York), and the surgical aspect by Mr. R. W. Parker (London). Messrs. E. Owen, H. R. Hutton, Lennox Browne, R. N. Pughe, Howard Marsh, and Drs. W. T. Gairdner, George Buchanan, James Finlayson, Henry Ashby, H. C. Cameron, D. Newman, Thos. Buzzard, John Macintyre, Alex. Robertson, J. Campbell Hall, Waxham (Chicago), and J. S. Cameron will take part in the discussion.

2. Rickets: *(a)* Etiology and Prevention. *(b)* Its Connection with Syphilis and Scurvy. Is Enlargement of the Liver and the Spleen always present, more or less, in Rickets; or only in Cases of Syphilitic Origin? *(c)* Medical Treatment. *(d)* Surgical Treatment; at what Stage, and in what Way? The medical and general aspects of the subject will be introduced by the President, Dr. Cheadle, and the surgical aspect by Professor A. Ogston. Drs. Macewen, L. W. Marshall, H. Ranke (Munich), Thos. Buzzard, Henry Ashby, and Messrs. R. W. Parker, H. R. Hutton, R. Hagyard, E. L. Freer, John Gordon, R. N. Pughe, W. A. Lane, and Howard Marsh will take part in the discussion.

Drs. Jacobi (New York), Keating (Philadelphia), Ranke (Munich), Sanné (Paris), and other members of the profession on the Continent have been invited.

The following have promised papers.

Browne, Lennox, F.R.C.S. Anatomical Facts in support of Intubation in Diphtheria.
Cameron, J. S., M.D. Etiology of Diphtheria. (1) Predisposition from Recent or Existing Disease, especially Scarlet Fever; (2) Influence of Insanitary Surroundings, especially Rise and Fall of Subsoil Water.
Carmichael, James, M.D. So-called Idiopathic or Simple Ascites in Children.
Chaffey, Wayland C., M.B. Statistics of Various Diseases of Children, with Reference to Measles and Whooping-cough, and to Family Predisposition to Consumption.
Finlayson, James, M.D. Evidence of the Occurrence of Laryngeal Diphtheria in Glasgow, in the Early Part of this Century.
Hagyard, Robert, M.R.C.S. The Effects of Sunlight on Rickets in Children and in the Lower Animals.
Lane, W. A., F.R.C.S. Deformities of Rickets.

Section K.—Pharmacology and Therapeutics.

Conveyancing Class Room.

K. Pharmacology and Therapeutics.—*President*, James Morton, M.D. *Vice-Presidents*, John Dougall, M.D.; Theodore Cash, M.D., F.R.S. *Honorary Secretaries*, Alexander Napier, M.D., 3, Royal Terrace, Crosshill, Glasgow; Sidney Harris Cox Martin, M.D., 60, Gower Street, London, W.C.

A special discussion will be opened by Professor Theodore Cash, M.D., F.R.S., on Carbolic Acid, Antipyrin, Antifebrin, and their Allies, especially as regards their Antipyretic, Analgesic, and Antiseptic Actions. Drs. Walter G. Smith (Dublin), A. D. Macdonald, and Prosser James will take part in the discussion.

Dr. W. Allan Jamieson (Edinburgh) will show two cases of Xeroderma Pigmentosum.

It is expected that Professors Liebreich and Dujardin-Beaumetz will be present at the meeting. Dr. Dujardin-Beaumetz will contribute a paper on Phenacetin.

The following have promised papers.

Davison, James, M.D. The Pine Treatment.
Dougall, J., M.D., Glasgow. *(Title not received.)*
Drysdale, C. R., M.D. 1. On the Therapeutic Value of Alcohol. 2. The so-called Abortive Treatment of Syphilis.
James, J. Brindley, Esq. Scabies and its Treatment.
Kerr, J. G. Douglas, M.B. Thermal Treatment after Acute Rheumatism, with a Short Outline of the System pursued at Bath
Macdonald, A. D., M.D. Three Cases of Poisoning.

MACPHERSON, R. B., M.D. The Want of Uniformity in Strength of Medicinal Substances.
PEARSE, T. F., M.D. The Treatment of Eczema.
SHOEMAKER, John V., M.D., Philadelphia. An Investigation of the Action of β Naphthol.
STOCKMAN, R. M.D Edinburgh. The Coca Alkaloids.

SECTION L.—LARYNGOLOGY AND RHINOLOGY.

Divinity Class Room.

L. LARYNGOLOGY AND RHINOLOGY.—*President*, Felix Semon, M.D. *Vice-Presidents*, George Hunter Mackenzie, M.D.; Peter McBride, M.D. *Honorary Secretaries*, D. Newman, M.D., 18, Woodside Place, Glasgow; A. E. Garrod, M.D., 9, Chandos Street, Cavendish Square.

The following subjects are proposed for special discussion:

1. The Use and Abuse of Local Treatment in Diseases of the Upper Air Passages. To be opened by Dr. de Havilland Hall (London) and Mr. Stoker (London).

2. The Causes, Effects, and Treatment of Nasal Stenosis. To be opened by Dr. Macintyre (Glasgow) and Mr. Creswell Baber (Brighton).

3. Hæmorrhages from the Pharynx and Larynx, and other Hæmorrhages which simulate these. To be opened by Dr. Percy Kidd (London) and Dr. Hodgkinson (Manchester).

The following gentlemen hope to take part in the discussions: Dr. Prosser James (London), Dr. McBride (Edinburgh), Dr. Charles Warden (Birmingham), Dr. Cartaz (Paris), and Mr. Richard Ellis (Newcastle-on-Tyne).

The following papers have been promised.

GRANT, J. Dundas. Nasal Stenosis.
JACOB, Ernest H. Some Unusual Forms of Laryngeal Neurosis.
JOHNSTONE, R. Mackenzie, M.D. Account of a Case of Tumour of the Naso-Pharynx.
MCBRIDE, P., M.D., Edinburgh. On Hay-Fever and Allied Conditions.
MACDONALD, Greville, M.D.Lond. (1) Case of Laryngeal Stenosis, cured by Ablation of one Vocal Cord. (2) Remarks on the Pathology of Ecchondrosis of the Triangular Cartilage, with a new operation.
MACINTYRE, J., M.D. Anatomical Demonstration of the Larynx.
MACINTYRE, John, M.D., Glasgow. The Use of Electricity in Diseases of the Throat.
MATHESON, Farquhar, M.D. The Relationship between Naso-pharyngeal Disease and Stuttering and Stammering.
NEWMAN, D., M.D. Two Cases of Complete Laryngeal Stenosis produced by Wounds of the Larynx in Attempted Suicides.
SPICER, R. H. Scanes, M.D. (1) Clinical and Pathological Observations on Affections of the Tonsils (Faucial, Lingual, and Pharyngeal) in the Light of Recent Views as to their Functions. (2) A Case of Lupus Vulgaris of the Upper Respiratory Tract—with Polypus (Lupous) of the Larynx.
STOKER, George. A Note on the Treatment of Acute Laryngitis with Cocaine.
WARDEN, C., M.D. Case of Fibro-mucous Polypus of the Naso-pharynx.

ANNUAL MUSEUM.

THE Annual Museum will be held on August 7th, 8th, 9th, and 10th, in the Examination Hall, Hebrew Class Room, and Chemistry Tutorial Class Room, of the University of Glasgow, and will be arranged in the following six Sections:

SECTION A.—Food and Drugs, including Antiseptic Dressings, and other Chemical and Pharmaceutical Preparations. (Honorary Secretary, R. S. Thomson, B.Sc., M.B., C.M., 3, Melrose Street.)

SECTION B.—Pathology, comprising Casts, Models, Diagrams, Microscopical Preparations, and Micro-organisms. (Honorary Secretary, J. Lindsay Steven, M.D., 34, Berkeley Terrace.)

SECTION C.—Anatomy, comprising Special Dissections, Methods of Mounting, Abnormalities, Drawings, Models, etc. (Honorary Secretary, J. Yule Mackay, M.D., 34, Elmbank Crescent.)

SECTION D.—Physiology, consisting of Apparatus, Microscopes, Microtomes, and Microscopical Preparations of Normal Histology. (Honorary Secretary, J. McGregor Robertson, M.A., M.B., C.M., 400, Great Western Road.)

SECTION E.—Instruments and Books, including Appliances—Medical, Surgical, and Electrical. (Honorary Secretary, J. Macintyre, M.B., C.M., 173, Bath Street.

SECTION F.—Sanitation (1) Domestic Sanitary Appliances, embracing all Improvements applicable to the Treatment of the Sick in Private Dwellings. (2) Personal Hygiene, including Dress and Gymnastic Appliances. (3) Ambulances, Carriages, and all other Appliances used for the Conveyance and Treatment of the Sick and Wounded, either in Civil, Naval, or Military Practice. (4) Drawings, Models, and Apparatus illustrative of the Ventilation, Lighting, and Draining of Hospitals. (5) Hospital Furniture. (6) Sanitary Appliances in connection with Educational Institutions and Public Buildings. (Honorary Secretary, 1, 2, 3, Robert Pollok, M.B., C.M., Pollokshields: Honorary Secretary, 4, 5, and 6, A. W. Russell, M.A., M.B., C.M., Western Infirmary.)

Honorary Local Treasurers, Joseph Coats, M.D.; Jas. B. Russell, M.D.

Honorary Local Secretaries, John G. McKendrick, M.D., F.R.S., 45, Westbourne Gardens, Glasgow; James Christie, M.D., Hillhead, Glasgow; John Glaister, M.D., 4, Grafton Place, Glasgow.

DR. EDWARD WATERS hereby gives notice that he will move:

That the Council of the Association be desired to place before the General Medical Council the following resolution passed at the annual meeting held in Dublin in 1887, with the view of obtaining the opinion of the General Medical Council on the subject:

"That the Association is of opinion that the diplomates of the Irish and Scotch Universities and Corporations should possess the same privileges in respect of public appointments that are enjoyed by diplomates of the other divisions of the kingdom."

NOTICE.

MEMBERS of the Association resident in Edinburgh and the neighbourhood may have the benefit of a special train leaving Glasgow at 11 P.M. on August 7th, 8th, 9th, and 10th, provided a sufficient number intimate their wish to return to Edinburgh at that late hour. They are requested to communicate their intention to Dr. John Glaister, Grafton Place, Grafton Square, Glasgow, or or before July 28th, so that the necessary arrangements may be made with the railway company.

EXCURSIONS.

Tillietudlem, Lanark, and the Falls of Clyde.—This excursion, like most of the others on the list, is one of exceeding interest in respect to the places to be visited and the variety of scenery to be viewed during the journey. The excursion leaves the Central Station, and shortly before reaching the end of the first railway part of the tour passes through the town of Hamilton, near which is situated the palace of the Duke of Hamilton, and the famous Cadzow Forest, where exist the almost only surviving specimens of the white cattle of Caledonia. Here, among the very ancient oaks, are to be seen on occasion the magnificent large cattle quietly browsing, a subject which has frequently been transferred to canvas by the brush of the artist. Those who are particularly interested in sights like this will have had another opportunity during the meeting of visiting both of these places, as an afternoon trip has been arranged by the Local Arrangements Committee. A few stations after this we arrive at Tillietudlem—a name which has been borrowed from Sir Walter Scott. From the station the party will walk a short distance to the Castle, which has been thrown open to the members of the Association by the permission of the Earl of Home. We reach the ruin from the high ground, and enter the grounds which surround the main building by an arched doorway. The outer wall is a massive affair, being about 14 feet high and 9 feet thick. Scattered about are bits of old and somewhat primitive sculpture, which in their better days have filled the function of water-spouts or gargoyles for carrying water from the roof.

In the right hand corner of the grounds stands part of the old structure, modernised sufficiently to be habitable. Crossing the garden we arrive at the moat at the part where the portcullis and drawbridge must have stood, but of which nothing remains now; then a little further on we reach the main buildings. Over the doorway are still to be seen the remains of the coat of arms of the family. The ruin has been preserved from the ravages of Nature by repairs made by the proprietor about three years ago; still the sandstone, of which the building is composed, is crumbling rapidly away. It is a fairly typical specimen of the old Scottish fortified castle, and consists of several apartments of spacious size. Here are to be seen the primitive water-closet arrangements which obtain in other contemporaneous buildings. Here also, as elsewhere, are to be seen the dungeons, in one of which is a well, which has now partly been filled up.

The situation of the castle is imposing, being built on a ledge of rock overhanging the river Nethan, which flows many feet below in its rocky bed. The chief interest attaching to this castle, the right name of which is Craignethan, is that which has been given to it by the writings of Sir Walter Scott in his novel of *Old Mortality*, which deals with the times of the Covenanters, and some of the most stirring incidents of that period. The reader of this romance will remember one scene where Lady Margaret Bellenden, Edith Bellenden, and Major Bellenden are standing on the roof of the castle watching for the arrival of Claverhouse, otherwise known as Viscount Dundee, who was ex-

pected to convene with Sergeant Bothwell regarding the fate of Henry Morton, the suitor of Edith Bellenden, at that time a prisoner within the castle.

This place of strength was at the time in possession of Claverhouse, because it commanded "the communication of the upper and wilder districts of the country with those beneath," and also a magnificent view of the surrounding country.

After the battle of Drumclog, the locus of which is within ten miles of the castle, and at which Claverhouse and his party was put to rout, Claverhouse, in Scott's novel, takes refuge here; but is put to siege immediately afterwards by the Covenanters, when the garrison surrenders. In this connection it is interesting to note that one of the flags borne at Drumclog by the Covenanting party is to be seen in the International Exhibition.

An amusing incident in the novel is that where Cuddie Headrigg receives a very warm reception at the hands of the cook during the attack on the castle. Cuddie, who was looked upon as a kind of simpleton, in leading a few of the Covenanters by a secret way to take the place, approaches the kitchen window, and receives the scalding contents of a large pot of "kail brose," with the remarks of the cook, in a hysterical scream, "Murder, murder! we are a' harried and ravished! the castle's ta'en! tak' it amang ye."

Apart from the interest, however, with which the romantic pen of Scott surrounds it, the castle was of importance. James V paid a visit to it in 1540 to be present at the marriage of Agnes Hamilton, the daughter of Sir James Hamilton, to James, Master of Somerville, and in the following year, accompanied by his queen, he again visited it for the purpose of hunting, for we find in the Chamberlain's accounts for that year, a sum charged for the carriage of "tapestrie" from Crawfordjohn to Craignethan, and thence to Peebles.

It was once again visited by royalty, by Mary Queen of Scots, in her flight from Loch Leven Castle, on her way to Langside, where disaster again was to befal her cause. We then leave the castle to traverse the bed of the river on our way to the main road, where coaches await us. The distance to be walked is about one mile and a half, and is full of interest to the lover of the picturesque, the botanist, and the geologist. The coach part of the journey leads us through one of the most fruitful parts of Clydesdale. Orchards line the road, which is beautifully wooded all the way. We keep close to the Clyde, and about four miles from the point of starting we reach the first of the falls or linns—Stonebyres. This fall, which is broken into three leaps, is about eighty feet high, and the noise from it is to be heard a long distance off. After heavy rains it forms a magnificent scene, and even in its ordinary condition it is a sight which well repays the visit. Rejoining our conveyances, we drive onward through a few little villages, and enter the estate of Corehouse, to visit first of all Cora Linn, and, secondly, Bonnington Linn. On the north bank of the river at this point, lying in a deep hollow, is the village of New Lanark, which has been the seat of the cotton-spinning industry for about a hundred years. It is noteworthy in respect that it was founded by David Dale, one of the famous old Glasgow merchants who was prominent in every philanthropic purpose, and whose grave is to be seen in the Ramshorn graveyard, one of the Glasgow intra-mural burying grounds, now long since closed. It was here, too, that his son-in-law, Robert Owen, put into practice his socialistic scheme, with which he thought to reform society. Close by is the old mansion of Braxfield, which gave the title to one of the most eccentric of Scotch law lords, Lord Braxfield.

Cora Linn, at which we have now arrived, is a most picturesque fall, which is about the same height as Stonebyres. In the course of centuries it has hollowed out for itself in the solid rock a large amphitheatre. The words of Southey describe the scene admirably:

> Here it comes sparkling,
> And there it lies darkling;
> Here smoking and frothing,
> Its tumult and wrath in,
> It hastens along, conflicting, strong,
> Now striking and raging
> As if a war waging
> Its caverns and rocks among.

Standing on a rock which overhangs the fall is the old Cora Castle, which belongs to the Bannatyne family.

Above the fall the river rushes along, confined in a channel of nearly eight feet in breadth, and hemmed in on each side by precipitous rocks, almost perpendicular. A very short walk further brings us to Bonnington Linn, which, in miniature, somewhat resembles Niagara.

As the *Scottish Tourist* puts it: "The falls of Clyde are, for majesty and grandeur, not to be surpassed by anything of the kind in the United Kingdom."

Returning to the vehicles, we drive on to Lanark, where dinner awaits us in the Clydesdale Hotel. Lanark, the county town, is a town of great antiquity. Kenneth III of Scotland held his first assize here in 973. The old abbey, the ruins of which stand in the churchyard, was built about 1110 by the parents of David I, and its castle, of which not a stone remains, was a royal fortress in the time of David I. The name of Lanark, too, will be for ever closely allied with Wallace, who in this place performed some doughty deeds for the independence of Scotland.

Besides many other historical incidents of this kind which might be mentioned, Lanark was a central meeting-place for the Covenanting party. From it have marched Covenanting armed bodies, which met disaster at Rullion Green, at Bothwell Brig, and and at Drumclog; and it has provided not a small share to the "noble army of martyrs" in that cause.

After dinner, the members forming the excursion will have an opportunity of visiting objects and places of interest. Among the former will be one of peculiar interest to our profession—namely, the library of William Smellie, M.D., whose name will be found among the foremost of those who established obstetrics on a scientific foundation.

Beginning practice in Lanark as a humble apothecary about 1720, he went to London about 1740, where he laid the foundation of the excellent work he was afterwards to publish, and where he invented the lock of the forceps which still bears his name. At his death he bequeathed to Lanark his library, and a sum of £200 to rebuild the schoolhouse. The following is a codicil from his will of date 1753: "December 24th, 1762. I, William Smellie, for the regard I have for the school of Lanark, bequeath to the same all my books, mapps, and pamphlets, for to begin a library there. Also I bequeath £200 sterling for repairing the school house, according to a plan I have left. I also bequeath to the school of Lanark nine English floots, with the thick 4to gilt music books.."

On February 4th, 1763, he further says: "Also I leave to the library room at Lanark the three pictures in my study, viz., my father's, mother's, and my own, drawn by myself 1719.....As my collection of medical books are pretty complete, both as to the ancient and modern practice, and may be of use to medical gentlemen in this place, to improve and consult on extraordinary emergencies, I also bequeath all of them to the foresaid library, and along with them two printed books on the composition of music and a manuscript one."

It is pitiful to relate that the trustees have failed in their trust. The portraits, the "floots," etc., have now disappeared, as have also most of the original drawings which form the plates of his work. The books themselves, from want of proper care, have become the prey of the moth, and damp, and dust.

Smellie was one of the men who, devoting themselves to the practice of medicine, came prominently to the front; and Lanarkshire is proud to remember that it gave birth to him, to Cullen, and William Hunter.

Smellie's portrait is now believed to be in the possession of the Royal College of Surgeons of Edinburgh, and, on examination by a competent authority, is said to bear evidence of being the portrait painted by himself in 1719. It came into the hands of the College in 1828, having been presented by an immediate descendant of Smellie's heir. Both Smellie and his wife are buried close to the old abbey, in the churchyard of Lanark.

Another object of interest which it is expected will be shown to the party is the "Lee penny," a talisman which gave the title to Sir Walter Scott's novel *The Talisman*. This at one time attained to great medicinal notoriety. "It is a stone of a dark red colour, set in a shilling of Edward I, with a silver chain attached, and has been in the possession of the family (Lockhart) since a little after the death of Robert Bruce."

It will be remembered that on his deathbed Bruce desired that the good Sir James Douglas should convey his heart to the Holy Land, and place it in the Holy Sepulchre. In carrying out his commission Sir James Douglas fell fighting against the Saracens in Andalusia. At the end of the battle Simon Lockard, of Lee, discovered the casket with its precious contents, and brought it and the body of Sir James back to Scotland, the former being deposited in Melrose Abbey and the latter in the old family vault in

St. Bride's, Douglas, about a dozen miles from Lanark. From the circumstance the family name was changed to Lockheart or Lockhart, and there was added to the family arms a heart within a lock, with the motto *Corda serata pando*.

The traditionary account of the possession of the jewel is that a Saracen prince, having been taken captive in the fight, his wife, in ransoming him, dropped this jewel, and Lockard, noticing her eagerness to hide it, insisted on its being paid as part of the ransom. It was reluctantly given him, and he was also informed that it possessed great medicinal virtue in the curing of diseases, both in men and cattle. This was thoroughly believed for a long period, and, as was to be expected, wonderful cures are narrated as having been effected by the use of water into which it had been dipped. In order to experience the full effect of the charm, the tradition has it that it must be used in the following way: three successive dips and then a whirl round in the water, or as it is more tersely put, "three dips and a swiel."

Among the places of interest to be visited are the old churchyard, where the remains of the old Abbey, the grave of Smellie, and of Harvey, the martyr who "suffered at the cross of Lanark for his adhering to the word of God and Scotland's covenanted work of reformation," as his gravestone signifies.

Cartland Crags, in which is situated Wallace's Cave, is close at hand, and well repays a visit, as does also the old bridge—a single span—which is attributed to the Romans.

After having overtaken this programme, the party will be glad to take train from Lanark about 6.30 P.M. for Glasgow, where it will arrive about an hour later, in time for the late English mails.

FRANCIS FOWKE, *General Secretary.*

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

Effect of Stimulation of the Pneumogastric Nerve on Urinary Secretion.—Saccharin.—Nitrate of Mercury as a Metal Polish.—Jaccoud's Treatment of Gout.—Tannin in Dilatation of the Stomach.—Prevention of Small-pox Scars.—Carburetted Hydrogen in Uterine Cancer.—Ambulance Service in Paris.—Disinfection in the Department of the Seine.

THE phenomenon observed by MM. Arthaud and Butte, namely, the stoppage of urinary secretion by electric stimulation of the right pneumogastric nerve, has been proved by M. Masius to be due to a direct vasomotor action of the pneumogastric nerves on the urinary secretion, and possibly on certain other visceral secretions, MM. Arthaud and Butte have made experiments which confirm the truth of the conclusions arrived at by M. Masius. After stimulating the peripheral extremity of the pneumogastric nerves, these authors observed a notable diminution of the biliary secretion in the liver, and a contraction in the calibre of the deep-seated blood-vessels in the stomach. Stimulation of the peripheral extremity of the pneumogastric nerve in the neck, after all the branches proceeding from the lower cervical ganglion were excised, caused variation in the pressure, although the cardiac rhythm was preserved. The two pneumogastric nerves, when their peripheral extremities are stimulated, do not give analogous results for the same kidney. In a dog in which both pneumogastric nerves were divided, a cannula was introduced into both ureters. When the peripheral extremity of the left pneumogastric in the neck was stimulated with a powerful current, the urine which escaped through the right ureter, measured by the capillary tube through which it passed, was equal to 21 cubic centimètres, whilst that which escaped through the left ureter in the same time was only 4 cubic centimètres. The contrary was observed when the peripheral extremity of the right pneumogastric was stimulated. In another series of researches the pneumogastric nerves in the thorax were submitted to electric stimulation. Whilst the right nerve was stimulated no urine escaped through the right ureter, but 12 cubic centimètres escaped through the left ureter. When the left nerve was stimulated 3 cubic centimètres of urine passed through the left ureter and 11 through the right. This pneumogastric phenomenon might lead one to conclude that (1) the variations in the cardiac rhythm do not influence the vasomotor action of the pneumogastric nerve on the kidney, which fact would prove that this action is special; (2) that the pneumogastric nerves are distributed crosswise, and that their arrangement varies in different individuals.

At the last meeting of the Conseil d'Hygiène et de Salubrité de la Seine, M. Lépine, Sécrétaire Général de la Préfecture de Police, stated that he had received a communication from the Chef of the Laboratoire Municipal concerning the discovery of saccharin in certain kinds of food. On May 11th a sample of champagne given in at the Laboratory was analysed, as it had a very sweet taste, but left an unpleasant taste in the mouth. It contained very little sugar and some saccharin. The discoverers of saccharin pointed out the use of this substance in diabetes, and were not disinclined to bring about its use in confectionery, to lower the prices of articles made with sugar of beetroot or cane sugar. They have achieved their end, and have introduced syrups of glucose and mixed glucose and saccharin. Glucose containing 1 gramme of saccharin per kilogr. is equal to its weight in beetroot sugar, and is sold at 41.25 francs. per 100 kilos. M. Lépine observed that the use of this new product threatens the interests of the Treasury, of agriculture, and of the sugar industries. It is also possible that it may injure the public health, and even if not injurious, it does not possess the nutritive qualities of sugar. A commission composed of MM. Péligot, Jungfleisch, Riche Armand, Gautier, Dujardin-Beaumetz, and Proust, has been appointed to examine the question.

At the same meeting M. Armand Gautier called attention to a liquid sold in Paris for polishing copper, etc., and which he states is nothing else than concentrated nitrate of mercury, as dangerous as corrosive sublimate. The liquid is used for polishing culinary utensils, and is thus introduced into food. M. Armand Gautier thought measures should be taken to prevent the sale of this dangerous liquid, and that the public should be warned by the publication of the discussion at the meeting; this would probably cause an action to be brought before the Tribunal Correctionnel, according to the law of October 20th, 1846.

Professor Jaccoud recommends a copious diluent draught and an exclusive milk diet in the treatment of gout; in cases in which there is considerable fever he gives a small quantity of hydrate of bromal. Preparations of colchicine and of salicylate of soda, though excellent as anæsthetics, are to be avoided. In patients affected with interstitial nephritis these substances produce most serious toxic symptoms.

Dr. H. Boulland, thinking that tannin—which acts on the retractibility of the mucous membrane, and is at the same time absorbent and antiseptic—might be useful in dilatation of the stomach, has employed it in many cases with success. In cases where constipation was present, Dr. Boulland administered doses of 10 centigrammes instead of 20 centigrammes. By this means the regularity of the bowels was not interfered with, and the dilatation decreased in proportions analogous to those obtained by washing out the stomach. In twenty days the stomach was reduced nearly to its normal condition. At the same time, the patients took frequent but light meals, chiefly of pasty substances, and no starchy matter. When the dilatation is due to a tumour, tannin does not give better results than other methods. It diminishes mucous secretion, however, and renders the digestion less painful. Dr. Boulland has found the hæmostatic properties of tannin equal to those of ergotin and perchloride of iron. In particular he has used it with success in many cases of epistaxis when all other means had failed.

Dr. Drzewiecki, Physician of the Hospital of the Holy Ghost, at Warsaw, after having tried every possible means for the prevention of small-pox scars, used calomel with great success in a number of cases, during a recent epidemic at Warsaw. Calomel spread over the face in the form of powder, does not, it is true, prevent the formation of papules and vesicles, but it causes them to dry up very quickly, and thus prevents their leaving marks. The author asks if calomel, thus employed, acts as calomel or as sublimate, or as metallic mercury. For calomel is decomposed in these two latter substances, under the influence of light, and perhaps there is reason to suppose a microbicidal action. Carburetted hydrogen mixed with olive or almond oil in equal proportions, is used in advanced cases of uterine carcinoma. Cotton wool, saturated with the mixture is applied to the ulcerated parts, after the vagina has been disinfected by means of a solution of permanganate of potassium or chlorinated water. This plan may be used, when all other means have failed; it diminishes pain, and prevents the fœtid emanations so distressing to the patient and all about her.

On Friday, June 1st, Place de l'Opéra, Paris, took place the inauguration of the relief service, established in Paris, by the Œuvre des Ambulances Urbaines. Dr. Chéreau first brought be-

fore the Académie, in 1881, in the name of Dr. Natchel, a suggestion to organise in Paris an ambulance service similar to that which has existed in New York for some years. The guests on Friday assembled in the large hall of the Opera at 2 o'clock. After a speech by M. Jules Simon, in which he explained the system, a practical demonstration of the working of the ambulances was given. M. Natchel telephoned from a chemist's shop, and in fourteen minutes two ambulance waggons from the Hôpital St. Louis were in the Place de l'Opéra. The ambulance waggons resemble small omnibuses; the windows bearing the Cross of Geneva. An automatic bell beside the driver gives warning of the approach of the waggon. Inside are two bracket seats, one for the surgeon the other for a nurse. On the floor is a light wicker plank on which to lay the wounded. By the side of the surgeon are cases for surgical instruments, bottles, etc. A speaking tube enables those inside to communicate with the driver. At the hospital is the ward for the reception of the patients, built near the baths. Close by is a stable for three ambulance waggons, of which one is always in readiness day and night. A surgeon from the hospital is in constant attendance. A telephone communicates with the shops of twenty-three chemists. A person wounded in the streets is carried to one of these twenty-three shops, and receives "first aid." It is to be hoped that the service will be developed and will receive the support of the municipality.

At the last meeting of the Conseil Général de la Seine, it was decided to order eight portable stoves for disinfecting linen, clothes, and bedding which have been used in cases of contagious disease. The Préfet de Police has sent a circular to all the Commissaires de Police and Maires of the suburban communes, notifying that each of the cantons of the Department of the Seine is provided with one of these stoves, which is to be kept in the chief town of the canton. These stoves will be immediately despatched free of charge, at the request of a physician, wherever they are necessary. The Préfet calls attention to the fact that linen, mattresses, blankets, curtains, and carpets, will not be injured by this process of disinfection (108° to 115° F.). Numerous experiments have proved that pathogenous germs are destroyed by this process without changing horsehair, feathers, or stuffs. The Préfet adds to the circular instructions for the use of the stoves, and some remarks on the disinfection of contaminated localities by sulphur.

ITALY.

[FROM OUR OWN CORRESPONDENT.]

The Apostoli Treatment in Italy.—Resistance of Poisonous Substances to Putrefaction.—Effect of Bromide of Potassium on the Elimination of Urea.—The Sense of Smell in Criminals.—Resection of the Pharynx for Cancer.—The Bilharzia in Sicily.—General News.

In the *Annali di Ostetricia e Ginecologia* for June, Dr. G. Gelli, of Florence, relates the following case, which appears to be one of the first in which the electrolytic method has been tried in this country. T. B., a widow, aged 45, began to suffer from excessive menstruation in July, 1887, with pain in the lumbo-sacral region, and signs of disordered general health, for which she sought advice in February of the present year. The uterus was found to be slightly retroverted, and on its anterior wall there was a fibroid tumour of the size of a walnut. The cervix was congested and granular. Local treatment of various kinds was tried but without much result; and, as the patient continued to lose a good deal of blood and suffered much pain, on February 14th electrolysis was had recourse to. The instruments used had been procured from Paris, and the details of the method were carried out with the most scrupulous adherence to Dr. Apostoli's instructions. Strict antiseptic precautions were employed. In the first sitting a current of 20 milliampères was employed; no higher intensity could be used on account of the pain caused by the application. The pains in the abdomen and pelvis were aggravated rather than relieved by the operation. On the 18th, a current of 80 milliampères was used for five minutes. On the 20th the catamenia came on; the amount of blood lost was still great, but the pain was considerably less than before. Further applications were made as follows: On March 29th, 100 milliampères for eight minutes; on April 1st, 140 milliampères for seven minutes; April 5th, 120 milliampères for eight minutes; April 8th, 45 milliampères for ten minutes, the sudden fall in the intensity of the current being due to the severe pain which the previous applications had caused. On April 12th, a current of 120 milliampères was used for ten minutes. The following day the hæmorrhage recurred in considerable abundance; the pain became much worse; the uterus was enlarged to such an extent that the fundus could be felt two inches above the pubes. The cervix and body were also swollen; the tumour was distinctly larger, and there was tenderness at the upper part of the vagina. The electrolytic method was then discontinued, and the patient was treated for parametritis. On May 4th, when the acute inflammatory symptoms had subsided, the cervix was freely cauterised with Paquelin's thermo-cautery. There was some slight febrile reaction, but in a few days the swollen uterus had returned almost to its normal size, and the patient's sufferings were greatly relieved. On May 27th she was discharged completely cured. Nothing is said, however, as to the tumour.

In a recent number of the *Rivista Sperimentale di Freniatria e di Medicina Legale*, Dr. Pellacani gives an account of some experiments which he has made for the purpose of determining how long various poisonous substances resist putrefaction. It is obvious what an important bearing this question may have in medico-legal cases. The following was the method adopted: A fixed quantity of the poison having been introduced into a definite quantity of blood (250 cubic centimètres) drawn from the same animal, the mixture was allowed to putrefy under favourable conditions of temperature. From time to time it was tested for the poison, the same method being carefully employed in each case. Physiological tests were used in the case of such substances as atropine, physostigmine, curarine, etc., and in other cases methods giving characteristic reactions were employed. The poisons experimented with were for the most part vegetable alkaloids, which were introduced in a free state in the following proportions relatively to the blood: 0.10 in the case of physostigmine, atropine, pilocarpine, daturine, and digitaline, and 0.50 in the case of all other substances. In this way Dr. Pellacani found that no trace of digitaline or santonin could be found in the putrid liquid after four months, while atropine, daturine, and physostigmine took thirteen months to disappear; at the end of that time there was still a trace of codeine. Morphine and picrotoxine gave signs of their presence after twenty-seven months; aconitine and cicutine were still present in considerable quantity after thirty-four months, and veratrine was found at the end of thirty-nine months. As regards curarine, it remained unaltered for twenty-eight months, but after thirty-nine months the physiological test gave a negative result, although the characteristic reactions still persisted, except with the sulphuric acid test. Dr. Pellacani considers that these experiments prove that putrefaction is not so rapidly destructive of vegetable poisons as has hitherto been believed. This is particularly the case with alkaloids.

In *Lo Sperimentale* for May Signor C. Agostini, a fifth year's student, publishes the results of some elaborate experiments he has made on the effect of bromide of potassium on the elimination of urea. He found that while, after taking the drug, the amount of urea excreted was considerably reduced (28.81 grammes) in the twenty-four hours as against 30.01), the diminution does not go on in proportion as the dose is increased. Thus, while in one set of observations the amount was lessened by 3.69 grammes, in another in which the dose of the drug was doubled the diminution was only 3.53 grammes. Signor Agostini was also led to the conclusion that, even when large doses of bromide of potassium are given for a prolonged period of time, no particular ill effect is produced owing to tolerance being established. When the drug is discontinued, this tolerance gradually ceases. Signor Agostini thinks that very large doses of the drug may be given for an indefinite time without in any way impairing the health.

At the meeting of the *Reale Accademia di Medicina di Torino*, on June 15th, Dr. S. Ottolenghi described the results of some curious researches he had made on the keenness of the sense of smell in criminals. He started with the somewhat gratuitous idea that the olfactory sense would be more highly developed in them than in ordinary law-abiding people, possibly because the former are, or ought to be, nearer to the primitive savage type, in which, as is well known, the sight and hearing are far keener than in civilised men. Dr. Ottolenghi's experiments were made with watery solutions of essence of cloves of various degrees of concentrative power, 1 in 50,000 to 1 in 100. Twelve phials, each containing 150 cubic centimètres of the test liquid, were used. Full allowance was made for the personal equation, and every precaution was taken to exclude other sources of fallacy. The sense of

smell was tested in 80 criminals (50 men and 30 women) and in 50 non-criminals (30 men and 20 women), with the following results. It was found to be distinctly less developed in the criminals than in the others; it was rather less keen in the women than in the men, and decidedly duller in the criminal than in the non-criminal women.

At the same meeting Dr. A. Carle showed two patients on whom he had performed resection of the pharynx for cancer. In both cases the posterior and lateral walls of the cavity had been removed; there was comparatively little deformity, and there was no fixation of the jaw.

Drs. Grassi and Rovelli have recently called attention to the fact that the *bilharzia crassa* (Sonsino) is present in 75 per cent. of the sheep slaughtered at Catania. These animals are bred and reared in the *Piana* of Catania. This announcement is rather alarming, as it has hitherto been believed that Africa had a monopoly of the bilharzia family; but, at the same time, if the alleged facts are true, a chance is offered for an exhaustive study of the life-history of the parasite such as has never before been available in Europe. The authors suggest that the bilharzia might be introduced into Italy by soldiers from Massowah, and might thus become endemic in this country.

Professor Tomassi died at Naples last week at an advanced age. He was one of the best known figures in the profession in Italy.

VIENNA.

[FROM OUR OWN CORRESPONDENT.]

Encapsuled Revolver-bullet in Brain.—Medico-legal Aspects of Extra-uterine Pregnancy.—Microbe of Tetanus.

At a recent meeting of the Imperial Royal Society of Physicians of Vienna, Professor v. Mosetig showed a man, aged 45, with an encapsuled bullet in his head. The patient had tried to commit suicide on February 27th by shooting himself with a revolver in the right temporal region. Professor v. Mosetig saw him the next morning, when he found a wound about the size of a pea about five centimètres above the right zygoma; some drops of blood escaped from the wound. The patient was perfectly conscious, but complete hemiplegia of the left side soon supervened. This is unusual, as hemiplegia as a rule comes on at a later period, when symptoms of pressure on the brain, owing to subdural hæmorrhage, showed themselves. Paralysis of the two lower branches of the facial and hypoglossal nerves developed later. The patient's speech became quite unintelligible. A well-marked dorsal clonus was present in the paralysed right leg, and on the third day after the injury epileptiform spasms were observed on the paralysed side; these, however, did not recur. As there was no imminent danger, Professor v. Mosetig decided not to interfere surgically, and merely applied a moist dressing of iodoform gauze. This proved very useful, as large quantities of sero-sanguineous exudation escaped from the wound for about five weeks, the dressing having to be changed every second day. If the wound had been allowed to heal under the scab, as recommended by several authorities, retention of the discharge, with its associated dangers, would have necessarily followed. The functions of the bladder and the rectum remained normal, and there were neither sensory nor nutritive disorders. In the third week iodide of potassium was given, and the symptoms of paralysis began to improve in the following order: First, the facial paralysis disappeared; later on, that of the hypoglossal: and lastly, the hemiplegia gradually became less. Electrical treatment was commenced during the course of the sixth week. The hemiparesis which still remained behind was followed by other interesting phenomena. Contractures supervened in the left arm and the left leg, which were particularly pronounced in the morning; moreover, there was a reflex "chorea post-hemiplegica" in the sense of Charcot, when the patient attempted to walk. The patient, in such a case, executed movements of grasping, flexed the wrist and the elbow-joint, and made also ataxic movements with his paretic left lower extremity. Sensibility had remained almost normal, and the tendon-reflexes were increased; the dorsal-clonus was still present, though to a lesser degree than soon after lesion. Speech became nearly normal. After five weeks, the wound began to heal by granulation. The track of the wound was several times touched with nitrate of silver, and the wound closed, a scarcely recognisable scar being left. With reference to the question what parts of the brain were injured in this case, and the situation of the bullet, Professor v. Mosetig judged, from the symptoms described, that there was a lesion of the cerebral cortex, with a direct lesion of the centres for the upper and lower extremities, caused by the bullet itself, with consecutive lesion of the more deeply situated hypoglossal and facial centres, by pressure caused by subdural hæmorrhage. This was proved by the fact that the paralysis of the facial and hypoglossal nerves had disappeared in from six to eight weeks hence, at a period when, according to Nothnagel, the extravasated blood in the brain would already have been absorbed. The suggestion of a lesion of the cerebral cortex was also supported by the presence of contractures and chorea post-hemiplegica. The patient was now able to stand upright and to walk for a time without support; when his eyes were closed, however, he was seized with giddiness, and would fall down if he were not supported. Surgical interference for the purpose of removing the bullet would not be advisable, as the success of such an operation was very doubtful.

At a recent meeting of the Royal Society of Physicians, of Budapesth, Professor Kézmarszky directed the attention of the audience to the great importance of extra-uterine pregnancy in its medico-legal aspect. He related the following case: A young woman was suddenly seized with abdominal spasms in attempting to lift a heavy sack full of maize. Two days later, October 3rd, 1886, the pains became more severe when she tried to rise, and the attending midwife declared the patient to be in the third month of pregnancy. She died on October 6th. The medico-legal *post-mortem* examination showed the presence of two litres of blood, in part liquid, in part coagulated, and a condition of the uterus corresponding to the third month of pregnancy. At the posterior part of the uterus, and that near the fornix vaginæ, a cavity of the diameter of five centimètres was detected in which the fœtus with its membranes and the liquor amnii was contained. All this could be removed from that part by incision. There was no sign of peritonitis. Owing to these conditions, the physician who made the examination declared that death was due to internal hæmorrhage caused by penetration with an instrument. The medico-legal expert who examined the preparation expressed the same opinion. The case was now submitted to the *superarbitrium* of the "Landessanitätsrath" of Hungary, and Professor Kézmarszky made the following statements:—Though it cannot be doubted, from the theoretical standpoint, that a perforating instrument, when introduced through the vagina, may reach the upper part of the cervix of the uterus, and that this part can thus be perforated in the region of the internal orifice of the uterus, such a case has not hitherto been observed. On the other hand, it would be a quite unparalleled occurrence to make in that place an opening of five centimètres in diameter, through which the fœtus might escape; again, even if it did find its way through such an opening, this would require some days, and perforative peritonitis would be the necessary result. The presence of the latter was expressly denied in the protocol of the necropsy. Finally, such large a rent at the internal os, produced by an instrument introduced from without, could be caused only when the instrument had found its way through the external os, which, however, was found to be quite intact. In the whole history of the case, neither the patient nor the midwife had mentioned any external hæmorrhage or any violence exerted from outside. Professor Kézmarszky believed that a rupture in this case was quite compatible with the supposition of extra-uterine pregnancy, and this opinion was also in accordance with the clinical history and the results of the *post-mortem* examination. The patient, being in the third month of pregnancy, sustained the first partial rupture when she tried to lift the heavy sack, and this produced the abdominal spasms. On the woman soon afterwards trying to rise, an extension of the laceration took place, which in a short time caused fatal internal hæmorrhage. The preparations which the lecturer showed to the Society fully justified the supposition of extra-uterine pregnancy in that case.

At a recent meeting of the Imperial Royal Society of Physicians of Vienna, Dr. v. Eiselsberg gave an account of a case of tetanus, which had been in the clinic of Professor Billroth. A woman, aged 40, drove a splinter of wood into the palm of her hand whilst scrubbing the floor. A fragment of the splinter was extracted by her husband. During the course of the next week, an abscess formed in the hand: this was opened by the attending physician. On the twelfth day after the injury, the woman was admitted into Professor Billroth's clinic with the typical symptoms of severe tetanus, which lasted four weeks. She afterwards recovered to a great extent, and was discharged at her own request. At that

time she still presented slight contractions of the affected limb. Two months later, a suppurating fistula was formed, and a small splinter of wood came away in the discharge. The wound then completely healed, and the patient made a perfect recovery. Dr. v. Eiselsberg used the extracted piece of wood for preparing cultures. Two rabbits were inoculated with the culture thus obtained, one of which succumbed to tetanus on the sixth day after inoculation, while the second one, which was inoculated at a later date, showed marked symptoms of tetanus, such as increased irritability, trismus, pleuro-thotonus, etc. Dr. v. Eiselsberg showed this rabbit to the Society, and foretold that it would also die in a few days. The lecturer formally called attention to the fact that the pathogenic bacillus of this disease was also to be found in the garden mould and the gravel. He will next report on a number of other experiments on the etiology of tetanus.

LIVERPOOL.

[FROM OUR OWN CORRESPONDENT.]

Medical Officer to the Post Office.—Hospital Sunday Fund.—Summer Camp for Boys.—Shropshire and Midland Branch.—A Case of Hydrophobia.—Transposition of Viscera.—Liverpool Water Supply.

By the death of Dr. A. C. Rich, recorded in the JOURNAL of May 19th, the appointment of medical officer to the staff of the Post Office here became vacant. By a new arrangement the district has been partitioned into five divisions, with a medical officer to each. Dr. Hodgson continues in charge of the Bootle Division, which has been enlarged so as to include the Walton subdistrict offices; Dr. Archer has been appointed to the North Division, Dr. Richardson to the Central, Dr. Macalister to the South, and Dr. Glynn Whittle to the Suburban Division. Dr. Archer also has the medical supervision of the *employés* who live on the Cheshire side of the Mersey. Miss Cradock continues to exercise supervision over the whole of the female *employées*.

The Hospital Sunday Fund this year amounted to £9,250, being £500 more than last year.

A summer camp for destitute boys is in existence at Meols, near Roylake, in Cheshire. Its object is to give a holiday and fresh air to boys in great destitution, of whom there are great numbers in this city. The report states that 324 boys passed through the camp last year, at a cost of £290—figures which point to great economy in the management.

The Shropshire and Mid-Wales Branch of the British Medical Association have for the last two years dispensed with presidential addresses, and in their stead the Council have invited Mr. Robert Jones, one of the surgeons to the Liverpool Stanley Hospital, to deliver practical demonstrations on orthopædic subjects at the Shrewsbury Infirmary. The last demonstration treated of the tests of recovery from joint diseases, muscular shortening, and fractures of the patella. Mr. Jones, who has paid special attention to diseases of the joints, considers prolonged rest and immobility to be the most important elements in the treatment, and believes that many so-called relapses are due to movement being permitted before the disease has altogether ceased.

An inquest was held on July 9th on the body of a patient who died of hydrophobia. He was a strong healthy man, aged 22, and on June 3rd was bitten on the left thumb by his own dog, while administering a dose of medicine to him. The wound was cauterised by a chemist soon afterwards and was examined the following day by Dr. Barr, who noted that the cauterisation had been well performed and that the wound looked clean and not much inflamed. The dog was killed, but the owner did not suspect that it had rabies. The patient continued at his occupation as a clerk until the evening of July 2nd, when he again consulted Dr. Barr, on account of pains in the left arm and difficulty in swallowing. He stated that he had not felt well the previous day, and attributed his indisposition to a chill, not seeming to attach much importance to the bite. Dr. Barr found him rather excited, with a quick pulse and hot skin; his throat was dry, red, and injected. He was ordered home to bed and a diaphoretic mixture was prescribed. A restless night followed, and next morning (July 3rd) he was hoarse, had a harsh cough, and hawked up some tough mucus. The difficulty in swallowing had increased, and was especially marked with fluids, but he willingly attempted to take liquid and solid food when requested to do so. Pulse was 100, small and weak; temperature 100.0° F.; skin hot and dry, tongue furred, bowels confined. He was ordered large doses of chloral hydrate and bromide of potassium. At 2 P.M. temperature was 101.°; pulse, 108; respirations quick. He had taken some bread soaked in beef-tea, but in attempting to swallow any liquids a convulsive seizure was induced, which, however, was considerably lessened when he had succeeded in getting down a few teaspoonfuls, so that he could drink half a teacupful. He got a dose of calomel and had his throat sprayed frequently with 4 per cent. solution of cocaine, which, however, had no effect in allaying the irritability, and was discontinued the following morning. Towards evening he had a little sleep and felt more comfortable, but still complained of shooting pains in the arm, which were completely removed by an application consisting of equal parts of camphor, chloral, menthol, and thymol, rubbed in a mortar until liquid. The following night he slept a little, and on the morning of July 4th he felt rather easier. He had taken some solid food, and with difficulty had swallowed a little liquid. His throat was less inflamed, but he had the same difficulty in hawking up the viscid mucus. Temperature 100°; pulse 112, weak and thready; heart's action regular, and sounds clear; breathing thoracic and quiet, except when a spasm came on. During the day the difficulty in swallowing increased, and even the sight of fluid brought on a convulsive seizure. When asked to swallow a spoonful of liquid, he sat up in bed, a respiratory spasm came on, the larynx was raised convulsively, he raised his shoulders, fixed his elbows against his ribs, so as to bring all the extraordinary muscles of respiration into play, made a gulp at the spoon, and after the violent spasm had partly subsided got the liquid down with a choking sensation. With the exception of the rapid action of the heart physical examination detected nothing amiss with the thoracic or abdominal organs, and his urinary excretion was normal. There was no paresis nor anæsthesia, and the superficial reflexes and knee-jerk were healthy. At 8 P.M. Dr. Barr found the spasm was induced by the effort to speak. Temperature 99.8°; pulse 148, weak and thready. He was evidently in great mental distress, but said he was not. He requested his mother to cover the mirror, as its reflection caused spasm. At 3 A.M. on July 5th, Dr. Barr was called to see him. He found him struggling for breath, livid, excited, but perfectly conscious; pupils dilated. He vomited a quantity of brownish fluid. He was given three hypodermic injections of half a grain of morphine, without inducing sleep or affecting the pupils, and nutrient enemata were resorted to. The pulse at the wrist remained small and weak, but the heart's action became violent, and his carotids were large, full, and throbbing. There was now evidence of dilatation of the right side of the heart, with pulmonic and tricuspid murmurs, and commencing congestion at the bases of the lungs. Dr. Glynn saw the patient at 11 A.M. with Dr. Barr. There was no loss of sensation, and no loss of power over the limbs; the superficial reflexes and knee-jerks remained normal, as did also the rectal and vesical reflexes. No improvement took place in his condition, and a little after 3 P.M. he passed quietly away with symptoms of bulbar paralysis and general exhaustion.

A strong well-developed man, aged 39, recently presented himself at the Stanley Hospital with transposition of viscera. The heart's impulse was strongest in the sixth intercostal space on the right side, and the liver dulness was on the left. As far as could be ascertained, the abdominal aorta lay to the right of the spine.

The heavy rainfall that has occurred during the last fortnight has almost entirely allayed the apprehensions that were felt of an approaching water famine in Liverpool. At a meeting of the Special Committee on the water supply, held on July 17th, it was stated that since the last report on July 9th there had been an increase of 200,000,000 gallons in the Rivington Reservoir, and that the amount in stock at the time of reporting was upwards of 1,100,000,000 gallons. When the dam is full the amount stored is four billion gallons. By restricting the hours of supply a saving of 30 per cent. has been effected, compared with the amount consumed last year. When the water in stock has increased by 50 per cent. the full supply will be again turned on.

KENT MEDICAL BENEVOLENT SOCIETY.—This Society, which was established in the year 1787 for the relief of disabled members, or widows or orphans of deceased members, has a funded capital of between £8,000 and £9,000. Its 102nd annual meeting was held in the library of the Kent and Canterbury Hospital on Wednesday, July 11th, under the presidency of Dr. Lochee, consulting physician to the hospital; and grants varying from £20 to £50 were made, without canvassing or other expenses, to eight widows and one daughter of deceased members.

CORRESPONDENCE.

MEDICAL OFFICERSHIP OF HEALTH FOR BRADFORD.

SIR,—As an act of justice to me, and with a view to showing plainly the character and methods of procedure of those members of the Sanitary Committee of this town who have succeeded in depriving me of my appointment, I ask leave to reply to the communication sent to you by the town clerk, and published in the JOURNAL last Saturday. I venture to say that since the days of Titus Oates no one has uttered a more false and infamous libel than that perpetrated on me. The circumstances leading to it must be known to appreciate the conduct of the chairman, Alderman Hardaker and his coadjutors truly. At the meeting of the Town Council in June, it was determined not to reappoint me. At the end of my five years of office there was no complaint, no charge of any kind made against me. On the contrary, as you have stated, quoting the report of the meeting, I was very highly spoken of by everyone, even the chairman, Alderman Hardaker, eulogised my character, utility, and willingness to work, adding, effusively, that he had not, and never had, felt the least unkindliness towards me (the fact being he has never ceased for four and a-half years to persecute me, and had long since proclaimed he would resign if I were re-elected). The public were not satisfied with this treatment of me. Over 3,000 ratepayers memorialised the committee for my re-election, and in the press there were reiterated demands for some explanation of the discarding of an officer professedly so much thought of by the Committee. Thereupon, finding the public so incensed, certain members of the Sanitary Committee began to endeavour to justify their action after it was completed. Many falsehoods were circulated by them—for example, that I had spent in the year £300 of public money on private reports (an official document from the borough accountant's office shows that the total amount spent on all reports since I came here has been £170), not one penny, I need hardly say, having been spent on any but public reports. Again, to show my reckless extravagance it was circulated that my cab expenses were £20 a month (quite recently magnified to £40). But the borough accountant's department certifies that I spent in five years on cabs (including petty disbursements) £285 9s. 10d. But these stories, being to some manifestly absurd and incredible, another method of justifying in July what they had done in June was adopted. These men went about hinting they could tell something very bad if they would. Dark hints were given of enormities which were known to those behind the scenes; my friends were advised not to provoke a revelation which would prove ruinous. I and they could only protest against this dastardly method of pressure, and challenge these men to do their worst. My letter in the JOURNAL perfectly incensed these men. This, which has been seen probably by many of your readers, determined them on their last step to unmask themselves, and tell their great secret of Titus Oates. After a long lawyer's defence in reply to my letter had been read at the Council, three members of the Sanitary Committee (none of whom bore me the least ill-will!) performed a scene, prearranged to prove that I had received, two years ago, from the Corporation money to pay my expenses to go to Paris for treatment by Pasteur, to ward off hydrophobia, but had never gone. The subject was not under debate in any way, and was deliberately introduced. "Did he go to Paris?" asked one councillor, to which Alderman Hardaker, the Chairman of the Sanitary Committee, replied that "He did not know whether Dr. Hime went or not." Yet he had known I had gone. If evidence were needed, I may say he received at least two letters from me from Paris, undoubtedly bearing the usual postmarks; I also wrote from Paris to the Mayor, and a large part of the letter was published in the local paper. But if proof be wanted further to overwhelm these men, I have the certificate of my treatment by Pasteur, showing my daily visits and the character of the material inoculated at each visit. The fact of my being under treatment was mentioned even in some of the London dailies, as well as in the medical papers. Alderman Hardaker more than insinuated at the Council that there never was any reason why I should undergo the Pasteur treatment at all. The circumstances of my accident were these. I accidentally gave myself a wound of the most dangerous kind, driving an instrument covered with brain matter from a rabid dog into two fingers. The virus of hydrophobia is concentrated in the brain and nerves. It was not till after consultation with several doctors here and at Leeds, and finally, after consulting Professor Cheyne, of London, that I decided to go to Paris. To undergo M. Pasteur's treatment in those days meant a good deal more than it does now. It implied in many people's minds the terrible risk of being killed by the treatment, and hence one felt justified in submitting only desperate cases to it. To me death from hydrophobia seems no worse than any other. I was loth to think my case desperate; I was unwilling to go; but I have much depending on my life and health, and when the many competent persons I consulted all advised the same course, I adopted it. The obliquity of vision of the "Invincibles" has discovered some mysterious crime in everything associated with this visit to Pasteur. My not going sooner they attribute to a criminal motive. My delay of twenty-four hours in London to see Professor Cheyne was "flat burglary;" and the manner in which I spent my time in London required a long speech to enable Alderman Hardaker to denounce it sufficiently. Yet he does not, he protests, and never did, bear me any ill-will!

After weeks of preparation, and having selected their own time and place, and under the supposed privilege of the Council, these men at last reveal the great justification of their proceedings, and it proves to be a mere fabrication. They have unmasked themselves, and stand self-convicted. As to the long-winded reply to my letter in the JOURNAL, it is a lawyer's defence of an indefensible cause. As a specimen, it alleges that as there is an inspector of diaries, *therefore* I was not required to inspect them. I was, however, and objected, though vainly, on the very grounds of there being an inspector, who, however, was not under my orders. Again, because there are two inspectors in the Borough Surveyor's Department to examine new houses, *therefore* I was not required to inspect. These inspectors (not under my orders) examined merely whether the houses were built according to plan, I (under a local Act) had to examine whether the houses were healthy. As to my statements concerning continued neglect to carry out sanitary work, they are everywhere admitted, of course with an explanation. The permanent custom of "tipping" night-soil in the town is admitted, "steps being taken to render it innocuous with carbolic powder or dry earth!" The antidote is purely imaginary, and if used would be of very questionable value. My remarks as to entire absence of suitable provision for small-pox, and the placing of small-pox patients in the empty scarlet fever ward is fully admitted to be true. But it is pleaded that the Corporation only got the control of the Fever Hospital last September. The Corporation have always been responsible to provide for small-pox, but their apologist wishes to make believe their responsibility only began in September last. Since that date, nothing was effected towards providing the accommodation, until the local press forced the question to the front, by publishing the fact that small-pox patients were obliged to be treated in a corridor, for want of a proper ward. Great stress is laid on the erection of a new ward, but that is for convalescent scarlet fever patients, and being within fifteen yards of the next scarlet fever ward, is not available for small-pox, without great risk. Now, in the panic, it is proposed to spend a considerable sum on a makeshift erection, just what should have been avoided. Two years ago the Sanitary Committee were informed by me, not for the first time, of the critical want of accommodation, and then actually *paid* for patching up the only room in the Hospital (to hold about four beds, one sex) for small-pox. The room was only isolated by a temporary wooden partition from the scarlet fever wards, and the window was taken out to afford an entry.

This happened in 1886, yet the apologist declares it was never known until September, 1887, that there were no beds available for small-pox! Even prior to 1886 a conference between the Hospital Board and the Sanitary Committee was held owing to a report of mine. The Board admitted there was no accommodation for small-pox, and asked the co-operation of the Corporation to find the funds. This was refused. And yet the Sanitary Committee issue a report, stating they did not know there was no small-pox accommodation in 1888! These details I would never have alluded to had not the apology of the Sanitary Committee rendered it necessary. I might likewise take every argument and statement in it and show in turn how each and every one is merely the fictitious defence of the unhappy advocate writing to order. But the facts remain; and above all the audacious slander mentioned at the commencement of this letter as typical of the men and their methods.—I am, etc.

Bradford, July 16th. THOS. WHITESIDE HIME.

"MODERATE DRINKING."

SIR,—I do not know that there is any material difference between Dr. Norman Kerr and myself as to the meaning of the term "moderate drinking." I understand Dr. Kerr to say, not that he would call anyone a "moderate drinker" who comes within the formal terms of the "general section," but that he believes, as a matter of fact, the proportion of persons actually insured in it who transgress the bounds of strict temperance to be so small as to be a negligeable quantity. If this can be established, of course the significance of the figures Dr. Kerr has quoted will be greatly changed. At present it is extremely vague. The section, it is allowed, may include any consumer of alcohol who was not a drunkard at the time of insuring, and of its actual composition we have no evidence.

What Dr. Ridge means by saying that "it is scarcely fair, when comparing the effect on longevity of total abstinence and moderate drinking, to exclude from the calculation all the cases of immoderate drinking," I cannot divine. I am sure my tables contain nothing so "fallacious" as the logic of this singular proposition. Dr. Ridge's euphemistic charge against "certain" of our contributors of being "anxious to record" the early deaths of abstainers is a more serious matter. Will he kindly specify the names of the contributors against whom his charge is made? A full list is printed on page 1317 of the JOURNAL, June 23rd, 1888. —I am, etc., ISAMBARD OWEN.

5, Hertford Street, Mayfair, W., July 17th.

SIR,—Dr. Norman Kerr, in his very courteous allusion to the letters of Dr. Owen and myself, suggests that it is incumbent upon us to define our idea of the word "moderation;" this I will endeavour to do as briefly as I can. Moderate—as applied to eating and drinking alike—is defined by Webster as synonymous with "temperate," "sparing," or "frugal," and Dr. Norman Kerr, I am sure, will readily admit that this is a relative and not an absolute definition; relative, that is, to each individual and his special need. I attach no different significance to the term when applied to drinking than it ought to bear in regard to eating, working, or the pursuit of pleasure. But I take it that, in this particular discussion, the physiological quantity which any individual may take is what is meant by moderation—that amount which produces no sensible reaction, no appearance of unchanged alcohol in the secretion, "no greater recoil resulting from the stimulation than happens on the ingestion of any other true food" (Dr. Anstie, *Doctrine of Stimulus*).

I quite agree with Dr. Kerr's belief that "the great majority of the more thrifty and thoughtful assured are moderate in their habits," but a considerable minority are not so, and my argument was, not that even the strictly moderate drinkers necessarily enjoy as large a measure of longevity as the teetotallers, which may or may not be the case, but that the interesting statistics which he quoted are not sufficient to prove that they do not do so. I need not point out to Dr. Kerr the inadequacy of all our (at present available) statistics to establish either side of the contention: for, on the one hand, many teetotallers may have actually been so brought up in consequence of, and with a view to escape from, the evil habits of their forbears, and would therefore naturally inherit in some instances a proclivity to certain diseases unfavourable to length of life, notwithstanding their own teetotal habits; while, on the other hand, the percentage of the so-called moderate drinkers who actually exceed the limits of healthfulness, and thereby prejudice the insurance returns of the general class, can never be accurately known.

I venture to think, too, that Dr. Norman Kerr will not endorse the opinion expressed in the opening sentence of Dr. Ridge's letter, "that it is scarcely fair to exclude from the calculation all the cases of immoderate drinking." I believe, on the contrary, he will frankly admit that such exclusion is an absolute *sine quâ non* of any fair comparison as between moderation and teetotalism. For my own part, I cannot for a moment admit Dr. Ridge's contention "that the *onus probandi* of the harmlessness of these liquors in the smallest doses, commonly and regularly taken, certainly lies with those who assert it;" on the contrary, I think it is for those foxes who have voluntarily deprived themselves of their tails—if he will forgive me for using so trite an illustration—to establish the benefit of the operation to the judgment of those who meanwhile prefer to keep them. As long as grapes and barley supply what we venture to consider wholesome and palatable refreshment, I for one shall certainly leave to Dr. Ridge and those who share his views the *onus probandi* that they are not so.—I am, etc., J. HOLMES JOY.

Tamworth, July 14th.

SIR,—Without having the slightest doubt that temperance is conducive to longevity, I should like to point out that, for two reasons, the experience of the United Kingdom Temperance and General Institution does not prove that total abstainers enjoy longer life than moderate drinkers.

In the first place, it seems to me that to so interpret the figures may be to mistake cause for effect. When a man is of vigorous constitution he does not feel any desire for stimulants, and thus it happens that, to a great extent, people are total abstainers because they are healthy, and not so much that they are healthy because they are total abstainers. How far this is the case, or how far the total abstinence of the members of the temperance section is the cause of the more favourable mortality experienced, there is nothing to tell us.

In the second place, the temperance and general sections of the company in question are not kept rigidly separate. If a man, formerly a total abstainer, falls into ill-health, and, as a consequence begins to take a little alcohol, he is relegated to the general section. His death, which then probably soon follows, and which would have equally taken place had he remained a teetotaller, goes to swell the mortality of the general section, and is excluded from the returns of the temperance section. Thus the death most unfairly counts doubly in favour of the total abstainers, and against the moderate drinkers. To what extent the figures are thus vitiated there is no information to show. Those who cease to practise total abstinence should not be admitted to the general section without strict medical examination, but should be kept in a class by themselves.

Taken as they stand, I cannot see that the statistics of the United Kingdom office, or of any other company, help us to decide the question of the relative merits of total abstinence and moderate drinking; and I am constrained to come to this conclusion, although all my sympathies are on the side of temperance.—I am, etc., GEORGE KING,

Actuary, Atlas Assurance Company.

92, Cheapside, E.C., July 14th.

"M.S. DURHAM" FOR PRACTITIONERS.

SIR,—It will ever stand as an enduring monument of honour to the University of Durham that it, alone amongst English Universities, has thrown open its portals to those qualified practitioners of over fifteen years' standing who desire the distinction of an M.D. degree by examination. Much good has this enlightened policy effected, and much injustice has it remedied.

There is still, however, yet another injustice existing which it is in a position to remove. It is the fact, I believe, that there are many surgical appointments in the kingdom which cannot be held except by those in the possession of a degree in surgery. Bearing this in mind, I venture to address the University of Durham, through your medium, with the view of asking them to consider the proposal of admitting candidates who have already obtained their M.D. degree for practitioners of over fifteen years' standing to the B.S. and M.S. degree, on the same terms as for their M.D. degree.

This privilege would confer a great boon on those who might desire to compete for these appointments, with the additional advantage of making more proficient surgeons of them.—I am, etc., M.D. DURHAM.

NAVAL AND MILITARY MEDICAL SERVICES.

RANK OF MEDICAL OFFICERS.

A CORRESPONDENT sends from India cuttings from the Bombay *Army List* showing the staff of the Deolali Depôt, where the medical officer is as usual not only placed at the bottom of the list under junior commissioned officers, but actually under a sub-conductor (warrant officer) in the Commissariat charge. The deputy surgeon-general of the Poona Division is, of course, likewise placed beneath captains and lieutenants who might be his sons. The rank and status of medical officers in the army has always been a mockery from the regimental days when they figured in the list under the quartermaster.

ACTING-SURGEON.—A medical officer who has been gazetted as surgeon in the reserve of medical officers wears the uniform of the rank of captain.

CHANGES OF STATION.

THE following changes of station among the officers of the Medical Staff of the Army have been officially notified as having taken place during the past month:—

	From	To
Dep.Surg.-Gen. P. B. Smith, M.D.	Allahabad	Lucknow.
Brigade-Surgeon T. F. O'Dwyer, M.D.	Woolwich	Malta.
Surgeon-Major F. Dick, M.D.	Madras	Portsmouth.
,, T. G. Bolster, M.D.	Nova Scotia	Colchester.
,, J. Macartney, M.D.	Curragh	Newbridge.
,, W. J. Charlton	Dublin	Athlone.
,, J. W. O'M. Martin, M.B.	Curragh	Dublin.
,, E. H. Joynt, M.D.	Templemore	Ceylon.
,, W. E. Webb, M.B.	Egypt	London.
,, B. W. Wellings	Salford	Bombay.
Surgeon H. J. Robbins, M.D.	Devonport	Hong Kong.
,, E. A. Roche	Aldershot	Ayr.
,, B. W. Somerville-Large	Tullamore	Wicklow.
,, N. Leader	Oughterards	Cork.
,, A. W. P. Inman, M.B.	Dublin	Castlebar.
,, R. O. Cusack	York	Strensall Camp.
,, W. D. A. Cowen	Belfast	Belturbet.
,, G. W. Robinson	Cork	Dublin.
,, O. Todd, M.B.	Colchester	Harwich.
,, G. F. A. Smythe	Eastbourne	Dover.
,, B. T. M'Creery, M.B.	Dublin	Oughterards.
,, G. T. Goggin	Shoeburyness	Colchester.
,, F. M. Baker, M.B.	Dublin	Loughrea.
,, J. P. Carmody, M.D.	Newbridge	Dublin.
,, P. H. Fox	Castlebar	,,
,, W. Dugdale	Dublin	Newbridge.
,, H. J. R. Moberly	Winchester	Netley.
,, R. H. S. Sawyer	Longford	Dublin.
,, R. Jennings, M.D.	Weymouth	Netley.
,, W. J. Baker	Winchester	,,
,, E. Butt	Dublin	Belfast.
,, R. Haselden	Portsmouth	Netley.
,, J. R. Yourdi, M.B.	Queenstown	Spike Island.
,, E. J. E. Risk	Portsmouth	Golden Hill Ft.
,, G. H. Younge	Cork	Templemore.
,, H. J. Peard	Bengal	Portsmouth.
,, J. Semple	Colchester	Warley.
,, J. Hickman	Chatham	Sheerness.
,, G. T. H. Thomas	Portsmouth	Winchester.
,, M. Kelly, M.D.	Colchester	Landguard.
,, T. B. Winter	Portsmouth	Gosport.
,, C. Birt	Beaumaris	York.
,, H. E. Cree	Wrexham	St.Anne's-o.-Sea
,, J. Rose	Dublin	Longford.
,, H. W. Austin	Pembroke Dock	Cirencester.
,, E. Eckersley, M.B.	Beverley	Sheffield.
,, D. M. Greig, M.B.	Edinburgh	Aldershot.
,, D. M. Saunders, M.D.	Hulme	Bengal.
,, W. C. Poole, M.B.	Dublin	Navan.
,, A. B. Hinde	Gosport	Portsmouth.
,, J. W. Cockerill	Brighton	Dover.
,, H. St. G. S. Hore	Aldershot	Montrose.
,, S. Macdonald, M.B.	Piershill	Edinburgh.
,, D. Stiell, M.B.	Pontefract	Lichfield.
,, L. E. A. Salmon	Preston	Malta.
,, G. A. Wade, M.B.	Gosport	Jamaica.
,, J. C. Weir, M.B.	Cupar	Barry Links.
,, W. P. G. Graham, M.B.	Gosport	Winchester.
,, G. F. Alexander, M.B.	Edinburgh	Fort George.
,, E. M'N. Woods, M.B.	Parkhurst	Sandown.
,, A. Wright	Chatham	N. British Dist.
,, J. Girvin	Home District	Tower of London
,, H. S. Peeke	Hereford	York.
,, O. E. P. Lloyd	Sierra Leone	Cape Coast Cstle.

THE NAVY.

MR. JOSEPH JOHNSON has been appointed Surgeon and Agent at Skegness and Gibraltar Detachments.

ARMY MEDICAL RESERVE.

SURGEON AND HONORARY SURGEON-MAJOR J. L. W. Ward, 3rd Volunteer Battalion Welsh Regiment (late the 2nd Glamorgan), to be Surgeon-Major (ranking as Major).

Acting-Surgeon EDWARD WILLIAMS, 1st Lancashire Engineer Volunteers, to be Surgeon (ranking as Captain).

THE INDIAN MEDICAL SERVICE.

THE services of Surgeon H. J. DYSON and A. R. EDWARDS, both of the Bengal Establishment, are temporarily placed at the disposal of the Punjab Government.

The services of Surgeon G. H. FINK, Bengal Establishment, are placed temporarily at the disposal of the Government of the North-West Provinces and Oude.

Surgeon-Major H. J. HAZLETT, Madras Establishment, is appointed to officiate as an Examiner of Medical and Fund Accounts, Madras, *vice* Brigade-Surgeon W. S. FOX, who has proceeded on furlough for one year on medical certificate.

Deputy Surgeon-General W. H. ROBERTS, M.D., Madras Establishment, Hyderabad Subsidiary Force, is posted to the officiating medical charge of Her Majesty's Forces, *vice* Deputy Surgeon-General J. Henderson, M.D., on furlough.

Surgeon-Major T. J. HACKETT WILKINS, Madras Establishment, is appointed to act as Clinical Examiner, Madras, during the absence of Surgeon J. L VAN GEYZEL, who has been allowed three months' privilege leave.

THE VOLUNTEERS.

THE undermentioned gentlemen have been appointed Acting Surgeons to the regiments specified:—C. H. WILLEY, M.D., 1st West-Riding of York (Sheffield); E. H. MOORE, the Falmouth Division Submarine Miners Royal Engineers; COLIN MACKENZIE, M.B., 1st Volunteer Battalion Seaforth Highlanders (late the 1st Ross-shire).

Mr. LLEWELLYN THELWALL is appointed Surgeon to the 4th Volunteer Battalion Essex Regiment (formerly the 4th Essex Volunteers).

MEDICO-LEGAL AND MEDICO-ETHICAL.

THE APOTHECARIES' SOCIETY AND UNQUALIFIED PRACTICE.

AN action was recently brought by the Society of Apothecaries under the Apothecaries Act, 50 Geo. III, cap. 194, against Mr. Thomas G. Williams, Brynteg, Cwm, to recover £20 penalties and forfeitures incurred by defendant for illegally practising as an apothecary contrary to the provision of the above Act. It was stated by the plaintiffs that the defendant had served a term of five years with Dr. Pierce, of Denbigh, and subsequently passed his minor examinations at the University of Aberdeen; but instead of passing his finals, going through the different necessary courses, and otherwise qualifying himself, Mr. Williams returned and set himself up in the profession of a doctor at Cwm, a village close by, and also at Meliden, a district largely populated by miners. There he applied and successfully competed for the office of doctor to a sick and friendly society in that neighbourhood. There he had, without possessing the necessary qualification required by law, acted as a surgeon and apothecary, attending the sick and dying, and even gave certificates in case of death; in fact, acting to all intents and purposes as a qualified practitioner. Information of his so acting having been conveyed to the Society of Apothecaries, the present proceedings were taken.

The defendant's solicitor admitted the facts of the case. Their client was not enabled to proceed to his finals for want of means. He had undertaken not to practise any more until he was qualified.

Mr. Roberts, for the plaintiffs, observed that their only object was to protect the medical profession and the public, and especially the poor of the district.

Judgment was entered for £20 and costs, plaintiffs undertaking to reduce the penalty to 1s. and costs.

A STRING OF QUESTIONS.

F. W. K. writes: W., M., and K. are three practitioners in a small country town. Three years ago K., hearing that C., a third practitioner in the place, had died and had not sold his death vacancy, came and commenced practice without buying. He paid the usual calls of courtesy upon both W. and M., which were returned by both, and though W. evidently resents the presence of K. in the town, yet M. and K. are very good friends, both professionally and socially. A few nights ago K. was called up by P., a patient of W.'s, who informed K. that W. was engaged to attend Mrs. P. in her confinement; that he (P.) had called at the house of W., and had been informed by the daughter of W. that her father was attending another case. He then asked if K. could attend for him, but she said, "No, but that he must call in Dr. M." This he does, but M. cannot attend, and sends him on to K., who gladly attends for M. and W. He drives four miles to the case, and then finds that the pains have left the patient, and that she may go a few more days, and returns home. The next morning K. calls upon W. and explains the facts of the case. W., without one word of thanks, offers the fee for the visit, which K. declines, saying he is only too happy to be of any service to W. On K.'s return home he finds a short note from W., enclosing 10s. 6d., which he asks him to accept as fee chargeable to P., this note also not containing a word of thanks. K. returns the fee, saying he is not anxious to receive one. Will you kindly tell me:—

1. If it was right for the patient to be directed not to call K. in but M.?
2. Ought K. to have called upon W. in the morning, or have waited for W. to call upon him?
3. Ought K., who is only too glad at all times to help any professional friend, to have refused the fee?
4. Ought W. to have sent it after it had been refused?
5. Did K. act wrongly in returning it?

*** To the several questions submitted by F. W. K. we may note in reply that:—

1. Inasmuch as from old associations a mutual arrangement may probably have been entered into between W. and M. for reciprocal assistance in such cases, no ethical objection can, in our opinion, be justly urged against the proceeding in question.

2. K., in calling upon and explaining to W. the facts of the case, acted in strict accord with professional etiquette; an explanatory note would have been alike correct.

3. The acceptance or otherwise of the fee tendered by W. would be optional with K.

4. The subsequent transmission by W. to K. of the fee which had previously been courteously declined by the latter was a matter of very questionable taste, dictated, apparently, by the wish to be free from all personal obligations to K.

5. Although K. cannot be said to have acted wrongly in returning the transmitted fee, it would, we think, under the peculiar circumstances, have been better to have retained it without remark.

FEES TO MEDICAL WITNESSES.

MR. JOHNSTON should charge the police authorities 7s. 6d. or 10s. 6d. as he thinks fit, and £1 1s. for giving evidence before the magistrate.

PATENT APPLIANCES.

INVENTOR wishes to know, if a medical man designs a surgical appliance of extensive usefulness, such as a respirator or speaking-tube, is it derogatory to the dignity of the profession to patent the same, and share in the profits arising from the sale of such article?

*** If the question submitted by "Inventor" relates simply to the two articles specified, we do not see any valid ethical objection to the proposed patent and commercial arrangement, provided that the sale thereof be not used as a local or general advertisement of the medical patentee, nor any indication given or device adopted by which his identity could readily be recognised. It may, however, be judicious to add that the preceding reply forms an exception to the general rule relative to medical and surgical patents, and would not, for instance, be applicable to "surgical appliances" properly so-called. At the same time, we hold that such trade adjuncts (otherwise than as incidental) as a settled means of income, are hardly compatible with the dignity which should appertain to the science and profession of medicine.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.—Monday, July 16th.

Coroners Bill.—The House went into Committee on this Bill. The LORD CHANCELLOR moved to omit Clause 1, and to insert in its place the following: "After the passing of this Act a coroner for a county shall not be elected by the freeholders of the county." The amendment was agreed to. Clauses 2, 3, 4, and 5 were agreed to. On the motion of the LORD CHANCELLOR, new clauses were inserted to follow Clause 5, providing (1) that the right of appointing a franchise coroner shall cease on the death, resignation, or removal of that coroner: (2) that the section shall not apply to Her Majesty in right of her Duchy of Lancaster, though the power of appointing a franchise coroner within the duchy may be surrendered on behalf of Her Majesty by the Chancellor of the Duchy; (3) that the section shall not apply to the coroner of Her Majesty's Household; that the Act shall apply to the City of London. A clause was also inserted, providing that for the purposes of the Bill the ridings of Yorkshire and the divisions of Lincolnshire and Sussex shall be respectively separate counties. The schedule was agreed to with some amendments, and the Bill passed through Committee.

HOUSE OF COMMONS.—Thursday, July 12th.

Lunacy Acts Amendment Bill.—The order for the second reading of the Lunacy Acts Amendment Bill was read and discharged and the Bill withdrawn.

Monday, July 16th.

The Merchant Shipping (Life-saving Appliances) Bill.—Mr. SUTHERLAND asked the President of the Board of Trade whether it was the intention of the Government to persevere with the Merchant Shipping (Life-saving Appliances) Bill; and, if not, whether he would consider the advisability of nominating a departmental committee, consisting of practical men (somewhat analogous to the Load Lines Committee), to consider proposals and formulate rules with regard to the nature and extent of life-saving appliances which should be carried in vessels of different classes.—Sir M. HICKS-BEACH was understood to say that, as the Bill referred to had already passed the other House, he hoped it would become law this year.

Victoria Barracks, Belfast.—Mr. E. STANHOPE, in answer to Sir J. COLOMB, said the officers' quarters were not condemned because of the frequent occurrence of cases of enteric fever. No case of enteric fever had originated in this building. It was now used as an infectious diseases ward, but he should be glad when it was possible to provide a better place.

Treatment of Paupers in Sleaford Union.—Mr. CHAPLIN asked the President of the Local Government Board whether his attention had been called to the case of George Dodd, a pauper in the parish of Wilsford, in the Sleaford Union; whether he had been treated when seriously ill in accordance with the orders of the medical officer; and whether there was any reason to believe that his death was accelerated by want of proper attention on the part of the guardians, medical officer of the district, or relieving officer; and, if so, whether he would cause an investigation to be made into the matter.—Mr. LONG replied that the Board had directed an inquiry.

Wednesday, July 18th.

Medical Officers of Health and the Local Government Bill.—On the motion of Mr. RITCHIE, the following new clause with respect to the power of County Councils as to the reports of the medical officers of health was read a second time, and added to the Bill after clause 17: "Every medical officer of health shall send to the County Council a copy of every periodical report of which a copy is for the time being required by the regulations of the Local Government Board to be sent to the Board, and if a medical officer fails to send such copy the County Council may refuse to pay any contribution, which otherwise the Council would, in pursuance of this Act, pay towards the salary of such medical officer. If it appears to the County Council from any such report that the Public Health Act, 1875, has not been properly put in force within the district to which the report relates, or that any other matter affecting the public health of the district requires to be remedied, the Council may cause a representation to be made to the Local Government Board on the matter."—Mr. STANSFELD moved the following clause to be inserted after Clause 15:—"1. The Council of any county may, if they see fit, appoint and pay a medical officer of health, or medical officers of health, who shall not hold any other appointment or engage in private practice without express written consent of the Council. 2. The County Council and any District Council may from time to time make and carry into effect arrangements for rendering the services of such officer or officers regularly available in the district of the District Council, on such terms as to the contribution by the District Council to the salary of the medical officer, or otherwise, as may be agreed. 3. So long as such an arrangement is in force, the obligation of the District Council under the Public Health Act, 1875, shall be deemed to be satisfied without the appointment of a separate medical officer."—Mr. RITCHIE said that as the clause did not take away from the District Councils the power of appointing their own medical officers if they chose he would assent to it.—Sir L. PLAYFAIR said the clause would facilitate the filling up of gaps in present arrangements.—Mr. LLEWELLYN feared that an officer appointed for a large district would not be able to serve local sanitary authorities.—Mr. H. FOWLER suggested the omission of the words as to holding any other appointment. If that were not done they would require to give large salaries.—Sir J. BAILEY feared that if this clause passed small counties would not be able to avail themselves of the services of high medical authorities.—Mr. RITCHIE thought the discretion might be left to the Councils. The clause was read a second time and added to the Bill.—Sir LYON PLAYFAIR, on behalf of Sir WALTER FOSTER, moved the following new clause: "Except where the Local Government Board, for reasons brought to its notice, may see fit in particular cases specially to allow, no person shall hereafter be appointed the medical officer of health of any district, or the deputy of any such officer, unless he be legally qualified for the practice of medicine, surgery, and midwifery; nor shall any person after the 1st day of January, 1892, be appointed the medical officer of health of any district or districts containing a population of 50,000 or more inhabitants, unless he be registered in the *Medical Register* as the holder of a diploma in sanitary science, public health, or State medicine, under Section 21 of the Medical Act, 1886."—motion made and question proposed, "That the clause be read a second time."—Sir G. HUNTER complained that a clause of his on this subject had been passed over in his absence.—The CHAIRMAN was afraid there was no help for that.—Sir W. ROBERTSON hoped the Government would accept the clause. There was a general recognition of the fact that medical science was now deeply concerned in the prevention as well as the cure of disease. He thought, therefore, it was desirable that they should encourage that as much as possible, and this clause would undoubtedly prove most beneficial.—Dr. TANNER rose to continue the debate, but it being then half-past 5, the Committee adjourned.

Coroners and the Local Government Board.—Mr. RITCHIE moved, after Clause 113, to insert the following new clause: "As to existing coroners for Middlesex, Surrey, and Kent.—The persons who at the passing of this Act are coroners for any district which becomes wholly or partly by virtue of this Act part of the county of London shall continue to act for such districts until otherwise directed as hereinafter mentioned, and while so con-

tinuing to act shall, as respects such part of their district as is within the county of London, be deemed to be coroners for the county of London, and the amount payable in respect of the salaries, fees, and expenses of such coroners, where the district is partly within and partly without the county of London, shall be apportioned between the counties in which such district is situate. In the case of any coroner's district being situate partly within and partly without the county of London, the County Councils of the counties in which such district is situate shall arrange for the alteration in manner provided by law of the district, so that on the next avoidance of the office of coroner, or any earlier date fixed when the alteration is made, the coroners' districts shall not be situate in more than one county. For the purposes of this Act respecting compensation, the coroners shall be deemed to be officers of the quarter sessions of the county for which they are coroners." The clause was read a second time, and was ordered to be added to the Bill.—Mr. HOBHOUSE moved a new clause, vesting the appointment of coroners in the new County Council. Everybody, he said, would agree that the present mode of appointment by the freeholders was obsolete, inconvenient, and costly, and he hoped that the Government would see their way to accept the new clause.—Mr. RITCHIE said that a few days ago the House decided that judicial officers in the City, whose appointment had been for many centuries vested in the Common Council, should henceforth be appointed by the Crown. There was no doubt that the existing mode of appointing coroners was one which could not be easily defended; but whether these appointments ought to be vested in the Crown, as the appointments in the City had been, or whether any body of electors should have the power to appoint coroners was a question to be decided. Whatever decision might be arrived at in the future, he saw no reason why they should not adopt some improvement upon the present system, if they could do so in the present Bill. A Bill had been introduced in another place dealing with coroners, and an amendment had been introduced by the Lord Chancellor, to the effect that the legal authority having the power to elect the coroner should be any representative body elected by the inhabitants of the county that might be established under any Act of Parliament passed in the present or any future Parliament, and until it was so established the appointment of a coroner should be vested in quarter sessions. As the principle of the hon. gentleman's clause had thus been accepted by the Government they could not resist the clause, and they were prepared to accept it, whatever the result of further consideration of the question in the future might be.—Sir W. HARCOURT said it was an unconstitutional doctrine that a coroner should be nominated by the Crown, because his office afforded the people protection against the Crown.—The clause was read a second time and added to the Bill.

HOSPITAL AND DISPENSARY MANAGEMENT.

MANCHESTER CLINICAL HOSPITAL FOR WOMEN AND CHILDREN.

A NEW wing added to the Manchester Clinical Hospital for Women and Children was opened this week. It comprises a large recreation room, nurses' day and dining-room, retiring-room, seven bedrooms, and an ovarian ward. In addition to this accommodation, the Committee have been able, in consequence of the space gained in the hospital by the removal of the nurses to the new wing, to extend the women's ward, and to create two new wards and other smaller wards, which are available for cases requiring special treatment or isolation.

GREAT NORTHERN CENTRAL HOSPITAL.

THE new Great Northern Hospital was opened on Tuesday, July 17th, by the Prince and Princess of Wales. This building was so far completed in April last as to admit of the reception of patients, and the whole of the wards are at the present time occupied. The building as at present constructed only contains 68 of the 150 beds arranged for in the original plans. The royal party on their arrival at the hospital were met by the reception committee, and an address of welcome was read by the Vestry Clerk, in which it was stated that Islington was the largest parish in the point of population in the United Kingdom. Its growth during the last fifty years was probably unparalleled, its population of 48,000 in 1837 having increased to 320,000. The Prince having replied, the Princess of Wales received purses containing £1,050, and their Royal Highnesses inspected the hospital, and expressed themselves pleased with what they had seen. The cost of the new building, when complete with 153 beds and an out-patient department, will be £45,000; over £12,000 has been subscribed.

INDIA AND THE COLONIES.

TWENTY-THIRD ANNUAL REPORT OF THE SANITARY COMMISSIONER FOR MADRAS, 1886.

European Army.—Strength on January 1st, 1886, was 11,775; increase during the year by recruits, drafts, and transfers, 5,414; total, 17,189; decrease by invaliding, discharges, time expired, died, 2,394, leaving the strength on January 1st, 1887, 14,795.

The admission sick-rate for the year was 1,367.8, and the daily sick-rate 80.8 per 1,000 men, against 1,165.3 and 66.1 respectively in 1885. The mortality, 16.0 per 1,000, is the highest since 1879. It must be kept in mind that Burmah is included in the Madras report, which we think a pity; a separate report for that province should now be presented. The highest average daily sick-rate per 1,000, namely, 162.9, was at Thayetmyo in Burmah; the lowest, 56.6, was in Bangalore, in the Mysore province.

Cholera gives only 1 death, which took place at Rangoon.

Small-pox gives 1 admission and no death either in 1885 or 1886, a fact which we commend to the attention of anti-vaccinators.

Typhoid Fever.—There was a marked increase in 1886 compared with 1885. The admissions numbered 136, against 73 in 1885, and the deaths 43, against 23. Secunderabad in the Deccan, and Bangalore in the Mysore province suffered most.

Paroxysmal Fevers were more prevalent in 1886 than in 1885, intermittent fever gave 1,506, and remittent 76; the largest number of admissions was in Thayetmyo in Burmah; the next, 225, in Kamptee.

Diarrhœa and Dysentery.—The admissions for diarrhœa were at the rate of 58.3 per 1,000 of strength; the deaths were 4, or 0.2 per 1,000. There were 781 admissions, with 27 deaths from dysentery.

Hepatic Diseases.—The admissions were 301, and the deaths 13—an admission-rate of 21.9, and a death-rate of 1.2, per 1,000.

Heat Apoplexy cause 14 admissions and 5 deaths.

Several diseases gave an admission-rate of 262.3 per 1,000—a rate higher than in any of the years from 1872 to 1884.

We observe that the Secretary to the Government of Madras in the Public Department, in reviewing this report, invites the attention of the Sanitary Commissioner to a criticism on the part of the Army Sanitary Commission in England to the effect that the sanitary reports of the Indian Commissioners "give little real practical information as to the *causes* of the year's death-rates, or as to the works and measures necessary for their mitigation or removal." The Government of Madras, through the mouth of their reviewing Secretary, with reference to this report for 1886, remarks that "it is even more bare on these essential points than previous reports." We ask our readers to look at this complaint in the light thrown upon it by the action of the Government of India, who, so far from encouraging their Sanitary Commissioners from giving their opinions on the "causes of disease," never failed, by the mouth of Dr. James Cunningham, to heap contempt and scorn on them if they dared to speculate on such subjects, reasoning on the facts before them. A notable example of this was seen in the case of the late Surgeon-General Furnell, when Sanitary Commissioner of Madras, who was bitterly attacked for "theorising" on the propagation of cholera by water-pollution. The comments of Professor Maclean on this kind of criticism, in his *Lectures on Cholera*, called forth the warm approbation of the *Saturday Review*. Government Secretaries, when they review sanitary reports, need to be reminded of the snubbing action of their own Governments in this regard.

INDIA.

THE *Times of India* understands that Mr. Manockjee Eduljee Allbless and other members of his family have offered the Government of Bombay Rs. 85,000 for the purpose of building an obstetric ward, containing thirty beds, in connection with the Cama Hospital. The family has already made many other munificent gifts to the public, among them the Leper Asylum at Trombay.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

THE NOTIFICATION OF INFECTIOUS DISEASES.

DR. D. BIDDLE, Acting Statist to the General Medical Council, has compiled the following statistics from the annual summaries of the Registrar-General for 1881-1886.

Compulsory notification of infectious diseases has now been tried as a preventive measure in several of the large towns of England during a series of years quite sufficient to enable us to judge of its merits. It has been enforced in two very different ways; in one the duty of notifying is thrown on the householder, that of certifying alone being compulsory on the part of the medical attendant; but in the other both medical attendant and householder are compelled to notify. In both systems, when carried into practice, the medical attendant's signature is the only one that appears, and in many cases, even under the single or householder system, there is no doubt that the medical attendant frequently relieves the householder of the duty of notifying. But his action in so doing under the single system is voluntary, not compulsory; moreover, the householder has the right secured to him of forthwith submitting the case to a second opinion, if he so wish, before allowing the document to be sent to the authorities. By the dual system, on the contrary, the rights of both householder and medical attendant are trampled under foot, and what is more to the purpose, it has proved a complete failure, as the following tables abundantly show. As practically enforced, it assumes that the medical man will be called into the case, in time to make the notification of use; but it tends, on the contrary, to make people put off sending for the doctor as long as possible, not only in cases which actually prove to be of an infectious nature, but in others which the people themselves are unable to distinguish from infectious ones. Consequently, it tends to increase the general death-rate, and does not leave untouched the death-rate from diseases other than zymotic. This the following statistics clearly prove.

Out of the twenty-eight large towns, eleven have been under no system of notification during the whole period under consideration (1881-1886); three have been under the single system (Bradford, however, not until after 1881); and fourteen have been under the dual system, seven of them during the whole period, two after 1881, three after 1882, one after 1883, and one after 1885.

In Table I are given the death-rates, general and zymotic, taken from the Registrar-General's Annual Summaries, except in the case of the group-averages, which have been specially calculated. I have no doubt of their accuracy, since, worked in a different way from those given in my original table (published in the JOURNAL), they culminate in virtually identical results, that is, results which differ only at the third decimal place.

In Table II the three sets of annual averages are placed in contrast, namely, for the three groups severally, the general death-rate, the zymotic death-rate, and the percentage of zymotic to total deaths, in each of the six years.

And, in order to complete the contrast, in Table III are given similar averages for the population of the twenty-eight large towns as a whole. This is effected by adding to the population of Group I those portions of Groups II and III which in the given year are under no system of notification, and by taking with such added population the corresponding deaths, general and zymotic.

By observation of Table I it may be seen that in several individual towns the enforcement of the dual system has caused the zymotic death-rate to increase. Thus we find that the zymotic death-rate is greater after than before the clauses are enforced in all cases that appear except two, namely, Halifax, in which the death-rate declined from the already good average of 2.3 to 1.7, and Sunderland, where only one year is given to afford an average for the after state of things; and even here the record had been beaten in a previous year.

In Portsmouth the effect of the Act has been to raise the zymotic death-rate from 3.3 to 3.5 per 1,000; in Manchester the zymotic death-rate was only 2.3 per 1,000 in the year preceding the Act, but has averaged 3.4 since; in Salford it has risen from 3.4 to 3.7; and in Newcastle it has plunged from 2.9 to 3.6.

And when we compare the general death-rates of those towns which have passed during the period under the yoke of the dual system, we find that although Salford and Sunderland have improved, the first slightly, the second considerably (but having been under the Act only during the last year), the other five towns have obtained a higher death-rate. Thus Portsmouth in the first three years of the six had an average general death-rate of 19.9, but in the last three years of 20.9; Birkenhead in the first year of the six had a death-rate of 17.6, but in the last five on the aver-

TABLE I.—*Zymotic and General Death-rates per 1,000 in the twenty-eight large Towns of England.*

For the Six Years, 1881-86, inclusive.		London.	Brighton.	Plymouth.	Bristol.	Wolverhampton.	Birmingham.	Liverpool.	Leeds.	Sheffield.	Hull.	Cardiff.	Norwich.	Nottingham.	Bradford.	Portsmouth	Leicester.	Derby.	Birkenhead.	Bolton.	Manchester.	Salford.	Oldham.	Blackburn.	Preston.	Huddersfield.	Halifax.	Sunderland.	Newcastle.
1881	Zymotic	3.6	2.2	1.5	2.3	2.2	2.7	4.5	2.9	2.7	6.1	1.7	1.7	4.0	2.0	3.4	4.2	2.0	2.1	2.5	2.3	2.9	2.3	2.8	2.5	1.4	2.9	2.7	2.6
	General	21.2	19.0	19.9	19.6	21.2	20.0	26.7	21.6	21.1	23.8	17.7	19.5	22.4	19.7	19.7	21.8	19.3	17.6	20.4	25.5	22.6	22.8	22.8	22.8	19.2	20.2	20.9	21.8
1882	Zymotic	3.5	4.2	2.1	2.4	3.3	3.5	4.1	3.5	2.9	5.0	3.3	2.5	1.1	3.3	4.1	3.0	3.3	2.9	1.5	3.8	3.9	2.8	4.5	5.5	2.8	1.7	5.7	3.3
	General	21.4	21.7	21.2	19.2	22.4	20.9	26.5	23.2	21.7	23.2	20.0	20.6	23.6	21.2	21.5	20.1	18.7	20.1	23.0	26.7	23.2	21.6	25.1	27.6	22.3	20.4	26.5	23.1
1883	Zymotic	2.7	2.3	2.1	1.2	1.6	3.1	1.5	4.0	4.0	3.2	2.5	1.0	2.1	1.5	2.2	2.1	1.5	1.8	2.2	3.6	3.3	1.5	2.8	4.3	1.7	1.0	2.5	4.3
	General	20.4	19.2	20.9	17.9	21.3	21.3	26.7	23.3	22.9	22.8	20.2	19.6	21.3	18.3	18.6	19.1	18.1	19.9	21.7	27.6	22.1	22.0	24.5	25.5	21.3	20.0	24.5	25.5
1884	Zymotic	3.3	1.7	2.0	1.8	3.8	3.9	4.5	1.9	4.2	3.5	4.8	3.1	3.8	2.4	3.0	4.0	2.3	2.2	4.3	3.6	4.2	3.4	4.0	5.2	1.7	2.4	3.5	3.2
	General	20.3	18.0	21.0	18.4	23.4	21.4	25.2	21.2	22.1	21.1	21.4	21.2	22.9	20.1	19.4	22.1	18.4	19.6	24.1	26.4	22.3	24.5	24.1	27.3	19.6	23.4	23.1	23.1
1885	Zymotic	2.8	1.4	2.3	2.3	1.9	2.0	3.6	2.2	2.7	1.2	5.0	2.1	2.3	1.6	2.3	3.4	1.5	2.5	1.9	3.1	3.1	2.0	2.6	1.2	1.4	1.1	5.3	4.4
	General	19.7	17.1	22.3	19.7	20.2	19.4	23.8	19.9	20.7	17.2	25.7	20.3	19.9	17.7	19.7	19.8	18.1	19.5	20.9	26.5	21.1	22.0	21.8	27.1	20.1	19.7	23.8	26.1
1886	Zymotic	2.7	1.9	3.0	2.2	3.8	3.1	3.1	3.4	2.9	2.1	3.1	3.5	3.0	2.2	5.1	2.8	1.8	2.3	3.8	3.1	3.8	2.7	4.3	5.6	1.6	2.4	2.6	2.5
	General	19.9	17.1	23.5	19.3	22.2	19.9	23.8	21.9	19.8	18.9	22.6	23.3	20.4	19.2	23.8	20.3	18.2	19.1	23.1	26.3	22.1	22.8	25.5	28.9	19.6	22.8	19.5	22.3
Zymotic Averages.	Before Notification	3.1	2.3	2.2	2.0	2.8	3.1	4.1	3.5	3.2	3.6	3.1	...	...	2.0	3.3	...	...	2.1	...	2.3	3.4	...	...	...	...	2.3	3.9	2.9
	After ,,	...	...	...	...	...	...	...	...	...	...	...	2.3	3.3	2.2	3.5	3.3	1.9	2.3	3.2	3.1	3.7	2.5	3.5	4.6	1.8	1.7	2.6	3.6
General Averages.	Before Notification	20.5	18.7	21.5	19.0	21.8	20.5	25.5	22.4	21.4	21.2	21.8	...	...	19.7	19.9	...	...	17.6	...	25.5	22.9	...	...	...	...	20.3	24.7	22.4
	After ,,	...	...	...	...	...	...	...	...	...	...	...	20.8	21.8	19.3	20.9	20.6	18.5	19.6	22.2	26.7	22.0	23.1	24.0	26.5	20.4	21.5	19.5	21.3

Group I. Under *no system* of notification. Group II. Under the *single system*. Group III. Under the *dual system* during whole or latter part of period (transition indicated by thick line).

age 19.6; Manchester in the first year 25.5, in the last five on the average 26.7; Halifax in the first two on the average 20.3, in the last four on the average 21.5; and Newcastle in the first two years on the average 22.4, but in the last four years on the average 24.3. Moreover, many of the other seven towns under the dual system show a decidedly increasing death-rate.

From the year 1882 onwards, the 28 large towns have been arranged by the Registrar-General in the order of merit, from the lowest death-rate to the highest. In 1882, 4 out of 9 of the large towns at that time under the dual system were amongst the last 9 of the 28: in 1883, 7 out of 12 amongst the last 12: in 1884 and 1885, 8 out of 13 amongst the last 13; and in 1886, 9 out of 14 amongst the last 14. There is not much sign of improvement here, but on the contrary quite enough of itself to condemn the system, which seems to place the towns that accept it under a ban.

When, however, we examine Tables II and III, in which are given the averages for the several groups year by year, we cannot well doubt any longer. Under no system of notification the health of the towns is seen to be improving, both generally and zymotically; whilst under the dual system, although the general death-rate declines slightly, the zymotic death-rate actually increases. Even taking the whole six years together, the average zymotic death-rate under the dual system is only 0.038 less than that under no system at all, whilst it is far greater than the average zymotic death-rate under the single system of notification.

But when we compare the averages for the first three years with those for the last three, the relative results are beyond dispute.

—		1881 to 1883.	1884 to 1886.
Under No System	General death-rate	21.571	20.629
	Zymotic death-rate	3.280	3.034
	Percentage of latter to former	15.204	14.709
Under the Single System	General death-rate	20.874	20.363
	Zymotic death-rate	2.745	2.627
	Percentage of latter to former	13.148	12.897
Under the Dual System	General death-rate	23.014	22.927
	Zymotic death-rate	3.042	3.181
	Percentage of latter to former	13.218	13.874

From which it may be seen that during the last half of the period under consideration, the zymotic death-rate of the large towns under the dual system was higher by 0.147 than that of the large towns in which there was no system. This corresponds to 4,410 additional deaths per annum in a population of 30,000,000; but the difference is much greater, in fact immense, if we consider the general death-rates.

TABLE II.—*Giving for the specified Groups of Large Towns the average Death-Rate per 1,000 from all Diseases, the average Death-Rate per 1,000 from Zymotic Diseases, and the percentage which the latter bears to the former, in each of the six years.*

—		1881.	1882.	1883.	1884.	1885.	1886.
Group I.	From all diseases	21.5	21.8	21.2	21.5	20.0	20.3
	,, zymotic diseases	3.5	3.5	3.0	3.6	2.7	2.8
	Percentage of latter to former	16.2	16.2	14.0	16.7	13.4	13.7
Group II.	From all diseases	20.7	21.8	19.7	21.8	19.0	20.3
	,, zymotic diseases	2.7	3.6	1.7	3.2	2.0	2.7
	Percentage of latter to former	13.2	16.4	8.6	14.5	10.4	13.5
Group III.	From all diseases	21.9	23.6	22.8	23.5	22.4	22.9
	,, zymotic diseases	2.6	3.7	2.7	3.5	3.0	3.2
	Percentage of latter to former	12.0	15.8	12.0	15.1	13.2	14.0

TABLE III.—*Giving for the variable Groups of Large Towns, as they are under (1) no System of Notification (2), the Single or Householder System of Notification, and (3) the Dual System of Notification, the average Death-Rate per 1,000 from all Diseases, the average Death-Rate per 1,000 rom Zymotic Diseases, and the percentage which the latter bears to the former in each of the six years.*

—		1881.	1882.	1883.	1884.	1885.	1886.
Under no System	From all diseases	21.5	21.9	21.2	21.5	20.1	20.3
	,, zymotic diseases	3.3	3.6	2.9	3.6	2.8	2.8
	Percentage of latter to former	15.4	16.3	13.9	16.7	13.7	13.7
Under the Single System	From all diseases	21.4	21.8	19.7	21.8	19.0	20.3
	,, zymotic diseases	3.3	3.6	1.7	3.2	2.0	2.7
	Percentage of latter to former	15.2	16.4	8.6	14.5	10.4	13.5
Under the Dual System	From all diseases	21.4	23.9	23.1	23.5	22.4	22.9
	,, zymotic diseases	2.6	3.6	2.8	3.5	2.8	3.2
	Percentage of latter to former	12.2	15.1	12.2	15.1	12.5	14.0

Taking the twenty-eight large towns from 1881 to 1886, we find:—

—	Under No System.	Under Single System.	Under Dual System.
Average population	6,720,750	467,306	1,475,748
Average total deaths	141,932	9,622	33,884
Average zymotic deaths	21,273	1,252	4,615
Average death-rate from all causes	21.118	20.597	22.961
Average death-rate from zymotic diseases	3.165	2.679	3.127
Average percentage of zymotic to total deaths	14.988	13.012	13.620

KINGSTON IMPROVEMENT BILL: NOTIFICATION OF INFECTIOUS DISEASE.

THIS Bill came before the Select Committee of the House of Commons on Thursday, July 5th, Lord Basing (formerly Mr. Sclater-Booth) presiding, the other members of the Committee being Lord Brougham, Lord Torrington, Lord Hamilton of Dalzell, and Lord St. Levan. The corporation were represented by counsel, as were also the local medical men, who opposed the clause relating to notification of infectious disease, of whom there were present Dr. Coleman, Dr. Atkinson, Dr. Biddle, and Mr. Corbett.

Mr. Cripps, on behalf of the corporation, explained that this Bill contained a clause for dual notification, but the clause being opposed locally was only subsequently carried when the matter was brought before the local council of the district by a majority of one. He apprehended that if, in their lordships' opinion, the provision for compulsory notification was a reasonable one, they would give it legislative sanction. Evidence was given in favour of dual notification by Dr. North, Medical Officer of Health of the City of York, who stated that under that clause dual notification with regard to nine classes of infectious disease was brought into operation in York in March, 1885, and in his opinion, the provision was of great benefit. On December 17th, 1887, at a meeting of the York Medical Society, when the matter was specially brought forward, a resolution was carried with absolute unanimity approving of its working. He considered direct notification by the medical man was the best system.

Mr. H. Tompkins, Medical Officer for Leicester, stated that he was familiar from his own experience with the working of the notification clauses. Such a clause was put in force in Leicester in September, 1879, and was before Parliament opposed by the whole of the medical profession of the borough, but since they had had experience of its working the medical men of the town had entirely changed their views on the subject, and within the last few weeks one of the leading medical men of the town, who had acted formerly as secretary of the committee formed to oppose this clause, publicly stated that his views were now considerably altered with regard to it. He was aware that single notification by the householder was nominally in force at Nottingham, but, as a matter of fact, the doctors there notified direct.

Dr. Tatham, Medical Officer of Health for Salford, was next called, but the Chairman of the Committee said that no further evidence of this class was necessary; and after an address from Mr. Wood Hill, Dr. Biddle was called on behalf of the medical men of Kingston. He brought forward statistics which have for

the most part been published by him in the JOURNAL, indicating that the dual system had really had the effect of increasing the death-rate. The result of a circular which he had issued to twenty-five towns in which dual or single notification was enforced, was to convince him that there was a strong feeling against the dual system. Cross-examined, he said that he was not aware that in Bradford the dual system had been voluntarily adopted, but he believed the medical officer frequently relieved the householder from the duty of notifying, but voluntarily and with the consent of the householder, and not under compulsion. He admitted that his statistics included all zymotic diseases, whereas these clauses only applied to certain specified diseases; but if those specific diseases were tabulated, he questioned whether the result would be more favourable to the dual system.

Dr. Norman McLeish, of Bolton, stated that, as far as he knew, forty-one out of the forty-two medical men in Bolton were dead against notification by the doctor, as they thought it was a duty which ought to be laid upon the householder.

Dr. Edward Smith, of Bolton, gave similar evidence, and the medical officer for Bury stated that the working of the dual system in the borough of Bury was a dead letter, so far as the prevention of disease was concerned. He did not object to notification, but to the compulsory clause. He had been a medical officer seventeen years, and in his district voluntary notification was found most effective. The counsel having addressed the Committee, the Chairman said that the Committee considered that the case in favour of the clause was approved, and the Bill might proceed. The Bill was then passed without any further opposition.

THE EPIDEMIC AT THE ROMAN CATHOLIC REFORMATORY, GLASGOW.

DR. J. B. RUSSELL, of Glasgow, has just issued in pamphlet form an elaborate account of the recent peculiar outbreak of febrile disease in St. Mary's Roman Catholic Industrial School for Boys. A very full account of the nature of this outbreak was published by us at the time, in the JOURNAL of March 24th and April 7th. In the pamphlet Dr. Russell brings together in a very complete way all the facts that have any bearing on the subject, though the result is only to confirm previous conclusions.

"Summing up the results of this investigation," he says, "we find that the St. Mary's Industrial Schools are situated in a densely-populated district of the city; that they are enclosed by surrounding tenements and other large buildings, along with a graveyard, which was in 1875 described as 'greatly overcrowded with bodies and kept in a state of rank disorder,' and in which have since been interred 577 bodies; that the free space attached to both and available for exercise is small; that the internal air-space in both is deficient; that the inmates are children between 5 and 15 years of age, who are the waifs of a large city, weak in constitution, tainted with a proclivity to scrofulous diseases, and generally of low vitality; that the death-rate is in both higher than that of other industrial schools which receive the same class of Glasgow children, and higher than that of children of the same age living in the lowest district of Glasgow; that the proportion of the total deaths caused by pulmonary diseases is enormous, and higher than among children of the same age in the worst district of Glasgow; that, in the words of the Government inspector, 'contagious or infectious disease is constantly at their doors,' and especially that there have been repeated epidemics of typhus fever, a certain indication of, and attendant upon, overcrowding. This is the sanitary status and the vital results associated therewith, as regards both institutions: but, comparing one institution with the other, we find a marked difference to the disadvantage of the boys' school—a difference of such a kind as to suggest a probable explanation of the event for the cause of which we are in search. The overcrowding is much greater in the boys' than in the girls' school, that is, the external free space is much less, the internal air space is much less per head; the internal arrangements are more defective, the accommodation and general sanitary condition of the building inferior; the general mortality among the boys is higher; the proportion of the total deaths caused by pulmonary diseases, and especially by acute diseases of the lungs, is considerably higher. The outbreak of March was in its nature a febrile disease, tending to implication of the lungs, and especially to pneumonia. It seems identical with a disease which has been observed in other similar institutions, more or less detailed accounts of which will be found at the end of this report, in all of which the observers had a difficulty in assigning it a place in nosology, but in all of which it was associated with insanitary conditions of the nature of aërial contamination. It suggests a specific poison, from family resemblance in explosive character, local limitation, and clinical features to other well-known typical diseases of the epidemic and infectious class. No specific micro-organism was discovered in this, or has been, so far as is known, in any other like outbreak. The rapid fatality in the fatal cases shows that this poison, though in the cases in which life was not at once extinguished it tended to expend itself upon the organs of respiration, was the cause of the disease. The local disease was the result of a constitutional infection, which was capable of killing without the local disease. The *post-mortem* appearances pointed to a specific poison allied to that of enteric fever. Such as they were, they were distinctly lesions of the mesenteric glands, and of the glandular system of the small intestines. The experience of the Fever Hospital is strongly suggestive of a causal affinity between certain forms of pneumonia and enteric fever. The two diseases are frequently confused both in their diagnosis and local incidence. This observation, as well as the present epidemic, raises a strong suspicion that we must enlarge our conceptions of the morbid manifestations which are to be regarded as proof of the influence of air contaminated with organic effluvia. If so, we can no longer hold that the absence of enteric fever warrants us in concluding that known impurity of the air from sewage contaminations, for example, is innocuous. The prevalence of acute pulmonary diseases may be the result. The presence of 'pythogenic pneumonia' and 'epidemic pneumonia' in nosology, and the circumstances of the well-known outbreak in the East Sheen Boys' School, and other similar recorded outbreaks, give this observation support and established recognition."

In concluding his report, Dr. Russell considers what ought to be done to improve the sanitary condition of the schools. He advises their removal to the suburbs; failing this measure he thinks the Government licence ought to include a fewer number than at present are accommodated in the institutions. He points out that a high death-rate means a high sick-rate, and that there is no proper accommodation for the sick, which ought to be supplied. A mortuary and a probationary ward ought also to be provided. He points out also other minor things requiring attention. His report closes with a detailed note regarding similar outbreaks in similar institutions in other parts of the country, reference to which has already been made in the JOURNAL for April 7th.

TYPHOID FEVER IN SUBURBAN DISTRICTS.

IN a paper read at a recent meeting of the North-Western Branch of the Society of Medical Officers of Health, Dr. Vacher, of Birkenhead, offered an explanation with regard to the zone of rural districts surrounding large towns, where typhoid fever and diphtheria seemed to be epidemic. It was, he said, a common practice for farmers in the neighbourhood of large towns to manure their lands with the refuse from privies and ashpits in those towns. The contractor who undertook to empty these places was commonly required to remove the contents outside the urban boundary, and as it would not pay him to remove the stuff any great distance, he found a market for it among the suburban farmers. In any large town some of the places emptied would almost always contain germs of the diseases named. During seasons of drought they were harmless, but they had the power of retaining their vitality for long periods of time. During rainfall they were washed down into small water-courses from which drinking water was drawn.

THE SANITARY INSTITUTE.

THE twelfth annual meeting of the Sanitary Institute was held on July 12th in the Lecture Hall of the Royal Institution, Albemarle Street. Mr. E. Chadwick, C.B., occupied the chair. He said by means of sanitary work the death-rate in the metropolis had been brought down to 14 per mille; while in other places, where there had been no such work, it remained at its old high rate. In Paris it was 27, and in St. Petersburg 40. The medals and special certificates and certificates of merit awarded to exhibitors at the Exhibition of Sanitary Appliances in Bolton in 1886 were then distributed, after which Dr. B. W. Richardson read a paper on "Storage of Life as a Sanitary Study." After referring to instances of long life in lower animals and in man, he said these animals and these persons, by some peculiar process as yet but little investigated, held life as a long possession, and to this faculty he applied the term "storage of life." The conditions

which favoured such storage he held to be (1) hereditary qualification, (2), the virtue of continence, (3) maintenance of balance of bodily functions, (4) perfect temperance, (5) purity from implanted or acquired diseases. Speaking first of the influence of heredity, he remarked that, if the ages at death from natural causes were obtainable of the parents of a man or woman through three generations, the sum total of them divided by six might be accepted as the commercial value of the last life. Bilious and sanguine temperaments were the best for a long life, and the nervous and the lymphatic the worst. Treating on the virtue of continency, he maintained that under a proper *régime* there would be no danger of nor trouble from over-population. In the third division of his discourse he held that a body comparatively weak, but with all the organic structures in good balance, was calculated to live longer than a finer body with one of its organs enfeebled or diseased. Coming next to temperance, he maintained that all luxuries are bad for long life; that stimulants of every kind are detrimental, and alcoholic stimulants the most so. The prevention of disease was the last topic dealt with, and here it was, he said, that the art of sanitation came into most effective play.

HEALTH OF ENGLISH TOWNS.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 5,586 births and 2,835 deaths were registered during the week ending Saturday, July 14th. The annual rate of mortality, which had been 15.9 and 15.0 per 1,000 in the two preceding weeks, rose again during the week under notice to 15.7. The rates in the several towns ranged from 10.6 in Bristol, 11.4 in Blackburn and in Huddersfield, and 11.7 in Brighton to 18.2 in Halifax, 19.0 in Sunderland, 23.7 in Manchester, and 28.5 in Bolton. In the twenty-seven provincial towns the mean death-rate was 15.8 per 1,000, and almost corresponded with the rate recorded in London, which was 15.7 per 1,000. The 2,835 deaths registered during the week under notice in the twenty-eight towns included 130 which were referred to diarrhœa, 68 to whooping-cough, 40 to measles, 36 to diphtheria, 24 to scarlet fever, 30 to "fever" (principally enteric), and 11 to small-pox; in all, 354 deaths resulted from the principal zymotic diseases, against 304 and 276 in the two preceding weeks. These 354 deaths were equal to an annual rate of 2.0 per 1,000; in London the zymotic death-rate was 2.3, while it averaged only 1.7 per 1,000, in the twenty-seven provincial towns, and ranged from 0.0 in Portsmouth and Oldham, and 0.3 in Newcastle-upon-Tyne to 3.0 in Bradford, 3.2 in Leicester, 4.5 in Preston, and 5.5 in Bolton. Measles caused the highest proportional fatality in Bradford; whooping-cough in Derby; and diarrhœa in Bradford, Preston, and Leicester. Of the 36 deaths from diphtheria recorded during the week under notice in the twenty-eight towns, 24 occurred in London and 2 in Manchester. The 11 fatal cases of small-pox included 6 in Preston, 2 in Sheffield, 1 in London, 1 in Leeds, and 1 in Bolton. Only 2 small-pox patients were under treatment in the Metropolitan Asylums Hospitals on Saturday, July 14th, of whom 1 had been admitted during the week. These hospitals also contained 811 scarlet fever patients on the same date, which showed a slight further decline from the numbers in recent weeks; 93 cases were admitted during the week, against 92 and 72 in the two preceding weeks. The death-rate from diseases of the respiratory organs in London was equal to 2.0 per 1,000, and was below the average.

HEALTH OF SCOTCH TOWNS.—During the week ending Saturday, July 14th, 771 births and 406 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had declined from 20.0 to 16.2 per 1,000 in the four preceding weeks, further fell to 16.1 during the week under notice, but exceeded by 0.4 per 1,000 the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Perth and Greenock, and the highest in Leith and Aberdeen. The 406 deaths in these towns during last week included 28 which were referred to the principal zymotic diseases, equal to an annual rate of 1.2 per 1,000, which was 0.8 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic rates were recorded in Paisley and Perth. Of the 165 deaths registered in Glasgow, 6 resulted from whooping-cough, 4 from diarrhœa, 3 from measles, 2 from diphtheria, and 1 from fever. The mortality from diseases of the respiratory organs in these Scotch towns during the week under notice was equal to 2.8 per 1,000, against 2.0 in London.

DUBITANS.—Certainly modified small-pox is likely to produce small-pox in a severe form in unvaccinated individuals.

SMALL-POX AT SHEFFIELD.

J. W.—We have no information as to the truth or otherwise of the improbable rumour as to two nurses, during the recent small-pox epidemic at Sheffield, having died of the disease at the hospital, though they had been vaccinated and revaccinated three or four times. But we would remind our correspondent that the whole subject of the recent epidemic at Sheffield is being exhaustively investigated on behalf of the Local Government Board by Dr. Barry, who for some months past has been inquiring personally into each case of small-pox, whether vaccinated or unvaccinated, and into all the circumstances of the epidemic, including the influence which the small-pox hospital appears to have had in spreading the disease. Mr. Ritchie has promised that the inspector's report shall be published as early as practicable, probably by the end of the present month.

L.M.S. A DOUBLE QUALIFICATION.

A COUNTRY PRACTITIONER asks for advice on the following case. A vacancy occurring in the office of medical officer of a district of a poor-law union, the office is advertised in the local daily papers only in the usual way. Two gentlemen, A. and B., apply and appear before the guardians on the day and hour requested, previously having sent in diploma, certificate of registration, vaccination, etc. A. is an M.R.C.S.Eng. and L.R.C.P.Lond. since 1871, been medical officer of health for some twelve years to a borough town, and in private practice, and perfect stranger to the guardians. B. has only just commenced practice, and has only one diploma, L.M.S.Lond., the meaning of which he had no knowledge of until very recently. The guardians appoint B. the medical officer and reject A. Surely the L.M.S.Lond. cannot be a proper double qualification entitling him to hold such an appointment, and surely the Local Government Board will not approve of the appointment. Therefore, do you not think the appointment unjust, and ought to be invalid in favour of A.?

*** If L.M.S.Lond. means the double qualification of the Apothecaries Company, B. is eligible for the appointment.

MEDICAL NEWS.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.—At the usual monthly examinations of Registered Medical Practitioners, candidates for the Licences of the College, held on Monday, Tuesday, Wednesday, and Thursday, July 9th, 10th, 11th, and 12th, 1888, the following were successful.

For the Licences to Practice Medicine and Midwifery.—W. H. Gimblett, L.S.A., Kensington, London; H. M. Rainsford, L.R.C.S.I., Dundalk.

For the Licence to Practice Medicine Only.—P. Carney, L.R.C.S.I., Drum, Co. Monagan; R. G. Christy, L.R.C.S.I., Limerick; C. Hoey, L.R.C.S.I., Dublin; H. Hutchinson, L.S.A., Liverpool; A. McGauran, L.R.C.S.I., Ballinamore, Co. Antrim; B. P. Young, L.R.C.S.I., Dublin.

For the Licence to Practice Midwifery Only.—D. McKee, M.D.R.U.I., Randalstown, Co. Antrim; J. M. Tidmarsh, L.K.Q.C.P.I., Limerick.

The undermentioned Licentiate in Medicine of the College, having complied with the by-laws relating to membership, pursuant to the provisions of the Supplemental Charter of Victoria, dated December 12th, 1878, has been duly admitted a member of the College.

H. M. O'Hara, Lic. Med. 1877, Melbourne, Australia.

MEDICAL VACANCIES.

The following Vacancies are announced:

BIRMINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Board and residence, etc. Applications by July 28th to the House-Governor.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road.—House-Surgeon. Board and lodging. Applications by July 26th to the Secretary.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park.—Assistant Physician. Second Vacancy. Applications by July 27th to the Secretary, 24, Finsbury Circus, E.C.

CUMBERLAND INFIRMARY, Carlisle.—House-Surgeon. Salary, £70 per annum and pupils' fee, with board, lodging, and washing. Applications by July 24th to the Secretary.

CUMBERLAND INFIRMARY, Carlisle.—Assistant House-Surgeon. Salary, £40 per annum and pupils' fee, with board, lodging, and washing. Applications by July 24th to the Secretary.

HALIFAX INFIRMARY AND DISPENSARY.—Assistant House-Surgeon. Salary, £50 per annum, with board and residence, etc. Applications by July 24th to Dr. West-Symes, Hope Hall, Halifax.

ITALIAN HOSPITAL, Queen Square, Bloomsbury.—Assistant Medical Officer. Applications to the Secretary.

KILKENNY UNION.—Medical Officer, Gowran Dispensary. Salary, £120 per annum and fees. Applications to Mr. Joseph Walsh, Honorary Secretary, Gowran. Election on July 24th.

LONDON TEMPERANCE HOSPITAL, Hampstead Road.—Senior House-Surgeon. Salary, 50 guineas per annum, with board and residence. Applications by July 28th to the Secretary.

MORPETH DISPENSARY.—House-Surgeon. Salary, £120 per annum, with furnished house, coals, and gas. Applications by July 26th to the Honorary Secretary.

NORFOLK AND NORWICH HOSPITAL.—Assistant-Surgeon. Applications by July 28th to the Secretary.

PARISH OF KIRKMICHAEL, Banffshire.—Medical Officer. Salary, £95 per annum, with house. Applications by July 31st, to Convener of Committee of Parochial Board, Tomintoul, Banffshire.

QUEEN'S HOSPITAL, Birmingham.—Resident Physician. Salary, £50 per annum, with board, lodging, etc. Applications by July 26th to the Secretary.

MEDICAL APPOINTMENTS.

ANDERSON, W. A., M.B., C.M.Edin., appointed Assistant Medical Officer to Bucks County Asylum, Aylesbury.

DURRANT, T. A., M.R.C.S.Eng., appointed Assistant House-Surgeon to the General Infirmary, Northampton, *vice* A. J. Weatherly, resigned.

FIELD, O., M.B.Edin., C.M., M.R.C.S., L.R.C.P., appointed Medical Officer for Clapham, Surrey, *vice* A. Newsholme, M.D.Lond., M.R.C.S., L.S.A., resigned.

GREEN, E. Collier, M.R.C.S., L.R.C.P.Lond., appointed Ophthalmic Surgeon to the Derbyshire General Infirmary.

HORN, R. I., L.R.C.P.E., L.F.P.S.G., appointed Medical Officer to the Norwich and St. Faith's Districts of the St. Faith's Union, *vice* J. Fielding, M.D., resigned.

LEWIS, Percy G., M.R.C.S., appointed House-Surgeon to the Royal South Hants Infirmary, Southampton.

MCLINTOCK, J., M.D., B.Sc., appointed Medical Officer of Health to the Borough of Bradford, *vice* T. W. Hime, M.B.Dub., L.R.C.S.Edin.

MINNS, A. G., L.R.C.P., M.R.C.S., appointed Medical Officer to the Thetford District and Workhouse of the Thetford Union, *vice* E. G. Archer, M.R.C.S., L.S.A., resigned.

PRIDEAUX, G. S., M.R.C.S., L.R.C.P., appointed Assistant Medical Superintendent to the Croydon Infirmary.

RAW, N., M.B., B.S.Dur., appointed Assistant Medical Officer to the Kent County Lunatic Asylum, *vice* W. A. Anderson, M.B., C.M.Edin., resigned.

ROBINSON, J. K., appointed House-Surgeon to the Doncaster General Infirmary, *vice* F. Penny, M.R.C.S., L.S.A., resigned.

SMITH, R. Percy, M.D., B.S.Lond., M.R.C.P.Lond., appointed Resident Physician and Medical Superintendent to the Bethlem Royal Hospital, *vice* G. H. Savage, M.D.Lond., F.R.C.P.Lond., resigned.

PRIZE DISTRIBUTION AT ST. THOMAS'S HOSPITAL.—The distribution of prizes and certificates gained during the last two sessions by the students in the Medical School of St. Thomas's Hospital were distributed on Thursday, July 5th, by Professor George Gabriel Stokes, President of the Royal Society. Amongst the prize winners were a son of Professor Stokes and a son of Dr. Ord, the Dean. Dr. Ord, in the course of a statement, said that everyone who had been rewarded had secured at last two-thirds of the highest possible number of marks. He could answer for the very large amount of earnest work which had been carried on. During recent years a great and very beneficial change had been effected in the system of teaching, and whereas formerly all branches of science were taught by surgeons and physicians, many of these—the purely scientific as distinguished from medical and surgical—were taught by professors. The students could show a very good record in athletics, as they had suceeeded in carrying off four out of the seven challenge cups in the inter-hospital contests, namely, for shooting, cross-country running, rowing, and football. Professor Stokes then addressed the meeting, and the proceedings closed.

THE NIGHTINGALE FUND.—The report of the Nightingale Fund for the year 1887 which has been recently issued states that twenty-nine probationer-nurses were entered on the register of certified nurses during the year, and that, in addition, two nurses from the staff of the City Hospital of Berlin passed out of the school after six months' training, and returned to their own hospital. The chief event of the year has been the regretted retirement of Mrs. Wardroper and the appointment of Miss A. L. Pringle, Superintendent of Nurses of the Royal Infirmary, Edinburgh, and an old probationer of the school and Sister at St. Thomas's Hospital, to the combined post of Superintendent of the School and Matron of the Hospital.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The President, Sir James Paget, took the chair at the Quarterly Court of Directors of the above Society held on July 11th. Three new members were elected, and the deaths of four reported. Two members had resigned. A sum of £1,364 was voted for distribution among sixty-two widows and fifteen orphans. The death of one widow in receipt of £50 per annum was announced, and a first application for a grant was accepted from a widow. The expenses of the quarter amounted to £55 1s. A *conversazione* to celebrate the centenary of the Society will be held during the last week in October.

HOSPITAL SATURDAY FUND.—The fifteenth annual outdoor collection on behalf of the Metropolitan Saturday Fund took place on Saturday last, when over 2,000 collecting-stations were occupied. At an early hour ladies were at their posts at the various markets. The cabmen had no fewer than 500 special boxes, and displayed pennants upon the whips, and announced the collection on the windows of their cabs. The returns from the local committees, so far as they have been ascertained, show satisfactory results.

NEW CREMATION SOCIETY.—The formation of a Cremation Society for Manchester was determined upon at a largely attended meeting, held at 100, King Street, Manchester, last week. A provisional committee was appointed. A list of about sixty persons favourable to the movement was submitted, including several clergymen, medical men, and others. A large number of ladies have joined the society.

A SCHOOL for training men as nurses on the same plan as has worked so well for women was, says the *New York Medical Journal*, formally delivered over to the Board of Public Charities of that city by Mr. D. O. Mills, who has defrayed the cost. The building, which also contains the pathological museum of Bellevue Hospital, provides accommodation for fifty pupils.

UNIVERSITY COLLEGE.—Sir U. Kay Shuttleworth, M.P., distributed the prizes in the faculties of arts and laws and of science at University College on Thursday, July 5th. The Dean of the Faculty, in a brief report, referred to the appointment of the Royal Commission to deal with the question of a teaching university for London and to the Quain bequest. Numerous successes were achieved by lady students.

PRESENTATIONS.—Mr. John Bromfield, of Whitchurch, Salop, M.R.C.S.Eng. and L.S.A.Lond., who is retiring from practice, has been presented with a silver bowl and ladle and a combined thermometer and barometer. The pedestal of the bowl bears the following incription:—"Presented to John Bromfield, Esq., M.R.C.S., L.S.A., by a few friends, on his leaving Whitchurch and retiring from practice, July, 1888.—As an expression of gratitude from a number of friends at his recovery from a dangerous illness, Dr. Duncan, of Cleland, has been presented with an illuminated address and a purse containing a cheque for a handsome sum.—Robert Prosser White, M.B. and C.M.Ed., M.R.C.S.Eng., was presented by the members of the Wigan Medical Society, at their ordinary meeting on June 21st, with a handsome illuminated address, for his valuable services as Secretary to the Society for a period of five years.—Dr. James Pietersen was on June 27th presented by the patients and staff of Camberwell House Asylum with a handsome walnut-wood writing-case on the occasion of his resigning the post of senior assistant medical officer.

MIDLETON UNION.—The Local Government Board have sanctioned the appointment of Dr. James O'Connell as dispensary medical officer to Castlemartyr Dispensary district, in the vacancy caused by the resignation of Dr. Thomas Sandford, who retires on pension after a service of thirty years.

CORNEAL VESSELS.—It is commonly argued that the cornea has no vessels. Goldzieher brought a patient on June 9th before the Medical Society of Buda-Pesth, in whom vessels were plainly visible in the anterior layers of the cornea, branching dichotomously, and forming extremely fine anastomoses. (*Deutsch. Med. Woch.*)

HIS Imperial Majesty the Shah of Persia has presented Dr. J. H. Casson, Physician to Her Majesty's Legation, with a very massive diamond ring in recognition of professional services rendered to His Majesty during the past winter.

THE University of Montpelier, so famous for its Medical Faculty, from which Rabelais obtained his degree, and in which he lectured on medicine with much applause, will celebrate the six hundredth anniversary of its foundation next winter.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 8s. 6d., which should be forwarded in stamps with the announcement.

MARRIAGE.

RUSSELL—CARLINE.—On July 13th, at St. Martin's Church, Lincoln, by the Rev. J. H. Mallinder, Arthur P. Russell, M.D., The Lawn, Lincoln, to Agnes, youngest daughter of the late Richard Carline, Esq., Lincoln.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's: St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).;

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's—1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, dai ly, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

PHALLUS IMPUDICUS.

MR. T. WHEELER asks for experience with regard to the effect of the offensive odour of the fungus called Phallus impudicus in producing sore throats similar to those caused by bad drainage.

DIAGNOSIS WANTED.

ANXIOUS PRACTITIONER writes: I shall be glad of hints as to management for the future and suggestions as to cause in the past in the following case of repeated fœtal mortality.

Mrs. P., aged 26, of apparently robust constitution, has been attended by me under the following conditions. August 5th, 1886, she was delivered of an apparently healthy female child, which developed icterus neonatorum and died within forty-eight hours. June 28th, 1887, she was again delivered of a female child, which survived its birth only a few moments. July 9th, 1888, a male child was born, and lived under two hours. Before this last pregnancy of my patient her husband was put under the influence of mercury, whilst during the pregnancy she, too, was kept on mercury almost continuously. Her only living child, a son, is about 5½ years old, and after his birth and before the first of the pregnancies mentioned above, she had a miscarriage at four months. The placenta and umbilical cord were, what I am accustomed to believe as typically, syphilitic in the last two cases certainly, and the husband had originally syphilitic sore throat, which yielded easily to treatment. Is it reasonable, therefore, to conclude that even though the husband had for two months prior to the last conception, and the patient during the entire pregnancy, been dosed continuously with mercury, the misfortunes are of syphilitic origin?

ANSWERS.

MR. J. BYRNE, F.R.C.S.—*Cottage Hospitals*, by H. C. Burdett, published by J. and A. Churchill, New Burlington Street, W.

R.—Mr. Ernest Hart's letters "A Winter Trip to the Fortunate Islands," have been republished in pamphlet form, and can be obtained of Messrs. Smith, Elder and Co., 15, Waterloo Place, London, S.W.; price, 1s.

HEAD SWEATING.

A MEMBER.—Sweating, especially of the head, so copious as to saturate the bedclothes at night, is a symptom very frequently observed in rickets. Treatment should be directed to the general state. To prevent catching cold the child should sleep in a light flannel night-gown.

MICROSCOPES.

J. H. WILSON, M.B., B.S. (Royton, near Oldham) recommends a microscope manufactured by E. Leitz, of Wetzlar, which can be procured from S. P. Aylward, optical instrument maker, Oxford Road, near Owens College, Manchester; price, 3 guineas.

DR. JAS. T. NEECH (Oswestry) recommends the "Star" microscope, with 1½ in. object glasses. It is made by Beck, of London, and the price is £3 3s.

ABSCESS OF ANTRUM OF HIGHMORE.

MR. WM. GABRIEL (Gloucester Gardens, W.) writes: The method usually adopted to prevent the closing of the artificial opening is as follows. A model of the mouth having been made, a gold plate is fitted to the space occupied by the extracted tooth, and secured to the adjoining teeth by means of bands. This carries a small tube, which projects slightly into the cavity, and the external opening of which is kept closed by means of a plug of wood or cork. To syringe out the cavity it is only necessary to remove the plug and fit the nozzle of the syringe in the hole. When it is desired that the opening should close up the plate is removed, the tube cut off, the hole soldered up, and the plate replaced.

HENRY SEWILL, M.R.C.S. and L.D.S. (Wimpole Street, W.) writes: The disease of which "M.B., M.A." mentions an instance is one of the most troublesome and tedious in minor surgery. Many of these cases go on for long periods before their real nature is recognised, the symptoms consisting of headache and neuralgic pain, discharge from the nose, or effects due to pressure upon the orbit. The only effectual way of dealing with this malady is to open the antrum, and keep it open until its lining has been brought into a thoroughly healthy condition. To do this by ordinary means is not easy.

The plan which I have adopted in cases in which I have assisted Dr. Felix Semon and Mr. Christopher Heath has been as follows. An opening in the floor of the antrum, through the alveolus of the first molar, has been made by a trocar about a sixth of an inch in diameter. A cast of the part has next been made, and to this a gold plate has been fitted, such as is used to support an artificial tooth. A hole, corresponding to the opening into the antrum, has been made in the plate, and in this hole has been soldered a gold tube, extending upwards so as to pass well within the cavity. The tube has been closed below by a gold screw or a plug of hickory. With this apparatus the antral wound is kept open without undue irritation; foreign particles are prevented from passing in, and the tube acts as a guide for the passage of the nozzle of a syringe, with which the patient is able to wash out the cavity with antiseptic lotions as often as desirable. Once chronic, muco-purulent discharge is established in the antrum, many months of treatment will often be necessary to effect a cure. When this is achieved the tube is cut down level with the plate, and the hole soldered up with gold. The patient continues to wear the plate during the healing of the wound to prevent entry of foreign bodies.

NOTES, LETTERS, ETC.

A LOST MEDICAL WORK.

MR. JAS. B. BAILEY, Librarian of the Royal College of Surgeons, writes: In the BRITISH MEDICAL JOURNAL for February 23rd, 1884, is a note under the above heading drawing attention to the loss of Dr. Fordyce Barker's copy of Wolveridge's *Speculum Matricis*, at that time believed to be unique. Dr. Aveling, however, in the JOURNAL for March 1st, 1884, mentioned the existence of a copy in the Radford Library of St. Mary's Hospital, Manchester; and Mr. J. L. Jardine, in the number for April 19th, 1884, stated that he had a copy in

his possession. It may interest some of your readers to know that through the generosity of Mr. Jardine the last-named copy is now in the library of the Royal College of Surgeons.

Self-help for Hospitals.

DISGUSTED writes: I think with "Miserabile Dictu" that private dispensaries should be suppressed, because the persons left in charge are not trustworthy, pretending before the public to be what they are not. I know a case where a simple L.S.A. palms himself off to his patients as Dr. ——, physician, that being the style and title on the dispensary door, and drives about in a carriage and pair; the real "Dr.," if there be such a party, is never seen. If such men are to be allowed to parade themselves before the public as Doctors of Medicine and physicians because no one will come forward and expose their effrontery, the sooner these titles, which have been, up to the present time, used by those members of the professior who have enjoyed superior educational advantages, and have been supposed to be gifted with higher intelligence and superior medical acumen, are iropped, the better; they are beginning to stink in the nostrils of the professbn.

The Epidemic of Pneumonia at Middlesbrough.

DR. C. LOVEGROVE (Flixton) writes: In the JOURNAL of July 7th there is a notice of Dr. Ballard's visits to the above town to investigate an outbreak of pneumonia there which has persisted for some months pas.. It may not be uninteresting to state that during the latter part of the winter and early spring I had in my practice, among the hills of Wales, at an altitude of about 600 or 700 feet above sea-level, what might also be called an epidemic of the same disease; nearly every other case was of this conplaint of a severe type, and mostly in adults. Doubtless the sparseness of the population, combined with the respiration of pure air in thorough vertilation, contributed much to the male mortality that prevailed; this epidemic of disease of the respiratory organs seemed eventually to merge itself into one of diphtheria, and then finally die out. I heard, too, that in neighbouring districts pneumonia prevailed largely, causing a good many deaths. From this I am inclined to think that the epidemic has not fixed on Middesbrough only, but that the population there being crowded, and the town tself not in the happiest state of sanitary condition, together with the habits of the people, has caused the disease to find a suitable soil in which to grow, thus causing a much greater mortality. Upon inquiry, I suspect the disease will be found much more prevalent this year over the northern part of the country, due, doubtless, to the extraordinary constant and extreme variations of temperature prevailing, the wind ranging from east to west through the northern hemisphere continually. If these short remarks should in any way help to solve the present outbreak I shall be glad.

Diphtheria from a Fowl.

DR. C. R. ILLINGWORTH (Accrington) writes: Dr. Hoadley Gabb, of Hastings, has sent me the following notes, and given his permission to publish them if you think them of sufficient interest.

"A fowl with diphtheria was brought to the house of a veterinary surgeon on April 24th, and died on the 29th. The feeding and nursing of the bird devolved on a lad, aged 14, who was assisted by his brother, aged 5. On the evening of May 11th I was called to see the little boy of 5, who had been poorly for a day or two. He had enlarged cervical glands on the left side, which had come on rapidly. He was a delicate little fellow, with fair hair, and anæmic aspect. The temperature was 103° F., pulse between 120 and 130. The fauces were more or less covered with diphtheritic membrane, the left tonsil more especially. I gave bark and acid, and ordered the parts to be frequently painted with Barff's boroglyceride, which the father of the child undertook effectually to do. On the 13th there was no improvement, but a more thorough extension to the right side. Temperature 104°, and pulse still very rapid. Ordered to continue the painting, and to take the following mixture: ℞ Sol. hydrarg. bichlor. 5iii; sodii iodidi, gr. x; ferri am. cit., gr. xx; syr. aurant. 3ss; aq. ad., 3ij; m. ft. mist.; 5j secundis horis. 15th. Temperature 100°, pulse 90; throat clearing, and tumefaction of the glands subsiding. The father (a Fellow of the Royal Veterinary College) was much struck with the improvement. 17th. Temperature subnormal, diphtheritic exudation gone. Mercurial mixture left off, and iron and chlorate of potash given. With the exception of a sharp attack of urticaria the boy was convalescent.

"The day after this case came under my care, the boy who fed the fowl was very feverish, and had similar patches over his fauces, but not to the same extent as his brother. I had his throat painted with the boroglyceride. A sister, aged 9, had also a similar explosion on the fauces. Bark and acid and boroglyceride was the treatment. On the 18th the mother, who had nursed them, was attacked, and was similarly treated. They were all kept well up with beef-tea and stimulants. I ceased my attendance on the family on May 24th."

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BOOKS, ETC., RECEIVED.

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AN ADDRESS
ON
THE ETIOLOGY OF DIPHTHERIA.

Delivered before the East Anglian Branch of the British Medical Association.

By EDGAR G. BARNES, M.D.Lond.,
Eye, Suffolk.

Gentlemen,—The subject on which I propose to address you to-day has been chosen because it is one of those subjects which are more easily studied under the simpler conditions of country life, where population is scanty, and the circumstances which govern outbreaks of disease are more readily ascertained than in more populous districts, and this has led me to place before you the results of my investigations (made in discharge of my duty as a Medical Officer of Health) into fifty separate outbreaks of diphtheria extending over a period of thirteen years, and embracing 223 cases, of which 40 were fatal—hoping that by comparing one with another, and these again with the wider facts and larger experiences of recognised authorities, if I might not arrive at an accurate knowledge of the origin of the disease, yet I might learn something of the conditions with which it is usually associated, something, so to speak, of the soil in which diphtheria flourishes; that I might, to use a word much in vogue in philosophical writings, learn somewhat of the "environment" of the disease, and so clear our minds for the consideration of the means best adapted for preventing its occurrence.

About the origin of diphtheria much disputation has arisen, its infective character having been doubted by some: but of this such overwhelming proof has been adduced on all hands, by examples such as one of the outbreaks which I shall relate to you in this paper, that I shall assume that point to be admitted by us all.

In some diseases, for example small-pox, we think of a previous case of small-pox from which it has been derived with as much certainty as we feel in pronouncing, when we see a horse, a bird, or a flower, that that organism has arisen from parents similar to itself, and we no more think of ascribing a case of small-pox to any combination of bad drainage or impure water, than we think of the development of a dog, or cat from similar conditions—we recognise that insanitary conditions favour the spread and increase the malignancy of small-pox, but we know that the germ of the disease, be it a bacillus or not, must be introduced from a previous case. With regard to diphtheria we do not feel this certainty; analogy inclines us to that belief, and the researches of bacteriologists also tend somewhat in the same direction, but we must remember it is one thing to prove the existence of bacilli in a diphtheritic false membrane, and another thing to prove that these bacilli are the cause, not the consequence, of the disease; and there are facts in diphtheria outbreaks, such as I shall place before you, which tend to dissociate diphtheria from other infective diseases like small-pox and scarlet fever, and to show that it may arise from certain combinations of filth and insanitary conditions, independently of a pre-existing case of diphtheria.

The first point, then, to which I wish to draw your attention is to the geographical distribution of diphtheria—whilst it is prevalent to some extent all over England, there are yet districts in which it especially prevails. The means of estimating this during the six years, 1880-86 are found in the last published Annual Reports of the Registrar-General; and it will be found that there are certain counties in England in which the death-rate from diphtheria is invariably high and certain others in which it is invariably below the average; that there are some counties in which it is usually though not invariably high, and others in which it is usually though not invariably low. These differences I have endeavoured to represent graphically on an outline map, in which these districts in which the death-rate from diphtheria is above the average are outlined in red; those in which it is invariably above the average being distinguished by red horizontal lines; the black outlining and lines indicating those counties in which the diphtheria death-rate is below the average. For a comparison I have prepared a similar map, showing the prevalence of scarlet fever, which I have chosen as a typical infectious disease; and also as being a disease supposed to be specially associated in some way with diphtheria. A marked contrast is observable; not only are the favourite habitats of diphtheria different from those of scarlet fever, but it will be observed that scarlet fever, like other infectious diseases, is most prevalent and most fatal in the districts containing the most dense population, the only noteworthy exception being London, where, probably owing to the facilities for isolating early cases in the hospitals of the Metropolitan Asylums Board, the spread of the disease is to some extent held in check. Diphtheria, on the contrary, is most prevalent in the comparatively thinly populated districts of the south-eastern and eastern counties of England, in Cornwall, Somerset, and North Wales, avoiding the populous manufacturing and mining centres, and the northern counties of England. It seems, therefore, in this important respect, diphtheria, though undoubtedly infectious, does not follow the usual law of infectious diseases, of being most prevalent in the most populous districts. Table V. shows clearly the same fact from a somewhat different point of view, the anomalous low death-rate in the case of the 50 town districts being explainable by the fact that four-fifths of these towns (measured by population) are situated in the black area of the map, that is, in the district in which diphtheria is least prevalent. The fact therefore is shown that though, like other infectious diseases, diphtheria is more easily spread from one to another in populous districts, yet this is counteracted by some agency which favours its development in rural districts, so that the smaller prevalence which, theoretically speaking, should be found is not found as a matter of experience. The opinion I venture to express is that this disturbing factor is dampness of soil, caused by want of suitable systems of drainage, combined with filth in the form of decomposing animal matter.

The especial prevalence of diphtheria in isolated communities rather than in towns is also shown in a striking manner by considering the records of 49 of the outbreaks (outbreak No. 1 having occurred outside my sanitary district). Of the 32 parishes of which my sanitary district consists, 3 have a population of over 1,000, and in these three the proportion of cases to population during 11 years was 1 in 445; in 11 parishes in which the population was from 500 to 1,000, the proportion was 1 in 81; whilst in 18 parishes with a population less than 500 the proportion was 1 in 40, or, looking at the matter in another light, there are 4 parishes which, to some degree, assimilate to town conditions, inasmuch as some system of drainage exists, which conveys filth from the immediate proximity of houses, and renders the soil less damp; and in these 4 parishes there occurred during 11 years 1 case to every 231 inhabitants, whilst in the remaining 28 parishes the proportion was 1 in 55.

The tendency of diphtheria to recur in the same district year after year is also shown on a small scale in this district, for a glance at the accompanying map shows that whilst some parts of the district have been wholly free, yet others have been repeatedly affected. Thus, in 8 parishes comprising about 2,800 inhabitants not a single case occurred in 14 successive years; whilst, at the other extreme, in the parish of Mellis, with only 471 inhabitants, 7 distinct outbreaks originated, during which 51 cases and 5 deaths occurred; and in the parish of Wortham, with 948 inhabitants, 5 outbreaks originated and 62 cases and 12 deaths were recorded. And to carry it one step further, diphtheria not only affects certain parishes in this way but certain houses are liable to be repeatedly the origin of outbreaks, for example, o n reference to the tables it will be found that outbreak No. 36, innMay, 1884, originated in the same house as outbreak No. 27, in Jui e, 1883, 11 months previously; No. 44, in April, 1886, originated n the same house as No. 13, in January, 1882, 4 years and 4 months previously; No. 43, in January, 1886, originated in the same house as No. 8, in March, 1881, 4 years and 10 months previously, and No. 49, in March, 1888, originated in the same house as No. 5, in August, 1878, 9 years and 7 months previously. Are these re-appearances due to a revival of contagium derived from previous outbreaks in the same place or to some favouring conditions which these places offer for the development of infection derived from some other quarter, or may they not rather be due to a recurrence of the conditions under which the disease is generated?

What effect has the character of the soil on the prevalence of diphtheria? Dr. Airy, in a paper read in 1881 before the International Medical Congress in London, describes the localities affected as, "for the most part, cold, wet clay lands," but he adds, "there is evidently great variety in the soils on which diphtheria

REPORTS ON OUTBREAKS OF DIPHTHERIA.

TABLE I.—*Outbreaks in which the Origin of the Earliest Case was traced to Infection.*

No.	Date at which Outbreak Commenced.	Extent of Outbreak.				Sanitary Condition of the House in which the First Case occurred.			Origin of Infection.
		Parishes.	No. of Houses.	No. of Cases.	No. of Deaths.	Site.	Water Supply.	Other Obvious Sanitary Defects.	
4	May, 1877	Thorndon	1	1	1	Dry	Pure	None	Adjoining District
9	June, 1881	Burgate	2	4	2	Damp	Impure	None	Adjoining District
31	January, 1884	Yaxley	1	[illegible]	—	Dry	Pure	None	Bury St. Edmunds
42	September, 1885	Stuston	1	1	1	Dry	Pure	None	Carlisle

TABLE II.—*Outbreaks in which no Sanitary Defects nor Previous Outbreaks from which Infection might have been derived were observed.*

No.	Date at which Outbreak Commenced.	Extent of Outbreak.				Remarks.
		Parishes.	No. of Houses.	No. of Cases.	No. of Deaths.	
11	October, 1881	Burgate	1	4	1	Damp site.
20	September, 1882	Eye	1	1	—	House situate on hill-top, 3¼ miles due east from No. 17. Prevailing winds westerly. No intervening high ground.
21	December, 1882	Cotton	1	1	1	No connection to be traced with Nos. 18 and 19.
22	December, 1882	Mendlesham	1	1	1	Very damp site, and surface of ground higher than the floor of the house.
28	June, 1883	Wortham	1	1	—	Damp site.
29	November, 1883	Mellis	1	2	—	,, ,,
35	April, 1884	Rickinghall	1	1	—	Man a carrier, possibly exposed to infection away from home
40	November, 1884	Thornham Magna	1	1	—	

can prevail, for it is found in full force on the chalk downs of Kent, on the loamy sands and clays of the Sussex Weald, on the alluvium and boulder clay of Essex, on the marls of the new red sandstone, and on the slopes of the slate rocks of Wales." In my district there is no sufficient variety of geological formation to build any data concerning the influence of soil, the geological features of the district being beds of boulder clay and gravel, recent formations overlaying the chalk below. It is worthy of note, however, that in 5 parishes, comprising 1,813 inhabitants, living on a gravelly soil, only one outbreak of diphtheria occurred in 11 years; whilst, in 27 parishes with 13,985 inhabitants, living on a subsoil of which clay formed the principal constituent, with gravel here and there, 48 outbreaks occurred, the relative proportion of outbreaks to inhabitants being 1 in 1,800 on gravel and 1 in 300 on clay. I am aware these numbers are too small to be of much value, but a further mode of checking these results and of arriving at a similar conclusion is seen in Table IV., where you will find that of 50 outbreaks, the site of the house in which the first case occurred is noted as damp in 28 and dry in 22 instances, and in addition we note that 19 outbreaks were associated with impurity of the drinking water, 4 separate outbreaks, Nos. 5, 23, 37, and 49 being traced practically to the same supply of sewage-contaminated water. Of other sanitary defects we note, in 15 instances nuisances connected with cesspools; in 10 instances defects of household drainage; in 11 instances animals were kept in an uncleanly state in close proximity to houses; and in 10 instances offensive manure accumulations existed. In 4 instances only was the first case of an outbreak traced to infection from without, though careful inquiry was in each case made. When once a case had occurred the infectious character was well-marked and needs no comment, except to point out the fact that attendance at National, Board, and Sunday schools was a great element in the propagation of the disease. Of the remaining 46 outbreaks, in 38 obvious sanitary defects were detected in the houses first affected. Surely this is too large a proportion for mere coincidence, and it will hardly be assumed, in a district which has been tolerably looked after from a sanitary point of view, that this is anything like a fair proportion of houses in which obvious sanitary defects occur.

The influence of season on the development of diphtheria deserves a passing notice. Dr. Airy found that a far larger proportion of outbreaks commenced in October than in any other month, and that a very large proportion (72 per cent.) occurred in the last six months of the year. My observations, made on a smaller number of outbreaks than Dr. Airy's, do not confirm either of these conclusions, nor can I trace any connection between the prevalence of diphtheria and the yearly rainfall. It is very evident, however, from the chart I show you, compiled from statistics furnished by the Registrar-General's Reports, that fatal diphtheria at all events is much more prevalent during the winter months. In none of my outbreaks was there any evidence to associate diphtheria with disease in domestic animals, or with milk-infection, though undoubted cases of the latter have been recorded by competent observers.

Now let me draw your attention to a few of the salient points connected with individual outbreaks, with a view of showing (as some striking cases do) the dependence of diphtheria on filth.

Look, first, to outbreak No. 1 (on Table III.) which was a somewhat extensive outbreak, occurring in the parish of Hoxne, and confined almost entirely to one street: in this street a new drain had shortly before been constructed, but no attention had been given to the proper disconnection of the house drains, which were not even protected by so crude a device as the ordinary bell-trap, the death-bell trap as it has been called. As a consequence of this sewer-gas was laid on to the back kitchens and sculleries of the houses. The trapping of the house-drains, albeit usually done simply by bell-traps, was immediately followed by the cessation of the outbreak. This looks much like cause and effect, and so far as one could ascertain by inquiries made at the time and on the spot, no case of diphtheria was first introduced from which bacteria or germs could be set free into the sewer.

An equally instructive outbreak was No. 3 (Table III.). During the years 1877-78 isolated and apparently unconnected cases of diphtheria occurred in the parishes of Brome and Oakley. These outbreaks puzzled me for some time, but at last I was struck by the fact that the first case in each house was a child, and I thought of the National school which is common to the two parishes. Inquiry next showed that each first case was not only a child, but a child attending the school; and visiting the school premises, I found in an adjoining yard, and close under one of the windows, a very offensive piggery, where many pigs were kept in a filthy state, the smell from which was frequently evident in the school. This nuisance was removed and the outbreak ceased, and since then until the present time, a period of 10 years, not a single case of diphtheria has occurred in either of these parishes.

Outbreak No. 6 (Table III.) next deserves attention, and was reported on at the time of its occurrence in these words, "The origin of the outbreak is somewhat difficult to trace, owing to the fact that scarlet fever and some throat affection had previously existed in the parish, and it is impossible to say whether any of these were diphtheric or not. The first case I can trace with anything like certainty is that of S. P., from whom the greater part of the subsequent cases may be traced with tolerable precision. In this instance a filth origin is not improbable, a horribly offensive latrine existed, and the refuse from the house was thrown into an open ditch, where, in moderately dry weather it decom-

TABLE III.—*Outbreaks associated with Obvious Sanitary Defects.*

No.	Date at which Outbreak Commenced.	Extent of Outbreak.				Sanitary Condition of the House in which the first Case occurred.		
		Parishes.	No. of Houses.	No. of Cases.	No. of Deaths.	Site.	Water Supply.	Other Obvious Sanitary Defects.
1	May, 1875	Hoxne	5	12	3	Damp	Pure	Untrapped and improperly constructed drainage.
2	April, 1877	Eye	1	2	—	Damp	Pure	Cesspool close to house.
3	1877-78	Brome and Oakley	9	12	1	Dry	Pure	Pigs kept in a filthy state. Sore throats prevalent before outbreak of diphtheria.
5	Aug., 1878	Brayesworth	1	1	—	Damp	From river contaminated with sewage	None.
6	Aug., 1879	Finningham, Westhorpe, and Gislingham	16	29	5	Very damp	Impure from household refuse	Foul ditch and cesspool. Scarlet fever and sore throats previously existed in the village.
7	Jan., 1881	Thornham P.	1	1	—	Damp	Pure	Foul ditch, and swine improperly kept.
8	March, 1881	Wortham and Botesdale	6	16	5	Damp	Impure from vegetable matter	Offensive manure accumulations near house.
10	Aug., 1881	Gislingham	1	2	2	Dry	Impure from sewage	None.
12	Oct., 1881	Occold	1	1	—	Dry	Pure	Foul, offensive ditch receiving sewage near house. A case of erysipelas under the same roof at the same time.
13	Jan., 1882	Mellis	1	1	—	Damp	Pure	Foul ditch 6 yards from house receives drainage from three houses, cesspool, and piggery. Sore throats occurred previously.
14	Jan., 1882	Wortham	1	1	—	Damp	Impure	Leakage of sink-drain into well.
15	Feb., 1882	Mellis, not connetted with No. 13.	1	1	—	Damp	Impure from leakage of sink drain into well.	Six yards distant is a large and very offensive ditch which receives drainage from house, fowl house, piggery, and cesspools.
16	June, 1882	Bacton	2	5	1	Dry	?	Well 10 yards from cesspool.
17	Aug., 1882	Mellis	20	43	5	Damp	Impure from pond.	Piggery 3 yards from pond—drains into it.
18	Aug., 1882	Cotton	2	2	1	Dry	Impure	Very offensive cesspool.
19	,,	,,	1	1	1	Dry	Pure	Ditch behind house very offensive from household refuse thrown into it.
23	Feb., 1883	,, not connected with Nos. 18, 19, or 21.	1	1	1	Damp	Impure from river.	River contaminated by sewage and fowls kept in large numbers on premises higher up the stream.
24	April, 1883	Mellis	1	1	—	Damp	Pure	House built merely of lath and plaster, and farm buildings and piggeries joined to back of house.
25	April, 1883	Mendlesham	2	2	—	Dry	Pure	Manure accumulations and very foul ditch, and many animals kept near houses.
26	May, 1883	Yaxley	1	1	—	Very damp	Impure from pond.	Manure heap near pond, and washing into it.
27	June, 1883	,, no connection with No. 26.	1	2	—	Dry	Pure	Manure accumulation, pigs, and cesspool within a few yards of house.
30	Dec., 1883	Mellis, no connection with No. 29.	1	2	—	Damp	Impure from pond.	Pond contaminated with decomposing straw.
32	Feb., 1884	Eye	1	1	1	Dry	Pure	The yard (which was very confined) where the house was situated, contained close to the house door an offensive cesspool, a blocked drain, and a large accumulation of manure.
33	Feb., 1884	Mendlesham	1	1	—	Damp	Pure	Adjoining premises foul.
34	March, 1884	Rickinghall	1	1	—	Dry	Pure	Water-closet badly constructed so as to supply sewer gas to the kitchen and bedrooms
36	May, 1884	Yaxley	1	1	—	Dry	Pure	Manure accumulation within a few yards of house. Same house as No. 27.
37	July, 1884	Wickham Skeith	1	1	—	Damp	Impure from sewage	Water supply is from same ultimate source as Nos. 5, 23, and 49.
38	July, 1884	Gislingham	1	1	—	Dry	Pure	Came on immediately after a fall into a foul, stagnant pool.
39	Oct., 1884	,, not connected with No. 38	2	3	—	Damp	Pure	Drainage defective and premises foul.
41	June, 1885	Mendlesham	1	1	—	Dry	Pure	Drain temporarily stopped.
43	Jan., 1886	Wortham	1	1	—	Very damp	Impure	Offensive cesspool and fowls badly kept. Same house as No. 8.
44	April, 1886	Mellis	1	1	—	Damp	Impure	Suffered from scarlet fever, immediately before diphtheria. Same house as No. 13.
45	Oct., 1886	Mendlesham	1	1	—	Dry	Pure	Foul manure, and swine improperly kept.
46	April, 1887	Palgrave	1	1	—	Dry	Pure	No nuisance on premises affected, but a very offensive nuisance on premises opposite (a few yards distant) from pigs improperly kept, and soapsuds from washing linen.
47	Aug., 1887	Wortham, Burgate, and Botesdale	23	43	7	Damp	Impure	Offensive latrines, ventilation of schoolroom defective.
48	Sept., 1887	Stoke Ash	1	2	—	Damp	Pure	Premises foul.
49	March, 1888	Brayesworth	1	1	—	Damp	From river containing sewage	Same house as No. 5.
50	May, 1888	Eye	1	1	—	Damp	Impure	Near house is a very foul open pit into which household refuse is thrown, and by which the child often played.

posed, and in heavy rains was washed into the pond from which a portion of the drinking water was obtained. A child in this house fell ill with sore throat on August 15th; no medical advice was sought, but from the sequel I cannot doubt it was diphtheritic. On August 22nd two more children were also taken with sore throats but were so slightly affected that they continued to attend school throughout their illness. On September 26th a medical man was first called to find another child dying of diphtheria. On the following day two other children in the same house were attacked. This renders it probable in the highest degree, that the sore throats with which the two children attended school on August 22nd and subsequent days, were really diphtheritic, and that the school was exposed to infection from August 22nd to September 5th, the day on which it was closed for the harvest holidays. Amongst the children attending school, and thus exposed to infection—

1 was attacked on August 28th.
1 ,, ,, September 1st.
3 ,, ,, 5th.
2 ,, ,, 6th.
1 ,, ,, 10th.
2 ,, ,, 13th.
and 1 ,, ,, 16th.

whilst the child attacked on September 1st subsequently communicated the disease to her sister. This disposes of 18 cases, six of the remainder occurred in one family, the first case com-

TABLE IV.—*Summary of Outbreaks in Tables I, II, and III.*

	Outbreaks.	Houses.	Cases.	Deaths.	Site Damp.	Water-supply Impure.	Offensive Cesspools.	Defective Drainage.	Animals Improperly kept.	Manure Accumulations in Improper Situations.
Outbreaks due to infection ...	4	5	11	4	1	1	—	—	—	—
Outbreaks not traced to infection, and no sanitary defects discovered	8	8	12	3	4	—	—	—	—	—
Outbreaks associated with obvious sanitary defects ...	38	115	200	33	23	18	15	10	11	10
Total	50	128	223	40	28	19	15	10	11	10

TABLE V.—*Total showing the Average Annual Death-rate per 100,000 from the Seven Principal Zymotic Diseases during Six Years, 1882—87.*

	Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Whooping-cough.	Fever.	Diarrhœa.	Diphtheria.	Proportion of Population living in Diphtheria District to entire Population.
England and Wales	235	5	45	34	42	25	68	15	1 in 2½
Twenty-eight Great Towns...	312	7	63	41	62	27	95	16	1 in 2
Fifty other Town Districts...	256	3	54	41	41	29	78	9	1 in 5
England and Wales—less the 78 Towns	188	4	33	30	32	22	51	15	1 in 2½

mencing on September 2nd. These did not attend the Finningham school: but as their residence is near that of the first family attacked, and as the outbreak of the disease was at the same time as those cases in which I was able to trace direct communication, it is difficult to avoid the conclusion that they were infected from the same source; and with this family an adult, who was taken with diphtheria on September 20th, is known to have had communication. Of the remaining four cases, two occurred later, after the reopening of the school; one, an adult, was at work at one of the infected houses during the convalescence of the children, and in the other case, that of the lad 16 years of age, I was not able to trace any communication with an infected house, but at my visit he was too ill to be personally examined, and has since died. Whilst thus I have demonstrated that one great agent in the diffusion of the disease has been school attendance, how is it, whilst nearly all the children in Finningham have attended school and been exposed to infection, that the outbreak has been confined to two or three well-defined lines or groups of houses, with neither drainage, water supply, nor, as far as I can ascertain, any other condition in common; but of fourteen houses affected, three were situated in, and one near, a group of houses I had three months previous to the outbreak reported as having defective drainage, an impure water supply, and palpable nuisances in the form of manure accumulations and open cesspools; two were in another group reported one month previously for defective water supply; in another house the drainage was defective, and the water from the horse-yard found its way into the well; in another, an untrapped drain communicating with an offensive cesspool led directly into the house; in another the water supply was derived from a large pond, over 200 yards distant, the water being filtered through a stone drain into a shallow well—the water in the pond was decidedly more pure than that in the well, the cause of contamination being obviously a cesspool receiving the sink washings, less than four feet from it. In this outbreak two cases yet remain to be explained. The Finningham school, having been closed for six weeks, was reopened on October 13th, and two children who had suffered from diphtheria at the beginning of September, were readmitted. On October 24th, and again on October 27th, a child fell ill with the disease. Inquiry showed that these two children, belonging to different classes in the school, in each case sat next one of the children already mentioned. This fact is of interest, as showing that the infection of diphtheria may be conveyed by persons who have been convalescent at least a month. Dr. William Ogle has recorded similar cases at a considerably longer interval."

Outbreak No. 17 (Table III.) occurring in the parish of Mellis, which is a frequent habitat of diphtheria, was thus reported:—"The first case occurred in a house the drinking-water for which was obtained from a pond, and on the bank of this pond, three yards from its edge, was placed a pig-stye which drained into it. The subsequent cases were scattered all over the parish of Mellis, and presented nothing in common in either water supply or food supply, or in any other condition that I was able to ascertain, except dampness of subsoil. In a large majority of the cases, however, direct contact with previous sufferers was distinctly traced. The parish of Mellis contains 471 inhabitants, living principally in houses scattered round a large green, which is undrained, with a soil of stiff clay overlaid by a thin layer of boggy soil, from which the water frequently presses out when you tread, as it does from a wet sponge when compressed."

Outbreak No. 34 is a somewhat important case in Rickinghall, in which, a house having changed tenants, the new tenants commenced to use a water-closet which had been unused for several years, and in which the soil pipe and cesspool were filled with old fæcal matter. I found the closet so badly constructed that the gas from this cesspool had free communication, without even any attempt at arresting it by means of a trap, both with the back kitchen and with the landing leading to the bedroom.

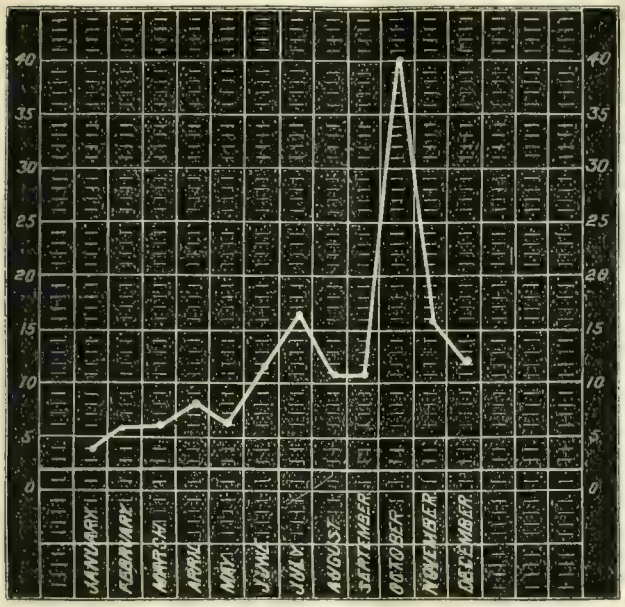
The case which forms outbreak No. 38 is of interest, having come on immediately after immersion in a foul stagnant pool.

One case only (No. 20, Table II) seems to favour the theory advanced by Dr. Airy of the conveyance of diphtheria for long distances by the wind. It occurred in a house situated on a hill-top, in which no special sanitary defects were found. It was the first high ground to the eastward of the extensive outbreak which was then prevailing in Mellis. The prevailing wind was directly from this outbreak to the affected house, a distance as the crow flies of three miles and a quarter. In antagonism to this theory is the general fact, that free exposure to air is usually the surest method of disinfection.

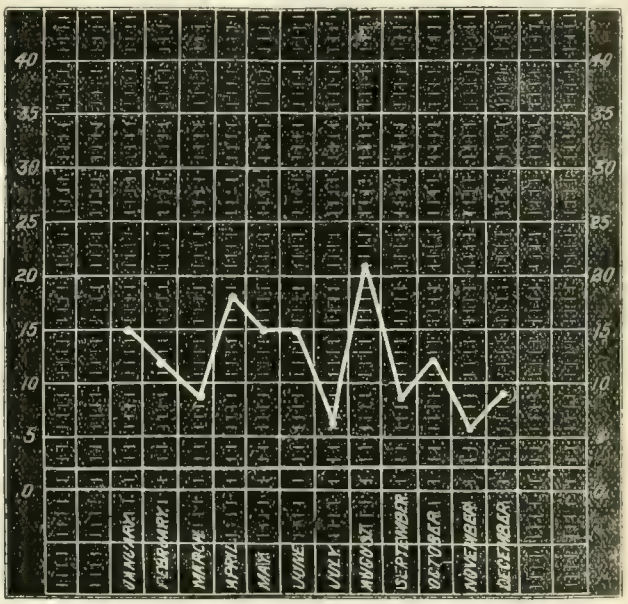
Having thus demonstrated to some extent the connection which exists between diphtheria and filth in one form or another, it remains to emphasise this by a consideration of the severity of the different classes of outbreaks, and this is seen in Table IV, which clearly shows the greater severity of the outbreaks connected with, shall I say caused by, obvious sanitary defects. Thus, the four outbreaks due to infection and the eight outbreaks in which no sanitary defects were traced were confined, speaking generally, to the house affected, and the number of persons affected averaged less than two in each outbreak; whilst, on the other hand, of the thirty-eight cases associated with sanitary defects, the average number of houses affected was three, and the average number of cases five.

The question of the bacterial origin of diphtheria must still be considered in an unproved state, the difficulties in the way of investigation being great, owing to the fact that in diseased states of the mouth and throat, as in other parts exposed to the external air, bacteria of various sorts are found in abundance, and it is only by the isolation of these bacteria and their cultivation in a pure state, that an attempt can be made to judge whether they are present as the cause of the disease, or only there, as doubtless most of them are, as a result of the diseased state, affording favourable conditions for their growth. It has been said that no fewer than twenty different specimens of organisms have been found in the throat in diphtheria, and several observers have laid claim to have discovered a diphtheritic bacillus. Loeffler, whose investigations were extensive, and are published by the New Sydenham Society, found, in the cases he examined, two organisms present in large numbers—the one were chain-forming micrococci or streptococci; the other, the bacilli described by Klebs as characteristic of diphtheria. The streptococci may be exonerated from being the active cause of diphtheria by the fact that they are present in various other diseases which are accompanied by lesions of the mucous membrane—for example, small-pox, typhoid, and puerperal fever—and, therefore, may be regarded as accidental; that they are found only in a limited number of cases of human diphtheria, and that, when inoculated on lower animals, they never produced a disease even resembling it. Much stronger evidence was shown

Charts showing the Number of Outbreaks of Diphtheria commencing in each Month of the Year.

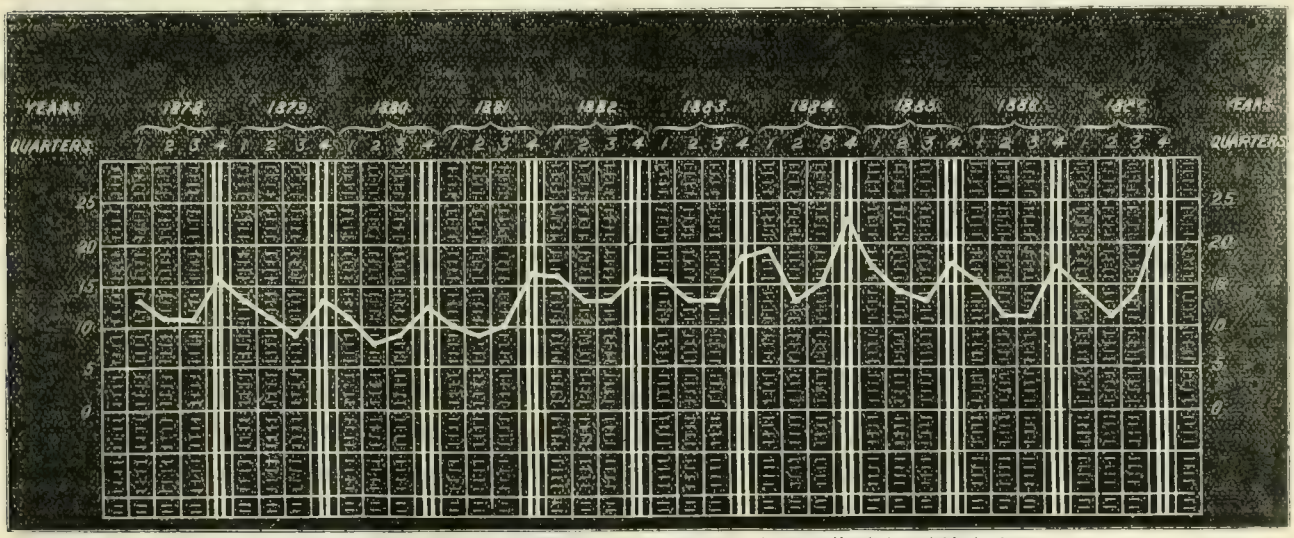


From Dr. Airy's paper, read before the International Medical Congress in 1881.



Outbreaks observed by Dr. Barnes. (In this table the numbers are not the actual number of outbreaks, but are proportioned to the number of cases observed by Dr. Airy.)

Chart showing the Mortality from Diphtheria per 100,000 of Population in each Quarter of the Years 1878-87.



The double white lines indicate the Winter Quarter, in which the mortality is invariably highest.

by Loeffler in favour of Klebs's bacillus being the true cause, and he even produced, by inoculating them on lower animals, a similar disease; but, on the other hand, he found they were not present in a number of undoubted cases of diphtheria; that in the false membrane he produced by introducing them through a wound in the trachea in rabbits and fowls, he did not find them in the same typical arrangement as in man: that they produced no effect in several animals, otherwise susceptible to their action when applied to the uninjured mucous membrane of the fauces, respiratory passages, eyes, and vagina; that paralytic symptoms did not occur in the inoculated animals; and, lastly, that in one case he found a perfectly indistinguishable bacterium in the saliva of a healthy child.

The observations I have here recorded, showing the close connection existing between diphtheria and a combined condition of dampness of soil and decomposing animal matter is not altogether inconsistent with the origin of the disease being a bacillus or other germ; but, at all events, the facts I have given tend to show that the germ flourishes outside the human body under the conditions I have mentioned, and that diphtheria may arise independently of a previously existing case in the human subject.

To sum up, then, a few of the points in which diphtheria shows differences from the other specific diseases which are propagated by infection, we observe: 1. In the majority of instances, no previous case can be found as the starting point of each outbreak; it is easy when an outbreak is started to follow almost every case, and show whence the contagion arose (as I have done in other outbreaks besides the Finningham one which I have quoted *in extenso*), but with the first case it is quite different, for in only four instances could I trace this; and, in my experience, a far larger proportion of the outbreaks can be traced with certainty in other infective diseases. 2. Diphtheria shows a regular yearly

exacerbation during the winter months, a time unfavourable to the development of low forms of animal or vegetable life. 3. That ordinary infectious diseases show much greater fatality in towns than in rural districts, whereas diphtheria is as prevalent in rural districts as in large towns—the increased facilities for the spread of infection being counterbalanced by something equally potent, which I have suggested is the presence of animal decomposing matter combined with dampness of soil. 4. In other specific diseases, we never find a preceding period of an undeveloped disease, whereas, in outbreaks of diphtheria, it is not uncommon to find that sore throats have prevailed for some time previously, which have not presented the true characters of diphtheria. In three at least of the outbreaks I have recorded, this was observed; but in other specific diseases—for example, small-pox, scarlet fever, or measles—we do not observe any previous outbreak of nondescript cases. This, to my mind, points to a poison gradually developed by insanitary conditions, rather than to a definite specific germ, be it bacterium, bacillus, micrococcus, or what not.

ABSTRACTS OF
PRESIDENTIAL ADDRESSES
ON SOME ASPECTS OF ABDOMINAL SURGERY.

Delivered at the Annual Meeting of the Midland Branch of the British Medical Association.

By HENRY R. HATHERLY, M.R.C.S.,
Surgeon to the Nottingham Hospital for Women; President of the Branch.

Mr. Hatherly had the privilege of being once a pupil of Dr. Frederick Bird, who was, the lecturer believed, the first to advocate publicly an exploratory operation for purposes of diagnosis, a practice denounced at the time by Lawrence as "not only questionable, but dangerous." Mr. Bird's views, then so far in advance of the times, are now universally accepted. Dr. Hatherly spoke next of the records of Cæsarean section in Pliny and the Talmud. The earliest reliable account of that operation was to be found in the *Chirurgia* of Guy de Chauliac, who only advocated Cæsarean section on the dead mother. The first thoroughly authentic case occurred in 1520. In France, owing to religious scruples respecting craniotomy, Cæsarean section was for long more extensively adopted than here. Mr. Hatherly remembered a case where the operator, a strict Catholic, would only consent to perform craniotomy after the baptismal service had been read, and holy water injected *per vaginam*. Oöphorectomy appeared to have been common amongst the Egyptians. In 1730 a sow-gelder was tried at the Bridgwater Assizes for spaying his own wife. As he was not put on his trial for murder or manslaughter, the patient must have recovered; if so, he performed double oöphorectomy 147 years before Battey first introduced it as a surgical operation. Hence mere spaying was by no means difficult, and therefore should be safeguarded from any risk of abuse. Mr. Hatherly dwelt at some length on this point. A long list of successful oöphorectomies was not a proof of exceptional skill, but diseased ovaries could not be removed without danger. The saving of a diseased ovary appeared to require a higher measure of skill than its removal. Dr. Tilt, who first clearly described chronic or subacute ovaritis, reported many cases cured without operative treatment. Dr. Battey stated that before performing oöphorectomy he asked himself three questions: 1. Was it a mortal case? 2. Was it incurable by other known resources of the art? 3. Was it curable by a change of life? He only advised the operation, even when these questions could be answered in the affirmative, in the following classes of cases: absence of the uterus with irregular ovulation and violent nervousness of the system; complete occlusion of the utero-vaginal canal; menstrual or ovarian mania; ovarian epilepsy; pernicious amenorrhœa; interstitial fibroid tumours; and lastly, some cases of contracted pelvis. Sir Spencer Wells took exception to the principles of this classification. He urged that the operation might be advised in some cases of uterine fibroids, and in uncontrollable uterine hæmorrhage, and in certain malformations of the genitals, deformities of the pelvis, and accidental obstruction of the vagina. He further urged that in cases of ovarian dysmenorrhœa or neuralgia the right to remove the ovaries was very limited, and only existed when those affections had resisted all treatment, life or reason being endangered. He denied that the operation was inadmissible in nearly all cases of nervous excitement, and that it should never be done without the consent of a sane patient, to whom the consequences of the operation had been explained. Sir Spencer Wells insisted that the excision of morbid appendages or ovaries should be distinguished from oöphorectomy, and ought never to be done without the authority of a consultation; and that in nymphomania and mental disease it was at least unjustifiable. Mr. Lawson Tait attached more importance to the removal of the tubes. He generally, but not always, removed the ovaries as well when he cut away diseased tubes, terming that procedure "removal of the appendages," now commonly spoken of as "Tait's operation." He considered the proper field for the removal of healthy ovaries to be very limited.

Mr. Hatherly referred the ethical points above noted to the general sense, not of specialists alone, but to the whole profession. He could see no reason why a diseased ovary or tube should be held more sacred than any other diseased organ, but insisted on consultations and an explanation of the nature and effects of the operation in question to the patient. He regretted that after-histories of cases of the removal of healthy ovaries were not carefully recorded. Recovery from the operation was too often the last chapter in the history of the case. Clinical evidence, however, favoured extirpation of healthy ovaries in cases of bleeding uterine fibroids. Speaking of the removal of the appendages in ovarian or menstrual epilepsy or mania, Mr. Hatherly maintained that such an operation should never be undertaken in the case of a lunatic whose disease was not seriously aggravated during the menstrual periods. In order to establish beyond reasonable doubt the dependence of the mental disease on the uterine functions, an expert in lunacy should always be consulted, in addition to any other consultation which may have been held, and no operation should be undertaken without the approval of that expert. That lunatics or epileptics should become wives or mothers was very undesirable, and the preservation of their procreative powers was of less importance than in the case of the sane; on the other hand, their very helplessness was a strong claim for increased precaution. We should be thoroughly satisfied that their condition might be improved by such means, and by such means alone. The written consent of the legal guardian should be a necessary preliminary to Battey's or other like operation on a lunatic.

Turning to some of the latest developments of abdominal surgery, Mr. Hatherly did not feel disposed to adopt the treatment of peritonitis by abdominal section without evidence that the disease originated in some local mischief. Mr. Tait's treatment of cases of pelvic suppuration by opening the peritoneal cavity, washing it out and draining, had in many instances been followed by the happiest results. Any surgeon who had to deal with a case of intestinal obstruction, if all other methods failed and life were seriously endangered, would not hesitate to perform abdominal section, which would be attended by very little greater risk than an operation for strangulated hernia. Diagnosis of the exact site of the obstruction was the main difficulty. In gunshot wounds, again, as Sir William MacCormac had shown, an abdominal section not only enabled the surgeon to search for the bullet, but also to suture torn intestine. More questionable was exploratory incision in cases of tubercular disease of the bowels, yet in some recorded cases decided improvement followed that operation. Mr. Hatherly had tapped a patient on five different occasions, and at gradually decreasing intervals, for ascites which he believed to be tubercular. After each tapping there remained a substance in the left ovarian region which appeared to increase. Although he anticipated that it was only a mass of tubercle, he determined on the next occasion when paracentesis appeared necessary to make a small exploratory incision instead, wide enough to admit the forefinger. This course enabled him to exclude all probability of wrong diagnosis. The patient was very little distressed by the operation, and left the hospital on the eighth day. Now, although the abdomen was again filled with fluid, the distension was not increasing so rapidly as before, and a longer interval than usual between previous tappings had already elapsed. Mr. Hatherly quoted a case under Sir Spencer Wells where the peritoneum was found to be studded with myriads of tubercles, yet the patient got well and married. An exploratory incision was scarcely more dangerous than the insertion of a trocar, and when there was uncertainty as to the cause of ascites, there was no valid objection to abdominal section. Mr. Hatherly accepted Mr. Tait's law that in every case of disease in the abdomen or pelvis in which the health was

destroyed or life threatened, and in which the condition was not evidently due to malignant disease, an exploratory incision should be made. This principle, and the comparative immunity of patients from danger after exploratory incisions, might be abused by unscrupulous practitioners, but afforded a relatively safe way of arriving at an accurate diagnosis in obscure abdominal cases which endangered life.

The general sense of the profession at large, and not the dictum of specialists alone, must ultimately define the legitimate sphere of abdominal surgery, and draw the line between that which was rash and speculative and that which was sound surgery. The opinion of such a Society as this Branch, even when not expressed in any formal resolution, could not fail to exercise a healthy influence over the majority of its members. Our art was progressive, and should not be subjected to any restrictions based on false sentiment. Some men might be a little too zealous as others were too apathetic. Some were slow to receive new ideas, others rushed to an opposite extreme and greedily assimilated every new fashion of practice, as if old ideas were necessarily bad and new ideas invariably good. Not every new feature of medical or surgical practice could stand the sure test of time, for extended experience often gave the lie to first impressions. Specialists in gynæcology and abdominal surgery must be judged, but fairly judged. They only claimed the same privilege which was accorded to all others, to exercise such skill as they might possess for the prevention or cure of disease, the relief of suffering, and the prolongation of life. No branch of our art had achieved more splendid triumphs than abdominal surgery. That which once was a sealed book was now opened, although many pages had yet to be read.

ON SANITARY SCIENCE OR PREVENTIVE MEDICINE.

Delivered at the Annual Meeting of the South-Western Branch of the British Medical Association.

By JOHN WOODMAN, M.D.,
President of the Branch.

REFERRING to the regret with which the "good old times" of the last century were often mentioned, Dr. Woodman pointed out that it was too frequently forgotten that in those days cleanliness was little thought of. When anyone was taken ill, especially with fever, the windows of the sick chamber were closed, the curtains drawn round the bed, and the patient kept in as close and foul an atmosphere as possible. The only preventive treatment, when the advent of plague or other communicable disease was feared, was a rough quarantine, which often was so badly managed as actually to propagate the disease. Fires were lighted in the streets, and "camphor and spices to smell" were carried in the pocket.

Dr. Woodman dwelt in some detail on the progress of sanitation in Exeter, for which city he acts as a medical officer of health, and indicated several lessons to be learnt therefrom. The first attempt at sanitation in that town appears to have been made just previous to the outbreak of cholera in 1832, when quarantine was first relied upon, and boards of health were formed in each district. At that time the streets were chiefly drained by a gutter in the middle of the road, and the only supply of water (except wells) was the conduit in South Street, supplied from St. Ann's Well in St. Sidwells. The entire absence of any system of drainage was shown by the fact that the first water-closet erected in Exeter was constructed simply to empty the contents of its pan (after use) into the street. In fact, the sanitary arrangements of the city were practically *nil*. No doubt, however, the boards of health mitigated (in some measure) by their action the severe epidemic of cholera which visited Exeter, as well as the rest of England, in 1832; and between that year and 1867 the Improvement Commissioners did much for the city by widening the streets and draining the town. As regards water, a company was formed to provide a supply for the inhabitants. In short, the work of sanitary improvement was stimulated by the visitations of cholera in 1832, 1849, and 1866. A sanitary inspector and a sub-committee were appointed, a house-to-house visitation was made, and considerable improvements in connection with house-drains, abolition of cesspools, etc., were effected; but, when the cholera passed away, a good deal of the sanitary activity also disappeared.

Hospital Provision.—In 1866 the first attempt at providing a separate place for the reception of cases of infectious diseases was made by the removal of a few cases of cholera from common lodging houses to two isolated rooms at the workhouse. By these and other means the severity of the outbreak of cholera in 1866 was undoubtedly mitigated. In 1871, when an epidemic of small-pox threatened the city, the Town Council secured a site near Whipton, about a mile and a half from Exeter, and hastily erected on it a wooden hospital or "sanatorium," with four wards capable of accommodating 28 or 30 patients. This building was in the first instance intended for small-pox isolation, and during 1871, 1872, and 1873, 79 cases of that disease were admitted, and 7 of them terminated fatally. In 1877 it was decided to keep the hospital always open and ready to receive any cases of zymotic disease; and in addition to this wooden structure the Town Council erected a permanent brick and stone building, containing two wards, with nine beds in each. Between the opening of the original hospital on November 2nd, 1871, and December 31st, 1887, 770 cases of infectious diseases, mainly scarlet fever, typhoid, and small-pox, were treated in hospital, and of these 56, or less than 8 per cent., died. This death-rate Dr. Woodman regards as a low one.

Treatment of Scarlet Fever.—Dr. Woodman drew special attention to the scarlet fever cases treated in hospital, and pointed out that the whole of the deaths among them occurred in 1877, when 80 cases were admitted and 6 proved fatal. From 1877 to December 31st, 1887, 241 cases of scarlet fever were treated by the medical officers at the sanatorium without a death. This he attributes to the following causes: (1) that by at once removing the cases from the courts and alleys a number of cases are prevented from remaining at the same time in the same court, and thus the intensity of the poison is believed to be diminished; (2) that patients are kept on an average three weeks in bed; and (3) that patients are given frequent warm baths, beginning at the end of the first week. Warm baths with some Jeyes' fluid in them are used, the latter preventing the spread of the infection. Dr. Woodman believes that the warm baths, by assisting to get rid of the peeling skins, and above all by opening the pores of the skin, and stimulating the sweat glands, relieve the congestion and overwork ordinarily cast on the kidneys, and prevent the dropsy so common after this disease. At least it is very remarkable that since the regular use of the baths, no death from, or case of dropsy after, scarlet fever has occurred. Dr. Woodman adds that he has employed the same treatment in his private practice with equally satisfactory results. Of course the healthiness of the situation of the hospital and the care taken of the patients have something to do with these results. But the marked difference between the deaths from scarlet fever for over ten years and the deaths which still occur amongst the typhoid cases, points to some other reason, and Dr. Woodman therefore believes most thoroughly in the importance of the repeated use of warm baths after scarlet fever daily, or every other day, beginning almost as soon as the eruption disappears, and continuing until all peeling of skin is finished.

Disinfection.—The mode of disinfection adopted in Exeter is to paste up the room in the usual way, and to burn bisulphide of carbon in one, two, or three lamps according to the size of the room, using one lamp containing 16 ounces of the bisulphide to about every 1,000 feet of capacity. This is said to be very effective, does very little damage to things left in the room, and requires the room to be shut up for a few hours only. The mattresses, beds, clothes, etc., are disinfected in a Lyon's steam disinfector, which has frequently been described in these columns.

Water Supply.—The waterworks at Exeter are the property of the sanitary authority. The supply is derived from the River Exe, and filtered at first through a natural bed of gravel. It is then pumped up to reservoirs, and there carefully filtered once more. It is analysed every month, and is a soft, wholesome water. The supply is constant, and did not fail during the widespread drought of the summer of 1887.

Drainage and Treatment of Sewage.—Dr. Woodman recognises the objections attaching to all the existing methods of disposing of sewage, but he looks forward with some hope to the plan of treatment by electricity proposed by Mr. W. Webster, F.C.S. The principle of that plan is that a constant current of electricity is passed through the sewage in a tank by means of metallic electrodes, thus causing a rotary motion in the sewage. Certain chemicals are evolved from the sewage itself, and certain gases formed which, mixing with the solid portions, raise them to the top instead of precipitating them to the bottom as usual. By agitating the fluid the gases pass off and the solid particles de-

scend to form a precipitate without showing any tendency to again permeate the fluid.

Food.—In his remarks on the subject of food Dr. Woodman expressed his opinion that man is an omnivorous animal, and should not be either a vegetarian or an excessive meat-eater. Moderation in eating and drinking should be observed.

Schools.—In Exeter the co-operation of school teachers has been secured in dealing with infectious diseases. Affected scholars are watched for and excluded from attendance, as well as children from infected houses.

Notification of Disease.—This Dr. Woodman considers should be compulsory, but the duty should devolve on the householder alone, and not on the medical attendant, although of course the latter should be obliged to inform the householder of the nature of the malady. The objections to the alternative system were briefly referred to.

Medical Officers of Health.—Dr. Woodman admits that the appointment of these officers is at present in a very unsatisfactory position. In his opinion, the appointment should be for life (except for neglect of duty or infirmity), and while much might be said in favour of medical men not in practice being appointed for large consolidated districts if the appointments were now being first made, it would be unjust to dismiss at once and without compensation a number of medical officers of health who have been for some years giving their services, for the most part for very inadequate salaries, and who have taken much time and trouble to qualify themselves for their duties, often to the damage of their private practice.

ON SOME POINTS OF INTEREST TO THE GENERAL PRACTITIONER.

Delivered at the Annual Meeting of the Yorkshire Branch at York.

By JAMES RAMSAY, M.A.St. And., M.D.Edin.,
President of the Branch.

After thanking the members of the Branch for having elected him President in succession to so distinguished a man as Mr. Wheelhouse, Dr. Ramsay alluded to the special fitness of York as a place of meeting for a scientific society, inasmuch as it was in that city and in the very building (the Museum of the Yorkshire Philosophical Society) in which he was addressing them, that the first meeting of the British Association was held. That association, he pointed out, had originated with some members of the Yorkshire Philosophical Society, and upon the model of that association, the British Medical Association itself was at the outset framed.

Their special function as a Branch was to localise the spirit and work of the parent Association, and to bring the power and influence of the whole organisation to bear on the particular area which they represented. The British Medical Association, by the labours of its various Committees, its ably conducted Journal, and its scientific gatherings, was an enormous power for good to the public, not less than to the profession. As the good of each individual member was important for the general effectiveness of the Association, it might be said with truth that it was before all an *educational* body. Medical men were learning and unlearning all through their professional lives, and they should be incessantly striving after an ideal perfection as "general practitioners of medicine and surgery." He disliked the term "general practitioner" as clumsy, and not expressive of any definite legal qualification, and he should be glad to substitute some one word which would adequately convey its meaning. It was a reproach to the language of Shakespeare that it could only furnish a periphrasis to describe a practitioner of the whole art of healing. In England, the collegiate title "surgeon" was employed for the purpose, whereas in Scotland, where a university degree had long been the aim of most who sought to undertake the same line of work, the assumption of the title of "doctor" was common. Considering that the general practitioner was more largely engaged in medical than in surgical work, the latter usage was more logical than the former. It resulted that the profession was made up of surgeons who practised physic, and physicians who practised surgery. Hippocrates, who was known to history as a physician, and who was for his time an ideal general practitioner, showed that in his day "surgery" was included in the total covered by the term "physic," and it was inferred that he was himself an operative surgeon, though the general drift of his writings and observations showed that he did not regard himself as anything but a physician. "Physic," in its wider sense, meant φύσις, that was to say, "Nature." The physician was a student of Nature all round. In this country, the study of natural phenomena in general had been accorded the name of "physics," but all this study and inquiry had been undertaken by the physicians of old, with the object of relieving and curing disease, and in the sense here given to the word "physic," medicine and surgery were one. In the practice of physic, however, the surgeon was not always a necessary figure, his operations used to be classed among the *opprobria medicinæ*.

Outside the sphere of his handicraft, the surgeon was bound by medical methods, and in the matter of physical diagnosis, he was under great obligations to the physician. In his introduction Hippocrates had said: "It is the business of the physician to know in the first place things similar and things dissimilar; those connected with things most important, most easily known, and in anywise known; which are to be seen, touched, and heard; which are to be perceived in the sight, in the touch, and the hearing, and the nose, and the tongue, and the understanding; which are to be known by all the means whereby we know other things." The Father of Medicine had also said: "The things relating to surgery are the patient, the operator, the assistants, the instruments, the light, where and how, how many things and how, where the body and the instruments, the time, the manner, the place." These two passages gave the scope of the general practitioner of ancient Greece, in whose hands the work of the profession chiefly was. Even then, however, there were surgical specialists, as was proved by the Hippocratic oath, whereby the candidate bound himself to leave cutting for stone to those who practised that art. Avenzoar, the Arabian, had even charactised lithotomy as an operation "which no respectable physician would witness, far less perform."

Nowadays there was a fairly defined boundary between the physician and the surgeon. That this division was tending to be overstepped by the surgeon, who had achieved wonderful success in regions formerly held sacred from the knife, was a fact which every true physician recognised with the keenest satisfaction. To the physician would still be left the function of detecting the cause of the mischief and indicating the mechanical procedure necessary for its relief. Sir William Stokes, in speaking of the indebtedness of surgery to medicine, had exemplified this by a reference to the work of Dr. Ferrier, of which, as he said, "brain surgery has to a large extent been the outcome."

Though there was a certain fitness in the term "doctor," as used by the public to designate any and every member of the profession, those who had acquired the title from a university might hesitate to follow this custom. It was to that prefix, however, that the whole profession owed a good deal of its social status. For centuries, while surgery was working in a lower sphere, medicine had kept its place as one of the faculties in all universities. The medical profession was justly called a "learned" one, and an excellent case could be made out for calling it the learned one.

Medicine and surgery were no doubt sciences, but the successful application of these sciences in practice constituted an art of no little difficulty. This art was greatly advanced by personal intercourse among those who cultivated it, and it was in this sense more especially that the Association was pre-eminently an educational institution. The history of medicine should find a place in the curriculum because it clearly taught the important truth that there was a medical art no less than a medical science. To the successful cultivation of that art a study of human nature was essential; and it would be most advantageous to us to note the difficulties and the errors as well as the achievements of our professional ancestors. A survey of the past would show us that success in the practice of medicine was something dependent on individual prowess, apart altogether from the perfection of scientific apparatus and modes of inquiry. The very perfection of modern methods tended to the elevation of the whole profession to a uniformity of excellence which made it relatively more difficult for anyone to attain eminence nowadays than used to be the case. If the clinical records of cases of the same disease were taken from the practices of our predecessors so as to illustrate the treatment of any particular ailment by the leading physicians of each period, it could not fail to be highly instructive. It would be found that the reputation of these leading men was due more to their success in treatment than to their peculiarities of doctrine. This was illustrated by the contrast between the theory of such men as Cullen, Sydenham, and Cardan, and their actual practice.

The medical practitioner should strive to acquire as much

general knowledge as possible, as he might thereby often be able to engender confidence in his patient. He should also endeavour to "see himself as others see him," so as to be better able to deal with them. Much help in this direction might be obtained from a study of works of fiction, in which medical men are portrayed from the outside. The profession was often misunderstood and misjudged by the public, but this should never be allowed to discourage its members from the prosecution of their task. Nor should they be disheartened by the inexactitude of the science on which their art was founded, and the large proportion of guesswork which there necessarily was in their methods. "If," concluded the President, "our work, like that of the student in every branch of science, is largely a work of conjecture, it is no fault of ours that our strivings have such a limitation. We have only to see to it that our conjectures are framed aright; that we toil after the attainment of what is noble, enduring, and true, recognising in our quest that there must be always things beyond knowledge, and moved by a faith in the sublimity of natural law, which we may not express in finite terms, but which may inspire us with resolution to go forward and with a saving humility as we gaze meanwhile upon the

> Temples that crowd the crumbled brink
> O'er hanging Truth's eternal flow,
> Their tablets hold with "what we think,"
> Their echoes dumb to "what we know."

ON MASSAGE.

Delivered at the Annual Meeting of the West Somerset Branch.

By ABRAHAM COLLES, M.D.,
President of the Branch.

After acknowledging the honour conferred on him by the Branch in choosing him for its President, Dr. Colles went on to say that, Mr. W. J. Penny's paper on "Bone-setting" (Journal, vol. i, 1888, p. 1102) had suggested to him the desirability of dealing in a similar spirit with a cognate subject, namely, massage, a system of treatment under which a fresh body of charlatans seemed inclined to take refuge. He had had several opportunities of observing the results in patients of his own, and others who had undergone the treatment. Judging from advertisements in the medical journals there were "experienced *masseurs*" or *masseuses* who were willing to undertake the cure of anything or anybody. So far as he could learn, the greater number of such advertisers had no qualification whatever entitling them to the high-sounding titles they assumed. They were simply persons who would rub or knead you—for a consideration—but who knew nothing about massage proper. It had been truly said, "There is as much difference between Metzger's massage and the so-called English massage, as there is between champagne and gooseberry. The difficulty is that the majority of people do not know one from the other, and most patients are perfectly satisfied as long as the rubber gives them a full hour, works hard, and gets hot and a little 'dewy.' The isolation of individual muscles or groups of muscles is at a discount, whilst motor points are almost unknown quantities." It need hardly be said that the effects of this spurious massage are often disappointing, and thus a system capable of producing great results when properly used was in danger of falling into undeserved disrepute. Quack massage flourished in consequence of the gullibility of the public; rubbing and kneading were useful in fit cases and (just as with the bone-setters) the successful cases made a noise, while the failures were discounted. The medical profession was not free from blame in this matter, much of the success of these quacks being due to the apathy of orthodox practitioners on the subject.

It was often said that massage was no new thing, but was practised by the Greeks and Romans and other nations of antiquity. The practice of the ancients, however, resembled that of modern "rubbers," but was not massage; it was almost identical with the shampooing still used in the East after the bath. Massage proper embraced a variety of manipulations suitable to different conditions. The simplest form (*effleurage*), consisting in a stroking movement made with the hand in a centripetal direction. If an entire limb was to be influenced it was grasped firmly at the point at which the movement was to begin, and the hand then passed firmly towards the body as far as might be required, the other hand beginning a movement just as the first ended, and so each hand taking it up alternately. If it was to be applied to a muscle or group of muscles it was important to follow as closely as possible the direction of muscle-fibres. For deep-seated tissues the knuckles might be substituted for the palm of the hand. The amount of pressure exercised and the rapidity of the movement must depend on individual circumstances. This form of massage was often useful in reducing passive enlargements, either solid or fluid. The result was obviously due to an increase of the circulation, both venous and lymphatic. Another form of massage was *pétrissage*, which consisted in picking up a portion of muscle, or other tissue, with both hands, and subjecting it to firm pressure, rolling it at the same time between the fingers and the underlying tissues. The movement was made from below upwards, and the parts were squeezed in much the same way as one would squeeze out the contents of a sausage. It was of importance to proceed uniformly, and not to jump from spot to spot, and it was essential to bear in mind the arrangement of the groups of surface muscles and to keep well in the interstices. In a case of infantile paralysis affecting the lower extremities only, he had seen *effleurage* and *pétrissage* used in combination, with the result that first warmth, then responsiveness to galvanism, and, finally, voluntary movement were restored. He had more than once seen benefit produced by massage in cases of chronic constipation, *pétrissage* being applied to the abdominal muscles, and a combination of that movement and *effleurage* along the ascending transverse and descending colon. The action here was probably threefold—(1) increase of intestinal secretion, (2) stimulation of peristaltic action, (3) mechanical movement of accumulated fæces. He had also seen rheumatism of individual muscles yield to massage when medicines, liniments, medicinal baths, and galvanism had done so little good that almost total loss of movement had resulted, with very considerable suffering. In one case careful *pétrissage* for a few weeks caused almost total disappearance of the symptoms.

In certain surgical cases a combination of *effleurage* with "friction" was often useful. The term "friction" was not very appropriate, as would be seen from the following description of the movement referred to. "The finger-tips of one hand held at right angles to the axis of the limb rub across and across in narrow ellipses, while the fingers of the other hand stroke parallel to the axis of the limb." Massage should not be used when acute inflammation was present, except in cases of sprain. If massage *à friction* were begun immediately after the accident discoloration and swelling rapidly disappeared. This manipulation continued for a quarter of an hour and repeated at intervals of a few hours, would in most cases do away with evaporating lotions, etc., and with the necessity of confinement to bed for some weeks. In the cases most liable to pass into the hands of bone-setters, namely, those in which joints have become stiffened as the result of chronic inflammation or severe sprains, massage was often extremely serviceable, and obviated all need for the violent measures so freely used by bone-setters. He had had no personal experience of the effect of massage on the union of fractures, but it was said by competent authorities to be eminently satisfactory, hastening repair, and shortened the period of treatment to a wonderful extent.

There were many other forms and applications of massage, which he knew only by report, for example, digital pressure on nerve points for the relief of pain and *tapotement*. The latter might be described as a regulated system of percussion; it was administered by the front of the finger-tips, by the back of the hand, by the edge of the hand, or with the palm, so as to contain a cushion of air. In addition to these, special instruments of percussion were at times employed. A case was cited in which a primitive form o this method was resorted to by the patient himself about a century ago; by this means he was said to have cured himself of rheumatism, a tendency to gout, *tic douloureux*, cramp, and other diseases, including a cataract. It appeared to him (Dr. Colles) that every medical practitioner was now bound to make himself as well acquainted with the scientific use of massage as with other branches of practice. He thought there was a great field here for experiment and research. As yet not much had been done in this country to reclaim massage from the hands of ignorant pretenders. The Weir-Mitchell system, which was somewhat allied to it, though different in scope and in application, was now pretty well established in London, and undoubtedly produced good results at times. It was, however, inconvenient and expensive, and not by any means uniformly successful. This method was not massage, though often confused with it, and it could never take the place which massage ought to hold.

Massage could never come into general use so long as its exer-

cise depended solely on the medical man. He must have the assistance of skilled manipulators, who would faithfully carry out his directions in his absence, just as a good nurse did in her own province. Some effort was now being made in London to supply this want, but there was no reason why the Taunton and Somerset Hospital should not now furnish practitioners in West Somerset with what was required in that line. It was said that two years of training were needed to make a nurse competent in massage; if it was remembered that a considerable knowledge of anatomy was indispensable, this estimate would not seem exaggerated. Massage was of course a panacea, but the list of maladies in which competent authorities had found it useful numbered forty or fifty. The physiological effects of massage were not yet fully worked out, but it appeared that *effleurage* stimulated the skin muscles, produced dilatation of the superficial vessels, and insensible perspiration, excited the skin reflexes, and, acting through the skin nerves, increased the rapidity of the heart's action, as well as of the circulation. *Pétrissage* forced the lymph out of the muscles, increased the velocity of the blood current in the part, temporarily decreased the size of a limb, and increased its muscular power. Unlike *effleurage*, it reduced instead of increasing the pulse rate, more especially when it was applied to the abdomen. The local effects of *massage à friction* were much the same as those of *pétrissage*, while *tapotement* was most effectual in exciting muscular contraction. The electrical excitability of muscle was also increased under massage, as was seen in the restoration of that power in cases of paralysis, in which it had been previously dormant. Medical gymnastics and calisthenics might often be advantageously combined with massage.

A SHORT RETROSPECT OF MEDICAL PROGRESS.

Delivered at the Annual Meeting of the North Wales Branch.

By E. J. LLOYD, M.D.Aberd.,
President of the Branch.

After returning thanks for the honour done him in electing him President, Dr. Lloyd said he proposed to speak of some of the most prominent advances which medicine and surgery had made in recent years, and also to call attention to a few of the most pressing topics of medical politics. One of the signs of the present time was the energy which was being expended in the pursuit of germs. By the discovery of the tubercle bacillus, Koch threw open a new continent to scientific research, and the results obtained so far by the various explorers had yielded a rich produce of knowledge. A new science had sprung into existence within the last two or three years—namely, bacteriology; professorial chairs of bacteriology were being founded at the centres of medical instruction, and in the laboratories attached thereto germs were being cultivated and isolated with a success which augured well for valuable discoveries in the future. No reference to this subject would be complete which did not include the name of Louis Pasteur. It was not necessary here to recapitulate any of his triumphant discoveries, or to remind them what he had so far achieved in his efforts to combat the virulence of rabies. The scientific world would watch with interest his proposal to deal with the rabbit scourge in Australia by means of the cholera microbe, if the consent of the colonists to this suggestion could be obtained. Perhaps the latest development in the science of bacteriology was the alleged discovery of a cancer microbe, but all was yet uncertain with regard to it. There might or might not be a cancer microbe, but we did well to hope that there was; for in this direction alone did it seem possible that any gleam of light could come in the advance of our knowledge of the disease. The gradual elaboration of our knowledge of germ life had not solely been found of use in the discovery of the cause of disease, but also in the antiseptic treatment of wounds. A most important detail had recently come to light upon the subject of antiseptics—namely, that of the truly antiseptic power of soaps and alkalies. Experimentation had demonstrated that instruments which had been previously washed with soap and potash were much more quickly and effectually sterilised by carbolic and sublimate solutions than by the latter two reagents alone. The President then dwelt at some length on the virtues of iodoform and perchloride of mercury as germicides, and on the conditions under which they should be used. He then referred to the rapid progress which had been made within the past few years in the surgery of the brain. Two factors had contributed to this gratifying result—namely, the confidence which antisepticism gave to surgeons in the well-doing of their operation wounds, and advances in physiology, by which surgeons were able to localise the precise position of lesions. Abdominal surgery, again, had made immense progress during recent years. Surgeons nowadays thought no more of opening the abdomen than surgeons in old days would have thought of opening an abscess. This confidence came from the knowledge which extended experience had taught us of how to treat the peritoneum. It was now known that the peritoneum was tolerant of almost any amount of surgical interference, provided it was treated with, so to speak, surgical politeness. Laparotomy was now performed for many and various conditions of injury and disease of the abdomen. Attention might first be directed to the good results which had been obtained by its performance in those cases of acute intestinal obstruction, 95 per cent. of which, if unrelieved by art, proved fatal. In a collected series of sixty-nine cases of this description, the mortality was 46 per cent., and even many of them were in a condition of profound collapse at the time of operation. Under more favourable conditions in the future, we might hope for a better record than that. Laparotomy had also been performed during the past year in a great number of instances of wounds of the intestines, and in cases of rupture of the urinary bladder, with results which, on the whole, were satisfactory. It had even been done in cases of perforation of the intestine occurring during typhoid fever, but without success. The radical cure of hernia was also now a successful procedure. Leaving the field of abdominal surgery, intubation of the larynx had been proposed by Dr. O'Dwyer, as a substitute for tracheotomy, and the operation seemed worthy of trial. The application of electricity to the treatment of disease had also undergone great development in recent years. Just as electricity was now competing with gas in the commercial world, so might it be said that it had entered into competition with the knife in the treatment of many forms of disease. Electricity, as applied to medicine, might now be spoken of as an exact science; and it was impossible to doubt that it was destined to occupy in the future a valuable position as a curative agent. Electrolysis had been found of great service in strictures of the urethra and the rectum. With regard to Dr. Apostoli's treatment of uterine fibroids by electrolysis, great claims were advanced in its behalf, but the method had so far not found much favour amongst experts in this country. The treatment of these cases by electrolysis, however, had not yet had a fair trial in England, and until this had been the case, it was only right to suspend judgment. In adverting to this subject, one was only more deeply impressed with the extent to which electricity was competing with the knife in the treatment of disease; for here was an instance in which the knife would be altogether superseded, if the results of the application of the current should prove, after extended trial in the hands of independent observers, to be in the end satisfactory. Passing then to medical politics, the President said the subject was, in the present day, becoming more and more one which demanded the attention of every practitioner who had the interest of his profession at heart. Medical men, as a rule, were credited with possessing very little business capacity. "Common experience (he continued) shows that much seems to be done for us in the passing of laws without any consultation of the profession at large. The fact that this is so is, after all, perhaps, our own fault. We are too lethargic in the matter of striving for and protecting our own interests. Medical men would apparently, by their action, make the outside world believe that they were too much engrossed in their daily work to undertake and organise agitations in the protection of their rights and in the correction of manifest imperfections in the laws which affect them. But, judging from the signs of the times, it does not seem to be probable that this will always prove to be the case. There are hopeful indications that we are gradually acquiring the habit of bestirring ourselves when necessary in the cause of our rights and interests. The well-conceived efforts which have recently been made to repel the autocracy of the government of the Royal College of Surgeons of England is an earnest of the growing interest which is being taken in the furtherance of many much needed reforms. Every member of the profession has a voice in the matters which affect his interests, if he only will trouble himself to use it, and it is plainly our duty collectively to make our voices heard when the occasions arise which demand our serious attention. In the furtherance of this view I think that the Branches of this great Association should devote certain of their meetings in the year to

the discussion of matters of this description, upon which it is desirable that some opinion should be expressed by the profession at large. Who, for example, can dispute that there are at the present moment before us proposals of reform of extreme importance which hitherto have, for the most part, been left merely to the medical journalists to discuss in the pages of the press? What effort, may I ask, have we taken to show what our feeling is in regard to the proposed new M.D. degree of the colleges in London? Surely this is a question of vital importance; but, despite this fact, the body of the profession have contented themselves with gazing at a distance and leaving those who have made themselves responsible for the measure to work unaided. I must not, however, detain you longer in the discussion of this theme. It is one which, in my opinion, will not be permitted to be so much neglected in the future as it has been in the past. Depend upon it the more we display an active interest in medical politics the better will it be for ourselves and the better will it be for the profession."

ABSTRACT OF A PAPER ON PHYSICAL INDICATIONS IN HEART AFFECTIONS.

Read before the South Midland Branch.

By ARTHUR H. JONES, M.D.Lond., M.R.C.P.Lond.

After alluding to the rapid advance in the knowledge of diseases of the heart which had been made during this century, Dr. Jones said that before the introduction of modern methods, our predecessors had no doubt often arrived at accurate results by minute observation of the physiognomy, pulse, and breathing, as modified by cardiac affections. Their eyes were probably more accurately trained than those of modern physicians, who were, perhaps, too apt to trust entirely to their stethoscope and the sounds which it made audible. A danger connected with this was that an exaggerated meaning might be put in auscultatory signs, so that a heart which did its work noisily was on that ground alone liable to be condemned. We were so fond of pathognomonic signs, that if we could discover a sound or a movement, or the absence of a natural sound or movement, we were apt to associate with it too definite a lesion. Medical men, however, had now learned that a loud *bruit* or a large heart did not necessarily involve incapacity for the ordinary duties of life. Cases were related which illustrated this truth. It was not often, perhaps, that there was complete absence of symptoms with marked cardiac lesion, but many cases presented themselves in which, with definite organic lesions. the patient was only occasionally aware of there being anything wrong with his heart. Observers were now pretty well agreed that in many cases of damaged valves, or otherwise damaged hearts, we might give a more favourable prognosis than used to be the case only a short time ago, and our knowledge of the law of compensation, and its mode of operation enabled us to forecast more accurately. Much depended on the lesion, and on whether it was progressive, or was likely to become so. A definite cause, such as a strain or attack of rheumatism, together with the possibility of giving the patient a fair chance of developing corrective hypertrophy or dilatation, made the progression relatively favourable; on the other hand, the existence of valves undergoing progressive changes, such as atheroma or the interstitial growth, present in so many cases of mitral stenosis, were absolutely unfavourable.

That the existence of a *bruit* did not necessarily mean grave cardiac lesion, everyone must be constantly recognising. Basic systolic *bruit* over the pulmonary valves could mostly be placed on one side as being simply functional. This, however, was not always the case, and such cases should be examined very carefully lest a case of congenital organic mischief, which closely simulated the functional *bruit*, should be passed over. The class of congenital heart diseases was not a clear or well-known one. A *bruit* somewhere about the base, with some symptoms dating back to birth, or nearly till then, or with some displacement of the apex and accentuation or other alteration of the pulmonary second sound, should raise suspicion. Illustrative cases were cited.

Other *bruits* were sometimes present which did not indicate valve lesion or failure. A very localised *bruit*, varying, perhaps, with the position of the patient, the pressure of the stethoscope, or the movements of the chest, situated near the apex and unaccompanied by any enlargement of the heart or other variation in the sounds, might be explained by friction patches or lung adhesions. Further, there were *bruits* heard in the position with most of the characters of systolic mitral murmurs which did not appear to be caused by any cardiac lesion. Such murmurs were now thought to be due to temporary weakness of the heart-muscle interfering with the approximation of the parts around the mitral valve when the valve should close, and thus giving rise to slight regurgitation, indicated by a *bruit* which disappeared when the heart-muscle recovered its tone. At the same time the disappearance of a *bruit* could not be taken as an indication that it was non-organic. Everyone was familiar with the erratic *bruit* of mitral stenosis, present one day and gone the next. In other valvular lesions, also, even very marked *bruits* might cease, especially near death. A loud *bruit* was no longer taken as an indication of a severe lesion, and a faint one of a slight lesion; in fact, increased intensity of the *bruit* was often a hopeful sign as evidencing that compensation had been effected.

The cases in which *bruit* was absent, though the heart was seriously affected, were various. There was the large heart of renal or arterial disease. Increased resistance in the vessels had caused hypertrophy, and possibly some additional cause led to serious dilatation, so that no *bruit* was present. Then there were cases of marked valvular lesion, stenosis, or incompetence, and here the heart-muscle was weak; and cases of simple dilatation. Observation of the position of the apex-beat was more reliable than listening for a *bruit* in heart cases. In thirty cases of his own, in which, though there was little or no *bruit*, the heart was seriously diseased, the apex was considerably displaced in most of them, being beyond the nipple line. It was, however, necessary to guard against a false conclusion in this matter. Fibroid phthisis, or adhesions due to other causes, might displace the apex-beat of a healthy heart, which again might be pushed over by pleural, or outwards and upwards by peritoneal effusions. Again, a diseased heart might be pushed over from the left towards the right side by an effusion in the left pleura. Methods of determining displacement of the apex-beat by measurement and percussion were then described, and examples of great lateral and downward displacement were cited.

On the other hand, there were cases of valve lesion where no *bruit* was present, and the apex-beat was not appreciably displaced. In the early stage of endocarditis, before there had been time for the development of hypertrophy or dilatation, this might readily occur in a heart too weak to give rise to a murmur. The intensity of the aortic, and especially of the pulmonary, second sounds might also give valuable information. If causes of increased pulmonary tension (fibroid phthisis, emphysema, etc.) were excluded, the working power of the heart might be judged of and a clue to organic lesion obtained, by first noticing that the pulmonary second sound was accentuated or very deficient. Enfeeblement of the sound was often noted in cases of large heart associated with renal mischief. It was usually the correlative of extreme dilatation of the right ventricle, and was an indication of grave mischief. Accentuation of the sound, on the other hand, was present in many cases where the symptoms were slight; but he had usually found other signs more clearly indicative than that as regards prognosis—the clearness or otherwise of the sound produced by closure of the pulmonary valve was very valuable; increasing intensity under treatment being of good augury, and increasing or mere unchanged feebleness the reverse.

In the absence of *bruit*, when the heart's impulse was too indefinite to localise, a short sharp first sound (making the first and second sounds closely resemble each other) was suspicious. It indicated a weak dilated cavity, and showed that the heart was ill-prepared to battle with any valvular lesion or other obstruction to the flow of the blood.

With regard to treatment, the value of rest could not be overrated. Arterial tension should be reduced by blue pill or other means. Strychnine, which was apt to be forgotten in our eagerness to use digitalis and other heart-tonics was a valuable drug in cardiac affections. According to Dr. Herbert Habershon, the hypodermic injection of two minims of liquor strychniæ, repeated in some cases, was most useful in failure of the heart's action from weakened muscle. It had succeeded where the instantaneous injection of ether had been useless.

Medical Magistrate.—Dr. H. J. Strong, of Croydon, has been placed on the commission of the peace for that borough.

RECURRENT PNEUMOTHORAX.

By D. HOADLEY GABB, M.R.C.S.Eng.

The references to pneumothorax in Neale's *Digest* are few. The accompanying case, with Dr. Byrom Bramwell's valuable notes, is, I believe, of sufficient interest to record.

Miss P., aged 56, came under my care on March 4th of this year. The history she gave of herself was: In 1874, after coming home from church on a cold night, she was seized with severe pain above the right breast, extending through to the shoulder-blade, with considerable distress and breathlessness. She was attended by Dr. Bramwell, Dr. Byrom Bramwell, and Dr. Charlton, of Newcastle; they diagnosed pneumothorax, with slight effusion; the lung was quite collapsed. After this illness, she had fair health; she gradually recovered. Five or six months after this, she saw the late Dr. Peacock, who found no traces of her ailment, and doubted the truth of her statement. From this to 1880, she was in her usual health, when, without obvious cause, she had another breakdown, and was again attended by Dr. Byrom Bramwell, who told her it was the same thing as before—a slighter attack, from which she soon recovered.

In 1882, quite suddenly, when sitting in her room, she was seized with uneasiness in the old place, breathlessness, etc. She was staying in town, and saw a consultant, who diagnosed pneumothorax. This was a slight attack, and the "effused" air was soon absorbed.

In 1886, she had bronchitis and pleurisy of the right side, but no pneumothorax.

In the autumn of 1887, she was suffering from debility, and consulted a man of considerable reputation at Newcastle, who pronounced her heart and lungs quite healthy. She derived much benefit from his treatment, and was pretty well until the day before I saw her, March 4th, as above, when she thought she had got a chill, and the uneasiness in her side once more reminded her of the old attacks. I could detect nothing abnormal in the breathing. Pulse 90; temperature 99°.

The next day I found her, to my surprise, down in her drawing-room. She was feeling better. I did not examine her chest. The following morning she was in bed, not being so well. Some crepitation, but no dulness on percussion, at the bottom of the right lung; other chest sounds natural. Temperature 99°; pulse quiet; the temperature has never been above this. On the fourth day of my attendance, marked amphoric breathing on the right side, from the bottom of the chest to the lower angle of the scapula; above there was a feeble respiratory murmur; over the front of that side of the chest the respiration was feeble; the percussion note exaggerated. The right side measured a quarter of an inch larger than the left. The marked complaints were breathlessness and oppression, increased on the least exertion; inability to lie down; slight cough; a little mucous expectoration.

On the 13th, the amphoric breathing had extended to the supra-scapular region.

Dr. Trollope saw the case in consultation, and agreed in the diagnosis. The lady left Hastings on May 19th, with no traces of her pneumothorax left.

"23, Drumsheugh Gardens, Edinburgh, May 24th, 1888.

"My dear Sir,—I am very much interested to hear of Miss P. again. I have for years been intending to publish a brief account of her case; it was the most marked case of apparently idiopathic pneumothorax which has come under my notice. I attended Miss P. twice for the same condition. The first was by far the most severe and typical attack. She was at the time of the first attack (and, indeed, as long as she was under my observation), very well nourished and apparently very healthy, and free from any symptoms or physical signs indicative of lung mischief. Her family history was, however, bad, and at the time of her attack of pneumothorax a sister was under the care of my father and self with well-marked phthisis. The first attack of pneumothorax was on the right side; and I think the second (for which I attended her in Newcastle), was also on the right side, but as to this I am not sure. The first attack developed suddenly, and was apparently produced by over-reaching in standing up to open a high drawer. I saw Miss P. very soon after the onset; found her pale and collapsed, breathing with great difficulty, and complaining of great pain in the right side, with short frequent cough. On examination of the chest, the physical signs were most typical of pneumothorax, the whole of the right pleural cavity being apparently full of air. (In the second attack, the pneumothorax was localised and limited.) The patient was attended by my father and myself, and was seen in consultation by the late Dr. Charlton, of Newcastle. The air was gradually absorbed, and, as this condition progressed, some pleurisy, with, however, little effusion, gradually developed. The case was ultimately most satisfactory and complete; and I was unable, after recovery was fully established, to detect any abnormality in the shape or size of the thorax. The theory I formed at the time was that an adhesion at the apex of the lung had been pulled upon during the violent effort, and had ruptured the lung, which was possibly emphysematous at the affected part. I was never able to detect any evidence either of old or recent disease at the apex. The second attack developed, if I remember right, without obvious cause. The fact that there has been a third attack perhaps suggests the rupture of some very delicate emphysematous blebs as the cause of the condition. I look forward with much interest to your account of the recent attack. If you think fit, kindly add this letter to the report of the case. I will feel obliged also if you will remember me to the patient.—Yours very truly,

"Byrom Bramwell."

"23, Drumsheugh Gardens, Edinburgh, May 30th, 1888.

"Dear Dr. Gabb,—I am much obliged to you for sending me your notes. From the report you give, the case is even more interesting than I had supposed. There have evidently been at least four attacks of pneumothorax. I should like to know the exact condition of lung which has produced them. I do not think the patient's memory is to be exactly relied upon for the particulars. The second attack for which I attended her was either in 1878, or quite the early part of 1879, for I left Newcastle in April, 1879. I fancy the first attack was before 1874. My recollection of the manner in which the first attack came on—while striving to reach an article of dress on the top shelf of a high wardrobe—is quite definite; and I am confident that I saw the patient within an hour or so after the pneumothorax occurred. As the air was absorbed, evidence of pleurisy (well-marked friction) was developed, and there was also evidence of some but not much fluid in the pleura when the condition was at its height. Notwithstanding Dr. Peacock's doubts, there is no disputing the fact that the most typical and complete pneumothorax which it is possible to wish for occurred in this patient, without any evidence whatever of previous lung disease; and the condition was so completely recovered from that no evidence of former pulmonary trouble could be detected on the most careful examination. This of itself makes the case a very remarkable one; but the fact that there have been three similar attacks since (only less marked, in all probability, because the lung is partly adherent) gives great additional interest to the case. You might publish this as well as my first letter with your notes if you think fit. I look forward to seeing the report.—Believe me, yours truly,

"Byrom Bramwell."

IS IT DESIRABLE IN CERTAIN CASES TO SUBSTITUTE RESECTION OF THE OPTIC NERVE FOR ABLATION OF THE EYEBALL?

By CHARLES BELL TAYLOR, M.D., F.R.C.S.E.,
Surgeon to the Nottingham and Midland Eye Infirmary.

Notwithstanding the great advantages obtained by the substitution of enucleation for the ancient and formidable practice of scooping out the whole contents of the orbit, it is clearly impossible to accept this operation as a final solution of the difficult problem of how to deal with a lost eye. The operation of exenteration, the substitution of a glass vitreous chamber, and the late Mr. Streatfield's proposal to destroy the whole conjunctival surface in certain cases after enucleation is evidence that modern surgeons are not satisfied with the existing state of things. Atrophy of the orbit and neighbouring tissue frequently follows enucleation; the glass eye excites traumatic conjunctivitis, and if the artificial substitute is withheld the orbit retracts. To a working man the annual expense is onerous, the glass eye a perpetual annoyance, and an empty orbit a constant receptacle of foreign bodies. Nevertheless, when the eye is crushed, contains a foreign body, or neoplastic growth, or belongs to a patient who cannot be trusted to take care of himself, or to return if threatened with sympathetic ophthalmia, it is best to remove it. If, however, although sightless, the eye is a good-looking organ, and only affected with neuralgia or recurrent inflammation, or belongs to a

patient who refuses enucleation, it is best to excise a portion of the optic nerve, which is quite as effectual as enucleation, and has the great advantage that it does not sacrifice the eyeball, or render an artificial eye necessary.

In thirty-one cases the author has obtained the most gratifying results from this operation. Motion in all directions is perfect, and, in fact, in some of them it is difficult to tell which eye has been done.

CLINICAL MEMORANDA.

A CASE OF INTESTINAL OBSTRUCTION.

Six weeks ago I was called to see a boy, 7 years of age, living about ten miles away among the Lammermoor hills, who, as his father thought, was suffering from obstruction of the bowels. On inquiry on my arrival I found that a week previously he had eaten a large quantity of hazel-nuts (corylus avellana), and had swallowed the shells as well as the contents. For several days past he had had intense desire to defæcate, but with no result, and seemed to be suffering excruciating pain. On rectal examination, about an inch and a half above the anus, I found an impacted mass, about as large as two fists, very hard, and with the sharp edges of shells presenting here and there. I had no chloroform, so had to put the child to considerable pain. By the use of warm oil, I gradually got the mass away in small pieces, not without some abrasion of the rectal walls. It consisted almost entirely of shells agglutinated together by a small amount of hard fæces. For several days after there was paralysis of the sphincter ani, and consequent incontinence of fæces, but otherwise the child made an excellent recovery. The wonder is how such a large quantity of shells with sharp pointed and cutting edges, passed through the bowels without causing any inflammatory trouble.

Duns, Berwickshire. J. Lockhart Wilson, M.B.

VENESECTIO AD ℥XVJ.

In a recent case I have been struck with the great value of a now all but discarded remedy, a remedy which in the past was in the first and foremost rank, but which has in recent years been relegated to an obscurity from which it will doubtless eventually emerge and again occupy a standard position in our therapeutical arsenal, a remedy so potent for good if rightly applied, so productive of evil if misapplied or used without due care and discrimination. It will be admitted that cases do occur in which the demand for it is self-evident, and but little scrutiny is required to induce its adoption. During the last twenty years of my practice I have bled several times, generally in well-marked instances of plethora, and to relieve prominent symptoms, and I have never once had occasion to repent of my deed. I can call to mind three cases in particular in which the benefit was so marked and immediate that there could be no manner of doubt as to the measure which yielded the result; such cannot be said of most of our remedies.

The therapeutics of the day are probably in advance of the therapeutics of our forefathers; but why should a remedy of such acknowledged power be well nigh entirely shelved? Were our forefathers always in the wrong? Take up the most popular standard work on therapeutics and not a line is devoted to the consideration of blood-letting. The case which leads me to these remarks is briefly this—W. H., aged 50, the subject of mitral regurgitant disease, with pulsating jugulars, heart's action irregular and tumultuous, pulse feeble and very intermittent, sense of fullness about the chest and abdomen, so that he was generally to be found with his waistcoat and upper part of his trousers open, liver enlarged, blood rushing to his face when he stooped, with occasional slight epistaxis, his lips, cheeks, and the lobule of both ears livid, his breathing so oppressed that he was frequently obliged to stop when walking or exerting himself at all, sleeps only for a short time, wakes up suddenly and becomes restless, etc. These symptoms failing to yield to mercurial and saline purgatives, digitalis, and diuretics, sixteen ounces of blood were taken from his arm, which resulted in a dark and very firm clot, surrounded with little serum. His symptoms were immediately relieved, his pulse became more regular and fuller, and should they in the future recur he will not, I am sure, fail to appeal for a repetition of the remedy. John Taylor.

Ticehurst, Hawkhurst.

SYMPTOMATIC HÆMORRHAGE IN TYPHOID FEVER.

Under the heading "An Unusual Case of Hæmaturia," Dr. Oliver, in the Journal for May 26th, describes a case which he believes to have been one of typhoid fever. The history, symptoms, etc., leave one little ground for doubting the correctness of his conclusions. Last April a boy aged 11 was admitted into the infirmary under my care, covered with a purpuric eruption. He was found to be bleeding from his gums, and to be in a typically typhoid condition. He died twenty-four hours after admission. There was found *post mortem* inflammation and ulceration of the lower part of the ilium, enlargement of the spleen and mesenteric glands; the spleen also was dark and soft.

The reason why hæmorrhages take place in severe cases of typhoid fever, in one case from the capillaries of the skin, in another from those of the kidney, is not quite clear. It is probable, however, that before bleeding occurs a change must first have taken place in the walls of the capillaries (due possibly to impairment of their nutrition) in addition to the alteration in the constitution of the blood.

With regard to hæmaturia in typhoid, Murchison says, "In severe cases I have sometimes found the urine to contain blood, and in several instances I have met with copious hæmaturia." In another paragraph, "Sometimes bleeding takes place from gums, kidneys, bladder, and other mucous surfaces, constituting what has been called 'hæmorrhagic putrid fever.'"

Hull. Edward O. Daly, M.D.Oxon.

THERAPEUTIC MEMORANDA.

NITRITE OF AMYL IN CHLOROFORM SYNCOPE.

On reading the account which appears in the Journal of June 7th, of a recent death under chloroform which occurred at the Royal Infirmary, Preston, one cannot help regretting that the remedy which would, in all human probability, have proved the most efficacious under the circumstances in resuscitating the patient, was apparently overlooked or not at hand, namely, nitrite of amyl.

Judging from the description of the death and of the *post mortem* appearances, this was a case in which it was highly probable that nitrite of amyl, from its well known action upon the heart and blood vessels, would have been of signal service, had a three-minim capsule of it been broken for inhalation when dangerous symptoms appeared, and artificial respiration was first commenced.

Gaining wisdom by experience, would it not be well if capsules of this powerful and convenient agent, which is considered to afford the quickest means of restoring the heart's action in such cases, were always included and kept ready for immediate use among the chloroformist's remedies for the prevention of death?

Bedford Square, W.C. J. Higham Hill, M.D.

THERAPEUTICS OF HAY-FEVER.

In a communication on the above subject by Dr. Carl Genth, in the Journal of June 16th, I am pleased to observe the importance attached by him to the fact that the earliest symptoms of this disease appear, as a rule, in the eye.

I have always maintained this, and it has often occurred to me that sufficient importance is not assigned to it in the treatment of the complaint. In nearly all the cases I have observed (my own included), the symptoms of burning and itching at the inner canthus precede by some days the nasal catarrh. In accordance with this view, I have this season attempted to anticipate the conjunctival irritation by bathing the eye with a weak boracic or borax lotion for a week or two prior to the expected onset, and so far with considerable success; this should be continued throughout the season; and if, notwithstanding, there be some heat and irritation, it is very important not to rub the eyes, but to dab gently the margin of the lids and inner canthus with a weak cocaine solution (1 per cent.); this may be done frequently throughout the day, without producing inconvenient dilatation of the pupil, and, in conjunction with the wearing of coloured glasses to shield the eyes from glare, heat, wind, and dust, forms to my mind a very important part of the treatment of hay-fever. If once the conjunctivæ become swollen and inflamed, the whole train of catarrhal symptoms appears to follow.

With increased experience, I have come to the conclusion that it is a mistake to attack the nose with a too vigorous treatment, not-

withstanding some high authorities to the contrary, though if the sneezing and catarrhal obstruction be very troublesome, considerable relief may be obtained by the nasal douche, dissolving a small teaspoonful of a powder (consisting of equal parts of borax, bicarbonate of soda, and common salt) in half a pint of tepid water.

Although a cocaine spray or a solution on cotton-wool, introduced in the nostrils, undeniably gives great relief, I am pretty certain that there is usually an aggravation of the symptoms as the physiological effect wears off, due, no doubt, to a subsequent excessive dilatation of vessels; and, therefore, if a constant check has to be kept upon the symptoms by the drug, so much is used that its toxic effects become manifest, and it is extraordinary how rapidly the nasal mucous membrane does absorb it. I can strongly corroborate some remarks which Dr. Whistler made upon this head a short time ago. The drug produces great mental exhilaration, characterised by rapidity of ideas and facility of expression, in fact a most seductive action, which, I think, should make us cautious in prescribing it freely; there is afterwards a corresponding condition of depression. I am glad to have the opportunity of making these remarks, as I have formerly written warmly advocating its employment. This does not refer, of course, to the eye, where the amount used is comparatively infinitesimal, and produces nothing more than a local effect.

Great Crosby. WM. S. PAGET, M.D.LOND., M.R.C.P.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

LEEDS GENERAL INFIRMARY.

A CASE OF FARCY.

(Under the care of Dr. CHURTON.)

DAVID K., aged 21, a striker in an iron foundry, was admitted on April 7th, 1887, with "many small swellings on skin of trunk and limbs." He was a short, dark, well-built, young-looking man. Dr. Wardrop Griffith, then resident medical officer, observed "many small subcutaneous nodules, distributed chiefly over front of trunk, especially the abdomen, front of thighs, and to a less extent on the calves; on the abdomen a nodule to each area of two square inches; a few are found on the shoulders and back, and one under the chin. Diameter of swellings from a threepenny- to a crown-piece. One cannot readily pinch up the skin over them, especially over the larger ones; over many of them, however, the skin is of normal colour, but where more adherent it is darkish-red, and over two of them there are fine scales and some vesiculation. The nodules are flattened. There are no enlarged glands." No symptoms of disease of other organs, except a disproportionate respiratory rate. Pulse 108, respirations 28, temperature 103°. Some albumen in urine. Patient is married, and has one child; he has been poorly off lately, and has not had good food. He gives no history of rheumatism or syphilis; there is no evidence of the latter. Later it was discovered by Mr. J. Holt that he had for some time been attending to horses, and had not been engaged in his ordinary work. On November 1st, 1886, he had a rigor, and he vomited; on the 6th he went into the Fever Hospital with supposed enteric fever; but he remained only a fortnight, being then sent out; during this time he lost some of his hair. Shortly after this, a small nodule formed on his right leg, became red, and then disappeared. It was followed by a second nodule. Since then he has been well until a week ago, when many nodules began to appear; three days ago, when first seen in the out-patient room, the nodules were less numerous than they are now.

The temperature remained high during the twelve days before his death—103° to 105°—except for an hour or two when lowered by acetanilide or sponging. The progress of his case somewhat resembled that of enteric fever, but his expression was at first less dull and his muscular strength less feeble than is commonly the case in typhoid. He was very deaf, but there was much cerumen in the ears, and during his illness he took both salicylate of soda and quinine. The tongue became very dry, the cheek and upper lip on the left side became swollen and sore on the inner surface, and the gums were swollen. On April 11th slight conjunctivitis at the outer part of the left eye was noted, and on the 12th there was much chemosis of that eye and œdema of lids; no nasal discharge or disease. No vomiting or purging occurred; but on the 14th and subsequent days there was blood with the daily motions, sometimes in quantity. The spleen was enlarged. On the 12th there were distinct expiratory sounds having a patchy distribution in the lungs, chiefly in the lower lobes; he had a very slight cough, and Dr. Churton remarked that there seemed to be nodules in the lungs like those under the skin. No tubercle bacilli were found in the sputum. The pulse, at first about 100, became quicker on the 16th, rising to 120 or 130. The urine contained albumen and excess of urea, quantity about normal. The skin nodules remained in much the same state throughout; on the 14th "some of them are threatening to become bullous, but the cuticle can be peeled off, leaving a smooth yellow surface and no actual discharge." None of them suppurated or formed open sores; but the skin over a few of them became red and scaly; the greater number remained as rounded nodules surrounded by a flattish zone of subcutaneous "inflammatory œdema." He had no delirium or rambling, but by the 18th he had become unconscious, and died the same evening from "slow failure of pulse and breathing."

Necropsy.—The cutaneous nodules were less obvious than during life; they were formed by thickening in the adipose layer, with surrounding œdema. In the lungs, mostly near the surface, were many nodules, varying in size from a pea to a large hazel nut, microscopically resembling pneumonia. A few small ulcers in the larynx. There were nodules also in the stomach and the intestines; in the colon many of the nodules had ulcerated. Peyer's patches few in number, but quite normal. Spleen weighed 12½ ounces. In the kidneys were many nodules, one of the size of a large marble. There were no nodules in the liver. It was not found practicable to investigate further the origin and causation of the disease by inquiries at his home and working place, but there appears to be little room for doubt that the disease was farcy.

NOTTINGHAM GENERAL HOSPITAL.

INTESTINAL ULCERATION (SIMPLE OR DYSENTERIC?): PERFORATION: DEATH.

(Under the care of HENRY HANDFORD, M.D., M.R.C.P., Physician to the Hospital.)

A. G., an emaciated, poorly-developed girl, aged 14, was admitted in September, 1887, complaining of pain in and some swelling of both knees, sore throat, and cough. She had acute rheumatism three years ago, and had had occasional subacute attacks since. There was no history of persistent diarrhœa, nor of the passage of blood by the bowels.

On admission she was convalescing from an attack of whooping-cough. There was considerable effusion into one knee-joint, and both knees were kept semi-flexed. The skin was dry and harsh, and the general nutrition was extremely low, as shown very markedly by the readiness with which patches of local gangrene (bed sores) were produced by the slightest pressure; for example, on the inner aspect of the knees where they touched one another, over the malleoli, on the heels, etc.

The pains in the joints soon disappeared, as also did the effusion, and she improved somewhat in strength and nutrition. The abdomen was always flat and somewhat retracted, with no tenderness on pressure. The bowels were rather costive, but were moved readily and painlessly by enemata or by moderate doses of aperient medicine. The temperature, which was about 101° on admission, soon fell, but gradually rose again and became hectic, without discoverable cause, varying from normal in the morning to 102° in the evening. In October for about ten days the bowels were a little loose, the patient having one or two liquid motions daily. This was readily checked. On November 10th she began to complain of pain in the bowels and of vomiting; the latter took place from ten to twenty times a day, and was totally uninfluenced by the most varied treatment. The stomach rejected at once almost everything that was taken, even water. The vomited matter consisted at first of food, and afterwards of greenish fluid; there was never any blood. The vomiting after a few days abated considerably, but continued more or less till her death. The entry in the case-book for November 15th runs: "Bowels somewhat costive, but moved to-day; abdomen flat, walls very tense and rigid; no dulness; considerable tenderness on pressure (peritonitis?). Liver dulness cannot be detected at all (perforation of intestine and air in peritoneal cavity?)." Later, some swelling and resistance was detected just below the um-

bilicus, and tenderness on pressure was now chiefly limited to that region. Towards the end of November the bowels became slightly loose again, there being one or two offensive liquid motions daily. The patient died of asthenia on December 13th after reaching the most extreme degree of emaciation.

With regard to diagnosis I should say that it was recognised during life that the symptoms were anomalous, and that no exact diagnosis could be arrived at. It was suggested as on the whole least unlikely that there was tubercular peritonitis with tubercular ulceration of the intestine leading to perforation, rare as perforation is in the case of tubercular ulcers.

At the inspection on December 14th, 1887, there was found no general peritonitis, but in the hypogastric region an irregular sloughing cavity the size of a fist, containing pus and fæcal matter, and communicating freely with the transverse colon, which was dragged down and adherent to the margins of the cavity. The space was bounded above by small intestine and by the great omentum, which by numerous adhesions shut it off from the general peritoneal cavity, and below it extended into the pelvis. The cæcum was extensively ulcerated, and several of the ulcers had perforated the wall of the intestine, but the openings were closed by peritoneal adhesions. The appendix contained fæcal matter, but was not ulcerated. The ascending and the transverse colon was extensively ulcerated. The communication of the middle portion of the transverse colon with the suppurating cavity in which it was involved was so free as almost to make it cease to be a tube. The mucous membrane was somewhat thickened, and in places there were points of extravasated blood. The secretion of mucus was also in excess; but the changes did not seem to be sufficiently marked to be truly called dysenteric. The descending colon was but little altered, and the sigmoid flexure and rectum not at all; neither was there any change in the small intestine beyond some atrophy of the coats. The liver weighed 27½ ounces, and was fatty. There was no disease of the heart, and no ulceration or marked thinning of the coats of the stomach. No tubercle was found in any of the organs, and the appearance of the intestine was not that of tubercular ulceration.

Remarks by Dr. Handford.—The questions that now arise are: Was the disease a primary ulceration of the intestine as part of the general extreme malnutrition and impaired tissue vitality, as evidenced by the readiness with which bedsores formed on the slightest pressure? Or was the ulceration due to an enteritis set up by the accumulation of fæcal contents in the cæcum and transverse colon in ordinary constipation—for there was never any approach to intestinal obstruction—in a delicate subject? Or was the case one of chronic sporadic dysentery, manifesting itself in this instance usually by constipation, and with only slight occasional diarrhœa, and no discharge of mucus or blood? I incline to the first view, or that combined with the second—which is not really antagonistic, but rather complementary to the first—and think that the affection had no true relationship with dysentery—meaning by that a disease due to specific poison. With regard to the influence of fæcal accumulation, short of obstruction, in causing intestinal ulceration, Virchow lays stress on the importance of habitual torpidity of the large intestine as a factor in the production of sporadic dysentery. Annesley long ago pointed out that in India dysentery often commences with the characteristic signs of morbid accumulation in the large bowel. Dr. Dickenson has also suggested that the transverse ulcers occasionally found in the colon may be due to the irritation of fæces. The production of ulceration of the intestine, especially the colon, in long-continued intestinal obstruction from the irritation of the accumulating and decomposing fæces is also generally recognised. It is possible that the joint-affection was pyæmic rather than rheumatic in its nature—I do not mean by that that the effusion in the knee-joint which disappeared was necessarily purulent—and resembled the affection mentioned by Homan and Hertwig as occurring in dysentery, where several joints are attacked at the same time, but they do not become very tender, nor is there much swelling. The febrile disturbance is moderate, and the affection subsides in three or four weeks.

Remarkable Fecundity.—Mrs. Norman, the wife of a painter living at Fratton, Portsmouth, is reported to have given birth to four children on Sunday last—three boys and a girl—of whom only the girl survives. Mrs. Norman, who is about forty years of age, is said to be the mother of twenty-one children, of whom nine are living. She had previously had twins, and seven years ago triplets.

REVIEWS AND NOTICES.

Nerve-Prostration and other Functional Disorders of Daily Life. By Robson Roose, M.D. Pp. 668. H. K. Lewis.

This volume illustrates the prevailing tendency to refer all obscure and ill-defined disease to disorder of the nervous apparatus—a tendency sufficiently strong upon the part of the public and demanding check rather than encouragement from all genuine workers in the scientific field. When we call locomotor ataxy or infantile paralysis "nervous" diseases we are using definite and strictly accurate language, but if we apply the same epithet to such maladies as writers' cramp and angina pectoris we are using the word in a different and less legitimate sense. Dr. Roose pleads for a very liberal interpretation of the term "functional," and it will be evident that his use of it is tolerably vague when we state that he applies it to epilepsy, chorea, sciatica, Bell's paralysis, dyspepsia, and a host of other ailments which are very imperfectly designated by an expression implying that the disorder of function is of a nature to elude analysis and explanation. His first title is even more open to exception from the same point of view. Nerve-prostration, neurasthenia, or nervous exhaustion, can hardly, by any process of interpretation, be legitimately used to include asthma and migraine and hay-fever. These affections *may* be due to functional nervous disorder, but without doubt they frequently occur in those who are not the victims of nerve-prostration. Dr. Roose does not hesitate to throw aside occasionally the fetters which his choice of subject necessarily involves, thus he discusses the wide subject of dyspepsia in all its aspects, and does not limit himself to those varieties of it which are probably neurotic in origin.

The style is semi-popular, the scientific information can be traced largely to such well-known neurologists as Brown-Séquard, Hughlings Jackson, Weir-Mitchell, Charcot, Beard, and Dickinson. The value of Dr. Roose's volume will be found in the sections devoted to therapeutics. The treatment of minor ailments demands much patience and resource, but is amply deserving of the best efforts of the practitioner, whose usefulness and success often depend at least as much upon his skill in dealing with such affections as dyspepsia and neuralgia as upon his more ambitious efforts. Dr. Roose discusses the various problems of treatment very fully, and in the main with sobriety and judgment. He gives a fair consideration to recognised views, is commendably free from fads, and makes many suggestions worthy of trial. We have not always, however, found his therapeutics thoroughly up to date. Thus, in discussing the remedies for sleeplessness, he does not even mention the new hypnotics—paraldehyde and urethane.

There is always a certain ill grace in a critic suggesting to an author how his book should have been written, but we think few readers of Dr. Roose's work will demur to our opinion that its main drift is therapeutical, and that the rest hardly justifies the space devoted to it. Dr. Roose has really nothing fresh to tell us regarding either the natural history or the morbid anatomy of disease. The hundreds of pages devoted to these subjects might have been well spared, inasmuch as they contain nothing more than an agreeably written digest of the facts and views of the well-known manuals. On the other hand, the therapeutics of the volume are well thought-out and serviceable, and might with advantage be published separately.

On the Progress of Preventive Medicine during the Victorian Era. Being the Inaugural Address delivered before the Epidemiological Society of London, Session 1887-88. By R. Thorne Thorne, M.B., F.R.C.P.Lond., President of the Epidemiological Society. London: Shaw and Sons. 1888.

Dr. Thorne Thorne's presidential address to the Epidemiological Society is valuable not only as a review of what has been achieved in the past fifty years, but also as an accurate summary of our present knowledge in many departments of epidemiology, and of the lines which may be fruitfully pursued by future workers in this important branch of medicine. As might be expected from a president who, from his official position as a medical officer of the Local Government Board, is intimately acquainted with the valuable work done by his predecessors and fellow-labourers in office, ample acknowledgment is made of the inquiries and researches

conducted by the Department, many of which deserve undoubtedly to rank as historical and epoch-making. No one who values as they deserve the results achieved by the department, at but small cost to the nation, will cavil at the importance attributed in this address to the labours and researches of the medical officers and scientific workers who have been or are now connected with it. It would perhaps have been better in an impartial review of the circumstances which have lately been shown to render probable a connection between scarlet fever and a disease of the cow, to have made some mention of the experimental work done by other inquirers besides that of Dr. Klein; but this Dr. Thorne Thorne has omitted to do, for reasons which to him no doubt appear satisfactory.

That portion of the address which deals with the etiology of diphtheria is especially worthy of notice. Ten years ago, in a communication to the society, Dr. Thorne Thorne narrated the circumstances under which outbreaks of diphtheria have apparently some connection with widespread incidence of simple sore throat of a non-infectious character. He at that time broached a theory of "the progressive development of the property of infectiveness," but since 1878, "circumstances have arisen which will make it necessary in the future, in seeking for antecedent infection, to look to the possibility of such infection being derived from the lower animals. But, apart from such consideration additional evidence has, I think, been forthcoming in favour of the opinion that the contagium of diphtheria is often characterised by a want of stability when compared with that of other contagia, such as small-pox, and that it does affect the human subject in a form which is capable both of progressive development and of relapse in point of type, according to the circumstances of its surroundings." Further on Dr. Thorne Thorne writes, "there are reasons to believe that the aggregation together of cases of diphtheria and of allied throat affections, under circumstances such as those obtaining in elementary schools, constitutes one of the conditions under which a form of disease of particular potency for spread and for death may be, so to speak, manufactured."

Besides scarlet fever and diphtheria, the address contains historical notices of small-pox, typhus, enteric fever, phthisis and cholera, and an account of their diminished incidence and fatality as a result of increased knowledge of their causes and of the circumstances which favour their spread. Although preventive medicine has made such strides in the past fifty years, and has fully kept up with contemporaneous advances in general medicine and surgery, so that it now forms a special branch of medicine, and can point to results which have benefited the whole civilised world, still much remains to be done, and we may look in the future to the practical extinction of many diseases which now number their annual victims by thousands and tens of thousands.

Dr. Thorne Thorne's address is deserving of very special study not only by medical men and sanitarians, but by those who profess to disbelieve in State-aided efforts to inquire into the causes of preventable disease—inquiries which this address amply proves to have contributed largely to raise the public health to its present standard.

A Treatise on Dislocations. By Lewis A. Stimson. 163 illustrations; pp. 539. London: Churchill. 1888.

This volume is correlative to the same author's work on *Fractures*. In the preface it is said that its appearance has been delayed because of the great amount of material which had to be collected and examined: this material being made available by the *Index Medicus*, the *Index Catalogue* of the Surgeon-General's library, the encyclopædias and textbooks and periodicals. Working upon these lines Professor Stimson has compiled a handsome volume, which, if not especially original, gives a full and clear account of the subject. It is well printed and free from clerical and printer's errors; moreover, the literary style is clear and readable. The dislocations are considered under three headings, namely, traumatic, non-traumatic, and special. A praiseworthy endeavour is made in the beginning to define the terms which are about to be used. Exception may be taken to some of these definitions. For instance, it is said, "If the displacement (of articular surfaces) is only momentary, the parts immediately returning to their normal relations, the injury is classed as a sprain. This definition is based upon an assumption which may or may not be true. Whether, in a so-called sprain, the articular surfaces have been apart seems to us of little practical importance and incapable of proof. The term "sprain" is unscientific and is applied to a variety of minor injuries, especially those of ligaments and capsules, and to their after-effects—bruising and inflammation. Perhaps it would have been better in speaking of traumatic dislocations if greater stress had been laid upon those which are compound. Although the various complications of dislocation are systematically discussed, slight prominence is given to this, which is one of the greatest and most embarrassing. And although the repair of simple dislocations is described, that of which we are speaking seems to have been hurried over in silence, and is not mentioned, either in the table of contents or in the index. Surgeons are greatly in want of information and statistics to guide them in their treatment of compound dislocations, and we trust that in his next edition our author will endeavour to provide this.

However, in justice we must say, that he states that he himself has no experience of compound dislocation of the shoulder, or of the ankle; less than three lines is given to those of the elbow. In other respects the treatment of dislocations is well and clearly discussed, and the various dangers of the immoderate application of force very properly emphasised. We are glad that attempts to reduce long standing dislocations are discouraged. We have seen such endeavours followed by serious results, and we know that the condition does not forbid a very useful limb. The chapter on congenital dislocations contains much interesting matter. Those of the hip are attributed, in the majority of cases, to an arrest of development of the acetabulum by deficient action or vitality of the cells of the T cartilage, and not to traumatism. The first part of this proposition is, perhaps, open to criticism, and the author fails to support it with his own investigations. As might be expected, other dislocations of the hip are well and exhaustively treated. The woodcuts are clear and come up to the ordinary standard of those found in medical works. Exception ought to be taken to that which is intended to represent the sterno-clavicular joint. It is an indifferent reproduction of an indifferent drawing of Henle's. Moreover, the accompanying letterpress is not free from errors: for instance, the costo-clavicular ligament is said to be attached to the sternal end of the first rib, instead of to its cartilage. However, these are small detractions from a work which is worthy of commendation.

Die Entwicklung der Bakterienfärbung. Eine Historisch-kritische Uebersicht. Von P. G. Unna. Iena, 1888.

New methods of staining bacteria have accomplished so much that we are apt to forget that it is an art of quite recent invention. Our author dedicates his small work to Weigert, who was a pioneer in this direction. The various methods of aniline staining at present in use are briefly and clearly described, and due credit is given to each inventor. The names given to some of the stains are novel and fix themselves at once upon the memory. For instance, we find Victoria blue mentioned, and can refer also to Bismarck brown. Finally the different methods are tabulated in a clear and simple manner. We regret, however, to find that the labours of English bacteriologists are not dealt with in these pages, which, almost exclusively, refer to the work of German observers.

NOTES ON BOOKS.

An Examination of the Theory of Evolution and Some of its Implications. By George Gresswell. (Pamphlet form, pp. 155.)—This interesting little pamphlet is founded upon a lecture entitled "The Evolution Hypothesis," which was delivered in the hall of the Diocesan College near Cape Town. The original lecture has been considerably expanded by selections from the writings of the author's brothers. For instance, chapters vi and vii, dealing with "Pathology from the Aspect of Evolution, and the Advancement of Comparative Pathology and its relation to Veterinary Science," are abstracted from a pamphlet by Dr. Astley Gresswell. In the same way, chapter x is taken from a pamphlet on Rational Politics, written by another brother, Mr. Charles Gresswell. A good deal of the book has been previously published in the pages of the British Medical Journal and *Veterinarian*. It is, however, interesting; for evolution is considered, not only from the

Darwinian point of view, but also in accordance with the principles of Herbert Spencer. The headings of the chapters alone show how wide a field the author has attempted to cover, for, after discussing the fundamental features of evolution, he considers it in its relation to pathology, comparative pathology, the science of ethics, and to rational politics. The book is worthy of perusal, for it contains much good and suggestive matter, clearly and pleasantly arranged; and undoubtedly represents, as the author tells us in his preface, the result of a great deal of thinking; and to this, we may add, careful and diligent study of the principles underlying the theory of evolution.

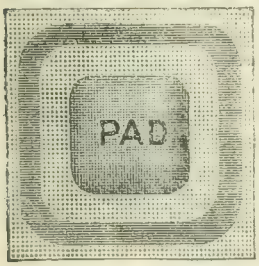
REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

CHASSAING'S POUDRE LAXATIVE DE VICHY.

THIS is not, as its name would seem to imply, obtained by the evaporation of Vichy water, nor is it a preparation intended to represent the solid constituents of the water. It is a compound laxative powder made by Chassaing and Co., of Paris, from the formula of Dr. Souligoux, and recommended by the maker as a remedy for constipation, whether habitual or otherwise, without producing actual purgation. The dose is from 5 to 12 grammes (about 75 to 180 grains), according to the requirements of the case. The powder is aromatic in odour, and not unpleasant in taste. Messrs. Burgoyne, Burbidges, Cyriax, and Farries, of 16, Coleman Street, are the London agents.

THE LEICESTER PREPARED SHEETS OF LEATHER AND FABRIC.

THESE prepared sheets are for the application of ointments, lotions, poultices, and other medicaments to the human body. They consist of squares, round, or oval pieces of waterproof sheeting, white leather, or chamois leather, having a self-adhesive border at or near the edge. A blister, a plaster, or an ointment may be spread upon the central plain part and the adhesive margin will keep the material so spread closely applied to the skin, and will prevent any plaster or ointment within it from soiling the clothing of the wearer. The sheets are made of any size from 2 inches by 2 inches inside the border to 12 by 16. Pads of lint soaked with oil or hot water, and sprinkled with any medicament can be conveniently applied and effectually retained in position with the aid of these sheets. They are made by Mr. A. de St. Dalmas of Leicester.





BURGOYNE'S ACETANILIDE-MONOBROMO.

ACETANILIDE or phenylacetamide, or, as it is perhaps more commonly known, antifebrin, is an antipyretic concerning which so much has already been written that it is needless to speak of it here. Messrs. Burgoyne, Burbidges, Cyriax, and Farries, of 16, Coleman Street, E.C., have, however, manufactured a substitution compound from it, to which they have given the name of acetanilide-monobromo. This is really phenylacetamide, in which one atom of hydrogen of the grouping C_6H_5 (phenyl) is replaced by an atom of bromine.

The makers suggest that it would be of considerable value in facial neuralgia and in cases of neuritis of the nerves of the orbit as well as in the treatment of rheumatic affections, either muscular or articular. We consider it a very promising chemical compound and think it worthy of extended trial in those cases in which the use of a bromine derivative of antifebrin seems to be indicated. The dose is $3\frac{1}{2}$ to 15 grains, and the makers also supply tablets containing 4 grains in each.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, JULY 28TH, 1888.

BACK-TO-BACK HOUSES.

To secure purity of the air we breathe has come to be recognised as a fundamental principle in good sanitation, and in the application of that principle it is necessary not only that the air should be kept free from pollution by improper accumulation or disposal of filth, but that our dwellings should be so constructed as to secure their through ventilation internally, and also the free circulation of air around them externally. Unfortunately the importance of this principle has not always been recognised, or if admitted in theory it has in practice been frequently overshadowed by other considerations. Hence one of the most common faults in the poorer portions of our old towns, and one of the greatest obstacles to the sanitary improvement of the dwellings of the poor has been the overcrowding of dwellings on sites. This overcrowding may have resulted from different causes in different localities, but in many of our northern manufacturing towns it has sprung from the local predilection for the system of building houses "back-to-back." In support of this system it has been contended that it is the only arrangement by which, having regard to the price of land, self-contained houses can be provided at low rents for artisans earning low wages. But there is also a common notion that houses so built are warmer than those with through ventilation and free circulation of air, and so houses of this type are regarded with a certain amount of favour in some localities.

The system of back-to-back building has, however, been generally condemned by sanitarians as a survival of a very unhealthy mode of house construction, and it will be remembered that it was the subject of an interesting discussion in the Public Health Section of the British Medical Association, during the meeting at Dublin last year. On that occasion it was unanimously resolved:—"That the Section, having regard to the great importance of securing the through ventilation of dwelling-houses, desires to express an emphatic condemnation of the system of building houses back-to-back, and to submit to the Council of the British Medical Association the desirability of urging on the Government that a minimum amount of open space to the front and to the rear of all dwelling-houses should be required under legislative enactment." Nor have the Local Government Board overlooked the question, for they instituted a partial inquiry as to the matter, by the late Mr. Netten Radcliffe in 1879, and in their

model code of by-laws they have practically excluded the system from regulation, by requiring that a certain amount of open space should be provided, both at the front and at the rear of every new domestic building. The same principle was laid down in 1885 by the Royal Commission on the Housing of the Working Classes, when they recommended, subject to the limitations which would probably be found necessary to prevent undue sacrifice of property in individual cases or in particular areas: "That in the rear of every new dwelling-house or other building to be controlled by rules ordinarily applicable to dwelling-houses, and whether in old or in new streets, there be provided a proportionate extent of space exclusively belonging to the dwelling-house or building, that this space be free from erections from the ground level upwards, that it extend laterally throughout the entire width of the dwelling-house or building, that for the distance across the space from the building to the boundary of adjoining premises a minimum be prescribed, and that this minimum increase with the height of the dwelling-house or building.

A report which has just been issued by the Local Government Board, giving the results of the joint inquiry by Dr. F. W. Barry, one of their medical staff, and Mr. P. Gordon Smith, their architect, as to "back-to-back houses," is an important and valuable addition to the available information on this interesting subject. The inquiry in question has been a very comprehensive one, and has evidently been conducted with great care. It had regard to *(a)* the extent to which back-to-back dwellings have been built during recent years; *(b)* the space about dwellings required by local regulations and the amount actually provided in practice, together with the arrangements made for securing circulation of air about dwellings, and the relative density of houses on area in different districts; *(c)* the structural arrangements of buildings as to stability, prevention of fire, means of ventilation, disposal of excrement and refuse, and accommodation afforded in different classes of houses; *(d)* the relative cost of houses of different classes, including cost of land, of construction, proportionate amount payable for road-making, paving, sewering, etc., in each case; and *(e)* the influence of different classes of houses upon the health of the inmates, with especial reference to the relative mortality from all causes, from phthisis, from lung diseases, and from infectious diseases generally.

As the general result of their investigations the inspectors report—(1) that the practice of building houses without provision for through ventilation is still in vogue to a considerable extent in many Yorkshire towns; that in some districts the proportion of such houses to houses provided with means for through ventilation is very large and is steadily increasing; (2) that the erection of houses upon the back-to-back principle, in the way commonly practised, tends to promote the huddling of houses, and the consequent crowding of persons upon area to a degree which is incompatible with health; (3) that so far as structure is concerned, certain facilities exist in back-to-back house construction under which the efficiency of party walls may be less than in the case of through houses, but that otherwise the details of house construction generally are similar in both classes of houses; (4) that little or no improvement has taken place in the ventilation of back-to-back houses themselves, and that this applies even in districts where, under comparatively recent regulations, not more than four or eight houses may be built in one block; (5) that improvement in the method of excrement disposal has continuously gone on in the districts visited, but in this respect much still remains to be done; that in some cases grave disadvantages to decency and health accrue from the custom still prevalent in certain districts of grouping privies in blocks at an excessive distance from the houses, a practice which is still more objectionable when each such privy has to serve the inhabitants of two or more houses; (6) that the accommodation afforded in through houses is usually superior to that afforded in back-to-back houses of a similar extent; (7) that the difference in the cost of construction of a through house and of a back-to-back house respectively, each affording the same accommodation and built equally well, is very slight indeed; the advantage, such as it is, being with the back-to-back house; and (8) that it appears probable that the want of through ventilation has, *per se*, an unfavourable influence upon health, and gives rise to an increased mortality from pulmonary disease, phthisis, and diarrhœa; but that further and more exact information under this head is desirable.

Without assuming for their report that it finally decides all questions that may arise concerning the construction and wholesomeness of this class of houses, the inspectors submit, as the general outcome of the inquiry, that the Local Government Board "should refuse their sanction to any by-laws which would permit the erection of back-to-back houses, and that they should discourage, by all the means at their command, the erection of such houses."

The evidence upon which these conclusions are based has been gathered from Halifax, Morley, Todmorden, Stainland, Dewsbury, Bradford, Keighley, and Salford, and it bears out out the inspectors' propositions. The tables which show the comparative cost of land, houses, and street construction, with rental returns, as regards the two classes of houses, are especially instructive, and if the inspectors' calculation be confirmed that the difference in the cost of construction of a "through" house and of a "back-to-back" house respectively, each affording the same accommodation and built equally well, is very slight, the chief excuse for the adoption of the less wholesome system will have disappeared.

It is unfortunate that that part of the inquiry which related to the influence of different classes of houses upon the health of the inhabitants had to be left incomplete. The inspectors experienced great difficulty in obtaining any reliable information. They found in all the districts visited that there was a general opinion on the part of the medical officers of health that back-to-back houses as compared with through houses had an unfavourable influence on the health of the inhabitants, but they could not find that this opinion was supported by any ascertained facts. Indeed, no systematic study appears to have been made to determine by actual observation the influence which houses with and without through ventilation respectively have had upon health. The inspectors are convinced, however, that, as regards many of the Yorkshire towns, little difficulty would be experienced by the local health officers in ascertaining the relative incidence of pulmonary disease, phthisis, diarrhœa, and infectious diseases generally in houses of the two classes,

as in several of the towns there are more or less distinctly defined districts composed respectively of houses of the two classes. It would be a distinctly useful work to study this part of the subject a little more closely, and no doubt the local health officers will do so in future now that its importance has been brought to their notice. The statistics and diagrams furnished by Dr. Tatham, of Salford, go far, however, by themselves to demonstrate the unwholesome influence of the back-to-back system on the public health. The same may be said of the figures derived from Bradford experiences, and we feel sure that equally conclusive evidence is obtainable in other towns.

The whole subject is one of vast importance to the inhabitants of most of the manufacturing centres in the north of England, and we trust that the report to which we have drawn attention will receive the careful attention which it deserves.

THE AMENDED LEGISLATION FOR INEBRIATES.

The passage through Parliament, which we briefly recorded in the Journal of July 21st, of the Habitual Drunkards' Act Amendment Bill, marks an important stage in legislation for the care and cure of the subjects of the disease of inebriety. The agitation for this form of legislation was suggested by Dr. R. B. Grindrod, in 1839, approved by the Scotch Lunacy Commission in 1857, and soon thereafter supported by Sir Robert Christison and Dr. A. Peddie, in papers presented to the British Medical Association.

After the late Dr. Donald Dalrymple's visit to America to inspect the homes for inebriates in that country, he introduced his first Bill into Parliament in 1870, and after a Parliamentary Inquiry by a Select Committee of the House of Commons, a second Bill in 1872. Dr. Dalrymple's death, and the unexpected adjournment of the House, interrupted further procedure at that period.

Drs. Peddie and Bodington having read papers to the Public Medicine Section of the Association in 1875, the Committee on Legislative Restraint for Habitual Drunkards was appointed. Dr. Alfred Carpenter, who acted as Chairman for the first eight years, secured the co-operation of the Social Science Association, and a Joint Committee was formed, which developed into the Society for the Promotion of Legislation for the Control and Cure of Habitual Drunkards, with the late Mr. Stephen Alford as Secretary. The Habitual Drunkards' Bill, 1879, which was drafted by this last-named Association, was carried through Parliament by Dr. Cameron and Earl Shaftesbury. An Amendment Bill, which was drafted by the British Medical Association Legislative Committee, was introduced into the Lower House in 1887, but did not reach a second reading. With the assent of the Government, through the Home Secretary, an Amendment Bill was brought in during the present session, and withdrawn owing to parliamentary difficulties. A second Bill was thereupon introduced, and finally passed, under the care of Dr. Cameron, Sir Walter Foster, Sir Trevor Lawrence, and Sir Lyon Playfair. In the House of Lords the Earl of Aberdeen carried the Bill through.

The two Acts are now cited as "The Inebriates Act," a title less deterrent to inebriates desirous to apply for admission to a licensed retreat, who have a great objection to declaring themselves to be "habitual drunkards." The restriction of the two attesting justices to the county in which the attestation of the applicant's signature is made has been removed—a practical amendment of considerable value. An oversight in the original Act has been remedied by the giving of power to appoint a deputy to the licensee, which will improve the discipline and promote the efficiency of homes. Above all—and this provision alone would render the amending Bill invaluable—instead of an Act expiring next year, we have a permanent measure, to the improvement and amendment of which the whole influence of the Association can in future be devoted. A long and arduous work is before us. Though the profession—for this has practically been a medical agitation—has after a quarter of a century of effort at last secured permanent legislation, we are far behind our own Colonies in effectual legislative provision for the inebriate. No effort should be spared to secure the inclusion of other forms of inebriety beside the alcoholic, to render the procedure with escaped patients less penal, to obtain the detention for curative purposes of habitually drunken paupers, to have compulsory admission in certain cases as well as provision for the cure of the poorest, and attestation in all cases by one justice only.

TECHNICAL EDUCATION.

Under the name of technical education many plans for national improvement have recently been put forward, some dealing with children in school, others with men. All will agree as to the desirability of providing such training as may enable the mechanic and the mercantile *employé* to compete on satisfactory terms with other nations. Lord Hartington, as President of the National Association for the Promotion of Technical Education, urges that the question has come to a point where private and local enterprise ought to be supplemented by public assistance, and the Association have already obtained promise of a grant of £5,000 a year from the Council on Education in aid of agricultural instruction, when an agricultural department has been formed. The Association has also raised the question of State aid to local colleges for the promotion of higher scientific education. Two Bills are now before Parliament for the purpose of providing technical education, the one framed by Sir H. Roscoe, M.P., the other introduced by the Government, which provides further instruction in connection with the public elementary schools for scholars who have reached a certain standard of proficiency in the ordinary branches of school training. There is considerable vagueness among speakers and writers as to what is meant by "technical education;" the Government Act defines the expression as "instruction in the principles of science and art applicable to industries, and in the application of special branches of science and art to specific industries and employments." Lord Armstrong, in an article contributed to the *Nineteenth Century*, speaks as an employer well acquainted with mechanics of all classes, and as a man who has seen children in schools, and has made himself acquainted with what they learn. He maintains that the education of children in elementary schools should be designed for the purposes of training the faculties of the brain rather than

for imparting technical knowledge, which may be deferred to more mature age. "Not only should the mind be trained in habits of thought and in quickness and accuracy of perception, but the hand, the eye, and the ear should all participate in training exercises calculated to make these organs more available as instruments of the mind. Except in teaching the art of writing, which, as a rule, is very imperfectly done in elementary schools, no attempt is at present made to educate the hand. Appropriate exercises ought to be devised for cultivating its mobility, precision, and delicacy of touch; and if, in so doing, the ability to use simple tools were acquired, it would be advantageous to any line of life that might be ultimately adopted." All organs and all faculties are developed by exercise, and it might be well to impart less bookish knowledge, and make further attempts by physical exercises, and by teaching drawing, modelling, or carpentry, to use sight and touch as means of disciplining and training the brain. In schools in Sweden, and under the teaching of the Slöjd system as introduced into this country, various manual lessons may be introduced, such as metal-work, smith-work, basket-making, painting, fretwork, bookbinding, and wood-slöjd, with the result of imparting a liking and respect for work in general, even for the coarser forms of manual labour, and at the same time giving the means of training to accuracy, cleanliness, industry, and perseverance, and developing the physical powers, and training the eye to the sense of form.

Secondary education, or teaching in evening classes or in colleges, is a different matter from technical education in the primary school. This is intended for those who have acquired some knowledge and have had previous good training of their mental faculties. Lord Salisbury has said that the first necessity of a man is to live, that his first duty is to work, and that the first object of education is to fit him for work. The success of the German technical schools appears to be due rather to the pains taken, the balance of the physical and mental faculties, than to the special value of the technical instruction given.

The secondary education that has been referred to is now provided in many places in the East End at the People's Palace and Toynbee Hall, in the West at the Polytechnic, and an endeavour is being made to provide them such institutions for South London, towards the expenses of which the Charity Commissioners have contributed half the sum required. Lord Armstrong thinks the greatest present need is public laboratories where physical science may be taught practically. Colleges of agriculture are called for in many parts, and for these Government aid is promised. The whole movement is a good one, and shows the increasing national desire to see the children healthy and trained to become active, intelligent, and self-reliant.

We are requested to announce that the Library of the Royal Medical and Chirurgical Society, 53, Berners Street, Oxford Street, will be closed during the month of August.

Mr. Richard Middlemore, the founder of the Middlemore Prize of the British Medical Association, has, we are informed, founded a post-graduate lectureship in connection with the Birmingham and Midland Eye Hospital.

It is stated that the sanitary condition of Rotherhithe is to be inquired into, by order of the Secretary of State.

Prince Louis Ferdinand, of Bavaria, has passed the final medical examination qualifying him to practise as a physician. He is the second member of his family who has joined the medical profession.

THE NEW FRENCH HOSPITAL.

The foundation stone of the new French Hospital in London on the site purchased some time since in Shaftesbury Avenue, was laid on Saturday last by His Excellency the French Ambassador in the presence of a numerous and distinguished assembly. The benediction was given by Cardinal Manning. This very useful institution, due to the energy and perseverance of Dr. Vintras, will now be enabled to extend its sphere of operations on a scale commensurate with its importance.

RESCUE FROM FIRE.

The efforts of the committee formed for the purpose of arranging a display of apparatus of all kinds for the saving of life and property at fires, has, we are glad to hear, met with signal success, and the exhibition will be opened on July 30th, at the Portman Rooms, Baker Street, W., and will continue open for the ensuing week, when practical demonstrations will be afforded of the various methods of saving life from fire. The profits will be handed over to the Royal Humane Society.

THE ROYAL COMMISSION ON UNIVERSITY EDUCATION IN LONDON.

A meeting of the Royal Commission on University Education in London was held on July 21st at the rooms of the Commission, 5, Craig's Court. There were present the Earl of Selborne (Chairman), Sir James Hannen, Sir William Thomson, D.C.L., Professor Stokes, P.R.S., M.P., the Rev. E. C. Welldon, and the Secretary, Mr. J. Leybourn Goddard. The examination of Dr. Allchin, who attended as a representative of the five smaller metropolitan schools, was concluded. Dr. Norman Moore, representing St. Bartholomew's Hospital Medical College, was next examined, then Dr. J. S. Bristowe, F.R.S., representing St. Thomas's Hospital Medical College, and lastly Dr. Frederick Taylor, representing Guy's Hospital Medical College.

THE FIRST HOME FOR INEBRIATES.

The credit of designing and founding the earliest home for the treatment of inebriates belongs to Dr. J. E. Turner, of North Wilton, Fairfield, Connecticut, U.S.A. The philanthropic founder, animated by a strong desire to save an inebriate friend, devoted himself to the study of inebriety, with the result that he recognised as its cause a diseased condition. Dr. Turner devoted twenty-three years of unremitting work before his labours were practically rewarded by the laying of "the corner stone" of the New York Inebriate Asylum at Binzhampton on September 24th, 1858. This institution was supported by many of the leading physicians and surgeons in America, the well-known Dr. Valentine Mott having been its president for four years prior to his death. A large number of patients were treated at this establishment, nearly one-half of whom were benefited. Several of these patients have since attained to eminence in the American community. By an unhappy course of events the building and very extensive grounds were made over to the State and converted into an asylum for the insane. The veteran founder, Dr. Turner, is still alive, and has just issued a history of this, the first asylum for inebriates in the world. The transfer of Binzhampton to the State is being contested on the ground of illegality, the profits from the history now published being devoted to a fund to pay the expenses

of the suit. It is to be hoped that this pioneer of the movement to treat the inebriate as a sick person will yet live to see the fruit of his unwearied and unselfish labours once again utilised for the scientific care and treatment of the diseased inebriate.

ELECTRICITY IN INCONTINENCE OF URINE.

In the *Gaceta de Enfermedades de los Organos Genito-Urinarios* for May, Dr. Alejandro Settier records two cases of complete incontinence of urine in which he used electrical treatment with success. The first patient was an officer, aged 27, who had suffered from the infirmity for eight years; it dated from a time when he was kept under arrest for nine hours without being able to pass water. The urine dribbled away in small quantities every few minutes without his being conscious of the fact; he only knew that it had occurred by feeling wet. Belladonna, atropine, and nux vomica had been given without effect. Electricity was applied in the manner recommended by Guyon, and in little more than three weeks the patient was able to hold his water for half an hour. After some months of persevering treatment he could retain his water for two hours during the day, and only required to be awakened once in the night. Beyond this point, however, no further improvement could be obtained. The second patient was a boy, aged 7, in whom the affection appeared to date almost from birth. The same treatment was employed, and in rather less than two months the little patient could control his bladder for thirty-five minutes, and finally was completely cured. Dr. Settier lays stress on the importance of continuing the treatment at short intervals for a considerable time after the bladder has recovered its tonicity.

PSEUDO-CENTENARIANS.

Some curious statistics, lately published with the authority of the French Académie des Sciences, indicate a source of fallacy with respect to centenarians, to which Mr. Timbs used to attach much importance, has not ceased to beset those who collect records of longevity. In the very old, vanity is apt to exaggerate the age, just as in earlier life it often acts as a disturbing influence in the opposite way; hence the statements of *soi-disant* centenarians must be received with caution. It is said that in Bavaria, in 1871, out of 37 persons who claimed to be a hundred years old, only one (a woman) was found, on official investigation, to have really reached that age. In Canada, of 82 supposed centenarians, only 9 successfully underwent the ordeal of a similar criticism. An inquiry of the same kind has just been made in France, with the result that, of 184 persons registered as centenarians in the last census, 101 have been found to have no claim to that honour. Of the remaining 83 (52 of whom were women and 31 men), the age was certified in 67 solely by the statements of relatives; in only 16 was any documentary evidence forthcoming. Most of these centenarians belonged to the south-western part of France, especially the foot of the Pyrenees.

PATHOLOGY OF CHRONIC ALCOHOLISM.

The discussion of the morbid anatomy and pathology of chronic alcoholism, at the Pathological Society of London, will, as has already been announced, be opened by Dr. Payne. A circular has been issued proposing that the subject should be discussed and specimens exhibited under the following heads:—1. Effects of Alcohol on the Digestive System. (*a*) Morbid changes in the tongue. (*b*) Morbid changes in the stomach. (Microscopical or other specimens illustrating the changes of these parts, attributed to alcohol, would be valuable.) (*c*) Morbid changes in the liver. (Specimens illustrating any important or unusual features in alcoholic cirrhosis or degeneration.) 2. Effects of Alcohol on the Urinary System. Morbid changes in the kidney. (Specimens illustrating the effect of alcohol in producing Bright's disease, a question about which wide differences of opinion exist, would be valuable.) 3. Effects of Alcohol on the Nervous System. (*a*) Morbid changes in brain. (*b*) Morbid changes in spinal cord. (*c*) Morbid changes in peripheral nerves, including nerve endings and muscles. 4. Effects of Alcohol on the Respiratory Organs. (Relations of alcoholism to phthisis, chronic bronchitis, or other diseases.) 5. Effects of Alcohol on the Skin or any other Organs. Members intending to contribute specimens or to take part in the debate are requested to communicate with Dr. Coupland before October 15th.

THE PATHOLOGICAL SECTION OF THE ANNUAL MUSEUM.

As will be seen from the announcements which have appeared from time to time in the Programme of the Proceedings of the approaching annual meeting at Glasgow, the Pathological Section of the Annual Museum will be of more than ordinary extent and interest. In addition to the large number of objects shown by other pathologists, Professor Cleland, the President of the Pathological Section, is making arrangements for the exhibition of the whole of his own museum, consisting of over 400 preparations. The collection is both human and comparative, and contains specimens of normal, abnormal, and pathological conditions. Particular attention has been given to teratology, and Professor Cleland has prepared a printed catalogue, which will greatly facilitate the study of this interesting series.

A NEW DEPARTURE IN LEGAL EDUCATION.

A very interesting new departure has been taken in the Middle Temple in instituting recently, for the first time probably in the history of legal education, a series of courses of technical lectures to law students. The courses are three in number. The course on Electricity is by Mr. Moulton, Q.C.; on Mechanical Physics by Mr. Aston, Q.C.: on Forensic Medicine by Dr. Meymott Tidy. Sir Henry James and Lord Bramwell have taken much interest in organising these courses and in making suggestions, especially in respect to Forensic Medicine. The lectures have been very successful, especially those on the latter subject, which have been attended by upwards of 250 students, the lectures being opened to the students of all the Inns of Court. It is noticeable that in only one subject, that of Forensic Medicine, have the Benchers travelled out of the limits of the Bar to select a teacher. In the final lectures of this course it is intended to give practical demonstrations on the recovery of certain poisons in the stomach by chemical analysis, and to draw a legal statement of proof in respect thereto, after which the lecturer will submit himself to examination by Sir Henry James.

THE TREATMENT OF INVETERATE ULCER OF THE LEG.

Dr. Appenrodt, of Clausthal, claims attention for a new mode of treatment of chronic ulcer of the leg. Everyone who has to treat many such cases is aware of the occasional extreme difficulty in obtaining a cure, under even the best methods. Generally speaking, one is inclined to imagine that the most obstinate ulcer must heal if kept aseptic, if congestion is relieved, and if the borders or floor are more or less destroyed or "revitalised" when necessary. But still many cases remain intractable, and linger on, an opprobrium to medical art. Confinement to bed is often impracticable, and its effects are always only temporary, while india-rubber bandages and adhesive plasters prevent perspiration, and set up eczema. Incisions are useless until the circulatory conditions of the ulcer and its vicinity are readjusted, and the lymphatic stasis overcome. In a number of cases which had resisted all ordinary treatment, Dr. Appenrodt obtained success, after much trouble, by the persistent use of massage, and does not hesitate to

recommend this method most strongly. Before beginning, the leg should be carefully cleansed and disinfected, then light *effleurage* is made below the knee, reaching gradually downwards; only light pressure should be used; the appearance of lymph-exudation about the ulcer is the first sign of its good effects. The best material to employ in massage is lanolin (Jaffé and Darmstaedter), because, owing to its tenacity, it does not irritate, but protects, the skin. After massage the skin is again well washed with soap and water, and disinfected; the ulcer and any excoriations are dressed with lanolin on lint; over this is placed a sheet of silk, and a cambric bandage is applied over all. The addition of disinfecting substances to the lanolin is not necessary, as they usually irritate the skin, and impermeable coverings must be altogether avoided. Under this simple treatment the swelling soon subsides, desquamation ceases on eczematous places, and granulations rapidly spring up on the ulcer itself. It is but rarely advisable to apply zinc oxide and starch to the former, or nitrate of silver to the latter. In spite of the abundant granulations, it takes a long time before the ulcer is healed, owing to the callosity and immobility of the skin, and in suitable cases Reverdin's transplantations may shorten the process. The massage must be continued for a good while after a cure has been effected, in order to restore as far as possible the natural condition, and prevent relapses. The patient should make free use of the limb during the treatment, for it will be found that the pain and tendency to œdema soon cease.

INTESTINAL OBSTRUCTION FROM CYSTS OF THE JEJUNUM.

Dr. Buchwald described, in the *Deutsche Medizinische Wochenschrift*, No. 40, 1887, a case where a previously healthy boy, aged 6, suffered for three days from vomiting and constipation; on the third day, abdominal section was performed. A tumour made up of two cysts was found, attached to a coil of intestine. Three inches and a half of the gut were resected, together with the tumour. The patient died twelve hours after the operation; he had freely passed motions, but tympanites continued to the last. The two cysts were closely connected with the walls of the jejunum, from which they were, however, distinctly defined. The cyst wall was of connective tissue, with a spare supply of muscular fibre, the lining membrane was devoid of any glandular elements. There was no evidence that the cysts communicated with the intestinal canal; they contained a yellowish fluid which smelt strongly on the addition of acetone. Dr. Buchwald believed that these cysts were developed from the walls of the intestine, and not from the omphalo-mesenteric duct, as in cases described by Roth in his work on the malformations of that fœtal relic.

BIRTH OF A LARGE MOLE WITH A LIVING CHILD.

Dr. Rosenthal read a paper on uterine moles before an American Society last February. It is reported in the *Journal of the American Medical Association*, March 3rd. Eight cases of fleshy mole and two of vesicular are related; in one of the latter the patient bore her twelfth and thirteenth child after molar pregnancy, and sixteen months after the birth of the youngest child a second vesicular mole was removed from the uterus. One case of fleshy mole is of great interest. An English woman, aged 33, miscarried four times, then bore twins, then gave birth to twins prematurely. A year later Dr. Rosenthal was in attendance, and she was safely delivered of a full term child, and with the after-birth was discharged a fleshy mole the size "of an adult head." It was mistaken at first for a monstrosity, but had no resemblance to a monstrous ovum in any of its features. It was incised, and in its interior was found a small cavity containing some fluid. Dr. Rosenthal notes that the late Dr. Alfred Wiltshire has already recorded how a similar state of things is said to have occurred on the occasion of the birth of the celebrated anatomist, Béclard. Other forms of degeneration of one of the ova have been observed in twin pregnancies.

ON SUDDEN DEATH IN INFANTS.

Dr. P. Grawitz, Greifswald, records two cases in a recent number of the *Deutsche Med. Wochensch.* One child was eight months old, the other six months. The usual signs of death by suffocation were found *post-mortem*, and, in addition, a very large thymus gland in each case, It was satisfactorily proved in one case that the child was not suffocated, the other case was somewhat doubtful, and also that they enjoyed perfect health up to a few minutes before death, which was preceded by sudden dyspnœa and cyanosis. Virchow, in his work on tumours, states that he possesses a preparation of an enlarged thymus, from a child who had died of asthma. "The thymus was so enlarged," says Virchow, "that I do not see how anyone can deny that the dyspnœa may have arisen from its pressure." Only two such specimens are to be found in the rich collection of the Berlin Pathological Museum, which shows the rarity of this condition, taken alone. The question is of great medico-legal importance.

HYPERÆSTHESIA OF THE STOMACH FROM HYDROCHLORIC ACID.

Dr. J. Ph. Suijling, Assistant in Professor Talma's Utrecht medical clinic, reports a case in a Dutch medical journal (*Weekblad*), 1888, p. 227, of a man who was admitted with symptoms of severe gastric irritation, including vomiting, rigors, swelling and tenderness over the left lobe of the liver, and intense epigastric pain half an hour after food. The contents of the stomach were examined repeatedly, and found to contain from 1.74 to 0.78 p.m. hydrochloric acid. The only drugs that seemed to give much relief were carbonate of soda and calcined magnesia; by means of these the patient was soon cured, both the subjective symptoms and the physical signs disappearing. The diagnosis made was that a not abnormal amount of hydrochloric acid produced great irritation on a hyperæsthetic mucous membrane, setting up perigastritis, and perhaps occasioning an ulcer. Professor Talma believes that even a normal amount of hydrochloric acid in gastric juice is capable of causing hyperæsthesia of the stomach in nervous and hysterical persons. The patient in the present case was an otherwise healthy man, a gardener, aged 39, a not very likely subject, as it would seem, of hysteria or nervousness.

CANCER AND TUBERCULOSIS.

Dr. Otto Lubarsch has contributed to the February number of Virchow's *Archiv* a paper on Primary Cancer of the Ileum, with observations on the simultaneous presence of cancer and tuberculosis. He has had the opportunity of examining two cases of cancer of the ileum, which he has carefully compared with œdematous polypoid tumours of the small intestine. He has come to the conclusion that cylindroma of the intestine may be truly carcinomatous; that primary cancer of the ileum arises from Lieberkühn's follicles; and that in epithelial new growths, not otherwise cancerous, ingrowths of epithelial cells, atypical in that they bear no basement membrane, are sometimes to be detected. Dr. Lubarsch then proceeds to review at great length the various theories on the possible relations of cancer and tubercle He believes that their precise relation is very difficult to define in any practical manner; for the different ages at which each disease appears make their coincidence very rare. The theory that cancer of any particular organ predisposes it to tubercle, as Lebert asserted in respect to the œsophagus, is not proved. In cancerous subjects, as in phthisis, acute forms of infections are relatively rarer than in persons free from cancer. Tuberculous affections may, it cannot be denied, favour the development of a

cancer, just as carcinoma frequently appears on an area exposed to chronic irritation. Both Dr. Lubarsch's cases were middle-aged men, and in both "peribronchitis caseosa," and other evidences of tubercle, were detected after death.

MEDICAL OBSERVATIONS IN NORTH SIBERIA.

Dr. Bunge has recently published in the *St. Petersburger Medicinische Wochenschrift* the results of some observations made between 1882 and 1886 in the province of Yakutsk, Siberia. The northern part of this vast region is chiefly "Tundra," scantily covered with moss and lichen. The Lena and several other large rivers run through it to the Arctic Ocean. The natives live by fishing, hunting, and breeding the reindeer. The summer is very short, wet, and windy; but the minimum winter temperature is not nearly so low on the Arctic coast as at Yakutsk and Irkutsk, though the intense winter cold in Southern Siberia is accompanied by dead calms, whilst snow-storms rage on the shores of the Arctic Ocean. In Verkhoyansk, a city within the Arctic Circle, several hundred miles north of Yakutsk, the temperature has been known to fall 18 or 25 degrees below zero. The European inhabitants assured Dr. Bunge that this low temperature did not cause dyspnœa, nor did he suffer in that respect. The natives are Yakoots, a northern branch of the Turcomans, and Tungoose, a Mongolo-Manchu tribe. On the coast of the Arctic Ocean they are good-humoured, careless, honest, chaste, and very strict in showing respect to the elders of their family. Murder and suicide are unknown. Dr. Bunge studied especially the sanitary condition of the Yakoots at the mouths of the Lena and Yana. The Yakoots divide diseases into a Russian group, including small-pox and syphilis, and a Yakootish group, which embraces every other malady known in the region. Syphilis has committed frightful ravages around Yakutsk and Verkhoyansk, and decimated whole villages, but it is less prevalent than was the case a few years ago. The tendency of patients belonging to uncivilised races to hide primary symptoms explains why severe cases of advanced syphilis are frequent in North Siberia. Dr. Bunge only once saw a case of gonorrhœa, and in that instance the patient appeared to have taken the malady in Yakutsk. Bad epidemics of small-pox have recently devastated the villages at the mouth of the great Siberian rivers. Erysipelas spread with great rapidity along the valley of a tributary of the Lena in 1885, and appeared to be propagated by gnats and midges. Hydrophobia of the most typical kind is very common amongst the herds of dogs kept for sledging, yet it is not seen in human subjects, though the Yakoots declare that they are often bitten by mad dogs. Dr. Bunge states that their assertion is reliable. Favus, with early baldness, is very common. Leprosy, very common in the South, is unknown in North Siberia. Lastly, Dr. Bunge describes a common nervous affection, known as "*emeryak*," seen amongst men as well as women. It seems to be simply acute hysteria, with tetanic rather than epileptiform convulsions. Similar disorders are frequent amongst savage and half-civilised races.

CONTUSION OF THE ABDOMEN WITH RUPTURE OF THE INTESTINE.

Dr. Farquhar Curtis, of New York, has written a communication on this subject in the *American Journal of the Medical Sciences*. He does not overlook the possibility of many fatal cases having been unrecognised. He concludes that the treatment of contusion of the abdomen should be purely expectant in the early stage, until symptoms of internal injury have appeared, or until the full extent of time in which they may be expected has passed. Explorative laparotomy at this time is inadmissible. When symptoms of uncontrollable internal hæmorrhage or serious visceral injury appear, laparotomy is indicated; but when the diagnosis is uncertain, the operation should always be begun as an exploration. Great collapse is an absolute contra-indication to all operative interference. Dr. Curtis boldly declares that, if the patient be so feeble that it is impossible to bring about an improvement by the ordinary stimulants, he will certainly not survive laparotomy. When rupture of the intestine is found, the best method of treatment is to secure the injured gut in the abdominal wound and encourage the formation of an artificial anus. "The creation of an artificial anus will greatly shorten the duration of a laparotomy for rupture of the intestine, and should be used in every case in which the patient's strength is doubtful. The operation admits of still greater abbreviation, if the patient is in a desperate condition, by securing the ends of the gut with a clamp or ligature, thoroughly cleaning the peritoneal cavity, passing the deep sutures for the abdominal wound further back from the edge than usual, in order to evert more peritoneum and make a broader peritoneal surface, and trusting to the pressure of these sutures, together with the aid of the clamp or ligature, to hold the ends of the gut in place until the adhesions are firm. The entire operation performed in this way ought not to last more than half an hour, and would not be too much to attempt unless evidently fatal collapse had set in." The condition established by this proceeding can easily be relieved by a later operation, when the patient has recovered his strength.

CONVALESCENT LYING-IN HOSPITAL IN PRUSSIA.

In the Aerztekammer, or medical parliament, recently established in Prussia, the question of homes for women recently discharged from lying-in hospitals is being discussed. When an institution takes on itself the responsibility of receiving poor women and affording them medical attendance during childbirth, it necessarily follows that that responsibility does not cease directly the patient is discharged. Long after recovery from the immediate pain and peril of childbirth the patient is quite unfit to pursue avocations of that arduous kind which women of the poorer classes are called upon to perform. Hard work, insufficient food, and unhealthy surroundings expose her to risks of permanent discomfort, well-known to all practitioners and obstetricians. These truths are recognised by the medical authorities in the Prussian capital, and the Berlin Gynæcological Society is engaged in preparing a scheme which Dr. Martin will report to the Aerztekammer. The working of convalescent lying-in hospitals in the United Kingdom will be carefully investigated.

GALVANISATION OF THE THYROID IN EPILEPSY.

In the *Rivista Sperimentale di Freniatria*, vol. xiii, Fasc. iii, Dr. Celso Sighicelli gives details of some cases of epilepsy which he treated by galvanising the thyroid. He was induced to try this plan by reading Albertoni's description of convulsive attacks observed in dogs whose thyroid glands had been excised. These paroxysms were among the earliest symptoms of the characteristic cachexia following that operation, and bore a close resemblance to genuine epileptic fits. Dr. Sighicelli himself, moreover, had in two cases of mental disease noticed signs which appeared to him to indicate that changes in the thyroid had a direct influence on cerebral nutrition, and might thus cause psychical disturbance. He was, therefore, led to think that epilepsy might in certain cases be dependent on some abnormal condition of the thyroid. Having found electricity useful in hypertrophy of the gland, Dr. Sighicelli thought that it might possibly do some good in rectifying functional disorder. He accordingly applied a constant current of moderate intensity to each lobe of the thyroid alternately, at first for two or three, and afterwards for four or five, minutes at a time. The patients, seven in number, were all of the male sex, and in all of them the disease was of long standing. In three no visible effect whatever was produced; in the remaining four there was at the beginning of the treatment a

sudden increase in the number of the attacks, but this was soon followed by a diminution in their frequency. Both the length and the severity of the paroxysms were greatly lessened, and when they did occur they were not accompanied by tonic spasms. There was almost entire disappearance of the phenomena which had previously preceded and followed each fit, and the patients were much improved in mind and disposition. In the two cases in which the success of the treatment was most marked, the amelioration began to show itself about a month after the first application.

LATENT GONORRHŒA IN WOMEN.

About fifteen years ago, Dr. Noeggerath turned the attention of the profession to the frequency of serious diseases of the female internal organs due to gonorrhœa. He now frankly admits that he then drew too gloomy a picture of his case. Nevertheless, he had done a service to medical science. The study of venereal disorders and the science of obstetrics and diseases of women are not sufficiently compared, owing to that extreme specialisation which is so prominent a feature of the day. His subject comprises two questions of great pathological and social importance. First, it is probable that gonorrhœa in the male has altered in type owing to the increase of temperance. In a beer-drinker the first attack of gonorrhœa seldom fails to involve great pain, or, at least, great inconvenience. The patient, therefore, takes care to get well as soon as possible, and not rarely is thoroughly cured before the disease has had time to spread upwards into certain recesses in the genito-urinary tract, whence it is hard to dislodge. On the other hand, the primary symptoms are usually mild in total abstainers, hence a temperate patient may be careless from the first. In every case gleet may supervene and become chronic, so that its precise termination cannot be determined by the experienced. This involves great risk of the transference of the malady to the realms of obstetrics. A young man thinks that he has been thoroughly cured of gonorrhœa, but his habits or surroundings often encourage the maintenance of a scanty gleety discharge which escapes his notice. He marries, and his wife becomes a victim to one or more of the well-known forms of pelvic inflammation, often after abortion or parturition. Both parties may remain totally ignorant of the nature of the wife's malady, and so may the medical attendant. The nature of the wife's malady is the second question suggested by Dr. Noeggerath's theories. Those who believe in a gonorrhœal perimetritis and salpingitis must show how it may be diagnosed. By "latent gonorrhœa" Dr. Noeggerath signifies the sudden development of the acute or subacute symptoms of gonorrhœa in a part of the genital tract, as a result of some unaccustomed stimulus, after the absence of any local disease for a protracted period. Clinical evidence must, he states, be considered. We are referring to a paper read before a German society, and published in the *Deutsche Medicinische Wochenschrift*, for December 8th. Winkel has already stated that in examining 400 female bodies in Dresden he failed to detect a single fatal case of acute gonorrhœal salpingitis. At Munich he found that disease to be common. During eleven years, at Dresden, he did not see a single fatal case. Within three years and three-quarters he observed three fatal cases at Munich. Great difficulty, however, attends the study of these cases. The gonococcus cannot always be found. Neisser, however, in examining 143 cases of chronic gonorrhœa in the male, failed to find gonococci in 63 cases. Schwarz found these germs in 35 only out of 79 cases. Dr. Noeggerath declares that in women research of this kind must be yet more unfatisfactory, especially when the disease lies latent in the Fallopian tube. Out of 92 cases of infants suffering from blenorrhœa neonatorum, Kroner found the gonococcus in only 63. In the case of the 29 where the germ was not detected, 17 mothers of the patients in this group had no gonococci in the lochia. It seems evident that the discharge of a gonorrhœal patient remains contagious long after its specific germ has vanished. Hence bacteriology is of no service in determining the question of contagion in the case of a person about to marry, and it is of limited value in distinguishing the specificity of pyosalpinx or perimetritis. Dr. Noeggerath, therefore, relies on clinical evidence. He declares that in one case of a male patient who had been cured of gonorrhœa for fourteen years, he pressed a great drop of pus out of the patient's urethra. In twenty-four cases of women with acute or recurrent peritonitis, where the husband had been apparently cured of gonorrhœa before marriage, the cure in question was dated at two years before marriage in six of the husbands, at two and a half years in two, at ten years in one, and at eleven years in another. The date of the last attack of gonorrhœa, as given by a patient, must, however, be accepted with caution. Dr. Noeggerath further insists that three or four cases of undoubted internal gonorrhœa have been noted in virgins, through persistence of infantile vulvo-vaginitis (where gonococci are found) after puberty. He believes that in some cases of fatal perimetritis after labour, evidence has been found that the tubes must have been diseased long before the last labour or even pregnancy. The distinction between puerperal sepsis and gonorrhœa is important. Dr. Noeggerath's views certainly appear extreme in this respect, yet he quotes from two clinical establishments where about a quarter of the pregnant or parturient patients had suffered from gonorrhœa. He relies on certain evidences of chronic gonorrhœa in women, whether the disease has commenced with or without acute symptoms. These evidences are, first, the sudden onset in a recently married woman of a disease of the sexual organs, which involves rapid impairment of health, notwithstanding the trifling character of the local symptoms; secondly come puriform discharges in cases where deep ulcers, granulations, and new growths are absent; and scanty, clear discharges, with narrow, bright red erosions of the os externum. Catarrh of Cowper's ducts; small, pointed condylomata near the orifice of the vagina, or forming a circle close to the anal orifice; the presence of granular colpitis, and the evidence of salpingo-perimetritis; and lastly, glandular ovaritis, are all important indications, when several or all are found in the same case. Dr. Noeggerath probably takes a very gloomy view of the question of latent gonorrhœa, much as he may have retracted his former and yet more extreme notion that 90 per cent. of husbands who had contracted gonorrhœa before marriage infected their wives. Nevertheless, it is certain that gonorrhœa in the female is a grave complaint if not cured before a woman becomes pregnant. After abortion or delivery at term, the raw interior of the uterus must be a favourable receptacle for specific discharge, and the Fallopian tubes form a highway into the peritoneum. Fortunately Dr. Bumm has shown that the gonococcus is not septic, and hence, according to his theory, the relative mildness of gonorrhœal salpingitis as compared with the deadly puerperal perimetritis.

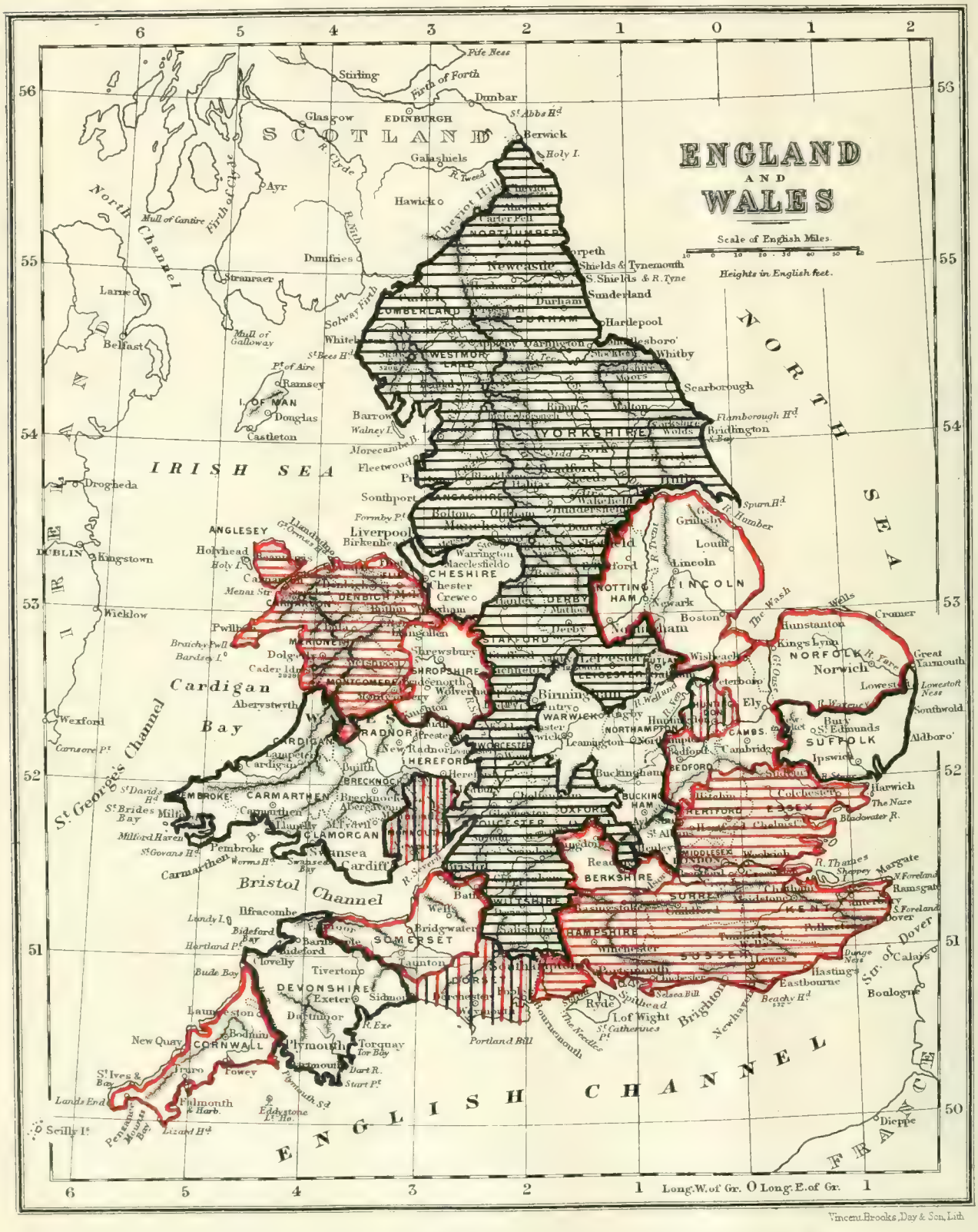
PROFESSOR LEOPOLD ON CÆSAREAN SECTION.

Professor Leopold has recently prepared a work on Cæsarean section as compared with induced premature labour, turning, and perforation. He relates his wide experience in the conduct of cases of contracted pelvis in the Dresden Lying-in Hospital, and each of the methods described in his work is separately considered by himself or his assistants. Dr. Korn relates 45 cases where premature labour was induced. In 35 the mother recovered without fever; in 9 the temperature rose for two or three days; 1 died of sepsis. He thinks that in generally contracted flat pelves up to three inches conjugate, and in pelves without transverse contraction up to two inches and three-quarters conjugate, labour should be induced between the thirty-second and thirty-sixth week of pregnancy. When the patient is first seen or first

MAP SHEWING THE *DISTRIBUTION OF DIPHTHERIA* IN ENGLAND AND WALES.

(Founded on the Annual Reports of the Registrar-General for the years 1880-86.)

TO ILLUSTRATE THE PAPER OF DR. EDGAR G.
BRANCH. ON THE "ETIO



Districts in which the Mortality from DIPHTHERIA USUALLY EXCEEDS the average are OUTLINED IN RED.
Districts in which the Mortality from Diphtheria INVARIABLY EXCEEDS the average are marked with RED HORIZONTAL LINES.
Districts of AVERAGE MORTALITY are marked with RED AND BLACK VERTICAL LINES.
Districts in which the Mortality from Diphtheria is USUALLY BELOW the average are OUTLINED IN BLACK.
Districts in which the Mortality from Diphtheria is INVARIABLY BELOW the average are marked with BLACK HORIZONTAL LINES.

MAP SHEWING THE *DISTRIBUTION OF SCARLET FEVER* IN ENGLAND AND WALES.

(Founded on the Annual Reports of the Registrar-General for the years 1880-86.)

RNES, PRESIDENT OF THE EAST ANGLIAN
GY OF DIPHTHERIA."



Districts in which the Mortality from SCARLET FEVER USUALLY EXCEEDS the average are OUTLINED IN RED.
Districts in which the Mortality from Scarlet Fever INVARIABLY EXCEEDS the average are marked with RED HORIZONTAL LINES
Districts of AVERAGE MORTALITY are marked with RED AND BLACK VERTICAL LINES.
Districts in which the Mortality from Scarlet Fever is USUALLY BELOW the average are OUTLINED IN BLACK.
Districts in which the Mortality from Scarlet Fever is INVARIABLY BELOW the

submits to treatment after that period, the efforts of natural labour may be awaited; and, should they fail, the advisability of turning and extraction on the one hand and of forceps or craniotomy on the other must be considered. Dr. Löhmann reviews 107 cases, from a series of 5,916 labours, where internal version was performed. In cases of flat pelves generally contracted up to three inches conjugate, and in simple flat pelves up to two inches and three-quarters, he leaves matters to the sole efforts of Nature, provided that the child is of the medium full-term size; otherwise, turning should be attempted. Should the result prove fatal to the child, premature labour must be induced during future pregnancies. As regards craniotomy, Dr. Prager has been compelled to resort to that operation 71 times during the past four years at the Dresden institution. He declares that, when carried out with strict antiseptic precautions, craniotomy gives far better results than Cæsarean section, being distinctly less dangerous. Professor Leopold analyses his 23 cases of Cæsarean section, performed by the Sänger-Leopold method, during the last four years at the Dresden institution. He admits that it is essentially a laparotomy, and always a serious operation, even for an experienced surgeon. No doubt to save both mother and child is a noble feat; but when all the conditions necessary for the safe performance of Cæsarean section are not available, perforation must be done—and that early if at all. After induced premature labour, the maternal mortality was 2.2 per cent.; after turning and extraction, 4.8 per cent.; after craniotomy, 2.8 per cent.; and after Cæsarean section, 8.6 per cent. Yet it must not be forgotten that the percentages of maternal deaths from sepsis only were: after induced labour, 2.2 per cent.; after turning followed by perforation, 0.0 per cent.; after perforation, 0.0 per cent.; and after Cæsarean section, 4.3 per cent.; so that, in any case, it is the last-named operation which kills the largest number of mothers. Quite otherwise was it with the children. They were saved in 66.6 per cent. of the induced premature labours; in 59 per cent. of the turning and extraction cases; and in 87 per cent. of the Cæsarean sections. Great care must be taken to introduce the sutures carefully after the Sänger-Leopold method, so that the mother may be able to bear children again with safety.

AMYLENE HYDRATE.

Dr. F. Girtler, assistant in the Medical *Poliklinik* at Königsberg, gives in the *Berliner Klinische Wochenschrift*, No. 6, 1888, some additional details on the influence of amylene hydrate, the new hypnotic introduced by Professor von Mering. He had tried the drug in sixty-one cases of various disease, with results which fully confirmed those of von Mering and Sacharschmidt. He administered it in the following forms; 1. ℞ amylene hydrate, 7 grammes; distilled water, 40 grammes; syr. rubi idæi (raspberry), 30 grammes. Sig. Half the quantity to be taken in the evening. 2. ℞ amylene hydrate, 7 grammes; aq. menthæ piperitæ, 40 grammes; syr. rubi idæi, 30 grammes; olei menthæ piperitæ gutt. 1. Sig. One half the quantity to be taken in the evening. In the case of children the remedy was given in the form of pills or in gelatine capsules as recommended by von Mering. The average dose for adults was 3.5 grammes; sometimes smaller doses were sufficient, but at certain times larger doses, such as 6 grammes, had to be resorted to. In the case of children under 1 year of age the dose was 2 decigrammes, and in older ones 6 decigrammes. In almost all cases the desired effect was obtained; deep sleep lasting the whole night supervened in some irritable cases; in other instances, however, the sleep lasted only some hours. In a few cases headache and slight oppression were complained of, but there was no vomiting. The drug was tried in chronic alcoholism, softening of the brain, chronic morphinism, epilepsy, in which the night's rest was disturbed by frequent attacks of cramp; in tuberculosis, gastric ulcer, rheumatism, and tabes; the lancinating pains in the latter disease diminished under the influence of amylene hydrate. Dr. Girtler prefers the drug to chloral hydrate, as it has no injurious effect on the heart.

SCOTLAND.

PRELIMINARY MEDICAL EXAMINATION.

The General Medical Council has expressed its readiness to recognise the leaving certificates issued by the Scotch Education Department, *pro tanto*, in lieu of the corresponding subjects required from all students at their preliminary examination before registration as medical students.

ANDERSON'S COLLEGE MEDICAL SCHOOL, GLASGOW

Dr. James Morton has resigned the chair of Materia Medica in Anderson's College to which he was appointed in 1855, when the late Professor Easton was transferred to the University of Glasgow. This will be sad news to many old Andersonians, by whom Professor Morton was always held in the most friendly remembrance. The most probable candidates for the chair are considered to be Dr. Robert Pollock, who for many years has been Dr. Morton's assistant, and Dr. Alexander Napier, the assistant to Dr. Charteris, Professor of Materia Medica in the University.

THE GLASGOW EXHIBITION.

Arrangements are now being made to give Her Majesty a fitting reception on the occasion of her approaching visit to Glasgow. Her Majesty will come to Glasgow on the afternoon of August 22nd, and will be received by the Lord Provost and magistrates. She will visit the new municipal buildings, and thereafter make a State visit to the exhibition. Her Majesty also intends to pay a private visit to the exhibition on the morning of the 24th, being desirous, as far as possible, to see the citizens of Glasgow, and to make acquaintance with the interesting contents of our great exhibition. The 22nd of August is therefore to be kept as a public holiday.

IRELAND.

THE CONJOINT EXAMINATIONS.

This year's examinations under the conjoint scheme has been very fatal to candidates. At the third year's examination, just concluded, only twenty-one passed, while thirty-four were stopped.

SUICIDE OF DR. RIDLEY, OF TULLAMORE.

The suicide of Dr. Ridley, Prison Surgeon to Tullamore Gaol, has created a painful sensation. The evening previous to his death he was considerably excited, in consequence of neglect having been imputed to him in the evidence given in reference to the late Mr. Mandeville. Before retiring to his bedroom, at the Royal Hotel, Fermoy, he asked a friend with whom he was conversing to look into his room to see whether he was all right, and from this circumstance it is surmised that he was suffering from some delusion. In the morning his door was found locked, and upon breaking it open, the deceased was found lying dead on the bed, having cut his throat with a razor, which was found on an adjacent table. An inquest will be held.

CORK DISPENSARY COMMITTEE.

At a recent meeting of this committee, a resolution was moved, recommending the Board of Guardians to provide a dispensary for the southern district, and that the Hibernian Buildings be trans-

ferred from the Blackrock district to one of the city districts. The expense, it was calculated, would not exceed £100 a year, and it would be of great advantage to the residents of the southern district. An amendment to the effect that, considering the great depression which existed, and the fact that the guardians owed their treasurer more than £4,000, it was a very unfortunate time to establish a dispensary as suggested, was adopted.

ST. JOHN AMBULANCE ASSOCIATION: BELFAST CENTRE.

THE annual report of the Belfast Centre of the St. John Ambulance Association shows that during the past year eight classes have been in operation, five of which were "first aid" classes and three "nursing" classes. The total number of members in attendance had been 233, of whom 99 were men and 134 women; 135 persons had entered for the examinations of the Association, and of these 129 had been successful; 4 persons had obtained the medallion of the Association, which is awarded to those who pass through the various courses of instruction and are successful in three successive examinations. Dr. Lindsay has resigned the honorary secretaryship of the Belfast Centre, and has been succeeded by Dr. Calwell.

ULSTER MEDICAL SOCIETY.

THE annual meeting for the election of office-bearers for the ensuing session was held in the Museum, Belfast, upon the 18th inst. The President, Dr. Esler, occupied the chair. The report by the Council showed that the Society had passed through a most successful year, the meetings having been numerously attended and the scientific work of good quality. Among the most notable events of the year had been the discussions upon venereal disease and membranous croup, the former introduced by Dr. McConnell and the latter by Professor Cuming, and an evening devoted to the reporting of the series of successful cases of ovariotomy which have lately been performed in Belfast, the operators being Professor Sinclair, Dr. Dempsey, Dr. Byers, Dr. T. K. Wheeler, Dr. Esler, Dr. Mackenzie, and Dr. O'Neill. The Treasurer's report showed a large balance to the credit of the Society. The selection of office-bearers was then proceeded with. On the motion of Professor Dill, seconded by Dr. O'Neill, Dr. Henry Burden was unanimously elected President. Dr. J. W. Byers and Dr. J. A. Lindsay were elected Vice-presidents; Dr. McCaw was re-elected Honorary Secretary; and the other posts were filled as follows: Honorary Treasurer, Dr. O'Neill; Pathological Secretary, Professor Sinclair; Honorary Librarian, Dr. Strafford Smith; Council Members: Dr. O'Connell, Professor Dill, Dr. Dempsey, Dr. E. C. Bigger, Dr. Mackenzie, Dr. Calwell.

THE AMALGAMATION OF DUBLIN SCHOOLS.

THE Committee appointed by the Council of the College of Surgeons to report upon the possibility of carrying out an amalgamation of the medical schools, in accordance with the resolution passed by the College, has been busily engaged at its work for some weeks. The principle has been cordially accepted by the several schools interested, but great difficulties have arisen as to details. The impossibility of providing for everyone who happens to hold an appointment is obvious, and some lecturers will be asked to take a retiring allowance. The strongest opposition has come from gentlemen holding minor positions, and the Committee and Council have been overwhelmed with correspondence. In an arrangement such as is proposed, some persons will feel themselves aggrieved, and it is only right that they should be at least equitably dealt with; but on the other hand the scheme is so full of good that we must hope that no small obstruction will be allowed to wreck it.

ROYAL COLLEGE OF PHYSICIANS.

AN ordinary meeting of the Fellows of this College was held on Thursday, July 26th, Sir ANDREW CLARK, President, in the chair. The President announced that he and the Registrar had given evidence on behalf of the College before the Royal Commission on University Education in London.

Dr. G. B. Longstaff was admitted a Fellow; W. B. Headley, M.B. was elected a Fellow. J. G. S. Coghill, M.D.Edin., A. D. L. Napier, M.D.Aberd., F. R. Walters, M.D.Lond., were admitted Members. Diplomas were granted to 94 Licentiates. Diplomas in Public Health were issued to the following gentlemen: R. J. Reece, L.R.C.P.Lond., M.R.C.S.Eng.; A. J. Richardson, M.B.Cantab., M.R.C.P.Lond., M.R.C.S.Eng.; J. L. Roberts, M.B., C.M.Edin.; J. P. Roughton, M.R.C.S.Eng. Communications were received from the General Medical Council, the Board of Trade and the College of State Medicine. The quarterly report of the Finance Committee and the annual report of the Library Committee were received and adopted.

On the recommendation of the Committee of Management it was decided to include the Alfred Hospital, Melbourne, in the list of Colonial Hospitals recognised by the Examining Board in England.

The following appointments were made to College offices for the ensuing year:—*Censors:* Samuel Wilks, M.D.; Peter Wallwork Latham, M.D.; Charles John Hare, M.D.; John Hughlings Jackson, M.D. *Treasurer:* Sir Dyce Duckworth, M.D. *Registrar:* Sir Henry Pitman, M.D. *Harveian Librarian:* William Munk, M.D. *Assistant Registrar:* Edward Liveing, M.D. *Curators of the Museum:* William Wegg, M.D.; William Howship Dickinson, M.D.; William Cayley, M.D.; Norman Moore, M.D. *Finance Committee:* Sir Edward Sieveking, M.D.; George Tupman Fincham, M.D.; Robert Martin, M.D.

The following gentlemen were elected Examiners:—*Chemistry and Chemical Physics:* Charles Henry Ralfe, M.D.; William Foster, F.C.S.; William J. Russell, Ph.D.; August Dupré, Ph.D.; John M. Thomson, F.C.S. *Materia Medica, Medical Botany, and Pharmacy:* Frederick Taylor, M.D.; Nestor Isidore Charles Tirard, M.D.; David Bridge Lees, M.D.; William Murrell, M.D.; Herbert Isambard Owen, M.D. *Elementary Physiology:* Vincent Dormer Harris, M.D.; Charles Scott Sherrington, M.B. *Physiology:* William Henry Allchin, M.B.; Leonard Woolridge, M.D.; Arthur Gamgee, M.D. *Osteology and Anatomy:* Wilmot Parker Herringham, M.B.; Henry Morris, F.R.C.S., L.R.C.P. *Medical Anatomy and Principles and Practice of Medicine:* William Henry Stone, M.B.; Octavius Sturges, M.D.; Henry Gawen Sutton, M.B.; Walter Butler Cheadle, M.D.; Philip Henry Pye-Smith, M.D.; Sir Dyce Duckworth, M.D.; Thomas Tillyer Whipham, M.D.; Thomas Henry Green, M.D.; Sidney Coupland, M.D.; Henry Charlton Bastian, M.D. *Midwifery and Diseases peculiar to Women:* William Overend Priestley, M.D.; Alfred Lewis Galabin, M.D.; Henry Gervis, M.D.; Francis Henry Champneys, M.D. *Surgical Anatomy and Principles and Practice of Surgery:* George Pollock, F.R.C.S.; Sir William Mac Cormac, F.R.C.S.; William Morrant Baker, F.R.C.S.; Professor Humphry, F.R.C.S. *Public Health:* Thomas Stevenson, M.D.; Edward Ballard, M.D.; Richard Thorne Thorne, M.B.; William Henry Corfield, M.D.

The following resolutions, proposed by SIR DYCE DUCKWORTH, and seconded by DR. DICKINSON, were agreed to:—

"1. That on the occasion of the Harveian Oration on St. Luke's Day (October 18th) in each year, the Fellows be invited to attend in their academic robes.

"2. That the President and Fellows do dine in the College at their own expense on the evening of that day."

On the motion of Sir HENRY PITMAN, the following resolution was agreed to:—

"That a Committee be appointed, consisting of seven nominated by this College and seven nominated by the Royal College of Surgeons, to report to the two Colleges as to the educational or scientific uses to which the building on the Embankment, now in course of erection by the Colleges, can be best applied, and generally as to its maintenance and management."

A Committee was appointed to consider the library accommodation and arrangements.

THE German Emperor has conferred on Professor von Bergmann the Comthur Star and Cross of the Royal Order of Hohenzollern, and on Professors Gerhardt and Schrötter the Order of the Red Eagle (Second Class).

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING FOR 1888. ELECTION OF MEMBERS.

ANY qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

A meeting of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

SOUTH-WESTERN BRANCH.

THE forty-ninth annual meeting of this Branch, which includes Devon and Cornwall, was held at Exeter on Tuesday, June 26th. Between fifty and sixty members were present.

There was a meeting of the Council at the Devon and Exeter Hospital at half-past eleven, and at noon the members partook of luncheon, by invitation of the President-elect, Dr. Woodman, at his residence in Southernhay. At two o'clock the general meeting was held at the hospital, when the minutes of the last annual meeting at Plymouth and of the meeting at Newton Abbot having been read, Mr. Swain, the President for the past year, resigned the chair to Dr. Woodman, the President-elect.

Vote of Thanks to Retiring President.—A vote of thanks to the retiring President having been passed, Mr. SWAIN, in acknowledging it, said that he had been little more than a figure-head. His friend Mr. Deas was the soul of the South-Western Branch of the British Medical Association, and the success of the Branch was certainly due, not to himself, but to the efforts of Mr. Deas.

President's Address.—The PRESIDENT (Dr. Woodman) then delivered an address on Sanitary Science and the Sanitation of Exeter, an abstract of which will be found at p. 173.—A vote of thanks to the President for his address was proposed by Mr. CUMMING, of Exeter, seconded by Mr. BAMPTON, of Plymouth, and carried unanimously.

Report of Council.—The report stated that the membership of the Branch now amounted to 216, as against 190 last year. Since then 38 new members had joined, of whom 25 were previously members of the Association; seven members had died and five had resigned. The Branch was now entitled to send two representatives instead of one to the General Council of the Association. The balance in hand at the last annual meeting was £38 6s. 7d.; it was now £36 9s. 4d. The expenditure had been £27 14s. 9d, and the receipts £25 17s. 6d. The former included a donation of £10 to the British Medical Benevolent Fund. Only one district meeting (at Newton Abbot) had been held during the year. It was a great success, but the Council hoped it would be possible to hold more meetings in future. The Council was anxious to encourage district meetings, and with this view they thought such meetings should not be allowed to constitute a tax on a few local members. It was thought that a plain luncheon should be provided, each member paying for himself, as at the annual meetings. On May 2nd the Council had passed the following resolution: "That, inasmuch as the annual meeting assumed more or less the character of a day of recreation, and with a view of encouraging the district meetings, the business of the annual meeting should be confined to the President's address, the business of the Branch, the exhibition of cases or of specimens with notes, and the annual dinner." The Council had considered the question of fees to medical witnesses, which they thought should not be less than two guineas a day.—The adoption of the report was moved by Mr. E. J. DOMVILLE, of Exeter, and seconded by Mr. SOMERS, of Broadclyst. Mr. HARRIS moved, and Mr. C. E. BELL, of Exeter, seconded, an amendment to the effect that a system of five or ten minutes' allowance should be followed in the case of reading the papers at the annual meeting. The amendment was negatived, and the report agreed to.

Next Meeting.—It was decided to hold the next annual meeting at Bodmin.

Officers and Council.—Mr. W. Pearse, of St. Judge, Bodmin, was chosen President-elect. Mr. Deas and Mr. A. H. Bampton were elected as representatives of the Branch on the Council of the Association, and the following new members were elected to the Council of the Branch: Messrs. J. B. Kerswell, St. Germans; R. Hingston, Liskeard; H. B. Runnalls, Saltash; T. W. Shepherd, Launceston; and R. F. Stevens, St. Austell. Mr. Deas was unanimously elected Honorary Secretary and the representative of the Branch in the Parliamentary Bills Committee of the Association.

Medical Officers of Health.—Mr. P. Q. KARKEEK, of Torquay, moved a resolution regretting the publication of an article in the JOURNAL of April 28th, concerning the Local Government Bill, which, in the opinion of the mover of the resolution, condemned a numerous section of the profession in an unjust and ungenerous manner. Dr. SLADE-KING, of Ilfracombe, seconded the motion, which was opposed by Mr. RAGLAN THOMAS, of Exeter. On being put to the meeting, it was carried by 14 votes against 12.

Insurance of Infants.—Mr. M. H. BULTEEL, of Stonehouse, moved that the meeting should endorse the principle of Section 28 of Sir John Lubbock's Bill, and trusted that its advantages would be made still greater by a provision making medical examinations compulsory on the issuing of a policy, which should then be indisputable, and another which should prevent the issuing of any policy for an infant under five years of age.—Mr. BAMPTON seconded; and an amended motion, embodying Mr. Bulteel's resolution, and referring the question to the Parliamentary Bills Committee, was agreed to.

Cases, etc.—Dr. KEMPE, Exeter: Necrosis of Femur and Tibia.—Mr. J. M. ACKLAND, Exeter: Fracture of Lower Jaw.—Mr. T. HUTCHINSON, Camborne: Intestinal Obstruction, with specimen.—Mr. J. D. HARRIS, Exeter: Osteotomy for Rickets of Tibia.—Mr. C. E. BELL, Exeter: Excision of Knee in a Boy, aged 10.—Mr. RUSSELL COOMBE, Exeter: 1. Congenital Coloboma; 2. Case of Albinism.—Mr. C. E. BELL (for Dr. DAVY): 1. Hepatic Abscess; 2. Empyema.—A large collection of Surgical Instruments was also exhibited.

Excursion.—About four o'clock the members and visitors started from the Hospital in brakes on an excursion to the City of Exeter Asylum. The drive was continued along the Exe Valley, and at the asylum the party were conducted over the building by Dr. Rutherford and his assistant, Mr. Bell. The members also inspected while in Exeter the new Washington-Lyon steam disinfector, in the Exe Island, which is now used by the Sanitary Authority to disinfect the clothes of patients at the Sanatorium.

Dinner.—A large number of members and visitors dined at the Rougemont Hotel. The new President, Dr. Woodman, was in the chair; and among the guests were the Mayor and ex-Mayor of Exeter, the Sheriff of Exeter (Dr. Davy), the High Sheriff of Devon, Admiral White, C.B., Colonel Fremantle, C.B., Colonel Hobart, R.A., the Rev. Dr. Dangar, and many others. Letters of apology were read from the Lord-Lieutenant of the County, the Bishop of Exeter, the Bishop of Marlborough, Sir Stafford Northcote, Sir John Kennaway, Colonel Walrond, the Dean of Exeter, Colonel Courtenay, and the Rev. Prebendary Sandford. After the usual loyal and patriotic toasts, the SHERIFF OF EXETER proposed "The South-Western Branch of the British Medical Association." He said the success of the Association was of vital importance to the best interests of the medical profession. It fostered in an eminent degree the spirit of loyalty and brotherly good feeling among its members. He thought the improvement in this direction, which had spread so much of late, was very much more due to the work of the British Medical Association than it was to the

high standard of professional education of which such a large number of people boasted. The toast was acknowledged by the PRESIDENT and Mr. DEAS, the latter expressing a hope that ere long they might be able to say of the Association what was said of the British Empire, that the sun never set on it.

READING AND UPPER THAMES BRANCH.

THE annual meeting of this Branch was held in the library of the Royal Berkshire Hospital, Reading, on Wednesday, July 11th.

Election of Officers.—The following officers were chosen:—*President:* W. B. Holderness, Esq. (Windsor); *President-Elect:* Dr. H. F. Banham (Reading); *Council:* The President, the President-elect, Dr. Shettle, Messrs. Walford, Young, O. C. Maurice, Royds, Dr. Tench, Dr. F. Bateman, and the Hon. Secretary; *Representative of Branch on Council of Association:* Dr. John McIntyre (Odiham); *Representative of Branch on Parliamentary Bills Committee:* Dr. H. Heygate Phillips; *Hon. Secretary and Treasurer:* Dr. H. Heygate Phillips.

President's Address.—The President (W. B. HOLDERNESS, Esq.) then delivered an address, in which he dealt with "The Position of Specialism in Medicine," and feelingly alluded at the close of his address to the loss which the Branch had recently sustained by the death of Mr. Isaac Harrinson.

Cases.—Dr. SHETTLE exhibited a young man suffering from Progressive Muscular Atrophy, and gave some particulars of the case.—Dr. PRICE showed several very interesting ophthalmic cases, including one of Interstitial Keratitis; two brothers suffering from Retinitis Pigmentosa; and a case of Congenital Tumour of the Orbit.

Dinner.—There was a good attendance of members, and the annual dinner was afterwards held at the Queen's Hotel.

BORDER COUNTIES BRANCH.

THE annual meeting was held at Penrith on July 13th, Dr. MCLEOD, President, in the chair. Twenty-one members and two visitors were present.

New Members.—John Macintosh Balfour, Moniaive; Benjamin Walker, Kirkby Stephen; James Chambers, Carlisle; Joseph Edward Bowser, Penrith, were elected members of the Branch.

Report of Council.—The report of the Council stated that during the past year 13 new members had been elected, 5 members had removed from the district, 1 member had died, and 2 others who were not members of the Association had been removed from the list, leaving a total of 126. The income of the Branch had been £29 11s. 4d., namely, by balance from 1887 £14 4s., and by subscriptions £15 7s. 4d. The expenditure was £21 18s. 4d. The balance at the bank on January 14th, 1888, was £7 13s. At the annual meeting last year the sum of £10 was voted towards the law expenses incurred by Mr. W. H. Spurgin, in his action, Spurgin *v.* Nicholson, at the county court. Ordinary meetings had been held during the year at Hawick, Melrose, and Cockermouth. At the annual meeting at Hawick, 17 members and 1 visitor were present; at Melrose, 16 members and 1 visitor; and at Cockermouth, 20 members and 1 visitor. The meeting fixed for September at Moffat fell through for want of papers, and in place of it a meeting was held at Carlisle in February, and by request of the Council Dr. Byrom Bramwell, of Edinburgh, introduced a discussion and read a paper on "The Process of Compensation and its bearings on Prognosis and Treatment" (see JOURNAL, vol. i., 1888, pp. 835 and 839). Twenty-four members and five visitors attended. The number of papers read during the year, including Dr. McLeod's presidential address, was 12, of specimens shown there were 9, and of patients 4. The Council recorded with special regret the death of Dr. Scott, of Dumfries, who joined the Branch in 1874, and was one of the oldest practitioners in his town.

Officers and Council.—Alexander Thomson, Dumfries, was chosen President-elect. The following members were elected Councillors: J. Crerar, J. A. Campbell, J. Haddon, T. F. I'Anson, R. Maclaren, I. A. Macdougall, D. J. McLeod, C. E. Paget, J. Rutherford. Dr. Barnes was chosen to represent the Branch on the Council of the Association and on the Parliamentery Bills Committee, I. R. Hamilton and J. Altham were appointed Secretaries for Collective Investigation. Dr. H. A. Lediard was reappointed Secretary and Treasurer. Drs. J. Macdonald and W. Douie were appointed Auditors.

Future Meetings.—It was decided to hold the autumn meeting at Whitehaven, in October; the winter meeting in Carlisle; the spring meeting at Galashiels, and the annual meeting at Dumfries.

Vote of Thanks.—On Dr. McLeod leaving the chair, a vote of thanks was passed, and he was appointed a Vice-President for life.

President's Address.—Dr. ROBERTSON, Penrith, then took the chair, and delivered an address on: A Study of the Micro-organisms of Air, and especially those of Sewer Air, and a New Method of Demonstrating them. The address was illustrated by numerous drawings, apparatus showing method of experiments, and cultivations of micro-organisms.—On the motion of Dr. M. W. TAYLOR, a vote of thanks was passed.

Epilepsy with Osseous Deposits in Dura Mater.—Dr. TYRRELL, Garlands Asylum, read Notes of a Case of Fatal Epilepsy, with Osseous Deposits in the Dura Mater, and showed the specimen. The patient had been subject to attacks of epilepsy since her tenth year. The disease was attributed to a severe blow on the head. She had been in the asylum for twenty-five years, and during the last three days of her life was in the *status epilepticus*, during which time she had 315 epileptic seizures. At the *post-mortem* examination there were five distinct osseous deposits found imbedded in and under the dura mater, which was throughout non-adherent to the calvaria. One of these deposits was over a portion of the right frontal lobe; another between the hemispheres; a third over the tentorium cerebelli; a fourth over the left supra-marginal convolution, and the remaining one overlay a portion of the left ascending frontal convolution. The parts of the brain underneath the deposits were atrophied, and there was in addition extensive atrophy of the right temporo-sphenoidal lobe (the part of the dura mater over this lobe presented nothing unusual). The right hemisphere weighed 11½ ounces, the left 16¼ ounces.

Communications.—Dr. HAMILTON, Hawick, read a paper on The Prevention of *post-partum* Hæmorrhage.—Dr. SANDERSON, Penrith, read a paper on a skin disease prevalent in an epidemic form, in the district, which he called Acute Lichen Ruber, and showed several marked examples of the disease. An interesting discussion followed, in which the following members took part: Dr. MACDONALD, Kirkoswald: Dr. THOMSON, Penrith: Mr. PAGET, Kendal; Dr. MCLEAN WILSON, Dr. ALTHAM, and Dr. BONSER.

Specimen.—Dr. TYRRELL showed a specimen of Tumour ("Lymphosarcoma") of the Liver.

Dinner.—At the conclusion of the business the members and friends dined together in the hotel.

BRITISH MEDICAL ASSOCIATION.

FIFTY-SIXTH ANNUAL MEETING.

THE fifty-sixth Annual Meeting of the British Medical Association will be held at Glasgow, on Tuesday, Wednesday, Thursday, and Friday, August 7th, 8th, 9th, and 10th, 1888.

President: John T. Banks, M.D., D.Sc.(Hon.), F.K.Q.C.P.I., Regius Professor of Physic in the University of Dublin.

President-Elect: Professor W. T. Gairdner, M.D., LL.D., Professor of Medicine in the University of Glasgow.

President of the Council. Thomas Bridgwater, M.B., J.P., Harrow-on-the-Hill.

Treasurer: Constantine Holman, M.D., J.P., Reigate.

An Address in Medicine will be delivered by Thomas Clifford Allbutt, M.D., F.R.S., Consulting Physician, Leeds General Infirmary.

An Address in Surgery will be delivered by Sir George H. B. Macleod, M.D., Surgeon in Ordinary to Her Majesty in Scotland.

An Address on his "Recent Investigations in Surgery" will be given by William Macewen, M.D., Lecturer on Clinical Surgery, Glasgow Royal Infirmary.

An Address in Physiology will be delivered by John Gray McKendrick, M.D., LL.D., F.R.S., Professor of Institutes of Medicine, University of Glasgow.

All the rooms required for the purposes of the meeting will, by the kindness of the authorities, be provided in the University of Glasgow.

PROGRAMME OF PROCEEDINGS.

TUESDAY, AUGUST 7TH, 1888.

9.30 A.M.—Meeting of 1887-1888 Council. Randolph Hall.
11.30 A.M.—First General Meeting. Report of Council. Reports of Committees. Bute Hall.
4 P.M.—Service in the Cathedral. Sermon by the Very Rev. John Caird, D.D., LL.D., Principal and Vice-Chancellor of the University of Glasgow.
8.30 P.M.—Adjourned General Meeting from 11.30 A.M. President's Address. Bute Hall.

WEDNESDAY, AUGUST 8TH, 1888.

9.30 A.M.—Meeting of 1888-89 Council. Randolph Hall.
10.30 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Second General Meeting. Address in Medicine by Thomas Clifford Allbutt, M.D., F.R.S. Bute Hall.

9 P.M.—*Conversazione* given by the Principal and Professors of the University.

THURSDAY, AUGUST 9TH, 1888.

9.30 A.M.—Address on his Recent Surgical Investigations by William Macewen, M.D. Bute Hall.

11 A.M.—Meeting of Council. Randolph Hall.

10.30 A.M. to 2 P.M.—Sectional Meetings.

3 P.M.—Third General Meeting.

Address in Surgery by Sir George H. B. Macleod, M.D.
Presentation of Gold Medal of Merit to Fray Ormrod, L.R.C.P.Edin. } Bute Hall.

7 P.M.—Public Dinner. St. Andrew's Hall.

FRIDAY, AUGUST 10TH, 1888.

10.30 A.M. to 1.30 P.M.—Sectional Meetings.

2.30 P.M.—Concluding General Meeting. Address in Physiology by John G. McKendrick, M.D., F.R.S. Natural Philosophy Class-room.

4 P.M. to 6 P.M.—Garden Party given by the Faculty of Physicians and Surgeons at the Botanic Gardens.

9 P.M.—*Conversazione* given by the Corporation of Glasgow at St. Andrews Hall.

SATURDAY, AUGUST 11TH, 1888.

Excursions:—(1) Lanark and Falls of Clyde; (2) Ayr and the Land of Burns; (3) the Perthshire Highlands, Lochearnhead and Crieff; (4) Callender and the Trossachs (Loch Katrine); (5) Arran; (6) Stirling, Bridge of Allan and Dumblane Cathedral; (7) Rothesay and the Kyles of Bute; (8) Loch Lomond.

*** *Members proposing to attend the Annual Meeting are particularly requested, upon arriving at Glasgow, to proceed to the Reception Room, in the Vestibule of the Chief Entrance the University (1) enter their names and addresses, obtain their Members' Tickets and Daily Journals: (2) inquire for telegrams and letters; (3) consult the list of lodgings and hotels, etc.*

It has been arranged that the members of the Association are to be invited by the Executive Committee of the International Exhibition to a reception in the Picture Galleries of the Exhibition on the afternoon of Wednesday, August 8th, at half-past 4 o'clock. The authorities have most kindly offered to grant special tickets of admission to members of the Association and to any friends who may accompany them to the Glasgow meeting. These tickets will be sold in the Reception Room at 3s. each; they will be available during the whole time of the meeting, and will confer on the bearer all the privileges of a season ticket holder.

From Regulations for the Conduct of Annual Meetings.—"No communication shall occupy more than fifteen minutes, and no person shall be permitted to speak more than once or for more than ten minutes during the discussion thereon."

The following discussions and papers are promised up to the present time:—

SECTION A.—MEDICINE.

Humanity Class Room.

A. MEDICINE.—*President*, Professor T. McCall Anderson, M.D. *Vice-Presidents*, R. L. Bowles, M.D.; George F. Duffey, M.D. *Honorary Secretaries*, J. McGregor Robertson, M.A., M.B., 400, Great Western Road, Glasgow; Robert M. Simon, M.D., 27, Newhall Street, Birmingham.

The President will open the proceedings by introducing a discussion on the Diagnosis and Treatment of Syphilitic Disease of the Nervous System. Dr. Thomas Buzzard, Dr. T. S. Clouston, Dr. William Moore, Dr. Ross, Professor Grainger Stewart, Professor Julius Dreschfeld, Dr. J. G. Sinclair Coghill, Dr. Francis Warner, Dr. Frederick Bateman, Dr. C. R. Drysdale, Dr. C. W. Suckling, Dr. Andrew Smart, Dr. Alex. Robertson (Glasgow), and Dr. David Drummond will take part in the discussion.

On the third day of the sectional proceedings, the Value of Inhalations in the Treatment of Lung Disease is set down for discussion, to be opened by Dr. C. Theodore Williams. The following gentlemen have already indicated their intention to engage in this discussion: Dr. Burney Yeo, Dr. W. W. Ireland, Dr. C. F. Knight, Dr. J. A. Lindsay, Dr. J. G. Sinclair Coghill, Dr. Andrew Smart, Dr. J. O. Affleck, Dr. R. W. Philip, Mr. A. Kinsey-Morgan, and Dr. E. Markham Skerritt. Dr. Andrew Smart will show New Respirators.

Drs. Byrom Bramwell and Milne Murray will give a demonstration of their Method of Graphically Recording the Exact Time Relations of Cardiac Sounds and Murmurs.

The following papers have been promised.

AFFLECK, J. O., M.D. Two Cases of Raynaud's Disease (Symmetrical Gangrene). Illustrated by paintings of the affected parts, and by microscopical sections of affected nerves.

BOWLES, Robert L., M.D. An Investigation into the Causes of Stertor in Animals.

COGHILL, J. G. S., M.D., Ventnor. The Treatment of Phthisical Pyrexia.

COUPLAND, Sidney, M.D. A Case of Subphrenic Abscess.

DRUMMOND, David, M.D. On the Diagnosis and Prognosis of Tubercular Meningitis.

DRUMMOND, Edward, M.D., Rome. Fever at Rome.

FINLAY, David W., B.A., M.D. Bronchiectasis treated by Incision and Drainage.

FREW, W., M.D., Kilmarnock. Prevalence of Cerebro-spinal Fever in Scotland.

GARRY, T. Gerald, MD., M.Ch. Massage: When and How to Use it.

GREENE, G. E. F., L.K.Q.C.P. A Note on a Recent Epidemic of Erysipelas.

HANDFORD, H., M.D. The Influence and Position on Cardiac Murmurs and the Condition of the Heart in Anæmia (Chlorosis),

HARRISON, A. J., M.B. Further Researches on the Treatment of Tinea Tonsurans. Illustrated with photographs.

HAYCRAFT, Professor J. Berry, and WILLIAMSON, R. T., M.D. Demonstration of a Clinical Method for Quantitatively Determining the Alkalinity of the Blood.

JONES, A. Orlando, M.D. A New Remedy for Some Forms of Heart Disease.

LAFFAN, Thomas, Esq. 1. Our Exaggerated Estimate of the Value of Beef-tea. 2. Illustrations in Cardiac Prognosis.

LUFF, Arthur P., M.B., B.Sc. The Ptomaines or Animal Alkaloids, and their Relation to Disease.

MURRAY, Wm., M.D., Newcastle-on-Tyne. On Starving into Health.

MYRTLE, A. S., M.D., Harrogate. Neurasthenia, True and False: Diagnosis and Management.

OLIVER, Thomas, M.D., Newcastle. Clinical and Pathological Bearings of Malformation of the Heart as seen in (α) Patent Foramen Ovale, (β) Imperfect Ventricular Septum.

SMART, Andrew, M.D., Edinburgh. Communication on some Forms of Undescribed Respiratory Neuroses; their Clinical and Physiological Aspects.

STRACHAN, John, M.D. (Dollar). A Case of Pernicious Anæmia Successfully Treated by Arsenic.

STRAHAN, John, M.D. (Belfast). Asthenia in Acute Disease, and its Management.

SUCKLING, C. W., M.D. Notes on Peripheral Neuritis and on its occurrence in Brassworkers.

TOMORY, J. K., M.B. East African Fever, with special reference to Climatic Conditions.

WALLACE, —, M.D., Liverpool. Note on Some of the Bad Effects of Tight Lacing.

WARNER, Francis, M.D. Syphilitic Meningitis causing Imbecility.

Dr. Russell Reynolds, and Dr. F. W. Pavy have also intimated their intention to take part in the proceedings of the Section.

SECTION B.—SURGERY.

Chemistry Class Room.

B. SURGERY.—*President*, George Buchanan, M.D. *Vice-Presidents*, James Dunlop, M.D.; Charles Robert Bell Keetley, F.R.C.S. *Honorary Secretaries*, David Neilson Knox, M.B., 8, India Street, Glasgow; Walter Pye, F.R.C.S., 4, Sackville Street, Piccadilly, London, W.

As already announced, in this Section discussions have been arranged for on the following subjects:

1. The Surgical Treatment of Abscess of the Lung and of Empyema. To be introduced and supported by Mr. T. Pridgin Teale (Leeds), Sir Spencer Wells (London), Mr. A. Pearce Gould (London), Mr. R. J. Godlee (London), Dr. J. Ward Cousins (Portsmouth), Dr. T. Laffan (Cashel), Mr. W. J. Penny (Clifton), Mr. Walter Pye (London), and Mr. W. Thomas (Birmingham).

2. The Operative Treatment of Club-Foot. To be introduced and supported by Sir William Stokes (Dublin), Mr. E. Lund (Manchester), Dr. Alexander Ogston (Aberdeen), Mr. R. W. Parker (London), Mr. E. M. Little (London), Mr. John Chiene (Edinburgh), Mr. W. J. Walsham (London), and others.

The following papers have also been promised.

ANDERSON, E. Garrett, M.D., London. A Case of Incontinence of Urine due to a Supernumerary or Accessory Urinary Passage.

BENTON, Samuel, Esq., London. On the Treatment of Stricture of the Rectum by Electrolysis.

BISHOP, E. Stanmore, Esq., Manchester. Some Cases of Osteotomy, with an Apparatus for fixing the Lower Limbs after Division of the Bones.

BROWNE, G. Buckston, Esq., London. An Explanation of the way in which Calculi in the Male Urinary Bladder sometimes escape Detection by the Sound, with a description of a New Form of Sound.

BROWNE, Lennox, Esq., London. Tubage of the Larynx.

CARMICHAEL, Archibald, M.D., Barrow-in-Furness. A Case of Gastrostomy.

CLARK, Sir Andrew, London. The History of a Case of Catheter Fever.

CLARKE, W. Bruce, Esq., London. Prostatic Abscess and its Consequences.

COUSINS, J. Ward, M.D., Portsmouth. (1) New Apparatus for Treatment of Fractures of Lower Jaw; (2) New Evacuator for Litholapaxy and other Bladder Operations.

DUNCAN, John, M.D., Edinburgh. The Value of Electrolysis in Angioma and Goitre.

FENWICK, E. Hurry, Esq., London. Notes from the Experience of 550 Cases of Organic Stricture of the Urethra.

FLEMING, W. J., M.D., Glasgow. 1. On Continuous Extension in Spinal Curvature. 2. On the Treatment of Perineal Fistula.

KEETLEY, C. R. B., Esq., London. Plastic Amputations of the Foot.

LAFFAN, Thomas, Esq., Cashel. On Sarcoma.

LLOYD, Jordan, Esq., Birmingham. Inflammatory Disease of the Seminal Vesicles.

MARCUS, Hugo, M.D., Paris. *(Title not received.)*

MCINTYRE, John, Esq., Glasgow. The Electric Illumination of the Cavities of the Body.

MORTON, James, M.D., Glasgow. On Spina Bifida, with exhibition of cases successfully treated some years ago.

MURPHY, James, M.D., Sunderland. (1) A Case of Gastrostomy, with Exhibi-

tion of Patient Eleven Months after Operation. (2) Hysterectomy per Vaginam for Uterine Fibroids, *morcellement* as practised by M. Péan.

O'Callaghan, Robert, F.R.C.S., Carlow. A Case of Laparotomy for Strangulated Umbilical Hernia; Radical Cure, with a Method of Operating.

Owen, Edmund, Esq., London. A Case of Intra-cranial (Subdural) Hæmorrhage; Localisation; Trephining; Recovery.

Pearse, T. Frederick, Esq., M.D., London. (1) On Puncture of the Bladder; (2) On Gonorrhœa in Women.

Rake, Beaven, M.D., Trinidad. The Value of Nerve Stretching in Leprosy, based on One Hundred Cases.

Renton, J. Crawford, Esq., M.D., Glasgow. A Case of Severe Deformity of Lower Lip restored by Mr. Teale's operation six years ago.

Robson, A. W. Mayo, Esq., Leeds. (1) Prostatectomy, a Sequel of the Operation of Suprapubic Lithotomy in cases of Prostatic Enlargement. With Cases. (2) A Series of Cases of Macewen's Operation for Genu Valgum.

Roth, Bernard, Esq., London. On Scoliosiometry, or an Accurate and Practical Method of Recording Cases of Lateral Curvature of the Spine.

Smith, Noble, Esq. Demonstration of the Reduction of Fractured Vertebræ, and the application of Apparatus to Control the Spine.

Stokes, Sir William, Dublin. Modification of Gritti's Amputation; and will show Casts of Stumps.

Thomson, Wm., Esq., M.D., Dublin. On Excision of the Knee-joint.

Thorburn, Wm., Esq., Manchester. The Distribution of Paralysis and Anæsthesia in Injuries of the Cervical Region of the Spinal Cord.

Valcourt, Th. de, Esq., M.D., Cannes. Winter Sea-baths at Cannes in cases of Scrofulous Disease.

Yates, Peter, Esq., M.D., Bolton. Notes on two Cases of Cancrum Oris treated successfully by Corrosive Sublimate.

Section C.—Obstetric Medicine.

Medical Jurisprudence Class Room.

C. Obstetric Medicine.—*President*, Thomas More Madden, M.D. *Vice-Presidents*, William Leishman, M.D.; J. Halliday Croom, M.D. *Honorary Secretaries*, William Walter, M.D., 20, St. John Street, Manchester; W. L. Reid, M.D., 7, Royal Crescent, Glasgow.

The following two special discussions will take place:—

1. On Intra-uterine Death; its Pathology and Preventive Treatment. To be opened by Professor Simpson. The following gentlemen will take part in the discussion:—Drs. R. Barnes, Graily Hewitt, More Madden, W. O. Priestley, John W. Byers, Hugo Marcus, J. A. Byrne, and A. D. Leith Napier.

2. On Obstructive Dysmenorrhœa and Sterility. To be opened by Dr. Halliday Croom. The following gentlemen will take part in the discussion:—Drs. Aveling, Bantock, F. Barnes, R. Barnes, Cranny, Duke, Edis, Graily Hewitt, Macan, More Madden, Professor Stephenson, J. W. Taylor, W. Walter, J. W. Byers, Hugo Marcus, J. A. Byrne, and Dr. Braithwaite.

Dr. Samuel Sloan (Glasgow) will show his Antero-posterior Compression Forceps, and will explain their usé in Flat Pelves.

Wm. Walter, M.D., Manchester, will exhibit his instruments for Securing the Broad Ligaments during Extirpation of the Uterus per Vaginam.

William L. Reid, M.D., Glasgow, will show and describe an instrument for the Rapid Dilatation of the Cervix Uteri.

The following papers are promised.

Apostoli, G., M.D., Paris. On Some Novelties in the Electro-Therapeutics of Gynæcology.

Aveling, J., M.D. The Treatment of Uterine Tumours by Electricity.

Barnes, R., M.D. Analogies between Menstruation and Gestation and Puerpery in their Physiological and Pathological Relations.

Braithwaite, James, M.D., Leeds. 1. Cases of Mechanical or Irritative Treatment of Amenorrhœa. 2. The Treatment of Intractable Cases of Retroflexion.

Butler-Smythe, A. C., F.R.C.S.Ed., London. Acute Mania following Removal of a Papillomatous Cystic Tumour of the Ovary and Rupture of the Intestine by Enema; Recovery.

Byrne, J. A., M.B., Dublin. On some Cases of Sterility caused by Operation and Treatment.

Cameron, John M., M.B., Old Kilpatrick. A Case of Erysipelas in a Pregnant Woman, with the Birth of an Erysipelatous Child.

Cameron, Murdoch, M.D., Glasgow. 1. On Cæsarean Section, with Notes of a Successful Case. 2. On the Thermostatic Nurse, with Cases.

Croom, J. Halliday, M.D., Edinburgh. (1) On the Remote Effects of Removal of the Uterine Appendages. (2) On Some Points in the Pathological Anatomy of Incarceration of the Retroflexed Gravid Uterus.

Duke, A., F.K.Q.C.P., Dublin. (1.) On the Rapid Expansion of the Cervical Canal by a New Method. (2) Tractors and Belt for Additional Power in Forceps Cases, as an Alternative to Craniotomy.

Hart, D. Berry, M.D., Edinburgh. Successful Case of Cæsarean Section (Porro's modification).

Imlach, Francis, M.D., Liverpool. The Function of Anæmia in Gynæcology.

Kennedy, Hugh, M.D., Dublin. Notes on the Treatment of Lacerations of the Cervix Uteri.

McDonald, A. D., M.D., Liverpool. (1) A Case of Extra-uterine (Ruptured Intra-Ligamentous) Pregnancy. (2) Non-communication of Scarlet Fever to a Puerperal Patient.

Madden, More, M.D., Dublin. 1. On the Causes and Treatment of Pseudocyesis. 2. On the Rapid Curative Treatment of Cystitis in Women.

Marcus, Hugo, M.D., Paris. (*Title not received.*)

Martin, J. M., M.D. On Some Points in the Pathology of Carcinoma of the Uterus.

Napier, A. D. Leith, M. D., London. The Treatment of Habitual Abortion.

Routh, A., M.D. Headaches of Pelvic Origin.

Stephenson, William, M.D. Aberdeen. On the Influence of Permanganate of Potass on Menstruation.

Wallace, J., M.D., Liverpool. Note on Three Forms of Fallopian Disease. (1) Subinvolution (open tube). (2) Hypertrophy (open tube). (3) Complete Stenosis (Inflammatory).

Section D.—Public Medicine.

Greek Class Room.

D. Public Medicine.—*President*, Henry Duncan Littlejohn, M.D. *Vice-Presidents*, James Christie, M.D.; D. Page, M.D. *Honorary Secretaries*, Ebenezer Duncan, M.D., 4, Royal Crescent, Crosshill, Glasgow; John C. McVail, M.D., Holmhead, Kilmarnock.

1. Sanitary Legislation. This discussion will be introduced by the Opening Address of the President of the Section.

2. The Communicable Diseases Common to Man and Animals, and their Relationships. Discussion to be opened on the second day of the sectional meetings by George Fleming, LL.D., F.R.C.V.S., Chief of the Veterinary Department of the Army. Professor Edgar Crookshank, King's College; Dr. J. B. Buist, Edinburgh; Dr. Edington, Edinburgh; Professor McCall, Veterinary College, Glasgow; Dr. Edward Seaton, St. Thomas's Hospital; Dr. George Thin, London; Dr. Henry Tomkins, Leicester; Principal Walley, Royal Veterinary College, Edinburgh; Dr. G. Sims Woodhead, Edinburgh, will take part in the discussion.

3. The Disposal of Sewage *(a)* in Large Towns; *(b)* in Small Towns and Country Districts. Discussion will be opened on the third day by Dr. James B. Russell, Medical Officer of Health, Glasgow. Sheriff Spens, Glasgow; Dr. G. Petrie Hay, Medical Officer of Health, Forres; Dr. John Woodman, Medical Officer of Health, City and County of Exeter; Dr. John W. Mason, Medical Officer of Health, Hull; Dr. J. Mitchell Wilson, Medical Officer of Health, Doncaster, have intimated their intention of being present to take part in the discussions.

The following papers are promised.

Brown, William, F.R.C.S., Carlisle. Report on Outbreak of Typhoid Fever, Associated with an Infective Fever among Cows.

Bruce, William, M.D., Dingwall. On Proposal for joint Publication of the different Annual Hospital Reports from Scotland.

Carpenter, Dr. Alfred, Croydon. On Disposal of Sewage.

Churton, T., M.D., Leeds. On Some Researches in the Homes of Hospital Patients and of Holiday Children.

Drummond, Edward, M.D., Rome. On Malaria.

Drysdale, Charles R., M.D. 1. On Indigence as a Main Cause of High Death-rates. 2. The Berlin and Parisian Sewage Farms.

Dyke, J., M.D. On the Disposal of Sewage at Merthyr Tydfil.

Hime, T. W., M.B. Milk Scarlet Fever.

Hope, E. W., M.D., Liverpool. On the More Recent Phases in the Decline of the Liverpool Death-rate.

James, J. Brindley, Esq., London. On a Minister of Public Health.

Kerr, Norman, M.D. Some Risks from attention to Health and Sanitation.

Littlejohn, Dr., Edinburgh. On Disposal of Sewage.

Murray, B. H., M.D., Medical Officer of Health, Portsmouth. On Epidemic of Scarlet Fever traced to Milk.

Murray, William, M.D., Medical Officer of Health, Forfar. On Disposal of Sewage in Forfar.

Nasmyth, T. G., F.R.S. A Report on the Chemical and Biological Conditions of the Air of Coal Mines, together with Mortality Statistics of a Mining District, being a report to the Scientific Grants Committee of the British Medical Association.

Pringle, Surgeon-Major Robert, M.D., late of the Sanitary Department Her Majesty's Bengal Army. (1) On Sheffield and Leicester Compared as Regards Small-pox Prevalence. (2) The Condition of Water-Supply for Drinking Purposes in Public Fountains, Railway Stations, etc.

Seaton, Edward, M.D., London. On Epidemic of Ephemeral Fever.

Simpson, W. J., M.D., Medical Officer of Health, Calcutta. On Cholera and its Fostering Conditions in the Endemic Area.

Sutherland, J. Francis, M.D. Our Hospitals and the Necessity for considerable Change in the Mode of Administration and Maintenance.

Tatham, J., M.D., Medical Officer of Health, Salford. Preventive Measures at Salford, with special regard to Compulsary Notification of Disease.

Tomkins, H., M.D., M.O.H., Leicester. Some Bacteriological Researches in connection with Summer Diarrhœa.

Whitelaw, Dr., Kirkintilloch. On Disposal of Sewage.

Section E.—Psychology.

Hebrew Class Room.

E. Psychology.—*President*, James C. Howden, M.D. *Vice-Presidents*, James Rutherford, M.D.; Julius Mickle, M.D. *Honorary Secretaries*, A. R. Urquhart, M.D., Murray House, Perth; Alex. Newington, M.D., Ticehurst, Sussex.

Dr. J. C. Howden, the President of the Section, will deliver an Address.

Dr. C. M. Campbell will introduce a discussion on the Uniform Recording of *Post-Mortem* Examinations in Asylum Reports.

Dr. A. Campbell Clark will introduce the following subject: The Sexual and Reproductive Functions—Normal and Perverted—in Relation to Insanity. 1. Menstruation: its Commencement, Irre-

gularities, and Cessation; 2. The Sexual Instinct and its Abuse; 3. Pregnancy, Parturition, the Puerperal Period, and Lactation.

Dr. Clouston will initiate a discussion on the Principle of Construction and Arrangement of an Asylum for Private Patients of the Richer Classes.

The following papers are promised.

BEACH, Fletcher, M.D. Cases of Disease of the Brain in Imbeciles.
BENEDIKT, Professor, Vienna. The Clinical Results of Craniometry and Cephaloscopy in Diseases of the Mind and Brain.
MERCIER, Charles, M.B. Expert Evidence in Lunacy Cases.
MICKLE, W. J., M.D. Note on Antifebrin.
SAVAGE, George, M.D. Mental Disorders associated with Engagements and Marriage.
TUKE, Hack, M.D. On Hallucinations.
TURNBULL, A. R., M.D., Fife and Kinross Asylum. Some Remarks on Boarding-out as a Provision for Pauper Insane.
WARNER, Francis, M.D. 1. Methods of Examining Children in Schools as to the Development and Condition of Brain.
WIGLESWORTH, J., M.D. The Pathology of Delusional Insanity (Monomania).
WOODS, Oscar T., M.D. Notes on a Case of Folie à Deux in Five Members of the same Family.

SECTION F.—ANATOMY AND PHYSIOLOGY.

Anatomy Class Room.

F. ANATOMY AND PHYSIOLOGY.—*President*, John Cleland, M.D., LL.D., F.R.S. *Vice-Presidents*, R. J. Anderson, M.D.; Henry Edward Clark, F.F.P.S.G. *Honorary Secretaries*, John Barlow, M.D., 27, Elmbank Crescent, Glasgow; Charles Barrett Lockwood, F.R.C.S., 19, Upper Berkeley Street, Portman Square, W.

C. B. Lockwood, F.R.C.S., will introduce a discussion on the Teaching of Anatomy; and will show sections illustrating the Development of the Organs of Circulation and Respiration.

The following papers are promised.

ANDERSON, Professor R. J., M.D. On Pelvic Epiphyses.
BENEDIKT, Professor, Vienna, will read a paper on his Craniometric and Cephalometric Systems, with demonstrations.
BROOKS, Henry St. John, M.D. On the Morphology of the Epitrochleo-anconeus or Anconeus Sextus (Gruber).
BROWN, J. Macdonald, M.B., F.R.C.S. 1. The Construction of the Cardiac Ventricles in the Mammalia. 2. Arrested Twin Development.
CLELAND, Professor, M.D., F.R.S. On the Nature of Certain Forms of Double Monstrosity.
COLLIER, Mark P. Mayo, M.B., F.R.C.S. On the Mechanism of the Heart and Pulse.
ECCLES, A. Symons, M.D. The Internal and External Temperature of the Human Body as modified by Muscle-Kneading, with Sphygmographic and Sphygmo-manometric Records.
HAYCRAFT, Professor J. Berry, and Dr. W. E. CARLIER. 1. Morphological Changes which occur in Blood during its Coagulation. 2. Demonstration of Human Blood retained in a Fluid Condition when Suspended to Castor Oil.
HAYCRAFT, Professor J. Berry. Recent Investigations on the Production of Taste and Smell.
LANE, W. Arbuthnot, M.B., F.R.C.S. The Influence Produced by Excessive Strain upon Muscles and Ligaments (to be illustrated by specimens).
MACDONALD, Greville, M.D. On the Mechanics of the Nose, as regards Respiration, Smell, and Taste.
MURRAY, R. Milne, M.B., F.R.C.P.E. Will Show an Arrangement for the Investigation of the Action of Measured Galvanic and Faradic Currents on Tissues.
PATERSON, A. M., M.D. 1. On the Position of the Vertebrate Limb, considered in the Light of its Innervation and Development. 2. Congenital Diaphragmatic Hernia in an Infant.

Professor Cleland, M.D., has made arrangements for the exhibition of his Preparations, both Human and Comparative, Normal, Abnormal, and Pathological, numbering 441 specimens.

SECTION G.—PATHOLOGY.

Law Class Room.

G. PATHOLOGY.—*President*, Sir William Aitken, M.D., LL.D., F.R.S. *Vice-Presidents*, Alexander Davidson, M.D.; Joseph Coats, M.D.; Charles Roy, M.D., F.R.S. *Honorary Secretaries*, G. Sims Woodhead, M.D., 6, Marchhall Crescent, Edinburgh; J. Lindsay Steven, M.D., 34, Berkeley Terrace, Glasgow.

Arrangements are being made to hold a discussion on Cancer originating apart from Epithelial Structures, in which Dr. Joseph Coats, Dr. John Carlyle (Greenock), and others are expected to take part.

The following papers have been promised.

BRUCE, Alex., M.B., F.R.C.P.Edin. On Disseminated Sclerosis.
CATHCART, Charles W., M.B., F.R.C.S. Illustrations of a suggested Museum Series.
COATS, Joseph, M.D. On a Case of Lipæmia in Diabetes, with Suggestions as to the Source of the Fat.
CROOKE, G. F., M.D., Birmingham. (1) Histological Examination of Organs in Two Cases of Purpura Hæmorrhagica. (2) Cancrum Oris Terminating Fatally with Hæmorrhagic Myocarditis.
CROOKSHANK, Professor Edgar, M.B. (1) On Anthrax in Swine. (2) On Tuberculosis in Swine. (3) On Tubercular Cows' Milk. (4) On Human and Bovine Actinomycoses.
GREVES, E. Hyla, M.D., Bournemouth. Notes on the Pathology of a case of Pseudo-hypertrophic Paralysis.
DELÉPINE, Sheridan, Esq. A Few Uncommon Forms of Sarcoma. (Specimens to be shown.)
HUNTER, W., M.D. On the Pathology of Pernicious Anæmia.
KENNEDY, —, M.D. A Case of Cystic Disease of the Liver and Kidney.
MAPOTHER, E. D., M.D., Dublin. An Anomalous Form of Eczema.
MAYLARD, A. E., B.S., M.B.Lond. The Results of some Bacteriological Cultivation Experiments with Iodoform.
NUNN, T. W., Esq., F.R.C.S. Exhibition of a Selection of Microscopic Sections of Cancerous Tissues.
O'CONNOR, Bernard, M.D., M.R.C.P. Hydatids of the Spleen, Liver, and Brain.
RAKE, Beaven, M.D.Lond., Medical Superintendent of the Trinidad Leper Asylum. The Percentage of Fibrin in the Blood of Lepers.
ROY, Professor C. S., F.R.S., and ADAMI, J. A., M.A., M.B. On Failure of the Heart from Overstrain.
RUSSELL, William, M.D. The Pathology of Pernicious Anæmia.

The following gentlemen have also intimated their intention of contributing to the business of the Section by reading papers or otherwise: Professor Greenfield, Professor Roy, Professor D. J. Hamilton, Dr. William Hunter, Dr. Barrett (Edinburgh), Dr. McFadyean (Edinburgh), Alex. Edington, M.B. (Edinburgh), etc.

Demonstrations.—Dr. Alexander Bruce (Edinburgh) will give a Magic Lantern Demonstration on Diseases of the Spinal Cord; and Alexander Edington, M.B. (Edinburgh), a Bacteriological Demonstration. Arrangements are also being made for a series of Microscopical Demonstrations illustrative of Tumours, Tuberculosis, etc.

Pathological Section of the Annual Museum.—Intimation has been received of the following exhibits for this Section of the Annual Museum: 1. Calculi removed by Lithotomy, by Professor George Buchanan. 2. Calculi removed by Lithotrity or by Scoop, by Professor George Buchanan. 3. Miscellaneous Objects removed from the Body, by Professor George Buchanan, namely: Bullets, Needles, Cases of Teeth, Impacted Pessaries, etc., also Isolated Bones of the Tarsus Excised. 4. Rhinoplasty; Wax Cast, by Professor George Buchanan. 5. Bladder and Urethra showing False Passages. 6. Selected Specimens from the Private Collection of Professor W. T. Gairdner. 7. A Series of Specimens of Tumours of the Brain, by Dr. Joseph Coats. 8. A Series of Specimens of Myoma of the Uterus, by Dr. Joseph Coats. 9. A Specimen of Madura Foot, etc., by Dr. Joseph Coats. 10. A Series of Specimens illustrative of Diseases of the Kidneys, by Dr. David Newman. 11. A Series of Specimens illustrative of Leprosy, by Dr. Beaven Rake (Trinidad). 12. A Series of Large Sections illustrating Malignant Tumours of the Lung; and a Series of Specimens illustrating Deformities of the Liver, by Drs. Woodhead and Bruce. 13. Drawings and Sections to illustrate Diseases of Bone and Joints, by Mr. F. M. Caird (Edinburgh). 14. A Series of Specimens illustrative of Diseases of the Heart, by Dr. John Lindsay Steven. 15. A Series of Myomata of the Uterus, by Dr. Joseph Coats. 16. A Series of Specimens and Illustrations of Bacteria, by Mr. A. E. Maylard, B.S. 17. Sections of Primary Growths of the Pleura and Lungs, by Dr. George F. Crooke, Birmingham.

As space for the Museum is somewhat limited, gentlemen intending to send specimens should intimate their intention without delay to John Lindsay Steven, M.D., 34, Berkeley Terrace, Glasgow, Honorary Secretary of the Section of Pathology of the Annual Museum.

SECTION H.—OPHTHALMOLOGY.

Midwifery Class Room.

H. OPHTHALMOLOGY.—*President*, Thomas Reid, M.D. *Vice-Presidents*, J. R. Wolfe, M.D.; C. E. Glascott, M.D. *Honorary Secretaries*, Henry Bendelack Hewetson, M.R.C.S., 11, Hanover Square, Leeds; A. Freeland Fergus, M.B., 41, Elmbank Street, Glasgow.

Mr. Brudenell Carter will open a discussion on the Treatment of Senile Cataract. Drs. Prichard, Meighan, Mason, Teale, G. Anderson Critchett, Drs. C. Lloyd Owen, Charles G. Lee, H. Bendelack Hewetson, Esq., Karl Grossmann, J. H. Bell, and others have promised to take part in the discussion.

The President of the Section intends to give a Demonstration of several Instruments of Use in Ophthalmic Diagnosis.

The following papers are promised.

BENSON, A. H., Esq. 1. On the Treatment of Entropion and Trichiasis by the Transplantation of Buccal Mucous Membrane. 2. Hyalitis Punctata.
BICKERTON, T. H., Esq., Liverpool. 1. Sailors and their Eyesight. 2. Unusual Corneal Opacity in Process of Recovery (patient previously shown at the Brighton meeting in 1886.)
CARTER, R. Brudenell, Esq. Operation of Opening the Sheath of the Optic Nerve for the Relief of Pressure.
GROSSMANN, K. A., M.D. Colour-blindness, with a Demonstration of New Tests.
HEWETSON, H. Bendelack, Esq. General Neuroses having an Ophthalmic Origin.
JESSOP, W. H., M.D. Ocular Headaches.
LEE, C. G., Esq. Two Cases of Foreign Bodies.
LITTLE, D., M.D., Manchester. On Extraction of Senile Cataract, giving the result of 1,100 cases.

MACKAY, George, M.D., Edinburgh. A Contribution to the Study of Hemianopsia of Central Origin, with special reference to Acquired Colour Blindness.
MACKINLAY, J. G., Esq. On Cocaine.
MAXWELL, P. W., M.D. Chronic Nasal Catarrh as a Reflex Course of Accommodative Asthenopia.
MEIGHAN, T. S., M.D., Glasgow. On the Treatment of Symblepharon by Transplantation of Mucous Membrane from the Lip.
RENTON, J. C., M.D., Glasgow. The Value of the Cautery in the Treatment of Ulceration of the Cornea.
WILLIAMS, Richard, M.D., Liverpool. Three Cases of Conical Cornea treated by the Actual Cautery.

SECTION I.—OTOLOGY.

Biblical Criticism Class Room.

I. OTOLOGY.—*President*, Thomas Barr, M.D. *Vice-Presidents*, John Astley Bloxam, F.R.C.S.; J. J. K. Duncanson, M.D. *Honorary Secretaries*, Johnstone Macfie, M.D., 23, Ashton Terrace, Glasgow; James Black, F.R.C.S., 16, Wimpole Street, London.

The following special subjects have been proposed for formal discussion:

1. The Conditions calling for Perforation of the Mastoid Portion of the Temporal Bone, and the Best Methods of Operating; to be opened by Dr. F. M. Pierce, of Manchester. Mr. Peter McBride has promised a paper on this subject. Dr. D. Stewart, of Nottingham, and Dr. W. McEwen, of Glasgow, hope to take part in the discussion.

2. The True Value of those Aids to Hearing usually termed "Artificial Tympanic Membranes." Dr. W. L. Purves has promised a paper on this subject.

3. Adenoid Growths in the Naso-Pharynx; their Influence on the Middle Ear, and their Treatment. To be opened by Mr. Lennox Browne, F.R.C.S.Ed. Dr. Farquhar Matheson, Dr. J. Ward Cousins, Dr. E. Cresswell Baber, and Dr. R. McKenzie Johnston will take part in the discussion.

The following have promised papers.

BARR, Thomas, M.D. (President of Section), intends showing Two Patients who have been successfully operated upon for Abscess of the Brain due to Ear Disease.
BRONNER, A., M.D., Bradford, will send a few Notes of Cases and Specimens of Growths removed by the Finger-nail and Hartmann's Curette.
BROWNE, Lennox, Esq. *(Title not received.)*
ELLIS, Richard, F.R.C.S. On the Fraudulent Treatment of the Deaf by Impostors.
LEWIS, Christopher, M.D., Birmingham. A case of Severe Cellulitis of the Neck, with Partial Paralysis of Right Arm, following Acute Otitis Media, caused by a Blow.
MATHESON, Farquhar, M.B., London. A brief communication on the Symptomatic Relation between Stammering and Stuttering and Diseases of the Nose and Nasopharynx.
TORRANCE, R., Esq. On Syphilitic Cochleitis.
TURNBULL, Lawrence, M.D., Philadelphia. On the History and True Value of those Aids to Hearing usually termed Artificial Tympanic Membranes.
WARDEN, Charles, M.D., Birmingham. A Case of Congenital Ear Disease producing Mastoid Abscess and Facial Paralysis.

Dr. Samuel Sexton, of New York, hopes to be present, and will give a communication on Excision of the Drumhead and Ossicles.

Dr. J. Clarence Blake, of America, hopes to be present to take part in the meeting.

SECTION J.—DISEASES OF CHILDREN.

English Literature Class Room.

J. DISEASES OF CHILDREN.—*President*, Walter Butler Cheadle, M.D. *Vice-Presidents*, James Finlayson, M.D.; Henry Ashby, M.D. *Honorary Secretaries*, George S. Middleton, M.D., 23, Sandyford Place, Glasgow; W. Arbuthnot Lane, M.S., F.R.C.S., 14, St. Thomas's Street, S.E.

The following two discussions will take place:

1. Diphtheria: *(a)* Etiology. *(b)* Relationship to other Infectious Diseases, and to other Forms of Sore Throat; Occurrence on Open Wounds and on Mucous Membranes other than those of the Throat. *(c)* Diagnosis. What are the Distinctive Features, especially those Distinguishing the Lesion in the Throat from other Forms of Sore Throat? Does Membranous Croup occur apart from Diphtheria? *(d)* Pathology and Sequelæ. *(e)* Medical Treatment. *(f)* Surgical Treatment; Tracheotomy; Tubage. The medical and general aspects of the subject will be introduced by Dr. A. Jacobi (New York), and the surgical aspect by Mr. R. W. Parker (London). Messrs. E. Owen, H. R. Hutton, Lennox Browne, R. N. Pughe, Howard Marsh, and Drs. W. T. Gairdner, George Buchanan, James Finlayson, Henry Ashby, H. C. Cameron, D. Newman, Thos. Buzzard, John Macintyre, Alex. Robertson, J. Campbell Hall, Waxham (Chicago), and J. S. Cameron will take part in the discussion.

2. Rickets: *(a)* Etiology and Prevention. *(b)* Its Connection with Syphilis and Scurvy. Is Enlargement of the Liver and the Spleen always present, more or less, in Rickets; or only in Cases of Syphilitic Origin? *(c)* Medical Treatment. *(d)* Surgical Treatment; at what Stage, and in what Way? The medical and general aspects of the subject will be introduced by the President, Dr. Cheadle, and the surgical aspect by Professor A. Ogston. Drs. Macewen, L. W. Marshall, H. Ranke (Munich), Thos. Buzzard, Henry Ashby, and Messrs. R. W. Parker, H. R. Hutton, R. Hagyard, E. L. Freer, John Gordon, R. N. Pughe, W. A. Lane, and Howard Marsh will take part in the discussion.

Drs. Jacobi (New York), Keating (Philadelphia), Ranke (Munich), Sanné (Paris), and other members of the profession on the Continent have been invited.

The following have promised papers.

BROWNE, Lennox, F.R.C.S.Ed. Anatomical Facts in support of Intubation in Diphtheria.
CAMERON, J. S., M.D. Etiology of Diphtheria. (1) Predisposition from Recent or Existing Disease, especially Scarlet Fever; (2) Influence of Insanitary Surroundings, especially Rise and Fall of Subsoil Water.
CARMICHAEL, James, M.D. So-called Idiopathic or Simple Ascites in Children.
CHAFFEY, Wayland C., M.B. Statistics of Various Diseases of Children, with Reference to Measles and Whooping-cough, and to Family Predisposition to Consumption.
FINLAYSON, James, M.D. Evidence of the Occurrence of Laryngeal Diphtheria in Glasgow, in the Early Part of this Century.
HAGYARD, Robert, M.R.C.S. The Effects of Sunlight on Rickets in Children and in the Lower Animals.
LANE, W. A., F.R.C.S. Deformities of Rickets.

SECTION K.—PHARMACOLOGY AND THERAPEUTICS.

Conveyancing Class Room.

K. PHARMACOLOGY AND THERAPEUTICS.—*President*, James Morton, M.D. *Vice-Presidents*, John Dougall, M.D.; Theodore Cash, M.D., F.R.S. *Honorary Secretaries*, Alexander Napier, M.D., 3, Royal Terrace, Crosshill, Glasgow; Sidney Harris Cox Martin, M.D., 60, Gower Street, London, W.C.

A special discussion will be opened by Professor Theodore Cash, M.D., F.R.S., on Carbolic Acid, Antipyrin, Antifebrin, and their Allies, especially as regards their Antipyretic, Analgesic, and Antiseptic Actions. Drs. Walter G. Smith (Dublin), A. D. Macdonald, and Prosser James will take part in the discussion.

Dr. W. Allan Jamieson (Edinburgh) will show two cases of Xeroderma Pigmentosum.

It is expected that Professors Liebreich and Dujardin-Beaumetz will be present at the meeting. Dr. Dujardin-Beaumetz will contribute a paper on Phenacetin.

The following have promised papers.

DAVISON, James, M.D. The Pine Treatment.
DOUGALL, J., M.D., Glasgow. *(Title not received.)*
DRYSDALE, C. R., M.D. 1. On the Therapeutic Value of Alcohol. 2. The so-called Abortive Treatment of Syphilis.
JAMES, J. Brindley, Esq. Scabies and its Treatment.
KERR, J. G. Douglas, M.B. Thermal Treatment after Acute Rheumatism, with a Short Outline of the System pursued at Bath
MACDONALD, A. D., M.D. Three Cases of Poisoning.
MACPHERSON, R. B., M.D. The Want of Uniformity in Strength of Medicinal Substances.
PEARSE, T. F., M.D. The Treatment of Eczema.
SHOEMAKER, John V., M.D., Philadelphia. An Investigation of the Action of β Naphthol.
STOCKMAN, R. M.D Edinburgh. The Coca Alkaloids.

SECTION L.—LARYNGOLOGY AND RHINOLOGY.

Divinity Class Room.

L. LARYNGOLOGY AND RHINOLOGY.—*President*, Felix Semon, M.D. *Vice-Presidents*, George Hunter Mackenzie, M.D.; Peter McBride, M.D. *Honorary Secretaries*, D. Newman, M.D., 18, Woodside Place, Glasgow; A. E. Garrod, M.D., 9, Chandos Street, Cavendish Square.

The following subjects are proposed for special discussion:

1. The Use and Abuse of Local Treatment in Diseases of the Upper Air Passages. To be opened by Dr. de Havilland Hall (London) and Mr. Stoker (London).

2. The Causes, Effects, and Treatment of Nasal Stenosis. To be opened by Dr. Macintyre (Glasgow) and Mr. Cresswell Baber (Brighton).

3. Hæmorrhages from the Pharynx and Larynx, and other Hæmorrhages which simulate these. To be opened by Dr. Percy Kidd (London) and Dr. Hodgkinson (Manchester).

The following gentlemen hope to take part in the discussions: Dr. Prosser James (London), Dr. McBride (Edinburgh), Dr. Charles Warden (Birmingham), Dr. Cartaz (Paris), and Mr. Richard Ellis (Newcastle-on-Tyne).

The following papers have been promised.

GRANT, J. Dundas, M.D. Nasal Stenosis.
JACOB, Ernest H., M.D. Some Unusual Forms of Laryngeal Neurosis.
JOHNSTONE, R. Mackenzie, M.D. Account of a Case of Tumour of the Naso-Pharynx.

McBRIDE, P., M.D., Edinburgh. On Hay-Fever and Allied Conditions.
MACDONALD, Greville, M.D.Lond. (1) Case of Laryngeal Stenosis, cured by Ablation of one Vocal Cord. (2) Remarks on the Pathology of Ecchondrosis of the Triangular Cartilage, with a new operation.
MACINTYRE, J., M.D. Anatomical Demonstration of the Larynx.
MACINTYRE, John, M.D., Glasgow. The Use of Electricity in Diseases of the Throat.
MATHESON, Farquhar, M.B. The Relationship between Naso-pharyngeal Disease and Stuttering and Stammering.
NEWMAN, D., M.D. Two Cases of Complete Laryngeal Stenosis produced by Wounds of the Larynx in Attempted Suicides.
SPICER, R. H. Scanes, M.D. (1) Clinical and Pathological Observations on Affections of the Tonsils (Faucial, Lingual, and Pharyngeal) in the Light of Recent Views as to their Functions. (2) A Case of Lupus Vulgaris of the Upper Respiratory Tract—with Polypus (Lupous) of the Larynx.
STOKER, George. A Note on the Treatment of Acute Laryngitis with Cocaine.
WARDEN, C., M.D. Case of Fibro-mucous Polypus of the Naso-pharynx.

ANNUAL MUSEUM.

THE Annual Museum will be held on August 7th, 8th, 9th, and 10th, in the Examination Hall and Lower Hall of the Hunterian Museum of the University of Glasgow, and will be arranged in the following six Sections:

SECTION A.—Food and Drugs, including Antiseptic Dressings, and other Chemical and Pharmaceutical Preparations. (Honorary Secretary, R. S. Thomson, B.Sc., M.B., C.M., 3, Melrose Street.)

SECTION B.—Pathology, comprising Casts, Models, Diagrams, Microscopical Preparations, and Micro-organisms. (Honorary Secretary, J. Lindsay Steven, M.D., 34, Berkeley Terrace.)

SECTION C.—Anatomy, comprising Special Dissections, Methods of Mounting, Abnormalities, Drawings, Models, etc. (Honorary Secretary, J. Yule Mackay, M.D., 34, Elmbank Crescent.)

SECTION D.—Physiology, consisting of Apparatus, Microscopes, Microtomes, and Microscopical Preparations of Normal Histology. (Honorary Secretary, J. McGregor Robertson, M.A., M.B., C.M., 400, Great Western Road.)

SECTION E.—Instruments and Books, including Appliances—Medical, Surgical, and Electrical. (Honorary Secretary, J. Macintyre, M.B., C.M., 173, Bath Street.

SECTION F.—Sanitation (1) Domestic Sanitary Appliances, embracing all Improvements applicable to the Treatment of the Sick in Private Dwellings. (2) Personal Hygiene, including Dress and Gymnastic Appliances. (3) Ambulances, Carriages, and all other Appliances used for the Conveyance and Treatment of the Sick and Wounded, either in Civil, Naval, or Military Practice. (4) Drawings, Models, and Apparatus illustrative of the Ventilation, Lighting, and Draining of Hospitals. (5) Hospital Furniture. (6) Sanitary Appliances in connection with Educational Institutions and Public Buildings. (Honorary Secretary, 1, 2, 3, Robert Pollok, M.B., C.M., Pollokshields; Honorary Secretary, 4, 5, and 6, A. W. Russell, M.A., M.B., C.M., Western Infirmary.)

Intending exhibitors should communicate as early as possible with the Secretary of the Section in which they propose to exhibit, as the Museum Catalogue must be complete one month before the date of meeting. The latest time for receiving exhibits is July 31st. Inquiries as to advertisements in the Catalogue should be sent without delay to Dr. Thomson, 3, Melrose Street, Glasgow.

Honorary General Secretaries of Museum Committee, A. Ernest Maylard, B.S., M.B., 4, Berkeley Terrace; R. S. Thomson, B.Sc., M.B., C.M., 3, Melrose Terrace.

Honorary Local Treasurers, Joseph Coats, M.D.; Jas. B. Russell, M.D.

Honorary Local Secretaries, John G. McKendrick, M.D., F.R.S., 45, Westbourne Gardens, Glasgow; James Christie, M.D., Hillhead, Glasgow; John Glaister, M.D., 4, Grafton Place, Glasgow.

Dr. EDWARD WATERS hereby gives notice that he will move:

That the Council of the Association be desired to place before the General Medical Council the following resolution passed at the annual meeting held in Dublin in 1887, with the view of obtaining the opinion of the General Medical Council on the subject:

"That the Association is of opinion that the diplomates of the Irish and Scotch Universities and Corporations should possess the same privileges in respect of public appointments that are enjoyed by diplomates of the other divisions of the kingdom."

Dr. WILLIAM HONNER FITZPATRICK hereby gives notice that he will move (in order to give full effect to the recent change of constitution of the Council, the design of which was to secure upon it an adequate representation of the Branches):

That every representative attending a Council meeting be paid first-class railway fares to and fro out of the funds of the Association.

FRANCIS FOWKE, *General Secretary.*

NOTICE.

MEMBERS of the Association resident in Edinburgh and the neighbourhood may have the benefit of a special train leaving Glasgow at 11 P.M. on August 7th, 8th, 9th, and 10th, provided a sufficient number intimate their wish to return to Edinburgh at that late hour. They are requested to communicate their intention to Dr. John Glaister, Grafton Place, Grafton Square, Glasgow, or or before July 28th, so that the necessary arrangements may be made with the railway company.

THE JOURNEY TO GLASGOW.

THE London and North-Western Railway issues tourist return tickets from London to Glasgow available by ordinary trains, the fares being, first, £5 10s. 3d.; second, £4 1s. 2d; third, £2 12s. A party of six first class, or ten third class passengers, giving notice to the stationmaster, Euston Station, within the next few days, would be provided with a separate saloon carriage. The best trains leave London at 10 A.M., 8 P.M., 8.50 P.M., and 10 P.M., and the fastest of these (that at 10 A.M.) takes nine hours to complete the journey. Further particulars will be found in our advertisement pages. The Midland and the Great Northern Railway issue tourist tickets at the same fares, and will provide saloon carriages on identical conditions. The best trains by the former railway leave St. Pancras at 10.30 A.M. and 8.25 P.M. (Saturdays excepted) and 9.15 P.M., and occupy about ten hours on the journey. The Great Northern trains (East Coast Junction route) are slightly faster, the best trains leaving King's Cross at 10 A.M., 8.30 P.M., and 9.30 P.M.

EXCURSIONS.

THE following eight excursions will take place on Saturday, August 11th.

1. *Lanark and Falls of Clyde.*—The party, limited to 100, will leave the Central Station by special train about 8.46 A.M., for Tillietudlem, where, by the kind permission of the Earl of Home, an opportunity will be given to visit the ruins of Craignethan Castle, the scene of Sir Walter Scott's *Old Mortality*; proceeding on foot through the picturesque ravine of the River Nethan for about a mile; the party will then be conveyed by coach through some of the most charming Clydesdale scenery to the Falls, visiting Stonebyres, and then, by the kindness of the proprietor, will enter the Corehouse estate, to see Cora and Bonnington Linns. Returning by coach to Lanark, dinner will be served about 2.30 P.M., in the Clydesdale Hotel. After dinner the party will be shown the library of Dr. William Smellie, the famous obstetrician, which was bequeathed by him to the Grammar School of that town. It is a very interesting collection of books, containing two or three black letter volumes. It is also expected that the Lee talisman, or "Lee Penny," will be shown to the visitors. This charm was taken from the Saracens by Sir Simon Lockhart, of Lee, after a battle, as part ransom of a captive. It was deemed a charm of great medicinal virtue in the end of the last century. It gives the title to *The Talisman*, another of the novels of Sir Walter Scott. Afterwards short excursions may be made on foot to Cartland Crags, Roman Bridge, Old Abbey, and Smellie's grave. The party will return from Lanark by special train to Glasgow, leaving at 7.10 P.M., arriving 8.5 P.M. Price of ticket, 10s.

2. *Ayr and the Land of Burns.*—The party, fixed at 100, will leave Glasgow at 9.15 A.M., by special train to Ayr. Thence by conveyances it will proceed, *viâ* Maybole, to Crossraguel Abbey (one of the finest Gothic remains in Great Britain), thence to Culzean Castle, where it is expected the party will be received by the most Honourable the Marquis of Ailsa, and returning to Ayr by the sea-shore to Burns's Monument, Alloway Kirk, Burns's Cottage, and "Twa Brigs." Dinner will be served at the Station Hotel at 5.15 P.M., after which, by special train, leaving at 6.30 P.M., the party will return to town. Ticket, 12s. 6d.

3. *The Perthshire Highlands, Lochearnhead and Crieff.*—The party, numbering 100, will leave Buchanan Street Station at 8.35 A.M., in special saloon carriages, for Lochearnhead, and during the journey will see some of the finest Highland scenery; thence by coaches *viâ* Loch Earn, to St Fillans, where a halt will be made for refreshments, at the Drummond Arms Hotel; then to Comrie, where a second halt will take place to visit the Devil's Cauldron, and then driving *en route* through the grounds of Col. Williamson, of Lawers, and the grounds of Ochtertyre to Crieff, where the party will be entertained to dinner by Dr. Meikle, at his Hydropathic Establishment. After dinner, short walks to

places of interest in the neighbourhood may be made, and the party will leave Crieff at 6.40 P.M. in the same saloon carriages for Glasgow, where it will arrive at 8.35 P.M. Ticket, 12s.

4. *Callander and the Trossachs (Loch Katrine).*—The party, 100 in number, will leave the same station as last at the same hour, in special saloon carriages, for Callander, where coaches will be in readiness to convey them to Loch Katrine. Dinner will be served at 3 P.M., in the Trossachs Hotel, after which visitors may enjoy a sail on the loch to the Silver Strand, mentioned by Sir Walter Scott in the *Lady of the Lake.* The party will return by the same route to Glasgow at 7.5 P.M., where it will arrive at the same time as the former excursion. Ticket, 15s.

5. *Arran.*—The party, numbering 150, will leave Bridge Street Station in saloon carriages at 9.40 A.M., for Wemyss Bay, where, it will join the famous Clyde steamer *Ivanhoe*, which *en route* to Arran calls at Rothesay, and passes through the Kyles of Bute. Dinner will be served on board during the passage. On landing on the island the party will be enabled to visit Brodick Castle, by the kind permission of his Grace the Duke of Hamilton. The party will return to Glasgow by the same route, arriving there at 6.45 P.M. Ticket, 7s. 6d.

6. *Stirling, Bridge of Allan, and Dunblane Cathedral.*—The party, limited to 100, will leave Buchanan Street Station at 8.35 A.M. by special train for Stirling. On arrival, visits will be paid to the Castle of historic renown, the Royal Infirmary, High Church, etc., under the conduct of Provost Yellowlees of that town, and Dr. Haldane, of Bridge of Allan, returning to the Smith Institute, where cake and wine will be served. Thence the party will proceed by conveyances to the Wallace Monument, *viâ* the King's Park, where an unrivalled view is to be obtained, then through the demesne of Airthrey, the seat of the Right Honourable Lord Abercromby, to Bridge of Allan, where dinner will be served in the new Museum Halls. After dinner seats in the conveyances will again be taken, and the party will then drive through the grounds of Keir, the seat of the late Sir W. Stirling-Maxwell of bibliophilic fame, and Kippenross, to Dunblane, where the Cathedral and Library of Archbishop Leighton will be visited. The party will then return by the famous Wharry Glen to the Spa at Bridge of Allan, where tea will be provided for the visitors at the Hydropathic Establishment. The party will leave Bridge of Allan for town at 7.38 P.M., arriving there at 8.35 P.M. Ticket, 10s.

7. *Rothesay and the Kyles of Bute.*—The party, fixed at 250, will leave Central Station at 9.15 A.M., by special train for Greenock, where it will join the new steamer *Victoria*, specially chartered for the trip. The steamer will then sail down the Firth of Clyde to Rothesay, and thence will proceed through the Kyles of Bute, up Loch Ridden, and then round the Island of Bute to Kilchattan Bay pier, where those of the party who choose may land to walk to Mount Stuart, the seat of his Grace the Marquis of Bute, visiting on the way the beaver colony, now an almost unique sight. The remainder of the party will return to Rothesay by the steamer, where conveyances will be in readiness to convey them to Mount Stuart; on returning, the party will alight at the Glenburn Hydropathic Establishment, where, by the kindness of Dr. Philp, the proprietor, tea will be served to the party at 5 P.M. Dinner will be served on board the *Victoria en route.* After tea a visit may be paid to Rothesay Castle. The return journey to Glasgow will be made by the same steamer to Wemyss Bay, leaving Rothesay at 6.30 P.M. and Wemyss Bay at 7.5 P.M. by special train, arriving in town at 8.10 P.M. Ticket, 12s. 6d.

8. *Loch Lomond.*—The party, numbering 150, will leave the North British Railway Station, Dundas Street, at 10 A.M., by special train for Balloch Pier, where it will be waited for by a special steamer; during its passage to the head of the loch all the places of historic interest will be pointed out. Facilities will be given, by arrangement made before or in the early part of the meeting, for an ascent of Ben Lomond by a small party. On arriving at the head of the loch at 1 P.M. fifty of the party (to be fixed by ballot or choice) will land, the remainder returning by the same steamer to Tarbet, where dinner will be served about 2.30 P.M. in the hotel. From here parties may visit Loch Long by a very picturesque road. For the party of fifty left at the head of the loch a special dinner will be provided on board the steamer, arriving there about 2 P.M. The return journey will be made by steamer to Balloch, leaving head of loch at 5.20 P.M., and Tarbet at 6 P.M., and by special train to town, arriving about 8 P.M. As this is the busiest time of the tourist season, intending visitors to this place should apply early, in order that completely comfortable arrangements may be made. Ticket, 9s.

The price of the tickets includes the whole cost of the day's outing, dinner *included.*

Ladies are invited, on the same terms, to take part in all of the excursions.

SHORT EXCURSIONS.

THE following short excursions have been arranged during the week of the Association meeting in Glasgow:—

Harbour and Shipbuilding Yards.—The Glasgow Harbour Trustees have kindly placed one of their "Clutha" steamers at the disposal of the Association on August 8th, 9th, and 10th. The steamer will leave Glasgow Bridge on each of those days at 10.15 A.M., giving an opportunity of viewing the harbour and inspecting the shipbuilding works of the Fairfield Shipbuilding Company, Govan, and of Messrs. J. and G. Thomson, Clydebank.

City of Glasgow Fever and Small-pox Hospitals.—Brakes will leave Charing Cross on Wednesday, August 8th, to visit these Hospitals, which are the property of the Corporation and supported by a public rate. Number limited to forty.

☞ *Hamilton Palace, Mausoleum, and Grounds.*—Train from Central Station on Wednesday, August 8th, at 3.7 P.M. to Hamilton, where conveyances will be provided to drive a party of forty to the palace grounds.

☞ *Glasgow Waterworks.*—Drive to Mugdock Reservoir by brakes, from Charing Cross, on Thursday, August 9th, at 9.30 A.M. Number limited to forty.

Queen's Park and Cathkin Park.—Brakes leave Charing Cross on Thursday, August 9th, at 2.30 A.M., for Queen's Park and Cathkin Park, *viâ* Cathcart, passing site of new Victoria Hospital, and returning by Rutherglen. Number limited to forty.

Woodilea Lunatic Asylum.—On the invitation of the Barony Parochial Board members will have an opportunity of inspecting this Asylum on Friday, August 10th. Train from Queen Street Station to Lenzie at 12 noon.

Lochearnhead and Crieff.—This excursion, limited to 100, will leave the Buchanan Street Station of the Caledonian Railway by special train at 8.35 A.M., and the committee's arrangements are as follows: On arrival at Lochearnhead Station coaches will be in waiting for St. Fillans, where refreshments will be provided. About 1.30 P.M. the coaches will leave St. Fillans for Comrie, where those who wish may visit the Devil's Cauldron in Glen Lednaig; for those who may not wish to go up the Glen, tea will be provided by the hospitality of Mr. and Mrs. McNaughtan, of Cowden; after an hour's halt, the coaches will leave Comrie for Crieff at 3 o'clock, arriving at the latter place about 4 P.M., where the party will be entertained to dinner by Dr. Meikle, of the Crieff Hydropathic Establishment. The special train will leave Crieff at 6.40 P.M., and arrive in Glasgow at 8.35 P.M., giving plenty of time for those who may wish to leave by the South trains.

A running sketch of the excursion may not be amiss, as the route embraces some of the finest loch and Highland scenery. Immediately on the train emerging from the Buchanan Street tunnel the presence of Tennent's chemical works is felt, speed is made through the fire-clay district of Garn Kirk, and after an hour's express journey the historic ground of Bannockburn is reached, where from the train the flagstaff can be seen which marks the place of Bruce's standard at the battle; immediately after passing Bannockburn, on a height called Abbey Craig, stands the national monument of Sir William Wallace. The train is now at Stirling, where those of the excursionists who have chosen the Stirling and neighbourhood route leave on their day's outing. Immediately on the train leaving Stirling the old bridge can be seen where the battle was fought between Wallace and the English; on the rock to the north of the town a splendid view of the Castle and the links of Forth is seen from the train; away in the direction of the north-east the first glimpse of the Highland Bens is seen; we now rapidly pass Bridge of Allan, a famous inland health resort; Dunblane is soon reached, and an excellent view of the old abbey is obtained. At this point the train leaves the main line to the North, and it now runs on the Oban railway to Lochearnhead, passing Callander on the way, where the Trossachs excursionists leave the train; the scenery up to this point has been lowland and interesting, but after leaving Callander the scenery assumes the Highland character, approaching now "the land of the mountain and the flood."

The distance from Callander to Lochearnhead is 14 miles, and the scenery is very grand, surrounded by the different Bens and lochs. At Lochearnhead the view down the loch is really magnificent; the length of the loch is 7 miles to St. Fillans. Coaches here meet the party, and just as they start and towards the north is one of the passes of the Highlands, called Glen Ogle; the district we are now passing through is rife with traditions of Rob Roy, and the hills and braes of Balquidder are famed in Scottish song.

After a drive of seven miles along the north side of Loch Earn, and through splendid Highland scenery, the coaches stop at St. Fillans, where the party will be served with light refreshments at the hotel.

St. Filians is probably the most pleasant village, as to appearance and situation, in the Highlands of Scotland. Saint Fillan filled the office of Prior of Pittenweem, and was the favourite saint of Robert Bruce; a relic of his was carried in a shrine at the battle of Bannockburn. St. Fillan's well was long believed to have miraculous power over disease; a rock on the summit of a hill called Dunfillan is called St. Fillan's chair, here the saint is said to have bestowed his benedictions on the surrounding country.

Comrie.—The drive from St. Fillans, about seven miles, is along the valley of the Earn, passing on the way, on the north, Dunira house, and stretching up the glen on the south, the Royal forest of Glenartney, belonging to Lord Aveland; this forest is noted by Sir Walter Scott, as the hunting ground of King James, as narrated in *The Lady of the Lake.* Three glens converge at the village of Comrie, namely, Strathearn, Glen Lednaig, and Glenartney; the boundary line is the watershed of the inner Grampians, and the Earn flows past the village. The scenery is very fine, from the delicately beautiful to the rudely savage. Among other antiquities there is a distinct profile of a Roman camp, supposed to mark the site of the battle fought between Agricola and Galgaens. On a commanding site overhanging the Lednaig, is a monument to Lord Melville, the view from which is truly grand. The village of Comrie enjoys the unenviable distinction of being more frequently visited by earthquakes and subterranean convulsions than any other spot in the British Isles. The strath or valley in which the village is situated is quite a health resort, and all that is required to further it in this respect is railway facilities. Crieff is the capital of Strathearn. This district is Highland in character, the scenery is wild and romantic, and full of attraction to sportsmen. The drive from Comrie, about seven miles, is very fine, the site of the town is on a beautiful wood-covered hill, sheltered from the east wind, and commands a magnificent view over Strathearn; mansion houses abound in the district, it is in fact a sanatorium; it is called the Montpelier of Scotland. The Knock of Crieff is 400 feet above the sea level; a short distance from Crieff, on a fine wooded eminence, called Tomnachastle, is a granite obelisk, 84 feet high, erected to the memory of Sir David Baird, the hero of Seringapatan. About two miles from Crieff are the famous Drummond Castle Gardens, one of the residences of the Baroness Willoughby D'Eresby. The town itself is worthy of a ramble through it, and the party will have time between dinner and train to do so.

After leaving Crieff the scenery is very fine, and partakes again of the undulating, lowland character. At Crieff Junction the train again runs on the main line of the Caledonian Railway. At Dunblane the Trossachs party joins the train, and at Stirling, the excursionists to that neighbourhood augment the party, and so, again reunited, the three parties reach Glasgow at 8.35 P.M., satisfied, it is to be hoped, with the different districts they have travelled over.

INTERNATIONAL HYGIENIC SOCIETY.—The above-named Society are about to try an experiment in London which has met with success in various Continental cities. The Society has opened two kiosks for ladies at 81, Park Street, Grosvenor Square, and 4, Grosvenor Street, on sites which have been granted to the Association at a nominal rent by the Duke of Westminster. £2,500 will be spent on these buildings, which will afford writing and reading rooms, and two large swimming baths, surrounded by recreation grounds. It is proposed to establish altogether in various parts of the metropolis fifty similar places for ladies exclusively, about one hundred in the City for men, and swimming and shower baths in the east of London, where also food will be supplied. It is to be hoped that at length London may become clean.

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

Cow Pox and Vaccination.—Intravenous Injections of Rabic Virus.—Microbe of Dysentery.—Micro-organisms and the Uterus after Parturition.—Hypodermic Injections of Antiseptics.

M. LAYET, of Bordeaux, has published the results of more than 60,000 observations of vaccination and revaccination. Vaccine from the calf attains its maximum of active virulence about the fifth day of its evolution. It retains its perfect activity only on condition of being transmitted from calf to calf every fifth day of its evolution. Its activity diminishes according to season, to soil of cultivation, and to degree of evolution. When weakened, it may be regenerated by passing through calves presenting favourable conditions. The specific micro-organism of vaccine has not yet been determined. Inoculation by pricking is preferable to inoculation by sacrification. The best method is that of direct vaccination from calf to arm. Practised according to this method, revaccinations have been successful at the first time in proportion of from 75 to 80 per cent., and on refractory subjects, this first revaccination succeeded in from 16 to 20 per cent. of the cases. Humanised animal vaccine, when collected, retains its specific properties longer than vaccine taken directly from the calf. Animal vaccine, on the contrary, in tubes or on glass plates, gives no absolute guarantee of success. Pure vaccinal lymph, or preparations of the same, are the only ones to be recommended. The immunity procured by animal vaccination is inferior neither in degree nor in duration to that produced by Jennerian vaccination. Since the establishment of the municipal service of vaccine at Bordeaux, not a single case of death from small-pox has occurred among children inoculated with animal vaccine. It is always easy to renew the strength of the vaccine by having recourse to a new original source. In this manner M. Layet, since the foundation of the Bordeaux establishment in 1881, has five times renewed his cultivated vaccine with spontaneous cow-pox, and three times with horse-pox. Transmitted or auto-inoculated cow-pox is always umbilicated. The bovine origin attributed in England to scarlatina adds some weight to the observations of M. Layet. It appears that the original disease of vaccine is an eruption on the cow's udder, leading by infectious impregnation to a lactogenic alteration of the milk. Therefore the classical description hitherto given of cow-pox refers only to culture vaccine.

M. V. Galtier, of Lyons, has again proved that venous injections of rabic virus obtained from the animal which inflicted the bite, or from any other, can, if they are made within twenty-four hours after the injury, prevent bitten herbivorous animals from becoming rabid.

Professor Cornil, in the name of his pupils MM. Chantemesse and Vidal, who seem to have a monopoly for the discovery of bacilli, describes the microbe which causes epidemic dysentery. Sooner or later this discovery will doubtless lead to important results.

MM. Strauss and Sanchez-Toledo have proved that after normal parturition the uterus does not contain any micro-organism. If those which exist in the external genitals penetrate into the interior, they are quickly destroyed. M. Dœderlein states that the lochia of non-febrile women contain no micro-organisms, but that such are found in the case of women suffering from fever. Various microbes, taken from cultivated pathogenic microbes, and introduced at various epochs into the uterus of rabbits, produced no ill effect, except the chicken-cholera microbe; it is well known, however, how liable rabbits are to this malady. This singular resistance to microbes of the uterine wound after parturition in animals presents a great contrast to the vulnerability of the same wound in women after childbirth. The reason of this is not yet known, but perhaps the discovery of the cause will throw light later on on the pathogeny and prophylaxis of puerperal fevers.

According to Dr. Reusse, carbolic acid, prepared specially for hypodermic use, is easily injected, without pain, swelling, or lesion, even in a strong dose of 1 in 5. Nevertheless some phthisical patients have been known to give up this treatment on account of the pain it causes. In one case Dr. Reusse saw a woman into whose breasts carbolised vaseline had been injected; six months afterwards her breasts still appeared like bags of nuts, and her pulmonary condition had not been amelio-

rated, because the antiseptic, enveloped in the vaseline and encysted in the tissue of the gland, had not penetrated into the blood. MM. Arnozan, Pitres, etc., have described cases of gangrene, neuritis, and paralysis caused by the destruction of the nervous filaments, after injections of chloroform and of ether. Chloroform and ether thus employed are but instruments of torture. Dr. Reusse has proposed paraldehyde, which, prepared at 20 per cent., is a useful antispasmodic and an energetic antisyncopal remedy, giving but slight pain and causing no lesions. Eucalyptol has been employed combined with petroleum vaseline, but the result has been far from satisfactory. In fact the vaseline covers the medicinal agent and almost prevents its acting at all; for this substance does not saponify in our organism, and therefore cannot be assimilated even by the stomach. Besides it may become poisonous; being composed of variable hydrocarburets, its typical chemical formula is $C_n H_n$ and it requires only one equivalent of the nitrogen of our tissues to combine with it and form nascent hydrocyanic acid, NC_2H. This may have been the cause of some cardiac and pulmonary accidents recently observed. Many antiseptics, however, may be mixed with vegetable oils, and become capable of being injected. Eucalyptol is, in this manner, mixed with fine olive oil, injected in cases of phthisis at the Hôpital Laennec with great success.

EGYPT.

[FROM OUR OWN CORRESPONDENT.]

Sanitary Retrogression.—Closure of Dispensaries.—Egyptian Doctors sufficiently Paid.—Gift to Kasr-el-Aini Hospital.—Unusual Case of Imperforate Anus.—Cairo Medical Society—Alleged Epidemic of Measles.

UNDER the old *régime*, a number of medical men (between seventy and eighty) were dispersed in the provinces, where each man was supposed to afford medical aid to a population varying from 50,000 to 80,000, as well as to supervise the sanitary condition of about fifty towns and villages, in addition to controlling vaccination and the registration of births and deaths. No one man could possibly do all this effectually, and the Sanitary Department selected a certain number and established them in dispensaries; while the remainder, concentrated in the chief towns of each province, would be called on to perform tours of inspection at stated intervals in rotation, arranged in such a manner that every village should be inspected and reported on at least twice a year. An order of Council has just been issued to return to the *status ante quo*. The immediate result of this order of Council will be closure of the recently established dispensaries, and suppression of the flying hospitals lately organised to meet outbreaks of epidemic disease.

It is frequently said that the Egyptian Government doctor must take backshish because he is only paid £8 a month, and cannot live on that. This argument is entirely fallacious. The earnings of a labouring man in Egypt are largely estimated at £1 a month. In England, taking an unskilled labourer's wages at 15s. a week, eight times that sum amounts to £308 a year, which I take it is more than the average English doctor earns at starting, and yet he manages to live on it.

A sum of upwards of £250 has been handed over to Kasr-el-Aini Hospital, being one fourth of the proceeds of an entertainment got up last winter for the benefit of the Cairo hospitals. With this very acceptable windfall, many little luxuries will be provided, not only for Dr. Milton's hospital, but also for the lunatic asylum, where, amongst other things, it is proposed to buy a barrel organ for the delectation of the inmates. It is to be hoped that the music discoursed thereby may have charms to soothe the savage breasts of the lunatics; but it must be remembered, of course, that the effect of a barrel organ on an Egyptian cannot be estimated by comparison with its effects on, say, a student in a back street in London.

The following unusual case of imperforate anus was treated at Kasr-el-Aini Hospital:—Mohammed, aged 2 days, son of Egyptian parents, was brought to hospital, having passed neither fæces nor urine since birth. When seen the abdomen was slightly distended and tympanitic: no trace of anus to be found and no discoloration or depression in anal region. No impulse on crying. Meatus of urethra closed by slight membrane, prepuce normal. The child was chloroformed and an incision made in skin of anal region from coccyx to scrotum; deep tissues were carefully dissected through, until the finger could pass one inch and a-half along concavity of sacrum and coccyx. No bowel felt and no impulse on crying. Small trochar and cannula passed into tissues three-quarters of an inch further, inclining towards the left, but no meconium obtained. Search for rectum abandoned, and peritoneal cavity opened in left iliac region, intestine stitched to abdominal wall, and then opened, slight discharge of meconium. Meatus of urethra opened with bistoury, catheter passed into bladder, and about four ounces urine drawn off. During following twenty-four hours large escape of meconium, child taking breast and passing water naturally. Condition unchanged during eight days, continual discharge of fæcal matter, no undigested milk in motions. Ninth day slight discharge of fæcal matter from perineal wound. Tenth day fæcal discharge from perineum increased, number 12 gum elastic bougie passed with some difficulty into rectum. During next five days opening into rectum dilated, until little finger could be passed. Wound in iliac fossa closing, three-quarters of fæcal matter passing *per anum*. On twentieth day wound in iliac fossa granulating over, all fæcal matter passing *per anum*. Impossible to determine if any power of controlling discharge from anus existed, probably none. On twenty-ninth day wound in iliac region almost healed, and patient's mother insists on leaving hospital with child. Told to pass little finger into rectum every day. On fifty-first day child brought back to hospital dying with symptoms of intestinal obstruction, anus admitted little finger easily. Two hours after admission child died. No *post-mortem* examination allowed. Diagnosis: intussusception or volvulus, probably at iliac wound. It is worthy of note that the rectum should have opened spontaneously; probably the incision passed very close to it, or even included some portion of its coat.

The Cairo Medical Society still continues to exist, notwithstanding the fact that the support it receives from the European portion of the profession is not considerable. At the last meeting foreigners were represented by two Englishmen only, none of the numerous other nationalities having sent delegates. This is a pity, for I fear that, if unsupported by aliens, the native element will not long suffice for its continuance. At the last meeting Dr. Salem Pacha read an interesting paper on the advantages of subcutaneous injection of quinine in pernicious fevers. According to the learned president there were many cases in which, administered by the mouth, quinine was absolutely inert, whereas, if injected, it acted like a charm, and often literally brought back the patient from the grave. An interesting discussion followed, and then Dr. Kafraoui read a very lengthy paper on seminal losses. At its conclusion the hour was too advanced to admit of discussion, so the meeting broke up, though there were two other papers on the list. It would be desirable to restrict the length of communications in future, for, after all, it is from the subsequent debate that most benefit is usually derived.

Measles are said to be very prevalent just now, but, in my opinion, although the disease undoubtedly exists, still I cannot help thinking that many deaths are ascribed to it which ought to be put down to other causes. Diagnosis in Egypt is in its infancy, and there is a tendency to enter in the death certificate the name of the malady most talked of at the moment, quite irrespective of symptoms.

CORRESPONDENCE.

MODERATE DRINKING.

SIR,—If the statement of Mr. G. King in your last week's issue be correct the statistics of the United Kingdom Temperance and General Institution are, of course, vitiated. I am, however, inclined to think, on other and independent grounds, that total abstainers would come out well as subjects for life insurance. Those who have paid attention to the point have failed to notice that teetotallers are, for the most part, something more and besides abstainers from the use of alcohol—and that they conform to a fairly distinct type of character. A teetotaller is usually a man careful of his health—steady and regular in his habits. He gives heed to his clothing, his food, exercise, rest, and amount of work. He fights the battle of life warily and not recklessly. These are just the kind of men that insurance agents like to get hold of. For the purposes of life insurance total abstainers are, I apprehend, comparable rather with clergymen and Quakers, and perhaps Jews, than with the mass of moderate drinkers. It is notorious that clergymen and Quakers are exceptionally good livers,

and this was well ascertained before the wave of teetotallism invaded the land. According to Seisen's tables the death-rate among the Protestant clergy, between the ages of 25 and 65, was only 10.6, whereas that of the general community was 18.0. In Mulhall's *Dictionary of Statistics* the number of clergymen who reach the age of 70 is estimated at 42 per cent., while that of merchants is only 33 per cent.

The Jews, in regard to the use of alcohol, are an exemplary people; they belong essentially to the ranks of the moderate drinkers. A Jewish drunkard is rare and a Jewish teetotaller is equally rare. The Jews are also careful of their health—their conduct and their habits are the converse of reckless and devil-may-care. Possessing these qualities the Jews are, as might be expected, better livers than the average of the Christian communities among whom they dwell. Dr. B. W. Richardson (I quote from the *Briton Life Almanack for 1883*) deduces from tables supplied to him by Dr. Asher that the mortality among London Jews, between the ages of 35 and 45, is better than that of the whole population of London, in the proportion of 5 to 8.

Those who believe, on certain very strong and broad grounds, that the use of alcohol must be of some important service to man—or at least to European man—may be allowed the conjecture (were it possible to express it without involving a contradiction in terms) that the typical teetotaller might still further enhance his expectation of life if, while preserving his other careful habits, he added thereto an equally careful use of alcohol.—Iam, etc.

WM. ROBERTS.

89, Mosley Street, Manchester, July 23rd.

SIR,—In reply to Dr. Owen, whose carefulness and impartiality are beyond question, I frankly admit it would have been better to have omitted the parenthesis in question, which was certainly not intended to refer to any particular contributors, as I had not read the list. I had in my mind certain medical men who were strangely and strongly prejudiced against total abstinence. I have no charge to make, as it is quite unnecessary for my argument. But I regret that I did not make the other point sufficiently clear. If moderate drinking shortens life at all, it can only be by inducing disease. But it cannot be denied that inebriety is one of the diseases produced by moderate drinking in certain cases, and by no means the least frequent. The desire or craving created by the use of any narcotic for that particular drug, and often for larger doses, is one of the physical results of the habit. Excess in certain cases is, therefore, one of the natural consequences of "moderation;" and this drunkenness, which shortens life, is a distinct and direct result of the use of alcohol, from which total abstainers are necessarily exempt. To insist that we should only reckon the effects of moderate drinking, apart from the excess to which in a percentage of cases it always leads, is to beg the question. But there is an intimate relation of cause and effect between the two, however much it may be ignored. I maintain that the manufacture of drunkenness is one of the constant and normal consequences of moderate drinking, and to represent moderate drinking as harmless, because, when you exclude those who are induced thereby to take more and caused to die earlier, the rest live tolerably long, is to create a fancy picture, and to blind men's eyes to the real and stern realities of life.

In reply to Dr. Joy, who "ventures to consider that grapes and barley furnish wholesome and palatable refreshment," I would say that the question of the "wholesomeness" of certain products of these things is the very question in dispute; if he chooses to beg the question, it is of no use to argue with him. Barley and grapes—raw, dried, or cooked—supply excellent nourishment; my objection to them begins after the stage of putrefaction has set in. His allusion to the tailless fox suggests a more appropriate fable: the dog who was proud of his collar and chain. I can assure him that abstainers from narcotics fully appreciate their liberty, and, as they were born without the collar, they do not see the advantage of putting it on. But perhaps Dr. Joy was thinking of Manx cats! I must give up the riddle.

The actuary of the Atlas, Mr. King, deserves a more serious reply. It is quite true that if any considerable number of abstainers on becoming ill, and being ordered by the medical men to get "medicine" at the drink-shop, instead of the chemist's (alas! too common), were transferred to the general section, it would load this with excess of the sick and weakly, and vitiate the statistics. I have anticipated this fallacy, and can, on the assurance of the Secretary, given some time ago at a public meeting, inform you that, while it is not at all uncommon for members of the general section to become abstainers, and be transferred to the temperance section, it is very rare, indeed, for an abstainer to go over to the drinkers. The fact is, the abstainers insured in that office get such extra and substantial bonuses, through keeping in the teetotal section, that they are not such fools as to forego these palpable advantages for mere fancies which have no foundation of fact on which to rest.

One other remark: Mr. King says that, "to a great extent, people are total abstainers because they are healthy, and not healthy because they are total abstainers." Indeed, I have heard it said that the teetotallers are a "poor, weak, miserable lot;" that "you could tell the blue-ribboners by their stunted growth and unhealthy appearance." It seems to me that both of these cannot be right; perhaps neither is. Surely the artificial product of fermentation can be no more needful for the *genus homo* than for any other, though these lower genera can be taught to like it and crave for it, just as in the case of man, by giving them small doses at first. *Verbum sap. sat.*—I am, etc., J. J. RIDGE.

Enfield, July 21st.

SIR,—When an experienced actuary such as Mr. George King says he cannot see that statistics help us to say whether total abstainers or others live longer, I think he can hardly have appreciated the merits of the question. All medical practitioners of experience are aware from life-long observation that the use of alcohol is one of the commonest causes of death. For instance, Dr. Lancereaux has calculated that one-twentieth of all deaths occurring in the hospitals of Paris among adults is due to the diseases caused by alcohol; and, in some of the French lunatic asylums for men (Manche), 34 per cent. of the cases are said to be caused by spirit-drinking. The use of alcohol, then is well known to all medical statisticians to be a cause of death. When, therefore, it appears in the statistics of such assurance companies as the United Kingdom Office, the Sceptre, or in those of the Rechabites and Sons of Temperance, as compared with the Foresters and other non-abstaining societies, that persons of the same class, differing, as far as is known, in nothing, save in the fact that some use alcohol and others do not—and we are informed that, in the case of the first named office, the average number of years in excess lived by the total abstainers as compared with the non-abstainers is six—this is merely a verification of a truth which any person of experience in hospital or private practice could have easily predicted.

The word "moderate drinkers" means nothing. It is quite impossible to come to any logical conclusion with such ill-defined terms as that; but the terms "total abstainers" and "non-abstainers", are clear and definite, and I think Mr. King will, if he reflects over the matter, see that the statistics referred to do assist us in clearly apprehending the great value to health of life-long abstention from alcohol All assurance companies ought to have separate sections for total abstainers, and I trust that competition will compel them to take this step before long.—I am, etc., C. R. DRYSDALE.

London, July 23rd.

METHYLENE AS AN ANÆSTHETIC.

SIR,—Any observations which emanate from so astute an observer and so careful as well as successful a practitioner as Sir Spencer Wells must necessarily carry great weight. While regretting my inability to agree with him as regards the use of methylene, I feel it incumbent upon those who, by daily familiarity with anæsthetics, are presumably conversant with their properties, to record their experience of that agent. No one has apparently recorded a note of approval or disapproval, and so I venture to draw attention to a few facts. A letter from Dr. Field, of Bath, upon the subject, clearly, I think, points out the necessity for the most rigid and careful study of the question. Dr. Field makes the astounding statement: "Whatever chemists may tell us of the results of their analysis of its (methylene) composition, I am perfectly sure that in giving it (methylene) we are not giving chloroform." From these remarks one is compelled to conclude that either "chemists" know nothing about analysis, or that physicians practising in the nineteenth century prefer to adopt the uncertain results of clinical observation to those of the rigidly accurate methods of chemical analysis, from which last, I venture to think, scientists will agree with me that there is no appeal. The questions I propose to consider are, first, is the so-called methylene (methene bichloride), a well-known chemical substance having the formula $C_2H_2Cl_2$? Secondly, if it

is not this body, is it diluted chloroform? Thirdly, is genuine bichloride of methylene (methene bichloride) an anæsthesia-producing substance? And fourthly, is so-called methylene a safe and useful anæsthetic whatever its composition may be?

Under the first heading we have the evidence of Sir Spencer Wells, Professor Tyndall, and MM. Regnauld and Villejean. Sir Spencer Wells says he cannot be sure that the chemical composition of the so-called methylene is that of the chemical substance methene bichloride ($C_2H_2Cl_2$); further, that a substance called methylene, and prepared in Germany by Riedel, "appeared to me very much like the methylene most used here, but rather stronger." It is difficult to understand that a substance having a definite chemical formula should appear stronger or weaker, unless alcoholic or other solutions of varying strengths are used. Sir Spencer Wells also found Riedel's methylene to give clinical results less satisfactory than those at which he arrived when using the proprietary article sold in London under the name of methylene. Professor Tyndall estimates the cost price of the manufacture of chemically pure bichloride of methylene (methene bichloride) to be ten shillings an ounce: the material sold costs half-a-crown for two ounces. But the evidence of the French chemists goes still further, at least in the view of persons who regard chemical analysis as being worthy of the attention of scientific men. In 1881 MM. Regnauld and Villejean were at the pains of getting (through agents accredited by Sir Spencer Wells) samples of the substance called methylene. I believe I am accurate in saying Sir Spencer Wells obtains his methylene from only one source, and I am unaware that it is to be got elsewhere in England. The methylene so obtained was tested clinically, and found to produce the usual anæsthetic trance. It was then submitted to chemical analysis, and a result obtained which showed it to be composed of four parts methylated chloroform diluted by one part of methylic alcohol. Subsequently these investigators prepared some genuine bichloride of methylene ($C_2H_2Cl_2$) which they administered to animals, with the result that no anæsthesia appeared, but in its place wild excitement, convulsions, and death.

Unless a direct disproof of the results arrived at by these gentlemen is forthcoming at the hands of equally skilled experts, we are bound to admit that the methylene of English manufacture is not bichloride of methylene ($C_2H_2Cl_2$). As regards Riedel's methylene, I shall hope to submit it to the rigid tests of chemical analysis and physiological research, and report the result to you, Sir, at a later date.

In reply to the second query, is methylene diluted chloroform? we have the strong evidence of MM. Regnauld and Villejean, whose analysis distinctly affirmed their identity. In some researches made with Roy's tonometer, circulating blood containing varying percentages of chloroform and similar percentages of methylene (commercial) through the detached ventricle of the frog, I certainly found the heart reacted in identically the same way. I further employed mixtures of alcohol and chloroform, and obtained cardiograms in no wise differing from cardiograms recorded when methylene (commercial) in solution percolated the heart. To some, physiological experiment appeals with less force than does clinical observation, and, fortunately, I am able to corroborate the results arrived at by experiment. In former years I employed methylene (commercial), using it almost exclusively in the treatment of cases at the Hospital for Women, as well as for abdominal sections occurring in my private practice. In most cases I administered the drug by my modification of Dr. Junker's inhaler, occasionally by the open method, but never employed an ether inhaler, as I should regard such a procedure as highly dangerous.

Ether should be given in saturation; chloroform or methylene should never be given in a higher percentage than 4 to every 100 volumes of air. My clinical experience convinced me that the difference between chloroform and methylene was one of degree, not of kind. I tested this by using solutions of chloroform in alcohol, and I am bound to say I obtained excellent results from this mixture. It has been said the rapid recovery, the less marked head symptoms after methylene, separate it from chloroform. I venture to think if those who make this affirmation will work with minimal quantities of chloroform; and, further, if they will dilute that agent, they will find the same phenomena present themselves as when methylene is used. Chloroform administered with Junker's inhaler by one who is expert in its use closely approximates to methylene. From a very careful examination of cases I have been compelled to admit that, clinically, the features of methylene narcosis do not differ from those of chloroform sleep.

Under my third heading we consider whether chemically pure bichloride of methylene ($C_2H_2Cl_2$) is a safe and reliable anæsthetic, and the answer is not far to seek. MM. Regnaud and Villejean have shown, and their contention remains, I believe, wholly unassailed, that this substance possesses no anæsthetic properties whatever, but is, upon the other hand, a deadly and rapidly acting poison.

In conclusion, I propose to discuss, Is methylene so-called a good and safe anæsthetic whatever may be its real composition? and here I am pleased to be able to express views more in accord with Sir Spencer Wells. I have, from a pretty wide experience of the agent, formed the following conclusions about it. It is agreeable to inhale, is adapted for cases which stand chloroform well; it does not answer for jaw or tongue operations. As regards its safety, I cannot, in the face of the facts above cited and of the number of deaths which have occurred from its use, regard it as being a safer agent than chloroform. I have seen several cases in which alarming symptoms have occurred during its employment, and in these, I believe, but for prompt treatment, fatal results would have occurred. Vomiting, nausea, headache, and shock are, I think, more often the result of the quantity or dose of the anæsthetic given than of the individual agent; certainly methylene has, in my experience, proved in nowise superior to chloroform or ether as regards these sequelæ.

I venture to think that if we consult the safety of our patients we shall not advocate methylene, save and except in special cases when ether, preceded by nitrous oxide gas, is contra-indicated. Sir Spencer Wells clearly employs methylene, and seldom ether, so that his strictures upon ether are apparently based on less wide an experience. Ether possesses disadvantages, but is, I submit, safer than chloroform or methylene. In fine, I would urge that those who use methylene, and every operator will, of course, select for himself, should remember that they are employing a powerful and dangerous agent, valuable and useful doubtless, but in all cases hazardous. Many other points in this connection occur but must necessarily be omitted in a letter which is intended simply to sound a note of warning.

One word more, however, must be said, and that is, although many practitioners will probably assert from their experience, as they did at the discussion upon anæsthetics at the annual meeting of the Association, held at Cardiff in 1885, that methylene answers well, and has never killed any of their patients, their argument is *non sequitur* when urged in support of methylene. The same thing may be said of chloroform, amylene, ethidene, dichloride, and many mixtures; but the danger still exists, and no man is justified in letting his patient incur risks unless himself fully aware of their nature and prepared to show cause why he resorted to a dangerous anæsthetic when safer materials were at hand.—I am, etc.,

Mortimer Street, Cavendish Square. DUDLEY BUXTON, Anæsthetist to University College Hospital, etc.

GLYCOSURIA AND DIABETIC COMA.

SIR,—Allow me to acknowledge the careful attention my essays have received, and to add a few words to the notes in your last issue, p. 81, on diabetic coma. The view of Schmitz is not intended to cover all cases. I admit with Wilks the occurrence of collapse, or with Senator and Frerichs the presence of autogenetic poisons, also, as in pernicious anæmia and uræmia, but I deny that this poison is oxybutyric acid, or that acetone is itself a poison.

Even in uræmia it is not urea in the blood, but some product of its decomposition, that is injurious. Acetonæmia is said to result from the ultimate changes in oxybutyric acid; if so, these products are of frequent occurence in many conditions of the body without giving cause of anxiety. Acetone is formed in most febrile diseases, especially those of children, in wasting diseases, such as athrepsia, cancer, gastric ulcer, in exophthalmic goitre, dyspepsia, constipation, and often convulsive attacks. In these cases acetone has been found in the urine by Jaksch, and more recently by Dr. A. Baginski (*Nature*, 1887, p. 551). Moreover, a large quantity of acetone, administered for a considerable time, caused no ill effect. Frerichs found half an ounce given daily for some days harmless. In some cases of diabetic coma where acetone was detected in the urine none was found in the blood, nor in the cerebro-spinal fluid, nor in the pancreas. These notes were made in the case of a young diabetic, after death from sudden comatose dyspnœa, with a remark by Berti that "acetone absorbed

produces no such symptoms." Dr. Stevenson, in *Guy's Hospital Reports* records this kind of coma without acetonæmia, and Dr. Campbell one of acetonæmia without coma; the latter would seem to invoke sudden failure of the excretory power of the kidney as concerned in diabetic coma. But MM. Cornillon and Mallet (*Prog. Méd.*, Dec. 1883) give an instance where the kidneys were healthy, with a large excretion of sugar and the normal amount of urea, to show that the coma in this case was not uræmic. Professor Jaccoud, in his lately published clinical lectures, speaking of Kussmaul's coma as diabetic poisoning, says that acetonæmia is not concerned in it. Of course any acid reaction of the blood is an impossibility.—I am, etc. WILLIAM SQUIRE, M.D.

Orchard Street, Portman Square, W., July 14th.

EXECUTIONS.

SIR,—The Home Secretary seems, by his reply to Mr. Brookfield in the House last night, to be very imperfectly informed of the results "from time to time" of the present haphazard system of executing criminals. So late as April and August of last year the murderers Currell and Lipski (whose executions I witnessed) had quite narrow escapes of decapitation, the former getting a drop of seven and the latter of eight feet, though Berry informed the Governor of Newgate that the drops had been arranged at five feet six inches and six feet respectively. In Currell's case all the veins leading from the brain, together with the œsophagus and many muscles, were ruptured, large quantities of venous blood escaping through the mouth into the white cap, the lower border of which, being included in the constricting noose, pent up the fluid, so that it only filtered through in a small stream to the bottom of the pit, where the prison surgeons and myself were taking the pulse. In Lipski's case the damage to the integument, muscles and spine was extensive, as may be easily imagined, but there was only superficial bleeding of small extent. I may add that Lipski's pulse beat for thirteen minutes (stopping once at the end of five minutes) at the rate of 160, the quickness proving (according to Professor Haughton) complete insensibility. All others whose executions I have witnessed had good, normal pulses (80) for about ten minutes, strangulation being the cause of death. —I am, etc., JOHN J. DE ZOUCHE MARSHALL, L.R.C.S.I.

Hastings, July 24th.

"M.S. DURHAM," FOR PRACTITIONERS.

SIR,—The gratitude which prompts your correspondent "M.D., DURHAM," to speak of his "Alma Mater" in such gushing terms is the natural outcome of the exceptional and charitable manner in which the University deals with qualified practitioners of fifteen years' standing; so also is his desire to derive further favours from an already too liberal hand.

I venture to submit that quite enough injustice results from the fact of granting the degree of M.D. without residence, without permitting that of M.S. to be obtained in the same way.

The possession of the surgical degree alone denotes that the M.D. has been obtained by residence, which to the majority of its holders has involved an additional year of hospital practice and study, after becoming qualified, to say nothing of extra expense and loss of time. Surely, therefore, it would be a gross injustice to these men to admit general practitioners without residence also to the surgical degree and its advantages, simply because they have spent a few more years in acquiring the means of existence and a pecuniary advantage over their juniors.

It is a matter for regret that the law does not prevent universities and examining bodies, regardless of their honour and dignity, from interfering with established regulations in order to compete for those who have neglected their opportunities, and in this way depreciating the value of the degrees already conferred.—I am, etc. M.D., M.S.DURH., M.R.C.S.ENG.

THE ST. JOHN AMBULANCE ASSOCIATION AND THE MEDICAL PROFESSION.

SIR,—A paragraph in the JOURNAL of July 21st seems to imply that the medical profession should have been represented on July 18th, when H.R.H. the Prince of Wales was installed as Grand Prior of the Order of the Hospital of St. John of Jerusalem, and that their services in the work of the St. John Ambulance Association have not been sufficiently appreciated.

In the first place, I may remark that on the occasion to which reference has been made, only members of the Chapter had the right to attend, and no invitation could be given to anyone else. Secondly, the highest honour which the Order has hitherto had the power to grant is that of Honorary Associate, a distinction which has been conferred on several representative physicians and surgeons. Thirdly, the St. John Ambulance Association has recognised the services of 355 surgeons by enrolling them on the list of honorary life members.

During the last ten years I have attended meetings—which, for brevity, are called "ambulance meetings"—in every part of England, and I can positively assert that I have never been present at one at which it was not publicly acknowledged that the existence of the Association is entirely dependent on the support which the medical profession has so willingly and liberally accorded. This is felt and acknowledged by the thousands who have attended the classes, and I believe that the professional instructors have felt as great a pleasure in imparting the useful rudiments of "first aid" as the pupils have done in receiving it; and I know that the doctors who have given us such invaluable assistance are the first to admit that the satisfaction afforded is not a one-sided arrangement.—I am, etc., JOHN FURLEY.

*** The name of the function is a trivial detail; it was the most important function which the Order has yet held in England, and the complete absence of the name of any member of the medical profession, and of any reference to the all-important services rendered by the profession to the Order has caused the great dissatisfaction at which our paragraph hinted.

THE LIFE-HISTORY OF A HÆMATOZOÖN.

SIR,—In giving a preliminary account of the result of my researches on the life-history of a hæmatozoön of the dog in the JOURNAL of July 14th, I find I have been guilty of an oversight, which I wish to correct in order not to mislead others who may wish to verify the facts which I set forth. The common louse, in which I have found the embryos and the larval forms of the nematode hæmatozoön of the dog, I must say that it is not *Tricodectes latus*, but *Hæmatopinus piliferus*, which here seems more common than his other commensal before-named; but as *Tricodectes latus* too can suck blood, though generally it does not do so, being a mallophagus (as is said by Claus and others), so it remains to be proved whether *Tricodectes* too be or not one of the entozoa that concurs to the cycle of life of the hæmatozoön as well as pulex and hæmatopinus.—I am, etc., P. SONSINO, M.D.

Pisa, July 22nd.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

MR. JOHN G. HARRIES has been appointed Surgeon and Agent at St. David's Head.

THE MEDICAL STAFF.

SURGEON-MAJOR H. G. GARDNER, who is serving in the Bengal command, has leave of absence for six months on urgent private affairs.

Surgeon W. H. BEAN, serving in the Madras command, is appointed to the civil medical charge of the Bhamo district, Burmah, and its police, *vice* Surgeon D. B. Spencer, relieved.

ARMY MEDICAL RESERVE.

SURGEON-MAJOR W. R. BRUNTON, 1st Surrey Rifle Volunteers, to be Surgeon-Major (ranking as Lieutenant-Colonel).

THE INDIAN MEDICAL SERVICE.

SURGEON S. H. HENDERSON, Bengal Establishment, is appointed to the officiating medical charge of the 1st Native Infantry, *vice* Surgeon E. Cretin, M.B., transferred temporarily to civil employ.

Surgeon J. T. DALY, M.B., Bengal Establishment, is appointed to the officiating medical charge of the 6th Native Infantry, *vice* Surgeon-Major J. Moran, transferred temporarily to civil employ.

Surgeon H. E. BANATVALA, Bengal Establishment, is appointed to the permanent medical charge of the 33rd Native Infantry, *vice* Surgeon-Major F. W. Wright, M.D., D.S.O.

Surgeon G. B. IRVINE, Bengal Establishment, officiating in medical charge 1st Battalion 2nd Goorkhas, is appointed officiating medical officer to the 8th Bengal Cavalry, *vice* Surgeon J. R. Adie, M.B., transferred temporarily to civil employ.

Surgeon G. M. NIXON, Bengal Establishment, civil surgeon of Boolundshuhur, is granted furlough to Europe for one year.

Surgeon J. F. MACLAREN, M.B., Bengal Establishment, civil surgeon of Azimghur, istransferred to the civil medical charge of Ghazeepore.

Surgeon F. MAIDMENT, Madras Establishment, is appointed to the civil medical charge of the Bhamo District, Burmah, and its police, *vice* Surgeon H. B. Briggs, relieved.

Surgeon H. M. HAKIM, Madras Establishment, is appointed to the civil medical charge of the Myingyan district, Burmah, and its police, *vice* Surgeon J. M. Cadell, relieved.

Surgeon-Major J. A. LAING, Madras Establishment, is appointed Sanitary Commissioner, Madras.

Surgeon R. Ross, Madras Establishment, has leave of absence for one year on private affairs.

Surgeon-Major F. W. WRIGHT, M.B., D.S.O., from the 33rd Native Infantry, is appointed to the permanent medical charge of the 43rd Goorkha Light Infantry, *vice* Surgeon-Major E. R. Johnson, who has been appointed Secretary to the Surgeon-General, Her Majesty's Forces.

Surgeon J. C. C. SMITH, M.B., from the permanent medical charge of the 16th Native Infantry, is appointed to the officiating medical charge of the 1st Battalion 2nd Goorkhas, *vice* Surgeon G. B. Irvine.

The services of Surgeon G. S. ROBERTSON, civil surgeon of Ghazeepore, are placed temporarily at the disposal of the Government of India, Foreign Department.

THE VOLUNTEERS.

MR. W. G. OWEN, M.B., has been appointed Acting-Surgeon to the 1st Cheshire and Carnarvon Artillery.

Mr. LLEWELLYN THELWALL, L.R.C.P., L.R.C.S., has been appointed Surgeon to the 4th Volunteer Battalion Essex Regiment, *vice* J. Vance, L.R.C.P., resigned.

Acting-Surgeon A. HODGE, of the 3rd Volunteer (Duke of Cornwall's) Brigade, Western Division Royal Artillery (late the 1st Cornwall Artillery) has resigned his appointment, which bore date June 20th, 1885.

Surgeon J. KNILL, of the 2nd Gloucestershire (the Bristol) Engineers, has been granted the honorary rank of Surgeon-Major.

RELATIVE RANK.

SURGEON-GENERAL (RETIRED) writes: After a perusal of the entire controversy on the rank question, nothing has struck me more forcibly than the way the War Office authorities and their apologists have been driven from pillar to post in framing excuses for denying the medical officers of the army the rank which is their due.

Did the medical officers of the British army possess the military rank and titles bestowed by other nations, is it at all likely that such slights would be offered to them by those in authority as have been made known from time to time in the columns of the JOURNAL?

The idea that the military surgeon must depend upon individual energy and force of character to combat for and maintain his personal influence and status in the army is simply preposterous. A very large majority of army medical officers have expressed a wish for military rank and titles as a protection against personal slights, and as a means of stopping the attempts of any class in the army to degrade them. They also believe the possession of military rank and titles to be necessary for the due maintenance of authority and discipline in their corps and hospitals.

The consolidation of our forces and the creation of a so-called army medical reserve of officers is the order of the day. If the authorities would only look into the Swiss army medical organisation they would find something worthy of study, with a view to an amended army medical reserve warrant. From the Italian army, too, something might be learnt to guide the Committee promised by the War Minister on the important questions of rank and organisation.

The United States army medical organisation has already furnished the model for our present station hospital system, and the regulations regarding management and discipline. We have only to turn to the medical and surgical history of the Secession War to see what good organisation enabled the United States Army Medical Staff to achieve. We know, too, from the official reports of the head of the medical department, as well as from the testimony of a United States officer of distinction (in the JOURNAL of July 9th, 1887), that the bestowal of actual, in the place of so-called relative, rank on the military surgeons of the United States army has been attended with the happiest consequences, although precisely the same arguments had been urged beforehand against granting it as in the case of our own, namely, that "the bitterness of the strife between the surgeons and the line officers would be intensified if the former were given substantive rank." We are told that since the important point was gained by them "all contentions and jealousy, which up to that time had been kept alive by the encroachments of the line officers upon the surgeons' authority within their own department, has subsided, the authority of each officer in his own province is definitely established and respected, and good feeling and contentment have been secured without any decrease of efficiency in any branch, or injury to discipline."

It will thus be seen that in the matter of rank as well as of organisation the Americans have (as in most other things) shown themselves a highly practical people, allowing neither caste, privileges, nor antiquated military notions and prejudices to stand in the way of reform, by which medical initiative and efficiency have been promoted and good feeling and contentment secured to all concerned.

OUR MILITARY HOSPITALS.

JUSTICE writes: In the special supplement of the *Army and Navy Gazette* of June 30th, 1888, there is an article emanating from the pen of General the Hon P. Feilding, entitled, "The Army Medical Department," in which there are most serious reflections thrown on the management of our military hospitals. The following is a *verbatim* copy of a portion of the article:

"Not many years ago, whilst stationed at an important garrison where there were several hospitals, it was my custom to visit one or other of them almost daily, and I did so in the afternoon, at an hour when the medical officers were most likely to be away. At the largest of these station hospitals I rarely failed to find men smoking in the wards, and frequently in their beds. I invariably found brandy by the bedsides of fever patients, and more than once found men drunk in their beds. I also had complaints made to me by patients (and once by a sergeant) that they were ordered by the medical officers to fag for them at lawn tennis. As a combatant officer I was powerless to interfere."

Let us deal with the most serious charge first, namely, that of invariably finding brandy by the bedside of fever patients, and of finding patients drunk in bed. It occurred to me to be serving in the garrison with General Feilding when one of those cases took place, and I remember very distinctly the points that were elicited by the inquiry made at the time. The facts of the case were as follows: General Feilding, visiting the hospital one afternoon, as he himself states, "at the hour when the medical officers were most likely to be away," found a patient suffering from enteric fever in one of the side wards. This man was delirious from the fever. By his bedside stood a "brandy bottle" (not a bottle of brandy, as General Feilding thought) containing a cool lotion ordered by the medical officer in charge of the case, to be applied to the shaven scalp of the patient. The orderly had left the ward for the purpose of emptying the bed-pan. General Feilding left the hospital without sending for the medical officer on duty, or the senior medical officer. Why did he not ask an explanation from one of these officers, and be perfectly sure of the true state of the patient before reporting that he had seen a patient drunk in bed with brandy beside him? At that station empty brandy, port wine, lemonade, and ginger beer bottles were constantly used for mixtures and lotions when the ordinary supply of medicine bottles (a small supply at best) was exhausted.

Another of his charges, that of patients being compelled to fag for the medical officers at lawn tennis, puzzles me, so little fagging can be done except by the actual players. At that station the tennis courts were of asphalte, so it could not refer to cutting of grass, etc. I remember the case of the sergeant to whom he refers. This man was standing watching the game at a little distance; a ball fell at his feet, which he was asked to throw up; he did so, protested against being asked to field for balls afterwards, and was never asked to do so again.

As regards smoking in military hospitals, it rests almost entirely in the hands of the combatant officers to stop this. All that a medical officer can do is to send a charge against a patient detected smoking in hospital. When he is discharged he goes before his commanding officer for punishment, which is always of so nominal a description that it does not deter him from repeating the offence in the smallest degree.

The most astonishing part of all is General Feilding's remark, after stating all the irregularities of which he was an eye-witness: "As a combatant officer I was powerless to interfere."

General Feilding was in command of the infantry brigade of that garrison, and it was part of his duty to visit that hospital officially, according to regulation; if it was not in his power to interfere and prevent irregularities, of what use is it that a military officer should be detailed to visit the hospitals daily? Why are commanding officers directed to visit the hospitals frequently, and general officers the same?

If all General Feilding saw was true, he was grossly negligent as well as ignorant of his duties in allowing such things to go on.

*** We have some recollection of having heard of this General's absurd accusations before; they were originally made and are now repeated simply to disparage the station hospital system, and to show that medical officers are incapable of exercising the smallest military function involving command or authority; only heaven-born "combatants" can do that!

ARMY MEDICAL RESERVE OF OFFICERS.

THE following remarks have been sent to us by a civil surgeon, well able to gauge the opinion of the profession generally on the above subject; his observations are worthy of attention by all concerned:—

To judge by the late tone of the medical papers, there can be little doubt that the general consensus of opinion in the profession is adverse to the new Medical Reserve; and this opinion is fully justified if the conditions of the scheme be examined with even a moderate degree of attention, for if ever Government has attempted to play the old game of "Heads I win, tails you lose" with its servants, it is doing so on the present occasion.

The services of officers of the Medical Reserve are to be called for "only in cases of great national emergency," a term which possesses in itself a considerable degree of elasticity, and which will be undoubtedly made to possess considerably more in the hands of a not over-scrupulous Government. Discontent amongst officers of the Army Medical Staff and a consequent falling off in the required number of candidates may be called a "great national emergency." In former times, when abuses were rife in the Medical Staff, a ready remedy was at hand. The supply of candidates ceased, and, in consequence, the abuses had to be remedied; but now, strong in the possession of a Medical Reserve, the authorities may snap their fingers at the profession in general, and while holding a tight rein on the medical officers of the army, who may now cry in vain to their civilian brethren for help, will call on the Medical Reserve to supply the gaps caused in the ranks of the Medical Staff by the deficient number of entries.

It is astonishing that any medical man can be childish enough to embark in such a scheme as the proposed one for the mere pleasure of styling himself surgeon or surgeon-major, as the case may be, and of seeing his name in an official army list; for those, indeed, appear to be about the only advantages which are held forth by the authorities, against which dubious attractions may be balanced the disadvantages of being liable to be torn away from a practice, sent to another part of the country for no specified length of time, without any retaining fee whatever to compensate for the annoyance and loss which will, in all probability, accrue. Those short-sighted aspirants for military honours who propose accepting the one-sided terms offered to them will do well to consider that not only are they inflicting an injury on themselves, but are strengthening the hands of the Government against their professional brethren of the regular service. The position of these gentlemen has of late not been exactly a bed of roses, and frequent and numerous are the complaints that have been uttered. To these complaints Government has, under pressure from the profession outside, been obliged to pay a certain degree of attention, which it will certainly cease to do should the proposed scheme be a success.

Members of the medical profession are in general, from the very nature of their calling, endowed with a certain amount of practical, every-day common sense, the possession of which will certainly prove an effective barrier to the entrance of any, beyond a limited number, into the new Medical Reserve. To the remainder, it may be suggested, that their martial ardour to obtain medico-military titles, and to see their names emblazoned in the monthly *Army List*, could as easily be gratified by their enrolment in the local volunteer force of their respective townships, as by the infliction of a direct injury, not only on themselves, but on their brethren of the Medical Staff.

ARMY MEDICAL DEFENCE FUND.

A VOICE FROM INDIA writes: At the request of many—very many—medical officers out here, I acknowledge with joy, on their behalf, the proposal of Surgeon-General James Irving. I would suggest that a subscription of, say,

sixteen rupees, be sent to Messrs. Grindlay Gunn, of Bombay, and that the sum collected by them be sent to the secretary appointed at home; and I would beg to call for an early supply through the same source of the method proposed of carrying on any agitation affecting the department or individuals. It seems to be the universal opinion that unless some such steps be taken our interests will grow less and less, and we shall be still further trampled upon. It seems sad, furthermore, that the gazetting of medical officers to the Reserve is increasing, and a sad blow is being delivered at us by our brother medical officers; this is bitterly felt out in India.

PROMOTION.

FIAT JUSTITIA writes: In two months' time the officers who, in August, 1876, competed for commissions in the Army, Navy, and Indian Medical Services, will all have completed their twelve years' service, when the regulations prior to the change made by the Secretary of State's instructions in the warrant of 1880, provides for their promotion to the rank of surgeon-major. From information derived from Parliamentary reports I learn that it is the intention of the present Government to promote all the officers of the Naval and Indian Medical Services over the heads of their seniors in the Army Medical Staff. This is felt to be a grave injustice and unmerited; and as the Treasury refuse to incur further expense, I would suggest that all these officers be promoted at the same time, but that a warrant or other authority be issued providing that the pay and allowances be not according to rank, but be governed entirely by length of service. This would get over the present slight, and provide for those cases of half-pay owing to sickness or wounds incurred in and by the service, without any cost to the country.

STATISTICS OF THE ARMY MEDICAL DEPARTMENT.

SURGEON-MAJOR J. P. H. BOILEAU writes: In reply to "Inquirer" the tables quoted do not contain the data necessary for the calculation, and the application of the figures made by "Inquirer" is not admissible; hence the conclusion that a medical officer, now of twelve years' service, may be in a position to expect his promotion in less than four years is erroneous. An officer now in his twelfth year of service may expect his turn for promotion to arrive in less than ten years, or, if the changes amongst the senior officers continue to be as they have been since 1879, in eight years, or less.

SURGEON asks if there is any work published on the duties of volunteer medical officers.

*** There is no book published on the duties of volunteer medical officers. Information is given in the Volunteer Regulations, 1887, the Army Medical Regulations, and the Manual of the Medical Staff Corps.

MEDICO-LEGAL AND MEDICO-ETHICAL.

CORONERS AND MEDICAL WITNESSES.

MR. F. SHAPLEY, M.R.C.S. (Sidcup, S.E.), after detailing circumstances in connection with an inquest on a man who fell off the steps of a brake, and was run over by the wheels of another brake closely following the one from which the deceased fell, he being so injured "that there was not a sound bone left in the poor man's face," asks the following questions:

1. Having seen the deceased at the time of his death, ought I not to have been called as a medical witness?
2. Is the coroner not to blame for refusing to call me when requested by the jury?
3. Was the coroner justified in saying that, if he did call me, my expenses would not be allowed by the magistrates?

*** In answer to the first and second questions, it is undoubtedly the duty of the coroner, through his officer, to summon all such witnesses as can give reliable information concerning the death of a deceased person upon whom an inquest is held; and if at the first inquiry the cause of death is not satisfactorily explained to the coroner and jury, an adjournment can take place, and either the coroner or the jury can request the attendance of any further witnesses they may require. With regard to medical witnesses, it is within the power of the jury to request the coroner to summon any or "such medical witness as they may name to him in writing," and the coroner is bound to summon such witness to attend at the adjournments. With regard to the third question, the coroner was evidently mistaken if he said "the magistrates would not allow the expenses of a medical witness." The fees payable to a medical witness are fixed by Act of Parliament, and do not come under the schedule of fees allowable by the magistrates, and, unless the inquest is illegally or improperly held, the county treasurer is bound to recoup the coroner for the advance of any fees paid by him to the witnesses at an inquest.

FIXED AND INCREASED FEES FOR MEDICAL WITNESSES.

MR. J. DYSART MCCAW, F.R.C.S. (Alba House, Portglenone, Belfast) writes: The subject of fees to medical witnesses is one of almost equal importance and interest to the expert, the consultant, and the general practitioner; and has, I have noticed recently, been occupying the attention of some of the most influential Branches of our Association.

The niggardly remuneration given by the Crown authorities for medical evidence and advice is admittedly a medical grievance in every part of the United Kingdom, and demands prompt redress. The fee for medical evidence in criminal, as well as in civil, cases—at Petty Sessions, at Quarter Sessions, at Assizes, and at the High Courts of Justice—ought not only to be increased, but should be fixed at a certain definite sum, and not left, as at present, to the caprice or temper of the president of the different tribunals before which we have to appear. Here, in Ireland, the fee for medical evidence at Petty Sessions courts is generally a guinea, two guineas a day, with travelling expenses, being allowed at Quarter Sessions. Strange to say, however, the medical fee for attending assize courts varies under different judges.

At the last Summer Assizes (1887), held in Londonderry, the presiding judge (the Right Honourable Justice Murphy) allowed me, as a medical witness, three guineas a day, exclusive of hotel and travelling expenses; whilst at the Ulster Winter Assizes at Belfast last December (1887), the Right Honourable Justice Harrison allowed me only two guineas a day, with, of course, the usual allowance for hotel and travelling expenses. In the beginning of this year I was subpœnaed to one of the High Courts of Justice in Dublin to give evidence in an important civil action; but, owing to the unsatisfactory state of the law, I was compelled, very unwillingly, to accept a fee ridiculously small compared with the importance of the testimony I had to give, and the length of the journey I was obliged to travel.

The remedy is, I think, in our own hands. We must agitate, wisely and constitutionally, for increased and fixed fees for medical evidence; and we must agitate in this direction immediately and persistently, until our just claims are recognised. The Irish Medical Association is deserving of our warmest thanks for its indefatigable efforts to obtain an increased scale of fees and allowances to medical witnesses, which I regret to say for so far have been unsuccessful. The British Medical Association and the Irish Medical Association might, with mutual advantage, I think, co-operate in this matter, and press the subject on the notice of the authorities; and I believe if prompt and determined action be thus taken, a more reasonable and higher scale of remuneration would soon be fixed for medical witnesses.

"FETCHING THE DOCTOR."

L. M. S. writes: Recently the police were ejecting a man and wife from their house. On going upstairs they found the man hanging to a beam in the bedroom. After cutting him down, the wife said, "What about a doctor?" The police said, "Send for one by all means." Whereupon the wife sent her child for me, and I attended. Later in the day the police sent the same child for me, and I attended again. In due course I sent in my account to the Superintendent of Police, who says he cannot pay me, as he considers the police never sent for me, and, if they did, he is unable to debit the county with my account, as my patient died, and his name never appeared on any of their charge sheets, so that I must look to the wife for payment. Now, have I any power to enforce the payment from the police? The wife, I know, will not pay, as she is a notoriously bad character, and has left the neighbourhood owing me money.

*** The policeman who said "send for a doctor" might be personally liable to pay his reasonable fee, but the courts cannot be said to have authorised the employment of a medical man; and we do not see how payment can be claimed from them.

"PRACTISCHER ARZT."

M.B., M.A.—In cases of alleged practice by persons not possessing a qualification, it is advisable, in the first place, to state the circumstances to Mr. Upton, Clerk to the Apothecaries' Society, Blackfriars, E.C.

M.B., M.A.—It is a matter of great difficulty to obtain a conviction for taking money under false pretences in cases such as that mentioned. The proper course, provided the practice in question is not of a surgical character, would be an action for the recovery of the penalty inflicted by the Apothecaries' Act. For this purpose, the Clerk of the Apothecaries' Society, Blackfriars, should be communicated with.

DUNGARVEN.—A person registered under the Dentists' Act is entitled to use the name or title of "Surgeon Dentist," although he is so registered by virtue only of his having "at the passing of the Act been *bonâ fide* engaged in the practice of dental surgery."

THE PATIENT'S RIGHT OF CHOICE.

A. C. C. writes: During the course of a tedious labour, A., being disabled from temporary indisposition (severe sick-headache), introduces a friend and colleague, B., who completes the case, and receives half the fee, A. giving the after attendance. On the occasion of the patient's next confinement, without any communication with A., who continues the family medical attendant, and on friendly terms with B., B. is engaged and attends. Is he justified in so doing, or does he thereby commit any breach of professional etiquette?

*** B., in courtesy, ought to have informed A. that he had been asked to attend in the second confinement. But the right of a patient to select a medical man cannot be disputed.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.—Friday, July 20th.

The Pollution of the Clyde.—The Duke of ARGYLL called attention to the reports to the Secretary for Scotland on the pollution of the waters of Loch Goil and Loch Long.—The Marquis of LOTHIAN agreed that it was a matter of the greatest importance that the river Clyde should be purified. He believed that in 1876 the city of Glasgow had, at great expense, had the matter examined into by Sir John Hawkshaw, who had reported on the subject, but the scheme had met with such strong opposition that it was withdrawn. Last year he had directed Mr. Fletcher and Dr. Littlejohn to inquire into the matter, and their report entirely justified the complaints made. He would do all in his power to stop the nuisance.

HOUSE OF COMMONS.—Thursday, July 19th.

Medical Officers of Health and the Local Government Bill.—The House, on going into Committee on this Bill, resumed the con-

sideration of the clause moved at the previous sitting by Sir LYON PLAYFAIR (for Sir Walter Foster), which we published in our issue of last week.—Mr. RITCHIE said that the latter part of the amendment would entail the necessity of all medical officers of health for any district containing more than 50,000 inhabitants having a diploma in sanitary science, public health, or State medicine, under the 21st section of the Medical Act, 1886. A certain portion of the examination contemplated under that clause was of an elementary character, and would almost necessitate a certain number of medical men recommencing their professional education and going back again to school. It was well known how rusty many very capable men became in the course of practice in regard to certain elementary subjects of examination. If the House were to pass a Bill saying that no member of Parliament should be a member of any Government unless he should pass in the sixth standard, he suspected that a law of that kind might be very apt to spread consternation in the ranks of those who held office in the past or who might hold office in the future. He would suggest that if the Committee saw fit practically to accept that amendment, it should be so amended that medical officers who had served for a certain time should be qualified for those appointments without having to undergo the examination indicated by the right hon. gentleman opposite. He would suggest that a proviso should be inserted at the end of the clause, to the effect that a medical officer who had served three years in a district with a population of 20,000 prior to the clause coming into force should not be required to pass an examination for a diploma.—Mr. MALLOCK asked whether medical officers of small districts would be able to retain appointments without being examined.—Mr. RITCHIE replied that they would if they had been medical officers for districts of 20,000 inhabitants for three years prior to the clause coming into force.—Mr. STEPHENS thought that the amendment would disastrously restrict the free choice of the local authority. The object of the Bill was not to place the whole country under an agency of experts. The system would not work under which a medical man, who had lived a long time in a district and knew its needs thoroughly, was told to go back to school to pass an examination, or to be superseded by some stripling of paper knowledge and of paper qualification.—Sir GUYER HUNTER submitted that the freedom of choice would not be restricted when it became known that in appointing a medical officer a diploma would be a *sine quâ non*.—Mr. RITCHIE said that if a medical officer had served in a district with 20,000 inhabitants for three years prior to the clause coming into force he would not be required to pass an examination to qualify him.—Sir G. HUNTER observed that the diploma could be easily obtained, and the right hon. gentleman should, as far as possible, see that all officers who exercised the functions of officers of health were possessed of diplomas.—Dr. FARQUHARSON congratulated the President of the Local Government Board upon the line he had taken. The proposal would promote a great national scientific sanitary service throughout the country. It would improve the *status* of medical officers, and he hoped that these gentlemen would be well paid.—Dr. CLARK contended that the ordinary qualifications of a medical man did not fit him to discharge the duties of a medical officer of health; and he was sorry the Government were going to continue in office inefficient men who would do their work perhaps as well as they would be paid for it.—Sir L. PLAYFAIR said that the public health diplomas had existed only for the last few years, and some of the best of our officers of health, who were in charge of large districts and had reduced the mortality from zymotic diseases by one-half, had not the modern special qualification. It was only fair to recognise the value of the experience that had been thus gained and to except from the clause officers of health who had done such useful sanitary work.—Mr. RITCHIE said the proposed addition to the clause would do away with the safeguards it was desired to set up. All that the proviso did was to recognise the fact that men might be qualified by other means than the passing of a particular examination. A medical man who had been for years engaged in sanitary work might be as well qualified by his experience as a younger man who had passed a special examination. This exemption was not inconsistent with requiring that after a certain date those who were not exempted should be required to have the special qualification.—After some brief conversation, the proviso suggested by Mr. RITCHIE was accepted in the following form:—"Or has been during the three preceding years medical officer of a district or combination of districts with a population according to the last census of not less than 20,000."—The clause as amended was then added to the Bill.

Thursday, July 19th.

Death in Colney Hatch Asylum.—Mr. MATTHEWS, in reply to Mr. W. REDMOND, said the Committee of Visitors had made a searching inquiry into the death of the man Stickley at Colney Hatch Asylum, which had been reviewed by the Commissioners. The result was that Stickley's injuries were believed to have occurred after he had been received in the asylum, but there was nothing to suggest any suspicion of violence or rough usage on the part of any officer or servant. The Commissioners had censured the medical superintendent severely for laxity in his examination of the patient, and for omissions in the notice of death to the coroner. They had also blamed the assistant medical officer, and had recommended the dismissal of two attendants in the bath-room who left the patient before he was completely dressed. The Commissioners were of opinion that further inquiry would not lead to any good result. Every effort had been made to ascertain how the injuries were sustained, but the Commissioners failed to get any complete account.—In reply to Mr. CHILDERS, Mr. MATTHEWS said he was not aware whether the Commissioners thought the medical officer deserved dismissal as well as censure. His censure was for his careless examination of the patient, but whether that amounted to anything calling for dismissal he was not aware.—Mr. CHILDERS remarked that he did not suggest the dismissal, but the transfer of the medical officer.—Mr. MATTHEWS promised to consider the question, and also whether the report of the Commissioners should be laid upon the table of the House.

Friday, July 20th.

Coroners' Bill.—The report of amendments to the Coroners' Bill was received, and the Bill ordered for third reading.

The Execution at Oxford.—Mr. MATTHEWS, in reply to Mr. KENYON, said his attention had been called to the accounts published of the recent execution at Oxford, which had been fully inquired into. Whatever method were adopted of inflicting capital punishment by hanging there was a liability to accidents. Upon the whole, the accidents that might occur in the system followed at Oxford were less objectionable and revolting than those to which a system involving a shorter drop was liable. He should be unable to suggest a measure which would make these deplorable accidents impossible. He was glad to state that they were not frequent.

Monday, July 23rd.

Sanitary Regulations of Buildings.—Leave was granted to Dr. FARQUHARSON to bring in a Bill for the better sanitation of dwelling-houses, schools, colleges, hospitals, factories, workshops, hotels, lodging-houses, and other buildings within the United Kingdom. The Bill was subsequently brought up and read a first time.

The Execution of Criminals.—Dr. BROOKFIELD, in calling attention to the lamentable blunders occurring from time to time in the execution of criminals, and to the recent execution at Oxford, asked the Secretary for the Home Department whether his attention had been called to Dr. Marshall's contrivance for producing instantaneous death with a drop only of three feet, and whether he could state how soon the report of the Committee on Capital Punishment would be printed and issued.—Mr. MATTHEWS replied that only two such accidents had occurred since 1878. Dr. Marshall's suggestion was known to the authorities, but it was not thought that its adoption would lead to the expected result.—In reply to a further question by Dr. FARQUHARSON, he said the question of substituting electricity for the present mode of execution was a matter well deserving consideration. The Departmental Committee appointed to inquire into the matter had gone into the subject, but he did not think they had extended the scope of their inquiries so far as to consider the merits of the electrical methods of executing criminals. There would be no objection to lay the report of this Committee upon the table if desired.

The Pharmacy Acts Amendment Bill.—On the motion to defer the second reading of this Bill until Monday next, Dr. TANNER asked when the Bill was to be proceeded with.—Dr. FARQUHARSON said that Sir H. Roscoe, who was in charge of the Bill, would take any opportunity he could find to press it forward.—The motion was agreed to.

Colour Blindness in Seamen.—Sir G. BADEN-POWELL asked the President of the Board of Trade whether he had received a memorandum from Dr. K. Grossmann, of Liverpool, on the subject of colour blindness in seamen; whether that memorandum advocated the extension to seamen of the mercantile marine compulsory examination for colour blindness at present in force in regard to

officers; and whether he would consider the expediency of affording facilities to seamen and railway servants to obtain certificates that they were not colour blind.—Sir MICHAEL HICKS-BEACH in reply, said that arrangements were already in existence under which certain persons in the mercantile marine might be examined for colour blindness. The railway companies had already taken steps to examine persons in their employment as to colour blindness

OBITUARY.

GEORGE THOMPSON GREAM, M.D.King's Col.Aberdeen, F.R.C.P.Lond.,

Physician Accoucheur to the Princess of Wales.

DR. GREAM, formerly one of the best known and most popular fashionable accoucheurs in the West End of London, died, aged 76, on July 20th at his residence in Brighton, after having retired from practice for many years owing to ill health. For the greater part of the time during which he lived in London his residence was in Upper Brook Street. He possessed those social and professional qualities which specially fitted him for the line of practice to which he devoted himself. Dr. Gream understood thoroughly how to gain the confidence of his patients; he spared no pains and neglected no precautions in the simplest cases of labour entrusted to his care, and was competent to face any of the sudden, perilous emergencies of childbed. At the same time, he ever thought it his duty to call in the assistance of a scientific obstetrician in cases where he believed that such a step was necessary. Dr. Gream openly held the opinion that the practitioner should perfect himself in practice rather than plunge into the subtleties of science; therefore he troubled little about the rarer complications of labour, leaving such matters to other hands. He also had a wholesome distrust of new practices as well as new theories, and would speak wisely against indiscriminate advocacy of ergot, of the forceps, or of the perforator. Once he was led into error, as time proved, by his fear of innovations, yet not only did he err in good company, but his action was quite justifiable at the time, granting that no man can be a prophet. In 1848 he brought out a work entitled *Remarks on the Employment of Anæsthetic Agents in Midwifery*, and he also wrote on the *Misapplication of Anæsthesia in Childbirth*. In both publications he dwelt on the dangers of chloroform, and spoke of the accelerated action of the fœtal heart endangering the child, of the terrible convulsions which followed anæsthesia, and of the symptoms of puerperal mania observed as the effects of chloroform were passing off. He was answered by a literary broadside from Sir James Simpson, but remained unconvinced for several years later. When we consider his objections, raised at a time when experience in anæsthetics was so small, we are bound to admit that he was quite justified in dreading the routine use of chloroform or ether in private practice. There were then no accumulation of evidence and no statistics to prove that the acceleration of the fœtal heart was not invariable nor necessarily dangerous when it did occur, and that contorted features, incoherent speech, and spasmodic movements of the limbs occurred in men as well as in women in labour who were recovering from chloroform, and were as a rule of little import. Had Dr. Gream been an enthusiast, and had Dr. Francis Ramsbotham refrained from deprecating anæsthesia in his celebrated *Principles and Practice of Obstetric Medicine and Surgery*, it is highly probable that many lives would have been lost and anæsthetics consequently discredited for many years.

Dr. Gream was consulting physician to Queen Charlotte's Hospital, and took great interest in the administration of that institution. Owing to his line of practice and his professional principles, as above set forth, he did little work for societies, yet on account of his reputation as an accoucheur he was elected on the Council of the Obstetrical Society of London in 1862, and was Vice-President from 1864 to 1866.

Dr. Gream was surgeon-accoucheur to the Princess of Wales, and, what is of special interest at the present moment, he held a similar appointment in a less honorary sense to the Empress-Queen Frederick, whom he attended in all her later confinements. He was childless, though twice married. His second wife, to whom he was united in 1873, was Lady Gooch, widow of Sir Edward Sherlock Gooch, seventh baronet, and daughter of R. A. Hankey Hirst, Esq., of Basingstoke.

Dr. Gream was Knight of the Order of the Crown of Prussia, justice of the peace for Hants, and deputy-lieutenant of Middlesex. He was buried on Thursday at Aldenham, Herts.

PROFESSOR SALVATORE TOMMASI, M.D., Naples.

SENATOR SALVATORE TOMMASI was born in 1813 at Roccaraso in the Abruzzi, and was educated at the University of Naples, where he took his Doctor's degree. In 1842 he founded a medical journal which he called *Il Sarcone*, after the celebrated Neapolitan physician of that name; in 1846 he obtained the Chair of Pathology in the University of Naples, and in 1848 he became a Deputy in the Neapolitan Parliament. He was an ardent Liberal, but his career as a politician ended in exile and poverty, and for some years he was engaged in general practice in Turin. In 1860 he was appointed Professor of Clinical Medicine in the University of Pavia, a post which he held with much distinction for some years. He afterwards exchanged his chair at Pavia for the corresponding one in his own University of Naples, which he continued to hold till his death.

Professor Tommasi contributed largely to professional literature, and was recognised throughout Italy as one of the foremost clinical teachers of his day. He was also honoured by his countrymen as a sincere and thoroughly disinterested patriot.

HOSPITAL AND DISPENSARY MANAGEMENT.

EXTENSION OF ABERDEEN LUNATIC ASYLUM.

THE Aberdeen Infirmary and Lunatic Asylum Corporation have agreed to purchase the mansion-house of Glack, with 283 acres of land in the parish of Daviot, at a cost of £11,000, to be used as a branch asylum for lunatic patients.

AVERAGE RESIDENCE OF PATIENTS IN HOSPITALS.

OUR Glasgow correspondent writes: Some correspondence in the public press has recently taken place on the subject of pressure in our infirmaries, and various suggestions for their relief have been made, such as the establishment of pay hospitals and of convalescent homes. A writer in the *Glasgow Herald* has further called attention to the prolonged residence of patients in the Glasgow infirmaries, and thinks that the beds in these infirmaries are not utilised to their proper extent, as he finds that a much shorter residence is sufficient in similar institutions in other parts of the country. The following table shows the average number of days each patient stays in the Glasgow Infirmary and in those of other places:

	Days.		Days.
Glasgow, Western...	37.2	Hull	24.0
Glasgow, Royal	36.17	Wolverhampton	21.0
Edinburgh, Royal...	26.1	Leeds	20.72
Dundee	27.0	Manchester, Royal	20.5
The "London," London... ...	28.05	Preston	19.0
Reduced from 36 in 1876.		Blackburn	19.0
Yarmouth	27.7	Reduced from 38.5 in 1865.	
Birmingham, General	25.5		

Glasgow's pre-eminence in this list is certainly marked, but it is a mistake to suppose that the managers of our infirmaries are either ignorant of, or careless, in regard to it. We believe this disparity capable of complete explanation, and we doubt not, seeing the question has been so publicly brought forward, that it will receive as public and satisfactory an answer.

UNIVERSITY INTELLIGENCE.

OXFORD.

A LONG VACATION TERM.—Balliol College is setting a good example this vacation by encouraging undergraduates reading for Honour Schools to stay up for a part of the vacation. The attempt appears very successful, as about twenty men have availed themselves of the opportunity. Of these, curiously enough, the majority are men who are reading for Classical Honour Schools, whilst science men are not represented amongst them. It is much to be hoped that the precedent of a long vacation term will next year be more largely followed, and that the science students will muster in force. During the vacation

students can work more quietly at practical work, and can, owing to the cessation of lectures and demonstrations, spend a part of their time in learning the elements of medicine and surgery by following the practice at the Radcliffe Infirmary.

University Extension Lectures.—Oxford is shortly expecting a visit from the students who have been attending the university extension lectures in the provinces. About 800 visitors are expected, of all grades of society, and to render their visit practical some sixty lectures have been arranged to be given during the ten days of their stay. The subjects of these are comprehensive enough to suit all. Amongst the rest, lectures on physiology, geology, and chemistry are to be given.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

REGISTRATION OF PLUMBERS.

A public meeting was held in the Free Library, Liverpool, on Monday evening, "to consider the registration of qualified plumbers as a measure for securing higher efficiency of plumbers' craftsmanship in the interests of public health." There was a very large attendance, including deputations from towns in the district representing upwards of one million and a quarter inhabitants. The Chairman of the Health Committee presided, supported by the medical officers and sanitary authorities of the chief towns in the district. Dr. J. Stopford Taylor, (M.O.H.Liverpool) proposed that a district council should be appointed for Liverpool, Birkenhead, West Lancashire, Cheshire, Denbigh, Flint, Carnarvon, and Anglesey, to act in union with the Plumbers' Company. Mr. Duckworth, President of the Liverpool School of Science, seconded the resolution, and a District Council was appointed.

Among the representatives of the public are chairmen of the Health Committees, and Dr. J. S. Taylor, Dr. Vacher, Dr. Sprakeling, Dr. Steeves, medical officers of Liverpool, Birkenhead, Bootle, and Toxteth, and Dr. Carter, President of the Liverpool Medical Institution.

THE SCOTCH BURGH POLICE AND HEALTH BILL.

The Select Committee of the House of Commons concluded its labours on this Bill on July 20th. Almost the last question for discussion was an amendment by Mr. F. S. Powell to omit "measles" from the category of "infectious diseases," because in England that disease was not included. Mr. Powell, however, stated that he had written to Dr. Littlejohn, Edinburgh, who replied that he was in favour of the retention of "measles." Last year in Edinburgh Dr. Littlejohn said that out of 44,000 cases of infectious disease there had been 18,000 cases of measles. It was evident the medical men of Scotland wished to keep an eye on this disease, and, therefore, he would not move the omission of measles. Mr. Esslemont said he could corroborate what Dr. Littlejohn had written, because measles was a very serious epidemic. Dr. Clark would have been glad to include German measles, which was a mixture of scarlet fever and measles under "infectious." It is provided that diseases must be declared infectious "with the approval of the Board of Supervision," and Mr. Barclay proposed to leave out "Board of Supervision," and insert "Secretary for Scotland," on the ground that all the threads should be drawn into the hands of the minister. At the present time he complained there was no one was responsible for the Board of Supervision. After some discussion this proposal was rejected. At the close of the sitting it was agreed that the Bill as passed should be reported to the House.

Health of English Towns.—During the week ending Saturday, July 21st, 5,459 births and 2,884 deaths were registered in the twenty-eight largest English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had been 15.0 and 15.7 in the two preceding weeks, further rose to 16.0 during the week under notice. The rates in the several towns ranged from 12.2 in Brighton, 12.7 in Nottingham, 12.9 in Hull, and 13.2 in Blackburn to 19.4 in Salford, 19.8 in Wolverhampton, 20.2 in Preston, and 21.1 in Manchester. The mean death-rate in the twenty-seven provincial towns was 16.2 per 1,000, and exceeded by 0.4 the rate recorded in London, which was 15.8 per 1,000. The 2,884 deaths registered during the week under notice in the twenty-eight towns included 311 which were referred to the principal zymotic diseases, against 276 and 354 in the two preceding weeks; of these, 105 resulted from diarrhœa, 68 from whooping-cough, 50 from measles, 31 from scarlet fever, 27 from "fever" (principally enteric), 23 from diphtheria, and 6 from small-pox. These 311 deaths were equal to an annual rate of 1.7 per 1,000; in London the zymotic death rate was 1.9, while in the twenty-seven provincial towns it averaged 1.6 per 1,000, and ranged from 0.0 in Plymouth and 0.4 in Oldham and in Sunderland to 2.6 in Wolverhampton, 3.4 in Cardiff, and 3.9 in Halifax. Measles caused the highest proportional fatality in Bradford; scarlet fever in Blackburn; whooping-cough in Derby, Wolverhampton, and Halifax; and diarrhœa in Newcastle-upon-Tyne and Portsmouth. The 23 deaths from diphtheria in the twenty-eight towns included 15 in London and 3 in Manchester. Of the 6 fatal cases of small-pox recorded during the week under notice, 1 occurred in London, 1 in Bristol, 1 in Preston, 2 in Sheffield, and 1 in Hull, but not one in the twenty-three other great towns. The Metropolitan Asylum Hospitals contained only 2 small-pox patients on Saturday, July 21st, of whom 1 had been admitted during the week. These hospitals also contained 811 scarlet fever patients on the same date, corresponding with the number in the preceding week; there were 95 admissions during the week, against 92, 72, and 93 in the three preceding weeks. The death-rate from diseases of the respiratory organs in London was equal to 2.0 per 1,000, and was below the average.

Health of Scotch Towns.—In the eight principal Scotch towns 905 births and 466 deaths were registered during the week ending Saturday, July 21st. The annual rate of mortality in these towns, which had steadily declined from 20.0 to 16.1 per 1,000 in the five preceding weeks, rose again to 18.4 during the week under notice, and exceeded by 2.4 per 1,000 the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Dundee and Perth, and the highest in Paisley and Glasgow. The 466 deaths in these towns during last week included 35 which were referred to the principal zymotic diseases, equal to an annual rate of 1.4 per 1,000, which was 0.3 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic rates were recorded in Paisley and Glasgow. The 233 deaths registered in Glasgow during the week under notice included 7 from measles, 6 from diarrhœa, 4 from whooping-cough, 2 from "fever," 1 from diphtheria, and 1 from scarlet fever. The mortality from diseases of the respiratory organs in these towns was equal to 3.5 per 1,000, against 2.0 in London.

Health of Irish Towns.—During the week ending Saturday, July 21st, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of per 19.6 1,000. The lowest rates were recorded in Armagh and Galway, and the highest in Waterford and Dundalk. The death-rate from the principal zymotic diseases in these towns averaged 1.9 per 1,000. The 131 deaths registered in Dublin during the week under notice were equal to an annual rate of 19.4 per 1,000, against 20.2 and 22.6 in the two preceding weeks. These 131 deaths included 16 from the principal zymotic diseases (equal to an annual rate of 2.4 per 1,000), of which 5 were referred to whooping-cough, 5 to "fever," 3 to scarlet fever, 2 to diarrhœa, 1 to measles, and not one either to small-pox or diphtheria.

CATTLE AND FOUL DRINKING-WATER.

M. O. H. asks for an opinion on the following: Supposing cattle were to drink water polluted with sewage, what effect it would have (1) on the milk (in the case of a cow), and through that on human beings; and (2) on the flesh (in the case of an animal killed for consumption), and through that on human beings. The sewage is supposed to be from a town, and consists of fæcal matter, etc.

*** Exact knowledge is much wanted with reference to the points raised. There is no evidence that cattle fed on sewage farms either suffer themselves or communicate disease to those who eat their flesh or drink their milk. Indeed, such evidence as is obtainable is reassuring. On the other hand, the possibility that cows may suffer from some bowel disease, which may give rise to enteric fever in the drinkers of milk contaminated by their excreta, has to be borne in mind. Suspicion that this may occur has been created by the report of Dr. James Allen, Medical Officer to the Corporation of Pietermaritzburg, on the existence within the city of enteric fever during the years 1884-86. Judging from the circumstances which are known to give rise to enteric fever in man, it is not unreasonable to demand that water supplied to cows should be free from excremental pollution. There is no one book that we know of that gives any definite information on the subject.

MEDICAL NEWS.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The following gentlemen passed the examination for the certificate in Psychological Medicine, held at the Royal Edinburgh Asylum on July 18th and 19th by the examiner of the Medico-Psychological Association of Great Britain and Ireland.

E. F. Armour, M.A., M.B., C.M.Edin.; J. Bruce; H. C. Chapman, M.B.Lond.; P. C. Evans; J. H. W. Laing, M.A., B.Sc.; P. J. Rice, M.D.; M. A. Turner, M.B.; G. R. Wilson.

MEDICAL VACANCIES.

The following Vacancies are announced:

BELGRAVE HOSPITAL FOR CHILDREN.—Resident House-Surgeon and Assistant Secretary. Appointment for six months. Salary at the rate of £30 per annum, with board and residence. Applications by September 15th to the Honorary Secretary, 79, Gloucester Street, S.W.

BIRMINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Board and residence, etc. Applications by July 28th to the House-Governor.

BRISTOL GENERAL HOSPITAL.—Physician's Assistant. Salary, £50 per annum, with board, lodging, etc. Applications by August 7th to the Secretary.

EAST SUFFOLK AND IPSWICH HOSPITAL.—Assistant House-Surgeon. Salary, £20 per annum, with board, lodging, etc. Applications by August 7th to the Secretary.

GENERAL HOSPITAL, Nottingham.—Senior Resident Medical Officers. Salary, £120, with increase; board, residence, and washing. Applications by August 8th to the Chairman of the Weekly Board.

ITALIAN HOSPITAL, Queen Square, Bloomsbury.—Assistant Medical Officer. Applications to the Secretary.

LONDON TEMPERANCE HOSPITAL, Hampstead Road.—Senior House-Surgeon. Salary, 50 guineas per annum, with board and residence. Applications by July 28th to the Secretary.

NORFOLK AND NORWICH HOSPITAL.—Assistant-Surgeon. Applications by July 28th to the Secretary.

PARISH OF KIRKMICHAEL, Banffshire.—Medical Officer. Salary, £95 per annum, with house. Applications by July 31st, to Convener of Committee of Parochial Board, Tomintoul, Banffshire.

RATHDRUM UNION, Newcastle Dispensary.—Medical Officer. Salary, £110 per annum, and fees. Applications to Mr. Thomas Graydon, Honorary Secretary, Toornow, Delgany. Election on August 14th.

ROYAL FREE HOSPITAL, Gray's Inn Road. Senior Resident Medical Officer. Salary, £104 per annum, with board and residence. Applications by August 8th to the Secretary.

MEDICAL APPOINTMENTS.

BEALE, E. Clifford, M.B.Cantab., M.R.C.P., appointed Physician to the City of London Hospital for Diseases of the Chest, Victoria Park, *vice* J. Milner Fothergill, M.D., deceased.

BEALES, T. W. L., M.R.C.S.Eng., L.R.C.P.Lond., appointed Honorary Medical Officer to Great Yarmouth Hospital, *vice* D. Meadows, M.R.C.S., L.S.A., retired.

CLARK, R., M.B., appointed Medical Officer to the Parish of Kirkmaiden, Stranraer, N.B., *vice* W. Gemmill, M.B., resigned.

DANIELS, C., B.A., M.B.Cantab., M.R.C.S., appointed House-Physician at the London Hospital, E.

GORHAM, John, L.R.C.P., L.R.C.S., appointed Medical Officer to the Dispensary, Oughterard Union, *vice* W. W. Brereton, L.M., resigned.

HARDY, W. E., M.R.C.S., L.R.C.P., appointed House-Surgeon to the East Suffolk and Ipswich Hospital, *vice* A. J. H. Montague, M.B., resigned.

JACKSON, Louis Pilkington, L.R.C.P., etc., elected Assistant-Physician to the Public Dispensary, Catherine Street, Plymouth.

MAY, C. G., M.B.Cantab., M.R.C.S., appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham Road.

MORTON, Edwin, M.B., C.M., appointed Resident Medical Officer to the Edinburgh City Poorhouse, Craiglockhart, *vice* J. H. Helm, M.B., C.M., resigned.

NEVINS, A. E., M.R.C.S., L.R.C.P. and S., appointed House-Physician to the Hospital for Women, Soho Square, *vice* G. H. Burford, M.B., resigned.

OSBORNE, Herbert, L.R.C.P. and S.E., appointed Medical Officer to the Parish of Eddrachillis, N.B., *vice* J. S. Boe, L.R.C.P.Edin., L.R.C.S., resigned.

RISDON, W. M., M.B, B.S., M.R.C.S., appointed Resident Clinical Assistant to the City of London Hospital for Diseases of the Chest.

SANDERS, John Wm., M.D., F.R.C.S.Eng., Dip. Pub. Health Lond., appointed Medical Superintendent of the St. George-in-the-East Infirmary.

SELBY, Prideaux G., M.R.C.S., L.R.C.P., appointed Assistant Medical Superintendent to the Croydon Infirmary.

SMITHSON, A. E., M.B., C.M., appointed Resident Clinical Assistant to the East London Hospital for Children, Shadwell, *vice* G. E. Hastings, M.R.C.S., resigned.

THOMAS, J. T., L.R.C.S., L.M.Ed., L.K.Q.C.P.I., appointed Honorary Surgeon to the Newport and County Infirmary, Newport, Mon.

TYLDEN, H. J., M.B.Oxon., M.R.C.P., appointed Assistant-Physician to the City of London Hospital for Diseases of the Chest, *vice* J. A. Ormerod, M.D., M.R.C.S., promoted.

WETHERED, F. J., M.B.Lond., M.R.C.P., appointed Pathologist to the City of London Hospital for Diseases of the Chest, *vice* Sidney Martin, M.D., M.R.C.S., M.R.C.P., promoted.

BEQUESTS AND DONATIONS.—The Royal Albert Asylum for Idiots and Imbeciles of the Northern Counties, Lancaster, has received £500 under the will of Mrs. Elizabeth Cunningham.—The Mary Wardell Convalescent Home for Scarlet Fever has received £200, the Dental Hospital of London £100, the Cheyne Hospital at Chelsea £100, and the Central London Throat and Ear Hospital £50, under the will of Mrs. Elizabeth Douglas.—Mr. George Kedslie, of Hebron Bank, Canaan Lane, Edinburgh, has bequeathed £250 to the Edinburgh Royal Infirmary.—Mrs. Anna Maria Tilley, of Snowdenham, Torquay, has bequeathed £200 to the Western Hospital for Incipient Consumption at Torquay.—Mr. Thomas Pugh, of Clapham, has bequeathed £100 each, to the Royal Sea-bathing Infirmary at Margate, the Royal National Hospital for Consumption and Diseases of the Chest at Ventnor, and the British Home for Incurables.—The Birmingham General Dispensary has received £100 under the will of Mr. Robert Hughes.

ANTIPYRIN AS AN ANODYNE IN LABOUR.—In a preliminary note in the (Polish) *Wiadomosci Lekarskie*, No. 10, 1888, p. 289, Dr. F. Sielski, House Surgeon to the Lemberg (Lwow) Hospital (Galicia, Austria), states that he has given antipyrin in three cases of labour at full term, and in one case of abortion (fourth month). He came to the conclusion that "the drug in many regards is much superior to all other means which have been hitherto recommended for the relief of the pains of labour." He usually gave one gramme of antipyrin, and, when necessary, repeated the dose every two hours. "The result was invariably excellent. A few minutes after a dose, the pain ceased almost entirely, while the force of the uterine contractions did not decrease in the least." The patients felt only the pain accompanying the passage of the infant's head through the genital canal; "but even this pain was, beyond all comparison, less than in preceding labours."

EPSOM MEDICAL COLLEGE: FOUNDERS DAY.—The head master of Epsom College, speaking on "Founders Day," was able to look back upon a year of successful work, and to look forward with sanguine expectation to still further prosperity in the future; he called attention to the fact that the seven entrance scholarships which the school possessed were open to all professions, and stated that two new prizes had recently been founded, one a challenge cup, by Mr. Croft for class singing, and the other by Mr. Malcolm Morris for carpentry. The English oration was delivered by T. A. Bowes (head of the school); it mentioned the loss that had been sustained by the death of Mr. Francis Hird, who had filled the office of treasurer for many years, and added that: "The high hopes we formed last year about his successor have been more than realised. Dr. Holman's genial good nature has made him the intimate friend of almost every one of us, and we feel sure that the interests of the College are safe when entrusted to his devoted and manly care."

ANTIPYRIN AS A LOCAL STYPTIC.—In the *Concours Médical* of July 14th, Dr. Marie relates the case of a boy, aged 14, who suffered from persistent bleeding after the extraction of a molar tooth. The cavity had been plugged with perchloride of iron without effect, and so much blood was lost that syncope was induced. On recovery, the hæmorrhage broke out afresh, and perchloride of iron was again tried, but to no purpose. Dr. Marie then plugged the cavity with two or three pledgets of charpie steeped in antipyrin. The bleeding at once ceased, and did not recur. It is worth mentioning that while the perchloride caused severe pain, the antipyrin was not in the least objected to. Dr. Marie suggests that the antipyretic action of this and similar drugs may possibly be due to the fact that they diminish the blood-supply by their astringent effect on the blood-vessels.

ACQUIRED HYPERTRICHOSIS.—Dr. Ohmann-Dumesnil relates in the *Jour. of Cut. and Genito-Urin. Dis.*, March, 1888, a remarkable case of circumscribed hypertrichosis. A man sustained an accident to the lumbar region by falling from a height, and subsequently in the lumbar triangle, slightly above the internatal cleft, over an area which measured two inches by three and a half inches, a profuse growth of hair took place. The hair was curly, brown in colour, and about eight inches in length, but it had been cut. The hairs were as thickly set as the hairs of the scalp, and the man was unable to state to what length they might grow, as he kept the growth cut with scissors.

THE Earl of Aberdeen has accepted the position of President to the Morley House Seaside Convalescent Home, established in connection with the Hospital Saturday Fund.

Dr. F. BRAMANN, first assistant in the University Surgical Clinic, who performed tracheotomy on the late Emperor Frederick, has qualified for the position of *Privatdocent* in the University of Berlin, by an inaugural dissertation on "Myotomy and Tenotomy To-day and in the Pre-antiseptic Period."

PRESENTATION.—Dr. Legat, of South Shields, has been presented by his past and present pupils of the local branch of the St. John Ambulance Association with a handsome silver epergne, as a mark of their appreciation and regard.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTH.

FRAZER.—July 13th, at 28, Burlington Place, Eastbourne, the wife of Kenneth Frazer, B.A., M.D., of a son.

MARRIAGE.

CARSON—BOUSTEAD.—June 6th, at Christ's Church, Ahmednagar, by the Rev. E. J. Bowen, Chaplain, assisted by the Rev. J. Taylor, M.A., Surgeon W. S. Carson, M.B., 1st Battalion Grenadier Regiment, to Frances, second daughter of Surgeon-Major R. Boustead, M.D., F.R.C.S., Her Majesty's Indian Army.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.; Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.; Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.; Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's, St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.; London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.; King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's —1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.; Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, M. Th., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S. 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL, are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications, should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

A FOREIGN HOSPITAL SURGEON asks for experience as to the value of cocaine as an anæsthetic for the extraction of cataract.

X. inquires what local application is most effectual in the treatment of the chronic acne of the forehead which young women suffer from.

URTICARIA AFTER BATHING.

EPIDERMIS asks for hints as to the treatment of the above disease. The patient is a robust, full-blooded, man, about 30 years of age, and a sailor by profession. He is a constant bather, and up to the present season has never suffered. He now finds that, without exception, for the past few months, he has been attacked by a disease, which he describes as exactly like nettle rash, whenever he bathes. It comes on after bathing about three to five minutes, starting immediately on leaving the water, it only for a few seconds, and spreads over the whole body with extreme rapidity. There is a burning, tingling pain, and a vivid red rash, leaving large whitish lumps under the skin, the whole disappearing in a few hours. The disease is not in any way modified by the time of bathing after meals, nor by the water being salt or fresh. His *primæ viæ* are always in good order, and his general health excellent. He is a moderate drinker. The treatment of several medical men has been futile. He is now taking "Liquor Donovani," with an alkaline hepatic stimulant, but so far without beneficial result.

ANSWERS.

MICROSCOPES.

DR. CAREY COOMBS (Castle Cary, Somerset) writes: Beck's Star microscope is well suited for the purpose; it costs, with an inch objective, only two guineas. A quarter-inch is supplied for another guinea; but I should recommend a German seventh or eighth inch, which is supplied by Baker, in High Holborn, at thirty-six shillings. Beck's address is 68, Cornhill.

ŒDEMA OF THE FOOT.

DR. CAREY COOMBS (Castle Cary, Somerset) recommends strapping with plaster of mercury and ammoniacum spread on thin leather.

INSTITUTION FOR WEAK-MINDED CHILDREN.

Z. asks: Can anyone kindly tell me of an institution or asylum for middle-class women where a grown-up girl of very deficient intellect could be placed? She has been employed in a shop, but could be taught nothing. She is not helpless, but troublesome. Her friends would be willing to contribute a little towards her maintenance.

*** Institutions for persons of weak intellect of the social class referred to are greatly needed, and the subject has been recently taken up, and has been brought under the notice of the Home Secretary, but without any result. "Z." will apply in vain to the charitable hospitals at Northampton, Stafford, etc. It would be well to apply to Earlswood, where a case of this kind might be admitted without canvassing, unless the sum to be paid is very small. Failing there, apply to the Royal Albert Asylum, Lancaster.

PROPORTION OF PUPILS TO TEACHERS.

M.B. asks how many children can be instructed simultaneously by teachers, aged from 19 to 24—first male, second female—without straining the voice or unduly taxing the health.

*** The number of children that a teacher can properly instruct in a class varies much with special circumstances, such as the construction of the room and the subject being taught. In a class for reading, geography, etc., thirty to thirty-five pupils is generally as many as a teacher can well deal with, but it is often necessary to take many more in a class.

NOTES, LETTERS, ETC.

HAY-FEVER.

MR. G. SHERMAN BIGG, F.R.C.S.Ed., Army Medical Staff (Dover) advocates a method of treatment which consists in spraying the palate and throat, both prior and subsequent to entering any graminaceous district, with a lotion of equal parts of a 5 per cent. solution of cocaine and of carbolic acid, of the strength of 1 in 120. Two small pieces of clean sponge soaked in this solution are lightly inserted into either nostril, and the eyes are bathed with a collyrium of corrosive sublimate (1-1000), and sulphate of zinc (grs. ii ad fl. oz. i).

A tonic of five drops of Fowler's solution of arsenic, in combination with two grains of iodide of potassium and twenty drops of aromatic spirits of ammonia, in an ounce of water, is given three times a day.

The abridged description of a patient's account of his illness is, perhaps, the best testimony of the efficacy of this treatment. He writes: "I have suffered from hay-fever ever since I can remember. The disease comes on about the 6th of June, and is most intense about the 24th. I am generally free on the 8th of July." After a recapitulation of the above treatment, he continues: "I have, except on two occasions, been entirely free from the violent attacks of sneezing, and the eye trouble has always yielded to the lotion of corrosive sublimate. The effect of the sponge in the nostrils is very remarkable, and, after using it for some hours, the nose will remain clear for the remainder of the day."

I am not blind to the fact that the clemency of the weather this year may have been an important factor in mitigating the severity of the symptoms, but I think the treatment is entitled to further trial and consideration.

Ad Misericordiam.

A. R. H. writes: The following are two cuttings from a London daily paper:

"A Young Medical Man, of great abilities and high testimonials, is, from want of means, prevented from obtaining a practice. Would any benevolent lady or gentleman of influence assist him by obtaining an Appointment or otherwise? Address Medical, K 739, Address and Inquiry Office, the *Times* Office, E.C."

"To Philanthropists.—Young Doctor, highest credentials, living West End, will Attend, gratis, limited number of Patients annually recommended by any philanthropist paying sufficient for rent and taxes. Write Hope, May's, 159, Piccadilly."

By dint of hard work and self-denial I am gradually making a practice, but the occasional appearance of such advertisements causes me to feel that I have neglected some shorter road to success. I should very much like to possess a carriage and pair. Is it permissible for me to make an appeal to the benevolent upon the ground that I am a particularly worthy young man?

Self-help for Hospitals.

Another Sufferer writes: Will you allow me to add a word to what has fallen from your correspondent in the Journal of July 7th. What he says I heartily endorse, and with him I would say I know it is not fashionable to champion private dispensaries, while I know also that many able men are attached to them. The hospitals, by attending gratuitously those who are able to pay, rob the profession to a very large extent, and would only increase the injury by giving such people a right to attendance by making a charge for it, and thus unfairly competing with the private practitioner, who has not the advantage of being provided by a benevolent public with all the necessaries for carrying on his practice.

The institutions, however, which I believe do us more harm than the hospitals are the free dispensaries, connected with which are a number of benevolent ladies whose whole energies are devoted to the task of persuading the wage-earning classes that they ought to pay nothing for a doctor. Constantly, scores of times in the course of a year, when I call for the second time on a patient, where the first small fee has been paid with the greatest readiness, I am told: "Oh! I should so like to go on with your attendance, sir, you have done me" (or "my child," etc.) "so much good; but Mrs. So-and-so, the visiting lady, has been, and gave me a paper for the free dispensary, and I don't like to offend her, so I won't trouble you to call again, sir." Mrs. So-and-so, no doubt with the best intention in the world, thus robs me and my children of our daily bread. She does not benefit those responsible for the patient, because they can well afford to pay a reasonable fee, and the result is they are robbed of their independence and pauperised. I do not blame the benevolent lady, but I do strongly condemn those medical men who, perhaps without much consideration, give the wealthier part of the public the power thus to pillage the profession at large, and their less fortunate neighbours in particular.

Medical Practice in Italy.

Dr. Edward Drummond writes: My attention has just been called to a letter signed "F.R.M.S.," which refers to a communication of mine in the Journal. Medical men with the British qualifications are allowed by Italian law to attend their countrymen resident in Italy, being only required by the Government to show their diplomas on being asked to do so. The only cities in which anything like a resident English *clientèle* exists are Rome, Florence, Naples, and Venice.

When I settled in Rome eight years ago there were four British practitioners; now there are seven or eight, besides two Americans and five Germans and a Dane, all speaking English. The English colony is dwindling in numbers rapidly, and the practice every year becoming more and more hotel practice. In Florence there are three or four English doctors and one American. Florence is becoming the chief residential city for the English. At Naples there are two English doctors, and at Venice one, which is as much as these places can support. No Englishman could possibly earn an income at Turin or Milan.

I was recalled from Lucern to a client, who had broken down at Milan, when on my way to England, and found that the only physicians to whom I could entrust a case were Italians who spoke French and English. Some years hence the development of the Neapolitan Riviera may find work for an English doctor, but this is not the case at present.

No book exists at present dealing with the climate of Italy as a whole, and Dr. Bennet's book, published some twenty years ago, needs a complete revision, as it contains many erroneous statements. The rising generation of Italian physicians are very superior in education to their predecessors, and well understand the importance of being able to speak English. The necessity for English practitioners in Italy will, therefore, gradually diminish with time. The expense of living in Italy is increasing, and at Rome has nearly doubled itself in twenty years, and the income tax is 13½ per cent.

The Treatment of Pneumonia.

Dr. C. R. Illingworth (Accrington) writes: In my opinion the best guide to the treatment of pneumonia is not its after-history, but its pathology. There is (as in all inflammatory processes) stasis of the blood in the pulmonary capillaries, followed by effusion of inflammatory lymph into the air-cells. The aim in treatment, therefore, should be to obviate stasis by giving remedies which prevent coagulation of the blood, and with them also those which diminish the *vis a tergo*, so as to facilitate the passage of the stagnating blood through the capillary system. The old remedies for liquefying the blood were notably the carbonates of ammonia and soda; then there were those valuable remedies for that purpose, the salicylates of ammonia, soda, and potash; and now we have a group of medicines which are even more powerful in that direction—the "antipyretic" group, including antipyrin, antifebrin, kairin, etc., etc., antipyretic solely in virtue of their power of dispersing stagnating blood, and thus of relieving tension in the circulation.

Those remedies which diminish the *vis a tergo* may be all described as cardiac depressants. They are digitalis, antimony, aconite, ipecacuanha, and strophanthus.

Dr. Jamison used one of these means for the obviation of stasis, and got good results. He will secure better results by using a combination of liquefacient and cardiac depressant treatment. Dr. Jamison considers the action of antimony to be that of a respiratory sedative. But is it not so in virtue of its cardiac depressant properties? For cardiac and respiratory excitation go hand in hand and *pari passu*.

In croupous pneumonia I give 10 grains of the salicylate of soda and from 3 to 5 grains of carbonate of ammonia every two hours, with from 5 to 10 minims of the tincture of digitalis, and I frequently secure resolution in from eight to thirty hours. If by that time resolution should not occur, I prescribe the acetate of ammonia and digitalis, because it is useless to expect rapid resolution when the effusion of the fibrin is complete, as in the stage of hepatisation, and because the destruction of the fibrin elements of the non-stagnant blood by the continued use of the salicylates, as indicated by their toxic effects, is not only inadvisable, but dangerous. I never give the salicylates in broncho-pneumonia, because, from abundant secretion, there is already deficient aëration, and consequently deficient fibrination of the blood. I give the acetate of ammonia, and for another reason; it is compatible with the perchloride of iron, in the event of the "pneumo-paresis" of Dr. Richardson supervening, as it frequently does in cases of broncho-pneumonia and croupous pneumonia in patients with great cardiac debility. That powerful hæmatinic, of course without any depressant such as digitalis, is then urgently needed, in full and frequently-repeated doses. Iron in this form is also the best tonic in all cases of pneumonia and broncho-pneumonia, as soon as all sympathetic febrile disturbance has subsided.

New Oro-Nasal Inhalers and Hay-Asthma.

Dr. Woodward (Worcester) writes: As the above subject has lately attracted attention, it may be of some use if I give my personal experience. Last year I endured much, suffering long and fearfully from hay-fever, but this year I have escaped entirely, with the exception of a slight attack caused by going near mowing-grass without a respirator, and over-exertion. I attribute it chiefly, if not wholly, to the use of an oro-nasal respirator, although I found some benefit at first from a few doses of caffein at bedtime, and burning inhaling-powder or nitre paper, which remedies never failed to give relief, and ensured a good night's rest. I think there is little, if any, doubt that most cases begin in the nose, as is proved by the fact of the disease being radically cured by cauterising the mucous membrane of the inferior turbinated bones.

The best oro-nasal respirator I have met with is one I make myself. It is simply a black-silk bag, put over a piece of an elastic gum catheter (or would do without) formed so as to come well up to the nose, and filled with absorbent cotton wool, medicated with any of the pleasant antiseptics (not forgetting pumiline, a very valuable one); even they might be dispensed with, as I do not see how a mechanical irritant such as pollen can be affected by an antiseptic chemical agent. This respirator is cheap (in fact costs nothing), efficacious, and less unsightly than any others I have seen. It is attached, of course, by elastic behind the ears. I can walk through fields of grass with impunity by the aid of this respirator, although, for the sake of extra precaution, I have the nostrils filled with absorbent wool. Any asthmatic well knows that he must avoid exposure to sunshine as well as mowing-grass I hope this suggestion may be of use to others.

The Hot Air Bath Treatment of Hydrophobia.

Dr. Bell Taylor writes: I cannot agree with Mr. Horsley, that the administration of a vapour bath in cases of hydrophobia can fairly be considered "wholesale human vivisection." The effect of the bath is sedative, it can do no harm, and in spurious cases such hopeful treatment may, as in Bouisson's case, prove the salvation of the patient. Neither can I concede that Mr Horsley's rabbits were suffering from hydrophobia; paralysis induced by brain injury is not hydrophobia, indeed, Spitzka has produced exactly the same symptoms by the subdural injection of healthy spinal cord and other matters. Moreover, as the rabbit does not perspire, and consequently cannot eliminate the poison of hydrophobia or any other poison by the skin, it is the last animal I should select for experiment did I wish to test the effect of remedies on that profusely sweating animal man.

Does it not, sir, seem the very height of absurdity, when you wish to test the power of the skin to throw off a poison by sweat, to select for experiment an animal well-known to be incapable of perspiring?

M. Pasteur's treatment has already been followed by one hundred and thirty-six deaths; the vast majority of the people who have visited him were in no sort of danger, and it does seem a pity to induce such patients to incur the terrible risks inseparable from the hypodermic injection of rabid matter. Dr. Lutaud, chief editor of the *Journal de Medecine de Paris*, says: M. Pasteur does not cure hydrophobia, he gives it: "M. Pasteur *ne guérit pas la rage, il la donne*," and perhaps he is right. I never saw the statement by the Rev. Wright, which Mr. Horsley blames me for approving, until my attention was directed to it in your columns to-day. I am therefore not in any way responsible for it.

A Source of Infection: Iodine the Antiseptic.

Dr. Archibald D. Macdonald (Liverpool) writes: "Lying-in Hospital Surgeon" will, I daresay, be still more surprised when I express the opinion that no more authority is to be attached to his *ex cathedrâ* anonymous utterance, savouring, as all such utterances do, of the *argumentum ad hominem*, than to that of any private practitioner who has devoted attention to the subject; and perhaps less, for he at once commits the fallacy of *ignoratio elenchi*.

My proposition, simply stated, is that a Higginson's syringe, which has been immersed in a certain solution of iodine, will have been sterilised thereby, and be rendered incapable of conveying from one patient to another the *contagium animatum* (bacillus saprogenes, streptococcus pyogenes aureus, etc.) of puerperal septicæmia. Let him refute it, say, by getting a bacteriologist to make a pure culture from a syringe treated in such a manner, if he

can. Why did he himself not prevent syringes from several times carrying "septic conditions?'

The following letter answers the question put a short time ago: "What is an efficient antiseptic for midwives?" It is from a very able certificated midwife in the south end of Liverpool. "July 14th, 1888.—Dear Sir,—I have to thank you for recommending me to use iodine as a disinfectant. I have always used it since that case of puerperal septicæmia six years ago, and have had on an average 450 cases a year, and they have been most successful. If you wish you can use my name. I am," etc. The name will be given to anyone who desires it.

A lying-in hospital has frequently as many bacilli and cocci about it as a dairy has bacterium lactis. The rational plan, which no doubt is much followed, is not to insert any living bacilli into the vagina, rather than to use irrigants, which often do more harm than good, before any symptom of sepsis appears. With these words I close my part in the present controversy.

Leeches in the Air Passages.

Mr. Richard T. Cæsar (Wellington, Salop) writes: Having seen your annotation in the Journal of July 7th respecting "An Unusual Foreign Body in the Throat," I send you the following extract from my grandfather's journal, who was at that time serving as surgeon on board H.M.S. *Narcissus*, and may, I fancy, explain how this unwelcome guest got into its novel position.

"July 11th, 1802. I must not omit to mention a singular occurrence which happened to one of our marines (John Golf) during the time he was in pursuit of the pirates. Being very thirsty from the intense heat and fatigue of the day, he and a number of the people took a hearty drink of water out of a stagnated pool. When he came on board he told me he was afraid he had swallowed something whilst drinking water on shore, and was immediately seized with spitting of blood, which I conjectured might originate from a small blood vessel being ruptured internally from the exertion in climbing up the cliffs. I ordered different medicines to be administered, but without the desired effect, the bleeding increasing to a pint a day, which caused great debility and loss of colour, he being a very florid young man. I now gave him sugar of lead in small doses. He came into my cabin complaining of there being something in his nose, which appeared to me to be a clot of blood on slight examination; however, to the astonishment of every person on board, the surgeon's assistant extracted a large leech out of his nose, and a few minutes after another from his mouth. They had lived thirteen days in his stomach (?), which caused the spitting of blood, for he recovered his strength and looks, and went to work in a few days."

The above passage occurs after a long description of a chase after Greek pirates, many of whom were taken prisoners.

Milk-Supply in Italy.

G. writes: In the letter of your correspondent from Italy, the subject of milk-supply is mentioned, *à propos* of which I beg to state the following fact. While residing in Florence I one evening took a walk along a country road on the north of the city, leading from the Ponte Rosso to the little hamlet of Romito. On one side of the road was an excessively filthy ditch of stagnant water, and from this concentrated abomination I saw a milkman deliberately filling up his milk cans; there was so little liquid (I cannot say water) in the ditch, that he could only scoop it up in small quantities with the lid of the can. He, no doubt, had been dishonestly disposing of some of the milk, and took this way of making up the quantity. Now this ditch was so utterly filthy that I am certain no dog would have touched it, and to add to the horror, about fifty yards further on there were unmistakable signs that the privy of the neighbouring villa was discharged into this ditch. After this spectacle I ceased to wonder at the continued typhoid and diphtheria in Florence.

The Medical Profession and Income Tax.

The Income Tax Repayment Agency (25, Colville Terrace, W.) write: Allow us, through your columns, to call the attention of all medical practitioners holding appointments, or assessed under Schedule E, to a point we have just carried against a surveyor of taxes, as it forms a very valuable precedent. A district medical officer had never claimed any deduction from his assessment on account of expenses incurred in the performance of his duties, not knowing he could do so. The surveyor of taxes, faithful to his instructions, carefully refrained from telling him of it. This year, however, acting on our advice, Dr. F. claimed repayment for the past three years. The surveyor of taxes returned the form, saying it did not apply to his case, but only to clergymen's expenses, and that he could not now claim the deductions, as they ought to have been claimed at the time of the assessment. We did not accept this fiat of the surveyor, and applied to Somerset House, insisting on the case being decided by the District Commissioners, and not by the surveyor. The result was that, although the deductions claimed were not allowed to their full amount, they were admitted to a considerable extent, and our client has got back a very important refund. The strangest part of the case is that the Inland Revenue enclosed with the post-office order the very same form, to claim deductions next year, as the surveyor said was not applicable to the case. Kindly let us mention that we have made an important improvement in our forms for balance sheets and three years' returns to present statement of accounts to the Commissioners.

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BOOKS, etc., RECEIVED.

The Extra Pharmacopœia, with the Additions introduced into the *British Pharmacopœia*, 1885. By William Martindale, F.C.S. Medical References and a Therapeutic Index of Diseases and Symptoms. By W. Wynn Westcott, M.B.Lond. Fifth Edition. London: H. K. Lewis.

The Queen's College, Birmingham, Calendar for Session 1888-9. Medical Faculty, Dental Faculty, Hospital Regulations. Birmingham: Hudson and Son.

The Medical Profession of the United Kingdom. By Walter Rivington, B.A., M.B. Dublin: Fannin and Co.

The Medical Profession in the Three Kingdoms in 1887. By Thomas Laffan M.C.P.I. Dublin: Fannin and Co.

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REPORTS
TO THE
SCIENTIFIC GRANTS COMMITTEE
OF THE
BRITISH MEDICAL ASSOCIATION.

REPORT ON CULTIVATION EXPERIMENTS WITH THE BACILLUS LEPRÆ.

By BEAVEN RAKE, M.D.Lond.,
Medical Superintendent of the Trinidad Leper Asylum.

These experiments can be classified under the following three heads:

1. Experiments in nutrient media.
2. Experiments in living animal tissues.
3. Experiments in putrescent substances.

The results have been noted from day to day, and the three appended tables have been compiled from the record thus made. It will be seen that some of the experiments extend over nearly four years.

1. *Experiments in Nutrient Media.*—Sixty-five observations are tabulated. The tubes were kept at the ordinary tropical temperature, the average here being 79° F. for the twenty-four hours. Control experiments were made to test the sterility of the tubes. These, when kept for a considerable length of time without inoculation, showed contamination in a very few instances. The serum used was taken from lepers, as it was thought that bacilli might possibly grow more readily on it than on non-leprous serum.

The media used were:—Solid: (1) Blood serum; (2) serum from chest, abdomen, or tunica vaginalis; (3) serum mixed with 1 per cent. agar and gelatine; (4) serum and agar; (4) serum and gelatine. Liquid: (1) Ascitic fluid.

The materials used were: (1) Fragments of cutaneous tubercle; (2) tubercles from lung; (3) pieces of viscera; (4) pieces of femoral gland; (5) pieces of thickened nerve; (6) serum from blebs; (7) blood during acute leprosis; (8) fragments of cultures from the above.

The growths observed may be briefly described thus: (1) A whitish growth, like drops of oil paint; (2) a smooth, oily-looking, canary-yellow growth; (3) a salmon-coloured growth; (4) a faint white growth giving a green tinge to the serum. Besides these common mould was often accidentally present.

Under the microscope these growths showed the following: (1) Cocci; (2) micrococci; (3) streptococci; (4) large rods; (5) small rods. Nearly all these growths were tested with magenta and nitric acid. In four cases more or less stain was retained after the action of the acid.

In two of these cases the growth was yellow in colour, in one like drops of oil paint, and in one smooth, shining, and white, mixed with a salmon-coloured growth in one part. There was not, therefore, any constancy in the naked-eye appearances of the growths which retained some colour, nor did they differ from many other growths which did not retain colour. No reliance can, therefore, be placed on these four cases. Probably the acid was more diluted than usual, or did not gain access to all parts of the growth. Many of the fragments of tubercle were removed during acute leprosis, as it was thought that possibly the bacilli might grow more readily if planted at that time. No difference was, however, noted in the behaviour of these pieces; similar growths took place when the material was removed during a normal temperature.

In order to investigate the question of the nature of the tubercles in the lungs so often found in leprosy, I inoculated several tubes with these tubercles. I however did not succeed in getting any cultivation of the bacillus tuberculosis. This of course is only negative evidence, but so far as it goes it would tend to support Arning's view that the phthisis so common in leprosy is due to invasion of the lungs by the bacillus lepræ, and not by the bacillus tuberculosis. As a matter of fact, in the phthisical lungs of lepers which I have examined, I have found very few bacilli of any kind. This may, however, be due to the fact that pus or sputum was more often examined. It is well known that in rapid phthisis the number of bacilli does not keep pace with the destruction of tissue. A whole lung may be very rapidly excavated in leprosy.

Inoculations of guinea-pigs with portions of the growths gave negative results. Solutions of some of the cultures were also injected into the cutaneous tubercules of a leper; beyond superficial ulceration, no antagonistic effect was produced. The organisms found were practically identical with those found by Ballance and Shattock in their cultivation experiments with cancer and healthy tissues (*Pathological Society's Transactions*, vol. xxxviii, p. 438). As in their cases, I think that probably all the growths I observed were due to accidental contamination. This view is supported by the fact that cultivations from tubercles taken from the phthisical lung of a non-leprous subject resembled those from the phthisical lung of a leper. The bacillus tuberculosis was not satisfactorily seen. In some cases also no growth at all took place, the cutaneous tubercle remaining unchanged on the jelly. Most of the growths examined appeared to belong to the staphylococcus group.

This inquiry was already far advanced when Bordoni-Uffreduzzi announced his successful cultivation of the bacillus lepræ (*Zeitschrift für Hygiene*, October, 1887). I am not aware that his work has yet been confirmed.

2. *Experiments in Living Animal Tissues.*—An account of forty two inoculation experiments on animals has already been published (Journal, February 5th, 1887, p. 275). Twelve additional observations are now recorded in Table II. Some of these are the completion of experiments already published, and the others are inoculations of fresh animals or in new situations.

No. 1 is a case of considerable interest, from the length of time the dog was under observation. It was inoculated on the nape of the neck on April 5th, 1884, and was killed on December 16th, 1887—three and three-quarter years later. No trace whatever was found at the site of inoculation. Nodules were, however, found in the spleen and liver, which at first looked suspicious; but a further examination showed quantities of nematode worms in the hepatic veins, vena cava, right ventricle, and pulmonary artery. I sent these worms to Mr. Bland Sutton, and he has kindly written to tell me that they are probably filaria immitis, and that such worms frequently act as emboli. There is therefore, I think, little doubt that the nodules in this dog were parasitic in origin, and not leprous. This view is supported by the fact that no bacilli were found in the nodules, nor indeed in any of the viscera.[1]

No. 23 is another animal which was a considerable time under observation. A piece of tubercle was introduced beneath the skin of a fowl on February 7th, 1885. The fowl died on March 4th, 1887, more than two years later, and at the site of inoculation a small nodule was found consisting of caseous *débris* and pigment surrounded by a capsule of false membrane. There was no infiltration of the tissues round the nodule, nor any evidence of leprous deposit elsewhere. A few badly stained bacilli were found in the *débris*, but none in the capsule, subcutaneous tissue, or viscera.

An interesting point arises here in connection with the nature of the phthisical lesions already referred to. Three fowls (including No. 23) were under observation for periods varying from ten months to over two years. During these periods they were all fed frequently with leprous material—namely, tubercles and pieces of viscera, including numerous phthisical lungs.

Now if these lung lesions were really caused by the bacillus tuberculosis, one would expect to find tubercular lesions in the fowls after such prolonged exposure. Mr. Bland Sutton, in an article on Asian tuberculosis in the *Philadelphia Journal of Comparative Medicine and Surgery* for October, 1886, says that fowls, pigeons, and ducks are exceptionally liable to this disease, and mentions the case of a python which died with tuberculosis of the liver after having been fed on the above birds.

Numerous instances are on record of other animals becoming tubercular after eating tubercular material. Thus Petit (*Journal de Médecine*, January 1st, 1888) relates the case of a cat which was constantly eating phthisical sputum, and eventually developed pulmonary tuberculosis. He has also seen two cases of tuberculosis transmitted to dogs by human beings. But the viscera of all my fowls were found quite healthy. This, therefore, is another argument, though not a very strong one, against the tubercular nature of the lung lesions in leprosy.

[1] April 9th, 1888, I have just received a letter from Dr. Thin, in which he says that both he and Mr. Watson Cheyne failed to find any leprosy bacilli in sections of spleen and liver.

TABLE 1.—*Experiments in Nutrient Media.*

No.	Date.	Name.	Age. M.	Age. F.	Country.	Duration of Leprosy.	Form of Leprosy.	Nutrient Medium.	Material Used.	Result.	Microscopic Appearances.	Remarks.
	1887.					Years.						
1	Feb. 16	Nathaniel Gale	13	—	Trinidad	3	T	Solid serum from chest and abdomen	Serum from blebs on legs	No growth	— —	During acute leprosis.
2	,,	,,	,,	—	,,	,,	,,	,, ,,	,, ,,	Slight white growth at edge of serum. Partial liquefaction	— —	,, ,,
3	,,	Robin Gobonia	18	—	Venezuela	9	T	,, ,,	Fragment of tubercle	Whitish yellow patch. Slight liquefaction	Very few bacilli (?) from original tubercle	
4	,,	,,	,,	—	,,	,,	,,	,, ,,	,, ,,	White flaky growth extending down into serum. Some liquefaction	Later examination (October 9th) showed only cocci *	
5	Mar. 2	William Allen	31	—	Trinidad	9	T	,, ,,	Fragment of tubercle from lung	Two yellow points and extensive white growth. Slight liquefaction	— —	
6	,,	,,	,,	—	,,	,,	,,	,, ,,	,, ,,	One yellow point and white film. More liquefaction	No evidence of leprosy or tubercle bacilli. Some large bacteria	
7	Mar. 4	John Henry	27	—	Nevis	5	M	,, ,,	Tubercle from lung	Yellow patch and white growth like mould	— —	
8	,,	,,	,,	—	,,	,,	,,	,, ,,	,, ,,	White growth like mould	Like No. 6	
9	Mar. 17	Cheekovee	36	—	India	11	A	,, ,,	Fragment of tubercular lung	Superficial growth like mould	— —	
10	,,	,,	,,	—	,,	,,	,,	,, ,,	,, ,,	Extensive yellow patch around tubercle and spreading down by pointed process into serum	Like No. 6	
11	Mar. 26	Growth from tube 3	—	—	—	—	—	,, ,,	Fragment of growth	Pale yellow growth mixed with brown. Slight liquefaction	— —	
12	,,	Growth from tube 4	—	—	—	—	—	,, ,,	,, ,,	Dirty-white oily-looking growth. Slight liquefaction	A few doubtful badly stained bacilli. Later examination (October 9th) showed only cocci *	
13	Mar. 28	Robin Gobonia	18	—	Venezuela	9	T	,, ,,	Fragment of tubercle	October 23rd; clear brown liquid with dirty sediment. Musty smell	Cocci, rods, granular *débris*, and disintegrated cells. Do not take magenta readily *	
14	,,	,,	,,	—	,,	,,	,,	,, ,,	,, ,,	,, ,,	,, ,,	
15	April 14	Laratee	—	52	India	5	M	Liquid ascitic serum	Fragment of lung	September 16th; no change. Fragment lying at bottom of tube with clear serum above	Quantities of cocci taking magenta well *	
16	,,	,,	—	,,	,,	,,	,,	,, ,,	,, ,,	January 10th, 1888; no change. Fragment lying at bottom of tube with clear serum above	Numerous cocci and a few rods *	
17	,,	,,	—	,,	,,	,,	,,	,, ,,	Fragment of femoral gland	September 16th, 1887; no change. Fragment lying at bottom of tube	Masses of cocci and large swollen cells with bacilli in interior *	Possibly the original bacilli swollen by maceration.
18	April 22	Robin Gobonia	18	—	Venezuela	9	T	,, ,,	Fragment of tubercle	January 10th, 1888; no putrid smell. Tubercle much swollen, covered with thin film (bacillus subtilis ?) upper liquid clear	Sediment showed highly refracting cocci and rods. Take magenta well *	
19	May 14	Tube 6	—	—	—	—	—	Solid serum	Fragment of growth	Yellow growth in groove of wire. Progressive liquefaction	Spores and rods *	
20	,,	Tube 8	—	—	—	—	—	,,	,, ,,	Thick yellow growth on surface and a few points of growth low down in solid. Considerable liquefaction	,, ,,	
21	,,	Tube 10	—	—	—	—	—	,,	,, ,,	Bright yellow growth. Mould. Liquefaction	Swarms of spores and bacteria *	
22	May 16	Robin Gobonia	18	—	Venezuela	9	T	Blood serum	Fragment of tubercle	Growth like patch of brown oil paint spreading from tubercle. Round yellow growth in centre of serum	In growth near tubercle cocci and large and small rods. In growth in centre, cocci *	
23	May 17	Tube 12	—	—	—	—	—	Solid serum	Fragment of growth	Yellow growth and partial liquefaction. Some putrid odour	Cocci and long and short rods *	Third generation.
24	May 23	Raturan	68	—	India	10	M	,,	Fragment of tubercle	White growth on tubercle and on serum. Serum liquefied, putrid	Numerous cocci and some rods *	
25	,,	,,	,,	—	,,	,,	,,	,,	,, ,,	,, ,,	,, ,,	
26	June 1	Eugenie Lewis	—	25	Trinidad	4	T	,,	,, ,,	October 23rd, 1887; clear brown liquid. Dirty sediment. Common mould floating on surface. Musty smell	— —	Soon after acute outbreak.
27	,,	Elvira Archibald	—	8	,,	1	M	,,	,, ,,	,, ,,	A few cocci *	
28	June 6	Julian Brown	20	—	,,	6	M	Partly solid serum	,,	,, ,,	Numerous cocci, also large cells and some branching mycelium *	
29	June 17	Janetha Thompson	—	18	Barbadoes	1	T	Serum and gelatine		November 12th, 1887; Viscid yellowish mass	Swarms of cocci and short thick rods. Do not take magenta readily *	
30	,,	Robin Gobonia	18	—	Venezuela	9	T	,, ,,	,,	Liquefaction. No growth on surface. Whitish sediment	— —	
31	June 22	,,	,,	—	,,	,,	,,	Serum and agar-agar		Small white growth like powdered flour. No liquefaction.	Oval shining cocci and short rods *	

32	June 22	John Saunders	21	—	Trinidad	4	M	Blood serum	Fragment of tubercle	Smooth shining white growth ¼ by ⅛ inch salmon-coloured at one part. Serum translucent beyond growth	Quantities of cocci and large and small bacilli. Take magenta readily, and numerous spores and short thick rods resist action of nitric acid	
33	July 3	Tube 32	—	—	—	—	—	Solid hydrocele fluid	Fragment of growth	Yellow film on surface, much brighter in one place. Translucency in line of needle. No liquefaction	Swarms of cocci and short rods. Take magenta readily. Some retained after nitric acid	
34	July 8	Bansee	40	—	India	3	T	Blood serum	Fragment of tubercle and some blood	Small white beads spreading like drops of oil paint on serum. Eventually they dried up	Densely packed spores. In some a faint colour after action of nitric acid	During acute leprosis, temperature 103°.
35	July 11	,,	,,	—	,,	,,	,,	Solid hydrocele fluid	Fluid from bleb	Thin bright yellow growth. No liquefaction	Swarms of cocci and rods. Some retain colour after nitric acid	Temperature 103.6°.
36	July 12	Tube 34	—	—	—	—	—	,, ,,	Fragment of growth	Thick white film like mould. No liquefaction	Spores, granular matter and mycelium *	
37	July 15	Bansee	40	—	India	3	T	Nearly solid serum	Fragment of tubercle	White film. Liquefaction	Cocci and long rods (? bacillus subtilis). After magenta and nitric acid, patches of pink are seen with clear spaces occupied by unstained bacilli	Temperature 99.4°.
38	July 19	Eleanor Hudson	—	17	Nevis	3	T	Solid serum	,, ,,	Liquefaction of serum. Thick white film on surface. Fragment of tubercle unchanged	Closely packed round and oval cocci, also some short thick rods. Take magenta readily * January 17th, 1888; some cells retain magenta after nitric acid, but bacilli not seen (? fragments of original tubercle)	Acute leprosis, temperature 103.9°.
39	July 20	Robin Gobonia	18	—	Venezuela	9	T	,,	,, ,,	Thick creamy growth on surface. No liquefaction. Musty smell.	Quantities of cocci; singly and in clusters and rods	
40	Sept. 12	Janetha Thompson	—	18	Barbadoes	1	T	Serum and agar-agar	,, ,,	Slight liquefaction. No apparent growth	A few small cocci. Some arranged in streptococci *	Temperature 101°. *
41	Sept. 19	Egbert Swain	20	—	,,	7	M	,, ,,	Blood	October 23rd, 1887; serum putrid, liquid. Film floating on surface. Considerable sediment	Numerous cocci; beaded rods of various lengths, some showing vigorous curling movements *	Acute eruption, temperature 102.9°.
42	Sept. 20	Robin Gobonia	18	—	Venezuela	9	T	Serum and 1 % agar-agar and gelatine	Tubercle and blood	Smooth white oily growth. No liquefaction	— —	
43	,,	Egbert Swain	20	—	Barbadoes	7	M	,, ,,	Blood	Mould, no liquefaction. Later yellowish growth with slight liquefaction	Quantities of branching mycelium. Later cocci *	Acute eruption, temperature 103.4°.
44	Sept. 30	Assee	39	—	China	2	M	,, ,,	Fragment of tubercle	Surface of serum covered with thick smooth white growth	Swarms of cocci and a few beaded bacilli *	Acute eruption of tubercles.
45	Oct. 3	William Green	11	—	Trinidad	5	T	,, ,,	Fragment of yaw tubercle	Smooth white oily growth round tubercle. Yellow patches in places. Mould at another part	Swarms of cocci *	The subject of yaws and leprosy combined.
46	Oct. 9	Tube 4	—	—	—	—	—	,, ,,	Fragment of deposit	Growth dirty white patches like drops of oil	Numerous small cocci and large rods *	
47	,,	Tube 11	—	—	—	—	—	,, ,,	Fragment of growth	Jan. 25, 1888. Faint white growth on surface of serum. Olive green tinge of serum. No liquefaction	Numerous cocci *	
48	,,	Tube 37	—	—	—	—	—	,, ,,	,, ,,	Jan. 25, 1888. Dirty white growth at edges and on surface of serum No liquefaction	Numerous cocci and long and short rods *	
49	Oct. 16	Tube 45	—	—	—	—	—	,, ,,	,, ,,	Yellow growth in groove of wire. Surrounding this, flat white patches like oil paint. Outside this, pale yellow growth. Slight liquefaction	Quantities of shining oval cocci: a few good sized bacilli. The bacilli take magenta readily, but not the cocci *	Guinea pig LXVI inoculated with some of this growth on Oct. 30. Died on Nov. 16. P.M. showed no suppuration or evidence of absorption of growth
										Later. Red specks like cayenne pepper appeared on surface		
50	,,	Tube 44	—	—	—	—	—	,, ,,	,, ,,	Flat white patches like oil paint. No liquefaction	Numerous spores and rods. Many of the later with active curling movements	
51	Nov. 12	Tube 29	—	—	—	—	—	,, ,,	,, ,,	Opaque white growth scattered on surface. Slight liquefaction	Swarms of refracting round and oval cocci and some short rods *	
52	,,	Bansee	40	—	India	3	T	,, ,,	Fragment of lung with tubercle	Serum depressed and group of small whitish and yellowish patches around tubercle of lung	Quantities of short rods about the size of bacilli tuberculosis. Take magenta readily *	
53	,,	,,	,,	—	,,	,,	,,	,, ,,	Fragment of spleen with tubercle	Flat white growth around tubercle of spleen. Afterwards changing to bright yellow. Tubercle remains moist	Numerous cocci. Take magenta *	
54	,,	,,	,,	—	,,	,,	,,	,, ,,	Fragment of liver	Flat white growth on surface. Green tinge of serum (? bile). No liquefaction	Cocci and various sized rods. Do not take magenta readily *	
55	,,	Guinea Pig LXVI	—	—	—	—	—	,, ,,	Piece of skin at site of inoculation	Pale yellow growth like oil paint. No liquefaction	Numerous cocci *	
										Later. Salmon-coloured pellicle. Tube putrid	Later. Numerous small rods and cocci. Magenta stains deeply *	
56	Nov. 18	Egbert Swain	20	—	Barbadoes	7	M	,, ,,	Piece of cutaneous tubercle	Jan. 8, 1888. Tubercle moist, unchanged. Serum unchanged. No growth	— —	
57	Nov. 25	Ophelia Mackenzie	—	17	Trinidad	4	M	,, ,,	,, ,,	Salmon-coloured growth on surface	Swarms of cocci and some rods. Take magenta fairly fairly well *	

* Means all colour of magenta destroyed by nitric acid.

TABLE I.—*Experiments in Nutrient Media. (Continued.)*

No.	Date.	Name.	Age M.	Age F.	Country.	Duration of Leprosy.	Form of Leprosy.	Nutrient Medium.	Material Used.	Result.	Microscopic Appearances.	Remarks.
58	Nov. 23	Tube 52	—	—	—	—	—	Serum and 1% agar-agar and gelatine	Fragment of growth	Green tinge. White oily growth along needle track Later. Faint scanty growth towards edges of surface	Strongly refracting. Short thick rods and cocci. Do not take magenta readily *	
59	,,	Tube 53	—	—	—	—	—	,, ,,	,, ,,	,, ,, ,,	,, ,, ,,	
60	,,	Tube 54	—	—	—	—	—	,, ,,	,, ,,	,, ,, ,,	,, ,, ,,	
61	Nov. 24	Tube 55	—	—	—	—	—	,, ,,	,, ,,	Pale yellow growth and some liquefaction and putridity Later. Rich salmon pellicle	Small rods and cocci. Stain deeply with magenta *	
62	Nov. 28	Robin Gobonia	18	—	Venezuela	9	T	,, ,,	Piece of tubercle	Tubercle has partly sunk into serum. Round it and on it are little round shining white masses, tending to coalesce Later. Mixture of dirty white, salmon and canary yellow	Swarms of rods and cocci, also streptococci and leptothrix of various sizes. Do not take magenta readily *	Guinea pig LXVIII inoculated with some of this growth on Dec. 4. No result. Was killed on Feb. 13, 1888. Viscera healthy.
63	,,	,,	,,	—	,,	,,	,,	,, ,,	,, ,,	,, ,, ,,	,, ,, ,,	Guinea pig LXVII inoculated with some of this growth on Dec. 8. No result. Was killed on Feb. 13, 1888. Viscera healthy.
64	Dec. 9	Azariah Abraham	18	—	Trinidad	8	T	,, ,,	Piece of thickened nerve	Thick salmon-coloured growth covering surface of serum and extending $\frac{1}{8}$ to $\frac{1}{4}$ in. down sides. Slight ammoniacal smell	Swarms of small rods and cocci (smaller than usual). Stain very deeply with magenta. After prolonged staining nitric acid destroys all colour	
65	,,	,,	,,	—	,,	,,	,,	,, ,,	,, ,,	,, ,, ,,	,, ,, ,,	

TABLE III.—*Experiments in Putrescent Substances.*

No.	Date of Last Examination.	Name.	Age. M	Age. F	Country.	Duration of Leprosy.	Form of Leprosy.	Material and How Used.	Result.	Remarks.
1	May 11, 1887	Bheekha	41	—	India	12 years	A	Dried blood kept for five months	No bacilli	
2	May 14, 1887	Robin Gobonia	18	—	Venezuela	9	T	Fragment of tubercle from R. G. put into stoppered bottle with ascitic fluid from L. C, and allowed to get putrid	No leprosy bacilli	
3	June 4, 1887	,,	,,	—	,,	,,	,,	,, ,,	Plenty of bacillus subtilis, no leprosy bacillus	Put in April 22nd.
4	June 2, 1887	Leonine Collins	—	12	Trinidad	3	T	Putrid serum from chest and abdomen	No bacillus in either	
5	,,	Joseph Scott	21	—	,,	17	M	Putrid blood twenty-four days old	Swarms of bacillus subtilis, no leprosy bacillus	
6	Nov. 26, 1887	Robin Gobonia	18	—	Venezuela	9	T	Piece of tubercle put in putrid serum from L. C. in bottle	Numerous short rods and cocci *	,, June 24th.
7	Jan. 3, 1888	,,	,,	—	,,	,,	,,	Piece of tubercle put in putrid blood from J. A.	Large and small cocci, some in chains. Thick bacilli*	,, ,,
8	Nov. 8, 1887	Joseph Scott	21	—	Trinidad	17	M	Enlarged femoral glands, thickened tubercular skin, and tissues around larynx buried	No trace of tissue (ants had been excavating). Three specimens of earth stained. Some large bacilli found, but no leprosy bacilli	Buried July 28th.
9	Aug. 19, 1887	Eugenie Lewis	—	25	,,	4	T	Piece of tubercle put in putrid blood and serum from heart and pericardium of J. S. (18 days)	Clear fluid with thick *débris* of broken tubercle, etc., at bottom. Cocci and short thick rods in clear fluid and sediment. No leprosy bacilli	
10	Oct. 20, 1887	Michel Cheii	31	—	,,	15	M	Enlarged femoral glands and pieces of other tissues buried	A little slimy *débris* left with faint smell. Examined (1) portion of tissue mixed with earth (2) one inch laterally (3) earth six inches laterally (4) earth from surface of ground. In (1) and (2) a few deeply stained cells and rods and numerous unstained rods. In (3) and (4) a good many more or less stained rods, no stained cells. Examined again December 4th. Earth-worms and eggs found. Two specimens of earth and fluid from embryo-worm stained. Numerous dark rods, but no undoubted leprosy bacilli	,, September 25th.
11	Nov. 24, 1888	Deshudsingh	32	—	India	5	,,	Piece of tubercle in putrid serum from leg of G.	Opaque white putrid liquid. Swarms of putrefactive bacteria, but no leprosy bacilli	Put in November 11th.
12	Mar. 16, 1888	Azariah Abraham	18	—	Trinidad	8	T	Hand and two kidneys buried	Bones of hand found but no remains of kidneys. No bacilli found at site of hand or kidneys, or on surface of ground above hand or kidneys, or six inches laterally from hand	Buried December 8th.

* Means all colour of magenta destroyed by nitric acid.

TABLE II.—*Experiments in Living Animal Tissues.*

No.	Animal Inoculated.	Site of Inoculation.	Source of Material.	Form of Leprosy.	Date of Inoculation	Date of Last Examination.	Result.	Remarks.
1	Dog	Nape of neck	Scrapings from ulcers of N. D. and J. G.	T M	April 5, 1884	Dec. 16, 1887	No local thickening. Nodule about size of pea in anterior border of spleen. On upper surface of liver a dense, slightly raised mass about one inch in diameter projecting some distance into liver. Not very well defined but paler than surrounding tissue. Distended capillary on upper surface. Mesenteric glands perhaps a little enlarged. Magenta failed to show bacilli in liver, spleen, kidney, heart, or mesenteric gland	Numerous nematode worms 3 to 4 inches long in hepatic veins, vena cava, right ventricle, and pulmonary artery.
23	Fowl	Beneath skin of back, also under left wing	Pieces of tubercle, J. J.	T	Feb. 7, 1885	Mar. 4, 1887	Small nodule about $\frac{1}{2} \times \frac{1}{4}$ inch under right wing. Found on section to consist of caseous *débris* and pigment. Firm capsule of false membrane. No infiltration of tissues beyond capsule. Magenta showed a few badly stained bacilli in caseous *débris*. Viscera healthy. No bacilli in liver, lung, or gizzard. None in capsule or tissues near tubercle	This bird was also fed with numerous tubercles and portions of viscera obtained *post mortem*.
43	Cat	Abdominal cavity	Two pieces of tubercle R. G.	,,	Dec. 13, 1886	June 24, 1887	Small brownish yellow nodule about $\frac{1}{4}$ inch long was found attached loosely to mesentery. Cut easily like cheese, centre darker. A few bacilli found in it. No trace of cicatrix found in abdominal wall or peritoneum. Viscera healthy. Magenta showed no bacilli in liver, spleen, kidney, lung, pancreas, ovary, or placenta	
44	,,	Anterior chamber	Piece of tubercle, R. G.	,,	Feb. 4, 1887	Jan. 28, 1888	Tubercle in left pupil, adherent to iris and lying on lens. White lymph on surface and surrounded by rim of injection. Small vessels running across iris to tubercle and corneal opacity over it. Black pigment in cicatrix. Whole iris yellow, has lost its gloss. Capillaries injected and lymph at margin of pupil. Slight scurfiness above left eye, but no nodule there now. Some corneal opacity in right eye	Eye in exactly the same state as on September 26th.
45	,,	,,	,,	,,	Feb. 9, 1887	,,	Patch of pigment and white corneal opacity about $\frac{1}{2} \times \frac{1}{4}$ inch around cicatrix. Slight bulging of cicatrix. Iris rather darker in colour than right. Points of opacity on cornea. Five translucent nodules about size of pins' heads over sclerotic. Magenta showed no bacilli in juice from these. Threads of lymph running up from iris to cicatrix. Deposit of lymph on lower part of iris, dilated vessel and some pigment on surface of iris. Tubercle appears to have escaped	
46	Macaw	Beneath left wing ,, right ,,	,, E. N.	,, ,,	June 6, 1887 July 4, 1887	Jan. 27, 1888	No sign of tubercles, not even of scars. Incisions gaped and tubercles escaped after a few days. A few bacilli found in scab twelve days after inoculation	This bird was also vaccinated with lymph from D (mixed) on August 9th, 1887.
47	Kitten	Anterior chamber after iridectomy	,,	E. L.	,,	Aug. 1, 1887	Jan. 28, 1888	Mass of pigment in cicatrix and iris dragged forward and adherent here. Tubercle has escaped. Cornea clear. No evidence of growth on iris. Slight yellow tinge at upper and lower margin of pupil, otherwise iris is same colour as right.
48	,,	,,	,,	,,	,,	,,	,,	Pigment in cicatrix, iris adherent. Tubercle apparently has escaped. No difference in colour of iris. Small point of opacity over centre of cornea
49	,,	Anterior chamber	,,	D	M	Oct. 17, 1887	,,	Iris adherent to cicatrix. Injection and opacity of cornea round. No change of colour of iris. Tubercle apparently has escaped
50	,,	Abdominal cavity	,,	,,	,,	,,	Oct. 28, 1887	Incision closed by lymph. Intestine adherent. Acute peritonitis. Tubercle not found. Viscera healthy. A few doubtful bacilli in peritoneal lymph, none in lung
51	Guinea-pig	Nape of neck	,,	F. L.	T	Oct. 29, 1887	Jan. 27, 1888	Hair grown. Scar visible but no thickening. Numerous leprosy bacilli in pus from incision four days after inoculation	Tubercle removed during acute leprosis, temperature 103°. Died February 13th, 1888, viscera healthy.

In Experiment 43 a piece of tubercle was introduced into the abdominal cavity of a cat. This incision healed readily, and the cat was killed six months later. A small nodule was found loosely attached to the mesentery; it was caseous on section and contained a few bacilli. The viscera were healthy and contained no bacilli. The result here resembled that obtained beneath the skin of the fowl.

A kitten which had been similarly inoculated in the abdominal cavity died eleven days later with acute peritonitis. The tubercle was not found, but a few doubtful bacilli were found in the peritoneal lymph. Two cats and three kittens were inoculated with pieces of tubercle in their anterior chambers. In four the tubercles apparently escaped and the incisions healed, leaving only some opacity and pigment round. In the fifth the tubercle remained over the pupil, resting on the lens, and adherent to the iris. General iritis was set up, and the tubercle became coated with yellow lymph.

At the last examination, on January 28th, 1888, the eye was in exactly the same state as on September 26th, 1887, four months before.

On October 17th, a small desquamatory nodule was found over the eyebrow above the inoculated eye. Some juice from this nodule was sent home and submitted to Dr. Thin and Mr. Watson Cheyne, who kindly examined it, but failed to find any leprosy bacilli in the specimen sent. By January 28th, 1888, the nodule had disappeared, leaving only a slight scurfiness. It would seem probable, therefore, that this nodule was only accidental. The results of inoculation in the anterior chamber agree with those of Dr. Thin (*Impfversuche mit Lepragewebe auf Thiere*, 1886). I have been told that a parrot has been known to become leprous at the asylum here. I, therefore, inoculated a macaw beneath each wing. Six months later no sign of tubercles, nor even of scars, was found.

A guinea-pig was inoculated with a piece of tubercle removed during an acute outbreak, the temperature being 103°. It was thought that possibly the bacilli might grow better if removed at this time. The incision suppurated, and numerous leprosy bacilli were found in the pus four days after inoculation. The guinea-pig died three and a half months later; no trace of the tubercle was found near the cicatrix, and the viscera were healthy.

I have now under observation at the asylum thirty selected anæsthetic lepers. I introduced in each beneath the skin of the forearm, a few months ago, a piece of cutaneous tubercle from a tuberculated leper, the incision being afterwards sutured. I am watching carefully for any growth of tubercle, but none has yet taken place. Hansen has tried similar transplantation on man without result (Bidenkap, *Lectures on Lepra*, 1886, p. 61). So far, then, I can record no growth of the bacillus leprae when planted in living animal tissues.

3. *Experiments in Putrescent Substances.*—Arning was, I believe, the first to investigate the question of the behaviour of the bacillus lepræ in putrid substances (*Report on Leprosy in Hawaii*, 1886, Appendix, p. 53). He found that when leprous tissue was set aside, and the growth of the larger fungi excluded, the bacillus lepræ held its own against other micro-organisms, and, further, that it was met with so abundantly, and so laden with spores as to suggest actual increase. The bacillus was also found in large numbers on examining the corpse of a tuberculated leper which had been buried for nearly three months. Dr. Arning acknowledged that he could not definitely determine whether these bacilli were still alive and capable of reproducing the disease; but, from their microscopical appearance, he felt confident that such was the case. As he remarks, the question is one of immense importance with reference to public health. If it is possible for the bacillus to multiply in the bodies of dead lepers, it would no doubt be safer for all such bodies to be burnt, even though it is not yet actually proved that the bacillus is the cause of leprosy.

In connection with this subject I have made twelve observations, which are described in Table III. I have examined the question in three ways: 1. By keeping blood or serous effusion from lepers in closed vessels or between glasses. 2. By keeping pieces of cutaneous tubercle in putrid blood or serum from lepers, in closed bottles or test tubes. 3. By burying leprous tissues.

The first method is perhaps of less value from the fact that I have never succeeded in finding leprosy bacilli in the blood or serous effusions of lepers. Köbner has, however, described bacilli in the blood, and it is at least possible that spores may be present in the fluids of the body, which may germinate outside the body under certain conditions.

In this and in the second series of experiments I found no evidence whatever of leprosy bacilli when the material was examined at various intervals. The putrefactive bacteria seemed to have it all their own way. Of course, it is possible that the leprosy bacilli originally present in the fragments of tubercle may still have been in the fluid, though they may not happen to have been taken up in the pipette for examination. But even when the *débris* at the bottom of the vessel was specially examined, I failed to find any bacilli which retained magenta. It seems therefore fair to conclude that there was certainly no increase of bacilli in these putrid fluids, and that very possibly the original bacilli became more or less destroyed or altered by maceration. This is in accord with what I have observed when leprous tubercles have been allowed to remain for prolonged periods beneath the skin of fowls as described earlier in this report. Only a few badly stained bacilli were found amongst the caseous *débris*; the bulk of the bacilli seemed to have been destroyed with the tubercle.

Similarly in Observation 17 of Table I, in which a fragment of femoral gland from a mixed leper was kept in sterilised ascitic fluid. Five months later, the fragment was still lying at the bottom of the test tube; there was no putrefaction, and microscopic examination showed large swollen cells with bacilli in their interior. These, however, did not retain magenta after the action of nitric acid. It would thus appear possible that bacilli after prolonged maceration may become so changed as not to respond to the ordinary colour test. This may partly explain the apparent absence of the original bacilli in putrid fluids.

To test the third point—the behaviour of the bacillus lepræ when buried—various parts of three lepers, two mixed and one tuberculated, were buried about six inches below the surface of the earth. The remains were examined after periods of one, two and a half, three, and four months. In the first case the experiment was practically vitiated, for it was found that parasol ants had been excavating where the tissue was buried, with the result of disturbing its relations to surrounding parts. Three examinations of the earth failed to show leprosy bacilli.

In the next case, after a month, a little slimy *débris* was found with faint smell. Specimens of this material and of the earth, one inch laterally, six inches laterally, and from the surface of the ground, were examined. After the action of magenta and nitric acid, deeply stained cells and rods were found in the *débris* and its immediate neighbourhood, whilst, further off, a good many more or less stained rods were found. I am, however, very doubtful whether these were leprosy bacilli; they looked too large. Possibly their retaining the stain after the action of the nitric acid was due to an admixture of earth, which protected them to some extent from the action of the acid.

Another examination, six weeks later, gave a similar result. Earth worms and their eggs were also found, and fluid from the embryo worm in the egg was stained, as it was thought that possibly these worms might be instrumental in bringing up bacilli to the surface, as was found by Pasteur when examining the buried carcases of animals dying of anthrax. No undoubted bacilli were found in any case, only the dark rods above mentioned.

In the third case, after four months, the bones of the tuberculated hand were dug up; but examination of the earth, at various distances from the bones, failed to show any bacilli at all.

I cannot, therefore, agree with Dr. Arning as to the power of resistance of leprosy bacilli to putrefaction; much less have my observations convinced me that they have any power of germinating under such circumstances.

Conclusion.—In concluding this report, I can only regard it as a very meagre contribution to our knowledge of the life history of the bacillus lepræ. An inquiry of this kind is practically endless, so varied are the conditions of temperature, time, nutrient medium, living animal tissue or putrescent substance, and so many are the observations necessary to avoid or lessen the risk of errors of experiment.

Such as they are, however, my conclusions are the result of four years' work, and I here summarise them:

1. At a tropical temperature and on the ordinary nutrient media, I have failed to grow the bacillus lepræ.

2. In all animals yet examined, I have failed to find any local growth or general dissemination of the bacillus after inoculation, whether beneath the skin, in the abdominal cavity, or in the anterior chamber. Feeding with leprous tissues has also given negative results.

3. I have found no growth of the bacillus lepræ when placed in putrid fluids or buried in the earth.

REPORT ON SOME OF THE MOTOR FUNCTIONS OF CERTAIN CRANIAL NERVES (V, VII, IX, X, XI, XII), AND OF THE THREE FIRST CERVICAL NERVES, IN THE MONKEY[1]

(*Macacus sinicus*).

By CHARLES E. BEEVOR, M.D., F.R.C.P.,
AND
VICTOR HORSLEY, B.S., F.R.S.
(From the Laboratory of the Brown Institution.)

In the course of an investigation into the cortical representation of the muscles of the mouth and throat we have experienced considerable difficulty in describing correctly the movements of these parts, especially when there was any question of bilateral action occurring. On referring to textbooks we failed to find any solution of this difficulty, and we therefore determined to make a few observations of the movements evoked by stimulating the several cranial nerves supplying this region in the monkey[2] so as to have a definite basis whereon to ground our observations of the movements obtained by stimulating the cortex.

In the course of this work[3] we have observed several facts which do not harmonise with the views hitherto generally received.

Method of Investigation.—The foregoing summary of our experiments is based almost entirely upon the results obtained by exciting the respective nerves at the base of the cranial cavity after separating them from the bulb. We have also stimulated the nerves outside the skull in the neck both before and after division. In either case the animal was narcotised with ether.

(1.) For the exposure of the nerves at the base of the cranial cavity it was found possible to rapidly remove a cerebral hemisphere, clamping the carotid and other arteries, then to divide the tentorium and to remove the major part of the cerebellar hemisphere of the same side, so as to admit of prolonged and numerous observations before the animal died. In all we have done eight experiments, and in every case we have operated on the same kind of monkey, that is, *Macacus sinicus*.

(2.) For the exposure of the nerves outside the skull we found it easy to lay bare the upper cervical nerves and those of the

[1] The expenses of the research have been defrayed by the British Medical Association.
[2] Previous observers having employed animals of lower orders.
[3] Full publication is given in the *Proc. Roy. Soc.*, 1888.

cranial division in the anterior triangle by turning forward a triangular flap of skin, ligaturing and removing the external jugular vein and dividing and turning aside completely the sterno-mastoid muscle. Finally, the parotid gland and digastric muscle (posterior belly) were drawn up with hooks, the head being turned to the opposite side.

The chorda tympani was readily exposed without injury in the tympanic cavity, *before* the dissection of the triangle, by cutting away the posterior wall of the external auditory meatus and the posterior half of the tympanic ring. The facial nerve was subsequently exposed in the stylo-mastoid foramen and aqueduct.

The nerves were in each case carefully raised up from their position and stimulated in the air by the faradic current through fine platinum electrodes, the area of the operation having been carefully dried. The current employed was from the secondary coil of an ordinary Du Bois-Reymond inductorium, supplied by a 1 litre bichromatic cell. The experiment was carefully begun with the secondary coil at a distance of 30 centimètres from the primary, this interval being very rarely diminished to more than 15 centimètres (zero being of course the point where the secondary coil completely overlaps the primary).

Further Observations respecting the Examination of each Nerve.—A. Cranial Division.

Fifth Nerve.—Excitation of the motor root of the trigeminus evoked powerful closure of the jaws, and although the muscles of one side only were in action, the teeth were approximated without any lateral deviation of the lower jaw.

Seventh Nerve.—The motor distribution of the facial nerve has, for the most part, been well known for some time. However, we consider that unfortunately a very fundamental error respecting this distribution has crept into the text-books, it being supported by one anatomical authority following another, and, moreover, having been accepted by clinicians as an important aid in the differential diagnosis of facial paralysis. We refer to the supposed supply of motor fibres from the facial to the levator palati through the superficial petrosal nerve. This idea,[4] upon which so much stress has been laid, is entirely hypothetical, as might have been shown at any time by stimulating the facial nerve in the skull, and observing the soft palate. We have found that stimulation of the peripheral end of the divided facial nerve in the internal auditory meatus failed to cause, even with most powerful currents, the slightest movement of the soft palate, although the face was thrown into violent spasm. The true motor nerve supply of the levator palati is, according to our observations, the eleventh nerve (*vide infra*).

IXth Nerve. Glosso-pharyngeal.—In exciting this nerve, in addition to the movements of the pharynx, which we attribute to the contraction of the stylo-pharyngeus, and possibly to the middle constrictor of the pharynx, we have observed certain movements of the palate, as follows:—(1.) Stimulation of the nerve while beneath the stylo-hyoid ligament and uncut, gave, in two instances, elevation of the palate on the same side, and in one instance on both sides. We suppose that everyone will consider with us this movement to be reflex in origin, but we must add (2) that in one case we saw elevation of the palate to the same side when exciting the peripheral end of the cut nerve. In this latter case, perhaps, the result may be explained by the close neighbourhood of the pharyngeal plexus and the possible escape of current thereto, and, under any circumstances, this is but a single exceptional observation, so that we lay no stress upon it. Finally, we never saw movement of the soft palate when the glosso-pharyngeal nerve was stimulated within the cranial cavity.

Tenth Nerve. Vagus.—In stimulating the uncut nerve outside the skull, below the level of its junction with the hypoglossal, rhythmical movements of swallowing were produced, which occurred at the rate of twenty-five times in thirty-five seconds. In one observation all the constrictors of the pharynx were thrown into action, when the peripheral end of the cut nerve was stimulated outside the skull. The rhythmical movements of swallowing obtained by stimulating this nerve must form, of course, the simple reflex, the stimulus acting on the nerve in the centripetal direction, and that this was the case is proved by the fact that no movement was obtained when the peripheral end of the cut nerve was stimulated inside the skull. The superior laryngeal branch, on being stimulated, gave rhythmical movements of swallowing at the rate of seventeen times in fifteen seconds; but when the nerve was cut and its peripheral end stimulated, only very slight movement was produced in the larynx, evidently by contraction of the crico-thyroid muscle.

Eleventh Nerve. Accessory to Vagus.—In discussing the motor functions of the seventh nerve, we stated that the hitherto received idea of the soft palate being supplied by the facial nerve was, according to our observations, entirely erroneous. We find that the levator palati is supplied entirely by the eleventh nerve.[5] When the peripheral end of the cut nerve was stimulated inside the skull, elevation of the soft palate on the same side was invariably seen. The path by which the fibres from this nerve reach the palate is probably through the upper branch of the pharyngeal plexus.

Twelfth Nerve. Hypoglossal.—When the entire nerve was excited outside the skull, just below the point where it is joined by the first cervical nerve, the tongue was flattened posteriorly on the same side, and the tip protruded also on the same side, while in no case was there any heaping up of the tongue. At the same time the depressors of the hyoid bone were thrown into action, and in some cases this dragging downwards of the hyoid completely prevented the tongue from being protruded. The movements described above were repeated without alteration when the peripheral end of the cut nerve was excited at the same place. It must be particularly noted that the movements of the tongue were purely unilateral, and this was proved to be the case beyond doubt by two experiments, in which the tongue was divided longitudinally in the middle line to the hyoid bone, when the movements were seen to be entirely confined to the side stimulated. When the cut nerve was excited within the skull, a different result was obtained, the tongue was flattened behind, and protruded towards the same side, but there was no action in the depressors of the hyoid. It has always been held that the depressors of the hyoid bone receive their motor nerve supply from the hypoglossal through the descendens noni; but, as will be shown further on, according to our observation, these muscles are supplied by the first and second cervical nerves, and it is only when the hypoglossal is stimulated below the point where it is joined by the branch from the first cervical nerve, that any movement is produced in the depressors of the hyoid.

B. Spinal Division.

Our observations of the motor functions of the first three cervical nerves, as regards their influence on the hyodean muscles, have been made when the nerves have been excited—(*a.*) In the spinal canal. (*b.*) In the neck immediately upon their exit from between the vertebral transverse processes. The nerves in the spinal canal were separated from the spinal cord and thoroughly dried, the efficacy of the precautions taken against spread being evidenced by the difference in result obtained by exciting each root. The effects obtained by the methods *a* and *b* were identical.

First Cervical Nerve. Branch of Union with the Hypoglossal.—In the description of the twelfth cranial nerve, we have stated as the result of our experiments that the depressors of the hyoid bone are not thrown into action when this nerve is stimulated within the skull. On carefully dissecting out the branch from the first cervical nerve to the hypoglossal, we find that excitation of it evokes no movement in the tongue, but the depressors of the hyoid bone are strongly contracted. Of these muscles, the sterno-hyoid and sterno-thyroid were always especially affected, while the omo-hyoid was less frequently seen to contract, and in some cases not at all. In the cases where this muscle contracted, in one experiment the anterior belly alone acted, and when both bellies contracted, the movement in the anterior was in excess of the posterior.

Second Cervical. Branch to the Descendens Noni.—On stimulating this nerve, the depressors of the hyoid were thrown into action, but the muscles involved were not affected in the same way as was the case with the first cervical nerve. The muscle which was most constantly set in action by excitation of the second cervical nerve was the omo-hyoid, and especially its posterior belly. The sterno-hyoid and sterno-thyroid also took part in depressing the hyoid bone; but it was especially remarked, in half the cases, that their action was notably less powerful than that of the omo-hyoid. In one experiment, in which a very weak current was employed, the omo-hyoid was alone seen to contract. We are, consequently, led to conclude that while the sterno-hyoid, sterno-

[4] Without definitely supporting this view, Gaskell (*Proc. Roy. Soc.*, vol. xliii, p. 390) shows that some large "somatic" nerve-fibres leave the facial nerve between its origin from the bulb and its exit from the stylo-mastoid foramen. He suggests that some of them may possibly form a nerve to supply the levator palati, but he leaves their real destination undetermined.

[5] I desire to add here that Dr. Felix Semon, in the course of some experiments (unpublished), performed in conjunction with myself, found that in the dog the levator palati was innervated by the eleventh nerve.—V. H.

thyroid, and omo-hyoid muscles are all set in action by excitation of the first and second cervical nerves, the first two muscles are relatively supplied by the former nerves, while the second nerve is especially connected with the omo-hyoid muscle.

Descendens Noni.—We prefer to mention here the results of exciting this nerve, inasmuch as we regard its motor fibres to be derived entirely from the first and second cervical nerves. This nerve (ordinarily regarded as a branch of the twelfth cervical), when stimulated above its junction with the branch from the second cervical nerve, produced contraction of the sterno-hyoid and sterno-thyroid muscles, and, where the current employed was weak, there was no contraction of the omo-hyoid; but this movement was superadded on increasing the strength of the current. We ought here to mention the opinion held by Volkmann (*loc. cit.*) that fibres ascend to the hypoglossal from the spinal rami communicantes by the descendens noni.

Third Cervical Nerve.—On stimulating the branch from this nerve, which forms the second cervical nerve just before the ansa thus formed is connected to the descendens noni, there was no action seen in the depressors of the hyoid bone; it, therefore, seems certain that these muscles are supplied with motor fibres solely by the branches from the first and second cervical nerves.

REPORT ON THE AIR OF COAL MINES.

T. G. NASMYTH, D.Sc.EDIN., M.B., AND C.M.

THE sanitary examination of air has lately attracted more attention than it probably ever has at any former period. The reasons are not far to seek—the close connection now known to exist between vitiated air on the one hand and disease on the other, and the facilities now offered to medical men and others to examine by easier and more improved methods the chemical and physical conditions of air bearing on health. These have undoubtedly led to eager search and much increased information on subjects of great importance to the physician and the general public alike. We have now an abundant literature bearing on the air of houses—one-roomed, two-roomed, and four-roomed—sewers, hospitals, and schools.

Since the late Dr. Angus Smith published his valuable work on *Air and Rain*, in which there are accounts of very long and important experiments on the air of mines, I have not been able to trace any published work on the air of mines. Dr. Smith's observations were made in the year 1863, and since then the methods of coal mining, including ventilation, have been completely altered, so that the air of the mine of to-day may be totally different from what he experienced. As I have been born and brought up in a mining district, the subject was one that naturally interested me, and the further fact that for ten years I have been medical attendant to several large collieries has given me facilities for studying it from what may be called chemical and pathological points of view. No reasons are given to explain why the subject should be carefully inquired into, as I presume they are self-evident.

Anyone who has read Dr. Smith's work will agree with me that the conditions which he found existing in mines were bad. Without entering into any details or discussion as yet into his observations I simply shall mention that, taking carbonic acid as a test and an example of the state of air found, from 339 specimens taken he got an average of 0.785 per cent. No miner at the present time would be asked to work in such an atmosphere, nor would he if asked. From fifteen to twenty years ago mine air was bad. Improved methods of ventilation were not then in general use, and the law on the subject was not so strictly enforced as now, when not only must there be ample provision for removal of the air, but measurements must be periodically made and entered into a book for the purpose, showing the volume and the velocity of the fresh air currents. The test of a candle or a lamp burning is a somewhat rough one, as it is made by the miner. When made in the manner referred to by Smith it is of more value, but the miner's method is a common one, and in "fiery" pits often such a fatal one that some reference to it may be interesting.

In talking with miners on the subject, they have told me that about twenty years ago sometimes the air was so bad that, if the lamp were unaided, it would not burn, but by constant attention it might be made to give out a feeble light, and it was frequently the duty of boys when too young or too small for harder work to trim the lamps, and keep them burning for their fathers or seniors. This is a rude test, but at the same time impresses one with the idea that the air must have been very bad. Judging from my own experiences and sensations, a very short time in a "waste" where lamps would not burn was decidedly unpleasant, and one longed for fresh air in a way hitherto unexperienced. The candle I shall yet refer to when the methods of examination are described.

Methods of Examination.—In a purely scientific investigation, other methods might have been selected, but the primary object of the inquiry being to ascertain the relationship between mine air and the miners' healths some variations are made. It must be further borne in mind by those who have not attempted this sphere for research, they must be prepared to meet with difficulties met with in mines which they would not experience elsewhere, such as absence of the light of day, limited space to work in, constrained position, risk, and injury to apparatus used. I am happy to say I cannot add difficulties put in my way, as, from miner to master, every facility was given me in my work. The growth of the microbes in Hesse's tubes was an object to the workmen of great interest and of exaggerated importance, as bearing on imagined diseased conditions attributed to these—in so many cases—harmless organisms.

Temperature of Mines.—To the meteorologist, an accurate record of the temperature of mines would doubtless be interesting, and I am not aware any have been made. The difficulties and want of facilities for making them are sufficient reasons, apart from the dangers valuable instruments are liable to in mines. The charts I have made are not valuable to the meteorologist, as they neither show the maximum nor the minimum temperatures, but show the temperatures of the wet and dry bulb thermometers at a fixed hour of the day, namely, 9 A.M. The readings were made by a highly intelligent and conscientious mine inspector whom I instructed and supervised in the readings. The readings made above ground were made by myself at the same hour of the day, for comparison with the underground thermometers.

Estimation of Ammonia.—I am sorry to say this was only an attempt, and which for many reasons had to be given up. The greatest difficulty was the cumbersome apparatus, aspirator and bottles with distilled water, and the long time consumed over the process. The method followed was that of Wanklyn, Chapman, and Smith.

Determination of Organic Matter.—There can be no doubt that the estimation of ammonia and albuminoid ammonia is the best test we yet have in obtaining from the amount of these products the amount of organic matter, but from reasons already given this method had to be given up, and the other methods suggested were the varieties of the permanganate process. The method used by Angus Smith was this, a known quantity of air is drawn through a solution of permanganate of known strength, and the amount of permanganate undecomposed is determined by oxalic acid. This method is open to many objections, for complication of apparatus, time needed, and uncertainty of results. The variety of the permanganate method I used is that of Professor Carnelley, and to whom I beg to express my great indebtedness for his kindness in giving me copies of his various papers, on the air of schools, sewers, etc., and in which the method is described. As this method is not generally known, I shall quote a description of the process from his pamphlet—a reprint from the *Transactions of the Royal Society*, June 10th, 1886.

Professor Carnelley's Method for determining Organic Matter.—The principle is reduction of potassium permanganate. The amount is determined colorometrically by comparison with a standard. The solution of permanganate used is of $\frac{N}{1000}$ strength, of which 1 cc. = 0.008 milligrammes of oxygen = 0.0000056 litre of oxygen at 0° and 760 mm. It is usually kept $\frac{N}{10}$ — strength, and diluted as required, about 50 cc. of dilute sulphuric acid being added to each litre of weak solution. The samples of air are collected in well stoppered jars of about 3.5 litres capacity. The jars are filled by pumping out the air contained by bellows, and allowing the air to be examined to flow in. 0.50 cc. of standard permanganate are then run into the jar, which is then tightly stoppered and well shaken for at least five minutes. 25 cc. of the permanganate are then withdrawn by a pipette, and then placed in a glass cylinder holding about 250 cc. Then 25 cc. of the

standard permanganate are run into a similar cylinder; both are diluted up to about 150 cc., and allowed to stand for ten minutes, after which the tints of the cylinders are compared. Standard solution is then run into the decolorised solution from a graduated burette, until the tints of both cylinders are of the same intensity. The amount of solution added from the burette is a measure of the bleaching effected by the known volume of air on half the permanganate. This multiplied by 2 gives the amount. The results may either be expressed in terms of the number of cc. of the $\frac{N}{1000}$ bleached by one litre of air, or by the number of volumes of oxygen required to oxidise the organic matter in, say 1,000,000 volumes of air. Example:—25 cc. of solution from a 3.5 litre jar, in which 50 cc. had been used, required 3 cc. of the permanganate to bring it up to the standard, or the whole 50 cc. would have required $3 \times 2 = 6$ cc. This represents the number of cc. of standard permanganate bleached by $3500 - 50$ cc. $= 3450$ cc. of air, consequently $\frac{6}{3.45} = 1.74$ cc. is the bleaching effected by one litre of air.

But 1 cc. of $KMNO4 = 0.0000056$ litre of oxygen; $\therefore$ 1.74 cc. $KMNO4 = 0.0000056 \times 1.74 = 0.0000097$ litre of oxygen is required to oxidise the organic matter in 1 litre of air, or 9.7 vols. of oxygen to oxidise the organic matter in 1,000,000 vols. of air.

The method is highly ingenious, and can be rapidly performed. Some difficulty is experienced at first in matching the tints, and with some samples of mine air, no amount of standard would bring the decolorised sample up to its colour. For the purposes to which Professor Carnelley applied this method, it has many things to recommend it; but for the air of mines, those objections to which the permanganate method is liable render the test unsatisfactory as a test for organic matter; but as a test for organic matter and other impurities coexisting, it is a most useful test. In mines we have those various substances existing which, as well as organic matter, decolorise the permanganate solution, such as sulphuretted hydrogen, nitrous acid, sulphurous acid, etc., from the combustion of gunpowder, dynamite, and burning of lamps. The results I obtained were very high in many cases, and this I attribute to the presence of these compounds, as well as to the organic matter. Professor Carnelley refers specially to the effect of oil lamps; and in mines where many hundreds are burning during work, it is no surprise that my results are high, even from this cause alone. In Carnelley's experiments he found, before burning of lamps, oxygen per 1,000,000 vols. to be 8.7, while, after, it had risen to 18.1.

Estimation of Carbonic Acid.—The method adopted was that of Pettenkoffer. The samples were collected in Winchester quarts; and an ordinary pair of bellows, with a tube attached to the spout long enough to reach the bottom of the bottles, was used to fill them with the air desired.

Estimation of Oxygen.—The method I have used is that of Franke, of Berlin, and the apparatus is associated with his name—Franke's burette. It consists of a burette graduated into 50 cc., and with a bulb on either end. One end is closed by a stopcock, the other by a plug on which there is also a stopcock. This plug closes the bulb on one end. Between this bulb and the graduated part of the burette is a stopcock with wide bore. The burette is filled by allowing the air to be examined to stream through it. The two stopcocks are then closed. A quantity of water sufficient to fill the bulb at the end where the plug is inserted is introduced. The burette is then inserted into a tall cylinder of water, till the level of the water in the bulb and the cylinder is the same. The stopcock with wide bore is then opened, and by this means a volume of air at ordinary atmospheric pressure is obtained. The stopcock is now closed, water run out of the bulb, and an alkaline solution of pyrogallic acid is run into bulb sufficient to fill it completely. The plug, open, is then inserted, and stopcock closed; then the stopcock with wide bore is opened, and the absorbing solution is allowed to run into graduated part, where it is slightly shaken. The solution is then run back to bulb, and stopcock closed. After this the absorbing solution is run out entirely, the bulb washed out with water, finally filled with water, and plug inserted. The burette is then placed in the tall cylinder of water, and stopcock with wide bore opened; the height of water in the burette is read off at same water level as of cylinder, and this gives the volume of oxygen per cent. The volume is then calculated for temperature and pressure. I cannot vouch for the accuracy of the instrument, but it is very handy, and at least gives comparatively accurate results.

Method for Estimation of Micro-Organisms.—The method of Hesse is by far the best in present use, and this was the one used by me. Koch's own method is useful so far, but the results are not quantitative. When specimens are only desired, and not an idea of the number for a given volume of air, Koch's method is useful, likewise the method of simply exposing plates with nutrient jelly to the air to be examined, or sterilised potatoes, bread, etc.

Hesse's Apparatus.—This consists of a glass cylinder about 18 inches long and 22 inches in diameter. At one end a piece of india-rubber sheeting is stretched and firmly bound round the end of the glass cylinder to prevent air sucking past it. The other end of the glass cylinder is closed with a tight-fitting plug of india-rubber, through which a glass tube passes. From this tube passes a piece of india-rubber tubing to a litre bottle filled with water, and from this bottle to a second litre bottle another tube passes; when not in action this tube is pinched off. Along the bottom of the glass cylinder are 50 cc. of nutrient jelly solid when cooled. The cylinder rests on a tripod stand similar to those used by photographers. The nutrient jelly, india-rubber caps, tubing, cylinder, etc., are sterilised in the usual manner by steaming in a steriliser repeatedly, and the tubes with their layers of jelly are kept sufficiently long before using to see that there is nothing growing on them. When we wish to operate the india-rubber sheeting is perforated by a heated needle or pin making a very small hole, and the pinchcock is screwed slack; water passes slowly from the upper to the lower bottle, and when it is empty a litre of air has been supposed to pass into the cylinder, and to deposit its contained microbes. As many litres of water as desired can be run out simply by reversing the position of the bottles. When the air is very foul one litre will be sufficient, as the colonies otherwise would be too close and run into each other. When the operation is over sterilised india-rubber caps or pieces of cotton-wool, also sterilised, are bound over the ends of the Hesse tube, and it is then placed in either an incubation chamber or other suitable place. After a week or ten days longer the colonies may be counted. At one time the glass cylinders were used with a coating of jelly all round the interior, but this is difficult to obtain, and in practice it is found that the microbes gravitate and settle on to the layer on the bottom of the tubes. The method of Hesse is very elegant, and has many advantages; from the length of the surface of the jelly exposed separate colonies form, often giving pure cultivations, and their growth can be studied as on a glass plate, and inoculations can readily be made in the usual manner. There are undoubtedly objections, some of which apply to all bacterial methods, and others which apply specially to this one in particular, struck me, and I have not heard it referred to by any other. It is this: Although you run off a litre of water, and although the capacity of the glass cylinder is also about a litre, it does not follow that a litre of air has been drawn from the outside. The first half of the air contained in the glass cylinder may be removed, but after that, or even before it, the air from the outside and the air inside diffuse and commingle, so that a mixture of these will be aspirated out, and in consequence a litre of air will not have passed in. There can be little doubt about this, so that as a quantitative test the method is defective. Another objection is that you cannot be sure all microbes are deposited: true, we find in practice that the colonies are found in greatest abundance at the end furthest from the aspirator, and gradually diminishing inwards. Tyndall's researches bring out this point, and if we directed the beam of an electric light into one of those tubes, doubtless we would find floating particles long after we expected. Notwithstanding these objections the method is the best we have, and likely to remain so for some time.

Methods of Ventilation.—An inquiry regarding the condition of the air of mines would be incomplete without reference being made to the methods adopted to secure purity. Ventilation implies two conditions: removal of impure and the substitution of pure air, and those conditions may be obtained either by, first, natural methods, such as by the action of winds, changes produced by alterations in temperature or pressure, or by the diffusive tendencies of gases; secondly, artificial methods. We have such examples as the action of fires, fans, jets of steam, steam pipes, etc. The principles of these, however, are not different from natural methods. In the cases of those mines which came under my notice, the variety of artificial methods adopted was the fan method applied on the principle of propulsion. Whether the propulsion method or the vacuum method is the better I cannot decide, and this point falls more under the consideration of

mining engineers. In the *Transactions of the Mining Institute of Scotland* there are interesting papers on the subject, but which leave one undecided on a point which is worth clearing up. For this purpose experiments were made; but as these were not made under exactly similar conditions, they are not comparable, and the tests applied were rather to ascertain the differences in volume of air passed through the mine by the propulsion and vacuum methods, as well as the power of steam engine needed in either case, than the actual chemical condition of the air of the mine under those two different processes. I would therefore suggest that to determine which method of the two is better, not only the volume but the chemical nature of the air should be determined. Of the fans ordinarily used the Guibal, Waddle, Pelzer are most highly spoken of.

At one time fires were very commonly used, and these were either at the bottom or the top of a shaft. In the former all the heat was utilised to diminish the density of the air, and in consequence a larger volume was discharged, but there was a great danger to the mine from the fire itself; but great volumes of air can be discharged by this method, and I have read accounts of 200,000 to 400,000 cubic feet per minute being discharged by a ventilating furnace. I have not had any experience of ventilation by jets of steam or compressed air. By Act of Parliament, all mines in which twenty men or upwards are employed must have two shafts. Usually one of these is used for conveying pure air into the mine and the other for removal of the impure. The former is called the downcast and the latter the upcast. If there is only one shaft, by dividing it into two by means of a partition called a mid-wall, extending from the mouth of the shaft to the bottom, a downcast and an upcast are secured, and a fan or ventilating furnace is placed in connection with one or other. The sectional area of these shafts and the working capacity of the fan determine the volume of air there can be passed into the mine either by the plenum or vacuum methods. The distribution of the air through the mine is a question of mining detail, and the completeness of this determines very much the efficiency of the system. Formerly one main gallery or passage was used to carry the air completely round the workings, but nowadays it is split up by branches to the different workings, and this is a great improvement. If from any reason the main air current was interrupted, the whole workings beyond this point were deprived of air; but by splitting up the current this great objection is removed. It is recommended that splitting of the main air current should commence as near the bottom of the downcast shaft as possible, and should finish as near the bottom of the upcast as possible, splits of air far in the interior of the workings having comparatively little effect in increasing the quantity of air (Atkinson *On Gases met with in Mines and Ventilation*).

To carry out the process of splitting, mechanical devices, such as double doors, stoppings, bratticing, are needed, but which require no further reference from me, being details belonging to the duties of mining engineers. In practice the mechanical details involve a great amount of skill, and the success of all methods of ventilation depends upon the manner in which these complicated details are carried out. However efficient a ventilating fan may be or powerful the motive power, the combined efforts may be defeated by defective stoppings or injudicious splittings, or other defects of the various ingenious methods used, I can only speak of the various mines I have personally examined, and the experience obtained so far has been expressed by the results of the numerous chemical examinations made. The conclusions drawn from these have been already stated, and which showed the generally satisfactory state of air. What now remains is to show from actual measurements by the anemometer the quantity of air passed into those mines which were examined by me.

It will be noticed how much the quantities vary in these tables, but the stables referred to were in four different pits, some situated in the downcast and some in the upcast shaft, and different depths in each. The effect will be seen by the increase of carbonic acid when the air is in the stables or past the stables. The organic matter is also increased by the stables, and micro-organisms I have invariably found to be enormously increased when the samples were taken in the stables. A suggestion naturally follows that, when possible, stables should be placed in the upcast shaft, as the air from the stables when in the downcast shaft must undoubtedly diffuse all over the mine, and vitiate it seriously. More attention should be directed to keep the stables as clean and sweet as possible by having impervious floors, and by the use of a liberal supply of water to sweep out impurities. Moss litter has been found to have a good effect in improving the air, probably by absorbing ammonia.

In the last Mines Act a clause occurs by which it is ordered that stables must be ventilated by a current of air passing round them. This in the interests of the ponies is satisfactory, but if

Volume of Air measured by Anemometer.

——	——	Section Area of Course.
Cubic feet per minute	14,345	—
Moderately deep mine	14,784	—
,, ,,	12,730	—
,, ,,	13,065	—
,, ,,	9,900	—
,, ,,	8,000	—
,, ,,	7,590	—
Deep mine	50,400	16 × 7
,,	50,624	—
,,	51,520	—
,,	52,080	—

In the following Table the Effect of Underground Stables will be shown as regards CO_2 Oxydisable Matter and Micro-organisms.

Carbonic Acid per 1,000.	Oxygen per 1,000,000.	Microbes per Litre.	Remarks.
2.175	—	Countless	In stables.
0.489	—	—	Near bottom.
0.610	—	—	Past stables.
—	—	Sixteen points	Near stables
—	35 vols.	—	—
—	Matchless	Countless	In stables.
1.757	16	—	Front of stables.
1.778	20	—	Past stables.
2.205	27	—	Front of stables.
2.595	32	—	Past stables.
2.111	30	150 moulds, 50 bacteria	Stables.
1.454	10	Numerous moulds	,,
1.675	Matchless	30 moulds, 30 bacteria	1 horse in stable.
1.280	50	—	Outside stables.
2.586	Matchless	—	24 ponies in stables.
2.630	60	—	Ponies in stables.
2.209	45	—	Beyond stables.
2.796	30	—	Stables full.
3.025	60	—	12 ponies in stables.
2.404	—	—	Stables.
7.000	—	—	Stables in upcast.
7.8	—	—	—
1.15	—	—	Front of stables.
2.4	—	—	Past stables.

Table showing Effect of Distance.

Carbonic Acid per 1,000.	Oxygen per 1,000,000.	Microbes per Litre.	Remarks.
0.489	—	—	Near bottom.
0.610	—	—	Further in.
1.085	—	—	150 yards in.
2.55	—	—	2,000 ,,
2.59	—	—	,, ,,
1.906	—	—	,, ,,
1.339	—	—	,, ,,
2.112	34	—	1,700 ,,
2.868	25	—	1,900 ,,
0.964	11	25	100 ,,
1.641	13	30 bacteria, 10 moulds	400 ,,
1.822	50	—	—
1.637	60	—	700 yards in.
3.286	—	20	1,500 ,,
1.604	—	24	1,000 ,,
1.470	—	—	500 ,,
7.000	—	—	Temperature, 70° F.
4.209	—	—	1,500 yards in.
2.00	—	—	1,000 ,,
1.187	Matchless	—	100 ,,
1.653	33	—	,, ,,
5.182	40	None	Temperature, 70° F.
1.656	33	—	100 yards in.
3.025	60	—	Stables.
1.912	22	14 bacteria, 2 moulds	1,000 yards in.
1.266	32	—	100 ,,
—	52	—	400 ,,

the stables were better constructed and kept cleaner, the effect on the general conditions of the air would be beneficial.

These samples were taken from different mines. The shallow ones are the first on the list. The general effect will be seen in the almost uniform increase of the carbonic acid as the distance from the bottom of the downcast increases. In shallow pits the air at the bottom of the downcast is very good indeed, but in the deep pits I never found a sample as good as in a shallow one, as was to be expected. The oxydisable matter varies, but there are so many substances which act on the permanganate, that the effect must be variable. The micro-organisms do not seem to follow any fixed rule, as in one very bad sample as regards CO_2 there were none, and the next time I made an examination of the same air I got about twenty bacterial points per litre. Stagnation of air and high temperature are favourable circumstances to their growth, but the presence of horses or men is more so.

Table showing Relationship of CO_2 Oxygen per 1,000,000 Vols. and Microbes.

Carbonic Acid.	Oxygen per 1,000,000.	Microbes per Litre.
1.397	42	214 moulds 10 bacteria
2.111	30	150 ,, 50 ,,
5.812	—	63 ,,
—	20	41 ,,
1.267	—	26 ,,
0.820	—	16 ,,
0.811	—	25 ,,
2.175	—	countless
2.562	—	6 bacteria
2.303	—	5 ,,
8.790	—	0 ,,
2.630	30	—
2.209	45	—
2.796	30	—
1.187	matchless	—
2.856	39	—
1.352	15	—
1.912	22	16 bacteria
5.182	40	0 ,,
2.628	30	28 bacteria
0.964	11	25 ,,
1.454	10	countless
1.675	matchless	30 moulds 30 bacteria
2.063	34	17 ,,
1.641	13	10 moulds 30 bacteria
3.286	—	20 ,,
1.604	—	24 ,,
—	matchless	jelly liquid
6.000	—	5 moulds 4 bacteria
7.000	—	4 ,, 111 ,,
,,	—	5 ,, 20 ,,
1.912	22	2 ,, 14 ,,
2.628	30	4 ,, 24 ,,
2.4	—	25 ,,
2.517	—	—
1.358	—	—
2.872	—	—
2.832	—	4 moulds 10 bacteria
2.4	—	—
1.15	—	3 ,,
4.445	—	3 ,, 20 ,,

In the following table the carbonic acid is alone estimated, and the samples do not represent the condition of mines seeing that they were collected in "wastes," upcast shafts, and generally where no work was going on. The effect of barometric depression was noted on several occasions; samples were collected always at the same place in a mine, and compared with samples collected when the barometer was steady or standing high.

Those are exceptionally high results, and they do not represent the average condition of mines. In the case of the last estimation, which gave 80 CO_2 per 1,000 volumes of air, the sample was taken from a mine which had been purposely closed for a month or two, and as nearly hermetically as possible, so as to damp off a burning seam by using up the oxygen and developing carbonic acid. In practice this method alone is found sufficient. Before the place was opened I warned the workmen of the danger of going in. Lights went out at once when introduced. No one ventured in, but still it was possible to collect the samples I got, from the fact that a current of fresh air passed up to the door which closed up the mine. The bottles were introduced through this and emptied of their contained water—the only method applicable in this case.

The sample which shows 11.050 per 1,000, had a history attached to it, as in the place where it was collected, an hour before a man had succumbed to the poisonous gases given off from the burning seam referred to. The air here smelt of the combustion of coal, paraffin or naphtha being the worst apparent. The quantity of carbonic acid, though large, doubtless did not cause death, but as there would be carbonic oxide as well, the cause of death was not far to seek. Lamps burnt well enough, and this would probably be assisted by some marsh gas given off from the burning coal. The effect of these gases on individuals is peculiar; some men were overcome at once, others were not very susceptible.

Carbonic Acid.	Remarks.
5.812	Made in waste, no current, lamps dim
3.811	In mine after explosion of blasting powder
3.4	Upcast shaft.
3.5	,, ,,
4.066	,, ,,
4.012	,, ,,
11.050	Taken in mine where fatal case had occurred
3.025	In stables with twelve ponies in
5.182	In foul shaft, 1,500 yards in
3.377	—
6.000	Bottom of upcast shaft
7.000	,, ,, ,,
3.286	1,500 yards from bottom of shaft
7.000	Barometer rising after fall
4.579	Low barometer
4.8	,, ,,
7.581	,, ,,
7.261	Barometer rising after severe fall
6.999	,, ,, ,,
5.182	Barometer high
20.000	Air passing from burning seams
80.000	Air in mine closed for burning seam

Table showing Percentage of Oxygen.

Oxygen per Cent.	Remarks.
20.3	Sample taken 1,500 yards from downcast
20.2	,, 1,000 ,,
20.6	Bottom of pit
20.3	Stables in pit
20.4	50 yards from bottom
20.3	,,
20.1	Bottom of upcast shaft
19.8	Stables in upcast pit, temperature 68° F.
20.4	Sample 1,500 yards from downcast
20.6	,, 1,000 ,,
20.6	,, 500 ,,
20.0	,, 1,000 yards in, temperature 70° F.
18.0	Stythe from burning coal
20.4	1,500 yards from downcast
19.9	Outside stables in upcast pit
19.4	Inside ,,
19.1	1,000 yards in upcast, temperature 70° F.
18.9	,, ,, ,,
4.0	In this sample there was 80 per cent. of CO_2. Seams on fire and section built up

Results Compared.

Carbonic Acid per Cent.	Oxygen per 1,000,000 volumes.	Oxygen per Cent.	Situation.	Authority.
0.181	30	—	shallow mines	—
0.219	39	20.40	deep mines	—
—	—	20.36	,,	Smith
0.785	—	—	—	,,
0.10	—	—	barracks	Chaumont
0.216	—	—	schools	Endeman
0.245	—	—	,,	Weaver
0.112	—	—	one-room house	Carnelley
0.099	—	—	two ,,	,,
0.077	—	—	four ,,	,,
0.186	—	—	school	,,
0.123	—	—	,,	,,
0.133	—	—	factory	,,

Table showing Average of Results.

	Per Cent.
Carbonic acid in moderately deep mines	0.181
Carbonic acid in deep mines over 100 fathoms	0.219
Oxygen in deep mines	20.40
Oxygen required to oxidise 1,000,000 volumes of air:	
Moderately deep mines	30
Deep mines	39

As I accompanied the rescue party with the hope that artificial respiration might not be too late to restore the man, I can speak from experience of the effect produced.

The action of the heart was increased, not from the excitement of the situation, I believe, as I again experienced this on a second visit, some slight oppression of breathing and giddiness, and a tightness over the forehead as long as I remained in the foul place. There was not much else to be felt, but on reaching the fresh air there was very marked giddiness, weak fluttering action of the heart, and almost syncope, followed by severe headache and thirst. The experience of others was similar, with pain in the loins and loss of power of the limbs, and, in those overcome, unconsciousness and vomiting on return to consciousness. Those symptoms look like poisoning by carbon disulphide, and no doubt this is present in the stythe from the burning coal. In regard to the relationship that exists between barometric conditions and the presence of explosive gases in mines, it is usually stated that with a low barometer there is danger of explosions, but there is as much with a variable condition of the barometer, and especially with a rise subsequent to a low barometer. The mines I have examined are not fiery, hence I could not trace any relationship such as the above, and as there is no very good method of examining carburetted hydrogen accurately, I cannot speak regarding this connection; but assuming that carbonic acid gas might be used as an indicator of other gases, I have examined the quantities of carbonic acid at a fixed place at a mine under those varying conditions referred to, and I certainly found that with a low barometer, or with a rising one, I got much larger quantities present than when the barometer was steady or high. At the place I selected for testing the point, the quantity of carbonic acid usually found was from 3 to 4 volumes per 1,000 with a low barometer, or with a rising one after a fall I got from 5 to 7 volumes per 1,000. This part of the subject demands further attention, and which I hope yet to give it.

Micro-Organisms in Coal Mines.

Hesse's process is useful, both as a convenient method for collecting and estimating the number of colonies in a given quantity of air, but also we are enabled to observe any special features in the growth of these colonies, and from them further to make pure cultivations when so desired. The conditions of growth in the air of mines are totally different from those found above ground, the absence of sunlight, the presence of excessive moisture, and the different chemical nature of this underground atmosphere.

I have already stated that I did not find a uniform connection between impurity of air and quantity of organisms found. There seem to be various modifying circumstances contributing to these results. Where the current of air was strong there were usually few colonies found, and when the air was stagnant, there colonies were abundant. The presence of men and horses has a very great influence in affecting both the numbers and kind of colonies, increasing the former and varying the kind; where there were neither horses nor men, usually there was a crop of moulds; where men and horses were near, there bacteria were got.

General Description of Microbes found.

A. Sample made at upcast shaft, very foul air. The slides were mainly torulæ, mycelial filaments, bacilli subtiles, and some cocci. Number of colonies, 26.

B. Bottom of downcast. Torulæ and mycelial forms alone. Number of colonies, 15.

C. Upcast: bacilli, torulæ, and mucors.

D^2. Upcast in deep mine, very foul air. 5 penicillia, 4 bacteria.

E^2. Stables in upcast, air very bad. Moulds 10, bacteria 110.
Slides: bacilli, torulæ, and micrococci.
Cultivations: 1. Orange yellow in jelly.
2. Pure white.
3. „ „
4. Yellowish.

F^2. Bottom of upcast, foul air. Bacteria 20, moulds 5.
Slides: micrococci, torulæ, and bacilli.

G^2. Stables in downcast pit. 25 penicillia glauca.

H^2. 1,000 yards from downcast. 24 colonies.
In 10 slides: bacilli, micrococci.

I^2. 1,500 yards from downcast. Colonies 20.

K^2. 1,000 yards in. 24 points.

F. Sample made in stables.
In 10 slides there were bacilli, cocci, torulæ, and mycelial forms. Colonies countless.

G. Sample taken 1,000 yards from downcast. No work going on. Fans stopped.
In 6 slides there were mostly bacilli. 6 colonies in tube.

H. Same place as G.
In 5 slides: torulæ, micrococci, and a few bacilli. Colonies 5.

I. Sample taken in waste.
CO_2, 8 volumes per 1,000. Lamps scarcely would burn.
Slides: mostly penicillium glaucum. Colonies 62.

J. 1,000 yards from downcast. Colonies 12, bacterial moulds 8.
Slide 1: Micrococci in clusters and chains, in jelly, pale straw colour forming a very deep cup into jelly.
Slide 2: Large micrococci, bright orange in colour.
Slide 3: Micrococci, jelly liquid. Other slides: torulæ chiefly.

K. Sample near stables. 16 colonies in all; 4 of these moulds.
In 9 slides: micrococci and a few bacilli.

L. Sample in stables.
Slides: torulæ, micrococci, and bacilli.

M. Same place as L. Cocci, torulæ, and bacilli.

N. Made in stone mine, blind end, so little current two men working. Temperature 59° F. 41 colonies.
In 17 slides: bacilli, torulæ, cocci, and mycelial forms.

P. Sample 200 yards from downcast. 60 moulds, 4 bacterial growths.
Slide 1: long broad bacilli arranged in clusters show spores; others, cocci and torulæ.

Q. 500 yards from downcast. 8 moulds and 4 bacteria.

R. Made in stables. Colonies countless.

S. Bottom of pit. No work going on for four days; fan not going. Moulds 214, bacteria 10.
Slide 1: mycelial growth.
Slide 2: torulæ and bacilli, bright orange growth in tube cultivation.
Slide 3: pinkish growth in jelly, long bacilli at ends.
Slide 4: micrococci, white growth in jelly.
Slide 5: large micrococci, bright yellow growth in jelly.
Slide 6: orange growth in jelly, large micrococci.

T. Made in stables. Moulds 150, bacteria 50.
Slide 1: impure mycelia and micrococci.
Slide 2: micrococci, pearly white growth in jelly.
Slide 3: micrococci or torulæ, straw-coloured growth in jelly.
Slide 4: jelly liquefying micrococci.
Slide 5: large micrococci, orange growth in jelly.
Slide 7: large bacilli like bacillus anthracis, jelly liquid.
Slide 9: Straw-coloured growth, cup-shaped and yellow in colour; micrococci.
Slide 10: micrococci, jelly liquid.

U. Made in stables. Moulds countless.

V. Sample opposite stables in pit. 150 fathoms deep near downcast. 25 colonies.
Slides: bacilli and micrococci.

W. Stables of deep pit. Moulds 3, bacteria 30
Slides: bacilli, torulæ, and mucor growths.

X. Near downcast deep pit. 17 colonies.
Slides: micrococci, torulæ, and bacilli.
Cultivations four in number.

Y. Sample 400 yards from downcast. 10 moulds, 30 bacteria.
Slides: micrococci, torulæ.
Cultivations seven in number.

A^1. Sample made in *cul-de-sac* 1,000 yards from downcast. Moulds 4, bacteria 24.
Slides: nearly all micrococci.
Cultivations: 1. Pearly white growth on surface forming a ring round a central growth (drawing).
2. Delicate pink in jelly.
3. Liquefying.

B^2. 1,000 yards from downcast. Temperature 60° F. 14 colonies. bacilli and micrococci.

C^2. 1,500 yards in. No growth at all.

D^2. Made in upcast. 5 penicillia, 4 bacteria. Consisting of micrococci.

E^2. Stables in upcast. Moulds 10, bacteria 110.
Slides 8 in number, showing bacilli, torulæ, and micrococci.
Cultivations: 1. Impure.
2. Pure white growth in jelly, small round cocci.
3. Same as No. 2.
4. Yellow growth, cocci in clusters and chains.

F². Bottom of upcast. Bacteria 20, moulds 5.
In 10 slides: micrococci, torulæ, and bacilli.
H². 1,000 yards from downcast. 24 points.
10 slides: mostly micrococci; some show bacilli.
I². 100 yards from bottom of downcast. 4 points.
Slides show micrococci and mycelial forms.
K². Sample in stables. 30 penicillia, 20 bacteria.
8 slides: mostly micrococci and bacilli.

Underground Temperature.—I have already mentioned the plan that was adopted, and that the results are not intended to be at all strict meteorological records, but simply to show as near as possible the average temperature of a mine at a fixed time of the day. The thermometers, wet and dry bulb, were put in airway, through which the air coming from the surface had travelled 1,000 yards. The observations began in September, 1887, and terminated January, 1888.

Peculiarities of Records.—The highest temperatures recorded were on September 9th, when 55° F. was indicated at the thermometer above ground; in the mine the temperature was 55.5°. The lowest temperature above was on December 22nd, 25°; in the mine on the day the temperature was 53°. The smallest difference between the temperatures above and below occurred on September 9th, when the temperature in the mine was only half a degree higher than above ground. The greatest difference was on December 22nd, when the temperature was 28° higher below than on the surface. The highest temperature in the mine was 55.5°. The lowest temperature in the mine was 53°, and this temperature was recorded on twenty-one consecutive days, showing an extraordinary uniformity of temperature. The greatest difference below was 2.5°. The greatest difference above in two consecutive days was 14°, while below it was only 1°. The relative humidity below varied from 93° to 100°; practically the air is nearly always saturated. This excessive humidity is certainly not desirable from a sanitary point of view, but I do not know any bad consequence to the health of the miners. The uniformity of temperature is certainly favourable; there are not the great vicissitudes of temperature as above ground, nor the biting blasts.

It is a fact well known that ponies and horses soon improve in condition in mines; their coats shine in a way which can only occur with much grooming above ground, and which they certainly do not get below; and in spite of hard work I have known ponies to be 20 years below ground, and at a time when the ventilation was very bad and the working hours longer than now. The chart showing the whole range of temperatures from September to January will be found at the end of this report.

In the following Tables the Temperatures of Wet and Dry Bulb Thermometers on the Surface are compared with the Readings Below at a Distance of about 1,000 yards from Bottom of Pits.

Month.	Above.			Below.			Difference. Above.		Difference. Below.	
	Dry Bulb.	Wet Bulb.	Rel. Hum.	Dry Bulb.	Wet Bulb.	Rel. Hum.	Temp	R.H.	Temp.	R.H.
	°	°		°	°		°		°	
September 8	54.0	49.0	69	55.0	54.0	93	—	—	+ 1.0	+24
,, 9	55.0	54.0	93	55.5	54.5	93	—	—	+ 5.0	—
,, 10	48.0	46.3	86	55.0	54.0	93	—	—	+ 7.0	+ 7
,, 11	49.3	48.7	93	55.0	54.7	93	—	—	+ 5.7	—
,, 12	49.0	48.0	93	55.0	54.2	93	—	—	+ 6.0	—
,, 13	45.3	43.0	85	55.0	54.0	93	—	—	+ 9.7	+ 8
,, 14	49.0	47.5	86	55.0	54.0	93	—	—	+ 6.0	+ 7
,, 15	47.0	45.5	88	54.5	51.0	93	—	—	+ 7.5	+ 7
,, 16	47.7	46.5	93	55.0	54.5	93	—	—	+ 7.3	—
,, 17	52.0	50.1	86	54.5	54.0	93	—	—	+ 2.5	+ 7
,, 18	48.3	46.5	86	—	—	—	—	—	—	—
,, 19	49.0	47.0	86	54.5	54.0	93	—	—	+ 5.5	+ 7
,, 20	48.3	47.0	93	54.0	53.3	93	—	—	+ 5.7	—
,, 21	49.4	48.5	93	54.5	54.0	93	—	—	+ 5.1	—
,, 22	50.5	49.0	86	54.0	54.0	100	—	—	+ 3.5	+14
,, 23	50.0	49.1	93	55.0	54.3	93	—	—	+ 5.0	—
,, 24	48.0	47.5	86	54.5	54.3	93	—	—	+ 6.5	+ 7
,, 25	51.7	51.0	93	—	—	—	—	—	—	—
,, 26	53.2	53.2	100	54.5	54.0	93	—	+7	+ 1.3	—
,, 27	—	—	—	54.0	53.5	93	—	—	—	—
,, 28	41.0	40.0	92	53.5	53.0	93	—	—	+12.5	+ 1
,, 29	48.5	48.3	100	54.0	53.5	93	—	+7	+ 5.5	—
,, 30	50.0	48.0	86	54.0	53.5	93	—	—	+ 4.0	+ 7
October 1	45.3	45.0	100	54.0	53.5	93	—	+7	+ 8.7	—
,, 2	—	—	—	—	—	—	—	—	—	—
,, 3	—	—	—	54.0	53.7	100	—	—	—	—

Month.	Above.			Below.			Difference. Above.		Difference. Below.	
	Dry Bulb.	Wet Bulb.	Rel. Hum.	Dry Bulb.	Wet Bulb.	Rel. Hum.	Temp	R. H.	Temp.	R. H.
	°	°		°	°		—	—	°	
October 4	46.0	44.5	86	54.0	53.5	93	—	—	+ 8.0	+ 7
,, 5	46.5	45.3	93	54.0	53.5	93	—	—	+ 7.5	—
,, 6	49.0	48.0	93	54.0	53.5	93	—	—	+ 5.0	—
,, 7	45.0	44.5	92	54.0	53.5	93	—	—	+ 9.0	+ 1
,, 8	40.0	39.0	92	54.0	53.0	93	—	—	+14.0	+ 1
,, 9	38.5	37.5	91	—	—	—	—	—	—	—
,, 10	—	—	—	53.5	53.0	93	—	—	—	—
,, 11	35.0	33.3	80	53.5	53.0	93	—	—	+18.5	+13
,, 12	34.0	32.0	79	53.0	53.0	93	—	—	+19.0	+14
,, 13	40.0	38.0	84	53.0	52.5	93	—	—	+13.0	+ 9
,, 14	39.0	37.0	84	53.0	52.5	93	—	—	+14.0	+ 9
,, 15	36.5	34.3	82	53.0	52.5	100	—	—	+16.5	+18
,, 16	38.0	36.0	83	—	—	—	—	—	—	—
,, 17	36.0	35.0	91	54.0	53.0	93	—	—	+18.0	+ 2
,, 18	46.7	46.0	93	54.0	53.0	93	—	—	+ 7.3	—
,, 19	46.0	44.0	86	54.0	53.5	93	—	—	+ 8.0	+ 7
,, 20	48.7	46.0	79	54.0	53.5	93	—	—	+ 5.3	+14
,, 21	36.3	35.0	91	54.0	53.0	95	—	—	+17.7	+ 2
,, 22	42.0	40.0	84	54.0	53.0	93	—	—	+12.0	+ 9
,, 23	48.0	47.5	100	54.0	54.0	100	—	—	+ 6.0	—
,, 24	34.0	31.0	72	53.0	52.5	93	—	—	+19.0	+21
,, 25	33.5	31.0	78	53.5	53.0	93	—	—	+20.0	+15
,, 26	40.0	37.0	77	53.0	53.0	100	—	—	+13.0	+23
,, 27	49.0	49.0	100	54.0	53.0	93	—	+7	+ 5.0	—
,, 28	46.0	44.0	86	54.0	53.0	93	—	—	+ 8.0	+ 7
,, 29	40.3	40.0	100	54.0	53.0	93	—	+7	+13.7	—
,, 30	38.2	37.2	93	—	—	—	—	—	—	—
,, 31	40.1	39.9	100	54.0	53.0	93	—	+7	+13.9	—
November 1	43.7	41.0	78	54.0	53.5	93	—	—	+10.3	+15
,, 2	43.0	41.5	84	54.0	53.0	93	—	—	+11.0	+ 9
,, 3	41.5	40.0	100	53.0	52.5	93	—	+7	+11.5	—
,, 4	37.3	37.0	100	53.0	52.5	93	—	+7	+15.7	—
,, 5	—	—	—	54.0	53.0	93	—	—	—	—
,, 6	43.0	43.0	100	—	—	—	—	—	—	—
,, 7	43.0	43.0	92	54.0	53.0	93	—	—	+11.0	+ 1
,, 8	44.0	44.0	100	54.0	53.0	93	—	+7	+10.0	—
,, 9	41.1	41.0	100	54.0	53.0	93	—	+7	+12.9	—
,, 10	36.0	35.0	91	54.0	53.0	93	—	—	+18.0	+ 2
,, 11	39.1	39.0	92	53.0	53.0	100	—	—	+13.9	+ 8
,, 12	37.5	36.0	91	53.0	53.0	100	—	—	+15.5	+ 9
,, 13	37.5	36.1	91	—	—	—	—	—	—	—
,, 14	34.0	33.0	89	54.0	54.0	93	—	—	+20.0	+ 4
,, 15	28.0	27.0	93	53.0	53.0	100	—	—	+25.0	+ 7
,, 16	34.0	33.8	100	53.0	53.5	100	—	—	+19.0	—
,, 17	39.5	37.0	84	53.0	53.0	100	—	—	+13.5	+16
,, 18	35.0	34.0	90	53.0	53.0	100	—	—	+18.0	+10
,, 19	36.0	35.8	100	54.0	53.0	93	—	+7	+18.0	—
,, 20	35.0	34.0	90	54.0	54.0	100	—	—	+19.0	+10
,, 21	36.2	36.0	100	54.0	53.0	100	—	—	+16.8	—
,, 22	39.0	39.0	100	53.0	53.0	100	—	—	+14.0	—
,, 23	36.5	35.0	91	54.0	53.0	93	—	—	+17.5	+ 2
,, 24	34.0	33.5	100	53.0	53.0	100	—	—	+19.0	—
,, 25	36.0	35.0	91	53.0	52.5	100	—	—	+17.0	+ 9
,, 26	48.0	47.0	93	53.0	53.0	100	—	—	+ 5.0	+ 7
,, 27	40.5	39.0	100	53.0	53.0	100	—	—	+12.5	—
,, 28	36.5	36.0	100	53.0	53.0	100	—	—	+16.5	—
,, 29	32.0	31.5	100	53.0	53.0	100	—	—	+21.0	—
,, 30	33.0	32.5	100	53.0	53.0	100	—	—	+20.0	—
December 1	47.0	46.0	93	53.0	53.0	100	—	—	+ 6.0	+ 7
,, 2	45.0	45.0	100	53.0	53.0	100	—	—	+ 8.0	—
,, 3	45.1	45.1	93	53.0	53.0	100	—	—	+ 7.9	+ 7
,, 4	35.0	35.0	100	53.0	53.0	100	—	—	+18.0	—
,, 5	35.0	35.0	100	53.0	53.0	100	—	—	+18.0	—
,, 6	41.0	40.0	92	53.0	52.5	100	—	—	+12.0	+ 8
,, 7	31.5	31.0	100	53.0	53.0	100	—	—	+21.5	—
,, 8	32.5	31.5	100	53.0	53.0	100	—	—	+21.0	—
,, 9	34.0	34.0	100	53.0	53.0	100	—	—	+19.0	—
,, 10	27.0	—	—	53.0	52.0	93	—	—	+26.0	—
,, 11	25.0	—	—	—	—	—	—	—	—	—
,, 12	29.0	—	—	53.0	52.5	100	—	—	+24.0	—
,, 13	40.0	39.0	92	53.0	53.0	100	—	—	+13.0	+ 8
,, 14	35.0	34.5	100	53.0	53.0	100	—	—	+18.0	—
,, 15	36.0	35.0	91	53.5	53.0	100	—	—	+17.5	+ 9
,, 16	41.0	41.0	100	53.0	53.0	100	—	—	+12.0	—
,, 17	37.0	35.0	83	53.0	53.0	100	—	—	+16.0	+17
,, 18	—	—	—	—	—	—	—	—	—	—
,, 19	30.0	—	—	53.0	53.0	100	—	—	+23.0	—
,, 20	34.0	33.0	—	53.0	53.0	100	—	—	+19.0	—
,, 21	30.0	30.0	—	53.0	53.0	100	—	—	+23.0	—
,, 22	25.0	25.0	—	53.0	53.0	100	—	—	+28.0	—
,, 23	28.0	—	—	53.0	53.0	100	—	—	+25.0	—
,, 24	34.0	32.0	79	53.0	53.0	100	—	—	+19.0	+21
,, 25	—	—	—	—	—	—	—	—	—	—
,, 26	34.0	33.5	100	53.0	53.0	100	—	—	+19.0	—
,, 27	31.5	31.0	100	53.0	53.0	100	—	—	+21.5	—
,, 28	36.5	35.0	91	53.0	53.0	100	—	—	+16.5	+ 9
,, 29	30.0	—	—	53.0	53.0	100	—	—	+23.0	—
,, 30	33.0	32.0	89	53.0	53.0	100	—	—	+20.0	+11
,, 31	31.0	31.0	—	53.0	53.0	100	—	—	+22.0	—
January 1	31.5	31.5	—	—	—	—	—	—	—	—
,, 2	29.0	29.0	—	—	—	—	—	—	—	—

Month.		Above.			Below.			Difference. Above.		Difference. Below.	
		Dry Bulb.	Wet Bulb.	Rel. Hum.	Dry Bulb.	Wet Bulb.	Rel. Hum.	Temp	R. H.	Temp.	R. H.
		°	°		°	°		°		°	
January	3	33.0	32.0	—	—	—	—	—	—	—	—
,,	4	46.0	45.0	—	53.5	53.0	100	—	—	+ 7.5	—
,,	5	40.0	40.0	100	54.0	53.0	93	—	+7	+14.0	—
,,	6	36.0	35.5	100	53.5	53.0	100	—	—	+17.5	—
,,	7	40.2	40.0	100	54.0	53.5	100	—	—	+13.8	—
,,	8	48.0	48.0	100	—	—	—	—	—	—	—
,,	9	47.0	46.8	100	54.0	53.5	100	—	—	+ 7.0	—
,,	10	—	—	—	54.0	53.5	100	—	—	—	—

In the following Tables, Readings of Wet and Dry Bulbs, Thermometers on Surface are compared with Readings made at the Bottom of Pit.

Month.		Above.			Below.			Difference. Above.		Difference. Below.	
		Dry Bulb.	Wet Bulb.	Rel. Hum.	Dry Bulb.	Wet Bulb.	Rel. Hum.	Temp	R. H.	Temp.	R.H.
		°	°		°	°		°		°	
January	11	44.0	43.5	100	54.0	53.5	100	—	—	+10.0	—
,,	12	33.5	33.0	89	53.5	53.0	93	—	—	+20.5	+4
,,	13	35.0	34.5	100	53.5	53.0	93	—	+7	+18.5	—
,,	14	35.0	34.5	100	54.0	53.5	100	—	—	+19.0	—
,,	15	—	—	—	—	—	—	—	—	—	—
,,	16	35.0	34.5	100	44.5	44.0	92	—	+8	+ 9.5	—
,,	17	33.0	32.5	100	41.0	40.5	100	—	—	+ 8.0	—
,,	18	33.5	33.0	89	42.0	41.0	92	—	—	+ 8.5	+3
,,	19	24.0	24.0	100	38.0	37.5	100	—	—	+14.0	—
,,	20	32.5	32.0	89	40.5	40.0	92	—	—	+ 8.0	+3
,,	21	42.0	41.0	92	44.0	43.5	100	—	—	+ 2.0	+8
,,	22	—	—	—	—	—	—	—	—	—	—
,,	23	44.5	44.0	92	47.0	46.5	100	—	—	+ 2.5	+8
,,	24	46.0	45.0	93	48.0	47.5	100	—	—	+ 2.0	+7
,,	25	47.0	46.0	93	48.0	47.5	100	—	—	+ 1.0	+7
,,	26	38.0	37.0	91	45.0	44.0	92	—	—	+ 7.0	+1
,,	27	33.0	32.0	89	42.0	41.0	92	—	—	+ 9.0	+3
,,	28	28.0	27.0	—	38.0	37.0	91	—	—	+10.0	—
,,	29	—	—	—	—	—	—	—	—	—	—
,,	30	31.0	30.0	—	38.0	37.0	91	—	—	+ 7.0	—
,,	31	32.5	31.5	89	40.5	40.0	92	—	—	+ 8.0	+3
February	1	29.0	28.0	—	39.0	38.0	92	—	—	+10.0	—
,,	2	31.0	30.0	—	38.0	37.5	100	—	—	+ 7.0	—
,,	3	38.0	37.0	91	39.0	38.5	100	—	—	+ 1.0	+ 9
,,	4	41.0	40.0	92	46.0	45.5	100	—	—	+ 5.0	+ 8
,,	5	—	—	—	—	—	—	—	—	—	—
,,	6	42.0	41.0	92	49.0	48.0	93	—	—	+ 7.0	+ 1
,,	7	38.0	37.0	91	48.0	47.5	100	—	—	+10.0	+ 9
,,	8	44.0	43.0	92	49.5	49.0	93	—	—	+ 5.5	+ 1
,,	9	38.0	37.0	91	45.0	44.5	100	—	—	+ 7.0	+ 9
,,	10	35.0	34.0	90	44.0	43.5	100	—	—	+ 9.0	+10
,,	11	31.0	30.0	—	42.0	41.5	100	—	—	+11.0	—
,,	12	—	—	—	—	—	—	—	—	—	—
,,	13	32.0	31.0	87	42.5	42.0	92	—	—	+10.5	+ 5
,,	14	30.0	29.0	—	40.5	40.0	92	—	—	+10.5	—
,,	15	30.0	29.0	—	40.5	40.0	92	—	—	+10.5	—
,,	16	28.0	27.0	—	39.0	38.5	100	—	—	+11.0	+13
,,	17	32.0	31.0	87	40.0	39.5	100	—	—	+ 8.0	+13
,,	18	34.0	32.0	79	42.5	42.0	92	—	—	+ 8.5	+13
,,	19	33.0	32.0	89	41.5	41.0	92	—	—	+ 8.5	+11
,,	20	33.0	32.0	89	42.0	41.5	100	—	—	+ 9.0	+13
,,	21	32.0	31.0	87	41.0	40.5	100	—	—	+ 9.0	+13
,,	22	32.0	31.0	87	41.0	40.5	100	—	—	+ 9.0	—
,,	23	31.0	30.0	—	40.5	40.0	92	—	—	+ 9.5	—
,,	24	32.0	31.0	87	41.0	40.5	100	—	—	+ 9.0	+13
,,	25	28.0	27.0	—	39.5	39.0	92	—	—	+11.5	—
,,	26	—	—	—	—	—	—	—	—	—	—
,,	27	37.0	36.0	91	46.0	45.5	100	—	—	+ 9.0	+ 9
,,	28	36.0	35.0	91	45.5	45.0	93	—	—	+ 9.5	+ 2
,,	29	34.0	33.0	89	44.5	44.0	92	—	—	+10.5	+ 3
March	1	35.0	34.0	90	44.5	44.0	92	—	—	+ 9.5	+ 2
,,	2	33.0	32.0	89	43.0	42.5	100	—	—	+10.0	+11
,,	3	32.0	31.0	87	41.0	40.5	100	—	—	+ 9.0	+13
,,	4	—	—	—	—	—	—	—	—	—	—
,,	5	31.0	30.0	—	39.0	38.5	100	—	—	+ 8.0	—
,,	6	37.0	36.0	91	44.5	44.0	92	—	—	+ 7.5	+ 1
,,	7	45.0	44.0	92	45.0	44.5	100	—	—	—	+ 8
,,	8	46.0	45.0	93	45.0	44.5	100	+1	—	—	+ 7
,,	9	47.0	46.0	93	48.0	47.5	100	—	—	+ 1.0	+ 7
,,	10	47.0	46.0	93	48.0	47.5	100	—	—	+ 1.0	+ 7
,,	11	—	—	—	—	—	—	—	—	—	—
,,	12	29.0	28.0	—	40.5	40.0	92	—	—	+11.5	—
,,	13	31.0	30.0	—	42.0	41.5	100	—	—	+11.0	—
,,	14	29.0	28.0	—	40.0	39.5	100	—	—	+11.0	—
,,	15	29.0	28.0	—	41.0	40.5	100	—	—	+12.0	—

Month.		Above.			Below.			Difference. Above.		Difference. Below.	
		Dry Bulb.	Wet Bulb.	Rel. Hum.	Dry Bulb.	Wet Bulb.	Rel. Hum.	Temp	R H..	Temp.	R. H.
		°	°		°	°				°	
March	16	27.0	26.0	—	39.0	38.5	100	—	—	+12.0	—
,,	17	26.0	25.0	—	39.0	38.5	100	—	—	+13.0	—
,,	18	—	—	—	—	—	—	—	—	—	—
,,	19	35.0	34.0	90	41.5	41.0	92	—	—	+ 6.5	+ 2
,,	20	34.0	33.0	89	41.0	40.5	100	—	—	+ 7.0	+11
,,	21	39.0	37.0	84	46.0	45.5	100	—	—	+ 7.0	+16
,,	22	40.0	39.0	92	47.0	46.0	93	—	—	+ 7.0	+ 1
,,	23	38.0	37.0	91	45.0	44.5	100	—	—	+ 7.0	+ 9
,,	24	41.0	40.0	92	46.0	45.5	100	—	—	+ 5.0	+ 8
,,	25	—	—	—	—	—	—	—	—	—	—
,,	26	40.0	39.0	92	44.5	44.0	92	—	—	+ 4.5	+ 8
,,	27	42.0	41.0	92	46.0	45.5	100	—	—	+ 4.0	—
,,	28	41.0	40.0	92	54.0	43.0	92	—	—	+ 3.0	+ 8
,,	29	43.0	42.0	92	45.0	44.5	100	—	—	+ 2.0	+ 8
,,	30	42.0	41.0	92	43.0	42.5	100	—	—	+ 1.0	+ 8
,,	31	41.0	40.0	92	42.0	41.5	100	—	—	+ 1.0	+ 8
April	1	—	—	—	—	—	—	—	—	—	—
,,	2	43.0	40.0	78	42.0	41.5	100	+1	—	—	+22
,,	3	42.0	40.0	84	42.0	41.5	100	—	—	—	+16
,,	4	43.0	41.0	84	43.0	42.0	92	—	—	—	+ 8
,,	5	45.0	43.0	85	43.0	42.5	100	+2	—	—	+15
,,	6	48.0	47.0	93	45.0	44.5	100	+3	—	—	+ 7
,,	7	46.0	44.0	86	45.0	44.5	100	+1	—	—	+14
,,	8	—	—	—	—	—	—	—	—	—	—
,,	9	41.0	39.5	92	44.0	43.5	100	—	—	+ 3.0	+ 8
,,	10	45.0	44.0	92	46.0	45.5	100	—	—	+ 1.0	+ 8
,,	11	47.0	43.0	73	47.0	46.5	100	—	—	—	+27
,,	12	48.0	43.0	67	45.0	44.5	100	+3	—	—	+33
,,	13	47.0	45.0	86	47.0	46.5	100	—	—	—	+14
,,	14	46.0	44.0	86	47.0	46.5	100	—	—	+ 1.0	+14

Opinions regarding Miners' Occupation.—In endeavouring to ascertain what are the opinions regarding the effect of the conditions of employment peculiar to miners, it is found that reference must be made to periods about twenty-five years back, so that these are not likely to apply to the conditions of the present time, owing to circumstances which have been already referred to.

In Sir John Simon's *Public Health Reports*, published by the Sanitary Institute of Great Britain, we have the benefit of his unrivalled experience of the causes that act in producing disease over long periods in England and Wales; and on page 37 in vol. ii we find the following remarks on the effect of occupation on the health of miners: "The miner, like the indoor operative, often spends his day in an ill-ventilated workplace. But the non-ventilation from which he suffers is associated in its existence and in its consequences with conditions special to the subterranean employment, and far more complex than those which belong to the non-ventilation of common workplaces. The air in which he works is air which, for his safety's sake, ought pre-eminently to be ventilated; for in most cases, not only the exhalations of human labour, but gases indigenous of the mine earth, or gases from gunpowder burnt in rock-blasting, tend incessantly to gather round him at his work as an atmosphere quite unfit for respiration." Further, the report goes on to say: "The air in ill-ventilated mines must be very greatly more impure than the air of ill-ventilated above-ground places, so considerable must be its defect of oxygen, so considerable its excess of carbonic acid, not only must it be insufficient, often almost urgently insufficient, for healthy respiration. And the same air, besides being chemically insufficient for respiration, also carries with it into the miners' lungs more or less irritant material—material which, though the air were ever so well oxygenated, would itself tend to produce bronchitis, namely, soot, grit, and the acid fumes of combustion."

Sir John goes on to discuss the conditions of health experienced in miners; bronchitis, asthma, phthisis, and cardiac disease, with the exception—and a very important exception—of the miners of Northumberland and Durham. It was found that they did not suffer from any diseases special to their employment, or in excess of other workmen. The explanation given of these striking exceptions is that these two northern counties had good ventilation in their mines. Sir John further quotes the good effect of sufficient ventilation in some Welsh mines, where the miners were reported by the manager, by the surgeon, and by some of the men themselves, to be nearly exempt from miners' asthma. Quotations might be made of opinions given by other writers, but these are generally founded on Simon's report, and the point seems to be

abundantly proved that, twenty-five years ago, at any rate, the air of mines was bad, and the effect on the health of the miners was correspondingly bad.

In the succeeding tables facts of considerable importance are brought out. In the parish of Beath we have a mean death-rate from phthisis for both sexes of 1.33 for 1,000 living. For males for the same years the mortality was 1.01, and for females 1.72. If occupation had any effect in causing an increased mortality in miners, then we would have expected a higher mortality amongst males than females. But the opposite is the case, and this in a population where adult males are almost entirely miners. The general condition of the parish is not at all favourable to a low mortality from phthisis, the soil being stiff clay, as a rule, and very wet, marshy in many places, and liable to be swept by cold winds, there being very little shelter either from trees or hills. The housing is also indifferent, and overcrowding prevails to a considerable extent. Those conditions might be expected to lead to a higher death-rate from phthisis, even without the influence of occupation. When we compare the phthisis death-rate with other places, we find, from Farr's statistics, that in years 1850-54 there was a mean mortality from phthisis of 2.811, in 1855-57 a mortality of 2.683, and in years 1857-63 a mortality of 2.574; and in Scotland, from 1858 to 1861, a mortality of 3 per 1,000, for Leith 2 per 1,000, and for Glasgow 4 per 1,000 living.

It will be at once seen that these rates exceed very much the death-rates from phthisis in an almost purely mining district. Although we have thus a low mortality from phthisis, of course it might be that the effect of occupation might show itself in increased deaths from other causes. A reference to other tables will show that for the same periods as already given, the mortality from all causes given in the mean was 15.79 per 1,000 living, and this, of course, is a tolerably low mortality. Comparing this rate with the rate for all England for twelve periods, we find that the rate of the latter exceeds this by about 4 deaths per 1,000. Coming to the last column, we have the mean age at death of miners, and the average for twelve years, we find, is 43.1. In the list of deaths I found that one miner died at the age of 86, one at 74, another at 73, and several at 69; and those men were miners when the conditions of occupation were much more unfavourable than those experienced at the present day.

Deaths in Parish of Beath from Phthisis from year 1876 to 1887, according to Sex. Total Mortality. Mean Age at Death.

Year.	Deaths per 1,000. Phthisis: Males.	Deaths per 1,000. Phthisis: Females.	Deaths per 1,000. Phthisis: Both Sexes.	Per 1,000 Deaths. All Causes.	Miners. Mean Age Deaths.
1876	1.213	0.991	1.113	16.6	43.5
1877	1.555	0.999	1.283	18.1	43
1878	0.375	0.461	0.412	17.6	37.3
1879	0.723	0.443	0.597	10.3	47.2
1880	0.349	1.691	0.956	15.1	40.5
1881	1.677	2.031	1.837	16.5	32.8
1882	1.62	1.592	1.592	15.5	53
1883	1.567	2.042	2.042	17.6	39.6
1884	0.000	1.147	1.147	15.4	51.7
1885	0.584	1.113	1.113	14.4	48
1886	1.147	1.698	1.698	14	49.7
1887	1.398	2.272	2.272	18.4	41.1
Mean for 12 years.	1.01	1.72	1.33	15.79	43.1

Average Annual Rate of Mortality to 1,000 Living from Phthisis in England for Three Periods.

Years.	Lung-Diseases.	Phthisis.	Increase.
1850-54	2.769	2.811 ...	—
1855-57	3.163	2.683 ...	0.206
1857-63	3.809	2.574 ...	0.097

Rate from Phthisis in Scotland.

Years.	Scotland.	Leith.	Glasgow.
1858-61	3	2 ...	4

General Considerations and Conclusions.—From comparison of the state of air in coal mines with that in one-room houses, schools naturally ventilated, and manufactories, it will be admitted that it is wonderfully good. The problem of mine ventilation is a difficult one, but by the use of fans it has been solved to a certain and large extent. It would not be easy, if possible, to ensure that the air of mines would be as pure as the air above ground, as so many causes are co-operating to vitiate mine air—respiration and excretions of men and horses; combustion of powder, oil, and tallow; the exudation of gases peculiar to the various minerals met with in mines; and the decomposition of wood. To keep the products of all these in moderation a large and ever-moving volume of air must pass in and out of the mine. The sectional area of the air shaft would have to be much larger than present uses demand if the impurities were to be reduced to the quantity found in pure air, but the present system might, in my mind, be much improved by attention to some points which have struck me in the present inquiry, and which I now venture to suggest to those concerned.

The miner spends about one-third of each day in the mine, and we may assume that about one-third of his excreta pass into the mine, and there remain as a source of pollution for an indefinite time. Horses are at all times in the mine, and their excreta are constantly polluting the air, and this cannot even partially be avoided. The evil produced by the former might be diminished by the use of some form of earth closet, small coal or coal dust taking the place of earth. The receptacles could be removed daily or weekly, according to circumstances. This proposal may not strike a coal owner or manager as being practicable, but it is very simple and to a certain extent it would diminish the difficulties and the cost of ventilation. As regards pollution by horses, it is not convenient always to have stables in the upcast shaft, but for the sake of the air they should be; for the sake of the horses the stables are better in the downcast, as where the stables are in the upcast pit experience proves that they do not live so long as in the downcast. Wherever the stables are, means should be taken to purify them; impermeable floors which can be washed out with water, lime-washed walls, and careful attention to daily cleaning out of litter, would all help the problem of ventilation.

Natural means should assist artificial; thus, if the mouth of the upcast shaft were bell-shaped, and by a weather-cock arrangement made so as not to face the wind, its aspirating action would assist the fan instead of rather opposing it, as it does with the present system; and in the case of the downcast a sail or brattice might be so arranged as to promote the down current. Further, in the case of the downcast, all sources of vitiation should be removed from near its mouth, such as tar, oil, paraffin, etc., and there should be no chance of currents passing from the furnace holes down the shaft.

The Work of the Miner and its Effects.—Twenty years ago air was very bad in mines; ventilation was almost unknown, and the hours were very long. Nowadays the air is generally good; ventilation is efficiently carried on, and hours of work are short. The miner works hard whilst at his work, but he has short hours and many holidays. In the tables of statistics I have shown that phthisis, contrary to general opinion, is not a common disease amongst miners; and my own everyday experience for ten years in a large mining population supports those tables. In fact, I know of no disease peculiar to miners, or any disease in excess existing among miners. I have also consulted many other medical men practising amongst colliers, and their opinion coincides with my own. In conclusion, I have to state, as my belief, that the conditions connected with miners' occupation are as favourable to health as those in the occupation of any other workmen, and this opinion is borne out by the vital statistics quoted.

REPORT ON MORPHOLOGICAL CHANGES THAT OCCUR IN THE HUMAN BLOOD DURING COAGULATION.

By Professor JOHN BERRY HAYCRAFT,
AND
E. W. CARLIER, M.B.,
Physiological Laboratory, University of Edinburgh.

Dr. Freund and Professor Haycraft,[1] working independently, have succeeded in keeping blood in a fluid state when removed from the circulation.

Dr. Freund found that if he smeared a glass vessel with vaseline, and carefully received blood into it through a greased cannula in direct communication with the artery of an animal, he could, by covering the blood so obtained with a layer of liquid paraffin, keep it from coagulating for several hours.

[1] An Account of some Experiments which show that Fibrin Ferment is absent from Circulating Blood-plasma, *Proc. Roy. Soc. Edin.*, July, 1887, and *Jour. Anat. and Phys.*, vol xxii.

Professor Haycraft found that by allowing blood to drop through a layer of liquid paraffin on to greased mica plates, he could keep the drops liquid for some time. Care had to be taken in these experiments to prevent the blood from coming into contact with a foreign body, such as a knife. This was done by everting the cut end of the vein from which the blood was to be taken over a short glass tube, the blood escaping directly into the paraffin without touching the cut edge of the vein.

Professor Haycraft also succeeded in keeping the blood fluid by pouring into a venous capsule containing some blood a large quantity of a mixture of vaseline and paraffin, and shaking this mixture from time to time with the blood. In this way blood globules were isolated by the paraffin from contact with the vascular wall. They remained fluid for some hours.

In principle all of these methods are the same. In all cases the blood is surrounded by *fluid* of a surface-tension different from its own, and which does not mix with it.

These experiments support a theory that Sir Joseph Lister advanced with so much argument and experimental evidence—namely, that blood does *not tend* to coagulate within the body; and that, when it clots in a cup or in contact with any solid matter, the clotting is brought about by the action of the solid itself on the blood.

Of course, if the blood can be removed from the body and kept in a fluid state in oil, there is no reason to agree with Sir Astley Cooper that, within the body, the vitality of the vessels prevents its coagulation.

These experiments bring one to the threshold of a most interesting inquiry as to what can be the action of a chemically inert solid—it may be a piece of metal, glass, or porcelain—when it produces, by mere contact, such important changes in the blood. The writers of this communication have set themselves to answer this question.

The methods already described for keeping blood fluid outside the body could not, for obvious reasons, be applied to the human subject, and it was our wish to obtain some method by means of which we could experiment with our own blood, and one which might be available clinically.

After some experimentation we elaborated the following method, which exceeded the anticipations we had formed of it.

This method consists in receiving a drop of blood from a carefully greased finger into a viscous fluid. The drop will sink slowly, owing to the viscosity of the fluid; and by reversing the vessel backwards and forwards it may be kept in the fluid and away from the sides of the vessel for a considerable time.

The apparatus consists in a straight cylindrical vessel one inch and a half in diameter and about a foot in length, closed at one end, and open at the other. The edge of the open end is ground perfectly level, so that a plate of glass may be adapted accurately to it.

This apparatus, having been placed with its closed end downwards, is carefully filled with castor-oil, a very viscous fluid, care being taken to prevent bubbles of air from being carried down into the tube with the oil. When the tube is completely filled with oil, blood is introduced into it in the following way:—The finger, having been rendered turgid by a bandage, is well smeared with some of the oil and plunged into the vessel; a needle is introduced, and the finger pricked beneath the surface of the oil. In this way several drops of blood may be obtained from the same puncture, and as the blood flows into the oil the size of the drops can be regulated to a nicety.

From this it will be seen that the blood so obtained comes into contact only with the tissues of the finger in the puncture, neither the surface of the skin, nor the air, nor any particle of dust being permitted to contaminate it. By gently shaking the finger, the drops may be detached from it; the finger is then withdrawn, and the drops begin to descend in the oil. The tube should next be filled to the brim with oil, and the glass plate slipped on, care being taken not to include any bubbles of air, as these tend, when the tube is inverted, to rise, and, by touching the blood, spoil the experiment.

It is well to obtain several drops of blood of various sizes in the tube at the same time; they will be seen to gradually separate the one from the other as they descend, the largest falling with the greatest rapidity. It takes an average-sized drop ten to fifteen minutes to fall one foot in such an oil. When the largest drop has nearly reached the bottom (it must on no account be allowed to touch the glass, or the experiment will fail) the tube should be inverted, and the drops will again begin to fall. It will be seen that the larger drops which have fallen in front of the smaller ones will reach them again when they arrive at the bottom of the vessel, which is now inverted. The vessel may be inverted again and again as required.

The movable glass plate is now drawn off gently; part of the oil with the drops of blood is allowed to flow into a porcelain capsule or other shallow vessel. The drops can be taken out of the porcelain vessel with a well-oiled spoon, and placed upon a glass slide. Now, as the oil and blood have no tendency to mix, the drop can, by tilting the slide, be caused to run off on to another clean glass slide, and there examined. It will be found on drawing a needle through the drop that it is perfectly fluid, there being an entire absence of any coagulation, even in the form of the minutest trace of fibrin threads.

That the blood does not coagulate can indeed be seen in another way. If the drops be watched as they fall they will be seen soon to differentiate into two parts: the corpuscles will sink to the bottom of the drop, and the clear plasma will form a layer of a faint yellowish tint at the top.

We believe that this is the first method by which human blood-plasma, unaltered physically and chemically, has ever been demonstrated except in microscopic quantity. We have kept blood fluid in castor-oil for nearly an hour, and with almost invariable success. We have had no occasion to preserve it fluid for a longer period. It is probable that, owing to the blood coming in contact with the tissues in the wound, an infinitesimal amount of ferment is set free, which will eventually cause clotting, even though the blood is surrounded by oil.

Action of Solid Matter on White Blood Corpuscles.—There are at least two sorts of white blood corpuscles in circulating blood—finely and coarsely granular—as can be seen at any time by examining the mesentery of an animal under the microscope. Now both these kinds of corpuscles when within the circulation are rounded in shape, exhibiting no amœboid movement except in those cases in which diapedesis occurs.

In the blood from our own bodies which we examined, and which was in all respects normal, both of these varieties of white corpuscles occurred.

If human blood be received on a slide at a temperature below 65° F. (=18.3° C.) the white corpuscles remain rounded. If, however, the temperature be elevated to about 68° F. (= 20° C.) they soon exhibit movement. If the temperature be raised to 74° F. (= 23.3° C.) they become almost immediately very actively amœboid.

Experiment I.—Temperature of room and oil, 70° F. (= 21.1° C.). Time, 2.51 P.M. A drop of blood was received from a well-greased finger, rendered turgid by a bandage, into a tall cylindrical vessel full of pure castor-oil (see description of method). The blood under these conditions was invariably found to have retained its fluidity after from half an hour to an hour's immersion in the oil. The finger, having been withdrawn from the tube, was wiped, and a drop of blood from the same puncture placed upon a carefully-cleaned and dust-free glass slide, where it was covered, and the cover ringed with oil to keep the blood from further contact with air and dust. This specimen was used as a test specimen. At 2.55 P.M. the blood on the slide was examined under the microscope. Amœboid movements could be distinctly seen in the white corpuscles, which became gradually more active till, at 2.58 P.M., fibrin threads were observed to be forming. At 3.3 P.M. the white corpuscles were still actively amœboid, though the field of the microscope was thickly covered with delicate fibrin threads. The blood was removed from the tube after twenty minutes' immersion in the oil, by allowing the drops, with some of the oil, to flow out of a tube into a porcelain capsule; they were then transferred with a well-greased spoon on to a glass slide, previously rendered quite clean. By tilting the slide the drop of blood was freed from the oil, and was then covered and examined. The white corpuscles were all globular, but after three or four minutes they began to become irregular in shape. The red corpuscles were crenated in almost every case, though not universally so. The white corpuscles continued to exhibit amœboid movements as long as examined (some thirty minutes), though thick fibrin threads had by this time been formed. Some of the white corpuscles, however, did not exhibit any amœboid movements, even at the end of thirty minutes, but appeared to be abnormally transparent.

This experiment appeared to us to be highly satisfactory, showing, as it did, that the blood, so long as protected by immersion in the oil, had not changed, whilst that not so protected had shown changes long before, as regards both the formation of fibrin and the amœboid movements of corpuscles. It will be observed that

when the blood has been withdrawn from the protecting medium and brought into contact with glass, an inert solid, it quickly begins to show all the phenomena of coagulation.

This experiment is sufficient in itself to prove that the condition which varied in the two cases, namely, contact with an inert solid, was the determining cause of the production, both of fibrin and the amœboid movements observed. On other occasions we repeated this experiment, corroborating, as will be seen, the truth of our previous results in all essential particulars.

Experiment II.—Temperature of the room and oil, 72° F. (=22.2° C.) The apparatus and method employed being similar to that described above, blood was examined after having remained thirty minutes in the oil. The red cells quickly became crenated, and the elementary granules ran together into masses. The white blood corpuscles, at first spherical, quickly became amœboid and transparent, remaining so long after coagulation had occurred. These results have been obtained after much experimenting and several failures, as the temperature was often varied, and led us to the conclusion that at a temperature below 65° F. (=18.3° C.) the blood was so cooled as to prevent the white cells from exhibiting their amœboid movements under any condition, although the blood would clot at that temperature, the solid matter still causing metabolic changes, though not visible motion in the corpuscles. We found also that at a temperature above 74° F. (=23.3° C.) the corpuscles became so quickly amœboid as to prevent definite observations from being made.

We believe that these experiments demonstrate conclusively that glass and other chemically inert solids act as stimuli to the white corpuscles, as indicated by the fact that they exhibit amœboid movement if the temperature permits. The stimulus is of the nature of a purely mechanical stimulus.

As a result of its action metabolic changes occur in the cells associated at certain temperatures with changes of form.

The result is in accordance with what we know of the nature of protoplasm generally, namely that it is irritable in an eminent degree, whether the stimulus be chemical, mechanical, thermal, or otherwise.

The white corpuscle, devoid of an envelope, is exposed to the full stimulating effect of mechanical irritation. When the corpuscle is examined at a temperature below 65° F., the cell no doubt is stimulated, though probably to a slighter exent, owing to the cold, and we observe no movement. This is in accordance with generally observed facts concerning the action of heat and cold on animal tissues.

A fact also worthy of notice, and previously observed, is that the white corpuscles tend to stick to glass or other solid matter. The observations of Sir Joseph Lister on the adhesive character of leucocytes in inflammatory conditions may probably be explained on the assumption that the altered tissue acts like solid matter.

Do White Blood Corpuscles Break Down during Coagulation?—The generally accepted theory, as propounded by Schmidt[2] and others, is that coagulation is the direct result of death of the blood, especially that of the white corpuscles, which in dying produce a ferment which, acting on certain constituents of the blood-plasma, produces fibrin.

Schmidt maintains that there are two kinds of corpuscles, one kind breaking down during coagulation, the other persisting.

"As soon as the blood is shed from an artery, enormous numbers of colourless corpuscles are dissolved (Mantegazza); according to Alex. Schmidt, 71.7 per cent. in the blood of the horse. The products of their dissolution are dissolved in the plasma."

We are certain of the following facts, namely, that some at least of both the fine and coarse varieties of white blood corpuscles are always found alive after coagulation, which occurs in our own blood never later than five to ten minutes after the blood has been shed. We have some drawings of moving cells in blood which had clotted two days previously.

In addition to this, however, we believe that very few, if any, corpuscles break down during coagulation, as is generally held to be the case.

If we examine a drop of blood, and note the position of several white blood corpuscles in a field, and then examine this same field after a lapse of some time, we may see some of the corpuscles showing changes other than mere amœboid motion. They are apparently breaking down. These cells, however, stain readily with dyes, and have their nuclei distinctly visible; and moreover, these peculiar changes do not occur in less than a quarter of an hour, in fact after coagulation has occurred.

In proof that cells rapidly break down when blood is shed, it is urged that the number of white corpuscles in defibrinated blood is less than in circulating blood. But conclusions drawn from such a comparison are obviously fallacious. It will be seen at once that the very fact of whipping the blood produces a clot on the whip which entangles a large number of white corpuscles, which will thus be abstracted from the blood. We have experienced ourselves, too, the difficulty there is in comparing the number of corpuscles in one specimen with those in another, especially when we have been labouring under any preconceived idea, and place more reliance on the more direct method we have employed.

We used in all cases the following method, which enabled us to examine blood in microscopic quantities; its coagulation being postponed for at any rate a few minutes, any immediate breaking down of corpuscles could not have escaped our observation.

A slide is well cleaned, so as to remove all foreign matter, and a small piece of pure, dust-free vaseline is placed upon it, and protected from dust. A cover-glass is next cleaned in the same careful manner, and brought down upon the vaseline and pressure applied, to obtain a flat, airless layer of vaseline between the two. The thumb is then rendered turgid by winding a handkerchief round its base. The thumb is next smeared with vaseline, and a drop of blood obtained by pricking it with a greased needle through the protecting layer of vaseline. The cover is then removed from the slide by sliding it to the edge and pulling it off; in this way a smooth layer of vaseline is left both on the slide and on the cover. The blood, as soon as obtained, is transferred to the slide so prepared and is covered.

Great care had necessarily to be taken to prevent particles of dust from falling on the vaseline during the few moments the cover is removed, and this was effected by holding the vaseline-covered surface downwards.

Many observations were made with this method, and drawings of corpuscles taken. In all some fifty specimens were examined, and the corpuscles in each of them drawn and counted every four or five minutes, sometimes for thirty or forty minutes, giving us a series of drawings in which the following might be observed. The corpuscles of the coarsely granular description could be seen to become at first flattened and irregular in outline, due to amœboid movement. They then lost their granules, or these retired to one part of the cell, the remainder of the cell becoming clear. This generally occurred within the first five minutes. Then strings of fibrin could be seen gradually forming. After a time the cells become very much spread out and less visible, but as long as observed they had not disappeared. This was after coagulation had occurred.

The finely granular corpuscles were observed to present the same appearance, with the exception that their fine granules did not congregate to the same extent.

In no case, therefore, were white blood corpuscles seen to break down within fifteen minutes, thus proving that the idea that some corpuscles break down at once on the shedding of the blood is not tenable.

It will also be observed that, in our experiments with castor-oil detailed above, no white corpuscles were ever observed to break down, though in all cases some became abnormally transparent after contact with the slide; this occurred, however, long after coagulation.

From these experiments we draw the following general conclusions as regards blood shed from the body. If the weather be warm, amœboid movement of white corpuscles begins after from one to ten minutes, depending on the temperature. The movement in some cases lasts for hours. In other cases the cells change in from a quarter of an hour to two or three hours, becoming pale, indistinct granular masses, with their nuclei still visible and still capable of being stained. If the weather be cold, no amœboid movement is discernible, but the other changes go on as above. Whether or not any of the cells break down after coagulation we do not discuss. When removed from the body of course they die ultimately.

Conclusion.—Solid matter mechanically stimulates the white corpuscles of the blood, leading to amœboid movements if the blood be not cooled. In any case some metabolic change, associated with formation of fibrin, occurs in the white corpuscles, whereby they are led to contribute to the production of fibrin.

[2] A. Schmidt, "Ueber den Faserstoff und die Ursachen seiner Gerinnung." *Müller's Archiv.*, 1861, pp. 545-587 and 675-721.

The stimulus in the case of exceptional cells may be so strong or so continued as eventually to lead to an apparent or real breaking down, which occurs, however, only after, and sometimes long after, coagulation is complete.

Inert Solids, and their Action on Blood-Plates.—This subject was suggested by Professor Greenfield, and the work was done by his kind permission in his wards at the Royal Infirmary. We had also the advantage of the assistance of his demonstrator, Dr. Gibson, who has large experience in working with blood-plates.

In all these experiments, the blood of patients suffering from chronic diseases was examined, as in these cases blood-plates are more numerous than in healthy individuals. The method used was in all cases the one mentioned at the commencement of this communication.

Experiment I.—Jannette MacK., aged 18, suffering from chronic phthisis. Blood was received directly from the patient's finger into castor-oil, and kept in it for half an hour. When removed from the oil it was received on to a slide, perfectly cleaned, and having upon it a drop of osmic acid. Now, it is well known that osmic acid has the remarkable property of fixing the blood immediately on coming in contact with it. Therefore, the blood from the oil, when received into the osmic acid, would be fixed in the state in which it happened to be at the time. The blood so treated was covered with a thin cover-glass, and examined with a $\frac{1}{12}$th inch water-immersion lens. When a drop of blood is mounted on a slide and examined, the blood-plates, which are round and oval in shape and float about singly in circulating blood, run together and form granular masses. The plates become sticky, adhering not only to one another, but to any solid particles in the field. They seem to change their shape, exhibiting irregular outlines. If these changes had occurred during their sojourn in the oil, we should have found granular masses and no isolated blood-plates. The blood was, however, found to be normal in character like circulating blood; the blood-plates could be seen in the fluid with their normal histological characters. They were floating about, and presented smooth outlines.

Experiment II.—Duncan McN., aged 19. Case of chronic phthisis. The blood of this patient was treated in the above manner, being in the oil about thirty minutes. When examined in osmic acid, it presented all the appearances of normal circulating blood.

Experiment III.—John M., aged about 30. Case of chronic phthisis. In this case, also, the blood was treated as before, and Dr. Gibson declared that, had he not seen the experiment, he would have believed it to be blood received from the wound directly into osmic acid.

These experiments show, therefore, that blood-plates are in no way altered by removal from the body—the formation of granular masses, their changed shapes and outline, being due to the action of solid matter.

Conclusion.—The action of an inert solid on blood-plates is much the same as its action on white blood corpuscles. It causes them to become sticky, run together, lose contour, and change their shape.

The life-history of these blood-plates has certainly not been made out. They have been described as special and peculiar elements of the blood, but their origin and ultimate destiny has never been explained. They seem, both from their appearance and by their undergoing changes on irritation, to be pieces of undifferentiated protoplasm.

These changes which we have described are the morphological changes which occur in the blood during coagulation. These experiments do not in any way determine the part played by the white corpuscles, or so-called blood-plates, in the chemistry of coagulation, although they suggest that, as far as these bodies are concerned, coagulation is the result of living metabolism rather than of death and disintegration.

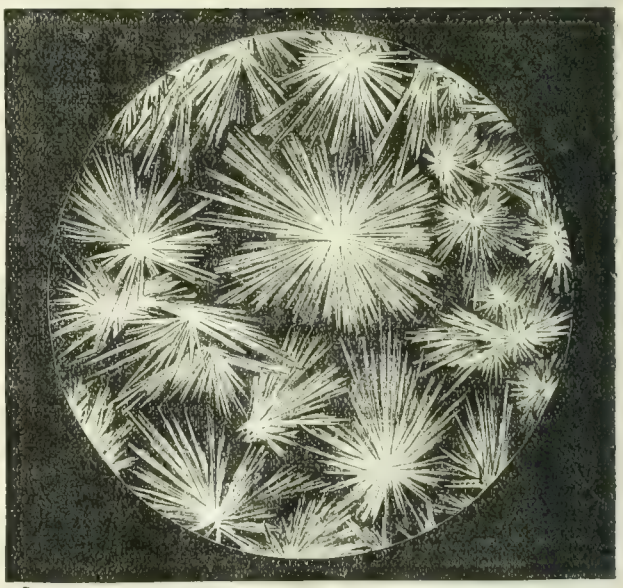
REGISTRATION OF PLUMBERS.—At the City and Guilds Institute, Finsbury, on July 30th, an examination was held, under the auspices of the Worshipful Company of Plumbers, for certificates of registration. The practical examination included various branches of lead work, and the theoretical questions relating to the several subjects of plumbers' materials, house fittings, and sanitation. Plumbers attended from Fordingbridge, Exeter, Tunbridge Wells, Ryde, Bicester, Margate, and various districts of London. The examiners were Mr. Charles Hudson, assistant-chairman of the Registration Committee, and Messrs. Ashdown, Davis, Lobb, Lyne, Mills, Smeaton, Taylor, and Webb. Rather more than 50 per cent. of those attending passed the full examination.

REPORT ON A NEW ACID FOUND IN HUMAN URINE WHICH DARKENS WITH ALKALIES (ALCAPTONURIA).

BY ROBERT KIRK, M.D.Ed., F.F.P.S.Glas.

THE further investigation of this subject has led to very interesting results. Previous researches on alcaptonuria have been those of Bödeker,[1] who isolated a substance to which he gave the name of "alcapton;" of Ebstein and Müller,[2] and of Professor Smith, of Dublin,[3] the former of whom found, as they supposed, pyrocatechin in the urine and the latter protocatechnic acid. In a former paper[4] I showed that by concentrating the urine to an eighth, either slowly over the water-bath or by boiling, subsequently acidulating with hydrochloric acid, and extracting with ether a new acid was obtained, to which I gave the name of urrhodinic, which differed widely from any of the substances above-mentioned, and the properties of which explained all the peculiar reactions of the urine. This method, indeed, is actually given by Méhu[5] as a means of obtaining pyrocatechin from the urine, but none of the few who have examined cases of alcaptonuria seem to have followed it.

In further prosecuting this inquiry I have often had, as before, the co-operation of the Rev. Mr. Gibson, who has devoted much time to chemical pursuits, and the conclusion formerly arrived at as to the occurrence of a new acid in this kind of urine has been fully confirmed. Some facts previously mentioned, however, and others afterwards observed, soon made it appear that what we have called urrhodinic acid was not a simple substance but a mixture of two or more constituents, which seemed to have some relationship to each other. We were enabled to separate these by the action of neutral lead acetate. As previously stated, urrhodinic acid gives precipitates with both basic and neutral lead acetates. It was found, however, that the latter did not throw



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Uroleucic acid, crystallised from ether.

down the whole of the ingredients but left a pale yellow filtrate, which possessed the aromatic odour of the original substance, and which darkened with alkalies and exercised reducing actions as before. Further, the precipitate, if allowed to form gradually, was found to consist of two portions, a dark and a light, and both of

[1] *Annal. der Chem. und Pharm.*, Band cxvii, 98 (1861).
[2] *Virchow's Archiv.*, Band lxii, s. 554 (1875).
[3] *Dublin Medical Journal*, vol. lxxiii, p. 465 (1882).
[4] JOURNAL, November 17th, 1886.
[5] *L'Urine Norm. et Patholog.*, p. 117, where, speaking of salicylic acid, he refers to the use of a mineral acid (sulphuric) as applicable to the extraction of carbolic, benzoic, and oxyphenic acid (pyrocatechin) from the urine, although under the head of pyrocatechin itself he does not again mention this.

these yielded bodies with reducing properties. We shall limit the present paper mainly to an account of the body obtained from the pale precipitate, as this has been perfectly isolated and analysed, and is probably the central component of the entire group from which the others are derived. After various trials it was found best to prepare it as follows:—

A concentrated solution of the mixed substances is prepared by dissolving them in a small quantity of hot but not boiling water, and this is filtered to remove any trace of insoluble matter. To the filtrate, which has a deep red colour, a saturated solution of lead acetate is now gradually added, and the dark precipitate which falls removed by repeated filtration. When the filtrate has become yellow, with perhaps a tinge of brown, it is transferred to a mortar, and, to avoid further dilution, some solid lead acetate is powdered amongst the solution with the pestle. In a few minutes a cream-coloured precipitate falls, consisting of the lead salt of the object of our search, with some excess of lead acetate. This precipitate is washed on a filter with water until the washings cease to have an acid reaction, is then suspended in water and decomposed by H_2S, and the resulting solution either evaporated *in vacuo* over sulphuric acid or extracted with a large quantity of ether. In either of these ways we obtain a definite compound with a marked acid reaction, which crystallises in stellate groups often coalescing to a complete scale on the surface of the glass or other vessel. It has generally been obtained of a somewhat yellow or greyish colour, but the finest specimens have been of an opaque, almost milk-white, hue; and from this circumstance we would propose to call this body "*uroleucic acid.*"

The crystals of uroleucic acid, purified by recrystallisation from ether, show a fixed melting point, which, as the result of several trials, we found to be about 133.3° C. They are resolved into a dark liquid, which boils at a somewhat higher temperature; but no odour is given off, nor does any decomposition appear to take place, although this be raised to 205° C.

Ultimate organic analysis of various specimens of this substance, prepared both by extracting with ether and by evaporation *in vacuo*, has yielded the following average percentage composition in carbon, hydrogen, and oxygen:—

C = 54.475 per cent.
H = 4.985 „
O = 40.55 „

The lowest formula corresponding to this is $C_5H_{10}O_5$; and other evidence appeared to show that this is really the rational formula of the acid, and that it is monobasic. Thus the atomic weight of $C_5H_{10}O_5$ is 198; and when caustic soda (atomic weight 40) was added to a solution of the acid in the proportion of 40 parts to 198, the latter lost its acid reaction, but not before; while beyond this proportion of soda the liquid became alkaline, and darkened if exposed to the air.

The acid is very soluble in alcohol and ether, but somewhat less in water. It gives all the reducing actions mentioned by Bödeker, but the most interesting point in this connection is the fact that it reduces bismuth, throwing down the black suboxide in abundance when boiled with Löwé's bismuth test solution. To do so, however, the solution employed must be of the strength of one-half per cent. or upwards, and hence the reason why this fact was not previously ascertained, the acid having never been isolated, and the urine not containing a sufficient quantity of it to manifest this reaction.

It gives with a one in forty solution of ferric chloride a transient green colour, instantly disappearing on diffusion of the two liquids and incapable of being rendered permanent with any proportions of the reagents. A drop of the ferric solution added to the crystals of the acid produces a red colour.

The remaining constituents of what we have called "urrhodinic" must be briefly noticed. The aromatic filtrate above referred to, left after the removal of the pale precipitate, yields an amorphous yellow substance, also with an acid reaction, and which we would meanwhile distinguish as "uroxanthic acid." It exercises the same general reducing actions, but these are not so keen, and it fails to reduce bismuth in any strength. It corresponds in all its properties to Bödeker's alcapton, which appears to have been this body in an impure state.

The dark precipitate yields a third body with an acid reaction which has been obtained as a powder, or in the form of irregular branching crystals, or as a dark oily-looking liquid. Even in strong solution this substance also fails to reduce bismuth, but it has all the other reducing powers of uroleucic acid, although these are not so intense. Our latest observations appear to show that this latter body is produced during the course of the analysis and does not exist as such in the urine. None of the above acids have been found to have any action on polarised light.

It is remarkable that this kind of urine should contain two substances possessed of reducing properties, and it is clear how this circumstance has increased the difficulty of isolating and identifying them. It would appear that Bödeker's alcapton was, at all events, one of the bodies actually occurring in the urine, but that the secretion does not contain a trace of pyrocatechin or protocatechuic acid.

[A more detailed account of this subject will appear in the *Journal of Anatomy and Physiology.*]

A CASE OF PARASITIC FŒTUS.

By B. LANGLEY MILLS, F.R.C.S.Ed.,
Surgeon Medical Staff.

HAVING met with a very similar case of parasitic fœtus to that of Laloo, related in the JOURNAL for February 25th, 1888, I think that a few notes on it are worth recording.

Soorunophur, aged 25, primipara, was delivered of a male child on April 7th, 1888. Family history good. No history of fright during gestation. Parturition natural. The child was found to be a double monster, the growth of one-half having been arrested *in utero*. The autosite was perfectly formed, with the exception of an extra lobe to the right ear. The parasite was attached to the lower part of the sternum of the autosite, as in Laloo's case (*thoracopagus parasiticus*). The parasite was adherent to the mesial line above the ensiform cartilage. The etching, enlarged from a photograph, gives a fair idea of the condition four days after birth. Close above the adherent part of the parasite was



situated a fleshy nodule, about the size of a walnut, from which sprung two fleshy cords about two inches long, symmetrical on both sides, and free at their extremities, containing no bones, and apparently representing the upper extremities. The lower extremities were perfectly formed, and attached by a loose fold of skin over the ensiform cartilage. They were freely movable, and apparently not joined in any way to the rudimentary upper extremities. Genital organs were present in the parasite, but in a rudimentary condition. There was a urethra, but no urine passed from it. At the seat of the navel in the autosite there was a large pulsating purple tumour, about the size and colour of the bowl of a full claret glass, obscuring the remains of the umbilical cord, and being, I think, some abnormal remnants of the pedicle of the allantois.

The child died when a week old. No *post-mortem* examination could be obtained.

TWO CASES OF INJURY BY LIGHTNING: RECOVERY.

By A. H. COOK, M.B.Lond., and WILLIAM BOULTING, L.R.C.P.Lond., Hampstead.

About 1 P.M. on June 14th, 1888, W. F., aged 62, and D. H., aged 42, sawyers, were working in a wood at the Spaniards Farm, near Hampstead. There was no rain nor any sign of a thunderstorm at the time. The men were eating their dinner under an oak tree, their saws, six and a half feet long, leaning against the fence, about two feet from the trunk. One of them, F., was standing leaning against the trunk, while the other, H., was seated on a block of wood about three feet from it, with his open knife resting upon his knee. Suddenly H. "saw the clouds open and a sheet of fire falling." He heard a deafening thunder-clap, and felt stunned for some minutes, but had no sensation of pain. Then he discovered that his trousers were on fire, smoking but not blazing, and that his knife had been knocked out of his hand, and his steel buckles torn from his legs. He saw F. lying senseless on the ground and quite still, as though he were dead. He had lost all feeling in his legs, and he tumbled down when he tried to walk. His boots were "in ribbons," and fell off when he moved. He managed first to quench the fire in his trousers, and then to crawl to the road near by shouting for assistance. He was somewhat deaf, but could hear himself shout, and "felt as



Fig. 1 shows the zig-zag scar on the front of the arm, also scars on back of forearm and in groin, and mottlings over chest and flank.

though he had been blown from a cannon." F. says that he remembers nothing of the accident, and neither felt nor saw anything. Insensibility must have been instantaneous. H. managed to attract the attention of some men passing in a cart, and both men were conveyed to the infirmary, F. still quite unconscious and his clothes torn off him to such an extent that for decency's sake he had to be covered with one or two sacks on admission.

In the absence of Mr. Cook, the medical officer, they were seen by Mr. William Boulting, a neighbouring practitioner, who saw the men an hour and a half after the accident, and found them in a state of intense collapse. The features were ghastly blue, with a dull yellowish-white showing through the leaden colour. F. was almost pulseless, but became slightly conscious on being roused. H. was groaning, and complained of a burning pain as from a red hot iron, which was "travelling up his legs." Their clothes were cut from them, and F. was found to have burns on the right side from his shoulder to his feet, bearing the appearance of abrasions. The whole of this side (presumably the side on which he was leaning against the tree) had exactly the appearance of an exaggerated example of *post-mortem* staining. H. had his legs burnt in places from the point where he had been resting his knife downwards. The legs were cut probably by the steel buckles he had worn. His pulse was intermittent at the time, and for several days after the accident. Both men were so scorched that no lines were visible to indicate the course taken by the electric current, although these subsequently came out as shown in the drawings here given.

An ounce of brandy was administered to each man, the wounds were quickly dressed with boracic ointment, cotton-wool was applied, the men were covered with plenty of blankets, hot-water bottles were put to the feet, and one-quarter-grain opium suppositories were introduced. Brand's essence was given in small quantities. An hour afterwards F. vomited, and began to rally from his collapse. The wounds suppurated freely for the first two or three days. The scorching of the surface was well in a week. The burns on the right leg of H., the least injured of the two men, were well on June 25th, the eleventh day after the accident; the other leg was healed, and he was up on the twenty-first day.

F. was well three days later, and was up on July 7th. He had



Fig. 2 shows scar on shoulder and back of arm, also a more superficial scar or mottling, like the branches of a tree, over the right side.

burns on the shoulder and the outside of the arm down to the elbow, and on the inner surface of the arm for the same distance; the forearm was scorched, the whole of the right side was scorched, and there was a burn about one inch wide running down the whole side. The scorching presented a mottled appearance over the lower part of the chest, like the branches of a tree; the groin was also burnt; the thigh had a burn three inches long, and was scorched down to the knee; the leg was scorched in front, and there was a contused wound or deeper burn over the ankle. Since the accident he had been so deaf that he could not hear a watch laid against the ear on either side or when held between the teeth.

On July 8th he complained of a ringing noise in the ears, and there was a free discharge of pus from both. On July 9th he could hear a watch at a distance of four inches from the left ear, and was much less deaf. The otoscope revealed perforation on both sides. It is possible that the otitis media may have been set up by rupture of the drum by the shock of the thunder-clap, or by prolonged exposure while in a state of collapse.

The oak tree was found to have been struck about fourteen feet above the ground, leaving a track all the way down. The exact position of the men and of the long metal saws which doubtless attracted the discharge to the tree under which they were was as follows: the fence passed close to the tree; the saws were leaning against it at a distance of about two feet from the trunk. F. was leaning with his back against the trunk about a yard, and H. on the opposite side of the fence was sitting about two yards distant from the saws. The photographs of F. show the appearance of the scars a month after the accident, the zig-zag scar down the front of the arm and the mottled appearance like the branching of a tree over the right side being well shown.

REMARKS.—The case illustrates the danger of the proximity of steel instruments during times of electric disturbance. Nor should it be forgotten that without lightning dangerous return discharges from the earth to the atmosphere may take place at a considerable distance from an atmospheric storm.

CLINICAL MEMORANDA.

CASE OF ENTIRE ABSENCE OF BOTH MAMMÆ IN A FEMALE, AGED 21 YEARS.

THE above rather remarkable case is now under the care of my assistant, Dr. Lyall, and myself. The girl is unmarried, but has given birth to a healthy male child three months ago. Dr. Lyall attended her in confinement, which was quite natural in every respect, and she has made an excellent recovery. As you will see by the photograph which I enclose there are no mammary glands,



and no trace of anything at all resembling them. She has, consequently, been unable to nurse her child. A small mole exists near where the right nipple should be found, and the pectoral muscle seems quite bare of adipose tissue in that neighbourhood. Of course there has been no trace of milk, and she has suffered from no sympathetic pain or uneasiness of any kind in that region.

Her mother tells me that she was aware of the fact that she had no breasts, but that she had always enjoyed good health and menstruated regularly from the age of 15 years.

I am not aware of mention of absence of these glands having been made by any medical men who are authorities in obstetric medicine. I have never met with such a case, and should hardly have believed such an abnormal state of things could have existed had I not seen it. Perhaps you could draw my attention to the fact that such cases have been before reported in the medical journals.

Dyneley House, Skipton. W. WYLIE, M.D.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

KING'S COLLEGE HOSPITAL.

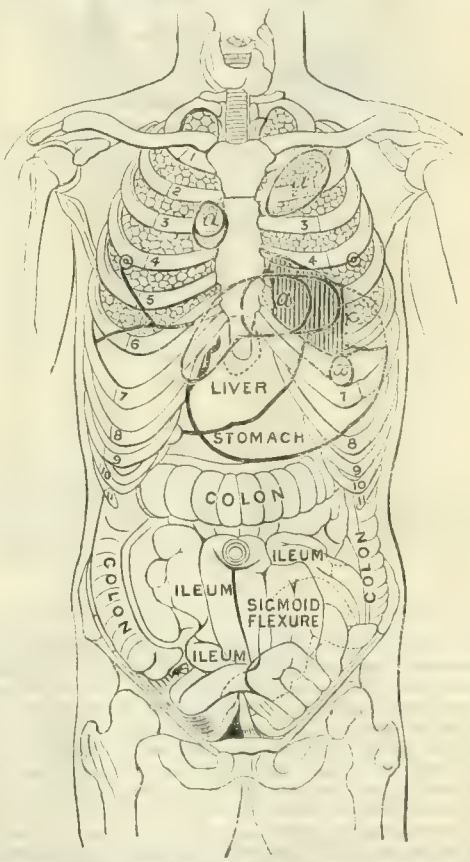
A CASE OF CARDIAC HYPERTROPHY WITH VARIABLE MURMURS: PROBABLE OCCLUSION OF THE THORACIC AORTA.

(Under the care of Dr. DUFFIN.)

[Notes and comments by Sir HUGH BEEVOR, M.B.Lond., Registrar.]

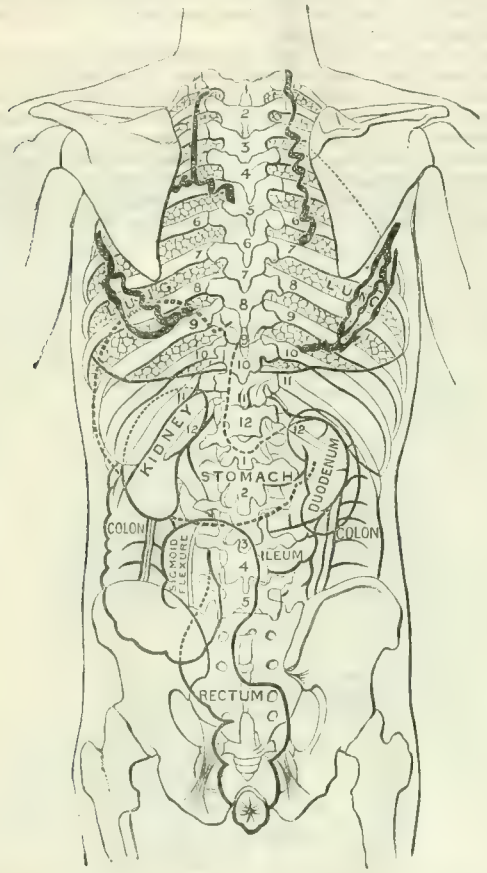
W. B., aged 24, was admitted into the hospital complaining of pain in the right side, with a temperature of 100°; these symptoms left him after a few days.

He was a soldier. He had previously had very good health; but, after two years' service, was discharged invalided. Through the kindness of the medical department at the Horse Guards, his health-sheet was obtained, where he is described, on enlistment, as a labourer with good physical development; he was sent to India, where he was in hospital on four occasions for diarrhœa and dysentery, spending 120 days out of fifteen months in hospital; he was then sent home to Netley, and, after fourteen weeks, discharged for heart disease. Habits intemperate. His brothers



and sisters are alive and healthy; the father and mother died of tumour. The chest showed a fulness below the right axilla, and strong pulsation could be felt there, and be traced up into the axilla; on the back large arteries could be traced on either side,

from the level of the first dorsal vertebræ down to the sixth and fifth on right and left side; and corresponding to the pulsation in the right axilla, a pulsation was felt in the left; the arteries ran down to the ninth and eighth intercostal spaces respectively; the right subclavian was larger than the left; an artery was felt under the right costal cartilages, near the sternum. In the abdomen the abdominal aorta could not be felt pulsating, only the right external iliac; in the lower limbs the femoral arteries could not be felt pulsating, only the right posterior tibial artery. The pulse at the wrist was 100, high tension, and the artery large; there was also marked pulsation to be felt behind the manubrium sterni. There was visible præcordial pulsation in the fourth and fifth interspaces, but the apex beat was felt most in the sixth, at the nipple line; præcordial dulness was increased. On auscultation, three distinct areas of systolic murmur were noted; at the base, to the right of the sternum, in the second and third interspaces, and to the left in the second and all the first interspace: below, a systolic murmur was heard over the area of cardiac dulness, and across the sternum to the right costal cartilages. The character of the murmur was different at base and below; at the base, on the right, it was very whizzing in character, and in time came just



before the second sound; below, on the left, it resembled an exocardial murmur; on the right it was louder, and of different character. He was examined at different times over a period of nine months; on some occasions there was no murmur at all at the base, and a limitation of the usual area was frequent, which was shown on the chest by the double contour of areas marked.

In this case it seemed that the posterior scapular, the subscapular, and the internal mammary arteries had taken the chief part in forming anastomoses between the arch of the aorta and the aorta in the thorax, with the effect of almost obliterating all pulse in the arteries of the lower extremities; no other effect was noted, with, perhaps, the exception of signs of high blood-pressure in the renal arteries; the urine being pale, and of low specific gravity, with no albumen, and he said it was customary with him to rise once or twice at night to pass water. There seemed to be no evidence, on auscultation, by which the murmurs could be assigned to arterial anastomoses solely, though one area extended down over the cartilages, beneath which an artery could be felt; on the other hand, he said he had been laid up since leaving the army, a week at a time, with severe præcordial pain, and in the fifth interspace the murmur was similar to exocardial murmurs.

This anomalous case could readily escape observation in an ordinary examination; for unless the stethoscope was placed over one of the arteries in the back, there was nothing but the fulness inside the right axilla to cause special attention; though his heart was carefully examined for some days after admission, it was the fulness and slightly diminished resonance being investigated that called attention to the anastomoses.

REVIEWS AND NOTICES.

On Cancer of the Uterus: Being the Harveian Lectures for 1886. By John Williams, M.D., F.R.C.P., Professor of Midwifery in University College, London; Obstetric Physician to the Hospital; Physician Accoucheur to H.R.H. Princess Beatrice, etc.

The author of this important monograph lays particular stress on the anatomical seat of origin of uterine cancer, on the usual direction in which that disease spreads, and on the parts where experience has proved that the disease is most likely to recur after radical operations. The value of proposed methods of treatment is estimated by due consideration of these matters.

Following the example of Ruge and Veit, the author divides the uterus into three parts which differ histologically, above all in their epithelial investment, a matter of special import in relation to carcinoma. The three parts he terms the "vaginal portion," the "cervix," and the "body of the uterus." By the "vaginal portion" he signifies the free surface of what is usually termed the cervix, which projects into the vagina. This portion is covered with stratified squamous epithelium, which normally ceases at the os externum, where the transitional epithelium begins. At that point, however, erosions are frequent, and they are covered with columnar epithelium, which joins the squamous in an abnormally abrupt manner. Indeed, an erosion is defined by the author as an extension of the mucous membrane of the cervical canal through the external orifice on to the lips, or even further, over the surface of the vaginal portion. An erosion, he further takes care to note, is not identical with the simple bulging of hypertrophied cervical mucous membrane out of the os. The precise manner in which the process of erosion extends is carefully described.

Here we may take occasion to commend the fine series of microscopic drawings prepared by Dr. Boxall, which illustrate the normal and morbid histology of the parts involved in uterine cancer. Although carcinoma often involves the vaginal portion, it less frequently originates in that region. When it does actually arise there, it bears all the microscopic characters of epithelioma of free mucous surfaces, such as the lip. In its earliest stage it may appear as a mere livid patch, which often remains superficial for a long while, but ultimately advances towards the vaginal mucous membrane rather than up the canal of the cervix. Dr. Williams denies that this or any other form of cancer has been proved, on satisfactory grounds, to arise from a laceration.

By the "cervix" the author signifies the mucous membrane of the cervical canal and the underlying deeper tissues. The free surface bears columnar epithelium and follicles. Cancer of the cervix, the most frequent form of malignant disease of the uterus, generally begins in the lower part and advances to the vaginal portion, thence into the tissues between the vagina, rectum, and bladder, rather than down the vaginal mucous membrane.

By the "body of the uterus" Dr. Williams means what is usually understood by that term. Cancer attacks its decidua, and spreads out towards the broad ligament and neighbouring viscera; the disease does not extend to the cervix till late in its course. Some interesting cases of this form of cancer are described; indeed, the monograph abounds in instructive clinical records.

On the evidence of direction of growth and the most frequent seats of recurrence, the author bases his principles for guidance to the operator. When the cervix is amputated recurrence is rare in the stump, but frequent in the adjacent connective tissues, the

cancerous deposit being often separated by a perfect layer of healthy tissue from the cicatrix and from the mucous membrane lining the remains of the cervical canal. On these grounds the author objects to total extirpation of the uterus as difficult and dangerous, failing at the same time to remove the structures where recurrence most frequently occurs. He practises and strongly advocates the operation known as supravaginal amputation of the cervix. On the other hand, total extirpation can alone avail in cancer of the body of the uterus.

The author's arguments on other pathological and clinical matters of importance are worthy of deep consideration. Doctrines about the serious or fatal effects of lacerations of the cervix and erosion of the cervical mucous membrane are not dismissed with a stroke of the pen, but refuted by scientific evidence. Dr. Williams is, indeed, opposed to any theory of local mechanical irritation as a cause of uterine cancer. Prolapsed uteri are often exposed to every possible irritating influence, discharges, friction of clothes, external violence and damage from ill-placed or worn-out pessaries, yet in some hundred cases of cancer of the uterus which the author has seen, there was but one in which the organ was procident.

Cancer of the Uterus is a standard practical and scientific publication. It is readable and well printed, and its illustrations are in harmony with the great advance in pathological drawing so conspicuous in many medical works recently issued by London publishers.

NOTES ON BOOKS.

Where to Take a Holiday; being the Holiday Number of the *London Medical Recorder.* (London: W. H. Allen and Co. 1888.)—Few of the ordinary guides to health resorts contain more than a passing reference to the sanitary arrangements of the places described, or enter into the merits of the localities for the cure or benefit of particular disorders. Hence it is not always an easy task for individuals to decide where they can secure a reasonably safe and healthy holiday, or to discover the place best suited to their particular ailments or temperaments. Nor is it always easy for a medical man to advise in such matters. The little volume now before us aims at supplying to some extent the want here indicated; and it may be consulted alike by the medical man and by the ordinary health-seeker with interest and advantage. It contains articles by Dr. E. Symes Thompson, on the Choice of English Health Resorts; by Inspector-General Macpherson, on the Spas of Great Britain; and by Mr. A. E. Boulton, on the Waters of Woodhall Spa. Dr. Burney Yeo describes the Pyrenean and adjacent summer health resorts; Dr. C. Parsons gives valuable advice on sea-bathing; and Drs. W. R. Huggard, G. V. Perez, and M. C. Grabham supply, from their local knowledge, descriptions of the characteristics of Davos Platz, Orotava (Teneriffe), and Madeira, from the points of view both of the health-seeker and of the pleasure-seeker. But the bulk of the volume is occupied by a series of short accounts of some ninety home and foreign health and holiday resorts. These accounts are clearly and carefully written, and in them special attention has been paid to the sanitary arrangements of the various places described, to the climate and meteorology of the localities, and to the disorders for which a residence in the places affords most relief. The local health officers have in each case, it is stated, been consulted, and hence the accounts bear the stamp of special authenticity. The fact that this is the sixth year of publication of the number speaks well for its popularity.

Lectures on the Treatment of the Common Diseases of the Skin. By ROBERT M. SIMON, M.D. (Birmingham: Cornish Brothers, 1888).—This is a small book of eight chapters, of which more than half is devoted to the consideration of eczema. Dr. Simon, having delivered lectures on the treatment of the common diseases of the skin, has embodied them in this unpretentious work, in which he gives the results of his experience in the application of the more recent as well as the older methods of treatment. The lectures contain little that is not familiar to the readers of the ordinary textbooks and the current medical literature of the day.

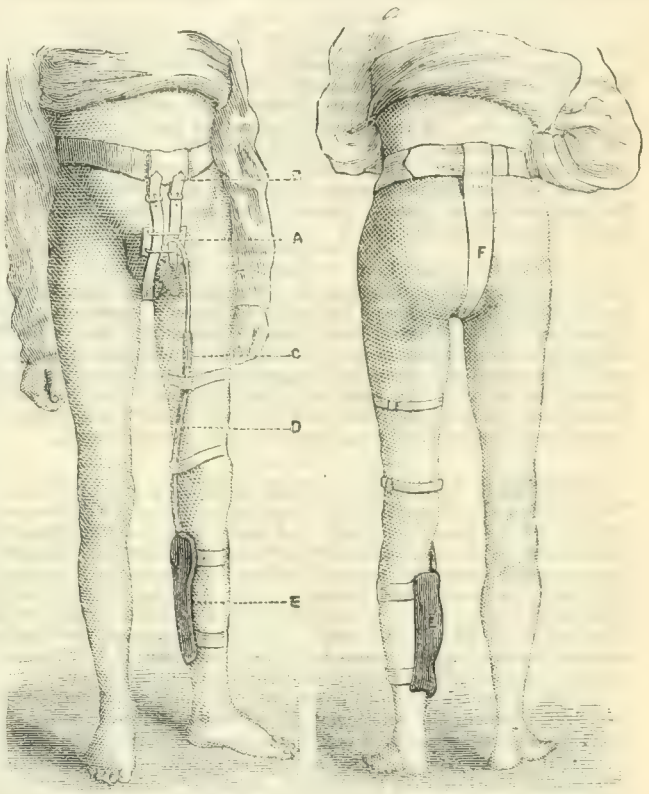
THE Victoria Hospital for Children, Chelsea, has, it is reported, benefited to the extent of £5,000 by the Silver Fête.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

AN APPARATUS FOR USE WHEN IT IS DESIRABLE TO KEEP A SUPRAPUBIC OPENING INTO THE BLADDER PERMANENTLY OPEN.

THERE are several conditions of the male bladder which are relieved by making an opening into that organ above the pubes, and keeping the wound permanently open. In 1875 Sir Henry Thompson published some cases of advanced prostatic disease in which he had opened the bladder above the pubes, and fitted his patients with a tube and plate, like a tracheotomy tube, and more recently he read a case before the Clinical Society, in which, on account of prostatic disease his patient had worn a tube suprapubically since 1886.

Last February a gentleman consulted me on account of vesical pain and hæmorrhage. I diagnosed a vesical growth, and as his



symptoms were exceedingly severe, I opened the bladder suprapubically, and found a hard tumour in the superior fundus, probably malignant, and which it was impossible to remove. His sufferings before the operation had been so great that I determined to keep the wound permanently open, to give free vent to the urine and discharges from the tumour, this was done with great relief to the patient, and he lived in comparative comfort for several months afterwards. It was from a study of this case that I found we had no really suitable apparatus for such a patient to wear, when he resumed his usual habits and activity, and the arrangement about to be described was therefore made for him.

A is a silver plate, presenting a plane surface to the body, and carrying in front two rings, upper and lower, through which play two straps, coming from a perineal band F, which bifurcates behind the scrotum and comes up in front, passing through the rings, *but not attached to them*, to be buckled at B to the waist-

band. The plate also carries in front a silver tube which is directed upwards and then curves downwards and to the patient's left. An india-rubber catheter of suitable size, usually No. 14 English, is passed through this tube, the upward direction of the tube gives a downward direction to the catheter, which is necessary to allow it to ride easily in the opening leading into the bladder, and the curve of the tube downwards and outwards directs the catheter to the urinal, which is strapped to the patient's leg. The urinal consists of a bag E, which is connected with the catheter by means of a long stout tube, D, which is made sufficiently firm not to "kink" at the knee when the patient sits down. At the junction C the catheter has several inches "play" in the larger tube D, and does not fit tightly, so that the loose junction acts as the necessary air vent from the receptacle E. It has been found well for patients to have the apparatus in duplicate, so that there is always a clean one ready to be put on immediately a soiled one is removed. The usual clothes are worn, and the patient can walk and drive with ease. Sir Henry Thompson's patient, whose case I have referred to, is wearing this apparatus at the present time with great comfort. I am indebted to Mr. Fred. Weiss (Messrs. Weiss and Son) and my patient's son, for assistance in carrying out my suggestions.

G. BUCKSTON BROWNE.

COCOA WITH PEPTONISED MEAT EXTRACT.

Messrs. SCHEIBLER BROS. and Co., 23, New Broad Street.

SAMPLES of powdered cocoa, mixed with half its weight of dried meat peptone, and the mixture pressed into tablets, have been submitted to us. Of their high food value there cannot be a doubt, both ingredients being rich in digestible nitrogen and in phosphate of potash. The peculiar and, to many persons, objectionable taste of the peptone is completely masked by the cocoa. The mixture is valuable to invalids and travellers. The article is in every way of satisfactory quality.

JEYES' PERFECT PURIFIER AND SOAPS.

THE Jeyes' Sanitary Compounds Company now manufacture household and toilet soaps in manifold variety containing the "purifier." Of the latter well-known compound, the value of which as a disinfectant is long established, nothing need here be said. The soaps are strongly charged with the disinfectant, and possess the odour of the same in a high degree. They are well-made thorough good cleansers, and will very likely prove successful rivals of carbolic and other powerful disinfectant soaps.

ROWNTREE AND CO.'s ELECT EXTRACT OF COCOA.

WE welcome the extending use of cocoa, in opposition to tea and coffee. Of the many excellent and pure cocoas now obtainable, superior in taste and composition to the unscientific and nasty homœopathic cocoa mixtures, Rowntree's cocoa extract is one of the best. Its flavour and aroma is good; it is exceedingly finely divided and treated by the so-called Dutch method, to prevent it from rapidly settling in the cup. It is, as are most of the similar cocoas, deprived of nearly one half of the fat natural to the bean, thereby increasing the digestibility and nourishing power.

It may be worth while to point out once more that cocoa thus prepared is one of the most easily digestible articles of food.

THE CHARITY VOTING REFORM ASSOCIATION.—This association has issued a circular on the various modes of obtaining surgical appliances by the poor. After calling attention to the surgical aid functions of the guardians of the poor, the great metropolitan hospitals, the Hospital Sunday and Saturday Funds, and the Charity Organisation Society, the circular deals with the voluntary surgical aid charities, in most of which one letter of recommendation from a subscriber suffices to ensure the supply of an instrument to the needy applicant. There are, however, two societies which require a plurality of letters proportioned to the cost of the instrument applied for. This plan involves canvassing for letters, thus imposing on the patient great hardships, delay, and in many cases injury. It would be better for these societies to abolish the letter system altogether.

THE Fire Rescue Exhibition at the Portman Rooms, Baker Street, W., consisting of the most recent inventions in the way of fire alarms, fire extinguishers, and appliances for facilitating escapes from burning buildings, was formally opened by the Lord Mayor on July 30th.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, AUGUST 4TH, 1888.

THE SANITARY REQUIREMENTS OF BETHNAL GREEN AND OTHER LONDON DISTRICTS.

THE report which was recently issued by the Home Office of the inquiry held by Messrs. D. Cubitt Nichols and Shirley F. Murphy respecting the "immediate sanitary requirements of the parish of St. Matthew, Bethnal Green," carries our thoughts back to the years 1884 and 1885, when the popular mind was much disturbed by the disclosures then made as to sanitary neglect in the poorer and more densely-crowded districts of the metropolis. The subject was at the time exhaustively investigated by the Royal Commission on the Housing of the Working Classes; but before the issue of the report of that Commission the public indignation, which had been so quickly roused to condemn a condition of things that had long existed, had as quickly subsided. Still, it must be admitted that the movement, though ephemeral, was not barren of good results. The hands of those who were struggling to improve the condition of the poor were strengthened by it, whilst the mass of valuable evidence collected by the Commissioners was duly published and placed on record.

It was shown that many of the vestries and district boards in London had been dilatory and difficult to move. In fact, the gist of the report of the Commissioners may be said to be contained in the sentence in which they expressed themselves as "clearly of opinion that there has been failure in administration rather than in legislation," and that "what at the present time is specially required is some motive power." Hence it was expressly provided in the Housing of the Working Classes Act, 1885, that it shall be the duty of every local authority entrusted with the execution of laws relating to public health and local government to put in force from time to time, as occasion may arise, the powers with which they are entrusted, so as to secure the proper sanitary condition of all premises within the area under the control of such authority. Yet it is to be feared that many of the local authorities of the metropolis are as difficult to move to-day as they were four years ago.

The Commissioners observed that "probably there can be no stronger motive power than public opinion," and "with the view of bringing specially under public attention the sanitary condition of the different districts in the metropolis," they recommended "that the Secretary of State should be empowered

to appoint one or more competent persons for the purpose of inquiring as to the immediate sanitary requirements of each district." Yet no initiatory action has been taken by the Home Office under this recommendation. Inquiries have been held as to parts of Clerkenwell and Mile End, but they have been held in consequence of the persistent representations of the Mansion House Council on the Dwellings of the People—a philanthropic society that has done much good work in detecting unwholesome conditions and inducing the sanitary authorities to take action in respect of them. It must seem curious to the stranger who is unacquainted with the anomalies of English sanitary administration that while the whole of extra-metropolitan England is under the supervision of the Local Government Board with its skilled staff of sanitary experts, the capital of the Empire is under the Home Office, which possesses no such staff whatever.

The inquiry into the condition of Bethnal Green is by far the most satisfactory that has yet been held, inasmuch as the untenable position assumed on previous occasions, that only the particular sanitary defects complained of should be examined, was abandoned, and the requirements of the parish as a whole were considered.

The inspectors did not fail to observe that the high death-rates of Bethnal Green are not entirely due to bad sanitary circumstances, but may to some extent be the result of the high marriage-rate and the consequently large infantile population in a poor and improvident community. But, whilst admitting so much, they have to report after careful personal inspection that the condition which above all others characterises dwelling houses in Bethnal Green is the dilapidated state in which they are allowed to remain. In street after street houses defective in this respect were abundantly found in the course of inspection. Such houses showed badly-paved yards, defective roofs, broken floors, dirty walls and ceilings, broken plaster, dilapidated window frames, together with faulty gutters and defective pointing of walls, giving facilities for damp to enter. The water supply to water-closets in houses occupied by the poorer inhabitants is generally wanting, though it had been provided in respect of those houses to which attention had been directed by the Mansion House Council. In a large number of instances, dust-bins are dilapidated, but in recent years the Vestry have been engaged in the effort of replacing these by pails. Newly erected houses are necessarily free from many of the faults of those which preceded them. Nevertheless, comparatively recent houses are fitted with faulty closet apparatus, and the drains and soil pipes are commonly destitute of ventilation. "Hitherto," add the Inspectors, "in Bethnal Green the Vestry appear to have limited themselves to giving general directions, and ventilation of house drains and soil pipes is not insisted on." Moreover, the Vestry have not availed themselves of the powers vested in them by section 35 of the Sanitary Act for controlling, under regulations, houses let in lodgings.

While fully recognising the great improvements effected in the parish in respect of street paving and sewerage, the Inspectors are led to the conclusion that the efforts of the Vestry to maintain houses in proper habitable condition have not sufficed for the purposes of a parish containing population and houses of the character of Bethnal Green. For the sanitary administration of the parish, the Vestry have appointed a medical officer of health, who is not required to devote his whole time to his duties; a clerk, two inspectors of nuisances, both of whom have in addition to their sanitary duties to collect samples under the Food and Drugs Act, and three subordinate officers, one of whom is employed in connection with the disinfecting apparatus, and two for disinfection of houses, and in addition a man for flushing urinals, and four men for the superintendence of dust collection. Moreover, the inspectors are not guided or supervised in their duties by the medical officer of health, but report to, and receive instructions direct from the sanitary committee. This is an obviously unsatisfactory system, and the Inspectors urge its amendment. They recommend that the sanitary department be reorganised so that the work of the sanitary inspectors may to a greater extent be superintended or controlled by the medical officer of health; that at least two additional sanitary inspectors be engaged; that periodic house-to-house inspections be instituted; that by-laws as to houses let in lodgings and as to house drains be adopted; and that the Vestry exercise their ample and specific statutory powers for improving their district. Strange to relate the representatives of the Vestry at the inquiry object to the appointment of two additional inspectors. They consider that one additional officer, or "three in all, would be sufficient to meet the requirements of the parish," which it should not be forgotten has a population of more than 125,000. It is to be hoped that the Vestry will not endorse this limitation of the very moderate recommendations of the Government Inspectors, and that they will secure adequate supervision of their district in future. Sustained efforts during a prolonged period are, as the Inspectors remark, necessary if Bethnal Green is to be raised to a proper standard.

THE INDIA OFFICE AND THE ARMY MEDICAL SCHOOL.

The Under-Secretary of State for India was "put to the question" in the House of Commons on July 26th, on the article which appeared in the Journal of July 21st, under the above heading. The answers elicited from Sir J. Gorst made it too evident that the information on which our article was based was only too correct. Reading between the lines of the reply given, it seems to us clear that although the removal of the young medical officers of the Indian army from Netley is said to be "under the consideration of the Government of India," the issue of this "consideration" is a foregone conclusion. Unmindful of the advice given to the lawyer about to enter on the duties of a judge, Sir J. Gorst gave "his reasons" for the contemplated measure, and, in so doing, has delivered himself into our hands. The reason is that in the opinion of the Government of India "the special instruction can be given better in India than at Netley, and at less expense." Now, why could not the Under-Secretary say candidly, and without pretence or circumlocution, that the object in view is to save money? The excuse is a lame one, but it would have been at least ingenuous and intelligible. A high standard of efficiency is put in one scale, and the cost of securing it in the other, and the Government of India arrive

at the conclusion that "efficiency" is too dear—it is not worth the money. Sir J. Gorst said, "that if the present course (that is, the Netley course) were abolished, a course of special instruction would be given in India.

In our last article we were at pains to show that a course of special instruction in India would certainly cost more money than is spent on this object at Netley. We must show this in a little more detail. In the Army Medical School the young medical officers for the three Presidencies are all taught together by one set of teachers, with the surgeons on probation for the British army. At the end of the term the officers for the Medical Service of the Indian army are sent to the Presidencies to which they are appointed by the India Office. Obviously, if the Netley course is to be abolished, and the young surgeons are to go direct to their various Presidencies and are still to have not only a course of special instruction, but one, according to Sir J. Gorst, "better" than that given in the Army Medical School, there must be, not one set of professors as now, but a complete teaching staff for each Presidency, to say nothing of the teaching apparatus, laboratories, with all their costly fittings, museums, and suchlike appliances. This done, it will be hard to see how the finances of India will gain by the change. As the matter stands India pays only her share of the cost of the Army Medical School, according to the number of men under tuition, the War Office being charged with the remainder. In other words, one teaching staff suffices for the medical officers of both the British and Indian armies: according to the India Office scheme, three sets of professors will be required for India alone, unless the proposed "better" course is to be a mockery and a sham, which it would surely soon become the moment the triple cost of this absurd scheme came to be realised.

We have already remarked on the fact that the Secretary of State for India in Council has not taken the advice of any competent advisers on this educational question, and not only so, but is about to act, if he has not already done so, in the face of the highest authorities not only in England, but on the Continent of Europe and in the United States of America. It is even said, and we believe truly said, that the opinion of Sir Joseph Fayrer, the Physician to the Council of India, and presumably their natural official adviser, has not even been asked for, while that of a gentleman who knows nothing of the work done in the Army Medical School, who never even troubled himself to visit Netley, has been taken and acted on. A notable example this of official ineptitude and blundering. In conclusion, we say that it gives us no pleasure to "speak evil of dignities," but something more than the *amour propre* of "dignities" is here at stake, and, as the representative of the greatest Association the medical profession of Great Britain and Ireland has ever known, we protest against this abuse of power.

PRIZES OFFERED FOR COMPETITION BY THE EMPRESS AUGUSTA OF GERMANY.

THE International Jury for assessing the prizes offered by Her Majesty the Empress Augusta of Germany, for the best forms and arrangement of internal fittings and furniture for a movable hut-hospital, is to meet at Brussels on September 3rd next. Sir Thomas Longmore, of Netley, has been invited to act as British representative and member of the jury.

DEATH FROM SEA-SICKNESS.

DEATH from sea-sickness is rare, but a case recently occurred on board the West Highland steamer *Dunara Castle*, while on the voyage from Tiree to the Clyde. The patient was a little girl, aged 8, who became sick while the steamer was running between Islay and the Mull of Cantyre. The sickness was most severe, and culminated in a convulsive fit, in which the patient died. Every assistance was rendered by Dr. Frederick Adams, of Glasgow, who was a passenger on board.

METROPOLITAN PROVIDENT MEDICAL ASSOCIATION.

THE report of the Executive Committee, presented to the Council of the above Association on July 28th, stated that two new branches had recently been opened at Walworth and Tottenham. At the latter place considerable progress has been made during the last two months by the collection of weekly contributions; one satisfactory result of the experiment being that a poorer class of persons are thereby induced to join. An old-established Provident Dispensary in Westbourne Park has been handed over to the Association to be conducted as one of its branches. Resolutions in favour of the abolition of the one shilling entrance fee in the case of persons joining in health, and the plan of receiving, and, if necessary, collecting weekly contributions, were passed. It was also resolved to organise branches at the East End and Kennington before the close of the present year. There are now about 30,000 persons who are entitled, in return for weekly or monthly contributions, to medical treatment and medicine at the thirteen branches of the Association, and in cases of serious illness at their own homes.

THE NEW PENSION LIST.

AMONG the pensions granted during the year ended June, 1888, and charged upon the Civil List, we are pleased to see that one of £100 has been bestowed on the distinguished biologist, Mr. W. Kitchen Parker, F.R.S. Mr. Parker's scientific work is of the highest order and his career is of particular interest, as proving that original investigation of the most laborious kind is not incompatible with general medical practice.—Mrs. Mary Hutchinson, widow of Thomas J. Hutchinson, M.D., late of Her Majesty's Consular Service, receives a pension of £20, "in consideration of the services of her late husband."—A pension of £10 is also awarded to each of the three surviving sisters of John Leech. We may be allowed to recall that this delightful artist was a medical student before his true vocation had become clear to him.

THE GLASGOW MEETING.

GLASGOW has come to be so associated in men's minds with commerce and manufacture and the turmoil and newness which come in their train, that we are apt to forget that it is in reality an ancient city with a long and honourable history. Its Cathedral, narrowly escaping the iconoclastic zeal of the Reformers, still stands one of the finest ecclesiastical edifices north of the Tweed. It dates from the thirteenth century, and is as to the crypt perhaps the most remarkable specimen of Gothic architecture in these islands. Mr. John Honeyman, the eminent architect and archæologist of Glasgow, has consented to meet any members of the Association who may be interested in its architecture or history in the Cathedral soon after 2 P.M. on Tuesday next, and the hour which may then be spent before the service, at which Principal Caird is to preach, begins will be both pleasantly and usefully passed by those who are wise enough to put themselves under Mr. Honeyman's skilful guidance. It may be observed in passing that the name by which the saint to whom the Cathedral is dedicated is now known is a curious example of the Scotch love for diminutives. The saint's name was Kentigern, but his fol-

lowers expressed their affection for him by calling him Mungo (*Mun, mern*, dear, and *go* diminutive=darling). The final arrangements for the meeting next week are being actively completed. Members will find that all the committees have bestirred themselves to make the meeting successful, not only from a scientific, but also from a social point of view. The University cloisters are blocked with goods consigned for the various sections of the Museum, most of the departments of which promise to be on an unusually large scale. Mr. William Macewen will exhibit a number of interesting surgical cases, some of them illustrating his address, and Dr. Wolfe will give a series of demonstrations at the Ophthalmic Institution of his method of operation for detachment of the retina and for symblepharon by transplantation of the conjunctiva of the rabbit.

ALLEGED RESTORATION OF SIGHT FROM A FLASH OF LIGHTNING.

A PARAGRAPH with the above heading appeared in a Wolverhampton paper, and has been copied into several London papers; it affords a very good example of the very flimsy evidence that suffices to render the marvellous credible to the general public. As far as we can ascertain the facts are briefly these. The patient was injured by an explosion in a mine, one eye was totally destroyed, and he became unable to see with the other. He was in the hospital for seven weeks for "fits," and on leaving was led about owing to his defective sight. One evening, after a flash of lightning, he noticed that he "could see indistinctly objects near to him." And a few days later he could see to walk about without a guide. On inquiry we learn that for some time after the patient could only partially open the eye, that the cornea was opaque, and had been gradually clearing for many months past. In the absence of any authoritative statement as to the condition of the vision before and after the lightning flash, there seems no reason for assuming that the case was anything but an ordinary one in which the cornea was slowly clearing. Nothing is more common than for a gradual improvement to be suddenly noticed when it has reached a certain stage.

SMALL-POX IN A SCHOOL.

DR. FALCONER OLDHAM, M.A., of the Monsall Hospital, Manchester, has sent us the following account of an outbreak of small-pox in St. Joseph's Certified Industrial School, Manchester. The school is situated in Victoria Park, one of the healthiest districts in the borough. It contains as a rule 150 girls, the majority of whom are of ages from 9 to 15, taught and cared for by nine sisters of the sisterhood of St. Vincent de Paul, assisted by six lay attendants. The school had been for some time exceptionally free from sickness. The first cases, some six in number, were attacked on July 22nd, and by July 28th, sixty-six had sickened. One more sickened on July 29th, but there has not been another case up to the present date, August 1st. Dr. Oldham says: "On July 27th I was asked to see the children who were sick, in consultation, as it was suspected the disease was small-pox, and then found forty-six cases at the school, all of which were removed to hospital the same evening. On July 28th, twenty fresh cases occurred, and these were isolated in hospital the same evening, the last case being brought to hospital on Tuesday, July 31st. Of the sixty-seven cases, three are sisters, five lay attendants, and fifty-nine school girls. Of these sixty-seven, seven are unvaccinated, sixty more or less efficiently vaccinated, and two have been revaccinated. The two revaccinated cases, though they have suffered from the premonitory symptoms of small-pox, have not any eruption on them, and this too is the case with a nine-year old child vaccinated for the first and only time in 1887. The majority of the other cases are very mild, only fourteen, among whom are the unvaccinated persons, being very severe, and five moderately severe. The infection was introduced into the school by a child brought there by a School Board officer from York. This child must have been just recovering from small-pox when admitted to the school. She was brought to St. Joseph's on July 11th, and on July 27th, when in the course of my investigation of the origin of the outbreak I came to examine her, I found on her legs and arms the dried horny scabs of recent small-pox pustules. The girl now admits that on July 11th she had some spots on arms and legs, which were then 'getting better.' Nothing had been said of these spots, and that she had had small-pox, was never suspected until I pointed out that the infection must have been introduced into the school some time between the 9th and 15th of the month, and asked to see any children admitted between those dates, when this child and two others were brought to me. The outbreak is chiefly interesting as illustrating the mischief an unrecognised mild case of small-pox may cause, and as emphasising the great danger there is in collecting together a large number of young persons over the age of 10, without insisting on the precaution of vaccination and revaccination. It also affords an instance of the value of a sufficiently large and properly equipped fever hospital to a borough like Manchester, for here within twenty-four hours sixty-six cases of small-pox were isolated without the rest of the work of the hospital being in any way interfered with, and at the time when there were over 130 cases of other infectious diseases under treatment in the hospital."

GREY HAIRS AND GOVERNING POWER.

WHEN the Bill for Creating Life Peerages was under discussion in the Upper House, Lord Granville made some happy remarks about the aged friends around him. "As the sun smiled agreeably upon the Government side of the House he was glad to see that two or three members retained their 'dark and curly locks,' but he was sorry to say that the sun also revealed a good many heads not only tinged with grey, but even more decidedly white, as well as some which showed almost an absence of locks altogether. It might even be said that their lordships constituted not a middle-aged but an aged assembly. But the category of life peers proposed by the noble marquis would add a very considerable percentage to the noble lords who, like himself, were so aged as to be utterly useless. He thought this was a very serious objection." Should grey heads be the main depositories of governing power? The question has extended social bearings, and is worth considering when the constitution of the House of Peers, the creation of County Councils, and the government of Universities and Medical Corporations are attracting much attention. There are advantages and disadvantages in recruiting a governing body largely from among men of advanced years, full of ripe experience. Such men have a wide and extended acquaintance with society, and much freedom from the minor views of personal interest, which enables them to look to public duty as well as to the advantage of their corporate body; they have fixed principles and acquaintance with custom and precedence, they add weight, respectability and continuity of action to the proceedings in which they take part—further they sometimes add to the wealth of the body to which they belong by kindly and well bestowed bequests. On the other hand, younger men add other characters to the governing assembly; they confer the power of greater labour, the capacity to analyse proposals and collect evidence; they are a power for the self-reform which is so necessary in any corporate body that has a long life and important interests to guard for others. The younger men give a "plasticity" to a council, so that it becomes impressed and moulded by varying circumstances in accord with the interest and needs of those who are represented; they also serve to protect the body to which they belong from a great danger to which it is exposed when entirely composed of older men—the danger of being governed by its own officers rather than by the mental power of the whole body and that of each individual member.

The power to originate new ideas and new methods belongs to middle life rather than to the advanced stages of experience, which are apt for criticism. These remarks particularly apply where old institutions have to take a new departure demanded by the altered circumstances of the time. A representative system of government, to be permanent and successful, needs a wise selection of candidates for election, and this should bear some relation to the total composition of the council or senate, not simply to the declared opinions of the candidates It is a difficult and delicate question to say how far social and professional position, and the desire to honour past services, should determine nomination to governing power; and while recognising to the full such claims upon the franchise, it must be remembered how desirable it is that a governing body should be composed of men in the various periods of life, as well as of those who represent varied interests; a considerable proportion should be under middle age; when this is neglected we are apt to see mutual praise and mutual election, not always in accord with progressive development. As regards the Councils of the Royal medical colleges, their duties are many; they have to safeguard the interests of the profession, to control medical education, and to consult the well-being of their respective corporations. As to the senate of a university, it should be in touch with current opinion and the experience of teachers, who are mostly young men. Lord Granville justly remarked that a governing body may become not only a middle-aged, but an aged, assembly, which is a very serious matter.

A QUINQUENNIAL CENSUS.

The Council of the Statistical Society has recently memorialised the Local Government Board in favour of a quinquennial census, as is the practice in nearly all European countries and in several of our own colonies, as New Zealand, Queensland, Manitoba, and the North-West Territory of Canada, as well as in twelve States and three territories of the American Republic. The question is by no means a new one, having been long ago raised by the late Dr. Rumsey, who would have been satisfied with a simple enumeration of the population, with classification of their ages, leaving the analyses of occupations and other demographical considerations to the greater or decennial periods. Of course even this lesser and limited census would involve additional expense, and it will be urged by authorities that we in this country have not the same incentives to incur the cost which influence the governments of France and Germany, that is, the necessity of accurately estimating the total number of adult males on whom they can rely in fixing the maximum strength of each branch of the army and military reserves. Nor have we the same motives that actuate the governments of our colonies and the still progressive States of America to ascertain the increase of population by immigration; but from the standpoint of the public health it is of the utmost importance that the actual population of each town and county, as well as of the entire country and the constitution of each as regards age and sex, should be known with approximate precision. The need for sanitary reform, and the results, whether in success or in failure, of sanitary enterprise or legislation, can be learned only by the evidence of the public health afforded by death-rates and birth-rates, while the mere determination of these presupposes a knowledge of the actual population. The conventional methods of estimating the population for each intervening year, by assuming an increase at the same rate as in the preceding decennium, and of "correcting" or checking such estimate by the number of inhabited houses, assuming the number of occupants of each to remain constant, lead to grave errors. For instance, in 1871, it was found that the population of Gosport had been overestimated by 33 per cent., and that of Cambridge under-estimated by 16 per cent., consequently the former had appeared healthier and the latter less healthy than it really was. The profession ought not to fail to use the present opportunity of urging on the Government the importance of the issues involved in the memorial to which we have alluded.

EFFECTS OF LIGHTNING-STROKE.

A storm which occurred near Monmouth on June 25th resulted in two fatal cases of stroke by lightning. In one of them the victim, an iron-puddler, was walking between the rails of the railway, when he was killed by lightning. When seen by Mr. Nathaniel Coates he was quite dead. From the vertex of the cranium—he was rather bald—to the epigastrium on the right side there was a tract two inches wide of singed hair, but the skin was not burnt. From a point a little below the perineum down the inner side of both legs there was a smaller track, about one inch wide, where the skin was reddened, and the epidermis could be easily rubbed off. There did not appear to be anything more the matter; it may be added that the body had lain in the rain some time after the accident before the examination was made. No bones were broken. The body was not opened. He did not appear to have any money or a watch about him. The clothes were kindly sent up for our inspection. His cap was split in two, the scarf about his neck was burnt in two, the shirt was burnt down the front, as was also the coat, though this was less destroyed. The inner side of the right leg of his trousers was burnt from the top to the bottom, as well as the drawers and stocking; the clothes of the left leg were less burnt. The boots were split in two, so that the soles would hardly hold together. There is every reason to believe that in each of these cases death was instantaneous. As the present summer has been unusually prolific in such accidents, the following statistics which have been collected by Sestier (De la Foudre, de ses Formes et de ses Effets) may be of some interest:—Only a minority of lightning accidents are fatal; in 601 cases there were only 250 deaths. Fatal accidents are more frequent in men than in women; of 307 men struck by lightning, 165 were killed, while of 137 women only 51 perished. In the vast majority of cases (340 out of 354) death was instantaneous. The danger is greatest in buildings and places (churches, schools, &c.) where crowds of people are gathered together. The part most often struck is the head, then the chest and the limbs. In cases in which the head is struck, the mortality is double what it is when only the trunk or the limbs are injured. Among the results of lightning-stroke are the following, according to the authority quoted above:—Loss of consciousness, lasting from a few minutes to seven days; paralyses, lasting from half-an-hour to four months; deafness, lasting from a few seconds to several months; blindness, lasting from three days to seven months; lastly, a state of apparent death lasting from a few minutes to six hours after the accident. One case is on record (*Annales d'Hygiène Publique*, 1880, p.257) in which lightning marks on the front of the neck exactly resembled those caused by strangulation, while there was a small hole behind the ear with ecchymosis of the surrounding skin and singeing of the hair, which might have been mistaken for a gunshot wound.

POISONOUS FISH.

Mr. E. Earle, of Malvern, Jamaica, has recently called attention in the *Field* to some paragraphs which appeared in the Journal last December on cases of poisoning by unwholesome fish. With regard to certain large fishes of the mackerel tribe, Mr. Earle states that the bonito (*Thynnus coritta*), the albacore (*Auxis Sloanei*), and the Atlantic mackerel (*Scomber grex*), all found in Jamaica waters, have not the reputation of being even periodically poisonous. The *Sphyræna barracuda*, or long barracouta, is poisonous at certain (or uncertain?) seasons: an allied species *S. pecuda* does not share that bad reputation. Dr. Francis Day, the well-known ichthyologist, in a communication published

in the *Field* of March 17th, stated that he had obtained four species of the same genus on the Indian coast, but had never heard of their flesh being the cause of poisonous symptoms in man. He brought forward evidence that coral polypes cause many fishes which feed upon them to become unfit for food. Drs. McClelland and Griffith have noted that a barbel (*Oreinus*) often caught in the mountain streams of Assam, caused, when eaten, remarkable cerebral symptoms, with little or no gastric disturbance; but Dr. Day himself observed a case of poisoning by this fish at Chumba, the patient being one of his own servants, where intense abdominal pain, an hour after the meal, was the principal symptom. The same effect followed the eating of a carp (*Semiplotus*) in the Himalayas. The horse mackerel (*Caranx fallax*) is wholesome when young but poisonous when old. Three exotic herrings—*Clupea longiceps* (the oil sardine of the Malabar coast), *Clupea perforata* (of the Straits of Malacca), and *Clupea venenosa* (probably a variety of *C. perforata*) of the Seychelles, have all been known to cause severe choleraic symptoms. A West Indian herring, *C. humeralis*, is so poisonous through feeding on *Physalia* that, said Dr. Day, "it has been known to occasion death in a few minutes." The fact has been proved that eels, as well as the Mauritian gouramy (*Osphromenus olfax*) have caused intestinal irritation from having been kept in foul ditches or tanks. The common Indian mackerel (*Scomber microlepidotus*) is abundant at Cochin, but rapidly taints and becomes poisonous. After referring to the poisonous file-fishes, box-fishes, and globe-fishes of the tropics, and discussing the unsettled question of poisonous roe, and the alleged toxic properties of the flesh of male fishes after spawning, Dr. Day stated that the manager of a large London hotel had informed him that he had seen so many cases of illness after eating mackerel during the summer months, that he strongly objected to this species of fish being cooked on his premises. The question of poisonous fish requires much careful scientific investigation. Judging from the cases of mackerel poisoning which occurred at the end of last year in London, where violent delirium and symptoms of acute peritonitis were constant symptoms, we may conclude that in other instances the cause has not rarely been overlooked. Indeed, the case may have been mistaken for some well-known intra-abdominal surgical lesion.

CHLORIDE OF METHYL AS A LOCAL ANÆSTHETIC.

THE cold developed by the passage of chloride of methyl from a liquid to a gaseous state was utilised some time since by a French surgeon, M. Debove, for the purpose of inducing local anæsthesia. Certain modifications have been introduced by M. Bailly, of Chambly, by which the method has been rendered much more practical and safer. Instead of freezing the part by allowing a jet of the gas from a siphon receptacle to play upon it, he saturates plugs of cotton-wool with the liquid, and places them on the spot to be operated on, or on the seat of pain. It has been found exceedingly useful in the treatment of neuralgia, sciatica, etc. To facilitate the transport of the liquid he has designed a double glass tube, the inner one containing the methyl, and the space between the two tubes being rendered a vacuum. By means of a capillary tube the anæsthesia can be directed to particular spots too small for the application of a tampon. When the latter is employed, in five or six seconds the skin becomes blanched, indurated, parchment-like, and depressed. The anæsthesia thus obtained is amply sufficient to allow of incisions, scarifications, cauterisations, etc., without sensation.

LOCAL ANÆSTHETIC EFFECTS OF HELLEBOREIN.

V. VENTURINI and E. Gasparini, working in the laboratory of Professor Buffalini, at Siena, recently made the discovery that helleborein had a local anæsthetic effect. A communication on the subject was made on March 9th by Professor Buffalini to the Società tra i Cultori delle Scienze Mediche, of Siena. The physiological effects of helleborein and helleborin were already partly known by the experiments of Schroff, Dragendorff, Marmé, Santoliquido, and Paul. Santoliquido recently contemplated an investigation of the influence of these two glycosides on the heart. The local anæsthetic effects of these two substances, however, had been quite unknown hitherto. The following is a summary of the observations of Venturini and Gasparini: On the instillation of some drops of a solution of helleborein into the conjunctival sac of rabbits, complete anæsthesia of the cornea came on after fifteen minutes. Pricking with a needle was not felt by the animals. The same results were also obtained in experiments on dogs, without any interference with the function of the pupils or eyelids or with vision. The experiments were then repeated with a solution, each drop of which contained about 0.0005 grammes of the glycoside; the same anæsthetic effect was produced on the cornea, after an interval of fifteen minutes, when three or four drops of this strength were injected into the eye. The cornea regained its normal sensibility in half an hour from the commencement of anæsthesia. No bad after-effects were observed on the subsequent days. Venturini and Gasparini consider that in operations on the eye, helleborein is preferable to cocaine, as its effect is limited to the cornea, and does not affect the sensibility of the other parts of the eye in any way. They conclude that: (1) Helleborein, even in a very diluted solution, produces complete anæsthesia of the cornea, without irritating the conjunctiva or the cornea. The anæsthesia produced by this substance is of longer duration than that obtained with cocaine. (2) Though the anæsthesia is complete, there is no relaxation of the eyelids. (3) No change in the pupil or in the intra-ocular tension is observed. (4) Helleborein causes local anæsthesia in the parts into which it is injected. As, however, it has a powerful cardio-toxic effect, its application to the cardiac region requires great precaution. Whether the influence of the helleborein is to be ascribed to the helleborin (as Professor Buffalini thinks) has yet to be decided.

SCOTLAND.

ANDERSON'S COLLEGE, GLASGOW.

THE chair of Materia Medica at Anderson's College, rendered vacant by the resignation of Dr. James Morton, has been filled by the appointment of Dr. Alex. Napier, Assistant to the Professor of Materia Medica and Therapeutics in the University.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.

AT the breakfast to be given by the Scottish Branch of the British Medical Temperance Association and the Scottish Temperance League to the members of the British Medical Association in the Queen's Rooms, Clifton Street, Glasgow, on the morning of Wednesday, August 8th, at 8 o'clock, the following speakers, amongst others, are expected to be present: Professor McKendrick, Rev. John Lowe, F.R.C.S.E., Drs. Alfred Carpenter, Norman Kerr, and Surgeon-Major Pringle.

GLASGOW POOR CHILDREN'S TRIP.

ONE of Glasgow's most enterprising merchants has this year repeated an act of generosity begun by him a couple of years ago, by giving a trip to poor children. The excursion is meant for children who otherwise would have no chance of such enjoyment. The excursionists numbered nearly 2,000, and over 200 ladies and gentlemen were also present to superintend them. The children were taken by steamer to Rothesay, where they spent the afternoon, their temporal wants being abundantly supplied. Amuse-

ments and games of all sorts were also provided, prizes to the value of £50 being subsequently distributed. No accidents happened, and the whole party returned safely to town in the evening.

THE MARCHIONESS OF AILSA AND THE MAIDENS CONVALESCENT HOME.

THE sudden death of the Marchioness of Ailsa on July 26th has caused great regret among all classes of the community. She spent much labour and time in improving the condition of the poor of Maybole and in promoting the cause of temperance among the working classes. She also, at considerable expense, founded a convalescent home at Maidens, on the self-supporting principle, for the benefit of the sick poor. For a small sum per week excellent accommodation in a beautiful and healthy locality could be obtained by any one who was certified by a medical man as a fit patient and likely to be benefited by admission. It is to be hoped that so praiseworthy a scheme will not now be allowed to drop.

GRADUATION CEREMONY, UNIVERSITY OF GLASGOW.

THE summer medical session at the University of Glasgow was brought to a close on July 26th, with the usual ceremony of graduation in medicine. The Vice-Chancellor Caird presided, and there was a large attendance of students and their friends; 105 medical graduands were presented for their degrees of M.B. and C.M., by Professor Leishmann; of these, two obtained "High Commendation," and fourteen "Commendation," Mr. Landel Rose Oswald, M.B., gaining the Brunton Memorial Prize as the most distinguished graduate of the year. Fourteen gentlemen were also presented for the degree of M.D., of whom David Finlay, M.B., Charles Macpherson, M.B., and William Wallace, M.B., were commended for their theses. After the class medals had been presented to the successful students, Professor Simpson delivered the closing address. In well-chosen words he pointed out to those about to leave the University some of the difficulties they had to encounter, and warned them against supposing that true success in life consisted in amassing wealth, in gaining or wielding influence, or in attaining high position. He then pointed out some of the obligations members of the medical profession owed to their patients, and the sacredness of the trust reposed in them. The proceedings were closed by the benediction, pronounced by the Vice-Chancellor.

IRELAND.

RICHMOND HOSPITAL.

AMONG the candidates for the Richmond Hospital surgeoncy are Mr. J. D. Pratt, Mr. Burke Gaffney, Assistant Surgeon Vincent's Hospital; Mr. Burgess, Assistant Surgeon Richmond Hospital, and Mr. Laffan, of Cashel.

WOMEN AND CHILDREN'S HOSPITAL, CORK.

A HORTICULTURAL Show and Silk Industry Exhibition was held in the Assembly Rooms, Cork, last week, in aid of the funds of this institution. A very interesting feature of the entertainment was an exhibition of the silkworm industry, the various stages of production being illustrated by examples.

CORK SEWERAGE.

THE Local Government Board have sanctioned a loan of £750 to the Cork Corporation, for the purpose of ventilating certain sewers in their district. The absolute necessity for full ventilation in connection with sewers is now universally conceded, and, in fact, a loan would not be sanctioned under the Public Health Act for the construction of a sewer for which such provision is not made. The proposal is to ventilate the sewers through gratings in the streets immediately over the sewers at short intervals. This is the arrangement now generally adopted, and is the best plan.

ROYAL COLLEGE OF SURGEONS.

THE ordinary meeting of the Council was held at the College on the afternoon of Thursday, August 2nd. The minutes of the quarterly council, held on July 12th, were read and confirmed. A report from the Court of Examiners of the candidates found qualified for the the diploma of Member was read, and it was resolved that diplomas of Membership be issued to the several persons whose names are included in such report.

A report was read and adopted from the Committee on the Extension of the College Premises. The Committee reported that, with a view to providing the Conservator with a house similar in character to that recently occupied by him, they have obtained plans from Mr. Salter, together with a detailed approximate estimate showing the cost thereof, and amounting to £3,410; and, having considered the same, the Committee recommend the Council to authorise the building of the house at the approximate estimate supplied by the architect.

The Committee further recommended the Council to authorise the expenditure of upwards of £278 for the purpose of fitting lightning conductors to the College Buildings and fittings for the Library.

It was resolved that the Museum be closed as usual during the month of September for the purpose of the general annual cleaning.

A letter was read from Sir Henry Pitman, enclosing a copy of the following resolution approved and adopted at a meeting of the Royal College of Physicians on the 26th ultimo:—

"That a Committee be appointed, consisting of seven nominated by this College and seven nominated by the Royal College of Surgeons, to report to the two Colleges as to the educational or scientific uses to which the building on the Embankment, now in course of erection by the Colleges, can be best applied, and generally as to its maintenance and management."

A similar resolution was passed by the Council of the College of Surgeons; and the President, the two Vice-Presidents (Mr. J. W. Hulke and Mr. Christopher Heath), together with Messrs. Marshall, Bryant, and Berkeley Hill, were appointed as representatives of the College of Surgeons on the Committee.

A letter was read from Mr. Wilde, forwarding the Supplemental Charter under the Great Seal with a print showing all the alterations made by the authorities of the Privy Council and the Home Office.

A letter was also read from the Registrar of the General Medical Council, forwarding, by direction of the President, a copy of the reports of the Inspectors, appointed by the Medical Council, on certain final examinations in medicine, surgery, and midwifery held by the Examining Board in England, and requesting to be favoured with any remarks thereon which the Council of the College may have to make.

It was resolved that the reports of the Inspectors be referred to the Committee of Management, to report thereon to the Council.

It was resolved that the annual meeting of Fellows and Members be held on Thursday, November 1st, at 3 P.M., and that the notices respecting it and the contents of the Report from the Council be the same as laid down in the Minutes of Council of August 6th, 1885, and of April 12th, 1888.

The SECRETARY reported that the contract for the new building on the Embankment by Messrs. Higgs and Hill had been drawn out by Messrs. Wilde, and the seals of the two Colleges affixed thereto, the contract amounting to £24,667, which, with the additional estimate for the heating apparatus, amounting to £1,175 10s., brought the total cost of the building, exclusive of internal fittings, up to the sum of £25,842 10s.

DR. EDWARD WILLIAMS, J.P., for many years Secretary, and subsequently President of the North Wales Medical Association, celebrated last week his "golden wedding" at Wrexham. Several deputations of his fellow townsmen, including one headed by the mayor, waited upon him and presented him with congratulatory addresses.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.

FIFTH REPORT OF THE COMMITTEE TO THE MEMBERS, FOR THE YEAR ENDING JUNE 30TH, 1888.

GENTLEMEN,—In presenting to you our fifth report we are fortunately able to continue the pleasantly monotonous record of prosperous progress and good work. Four years and a half after the Society commenced its career it is encouraging for us to be in a position to state that, from whatever point of view it may be regarded, the work of the year just closed will compare very favourably with that of any of those preceding it. Such a fact is the best promise for the future of our Society, and at the same time affords ample justification of the anticipations and calculations which led to its formation.

Now that a sufficient time has elapsed to enable a definite judgment to be formed, it may be useful and interesting to recapitulate the problems that were left to be decided by the future when the Society was started, and also to examine by the light of our experience the answers that facts have given to them.

Naturally the first and most important question was whether there was any considerable demand for the formation of such a Society, and if a sufficient number of members of the medical profession would join to ensure its stability and permanence. After careful consideration and consultation, the minimum number of members for this purpose was fixed by expert opinion at 400. This number was speedily obtained, nearly 500 proposals being received in the first six months. Since that time the numbers have steadily increased, the additions growing more numerous in each succeeding year, the total proposals received up to the date of this report being 1,039. Of course the actual number of members is considerably below this, the total having naturally been reduced from several causes, although the proportion of those who relinquish their membership after having once fully taken it up is, fortunately, very small. There remains, however, an effective membership of more than double the number stipulated for; and, while this is conclusive evidence of the need for such a Society, it is a source of strength and security, since calculations based on average experience are more likely to work out correctly in a large than small membership.

Another question of the highest importance was the financial basis on which the Society should be founded. Although great care was exercised in this matter, and the best available authorities and sources of information consulted, it was recognised as impossible to determine the point with any certainty by any other means than the light of actual experience. This experience has now been obtained in sufficient volume to be regarded as trustworthy, and proves beyond the possibility of doubt that the financial lines on which the Society was founded are such as to render it absolutely secure. The Society has now to its credit a capital of nearly £25,000, created entirely by the premiums of members; and although how much of this is profit and how much necessary reserves can only be determined by the actuarial process of valuation, the members can await the application of this test with complete confidence. On the other hand, the disbursements made by the Society have been sufficient to demonstrate its widespread usefulness, a total of £5,600 10s. 8d. for sickness pay and £1,150 for death having been paid since the commencement.

If a closer examination be made of the operations represented by these disbursements, especially in the matter of sickness pay—unquestionably the most important part of the work of the Society at present—some very interesting facts are elicited. Thus the amount paid for sickness has been participated in by 275 members out of a mean average membership during the period of about 700—from which it would appear that one out of every three members is liable to experience some disabling sickness in the course of four years. This is a proportion for which those who have not examined the matter will scarcely be prepared, and it affords ample evidence of the widespread risk of sickness. Of course there has been great divergence in the nature and duration of the claims, many of which have been for the minimum of one week, while one claim has extended over three years, and another over two. The latter facts certainly prove the need for our present system of continuous payment at reduced rates in cases of permanent disablement, as the Society in such cases provides what may in effect be an allowance for life, which must be of great value to the member, and yet causes no appreciable financial strain. Another interesting experience has been the comparatively large number of disablements from accidents; this would appear to be a risk to which members of the medical profession, especially those practising in country districts, have more than ordinary liability. Several of the accidents—against which, of course, the medical examination at joining provides no protection—have occurred almost at the commencement of the membership; in one instance (a trap accident, causing compound fracture of the ankle), the consequence was that the member received six months' sickness-pay (£109 4s.) during the first year's membership. This and similar cases afford undoubted proof of the need for the Society, and of the real and ever-present possibility of it being useful to even the most healthy and vigorous of its members. Briefly summarised, the deduction to be drawn is that, while the sickness-rate experienced is apparently below that anticipated in the tables, and is therefore amply provided for, the average risk is a very tangible one, and this department of the Society's work promises to be constantly active and useful, while the nature of the business will always demand careful attention and supervision.

Another point raised at the commencement, was the possibility of managing the Society in a manner that should be at once efficient and economical. From the outset it was plain there would be no lack of voluntary and honorary service placed at the disposal of the members, owing to the ready recognition of the useful and necessary character of the undertaking; but it was a question for consideration how far such service would be able to cope with a business involving a great deal of minute detail, the equitable adjustment of matters sometimes of a delicate and difficult nature, and the safe and profitable investment and control of a large and continually growing capital. Indeed, one Society started to transact a similar business, open to the general public, after applying for and receiving information derived from our experience, pointedly stated in its prospectus that such duties could only be efficiently discharged by insurance experts. Although this is a point on which we must naturally touch with reticence, we think it may be fairly claimed on behalf of the Society that the results have furnished a complete reply to this and similar statements. For more than four years detail work of a heavy and responsible nature has been carefully and smoothly dealt with. During that period more than 1,000 proposals have been examined and decided upon: a large and varied correspondence has been promptly dealt with; over 11,000 notices have been issued to the members; 1,500 separate certificates of sickness have been compared and verified, and nearly 1,600 cheques examined and countersigned—the whole of the work having successfully passed the ordeal of a searching audit. During the same term a large number of committee meetings have been held at regular intervals, and 301 resolutions adopted and recorded. Constant attention has also been given to the all-important matter of finance, and the measure of success in this direction is the fact that, in the face of the admitted difficulties at the present time in securing absolutely safe remunerative investments, the capital of the Society is invested at an average rate of £3 17s. 6d. per cent. in stocks of the highest class, while the judgment with which the investments have been chosen is justified by the fact that over £4,598 worth of stock has recently been sold for purposes of reinvestment at an average profit over the purchase price of 9 per cent.

If the cost of working the Society be examined, it will be found to be pleasantly small, and far below the anticipation. The amount set aside at the outset for purposes of management was fixed at a maximum charge of 10 per cent. on the premium income—which was at the time considered an extremely low rate. So far, however, not half this sum has been required, the working expenses having been met by a proportion of less than 4 per cent. of the members' payments, exclusive of interest. Nor have any special or unusual means been taken in apportioning charges to bring this about; on the contrary, several items have been charged to the management fund which might have been debited to the assurance funds with at least equal reason, if it had been desired to do so. This economy, important and satisfactory in itself, becomes doubly so when the strictly mutual character of the Society is considered, under which the whole of the profits and reserves are available solely for the benefit of the members. In other words, the whole of the contributions, with the exception of less than tenpence in the pound, and all accruing interest are devoted to the assurance objects of the Society, and must be applied solely for the advantage of those by whom they have been paid. The cost of administration may safely be said to

be lower than that of any society whose work is comparable with ours, and this is the more striking when it is remembered that it covers the expense of a quarterly receipt of premiums and of constant weekly disbursements. It must, however, in justice be pointed out that this result has been largely brought about by a quite unusual amount of intelligent and active honorary work given to the Society, and that it has enjoyed the advantage of services rendered to it by many members of the profession and by the medical press without fee or payment; especially is this the case with regard to the BRITISH MEDICAL JOURNAL, which has rendered very material aid at the commencement, and has throughout afforded the Committee most strenuous, unceasing, and valuable assistance.

Thus a comprehensive review and retrospect of the Society's work—which we considered this a fitting opportunity to make—demonstrates the most ample grounds for satisfaction with the past and confidence in the future. We are, however, under a legislative obligation to submit the affairs of the Society to actuarial examination and valuation at least once in every five years—a course as to the wisdom and prudence of which there is no room for doubt. It has been determined to have this done up to December 31st next, when the whole of the facts will be furnished to our very eminent and able consulting actuary—Mr. F. G. P. Neison, F.R.I.A. We hope to be able to place in your hands an abstract of his report before the general meeting in August, 1889, and you will then obtain the result of the application of scientific tests to the work of the Society, in addition to the general facts and conclusions which it is now our privilege to place before you. In the meantime we invite your attention to the following analysis of the details of the transactions of the year just closed.

NUMERICAL POSITION.

At the commencement of the year under review there was an available membership of 774. During the period 139 proposals were received, as compared with 125 in the previous year and 97 in the year preceding that. The whole of these, with the accompanying certificates of health, were carefully examined: in many cases further inquiries made, and eventually we were enabled to accept all but six—a fact that proves the high average character of the lives presented. This leaves an available increase of 133—against which must be set 5 withdrawments on payment of surrender values, 4 members' deaths, and 17 lapses and exclusions for non-payment. If the total of these (26) be deducted from that of the 133 new members the net increase will be seen to be 107, as compared with 98 in the previous year, bringing the total existing membership up to 881.

It is necessary to explain that the surrender values alluded to were granted after full inquiry, which will also be necessary in all future similar applications. While we regard this rule as an equitable mode of terminating membership under exceptional circumstances, it is obviously one that must be administered with great care, and—especially in respect to the sickness fund—with full regard to present risks and future possibllities.

SICKNESS FUND.

In this fund there has been an income from premiums alone of £4,765 5s. 6d., as compared with £4,133 6s. in the preceding year. The interest received amounts to £308 14s. 6d., as compared with £160 4s. 11d., and there is a new item of £199 11s. 3d. profit on sale of stock, which will be further explained in a subsequent part of this report. The receipts are thus £981 0s. 4d. in excess of those of the preceding year. On the other side sickness-pay has caused an expenditure of £1,721 17s., against £1,619 5s. in the preceding period, an increased outlay of £102 12s. This is, of course, more than accounted for by the increase of members and income: and it must further be remembered that the tables on which the fund is based rest on the assumption that the sickness claims will entail an augmented proportionate charge with each year's increase in age. If, however, this expenditure be treated as a charge on premium income alone, it will be seen the proportion expended this year is 36 per cent., and, as in the two immediately preceding years the charge amounted to 37.7 and 38.1 per cent. respectively, it will at once be seen the anticipated gradual rise in the sickness-pay rate has not, as yet, been realised.

Payment has been made during the year to no fewer than 125 members, as against 92 in the previous year, the period claimed for being an aggregate of 524 weeks 1 day, as compared with 497 weeks 5 days. Thus, while the claimants have been more numerous the average duration of each claim has been less. The whole of these claims have been carefully scrutinised, medical certificates as to the condition of the sick members being received each week. While it is requisite the members should have the fullest advantage when sick from the insurances they have effected, it is obviously necessary in the interests of all to see that claims are only recognised when the conditions set out in the rules are duly fulfilled, and it has been our very unpleasant duty to refuse payment in one or two cases where this has not been so. On the whole, however, the payments have been made with the minimum of friction; and we have received a number of letters from members at the termination of their claims expressing satisfaction at the punctual and courteous manner in which this part of the Society's business is conducted.

ANNUITY FUND.

The premium income to this fund has been £2,304 6s. 2d. during the year under review, as against £2,311 11s. 7d. in the preceding period. This slight decrease is not, however, due to any falling off in the membership or the normal premium income of the annuity branch, which has in fact considerably increased in the year. During the previous year the system was introduced of an increased payment to secure a proportion of the annuity premiums being repaid to members' representatives in case of death before the age of 65. At the same time the right was given to members during a limited period to pay the amount of these extra premiums calculated from the date of joining, and thus to antedate the application of the new principle. A considerable number availed themselves of this, and their payments, as pointed out in the previous report, increased the annuity premiums last year in an abnormal manner, and they are for this reason of no value for purposes of comparison. If, however, the next preceding year, when the transactions were of the usual character, be taken, the premium income will be found to have been £1,895 15s. 9d., and if this be compared with the present amount (£2,304 6s. 2d.) a fair idea of the growth of the income of this fund will be obtained. There is at present no expenditure calling for comment from this fund, but on March 1st next a number of members will be entitled under the new rule, in case of death, and occasional disbursements under this head may be anticipated. In the meantime steady growth and profitable accretion of the reserve capital are all that can be looked for, and these are certainly being very satisfactorily accomplished.

LIFE ASSURANCE FUND.

The amount received in this fund from members' payments is £81 15s. 10d. more than in the preceding year (£853 9s. 4d., as compared with £771 13s. 6d.). Interest has produced a further excess of £35 4s. 7d., while there is a new and extra item of £42 6s. 11d. profit on sale of stock. The income to the fund is thus £159 7s. 4d. more than in the preceding period. On the other hand four claims have had to be met, involving an expenditure of £650, while none were paid during the previous year. This is hardly, however, a correct comparison—for, as was pointed out in our report for last year, two of these deaths had, at the date of its issue, already taken place, and payment was only delayed pending the production of the necessary papers. Thus the facts really are—two deaths this year causing an expenditure of £400 out of a total income of £964 4s. 1d., as compared with two deaths in the previous year, causing an expenditure of £250 out of a total income of £804 16s. 9d. Of course the number of claims on this fund differs from the total deaths recorded, as only a section of the members have insurances on their lives.

MANAGEMENT FUND.

The total income to this fund during the year under review has been £958 13s. 6d., as compared with £871 8s. 6d. during the preceding period—an increase of £87 5s. On the other side there is an increase of expenditure from £406 18s. 3d. to £410 1s. 3d., or £3 3s. This is due to ordinary causes, arising chiefly from the growth of the Society, and involves no item calling for special comment. The expenditure, instead of absorbing the 10 per cent. deducted from premiums, has been under 4 per cent. for the year, and thus a considerable amount (£548 12s. 3d.) has been added to the already large accumulation in this fund. If the whole period since the commencement be taken it will be found the 10 per cent. deduction in question has produced £3,106 16s., of which amount the present balance of £1,996 15s. 6d. has been saved—so that the proportion of cost taken over the whole period has been under 4 per cent. Of course items may arise in the future which will

make exceptional demands on this fund; in fact the coming year will have to bear the cost of the valuation of the Society, which really is a charge over the whole five years. There is no reason, however, to anticipate any material alteration in the present satisfactory state of things; and this is the more gratifying as the profit under this head accumulated on behalf of the members does not need actuarial verification.

Financial Position.

Taking the various funds as a whole, the following is a statement of their accumulated reserves at the close of the term under review, and of the preceding year:—

	June 30th, 1887.	June 30th, 1888.
Sickness Fund	£7,794 15 10	£11,340 10 1
Annuity	6,628 11 2	9,285 3 4
Assurance	1,773 12 9	2,072 8 10
Management Fund	1,448 3 3	1,996 15 6
Total	£17,645 3 0	£24,694 17 9
Increase of reserves on the year ...	£7,049 14 9	

During the year, special attention has been given to the question of investments, and, as far as possible, selection has been made of the securities of local bodies, as to which there could be no room for doubt, and which presented the further advantage of being taken at par, and with a minimum of cost. The conversion of the Government Funds (in which, fortunately, we had no investments), had a marked effect on the value of the higher class of securities, and we found some of those which were held by the Society, and quoted on the Stock Exchange, had considerably increased in value. Concurrently with this coming to our notice, the opportunity arose for a loan of £7,000 to the Aston (Birmingham) School Board, repayable over a term of fifty years, at 3¾ per cent. interest. We therefore determined to sell some Corporation and Railway Stocks, which were then returning the Society an average interest of £3 12s. per cent., in order to secure the profit arising from their increased value, and obtain a further advantage by reinvestment at an enhanced rate of interest. This was successfully accomplished, stocks being sold to produce £5,009 0s. 9d., at a profit over the price paid by the Society for their purchase of £410 9s. 7d. This sum will be found divided *pro ratâ* to the various funds.

The following is a statement of particulars of the stocks sold, with the items of profit:—

	Bought for	Sold for	Profit.
Great Western Rent Charge	£491 15 3	£541 6 5	£49 11 2
Croydon Corporation Stock	1,506 15 11	1,646 4 10	139 8 11
Wolverhampton ,, ,,	1,400 0 0	1,520 19 4	120 19 4
Cardiff ,, ,,	1,200 0 0	1,300 10 2	100 10 2
Total	£4,598 11 2	£5,009 0 9	£410 9 7

Although the sale was concluded and the profit realised before the close of the year under review (June 30th) time did not admit of the loan to the Aston School Board, already alluded to, being completed by the same date, and this will account for the unusually large sum (£7,761 11s. 5d.) standing on current account to the Society's credit at our bankers—the Union Bank of London. Since the close of the financial year, the investment in question has been completed, and on July 10th £7,000 was advanced to the School Board in question, reducing the balance at our bankers to the minimum amount possible for the efficient working of the Society. The total amount invested in the names of the Trustees, and bearing interest, became on the completion of this transaction, £23,933 6s. 4d.

The following statement shows the position of the Society on June 30th of each year since the financial commencement on March 1st, 1884. To facilitate comparison, the amount of increase for each year is also shown:—

Date.	Amount of Reserves.	Increase on Years.
June 30th, 1884 ...	£1,434 16 3 ...	—
,, ,, 1885 ...	6,433 0 10 ...	£4,998 4 7
,, ,, 1886 ...	11,330 7 6 ...	4,897 6 8
,, ,, 1887 ...	17,645 3 0 ...	6,314 15 6
,, ,, 1888 ...	24,694 17 9 ...	7,049 14 9

(Signed) By order of the Committee,
Ernest Hart, *Chairman.*
C. J. Radley, 26, Wynne Road, Brixton, S.W., *Secretary.*

Cholera in Burmah.—A telegram from Rangoon says cholera of a virulent type has appeared in several places throughout the province. There has been a bad outbreak in Moulmein Gaol, where a large number of persons are confined.

SOCIETY FOR THE STUDY AND CURE OF INEBRIETY.

A reception by the President and Council of the members of the Habitual Drunkards Legislative Committee of the British Medical Association to commemorate the enactment of permanent legislation in the interests of the inebriate, was held on Friday afternoon, July 27th, in the rooms of the Medical Society of London. Among those present were Lord and Lady Denman, Sir Charles Tupper, Sir W. T. Robertson, M.P., Mr. P. M'Lagan, M.P., Dr. Clark, M.P., Dr. Arthur Jamison, Mr. J. Hogg, Dr. Hart Vinen, Mr. Jennings Demorest, of New York, Mr. J. Raper, and Dr. John Hilton, of the United Kingdom Alliance.

Dr. Norman Kerr took the chair. He sketched the history of the movement, and congratulated the company on the successful issue of a quarter of a century's agitation by the British Medical Association and other bodies in the enactment of permanent legislation in place of the previous temporary measure. He acknowledged the services of Lord Aberdeen, Dr. Cameron, Sir Walter Foster, Sir Trevor Lawrence, and Sir Lyon Playfair. All the energies of the friends of the victims of the disease of inebriety must now be devoted to the amendment and improvement of the law, to the provision of medical care and treatment for the drunkard, and for power to incarcerate the incorrigible in homes provided for the reception of inebriates, which would be a far cheaper and better plan than the repeated fines of 5s. and costs, or terms of imprisonment, which were inflicted by the magistrates, and which were no cure for inebriety.

The Rev. Dr. Arthur Jamison then moved:

That this meeting desires to cordially thank the Houses of Parliament and the members in charge of The Habitual Drunkards Act Amendment Act (the Earl of Aberdeen, Dr. Cameron, Sir Walter Foster, Sir Trevor Lawrence, and Sir Lyon Playfair) for the enactment of permanent legislation in the interest of individuals.

Mr. Jabez Hogg seconded the motion. The resolution was carried.

Lord Denman having said a few words of acknowledgment, Dr. Hart Vinen then moved:

That this meeting cordially thanks the Right Hon. Henry Matthews, Home Secretary, and the Government for their valuable aid in the enactment of permanent legislation in the interest of inebriates, the British Medical Association, and the press, medical and general, for aid and co-operation in the agitation for such legislation.

This was seconded by Mr. W. Jennings Demorest, of New York, and carried.

Dr. Clark, M.P., replied for the House of Commons.

Mr. J. Raper moved:

That this meeting, while grateful for the enactment of permanent legislation, cannot but regard the Inebriates Legislation Act as imperfect and incomplete, and strongly urges the need of such amendments as may be necessary to render the admission to a retreat for inebriates as simple and easy as possible; to empower the proper authority to grant compulsory admission, in well-defined cases, of inebriates unwilling to apply voluntarily; and to provide medical care and treatment for poor and destitute inebriates.

This was seconded by Mr. John Hilton and adopted, and the meeting terminated.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETINGS.

A meeting of the Council 1887-88 will be held in the Randolph Hall, University Buildings, Glasgow, on Tuesday next, the 7th instant, at half-past nine o'clock in the forenoon.

Meetings of the Council 1888-89 will be held in the Randolph Hall, University Buildings, Glasgow, on Wednesday, the 8th instant, at half-past nine in the forenoon, and on Thursday, the 9th instant, at eleven o'clock in the forenoon.

NOTICE OF QUARTERLY MEETING FOR 1888.

ELECTION OF MEMBERS.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

A meeting of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must

send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

DORSET AND WEST HANTS BRANCH: SUMMER MEETING.

THE summer meeting of this Branch was held at Swanage on Wednesday, July 25th, GEORGE HENRY BATTERBURY, M.D., President, in the chair. There were also present sixteen members and visitors, including Mr. John Ewens, of Clifton.

New Member.—Dr. Gough Ashton, of Portland, was elected.

Next Meeting.—It was resolved that the autumn meeting be held at Wimborne.

Medical Officers of Health.—A resolution was passed disapproving of the article in the JOURNAL of April 28th, relating to medical officers of health.

Discussion.—A discussion on Pleuritic Effusion was opened by the President, and taken part in by Mr. Lawton, Dr. Snow, Dr. Lawrie, Dr. MacDonald, Dr. Lush, Mr. Ewens, Dr. Humble, and Dr. Griffin.

Exhibits.—A large collection of surgical instruments was exhibited by Messrs. Lynch and Co. of London; and medicinal preparations manufactured by Messrs. Hockin, Wilson, and Co., were shown.

Dinner.—The members and friends dined together at the Royal Victoria Hotel.

NEW SOUTH WALES BRANCH.

THE seventy-first meeting of the Branch was held in the Royal Society's Room, Sydney, on Friday, June 1st, at 8.15 P.M. Present: Dr. O'REILLY, in the chair; Drs. Clay, Roth, Macdonald, M. J. Clune, Fisher, Marshall, A. Watson, Munro, Martin, Bowker, Scot Skirving, Crago, Hankins, Worrall, Clubbe, Wm. Chisholm, Pockley, Fiaschi, Megginson, Faithfull, West, Fisher. The following visitors were also present: Drs. Goode and O'Reilly.

The minutes of the previous meeting were read and confirmed.

Leacock Fund.—The Honorary Secretary (Dr. SCOT SKIRVING) announced that the result of the subscriptions for the widow of the late Dr. Leacock amounted to £112 17s., which had been forwarded to Mrs. Leacock.

Internal Urethrotomy.—Dr. FIASCHI read a paper on this subject.—Dr. GOODE said there was one excellent point about the urethrotome exhibited by Dr. Fiaschi, and that was that it made two small nicks, instead of severing the stricture by one cut, as in the case of Thompson's and Berkeley Hill's urethrotomes.—Dr. WORRALL said he thought that the knife that made one deep incision was better than one which made two smaller cuts, as you could feel the dense side of the stricture, and direct the knife to that side, and so sever the stricture at one cut.—Dr. SCOT SKIRVING agreed that it was advantageous to make one deep incision rather than two smaller incisions. The catheter should always be tied in so that the point did not remain in the bladder. Fever in these cases was often due to irritation of the neck of the bladder.—Mr. G. T. HANKINS said he had assisted Dr. Fiaschi in one of his later cases of stricture, and was very pleased with the urethrotome used by him. The instrument he himself preferred was Otis's. He always passed immediately after the operation the largest-sized bougie the incision would take, so as not to dilate after the operation, and if the bougie would not pass freely he withdrew it and cut again.—After some remarks by Dr. FAITHFULL, Dr. FIASCHI, in reply to Mr. HANKINS, said he did not pass the bougies after the operation for the purpose of dilating, but merely to clear the way for the catheter. In the case of making a deep unilateral incision there was sure to be more hæmorrhage than when two smaller incisions were made. Fever in these cases was very often brought about by the nervous influences, and not by the urine at all; for it was not all urines that would produce fever in these cases. As regarded Dr. Worrall's question as to what were considered good results, he (Dr. Fiaschi) said that if at the end of the operation you pass, say, a No 12 catheter, and at the end of twelve months you can pass the same number, surely that can be called good results.

Communications.—Dr. MACDONALD read "A Case of Stricture of the Rectum," which was discussed by the CHAIRMAN and Dr. GOODE.—Dr. WORRALL read notes on "The Immediate Treatment of Ruptured Perineum." A discussion followed, in which Dr. CRAGO, Dr. FIASCHI, Mr. G. T. HANKINS, and Dr. POCKLEY joined; and Dr. WORRALL replied.

OXFORD AND DISTRICT BRANCH.

THE annual meeting was held at the Radcliffe Infirmary, Oxford, on Friday, July 27th.

Previous to the meeting the President-elect, A. Winkfield, Esq., entertained about thirty members of the Branch at luncheon at the Randolph Hotel.

The meeting was attended by thirty-six members, the President, T. CHEATLE, Esq., being in the chair.

The minutes of the last meeting were read and confirmed.

President's Address.—Mr. Cheatle having given up the chair to his successor, Mr. A. WINKFIELD, the latter delivered his presidential address. After thanking the members of the Branch for the honour done to him in electing him President for this year, he proceeded to give an account of the growth and development of the Radcliffe Infirmary, and compared the improved sanitary condition and arrangements with the state of affairs which existed many years ago. He also gave some statistics which showed how this improved sanitation had led to a great decrease in the death-rate after operations. He drew attention to the improved nursing arrangements, and to the provision of special wards for ophthalmic and abdominal cases.

Mr. H. P. SYMONDS proposed, Mr. H. P. MADLAM seconded, "That the valuable and interesting address of the President be printed and circulated at the expense of the Branch."

New Members.—Mr. Oates, of Bampton, was elected a member of the Branch; Dr. Roberts, of Milton, Mr. Freeborn, of Clifden Hampden, and Mr. Bond, of Brill, were proposed as members of the Branch.

Report of Council.—The report of the Branch Council showed that the Branch was in a flourishing condition, and numbered nearly ninety members.

Treasurer's Report.—The report of the Treasurer was read and adopted.

Council and Officers.—Surgeon-Major Lever, of Oxford, Mr. Hayman, of Abingdon, and Mr. Maisey, of Charlborough, were elected members of the Branch Council in the place of the retiring members. Mr. A. Winkfield, the President, was re-elected to represent the Branch on the General Council. Dr. GRAY proposed, Mr. HEURTLEY SANKEY seconded, and it was carried unanimously, that Mr. Slade-Baker, of Abingdon, be the President-elect, and that the next annual meeting be held at Abingdon. Mr. A. N. Winkfield was unanimously re-elected Treasurer, and Dr. Darbishire and Mr. W. Lewis Morgan Honorary Secretaries.

Alteration of By-Laws.—Some verbal alterations in the by-laws, proposed by Mr. DARBISHIRE, were agreed to.

Visit to Radcliffe Infirmary.—The members were shown around the Radcliffe Infirmary, and the new wards and sewage arrangements were much admired.

SOUTHERN BRANCH: ISLE OF WIGHT DISTRICT.

A QUARTERLY meeting of the Isle of Wight District of the Southern Branch was held at the Pier Hotel, Sandown, on July 19th, at 3.45 P.M., the President, Dr. BUCK, occupying the chair.

Representative on the Council.—The minutes having been read and duly confirmed, the SECRETARY reported that the usual appointment of a representative on the Council had been forgotten at the last meeting. Dr. James Neale was unanimously re-appointed.

Next Meeting.—Newport was selected as the next place of meeting.

Communications.—Dr. GODFREY, of Ventnor, read a short paper, illustrated with sketches and photographs of the so-called Elephant Man.—Dr. COGHILL read a paper on Calomel, in minute doses repeated every fifteen minutes, as a cholagogue.—Dr. GROVES read notes on a case of Dilated Heart.—Dr. WILLIAMSON described a case of Exophthalmic Goître with intercurrent maniacal attacks.—Dr. ROBERTSON related a case of Tubercular Meningitis after a school examination.

Specimens.—Dr. GROVES showed a bullet removed by simple means in a recent case of pistol injury.—Dr. ROBERTSON showed a good series of pathological specimens recently removed.

Exhibits.—A good selection of new drugs, remedies and instruments were shown by Mr. W. T. Deeks, of Shanklin; new pharmaceutical preparations by Messrs. Hockin, Wilson, and Company, of London; and new case with syringe and unalterable remedies for subcutaneous use by Messrs. C. Green and Co., of London.

Vote of Thanks.—A vote of thanks to those gentlemen who had contributed so largely to the interest of the meeting was moved by the PRESIDENT and carried unanimously.

Dinner.—The members afterwards dined together.

BRITISH MEDICAL ASSOCIATION.

FIFTY-SIXTH ANNUAL MEETING.

THE fifty-sixth Annual Meeting of the British Medical Association will be held at Glasgow, on Tuesday, Wednesday, Thursday, and Friday, August 7th, 8th, 9th, and 10th, 1888.

President: John T. Banks, M.D., D.Sc.(Hon.), F.K.Q.C.P.I., Regius Professor of Physic in the University of Dublin.

President-Elect: Professor W. T. Gairdner, M.D., LL.D., Professor of Medicine in the University of Glasgow.

President of the Council. Thomas Bridgwater, M.B., J.P., Harrow-on-the-Hill.

Treasurer: Constantine Holman, M.D., J.P., Reigate.

An Address in Medicine will be delivered by Thomas Clifford Allbutt, M.D., F.R.S., Consulting Physician, Leeds General Infirmary.

An Address in Surgery will be delivered by Sir George H. B. Macleod, M.D., Surgeon in Ordinary to Her Majesty in Scotland.

An Address on his "Recent Investigations in Surgery" will be given by William Macewen, M.D., Lecturer on Clinical Surgery, Glasgow Royal Infirmary.

An Address in Physiology will be delivered by John Gray McKendrick, M.D., LL.D., F.R.S., Professor of Institutes of Medicine, University of Glasgow.

All the rooms required for the purposes of the meeting will, by the kindness of the authorities, be provided in the University of Glasgow.

PROGRAMME OF PROCEEDINGS.

TUESDAY, AUGUST 7TH, 1888.

9.30 A.M.—Meeting of 1887-1888 Council. Randolph Hall.
11.30 A.M.—First General Meeting. Report of Council. Reports of Committees. Bute Hall.
3.30 *not* 4 P.M.—Service in the Cathedral. Sermon by the Very Rev. John Caird, D.D., LL.D., Principal and Vice-Chancellor of the University of Glasgow.
8.30 P.M.—Adjourned General Meeting from 11.30 A.M. President's Address. Bute Hall.

WEDNESDAY, AUGUST 8TH, 1888.

9.30 A.M.—Meeting of 1888-89 Council. Randolph Hall.
10.30 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Second General Meeting. Address in Medicine by Thomas Clifford Allbutt, M.D., F.R.S. Bute Hall.
9 P.M.—*Conversazione* given by the Principal and Professors of the University.

THURSDAY, AUGUST 9TH, 1888.

9.30 A.M.—Address on his Recent Surgical Investigations by William Macewen, M.D. Bute Hall.
11 A.M.—Meeting of Council. Randolph Hall.
10.30 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Third General Meeting.
Address in Surgery by Sir George H. B. Macleod, M.D.
Presentation of Gold Medal of Merit to Fray Ormrod, L.R.C.P.Edin.
} Bute Hall.
7 P.M.—Public Dinner. St. Andrew's Hall.

FRIDAY, AUGUST 10TH, 1888.

10.30 A.M. to 1.30 P.M.—Sectional Meetings.
2.30 P.M.—Concluding General Meeting. Address in Physiology by John G. McKendrick, M.D., F.R.S. Natural Philosophy Class-room.
4 P.M. to 6 P.M.—Garden Party given by the Faculty of Physicians and Surgeons at the Botanic Gardens.
8 P.M.—*Conversazione* given by the Corporation of Glasgow in the Art Galleries of the International Exhibition.

SATURDAY, AUGUST 11TH, 1888.

EXCURSIONS:—(1) Lanark and Falls of Clyde; (2) Ayr and the Land of Burns; (3) the Perthshire Highlands, Lochearnhead and Crieff; (4) Callender and the Trossachs (Loch Katrine); (5) Arran; (6) Stirling, Bridge of Allan and Dumblane Cathedral; (7) Rothesay and the Kyles of Bute; (8) Loch Lomond.

*** *Members proposing to attend the Annual Meeting are particularly requested, upon arriving at Glasgow, to proceed to the Reception Room, in the Vestibule of the Chief Entrance the University (1) enter their names and addresses, obtain their Members' Tickets and Daily Journals; (2) inquire for telegrams and letters; (3) consult the list of lodgings and hotels, etc.*

The Executive Committee of the International Exhibition will present a free ticket of admission to the members of the Association for the whole of Friday.

The managers of the Royal Infirmary will give a breakfast on Friday, August 10th, to one hundred members of the Association who may wish to visit the hospital and attend the demonstrations of the staff. The hour of visit is 9 A.M., and breakfast will be served from 8.30 to 9.30 A.M. Tickets can be obtained in the reception-room.

Luncheon and smoking rooms will be provided in the Student's Union, situated within the University grounds. Luncheon will be provided at a cost of 2s. 6d. or *à la carte*. Ladies' private rooms will also be provided in the Students' Union.

From Regulations for the Conduct of Annual Meetings.—"No communication shall occupy more than fifteen minutes, and no person shall be permitted to speak more than once or for more than ten minutes during the discussion thereon."

The following discussions and papers are promised up to the present time:—

SECTION A.—MEDICINE.

Humanity Class Room.

A. MEDICINE.—*President*, Professor T. McCall Anderson, M.D. *Vice-Presidents*, R. L. Bowles, M.D.; George F. Duffey, M.D. *Honorary Secretaries*, J. McGregor-Robertson, M.A., M.B., 400, Great Western Road, Glasgow; Robert M. Simon, M.D., 27, Newhall Street, Birmingham.

The President will open the proceedings by introducing a discussion on the Diagnosis and Treatment of Syphilitic Disease of the Nervous System. Dr. Thomas Buzzard, Dr. T. S. Clouston, Dr. William Moore, Dr. Ross, Professor Grainger Stewart, Professor Julius Dreschfeld, Dr. J. G. Sinclair Coghill, Dr. Francis Warner, Dr. Frederick Bateman, Dr. C. R. Drysdale, Dr. C. W. Suckling, Dr. Andrew Smart, Dr. Alex. Robertson, and Dr. David Drummond will take part in the discussion.

On the third day of the sectional proceedings, the Value of Inhalations in the Treatment of Lung Disease is set down for discussion, to be opened by Dr. C. Theodore Williams. The following gentlemen have already indicated their intention to engage in this discussion: Dr. Burney Yeo, Dr. W. W. Ireland, Dr. C. F. Knight, Dr. J. A. Lindsay, Dr. J. G. Sinclair Coghill, Dr. Andrew Smart, Dr. J. O. Affleck, Dr. R. W. Philip, Mr. A. Kinsey-Morgan, and Dr. E. Markham Skerritt. Dr. Andrew Smart will show New Respirators, and will take the opportunity of demonstrating his method of counter-irritating by dry and moist needle puncture.

Drs. Byrom Bramwell and Milne Murray will give a demonstration of their Method of Graphically Recording the Exact Time Relations of Cardiac Sounds and Murmurs.

The following papers have been promised.

AFFLECK, J. O., M.D. Two Cases of Raynaud's Disease (Symmetrical Gangrene). Illustrated by paintings of the affected parts, and by microscopical sections of affected nerves.
BOWLES, Robert L., M.D. An Investigation into the Causes of Stertor in Animals.
COGHILL, J. G. S., M.D., Ventnor. The Treatment of Phthisical Pyrexia.
COUPLAND, Sidney, M.D. A Case of Subphrenic Abscess.
DRUMMOND, David, M.D. On the Diagnosis and Prognosis of Tubercular Meningitis.
DRUMMOND, Edward, M.D., Rome. Fever at Rome.
FINLAY, David W., B.A., M.D. Bronchiectasis treated by Incision and Drainage.
FREW, W., M.D., Kilmarnock. Prevalence of Cerebro-spinal Fever in Scotland.
GARRY, T. Gerald, M.D., M.Ch. Massage: When and How to Use it.
GREENE, G. E. F., L.K.Q.C.P. A Note on a Recent Epidemic of Erysipelas.
HANDFORD, H., M.D. The Influence and Position on Cardiac Murmurs and the Condition of the Heart in Anæmia (Chlorosis).
HARRISON, A. J., M.B. Further Researches on the Treatment of Tinea Tonsurans. Illustrated with photographs.
HAYCRAFT, Professor J. Berry, and WILLIAMSON, R. T., M.D. Demonstration of a Clinical Method for Quantitatively Determining the Alkalinity of the Blood.

HIME, Thomas Whiteside, M.B. How to Cure Whooping-cough.
JONES, A. Orlando, M.D. A New Remedy for Some Forms of Heart Disease.
LAFFAN, Thomas, Esq. 1. Our Exaggerated Estimate of the Value of Beef-tea.
LUFF, Arthur P., M.B., B.Sc. The Ptomaines or Animal Alkaloids, and their Relation to Disease.
MURRAY, Wm., M.D., Newcastle-on-Tyne. On Starving into Health.
MYRTLE, A. S., M.D., Harrogate. Neurasthenia, True and False: Diagnosis and Management.
OLIVER, Thomas, M.D., Newcastle. Clinical and Pathological Bearings of Malformation of the Heart as seen in (α) Patent Foramen Ovale, (β) Imperfect Ventricular Septum.
SMART, Andrew, M.D., Edinburgh. Communication on some Forms of Undescribed Respiratory Neuroses; their Clinical and Physiological Aspects.
STACEY, Wilson, M.D. On the Methods of Diluting the Blood, and their Clinical Uses.
STRACHAN, John, M.D. (Dollar). A Case of Pernicious Anæmia Successfully Treated by Arsenic.
STRAHAN, John, M.D. (Belfast). Asthenia in Acute Disease, and its Management.
SUCKLING, C. W., M.D. Notes on Peripheral Neuritis and on its occurrence in Brassworkers.
TOMORY, J. K., M.B. East African Fever, with special reference to Climatic Conditions.
WALLACE, —, M.D., Liverpool. Note on Some of the Bad Effects of Tight Lacing.
WARNER, Francis, M.D. Syphilitic Meningitis causing Imbecility.

Dr. Russell Reynolds, and Dr. F. W. Pavy have also intimated their intention to take part in the proceedings of the Section.

SECTION B.—SURGERY.

Chemistry Class Room.

B. SURGERY.—*President*, George Buchanan, M.D. *Vice-Presidents*, James Dunlop, M.D.; Charles Robert Bell Keetley, F.R.C.S. *Honorary Secretaries*, David Neilson Knox, M.B., 8, India Street, Glasgow; Walter Pye, F.R.C.S., 4, Sackville Street, Piccadilly, London, W.

As already announced, in this Section discussions have been arranged for on the following subjects:

1. The Surgical Treatment of Abscess of the Lung and of Empyema on Wednesday, at 10.30 A.M. To be introduced and supported by Mr. T. Pridgin Teale (Leeds), Sir Spencer Wells (London), Mr. A. Pearce Gould (London), Mr. R. J. Godlee (London), Dr. J. Ward Cousins (Portsmouth), Dr. T. Laffan (Cashel), Mr. W. J. Penny (Clifton), Mr. Walter Pye (London), and Mr. W. Thomas (Birmingham).

2. The Operative Treatment of Club-Foot, on Friday, at 10.30 A.M. To be introduced and supported by Mr. E. Lund (Manchester), Dr. Alexander Ogston (Aberdeen), Mr. R. W. Parker (London), Mr. E. M. Little (London), Mr. John Chiene (Edinburgh), Mr. W. J. Walsham (London), and others.

The whole time of the meeting on Thursday from 10.30 A.M., and the latter part of the other meetings, will be devoted to the reading of individual papers.

The following papers have also been promised.

ANDERSON, E. Garrett, M.D., London. A Case of Incontinence of Urine due to a Supernumerary or Accessory Urinary Passage.
BENTON, Samuel, Esq., London. On the Treatment of Stricture of the Rectum by Electrolysis.
BISHOP, E. Stanmore, Esq., Manchester. Some Cases of Osteotomy, with an Apparatus for fixing the Lower Limbs after Division of the Bones.
BROWNE, G. Buckston, Esq., London. An Explanation of the way in which Calculi in the Male Urinary Bladder sometimes escape Detection by the Sound, with a description of a New Form of Sound.
BROWNE, Lennox, Esq., London. Tubage of the Larynx.
CARMICHAEL, Archibald, M.D., Barrow-in-Furness. A Case of Gastrostomy.
CLARK, Sir Andrew, London. The History of a Case of Catheter Fever.
CLARKE, W. Bruce, Esq., London. Prostatic Abscess and its Consequences.
COUSINS, J. Ward, M.D., Portsmouth. (1) New Apparatus for Treatment of Fractures of Lower Jaw; (2) New Evacuator for Litholapaxy and other Bladder Operations.
DUNCAN, John, M.D., Edinburgh. The Value of Electrolysis in Angioma and Goitre.
FENWICK, E. Hurry, Esq., London. Notes from the Experience of 550 Cases of Organic Stricture of the Urethra.
FLEMING, W. J., M.D., Glasgow. 1. On Continuous Extension in Spinal Curvature. 2. On the Treatment of Perineal Fistula.
KEETLEY, C. R. B., Esq., London. Plastic Amputations of the Foot.
LAFFAN, Thomas, Esq., Cashel. On Sarcoma.
LLOYD, Jordan, Esq., Birmingham. Inflammatory Disease of the Seminal Vesicles.
MARCUS, Hugo, M.D., Paris. On Causes of Suppuration.
MCINTYRE, John, Esq., Glasgow. The Electric Illumination of the Cavities of the Body.
MORTON, James, M.D., Glasgow. On Spina Bifida, with exhibition of cases successfully treated some years ago.
MURPHY, James, M.D., Sunderland. (1) A Case of Gastrostomy, with Exhibition of Patient Eleven Months after Operation. (2) Hysterectomy per Vaginam for Uterine Fibroids, *morcellement* as practised by M. Péan.
O'CALLAGHAN, Robert, F.R.C.S., Carlow. A Case of Laparotomy for Strangulated Umbilical Hernia; Radical Cure, with a Method of Operating.
OWEN, Edmund, Esq., London. A Case of Intra-cranial (Subdural) Hæmorrhage; Localisation; Trephining; Recovery.
PEARSE, T. Frederick, Esq., M.D., London. (1) On Puncture of the Bladder; (2) On Gonorrhœa in Women.
RAKE, Beaven, M.D., Trinidad. The Value of Nerve Stretching in Leprosy, based on One Hundred Cases.
RENTON, J. Crawford, Esq., M.D., Glasgow. A Case of Severe Deformity of Lower Lip restored by Mr. Teale's operation six years ago.
ROBSON, A. W. Mayo, Esq., Leeds. (1) Prostatectomy, a Sequel of the Operation of Suprapubic Lithotomy in cases of Prostatic Enlargement. With Cases. (2) A Series of Cases of Macewen's Operation for Genu Valgum.
ROTH, Bernard, Esq., London. On Scoliosiometry, or an Accurate and Practical Method of Recording Cases of Lateral Curvature of the Spine.
SMITH, Noble, Esq. Demonstration of the Reduction of Fractured Vertebræ, and the application of Apparatus to Control the Spine.
STOKES, Sir William, Dublin. Modification of Gritti's Amputation; and will show Casts of Stumps.
THOMSON, Wm., Esq., M.D., Dublin. On Excision of the Knee-joint.
THORBURN, Wm., Esq., Manchester. The Distribution of Paralysis and Anæsthesia in Injuries of the Cervical Region of the Spinal Cord.
VALCOURT, Th. de, Esq., M.D., Cannes. Winter Sea-baths at Cannes in cases of Scrofulous Disease.
YATES, Peter, Esq., M.D., Bolton. Notes on two Cases of Cancrum Oris treated successfully by Corrosive Sublimate.

SECTION C.—OBSTETRIC MEDICINE.

Medical Jurisprudence Class Room.

C. OBSTETRIC MEDICINE.—*President*, Thomas More Madden, M.D. *Vice-Presidents*, William Leishman, M.D.; J. Halliday Croom, M.D. *Honorary Secretaries*, William Walter, M.D., 20, St. John Street, Manchester; W. L. Reid, M.D., 7, Royal Crescent, Glasgow.

The following two special discussions will take place:—

1. On Intra-uterine Death; its Pathology and Preventive Treatment. To be opened by Professor Simpson. The following gentlemen will take part in the discussion:—Drs. R. Barnes, Graily Hewitt, More Madden, W. O. Priestley, John W. Byers, Hugo Marcus, J. A. Byrne, A. E. A. Lawrence, and A. D. Leith Napier.

2. On Obstructive Dysmenorrhœa and Sterility. To be opened by Dr. Halliday Croom. The following gentlemen will take part in the discussion:—Drs. Aveling, Bantock, F. Barnes, R. Barnes, Cranny, Duke, Edis, Graily Hewitt, Macan, More Madden, Professor Stephenson, J. W. Taylor, W. Walter, J. W. Byers, Hugo Marcus, J. A. Byrne, A. E. A. Lawrence, and Dr. Braithwaite.

Dr. Samuel Sloan (Glasgow) will show his Antero-posterior Compression Forceps, and will explain their use in Flat Pelves.

Wm. Walter, M.D., Manchester, will exhibit his instruments for Securing the Broad Ligaments during Extirpation of the Uterus per Vaginam.

William L. Reid, M.D., Glasgow, will show and describe an instrument for the Rapid Dilatation of the Cervix Uteri.

The following papers are promised.

APOSTOLI, G., M.D., Paris. On Some Novelties in the Electro-Therapeutics of Gynæcology.
AVELING, J., M.D. The Treatment of Uterine Tumours by Electricity.
BARNES, R., M.D. Analogies between Menstruation and Gestation and Puerpery in their Physiological and Pathological Relations.
BRAITHWAITE, James, M.D., Leeds. 1. Cases of Mechanical or Irritative Treatment of Amenorrhœa. 2. The Treatment of Intractable Cases of Retroflexion.
BUTLER-SMYTHE, A. C., F.R.C.S.Ed., London. Acute Mania following Removal of a Papillomatous Cystic Tumour of the Ovary and Rupture of the Intestine by Enema; Recovery.
BYRNE, J. A., M.B., Dublin. On some Cases of Sterility removed by Operation and Treatment.
CAMERON, John M., M.B., Old Kilpatrick. A Case of Erysipelas in a Pregnant Woman, with the Birth of an Erysipelatous Child.
CAMERON, Murdoch, M.D., Glasgow. 1. On Cæsarean Section, with Notes of a Successful Case. 2. On the Thermostatic Nurse, with Cases.
CROOM, J. Halliday, M.D., Edinburgh. (1) On the Remote Effects of Removal of the Uterine Appendages. (2) On Some Points in the Pathological Anatomy of Incarceration of the Retroflexed Gravid Uterus.
DUKE, A., F.K.Q.C.P., Dublin. (1.) On the Rapid Expansion of the Cervical Canal by a New Method. (2) Tractors and Belt for Additional Power in Forceps Cases, as an Alternative to Craniotomy.
HART, D. Berry, M.D., Edinburgh. Successful Case of Cæsarean Section (Porro's modification).
IMLACH, Francis, M.D., Liverpool. The Function of Anæmia in Gynæcology.
KENNEDY, Hugh, M.D., Dublin. Notes on the Treatment of Lacerations of the Cervix Uteri.
LAWRENCE, A. E. Aust., M.D., Bristol. Notes of Cases Treated by the Apostoli Method.
MCDONALD, A. D., M.D., Liverpool. (1) A Case of Extra-uterine (Ruptured Intra-Ligamentous) Pregnancy. (2) Non-communication of Scarlet Fever to a Puerperal Patient.
MADDEN, More, M.D., Dublin. 1. On the Causes and Treatment of Pseudocyesis. 2. On the Rapid Curative Treatment of Cystitis in Women.
MARCUS, Hugo, M.D., Paris. On Creoline in Gynæcology.
MARTIN, J. M., M.D. On Some Points in the Pathology of Carcinoma of the Uterus.
NAPIER, A. D. Leith, M. D., London. The Treatment of Habitual Abortion.
ROUTH, A., M.D. Headaches of Pelvic Origin.
STEPHENSON, William, M.D. Aberdeen. On the Influence of Permanganate of Potass on Menstruation.
WALLACE, J., M.D., Liverpool. Note on Three Forms of Fallopian Disease. (1) Subinvolution (open tube). (2) Hypertrophy (open tube). (3) Complete Stenosis (Inflammatory).

Section D.—Public Medicine.

Greek Class Room.

D. Public Medicine.—*President*, Henry Duncan Littlejohn, M.D. *Vice-Presidents*, James Christie, M.D.; D. Page, M.D. *Honorary Secretaries*, Ebenezer Duncan, M.D., 4, Royal Crescent, Crosshill, Glasgow; John C. McVail, M.D., Holmhead, Kilmarnock.

1. Sanitary Legislation. This discussion will be introduced by the Opening Address of the President of the Section.

2. The Communicable Diseases Common to Man and Animals, and their Relationships. Discussion to be opened on the second day of the sectional meetings by George Fleming, LL.D., F.R.C.V.S., Chief of the Veterinary Department of the Army. Professor Edgar Crookshank, King's College; Dr. J. B. Buist, Edinburgh; Dr. Edington, Edinburgh; Professor McCall, Veterinary College, Glasgow; Dr. Edward Seaton, St. Thomas's Hospital; Dr. George Thin, London; Dr. Henry Tomkins, Leicester; Principal Walley, Royal Veterinary College, Edinburgh; Dr. G. Sims Woodhead, Edinburgh, will take part in the discussion.

3. The Disposal of Sewage *(a)* in Large Towns; *(b)* in Small Towns and Country Districts. Discussion will be opened on the third day by Dr. James B. Russell, Medical Officer of Health, Glasgow. Sheriff Spens, Glasgow; Dr. G. Petrie Hay, Medical Officer of Health, Forres; Dr. John Woodman, Medical Officer of Health, City and County of Exeter; Dr. John W. Mason, Medical Officer of Health, Hull; Dr. J. Mitchell Wilson, Medical Officer of Health, Doncaster, have intimated their intention of being present to take part in the discussions.

The following papers are promised.

Brown, William, F.R.C.S., Carlisle. Report on Outbreak of Typhoid Fever, Associated with an Infective Fever among Cows.
Bruce, William, M.D., Dingwall. On Proposal for joint Publication of the different Annual Hospital Reports from Scotland.
Carpenter, Dr. Alfred, Croydon. On Disposal of Sewage.
Churton, T., M.D., Leeds. On Some Researches in the Homes of Hospital Patients and of Holiday Children.
Drummond, Edward, M.D., Rome. On Malaria.
Drysdale, Charles R., M.D. 1. On Indigence as a Main Cause of High Death-rates. 2. The Berlin and Parisian Sewage Farms.
Dyke, J., M.D. On the Disposal of Sewage at Merthyr Tydfil.
Hime, T. W., M.B. Milk Scarlet Fever.
Hope, E. W., M.D., Liverpool. On the More Recent Phases in the Decline of the Liverpool Death-rate.
James, J. Brindley, Esq., London. On a Minister of Public Health.
Jessop, Charles Moore, M.D. Beef-tea.
Kerr, Norman, M.D. Some Risks from attention to Health and Sanitation.
Littlejohn, Dr., Edinburgh. On Disposal of Sewage.
Murray, William, M.D., Medical Officer of Health, Forfar. On Disposal of Sewage in Forfar.
Nasmyth, T. G., F.R.S. A Report on the Chemical and Biological Conditions of the Air of Coal Mines, together with Mortality Statistics of a Mining District, being a report to the Scientific Grants Committee of the British Medical Association.
Pringle, Surgeon-Major Robert, M.D., late of the Sanitary Department Her Majesty's Bengal Army. (1) On Sheffield and Leicester Compared as Regards Small-pox Prevalence. (2) The Condition of Water-Supply for Drinking Purposes in Public Fountains, Railway Stations, etc.
Seaton, Edward, M.D., London. On Epidemic of Ephemeral Fever.
Simpson, W. J., M.D., Medical Officer of Health, Calcutta. On Cholera and its Fostering Conditions in the Endemic Area.
Sutherland, J. Francis, M.D. Our Hospitals and the Necessity for considerable Change in the Mode of Administration and Maintenance.
Tatham, J., M.D., Medical Officer of Health, Salford. Preventive Measures at Salford, with special regard to Compulsary Notification of Disease.
Tomkins, H., M.D., M.O.H., Leicester. Some Bacteriological Researches in connection with Summer Diarrhœa.
Whitelaw, Dr., Kirkintilloch. On Disposal of Sewage.

Section E.—Psychology.

Hebrew Class Room.

E. Psychology.—*President*, James C. Howden, M.D. *Vice-Presidents*, James Rutherford, M.D.; Julius Mickle, M.D. *Honorary Secretaries*, A. R. Urquhart, M.D., Murray House, Perth; Alex. Newington, M.D., Ticehurst, Sussex.

Dr. J. C. Howden, the President of the Section, will deliver an Address.

Dr. C. M. Campbell will introduce a discussion on the Uniform Recording of *Post-Mortem* Examinations in Asylum Reports.

Dr. A. Campbell Clark will introduce the following subject: The Sexual and Reproductive Functions—Normal and Perverted—in Relation to Insanity. 1. Menstruation: its Commencement, Irregularities, and Cessation; 2. The Sexual Instinct and its Abuse; 3. Pregnancy, Parturition, the Puerperal Period, and Lactation.

Dr. Clouston will initiate a discussion on the Principle of Construction and Arrangement of an Asylum for Private Patients of the Richer Classes.

The following papers are promised.

Beach, Fletcher, M.D. Cases of Disease of the Brain in Imbeciles.
Benedikt, Professor, Vienna. The Clinical Results of Craniometry and Cephaloscopy in Diseases of the Mind and Brain.
Mercier, Charles, M.B. Expert Evidence in Lunacy Cases.
Mickle, W. J., M.D. Note on Antifebrin.
Savage, George, M.D. Mental Disorders associated with Engagements and Marriage.
Tuke, Hack, M.D. On Hallucinations.
Turnbull, A. R., M.D., Fife and Kinross Asylum. Some Remarks on Boarding-out as a Provision for Pauper Insane.
Warner, Francis, M.D. 1. Methods of Examining Children in Schools as to the Development and Condition of Brain.
Wiglesworth, J., M.D. The Pathology of Delusional Insanity (Monomania).
Woods, Oscar T., M.D. Notes on a Case of Folie a Deux in Five Members of the same Family.

Section F.—Anatomy and Physiology.

Anatomy Class Room.

F. Anatomy and Physiology.—*President*, John Cleland, M.D., LL.D., F.R.S. *Vice-Presidents*, R. J. Anderson, M.D.; Henry Edward Clark, F.F.P.S.G. *Honorary Secretaries*, John Barlow, M.D., 27, Elmbank Crescent, Glasgow; Charles Barrett Lockwood, F.R.C.S., 19, Upper Berkeley Street, Portman Square, W.

C. B. Lockwood, F.R.C.S., will introduce a discussion on the Teaching of Anatomy; and will show sections illustrating the Development of the Organs of Circulation and Respiration.

The following papers are promised.

Anderson, Professor R. J., M.D. On Pelvic Epiphyses.
Benedikt, Professor, Vienna, will read a paper on his Craniometric and Cephalometric Systems, with demonstrations.
Brooks, Henry St. John, M.D. On the Morphology of the Epitrochleo-anconeus or Anconeus Sextus (Gruber).
Brown, J. Macdonald, M.B., F.R.C.S. 1. The Construction of the Cardiac Ventricles in the Mammalia. 2. Arrested Twin Development.
Cleland, Professor, M.D., F.R.S. On the Nature of Certain Forms of Double Monstrosity.
Collier, Mark P. Mayo, M.B., F.R.C.S. On the Mechanism of the Heart and Pulse.
Eccles, A. Symons, M.D. The Internal and External Temperature of the Human Body as modified by Muscle-Kneading, with Sphygmographic and Sphygmo-manometric Records.
Haycraft, Professor J. Berry, and Dr. W. E. Carlier. 1. Morphological Changes which occur in Blood during its Coagulation. 2. Demonstration of Human Blood retained in a Fluid Condition when Suspended to Castor Oil.
Haycraft, Professor J. Berry. Recent Investigations on the Production of Taste and Smell.
Lane, W. Arbuthnot, M.B., F.R.C.S. The Influence Produced by Excessive Strain upon Muscles and Ligaments (to be illustrated by specimens).
Macdonald, Greville, M.D. On the Mechanics of the Nose, as regards Respiration, Smell, and Taste.
Murray, R. Milne, M.B., F.R.C.P.E. Will Show an Arrangement for the Investigation of the Action of Measured Galvanic and Faradic Currents on Tissues.
Paterson, A. M., M.D. 1. On the Position of the Vertebrate Limb, considered in the Light of its Innervation and Development. 2. Congenital Diaphragmatic Hernia in an Infant.

Professor Cleland, M.D., has made arrangements for the exhibition of his Preparations, both Human and Comparative, Normal, Abnormal, and Pathological, numbering 441 specimens.

Section G.—Pathology.

Law Class Room.

G. Pathology.—*President*, Sir William Aitken, M.D., LL.D., F.R.S. *Vice-Presidents*, Alexander Davidson, M.D.; Joseph Coats, M.D.; Charles Roy, M.D., F.R.S. *Honorary Secretaries*, G. Sims Woodhead, M.D., 6, Marchhall Crescent, Edinburgh; J. Lindsay Steven, M.D., 34, Berkeley Terrace, Glasgow.

Arrangements are being made to hold a discussion on Cancer originating apart from Epithelial Structures, in which Dr. Joseph Coats, Dr. John Carlyle (Greenock), and others are expected to take part.

The following papers have been promised.

Bruce, Alex., M.B., F.R.C.P.Edin. On Disseminated Sclerosis.
Cathcart, Charles W., M.B., F.R.C.S. Illustrations of a suggested Museum Series.
Coats, Joseph, M.D. On a Case of Lipæmia in Diabetes, with Suggestions as to the Source of the Fat.
Crooke, G. F., M.D., Birmingham. (1) Histological Examination of Organs in Two Cases of Purpura Hæmorrhagica. (2) Cancrum Oris Terminating Fatally with Hæmorrhagic Myocarditis.
Crookshank, Professor Edgar, M.B. (1) On Anthrax in Swine. (2) On Tuberculosis in Swine. (3) On Tubercular Cows' Milk. (4) On Human and Bovine Actinomycosis.
Greves, E. Hyla, M.D., Bournemouth. Notes on the Pathology of a case of Pseudo-hypertrophic Paralysis.
Delépine, Sheridan, Esq. A Few Uncommon Forms of Sarcoma. (Specimens to be shown.)
Hunter, W., M.D. On the Pathology of Pernicious Anæmia.
Kennedy, —, M.D. A Case of Cystic Disease of the Liver and Kidney.
Mapother, E. D., M.D., Dublin. An Anomalous Form of Eczema.
Maylard, A. E., B.S., M.B.Lond. The Results of some Bacteriological Cultivation Experiments with Iodoform.

NUNN, T. W., Esq., F.R.C.S. Exhibition of a Selection of Microscopic Sections of Cancerous Tissues.
O'CONNOR, Bernard, M.D., M.R.C.P. Hydatids of the Spleen, Liver, and Brain.
RAKE, Beaven, M.D.Lond., Medical Superintendent of the Trinidad Leper Asylum. The Percentage of Fibrin in the Blood of Lepers.
ROY, Professor C. S., F.R.S., and ADAMI, J. A., M.A., M.B. On Failure of the Heart from Overstrain.
RUSSELL, William, M.D. (1) The Pathology of Pernicious Anæmia; (2) Malignant Fibrosis.

The following gentlemen have also intimated their intention of contributing to the business of the Section by reading papers or otherwise: Professor Greenfield, Professor Roy, Professor D. J. Hamilton, Dr. William Hunter, Dr. Barrett (Edinburgh), Dr. McFadyean (Edinburgh), Alex. Edington, M.B. (Edinburgh), etc.

Demonstrations.—Dr. Alexander Bruce (Edinburgh) will give a Magic Lantern Demonstration on Diseases of the Spinal Cord; and Alexander Edington, M.B. (Edinburgh), a Bacteriological Demonstration. Arrangements are also being made for a series of Microscopical Demonstrations illustrative of Tumours, Tuberculosis, etc.

Pathological Section of the Annual Museum.—Intimation has been received of the following exhibits for this Section of the Annual Museum: 1. Calculi removed by Lithotomy, by Professor George Buchanan. 2. Calculi removed by Lithotrity or by Scoop, by Professor George Buchanan. 3. Miscellaneous Objects removed from the Body, by Professor George Buchanan, namely: Bullets, Needles, Cases of Teeth, Impacted Pessaries, etc., also Isolated Bones of the Tarsus Excised. 4. Rhinoplasty; Wax Cast, by Professor George Buchanan. 5. Bladder and Urethra showing False Passages. 6. Selected Specimens from the Private Collection of Professor W. T. Gairdner. 7. A Series of Specimens of Tumours of the Brain, by Dr. Joseph Coats. 8. A Series of Specimens of Myoma of the Uterus, by Dr. Joseph Coats. 9. A Specimen of Madura Foot, etc., by Dr. Joseph Coats. 10. A Series of Specimens illustrative of Diseases of the Kidneys, by Dr. David Newman. 11. A Series of Specimens illustrative of Leprosy, by Dr. Beaven Rake (Trinidad). 12. A Series of Large Sections illustrating Malignant Tumours of the Lung; and a Series of Specimens illustrating Deformities of the Liver, by Drs. Woodhead and Bruce. 13. Drawings and Sections to illustrate Diseases of Bone and Joints, by Mr. F. M. Caird (Edinburgh). 14. A Series of Specimens illustrative of Diseases of the Heart, by Dr. John Lindsay Steven. 15. A Series of Myomata of the Uterus, by Dr. Joseph Coats. 16. A Series of Specimens and Illustrations of Bacteria, by Mr. A. E. Maylard, B.S. 17. Sections of Primary Growths of the Pleura and Lungs, by Dr. George F. Crooke, Birmingham. 18. Sections of Twenty-four Eyes Enucleated for various Diseases and Injuries, and Mounted according to the Method of Mr. Priestley Smith, by Dr. J. Crawford Renton. 19. (1) Larynx and Neighbouring Parts from a case of Leprosy; (2) a Specimen of Tricuspid Stenosis, by Dr. J. Mackie Whyte (Dundee). 20. A Series of Drawings Illustrating the Microscopic Structure of New Growths in the Larynx, by Drs. Norris Wolfenden and Sidney Martin.

As space for the Museum is somewhat limited, gentlemen intending to send specimens should intimate their intention without delay to John Lindsay Steven, M.D., 34, Berkeley Terrace, Glasgow, Honorary Secretary of the Section of Pathology of the Annual Museum.

SECTION H.—OPHTHALMOLOGY.

Midwifery Class Room.

H. OPHTHALMOLOGY.—*President*, Thomas Reid, M.D. *Vice-Presidents*, J. R. Wolfe, M.D.; C. E. Glascott, M.D. *Honorary Secretaries*, Henry Bendelack Hewetson, M.R.C.S., 11, Hanover Square, Leeds; A. Freeland Fergus, M.B., 41, Elmbank Street, Glasgow.

Mr. Brudenell Carter will open a discussion on the Treatment of Senile Cataract. Drs. Prichard, Meighan, Mason, Teale, G. Anderson Critchett, Drs. C. Lloyd Owen, Charles G. Lee, H. Bendelack Hewetson, Esq., Karl Grossmann, J. H. Bell, and others have promised to take part in the discussion.

The President of the Section intends to give a Demonstration of several Instruments of Use in Ophthalmic Diagnosis.

The following papers are promised.

BENSON, A. H., Esq. 1. On the Treatment of Entropion and Trichiasis by the Transplantation of Buccal Mucous Membrane. 2. Hyalitis Punctata.
BICKERTON, T. H., Esq., Liverpool. 1. Sailors and their Eyesight. 2. Unusual Corneal Opacity in Process of Recovery (patient previously shown at the Brighton meeting in 1886.)
CARTER, R. Brudenell, Esq. Operation of Opening the Sheath of the Optic Nerve for the Relief of Pressure.
GROSSMANN, K. A., M.D. Colour-blindness, with a Demonstration of New Tests.
HEWETSON, H. Bendelack, Esq. General Neuroses having an Ophthalmic Origin.
JESSOP, W. H., M.D. Ocular Headaches.
LEE, C. G., Esq. Two Cases of Foreign Bodies.
LITTLE, D., M.D., Manchester. On Extraction of Senile Cataract giving the result of 1,100 cases.
MACKAY, George, M.D., Edinburgh. A Contribution to the Study of Hemianopsia of Central Origin, with special reference to Acquired Colour Blindness.
MACKINLAY, J. G., Esq. On Cocaine.
MAXWELL, P. W., M.D. Chronic Nasal Catarrh as a Reflex Course of Accommodative Asthenopia.
MEIGHAN, T. S., M.D., Glasgow. On the Treatment of Symblepharon by Transplantation of Mucous Membrane from the Lip.
RENTON, J. C., M.D., Glasgow. The Value of the Cautery in the Treatment of Ulceration of the Cornea.
WILLIAMS, Richard, M.D., Liverpool. Three Cases of Conical Cornea treated by the Actual Cautery.

Dr. Karl Grossman will show microscopical preparations of Argyria of Conjunctiva and of a Cancerous Sarcoma of Choroid.

SECTION I.—OTOLOGY.

Biblical Criticism Class Room.

I. OTOLOGY.—*President*, Thomas Barr, M.D. *Vice-Presidents*, John Astley Bloxam, F.R.C.S.; J. J. K. Duncanson, M.D. *Honorary Secretaries*, Johnstone Macfie, M.D., 23, Ashton Terrace, Glasgow; James Black, F.R.C.S., 16, Wimpole Street, London.

The following special subjects have been proposed for formal discussion:

1. The Conditions calling for Perforation of the Mastoid Portion of the Temporal Bone, and the Best Methods of Operating; to be opened by Dr. F. M. Pierce, of Manchester. Mr. Peter McBride has promised a paper on this subject. Dr. D. Stewart, of Nottingham, and Dr. W. McEwen, of Glasgow, hope to take part in the discussion.

2. The True Value of those Aids to Hearing usually termed "Artificial Tympanic Membranes." Dr. W. L. Purves has promised a paper on this subject.

3. Adenoid Growths in the Naso-Pharynx; their Influence on the Middle Ear, and their Treatment. To be opened by Mr. Lennox Browne, F.R.C.S.Ed. Dr. Farquhar Matheson, Dr. J. Ward Cousins, Dr. E. Cresswell Baber, and Dr. R. McKenzie Johnston will take part in the discussion.

The following have promised papers.

BARR, Thomas, M.D. (President of Section), intends showing Two Patients who have been successfully operated upon for Abscess of the Brain due to Ear Disease.
BRONNER, A., M.D., Bradford, will send a few Notes of Cases and Specimens of Growths removed by the Finger-nail and Hartmann's Curette.
BROWNE, Lennox, Esq. *(Title not received.)*
ELLIS, Richard, F.R.C.S. On the Fraudulent Treatment of the Deaf by Impostors.
LEWIS, Christopher, M.D., Birmingham. A case of Severe Cellulitis of the Neck, with Partial Paralysis of Right Arm, following Acute Otitis Media, caused by a Blow.
MATHESON, Farquhar, M.B., London. A brief communication on the Symptomatic Relation between Stammering and Stuttering and Diseases of the Nose and Nasopharynx.
TORRANCE, R., Esq. On Syphilitic Cochleitis.
TURNBULL, Lawrence, M.D., Philadelphia. On the History and True Value of those Aids to Hearing usually termed Artificial Tympanic Membranes.
WARDEN, Charles, M.D., Birmingham. A Case of Congenital Ear Disease producing Mastoid Abscess and Facial Paralysis.

Dr. Samuel Sexton, of New York, hopes to be present, and will give a communication on Excision of the Drumhead and Ossicles.

Dr. J. Clarence Blake, of America, hopes to be present to take part in the meeting.

Dr. James Erskine, Glasgow, will show (1) a Cochlea and other Sequestra removed in a case of Chronic Otitis Purulenta; (2) an unusually large Auricular Appendage.

SECTION J.—DISEASES OF CHILDREN.

English Literature Class Room.

J. DISEASES OF CHILDREN.—*President*, Walter Butler Cheadle, M.D. *Vice-Presidents*, James Finlayson, M.D.; Henry Ashby, M.D. *Honorary Secretaries*, George S. Middleton, M.D., 23, Sandyford Place, Glasgow; W. Arbuthnot Lane, M.S., F.R.C.S., 14, St. Thomas's Street, S.E.

The following two discussions will take place:

1. Diphtheria: *(a)* Etiology. *(b)* Relationship to other Infectious Diseases, and to other Forms of Sore Throat; Occurrence on Open Wounds and on Mucous Membranes other than those of the Throat. *(c)* Diagnosis. What are the Distinctive Features, especially those Distinguishing the Lesion in the Throat from other Forms of Sore Throat? Does Membranous Croup occur apart from Diphtheria? *(d)* Pathology and Sequelæ. *(e)* Medical Treatment. *(f)* Surgical Treatment; Tracheotomy; Tubage. The medical and general aspects of the subject will be introduced by Dr. A. Jacobi (New York), and the surgical aspect by Mr. R. W. Parker (London). Messrs. E. Owen, H. R. Hutton, Lennox Browne, R. N. Pughe, Howard Marsh, and Drs. W. T. Gairdner, George Buchanan, James

Finlayson, Henry Ashby, H. C. Cameron, D. Newman, Thos. Buzzard, John Macintyre, Alex. Robertson, J. Campbell Hall, Waxham (Chicago), W. N. Maccall, J. Hancock Wathen, and J. S. Cameron will take part in the discussion.

2. Rickets: *(a)* Etiology and Prevention. *(b)* Its Connection with Syphilis and Scurvy. Is Enlargement of the Liver and the Spleen always present, more or less, in Rickets; or only in Cases of Syphilitic Origin? *(c)* Medical Treatment. *(d)* Surgical Treatment; at what Stage, and in what Way? The medical and general aspects of the subject will be introduced by the President, Dr. Cheadle, and the surgical aspect by Professor A. Ogston. Drs. Macewen, L. W. Marshall, H. Ranke (Munich), Thos. Buzzard, Henry Ashby, and Messrs. R. W. Parker, H. R. Hutton, R. Hagyard, E. L. Freer, John Gordon, R. N. Pughe, W. A. Lane, W. N. Maccall, and Howard Marsh will take part in the discussion.

Drs. Jacobi (New York), Keating (Philadelphia), Ranke (Munich), Sanné (Paris), and other members of the profession on the Continent have been invited.

The following have promised papers.

BROWNE, Lennox, F.R.C.S.Ed. Anatomical Facts in support of Intubation in Diphtheria.
CAMERON, J. S., M.D. Etiology of Diphtheria. (1) Predisposition from Recent or Existing Disease, especially Scarlet Fever; (2) Influence of Insanitary Surroundings, especially Rise and Fall of Subsoil Water.
CARMICHAEL, James, M.D. So-called Idiopathic or Simple Ascites in Children.
CHAFFEY, Wayland C., M.B. Statistics of Various Diseases of Children, with Reference to Measles and Whooping-cough, and to Family Predisposition to Consumption.
FINLAYSON, James, M.D. Evidence of the Occurrence of Laryngeal Diphtheria in Glasgow, in the Early Part of this Century.
HAGYARD, Robert, M.R.C.S. The Effects of Sunlight on Rickets in Children and in the Lower Animals.
JONES, Talfourd, M.B.Lond. Gastric Diptheria.
LANE, W. A., F.R.C.S. Deformities of Rickets.

SECTION K.—PHARMACOLOGY AND THERAPEUTICS.

Conveyancing Class Room.

K. PHARMACOLOGY AND THERAPEUTICS.—*President*, James Morton, M.D. *Vice-Presidents*, John Dougall, M.D.; Theodore Cash, M.D., F.R.S. *Honorary Secretaries*, Alexander Napier, M.D., 3, Royal Terrace, Crosshill, Glasgow; Sidney Harris Cox Martin, M.D., 60, Gower Street, London, W.C.

A special discussion will be opened by Professor Theodore Cash, M.D., F.R.S., on Carbolic Acid, Antipyrin, Antifebrin, and their Allies, especially as regards their Antipyretic, Analgesic, and Antiseptic Actions. Drs. Walter G. Smith (Dublin), A. D. Macdonald, and Prosser James will take part in the discussion.

Dr. W. Allan Jamieson (Edinburgh) will show two cases of Xeroderma Pigmentosum.

It is expected that Professors Liebreich and Dujardin-Beaumetz will be present at the meeting. Dr. Dujardin-Beaumetz will contribute a paper on Phenacetin.

The following have promised papers.

COLDSTREAM, A. R., Esq. Florence as a Health-resort.
DAVISON, James, M.D. The Pine Treatment.
DOUGALL, J., M.D., Glasgow. The Action of Ergot and Strychnine.
DRYSDALE, C. R., M.D. 1. On the Therapeutic Value of Alcohol. 2. The so-called Abortive Treatment of Syphilis.
ILLINGWORTH, C. R., M.D.Ed. The Treatment of Acute Diseases of the Organs of Respiration.
JAMES, J. Brindley, Esq. Scabies and its Treatment.
KERR, J. G. Douglas, M.B. Thermal Treatment after Acute Rheumatism, with a Short Outline of the System pursued at Bath
MACDONALD, A. D., M.D. Three Cases of Poisoning.
MACPHERSON, R. B., M.D. The Want of Uniformity in Strength of Medicinal Substances.
MASSON, Rev. D. T., M.A., M.D. An Old Highland Form of Chest Massage for the Prevention of Consumption.
PEARSE, T. F., M.D. The Treatment of Eczema.
SHOEMAKER, John V., M.D., Philadelphia. An Investigation of the Action of β Naphthol.
STOCKMAN, R. M.D Edinburgh. The Coca Alkaloids.

SECTION L.—LARYNGOLOGY AND RHINOLOGY.

Divinity Class Room.

L. LARYNGOLOGY AND RHINOLOGY.—*President*, Felix Semon, M.D. *Vice-Presidents*, George Hunter Mackenzie, M.D.; Peter McBride, M.D. *Honorary Secretaries*, D. Newman, M.D., 18, Woodside Place, Glasgow; A. E. Garrod, M.D., 9, Chandos Street, Cavendish Square.

The following subjects are proposed for special discussion:

1. The Use and Abuse of Local Treatment in Diseases of the Upper Air Passages. To be opened by Dr. de Havilland Hall (London) and Mr. Stoker (London).

2. The Causes, Effects, and Treatment of Nasal Stenosis. To be opened by Dr. Macintyre (Glasgow) and Mr. Cresswell Baber (Brighton).

3. Hæmorrhages from the Pharynx and Larynx, and other Hæmorrhages which simulate these. To be opened by Dr. Percy Kidd (London) and Dr. Hodgkinson (Manchester).

The following gentlemen hope to take part in the discussions: Dr. Prosser James (London), Dr. McBride (Edinburgh), Dr. Charles Warden (Birmingham), Dr. Cartaz (Paris), and Mr. Richard Ellis (Newcastle-on-Tyne).

The following papers have been promised.

GRANT, J. Dundas, M.D. Nasal Stenosis.
HART, J. Middlemiss, Esq. Acute Epiglottitis: a Question of Nomenclature.
JACOB, Ernest H., M.D. Some Unusual Forms of Laryngeal Neurosis.
JOHNSTONE, R. Mackenzie, M.D. Account of a Case of Tumour of the Naso-Pharynx.
LEWIS, Christopher, M.D. (Birmingham). 1. Notes on Tonsillitis and Tonsillotomy. 2. Remarks on the Removal of Nasopharyngeal Polypus, with specimen.
MCBRIDE, P., M.D., Edinburgh. On Hay-Fever and Allied Conditions.
MACDONALD, Greville, M.D.Lond. (1) Case of Laryngeal Stenosis, cured by Ablation of one Vocal Cord. (2) Remarks on the Pathology of Ecchondrosis of the Triangular Cartilage, with a new operation.
MACINTYRE, J., M.D. Anatomical Demonstration of the Larynx.
MACINTYRE, John, M.D., Glasgow. The Use of Electricity in Diseases of the Throat.
MATHESON, Farquhar, M.B. The Relationship between Naso-pharyngeal Disease and Stuttering and Stammering.
NEWMAN, D., M.D. Two Cases of Complete Laryngeal Stenosis produced by Wounds of the Larynx in Attempted Suicides.
SPICER, R. H. Scanes, M.D. (1) Clinical and Pathological Observations on Affections of the Tonsils (Faucial, Lingual, and Pharyngeal) in the Light of Recent Views as to their Functions. (2) A Case of Lupus Vulgaris of the Upper Respiratory Tract—with Polypus (Lupous) of the Larynx.
STOKER, George. A Note on the Treatment of Acute Laryngitis with Cocaine.
WARDEN, C., M.D. Case of Fibro-mucous Polypus of the Naso-pharynx.

ANNUAL MUSEUM.

THE Annual Museum will be held on August 7th, 8th, 9th, and 10th, in the Examination Hall and Lower Hall of the Hunterian Museum of the University of Glasgow, and will be arranged in the following six Sections:

SECTION A.—Food and Drugs, including Antiseptic Dressings, and other Chemical and Pharmaceutical Preparations. (Honorary Secretary, R. S. Thomson, B.Sc., M.B., C.M., 3, Melrose Street.)

SECTION B.—Pathology, comprising Casts, Models, Diagrams, Microscopical Preparations, and Micro-organisms. (Honorary Secretary, J. Lindsay Steven, M.D., 34, Berkeley Terrace.)

SECTION C.—Anatomy, comprising Special Dissections, Methods of Mounting, Abnormalities, Drawings, Models, etc. (Honorary Secretary, J. Yule Mackay, M.D., 34, Elmbank Crescent.)

SECTION D.—Physiology, consisting of Apparatus, Microscopes, Microtomes, and Microscopical Preparations of Normal Histology. (Honorary Secretary, J. McGregor Robertson, M.A., M.B., C.M., 400, Great Western Road.)

SECTION E.—Instruments and Books, including Appliances—Medical, Surgical, and Electrical. (Honorary Secretary, J. Macintyre, M.B., C.M., 173, Bath Street.

SECTION F.—Sanitation (1) Domestic Sanitary Appliances, embracing all Improvements applicable to the Treatment of the Sick in Private Dwellings. (2) Personal Hygiene, including Dress and Gymnastic Appliances. (3) Ambulances, Carriages, and all other Appliances used for the Conveyance and Treatment of the Sick and Wounded, either in Civil, Naval, or Military Practice. (4) Drawings, Models, and Apparatus illustrative of the Ventilation, Lighting, and Draining of Hospitals. (5) Hospital Furniture. (6) Sanitary Appliances in connection with Educational Institutions and Public Buildings. (Honorary Secretary, 1, 2, 3, Robert Pollok, M.B., C.M., Pollokshields; Honorary Secretary, 4, 5, and 6, A. W. Russell, M.A., M.B., C.M., Western Infirmary.)

Intending exhibitors should communicate as early as possible with the Secretary of the Section in which they propose to exhibit, as the Museum Catalogue must be complete one month before the date of meeting. The latest time for receiving exhibits is July 31st. Inquiries as to advertisements in the Catalogue should be sent without delay to Dr. Thomson, 3, Melrose Street, Glasgow.

Honorary General Secretaries of Museum Committee, A. Ernest Maylard, B.S., M.B., 4, Berkeley Terrace; R. S. Thomson, B.Sc., M.B., C.M., 3, Melrose Terrace.

Honorary Local Treasurers, Joseph Coats, M.D.; Jas. B. Russell, M.D.

Honorary Local Secretaries, John G. McKendrick, M.D., F.R.S., 45, Westbourne Gardens, Glasgow; James Christie, M.D., Hillhead, Glasgow; John Glaister, M.D., 4, Grafton Place, Glasgow.

Dr. EDWARD WATERS hereby gives notice that he will move:

That the Council of the Association be desired to place before the General Medical Council the following resolution passed at the annual meeting held in Dublin in 1887, with the view of obtaining the opinion of the General Medical Council on the subject:

"That the Association is of opinion that the diplomates of the Irish and Scotch Universities and Corporations should possess the same privileges in respect of public appointments that are enjoyed by diplomates of the other divisions of the kingdom."

Dr. WILLIAM HONNER FITZPATRICK hereby gives notice that he will move (in order to give full effect to the recent change of constitution of the Council, the design of which was to secure upon it an adequate representation of the Branches):

That every representative attending a Council meeting be paid first-class railway fares to and fro out of the funds of the Association.

FRANCIS FOWKE, *General Secretary.*

NOTICE.

MEMBERS of the Association resident in Edinburgh and the neighbourhood may have the benefit of a special train leaving Glasgow at 11 P.M. on August 7th, 8th, 9th, and 10th, provided a sufficient number intimate their wish to return to Edinburgh at that late hour. They are requested to communicate their intention to Dr. John Glaister, Grafton Place, Grafton Square, Glasgow, or or before July 28th, so that the necessary arrangements may be made with the railway company.

THE JOURNEY TO GLASGOW.

THE London and North-Western Railway issues tourist return tickets from London to Glasgow available by ordinary trains, the fares being, first, £5 10s. 3d.; second, £4 1s. 2d; third, £2 12s. A party of six first class, or ten third class passengers, giving notice to the stationmaster, Euston Station, within the next few days, would be provided with a separate saloon carriage. The best trains leave London at 10 A.M., 8 P.M., 8.50 P.M., and 10 P.M., and the fastest of these (that at 10 A.M.) takes nine hours to complete the journey. Further particulars will be found in our advertisement pages. The Midland and the Great Northern Railway issue tourist tickets at the same fares, and will provide saloon carriages on identical conditions. The best trains by the former railway leave St. Pancras at 10.30 A.M. and 8.25 P.M. (Saturdays excepted) and 9.15 P.M., and occupy about ten hours on the journey. The Great Northern trains (East Coast Junction route) are slightly faster, the best trains leaving King's Cross at 10 A.M., 8.30 P.M., and 9.30 P.M.

EXCURSIONS.

THE following eight excursions will take place on Saturday, August 11th.

1. *Lanark and Falls of Clyde.*—The party, limited to 100, will leave the Central Station by special train about 8.46 A.M., for Tillietudlem, where, by the kind permission of the Earl of Home, an opportunity will be given to visit the ruins of Craignethan Castle, the scene of Sir Walter Scott's *Old Mortality*; proceeding on foot through the picturesque ravine of the River Nethan for about a mile; the party will then be conveyed by coach through some of the most charming Clydesdale scenery to the Falls, visiting Stonebyres, and then, by the kindness of the proprietor, will enter the Corehouse estate, to see Cora and Bonnington Linns. Returning by coach to Lanark, dinner will be served about 2.30 P.M., in the Clydesdale Hotel. After dinner the party will be shown the library of Dr. William Smellie, the famous obstetrician, which was bequeathed by him to the Grammar School of that town. It is a very interesting collection of books, containing two or three black letter volumes. It is also expected that the Lee talisman, or "Lee Penny," will be shown to the visitors. This charm was taken from the Saracens by Sir Simon Lockhart, of Lee, after a battle, as part ransom of a captive. It was deemed a charm of great medicinal virtue in the end of the last century. It gives the title to *The Talisman*, another of the novels of Sir Walter Scott. Afterwards short excursions may be made on foot to Cartland Crags, Roman Bridge, Old Abbey, and Smellie's grave. The party will return from Lanark by special train to Glasgow, leaving at 7.10 P.M., arriving 8.5 P.M. Price of ticket, 10s.

2. *Ayr and the Land of Burns.*—The party, fixed at 100, will leave Glasgow at 9.15 A.M., by special train to Ayr. Thence by conveyances it will proceed, *viâ* Maybole, to Crossraguel Abbey (one of the finest Gothic remains in Great Britain), thence to Culzean Castle, where it is expected the party will be received by the most Honourable the Marquis of Ailsa, and returning to Ayr by the sea-shore to Burns's Monument, Alloway Kirk, Burns's Cottage, and "Twa Brigs." Dinner will be served at the Station Hotel at 5.15 P.M., after which, by special train, leaving at 6.30 P.M., the party will return to town. Ticket, 12s. 6d.

3. *The Perthshire Highlands, Lochearnhead and Crieff.*—The party, numbering 100, will leave Buchanan Street Station at 8.35 A.M., in special saloon carriages, for Lochearnhead, and during the journey will see some of the finest Highland scenery; thence by coaches *viâ* Loch Earn, to St Fillans, where a halt will be made for refreshments, at the Drummond Arms Hotel; then to Comrie, where a second halt will take place to visit the Devil's Cauldron, and then driving *en route* through the grounds of Col. Williamson, of Lawers, and the grounds of Ochtertyre to Crieff, where the party will be entertained to dinner by Dr. Meikle, at his Hydropathic Establishment. After dinner, short walks to places of interest in the neighbourhood may be made, and the party will leave Crieff at 6.40 P.M. in the same saloon carriages for Glasgow, where it will arrive at 8.35 P.M. Ticket, 12s.

4. *Callander and the Trossachs (Loch Katrine).*—The party, 100 in number, will leave the same station as last at the same hour, in special saloon carriages, for Callander, where coaches will be in readiness to convey them to Loch Katrine. Dinner will be served at 3 P.M., in the Trossachs Hotel, after which visitors may enjoy a sail on the loch to the Silver Strand, mentioned by Sir Walter Scott in the *Lady of the Lake*. The party will return by the same route to Glasgow at 7.5 P.M., where it will arrive at the same time as the former excursion. Ticket, 15s.

5. *Arran.*—The party, numbering 150, will leave Bridge Street Station in saloon carriages at 9.40 A.M., for Wemyss Bay, where, it will join the famous Clyde steamer *Ivanhoe*, which *en route* to Arran calls at Rothesay, and passes through the Kyles of Bute. Dinner will be served on board during the passage. On landing on the island the party will be enabled to visit Brodick Castle, by the kind permission of his Grace the Duke of Hamilton. The party will return to Glasgow by the same route, arriving there at 6.45 P.M. Ticket, 7s. 6d.

6. *Stirling, Bridge of Allan, and Dunblane Cathedral.*—The party, limited to 100, will leave Buchanan Street Station at 8.35 A.M. by special train for Stirling. On arrival, visits will be paid to the Castle of historic renown, the Royal Infirmary, High Church, etc., under the conduct of Provost Yellowlees of that town, and Dr. Haldane, of Bridge of Allan, returning to the Smith Institute, where cake and wine will be served. Thence the party will proceed by conveyances to the Wallace Monument, *viâ* the King's Park, where an unrivalled view is to be obtained, then through the demesne of Airthrey, the seat of the Right Honourable Lord Abercromby, to Bridge of Allan, where dinner will be served in the new Museum Halls. After dinner seats in the conveyances will again be taken, and the party will then drive through the grounds of Keir, the seat of the late Sir W. Stirling-Maxwell of bibliophilic fame, and Kippenross, to Dunblane, where the Cathedral and Library of Archbishop Leighton will be visited. The party will then return by the famous Wharry Glen to the Spa at Bridge of Allan, where tea will be provided for the visitors at the Hydropathic Establishment. The party will leave Bridge of Allan for town at 7.38 P.M., arriving there at 8.35 P.M. Ticket, 10s.

7. *Rothesay and the Kyles of Bute.*—The party, fixed at 250, will leave Central Station at 9.15 A.M., by special train for Greenock, where it will join the new steamer *Victoria*, specially chartered for the trip. The steamer will then sail down the Firth of Clyde to Rothesay, and thence will proceed through the Kyles of Bute, up Loch Ridden, and then round the Island of Bute to Kilchattan Bay pier, where those of the party who choose may land to walk to Mount Stuart, the seat of his Grace the Marquis of Bute, visiting on the way the beaver colony, now an almost unique sight. The remainder of the party will return to Rothesay by the steamer, where conveyances will be in readiness to convey them to Mount Stuart; on returning, the party will alight at the Glenburn Hydropathic Establishment, where, by the kindness of Dr. Philp, the proprietor, tea will be served to the party at 5 P.M. Dinner will be served on board the *Victoria en route*. After tea a visit may be paid to Rothesay Castle. The return journey to Glasgow will be made by the same steamer to Wemyss Bay, leaving Rothesay at 6.30 P.M. and Wemyss Bay at 7.5 P.M. by special train, arriving in town at 8.10 P.M. Ticket, 12s. 6d.

8. *Loch Lomond.*—The party, numbering 150, will leave the North British Railway Station, Dundas Street, at 10 A.M., by special train for Balloch Pier, where it will be waited for by a special steamer; during its passage to the head of the loch all the places of historic interest will be pointed out. Facilities will be given, by arrangement made before or in the early part of the meeting, for an ascent of Ben Lomond by a small party. On arriving at the head of the loch at 1 P.M. fifty of the party (to be fixed by ballot or choice) will land, the remainder returning by the same steamer to Tarbet, where dinner will be served about 2.30 P.M. in the hotel. From here parties may visit Loch Long by a very picturesque road. For the party of fifty left at the head of the loch a special dinner will be provided on board the steamer, arriving there about 2 P.M. The return journey will be made by steamer to Balloch, leaving head of loch at 5.20 P.M., and Tarbet at 6 P.M., and by special train to town, arriving about 8 P.M. As this is the busiest time of the tourist season, intending visitors to this place should apply early, in order that completely comfortable arrangements may be made. Ticket, 9s.

The price of the tickets includes the whole cost of the day's outing, dinner *included*.

Ladies are invited, on the same terms, to take part in all of the excursions.

SHORT EXCURSIONS.

THE following short excursions have been arranged during the week of the Association meeting in Glasgow:—

Harbour and Shipbuilding Yards.—The Glasgow Harbour Trustees have kindly placed one of their "Clutha" steamers at the disposal of the Association on August 8th, 9th, and 10th. The steamer will leave Glasgow Bridge on each of those days at 10.15 A.M., giving an opportunity of viewing the harbour and inspecting the shipbuilding works of the Fairfield Shipbuilding Company, Govan, and of Messrs. J. and G. Thomson, Clydebank.

City of Glasgow Fever and Small-pox Hospitals.—Brakes will leave Charing Cross on Wednesday, August 8th, to visit these Hospitals, which are the property of the Corporation and supported by a public rate. Number limited to forty.

Hamilton Palace, Mausoleum, and Grounds.—Train from Central Station on Wednesday, August 8th, at 3.7 P.M. to Hamilton, where conveyances will be provided to drive a party of forty to the palace grounds.

Glasgow Waterworks.—Drive to Mugdock Reservoir by brakes, from Charing Cross, on Thursday, August 9th, at 9.30 A.M. Number limited to forty.

Queen's Park and Cathkin Park.—Brakes leave Charing Cross on Thursday, August 9th, at 2.30 A.M., for Queen's Park and Cathkin Park, *viâ* Cathcart, passing site of new Victoria Hospital, and returning by Rutherglen. Number limited to forty.

Woodilea Lunatic Asylum.—On the invitation of the Barony Parochial Board members will have an opportunity of inspecting this Asylum on Friday, August 10th. Train from Queen Street Station to Lenzie at 12 noon.

Stirling, Bridge of Allan, and Dunblane.—This excursion, like some of the others, has been limited to 100 visitors, and like those already described, possesses features of uncommon historic interest, besides affording the sightseer much that is picturesque and beautiful.

Our party will leave Buchanan Street Station by the special train leaving at 8.35 A.M., and will reach Stirling about 9.35 A.M., where the party will be received by Provost Yellowlees of that town, and Dr. Haldane of Bridge of Allan.

Stirling occupies a very commanding position, lying as it does on a rising ground, the culminating point of which is the Castle; overlooking the River Forth, it commands the main passage from the Lowlands to the Highlands; hence doubtless its prominent place in the history of Scotland. Its old bridge was long called the "Gate to the Highlands." From the Castle it commands a panoramic view in every direction; to the west mountain peaks rise thickly, among which may be named Ben Lomond and Ben Ledi; to the north, the Grampians; to the east, the Ochils; and to the far south, the Pentlands and Tinto range. The foregrounds to some of these more distant scenes are pleasing and pastoral; to the north and east the Carse of Stirling, the Devon Valley, the winding links of the Forth, and Cambuskenneth Abbey; on the west is the King's Park; and on the south-east the towns of St. Ninians and Bannockburn.

Here we may truly say we stand in the battlefield of Scotland. Immediately at our feet lies the scene of the battle of Stirling, where Wallace, in 1297, defeated Edward of England; to the south we have Bannockburn, where Bruce in 1314 put the English to utter rout; a little to the south-west of this we see the place where the battle of Sauchieburn was fought, where James III was defeated in 1488 by his insurgent nobles, headed by his young son, and where, in the neighbourhood, he died by the hand of an assassin, to be afterwards interred in Cambuskenneth Abbey near by; northward, near Dunblane, the battle of Sheriffmuir was fought in the rebellion of 1715.

Stirling was probably a fortified place in the barbaric days of young Caledonia, and possibly also was a place of strength under the Romans. Whether this be so or not, we know that it held the position of being the capital of Scotland from the days of Malcolm Canmore, who is buried in Dunfermline Abbey, down to the time of James VI. Here Parliament was held, and the affairs of the nation were discussed by the tongue, the pen, and the sword.

We shall have now an opportunity of visiting several of the places of interest, among which are the Castle, Argyle's House, Mar's Work, Greyfriars' Church, and the Smith Institute.

The Castle is the most prominent feature of the town, being situated on its highest point, and standing out picturesquely on its precipitous top. Its chief buildings are so arranged as to form two courts, a lower and an upper. They consist of the barracks, formerly the Parliament Hall, built by James III, and a royal palace builst by James V, and the armoury, which formerly was a chapel-royal rebuilt by James VI. Around these are several batteries, which command picturesque views of the surrounding country.

Argyle's House, near by, was for long the residence of the Argyll family, but is now used as a military hospital. Mar's Work, a castellated structure, is now in ruins. The Town Hall, quite adjacent, was built in 1701, and possesses a good steeple. Greyfriars' Church is a very old structure; was founded by James IV. in 1494 for the Franciscan Monastery, and is noteworthy in respect that here the infant James VI. was crowned, and also that here ministered the celebrated Ebenezer Erskine. At the Smith Institute the party will be entertained to cake and wine.

This handsome building was erected in 1874 from a bequest of £22,000, and contains within itself library, museums, picture-galleries, reading-rooms, etc., all of which are free to the public. There are few towns in Great Britain which possess such a valuable institute as this.

The refreshment over, the party will take seats in the conveyances provided, and will be driven round by the King's Park across the Forth, where a view of the Old Bridge will be obtained, to the Abbey Craig, where the party will alight to mount the winding paths to its top, on which is placed the handsome monument to Wallace, the deliverer of Scotland. This rock, standing about 360 feet above the sea-level, was the headquarters of Wallace's army on the eve of the battle of Stirling, and no more appropriate place could be found for this hero's monument.

The bridge which is mentioned in the fight was one which stood about a mile north of the old bridge—the Bridge of Kildean—and must not be confounded with it.

The monument on the Craig, consisting of a lofty tower, was built in 1861-9 at a cost of about £16,000. From this lofty eminence a magnificent view forces itself on the beholder in every direction, more particularly striking being the sinuous windings of the Forth, which look like a ribbon of silver on a velvet of green. At its foot we can easily descry the ruins of Cambuskenneth Abbey, in its day a glorious pile, now only represented by a tower about 70 feet high. It was the burial place of James III and his spouse, the remains of whose bodies, buried under the high altar, were discovered during the excavations in 1864. Our present Sovereign Lady has erected a memorial slab to their memory over the site of their grave.

Rejoining our vehicles, we drive through the grounds of Airthrey, the seat of Lord Abercombie, the lineal descendant of the hero of Acre and Aboukir, to Bridge of Allan.

Bridge of Allan, a cosily-situated little town, nestling under the protection of the Ochils, is the premier spa of Scotland. Says Buchan, in his work on meteorology, it "owes its celebrity to the well-wooded heights behind it, sheltering it from the east winds, and to the sloping nature of the ground on which it is built. From its sheltered position the east wind passes over it at a

reduced rate and force, and there being consequently less evaporation our bodies are deprived of less heat, and thus the sensation of greater warmth is a reality. Again, being built on rising ground, the cold air flows down to the valley below it, so that excessive cold rarely occurs. These advantages not only give greater facility for open-air exercise, but by offering, to a greater extent, protection from the hurtful effects of the weather most trying to invalids, namely, east winds and the severe cold winter, are far more to be prized than would be an annual temperature several degrees higher."

Our visitors will for themselves see the suitability of the position of this residential town as a winter health resort, while coupled to that it has the advantage of a mineral spring of a saline character. The well-house of the spring is situated in the vicinity of the Hydropathic Establishment, but is not connected with it. The water is collected in a deep shaft, and from it is is pumped up when required. Its composition in saline matters is as follows. In 1,000 grains of the water there are of:—

Sodium chloride	5.932 grains.
Calcium chloride	5.250 ,,
Calcium sulphate	0.488 ,,
Magnesium chloride	0.086 ,,

In all respects Bridge of Allan offers unusual advantages to the invalid and valetudinarian. It possesses many, beautiful, and varied walks; it is bountifully protected from the usual rigour of our winters; its position affords perfect drainage, and it lies in the very centre of much that is attractive in Scottish scenery, and of many of the never-to-be-forgotten deeds written in Scottish history.

Meanwhile we have arrived at the Museum, where we now feast the inner man. After dinner we again seat ourselves in our conveyances on our way to Dunblane Cathedral, driving, by the way, through the grounds of Keir and Kippenross. Keir is the seat of the Stirling-Maxwells, originally the Stirlings. The name Keir is a corruption of the British word "Caer," signifying a fort. The pedigree of the family can be traced back to the time of David I, and various members of it have taken part in the many famous events of the past history of the locality. The family is mentioned in Sir Walter Scott's *Tales of a Grandfather*, in connection with the trial of James Stirling, "a keen Jacobite," for conspiring in favour of the Stuarts, in 1708. Indeed, in arms, in politics, in law, and in literature, the family of Keir has signalised itself. The late Sir William Stirling-Maxwell was well known as a man possessing the finest tastes and as contributing to literature several scholarly works.

The mansion house is a partly old and partly new structure, but every part of it is characteristic of the highest artistic taste; indeed, the whole estate is one of pleasing surprises, for instead of the whole beauty of it being flashed at once before the spectator, it is only revealed to him measure by measure. Perhaps at no time in the history of the family was its motto, "Gang forward," more exemplified than by the late Sir William. Having a loving taste for arboriculture, he planted and watched the growth of many of the rarest trees that are to be found in this country. Here we have a splendid specimen of the *araucaria imbricata*, there one of the most beautiful of evergreen plants introduced from Japan, now a splendid specimen of the white cedar, and, again, a magnificent example of the gigantic *Wellingtonia*.

In the estate of Kippenross, also belonging to the Stirlings, a branch, however, of the Keir family, one of the most noteworthy sights is the "Big Tree of Kippenross," or, rather, what remains of it, for, like many another monarch of the wood, its prime day is past. In 1821 its girth close to the ground was 42½ feet, and the extreme width of its branches 114 feet. Six years later it was struck by lightning, and it never recovered. The battlefield of Sheriffmuir forms part of the estate, but is now largely covered with timber. The gathering-stones of the clans, somewhat defaced by the relic hunter, however, still remain to be seen. They consist of three boulders, from the centre of which the standard waved, and are now surrounded by an iron cage, on which is affixed a suitable inscription.

By the banks of "Allan Water" we quickly arrive at Dunblane, where we visit the cathedral and the library of Bishop Leighton. The cathedral, now partly in ruins, and partly in use as the parish church, was founded about 1142, and restored about 100 years later. Of Gothic architecture, it consists of a nave with aisles, about 130 feet by 58 feet, a chapter house, a square tower, and the choir, now the parish church, 80 feet by 30 feet. "In beauty of proportion and depth and force of moulding it excels all other ecclesiastical buildings in Scotland," John Ruskin considers the western window the finest specimen of Gothic in the world. Not far off is the building containing the library. Bishop Leighton, the holder of the see of Dunblane from 1662 to 1670, bequeathed all his library to the clergy of his diocese. A building was set apart to contain the books, which from time to time have been added to, until a goodly number is now collected. After leaving the library, the party will visit the Dunblane Hydropathic Establishment, where light refreshments will be provided.

We now, having exhausted these sights, gladly once more betake ourselves to the carriages, and drive through the famous Wharry Glen to the Spa at Bridge of Allan, where, before or after tea, we may have an opportunity of tasting of this medicinal spring. Doubtless most of us will be only too glad to take tea in the Ochil Park Hydropathic Establishment, which the proprietor has so generously placed before us.

After tea we may have a ramble round the grounds, or, if we have horticultural proclivities, some of us may be favoured by the sight of the many beautiful orchids which are so carefully tended by our brother in the profession, Dr. Paterson.

The train for Glasgow will leave Bridge of Allan at 7.38 P.M., and will arrive in town about an hour later.

It would be ungenerous to omit here the untiring efforts towards the success of this excursion of Dr. Haldane, of Bridge of Allan.

PROCEEDINGS OF COUNCIL.

At a meeting of the Council, held in the Council Room 429, Strand, W.C., on Wednesday, July 18th, 1888; present:—

Dr. T. BRIDGWATER, President of the Council, in the chair,

Dr. B. Anningson, Cambridge	Mr. A. Jackson, Sheffield
Dr. H. Barnes, Carlisle	Mr. T. V. Jackson, Wolverhampton
Dr. J. S. Bristowe, F.R.S., London	Mr. T. R. Jessop, Leeds
Mr. H. T. Butlin, London	Mr. Evan Jones, Aberdare
Dr. A. Carpenter, Croydon	Mr. H. R. Ker, Halesowen
Surgeon-General W. R. Cornish, London	Dr. W. G. V. Lush, Weymouth
Dr. J. Ward Cousins, Portsmouth	Mr. C. Macnamara, London
Mr. T. W. Crosse, Norwich	Mr. F. Mason, Bath
Dr. G. W. Crowe, Worcester	Dr. W. W. Moore, Brighton
Dr. P. M. Deas, Exeter	Mr. W. Jones-Morris, Portmadoc
Dr. J. L. H. Down, London	Dr. C. Parsons, Dover
Mr. George Eastes, London	Dr. A. Sheen, Cardiff
Dr. W. A. Elliston, Ipswich	Mr. S. W. Sibley, London
Sir B. Walter Foster, Birmingham	Dr. E. M. Skerritt, Clifton, Bristol
Dr. J. H. Galton, Upper Norwood	Mr. T. Sympson, Lincoln
Dr. C. E. Glascott, Manchester	Dr. T. W. Trend, Southampton
Dr. W. C. Grigg, London	Mr. F. Wallace, London
Dr. James Hardie, Manchester	Dr. E. Waters, Chester
Professor G. M. Humphry, F.R.S., Cambridge	Mr. C. G. Wheelhouse, Leeds.
	Mr. A. Winkfield, Oxford

The minutes of the last meeting (having been printed and circulated) were signed after amendment.

Read letters of apology for non-attendance from Dr. Banks, the President, Dr. Bartolomé, Dr. Grimshaw, Dr. Duffey, Mr. Dix, Dr. McIntyre, Dr. Saundby, Mr. Taylor, Dr. Barron.

Read letter from Dr. Holman, the Treasurer, expressing regret at being obliged to be absent, and stating that Mr. Sibley had kindly undertaken his duties.

Read letter from Dr. Skerritt, Honorary Secretary of the Bristol Branch, stating that the Branch had decided to invite the Association to hold its annual meeting of 1891 at Bristol.

Thornton Villa, Richmond Hill, Clifton, July 14th, 1888.

My dear Sir,—As representative of the Bristol Section of the Bath and Bristol Branch of the Association, I have much pleasure in informing you that it was resolved unanimously at a special meeting of this Section that an invitation should be given to the Association to hold its annual meeting in Bristol in the year 1891. I expect to be present at the Council meeting on Wednesday, if you think well to mention the matter then.—Yours very truly, E. MARKHAM SKERRITT.

Dr. Bridgwater, President of Council, British Medical Association.

Resolved: That in accordance with particulars (a copy of which is subjoined), the Gold Medal for Distinguished Merit be awarded to Dr. Ormrod, of Workington, for his gallant services in the rescuing work in the late colliery accident.

6, Portland Square, Carlisle, June 7th, 1888.

Dear Dr. Bridgwater,—On April 27th I called your attention to the very valuable services rendered by the doctors, who were so prompt in their attendance upon the sufferers of a disastrous colliery explosion at Workington, and I ventured to ask whether in one case such services did not warrant the award of the Association Medal for Distinguished Merit. In your reply you were good enough to forward me the regulations with regard to the Medal, and at the same time you suggested that I should write you a letter, giving full details, to be laid before the Council.

From the regulations it appears that the Medal may be awarded to any gentleman who shall have conspicuously raised the character of the medical profession by scientific work, by extraordinary professional services, or by special services rendered to the British Medical Association.

The Medal, which was founded in 1887, has been awarded on four occasions: In 1877 to Mr. H. N. Davies and nine others; in 1879 to Surgeon-Major J. H. Reynolds, V.C.; in 1880 to Dr. William Farr; in 1886 to Dr. Edward Waters.

I have made careful inquiry into the circumstances of the recent disaster at Workington, and I submit the following particulars:

On the morning of the 19th April a fire broke out in William pit No. 3, belonging to the St. Helens Colliery Company. This pit has generally been considered a safe one, and employs about 400 hands. The fire was proved to be the result of a shot. As soon as it occurred, the great proportion of the hands were withdrawn, but about thirty-five picked workmen were selected to wall up the workings where the fire was raging. Whilst this work was in progress, a terrific explosion occurred. This took place about 8.15 P.M. The first rescue party descended at 8.30 P.M. Immediately after the explosion occurred word was sent to the pit doctor, Dr. Ormrod, who at once secured the services of his colleague, Dr. Dudgeon, and, having obtained appliances and restoratives, they at once proceeded to the scene of the disaster. The engine-house was converted into a temporary hospital, and placed under the care of Dr. Dudgeon. Dr. Ormrod proceeded to the pit mouth, where he organised rescue parties and descended the pit. He made several descents of the pit, proceeded with the rescue parties to the furthest part of the workings, and ascended to the surface several times in charge of the injured.

By so promptly organising and accompanying the exploring parties, by the valuable help he rendered to those suffering from injuries and choke-damp, and by the encouragement and personal aid in the work of rescue at the risk of his own life, it is felt that he has conscientiously raised the character of the profession, and is deserving of the Medal for Distinguished Merit.

The result of the explosion was very disastrous. Of the 35 men in the pit, 28 were at once killed, some of them terribly mutilated; 2 died in hospital, 4 others were more or less injured, and only one escaped injury. Twenty-four women were made widows, and 108 children became fatherless.

Nearly six hours were spent in the work of rescue, all parts of the pit were visited, but at length the atmosphere became so foul from the presence of choke-damp, that operations had to be suspended; and as it was quite certain there were no living human beings in the pit, it was flooded, in order to extinguish the fire. Several of the rescue party, including the colliery manager and his brother, suffered severely from the effects of the choke-damp.

At the public meeting called to organise relief committees, the High Sheriff of the county bore testimony to the gallant exertions of the relief party, "who risked their lives to save the lives of their comrades, and he made special mention of the name of Dr. Ormrod, who had behaved in a most gallant manner. At the risk of his own life he went down the pit, and as a medical man he rendered the greatest service in enabling those poor fellows who were saved to be brought to the top. And Dr. Dudgeon did yeoman's service when they came up. They owed a debt of gratitude to their fellow-townsmen, and he (the High Sheriff) suggested that a medal should be presented to Dr. Ormrod, with the date of the occurrence, and suitably inscribed, so that it may be handed down to his family." The meeting heartily endorsed the remarks of the Chairman, and Mr. G. J. Smith, the Chairman of the Workington Local Board, said what the Chairman said of Dr. Ormrod was nothing in comparison to what was said by those who accompanied him down the pit. The local press are unanimous in their praise of the valuable services rendered by Dr. Ormrod, and I shall be prepared to submit extracts to the meeting of Council, if necessary.—I am, dear Dr. Bridgwater, yours very faithfully, HENRY BARNES.

Read letter from Dr. Prosser James.

That Dr. Prosser James's letter having been read, the Manager's explanation having been heard, the Council reaffirms the conclusion they arrived at the meeting in April last.

Read letter from Surgeon-Major Manché and Surgeon Gipps, R.N., of which the following is a copy:

Military Station Hospital, Valetta, Malta, May 12th, 1888.

The General Secretary, British Medical Association,

Sir,—We beg to inform you that a meeting was held at the Station Hospital here, on May 9th, and that it was resolved to form a Mediterranean Branch of the British Medical Association.

In order to hasten the matter, the officers, subject to the approval of the Council in London, were also nominated. They were selected with a view to best meet the local necessities of the Branch. Enclosed is a list of the officers and members, which we hope the Council in London will be pleased to confirm. As it will be some time before the Branch is fully constituted, we beg to submit that the subscriptions of the newly-joining members commence from the 1st July, 1888, instead of for the whole year 1888.

Would you kindly forward to each of us, the Secretaries, a book of the regulations, etc., concerning the formation of a local Branch?

Below is a list of the members and those to be elected, forming the members necessary.—We are, Sir, yours obediently,

L. MANCHÉ, R.M.F.A., } Joint
A. G. P. GIPPS, } Secretaries.

P.S.—Kindly send some blank Forms of Application for members by return.

OFFICERS.

Surgeon-General Sinclair, First President.
The P.M.O. Naval Medical Service } First Vice-
The Principal Government Medical Officer } Presidents.
Surgeon-Major Manché, Royal Malta Fencible Artillery } Joint Secretaries
Surgeon Gipps, R.N. } and Treasurers.

Other Members.

Surgeon-Major Ring, A.M.S.
,, Puddicombe, R.N.
,, Home, R.N.
Fleet-Surgeon McClement, R.N.
,, Dobbyn, R.N.
,, Whitley, R.N.
Staff-Surgeon Godding R.N.
Surgeon South, R.N.
,, Pickthorne, R.N.
,, Hickson, R.N.
Surgeon Fogerty, R.N.
,, Milnes, R.N.
,, Stericker, R.N.
Dr. C. Mifsud.
Dr. A. P. Carbone.
Dr. J. Psaila.
Dr. F. Debono.
Surgeon Todd, R.N.
,, Bruce, A.M.S.

Other names will shortly follow.

Resolved: That the Council will gladly recognise the addition of a Branch in Malta upon receiving from the members of the proposed Branch a copy of the proposed by-laws and constitution for approval, and the report of the formal meeting proposing to form such a Branch.

Read letter from Dr. Lawrence Herman, of Capetown, South Africa, of which the following is a copy:—

10, Wale Street, Cape Town, South Africa.

General Secretary, British Medical Association,
429, Strand, London, W.C.

Sir,—I have very great pleasure in informing you that the medical practitioners of this Cape Peninsula have unanimously decided to form a Branch of the British Medical Association.

I send you a copy of the minutes of the meeting and append a list of gentlemen who have so far signified their intention of joining. As we have not here the necessary number of members of the British Medical Association for the inauguration of a Branch I send you a number of applications for membership, and will be pleased to learn of their favourable consideration as early as is convenient.

This Branch is being formed at the instigation of the South African Medical Association, which has been in existence here for the last five years, and which has about forty members; at one time there were about one hundred members, with Branches at the Paarl, Kimberley, and Grahamstown. These were, however, jealous of distant control, and in time separated, so that in each of these towns there is now a separate association. I hope in time they will also come under the fold of your Association.

I am directed to inquire how far our local funds would be held liable for any call from the central Association.

I have to request further that you will be so good as to forward full directions for our procedure, as we are anxious to get to work at an early date.

COPY (*abstract.*)

Minutes of a meeting of the medical practitioners of the Cape Peninsula and members of the Army Medical Staff, and Royal Navy Medical Service, convened by Dr. F. C. K. Murray, President of the South African Medical Association and Deputy Surgeon-General Faught, Principal Medical Officer for South Africa, held in Cape Town on Friday, May 11th, 1888, for the purpose of considering the advisability of establishing a Branch of the British Medical Association.

Present: Drs. F. C. K. Murray, Parson, Wright, jun., Hackett, Charlton, Baird, Faught, Jackson, Silke, Dyer, Wright, sen., Manikus, Chiappini, Douglas, Anderson, Scholtz, Hewat, Herman. Mr. Henry Juler, of London, attended as a visitor.

Proposed by Dr. Faught, seconded by Dr. Chiappini, "That Dr. Murray take the chair." Carried *nem. con.* Dr. C. L. Herman was requested to act as Honorary Secretary.

The Chairman read notice convening meeting, and said establishment of a Branch of the British Medical Association would be a great advantage to the profession in South Africa, as it would bring it into more direct communication with the great body of the profession in England and the Colonies generally, it would broaden the platform for our meetings, and would enable us to look to our *confrères* in the Army and Navy for support.

Proposed by Dr. Faught, seconded by Dr. Parson, "That a Branch be and is now established to be called the South African Branch of the British Medical Association."

Dr. Anderson pointed out it was necessary to have twenty members before a Branch could be formed; he suggested that the words "and is now" be withdrawn.

Dr. Faught, with the concurrence of Dr. Parson, agreed to this, and the amended resolution was put and carried with acclamation.

Dr. Anderson proposed, Dr. Jackson seconded, "That the following form a committee:—Drs. Murray, Faught, Hackett, Douglas, Scholtz, Anderson, Herman, with Dr. Murray as chairman. Three to form a quorum." Carried *nem. con.*

Dr. Herman proposed, Dr. Silke seconded, "That the Committee be allowed power to add to its number." Carried *nem. con.*

The meeting then broke up with a vote of thanks to the chair.

C. LAWRENCE HERMAN, M.B., Hon. Sec., *pro tem.*

Names of those who are at present Members of the British Medical Association who join Branch.	Names of those who have signified their intention of joining, whose papers I post you.
1. Deputy Surgeon-General Faught, P.M.O.	1. Dr. F. C. K. Murray, Claremont, Cape Town
2. Dr. P. J. Chiappini, Cape Town	2. Surg. Young, A.M.S., Simonstown
3. Dr. G. B. Silke, Cape Town	3. Dr. Bosenberg, Durbanville
4. Surg. Hackett, A.M.S., Cape Town	4. Dr. Manikus, Cape Town
5. Surg. Baird, A.M.S., Cape Town	5. Dr. Parson, Cape Town
6. Dr. Hewat, Woodstock, Cape Town	6. Dr. Scholtz, Cape Town
7. Surg. Phipps, A.M.S., Cape Town	7. Dr. Dyer, Cape Town
8. Surg. Fogerty, A.M.S., Cape Town	8. Mr. Jackson, Cape Town
9. Surg. Charlton, A.M.S., Cape Town	9. Dr. Anderson, Cape Town
10. Brig.-Surg. Robinson, A.M.S., Natal	10. Mr. Cox, Cape Town
11. Brig. Surg.-Major Coates, A.M.S., Natal	11. Mr. Douglas, Cape Town
12. Brig. Surg.-Major Babington, Natal	12. Dr. Eyre, Cape Town
13. Dr. J. H. M. Beck, Rondibosch, Cape Town	13. Dr. Baird, Cape Town
	14. Dr. C. L. Herman, Cape Town

Several other gentlemen have also promised to join, but I have not yet received their papers. I hope, however, to have them to hand before the mail sails this week.—I have the honour to be, Sir, your obedient servant,

May 30th, 1888. C. LAWRENCE HERMAN, Hon. Sec., *pro tem.*

Resolved: That the Council will gladly recognise the addition of a Branch in Cape Town upon receiving from the members of the proposed Branch a copy of the proposed by-laws and constitution for approval, and the report of the formal meeting of members proposing to form such a Branch.

Read letter from Professor McKendrick asking that the time of his address be altered from 3 o'clock to 2.30.

Resolved: That the time of the last general meeting on Friday, the 10th prox., be altered from 3 o'clock to 2.30.

Resolved: That the 221 candidates, whose names appear on the circular convening the meeting, be and they are hereby elected members of the British Medical Association.

Resolved: That the minutes of the Journal and Finance Committee of to-day's date be received and approved, and the recommendations contained therein carried into effect.

The minutes of the Journal and Finance Committee contain particulars of accounts for quarter ending June 30th amounting to £5,706; and auditor's report for quarter.

Resolved: That the report of the Premises Committee be received and approved, and the recommendations contained therein carried into effect.

Resolved: That the minutes of the Branch Organisation Committee be received and approved.

Resolved: That Surgeon J. J. Lamprey be appointed first Honorary Corresponding Secretary on the Gold Coast; and that Brigade-Surgeon Waters be appointed Honorary Corresponding Secretary for Allahabad and the North-West Provinces of India.

Report of Council was then considered.

Resolved: That the report of the Council, as amended, be received, approved, and published in the JOURNAL for presentation to the annual meeting at Glasgow on the 7th prox., see page 260.

Resolved: That the report of the Parliamentary Bills Committee be received, approved, and published in the JOURNAL for presentation to the annual meeting at Glasgow on the 7th prox., see page 262.

Resolved: That the minutes of the 17th inst. and report of the Inebriates Legislation Committee be received and approved, and the recommendations contained therein carried into effect, and that the report be published in the JOURNAL for presentation to the annual meeting at Glasgow on the 7th prox., see page 264.

Resolved: That the minutes of the Scientific Grants Committee, together with the annual report, be received and approved, and the report published in the JOURNAL for presentation to the annual meeting at Glasgow on the 7th prox., see page 265.

Resolved: That the usual grant of £300 be made to the Scientific Grants Committee, and in addition a special supplemental grant of £100 be made for the purposes of the Committee, as recommended.

It was moved and seconded: That the annual report of the Collective Investigation Committee be received, approved, and published in the JOURNAL for presentation to the annual meeting at Glasgow on the 7th prox., see page 267.

Whereupon an amendment was moved and seconded: That the report be adopted except the last line of the last paragraph but one, and in place of the words £200 named a sum be granted sufficient to complete the work in their hands.

The original motion for the adoption of the report was then put from the chair, and declared to be lost.

The amendment was then put, and declared to be carried.

It was proposed and seconded: That the draft scheme proposed by the Therapeutic Committee be received and adopted by the Council, and that a sum of £200 be granted to the Committee for the purpose of carrying it out.

Whereupon an amendment was moved and seconded: That the report of the Therapeutic Committee be referred back to that Committee for further consideration.

The amendment having been put from the chair the same was declared to be carried.

Resolved: That the minutes of the Committee on Fees to Medical Witnesses be received, and that under the circumstances further action be postponed till a more opportune time.

Read applications from the Medical Sickness Assurance Society, the Sydenham Society, and the Irish Graduates' Association, to hold their usual meetings.

Resolved: That the Medical Sickness Assurance Society, the Sydenham Society, and the Irish Graduates' Association, be permitted to hold their meetings as usual.

Read proposed alteration of By-law 6 of the Midland Branch, a copy of which is as follows:

Rule 6 as amended at the Annual Meeting held June 14th, 1888.

"The Vice-Presidents shall be elected annually for each county not already represented by the President or President-elect, and they shall not be eligible for re-election."

Resolved: That the proposed alteration in By-law 6 of the Midland Branch be approved and confirmed.

[The following Reports of the Council, and of Committees, will be presented at the Annual Meeting at Glasgow on August 7th, 8th, 9th, and 10th, and are published in accordance with the regulations for the conduct of Annual Meetings, which require that all Reports of Committees of the Association shall be printed in the JOURNAL *before the Annual Meeting.]*

REPORT OF COUNCIL.

Fifty-sixth Annual Meeting of the British Medical Association, Glasgow, August, 1888.

THE invitation to hold the annual meeting of the Association at Glasgow, which had been pending for some years, but which for several reasons had been postponed, was presented by an influential deputation during the brilliant and successful gathering in Dublin last year. The invitation so cordially given was accepted, and your Council have the pleasure of meeting you for the first time in this the second city of the Empire. In all university towns and cities that the Association has visited the authorities have acknowledged the importance of the meeting by granting the free use of the university buildings—a privilege which has been of the utmost convenience to members; and Glasgow has proved no exception to the rule, its handsome and extensive university buildings having been placed at the disposal of the Association. The Faculty of Physicians and Surgeons have also very kindly lent their rooms to the Committee for the arrangements of the meeting, and have otherwise rendered cordial co-operation in the work.

The programme of the meetings, which was altered last year to meet the requirements of the increased scientific work, was found to work so well at Dublin that your Council have again adopted the arrangements.

It is with very great satisfaction that your Council have to record the formation and recognition of several new and important Branches. First the Ceylon Branch, for which you are mainly indebted to Dr. Kynsey, also to Dr. Keegel who has accepted the post of honorary secretary.

The Nova Scotia Branch, of 33 members, for which your thanks are due to Dr. Tobin and others, is the first Branch in British North America.

Application has also been received for recognition of a Perthshire Branch; and this most important addition to the Association was formally recognised in January last. The Kimberley and South African Branch, the first in Africa, is only awaiting recognition for a copy of the proposed by-laws to be sanctioned by the Council of the Association.

Your Council have also just received applications for recognition from a most important Branch in Cape Town, South Africa.

The whole of the United Kingdom is now apportioned out into Branches. The same is in progress in the rest of the Empire; and our influence is reaching even to the vast continent of America. It is interesting to note the great service these Branches are rendering; and while we all know the work of the home Branches (both socially and scientifically), good work is being done in the Colonies as well as at home, in evidence of which we may quote the experience of a past President of a Colonial Branch:

"With a splendid climate the mortality was low in the compass where the officers have authority, as every sanitary measure was studied, and everything kept scrupulously clean. Outside the cordon of the barracks the preventable mortality was high, as the principles of health were not attended to. It was in vain for the principal medical officer to point out these matters; at last he conceived the idea of forming a Branch of the British Medical Association. The native authorities and the medical officers met in social and scientific intercourse at the Branch meetings, matters of sanitary science were brought forward and discussed. The native authorities were interested, and," added this past President, "I am thankful to say that I had the satisfaction, before leaving the colony, of seeing a change, and the fruit of my labours take effect."

Again the Honorary Secretary of the Nova Scotia Branch, Dr. W. Tobin, writes that an extraordinary meeting of the Branch was held to appoint a Committee to meet the Local Government Board with reference to an amendment of the Public Health Act. Dr. Tobin adds that the suggestions of the Committee have been acted upon by the Government, and the Act as amended has just been published.

These are some of many instances of the value of an organised Branch of the British Medical Association.

Your Council have the pleasure of reporting that two important Colonial Branches are about to be formed in Tasmania and Malta. The latter, which it is proposed to call the Mediterranean Branch of the British Medical Association, your Council trusts, will be found exceedingly useful and popular to medical officers going out and coming home, as well as those stationed at Malta. The Tasmanian Branch will no doubt form a large, active, and increasing centre of the Association.

It is with very great satisfaction that your Council inform the members generally, and especially those located in foreign parts, that, at the suggestion of the Branch Organisation Committee, they have decided to appoint Honorary Corresponding Secretaries for countries and districts outside the limits of the existing Branches. They feel confident that this innovation will powerfully promote the interests and influence of the Association. At the same time it will establish a pleasant method of recognising the labour of many officers of the Army and Navy and other members residing in distant lands. Your Council are sure that many will be anxious to receive the appointment as a medical observer and investigator of the British Medical Association, and that this official position will stimulate them to collect materials for the advancement of science.

Your thanks are due to the Honorary Secretaries for their highly successful labours in the interests of the Association in the organising and administering the work of their respective Branches. Your Council regret to have to report the resignation of Dr. R. Shettle, who has held office for many years as Honorary Secretary and Treasurer to the Reading Branch.

The number of members on the register last year was 11,107; during the year 359 have resigned, 132 have died, and 1,649 new members have been elected, leaving the present number 12,265.

Your Council have the pleasure to report to you another satisfactory financial year. The revenue amounted to a total of £28,680 0s. 3d, the expenditure to £26,060 17s. 8d., leaving a surplus balance of £2,619 2s. 7d; of this, £2,000 has been invested in Nottingham 3½ Corporation Debenture Stock. It must further be remarked that this surplus is obtained after paying largely increased expenses in respect of the JOURNAL, rent, taxes, furniture, and other items; and they venture to predict a still greater success in the current year. These various items of expenditure will be shown in the general balance sheet; and it will be observed that there are many expenses which are paid out of the income of the year without further encroachment on the reserve fund. The investments, exclusive of the lease of the present premises, amount to £19,566.

Your JOURNAL, ever a great element in the success of the Association, continues to be one of the chief attractions to membership, rendering great service to the profession, not only as being an efficient means of intercommunication of ideas, but as being also a powerful and influential voice—political, scientific, and social.

The communication from the Lancashire and Cheshire Branch on the subject of fees to medical witnesses is still under consideration.

At the last annual meeting resolutions passed by the Psychological Section were referred by the general meeting to the Council, and were passed on to the Parliamentary Bills Committee, who will report upon them to this meeting.

The question of relative rank and the notes thereupon in the last annual report of the Parliamentary Bills Committee, which it will be remembered was referred back to the Council at the last annual meeting at Dublin, on the motion of Director-General Sir Thomas Crawford, has been under the consideration of a Committee of the Council, who examined into documentary evidence which was submitted to the Committee, and arrived at the following conclusions:

(*a*) That the abolition of relative rank has, in the almost unanimous opinion of those interested, inflicted a grave injury on the status of the medical department in the army by leaving the officers without any definable or namable army rank.

(*b*) That, to an army like ours, serving in every climate and all parts of the world, a thoroughly organised, efficient, and contented medical service is essential for the health, discipline, and physical well-being of the soldiers; and that, therefore, the present anomalous position of the medical officers in the army is indefensible, an evil to the troops, and against sound policy.

(*c*) That as both officers and men of the Medical Department equally share with their combatant brethren the risks of climate, the dangers and privations of field service, and are not infrequently killed and wounded in battle, the deprivation of *bonâ fide* rank, title, and status in the army is not only unjust and ungenerous, but an administrative reproach.

(*d*) That namable and definable rank should be accorded to medical officers, whether of a substantive, honorary, or relative nature.

(*e*) That should it be determined to give medical officers a hybrid professional and military title, such should clearly indicate the actual rank of the holder by affixing the military title to the professional designation.

(*f*) That when medical officers are gazetted, on appointment or promotion, their military rank should be fully stated.

(*g*) That the substantive military rank and status should be stated in commissions of all medical officers.

These conclusions were forwarded by the President of the Council to the Secretary for War, who acknowledged the receipt of this letter on March 3rd, 1888. Although the Council were not able to obtain any promise that these suggestions would be adopted, there is good reason to hope that they will receive most attentive consideration, and that they will materially forward the settlement of this question on a more satisfactory basis.

The increasing mortality from cancer apparent in the returns of the Registrar-General was brought before the Council by Mr. Butlin, in October last; and a communication was made to the Registrar-General, to ascertain how far the steady increase of mortality from cancer is real or only apparent. Dr. Ogle, the Superintendent of the Statistical Department of Somerset House, replied, regretting that, after giving the matter full consideration, he was unable to accede to the request, as there were so many difficulties in the way of tabulating under separate headings, according to the part of the body affected, owing to the great and regrettable lack of precision with which very many members of the medical profession state causes of death in their certificates.

The Council, in reply, once more directed the attention of the Registrar-General to the vast increase in the mortality due to cancer, and expressed a hope that the Registrar-General would see his way to providing more detailed statistics on the subject.

The resolutions passed last year by the Therapeutic Section on therapeutic reform were referred by your Council to a Committee consisting of the officers of the Section, namely, Dr. Whitla, Dr. Charteris, Dr. Leech, Dr. Charles Y. Pearson, Dr. Michael McHugh, together with the gentlemen whose names are as follows: Dr. Sydney Ringer, Dr. Murrell, Mr. Wheelhouse, Professor Gairdner, Dr. Little, Sir Andrew Clark, Dr. Duffey, Dr. Sidney Martin, Dr. T. Lauder Brunton, Dr. Cranstoun Charles, Sir William Roberts, and Dr. Saundby. Dr. Lauder Brunton was appointed Chairman, and Dr. Sydney Martin was appointed Honorary Secretary to the Committee. The Committee has held two meetings, at which a Subcommittee was appointed to make preliminary suggestions upon the selection of official drugs, and to take up the question of the *Pharmacopœia* in accordance with a resolution passed at the Therapeutic Section of the annual meeting. It is early to expect a detailed report from this Committee; but it is hoped that they will be able to report progress at the next annual meeting. The Committee has also considered a scheme for obtaining from the medical profession information regarding new and old drugs; a detailed report will be submitted to the members at the next annual meeting.

At a meeting of the Council held on the 18th ultimo it was decided, upon the motion of Dr. Barnes, of Carlisle, which was seconded by Sir Walter Foster, M.P., to award the Medal for Distinguished Merit to Dr. Fray Ormrod, of Workington, for his gallant conduct in the rescuing work in the recent colliery accident. The Presentation will be made on Thursday after the address in Surgery.

Mr. Watson Cheyne having retired from the appointment of one of the Research Scholarships, the vacancy was announced by the Scientific Grants Committee. Nineteen applications were received; and Dr. Ralph Stockman, of Edinburgh, was appointed. He proposes to continue pharmacological investigations on the Chemical Changes which Menthol, Camphor, and Similar Bodies undergo after Absorption, etc. Dr. Sidney Martin, the other scholar, has reported on his investigations during the year.

The Association has to mourn the loss, by death, of many old and distinguished members, amongst whom may be mentioned Dr. Andrew Fergus, who gave the address in Public Medicine at Cork, in 1879; Mr. Dolman, of Derby; Dr. Aymer Robert Macdougal, of Chesterfield; Dr. Benjamin Graham, of Borrowstouness; Dr. Thomas Cuming, of Armagh; Mr. Edward Ilott, of Bromley; Dr.

Francis Ogston, of Aberdeen; Mr. Samuel Berry, of Birmingham; Mr. James Bennett, of Edinburgh; Dr. Robert Greenhalgh, of London; Mr. J. Randle Buck, of Worcester; Mr. Arthur Douglas Gripper, of Wellingborough; Mr. Edward Parker, of Liverpool; Sir George Burrows, Bart., a Vice-President of the Association, and President in 1862; Dr. Arthur Farre, President of the Obstetric Section in 1869; Mr. Brideoake, one of the oldest members of the Association; Dr. Wheeler, of Belfast; Mr. Samuel Hey, of Leeds; Dr. Boyd Mushet, Mr. T. B. Curling, of London; Mr. Richard Patrick Burke Taaffe, of Brighton, President of the Public Health Section in 1886, when the Association met in that town; Mr. George Yates, of Birmingham; Mr. Horace Turner and Mr. Charles Goodwin, both of Norwich; Dr. Mark Long, of Ludlow; Dr. Arthur Cresswell Rich, Liverpool; Dr. W. A. Richards, of Winchester; and the following medical officers in the Indian and Home Medical Services: Surgeon-Major John Crofton Lawrenson; Dr. D. H. B. Anderson, A.M.S.; Sir William R. E. Smart, K.C.B.; Surgeon A. P. Adams, of the Indian Medical Service: Surgeon-Major R. H. Gardner; Professor de Chaumont, of Netley, who was President of the Public Medicine Section in 1877; Dr. J. M. McCulloch, of Dumfries; and Surg.-General M. C. Furnell.

The work that has been done by the various committees has been duly reported to the Council, and will be submitted to the meeting.

THOMAS BRIDGWATER,
President of the Council.

REPORT OF THE PARLIAMENTARY BILLS COMMITTEE.

THE Report of the Parliamentary Bills Committee, presented to the Annual Meeting of the Association in Dublin in August, 1887, contained the following paragraphs on the subject of the Relative Rank of Army Medical Officers:—

Relative Rank of Army Medical Officers.—The serious subject of the abolition of relative rank in the army, brought before the Committee on February 25th by the Chairman (Mr. Ernest Hart), was one to which additional prominence had been given by a statement made in the House by Mr. Stanhope, the Secretary of State for War, who was asked as to a clause in the recent Army Medical Warrant, his reply being that relative rank had been abolished in all departments, but medical officers retained all privileges theretofore attaching to it. This reply caused considerable consternation and a feeling of great dissatisfaction in the Army Medical Service, to the extent of which the voluminous correspondence received by Mr. Ernest Hart amply testifies; and it was with the view of throwing a little light on what too many distinguished medical officers proved to be a very unintelligible reply, that Mr. Ernest Hart requested Sir Guyer Hunter to put a further question in the House, and that, with the approval of the Committee, he addressed a detailed letter to Mr. Secretary Stanhope on the matter. The replies to both, as will have been seen, were equally unsatisfactory. A deputation was then received by Mr. Stanhope, at which, in the absence of the Chairman from town, Dr. Carpenter, Mr. Macnamara, and Mr. Fowke appeared as representing the Association, together with Surgeon-General Maclean (by whom the case was very ably stated), Sir Guyer Hunter, M.P., and several other Members of Parliament, introduced the deputation, and supported its views. The result has been seen in the published report (JOURNAL, page 689). The Secretary of State for War refuses to acknowledge that the Army Medical Service have lost anything more substantial than a mere term. A further communication addressed to Mr. Stanhope by the Chairman on April 29th, expressed the hope that, before finally settling the draft, he would reconsider the question from certain points of view, and adding that it would appear to be necessary in order to make plain to all branches of the service the effect of the present modification, there should in all future editions of the *Army List* appear someindications of the rank and privileges as conferred by the late alterations, as analogous to that which used to appear in the *Army List* when the date of attaining relative rank was published, as well as the date of attaining the particular grade in the department to which the officer belonged. It was again pointed out, as it had been by Surgeon-General Maclean at the deputation, that after having discredited relative rank as a mere name, its restoration could not be expected to satisfy them, and that honorary rank was now become necessary, such as was given to the Commissariat and Pay officers. A considerable mass of correspondence continues to be received from army medical officers of all ranks, from the most senior to the most junior, and telegrams from representative medical officers at various foreign stations, all of which endorse with expressions of warm and grateful thanks the representations thus made on their behalf and at their instance to the Secretary of State.

They earnestly urge a continuance of these efforts until a satisfactory conclusion has been arrived at.

The Director-General of the Army Medical Department (Sir Thomas Crawford) was understood to hold certain opinions on the subject of relative and honorary rank, which it was desirable should be made fully known to the officers of his department, and as a convenient method of eliciting those opinions, Mr. Hrnest Hart, together with Sir Thomas Longmore, had an interview with Sir Thomas Crawford, and an opportunity was subsequently taken of stating the views of the Director-General in the JOURNAL.

The feeling on the subject in the department, however, continues unabated, and appears to grow in extent and in intensity. As the medical officers of the army are precluded by the rules of the service from making any collective statement on their own behalf, and as it appears extremely desirable that the actual wishes of the officers of the service should be ascertained, the Chairman of the Parliamentary Bills Committee, in accordance with requests numerously and influentially urged, is arranging to issue a form of queries to every medical officer of the department, which will enable each to state his views individually, and the principal reasons in support of them, and will admit subsequently of an analysis, which will afford full information on the subject. Meantime, it is satisfactory to know that the action thus far taken has much endeared the Association to the Army Medical Department, and that the officers of that department not already members of the Association have recently joined it in great numbers.

At the General Meeting of the Association, at which this Report was presented, it was resolved on the motion of Sir Thomas Crawford, K.C.B., Director-General of the Army Medical Department, that the paragraphs referring to relative rank be referred back for further consideration. The Council of the Association appointed the following Subcommittee to consider the subject, and invited the Chairman of the Parliamentary Bills Committee to attend its meetings:—Dr. Bridgwater, Dr. Holman, Surgeon-General Cornish, Dr. Ward Cousins, Mr. Mason, Dr. C. Parsons, Dr. Trend. Before this Subcommittee of Council was laid an analysis of statements by medical officers of the Army Medical Department, of their views on the question of rank, in reply to a series of questions which had been issued to them. This analysis of statements has been printed in full in the JOURNAL, November 26th, 1887, and December 3rd, 1887. After careful consideration and the examination of a considerable mass of documents, the Subcommittee of Council adopted the following report.

Report of the Subcommittee of Council on the Subject of the Rank of Army Medical Officers.—Your Committee in considering this subject have had before them:—

1. The paragraphs of the Report of the Parliamentary Bills Committee on the subject of army medical rank, referred to them for consideration.

2. The replies of 922 army medical officers at home and abroad, to a series of questions issued by the Chairman of the Parliamentary Bills Committee, with a view of ascertaining precisely what are the sentiments of the individual army medical officers of all grades, in reference to the question of rank, whether honorary, relative, or substantive.

3. An immense mass of correspondence from officers of all ranks expressing in detail the grounds and arguments by which they support their views.

An analysis of the above documents has been printed for the use of the Committee, and copies are submitted with this Report.

Without entering into any prolonged statement or discussion, it may be stated that the abolition of Relative Rank by the Warrant of January 1887, was the immediate cause of the present dissatisfaction, and that subsequent steps taken by the War Office have not had the effect of giving satisfaction to the Army Medical Service generally.

From an examination of the documentary evidence submitted to this Committee it results:—

(*a*) That the abolition of relative rank has, in the almost unanimous opinion of those interested, inflicted a grave injury on the status of the Medical Department in the army, by leaving the officers without any definable or nameable army rank.

(*b*) That, to an army like ours, serving in every climate and all parts of the world, a thoroughly organised, efficient and contented medical service is essential for the health, discipline, and physical well-being of the soldiers; and that, therefore, the present anomalous position of the medical officers in the army is indefensible, an evil to the troops, and against sound policy.

(*c*) That, as both officers and men of the Medical Department equally share with their combatant brethren the risks of climate, the dangers and privations of field service, and are not infrequently killed and wounded in battle,[1] the deprivation of *boná fide* rank, title and status in the Army is not only unjust and ungenerous, but an administrative reproach.

(*d*) That nameable and definable rank should be accorded to medical officers, whether of a substantive, honorary, or relative nature.

(*e*) That, should it be determined to give medical officers a hybrid professional and military title, such should clearly indi-

[1] "We cannot conclude the retrospect of the year without once more inviting attention to the fact that it is a much safer thing to serve in the Artillery and Engineers on the General Staff than on the Medical Staff in our little wars. The percentage of deaths to strength in the

Artillery in Egypt was	0.00
Engineers	0.00
General Staff	4.48
Commissariat Department	0.00
Medical Staff	6.93
Pay Department	0.00
Veterinary Department	0.00."

—*British Medical Journal*, December 31st, 1887.

cate the actual rank of the holder by affixing the military title to the professional designation.

(*f*) That, when medical officers are gazetted, on appointment or promotion, their military rank should be fully stated.

(*g*) That the substantial military rank and status should be stated in commissions of all medical officers.

Your Committee recommend to the Council to submit these conclusions to the Secretary of State for War, and to urge upon him these considerations, seeing that the efficiency of the Army Medical Department, and the prospects of recruiting it in the future from the abler sections of the younger members of the medical profession cannot but be seriously and prejudicially affected by the present anomalous position held by medical officers in Her Majesty's army and the general dissatisfaction arising therefrom. It should be pointed out that 75 per cent. of the army medical officers whose communications to the extent of 922 have been received, regard the concession of army titular rank to medical officers as essential to the efficiency of the Medical Department.

A copy of this Report, together with a covering letter, was addressed by the Chairman of Council to the Secretary of State for War, who replied that he had "nothing further to add" to the adverse communications which he had already made to the Parliamentary Bills Committee and to the Council on the subject. This correspondence has again been communicated to the Parliamentary Bills Committee by the Council of the Association. The Committee, in view of the sittings of the Select Committee of the House of Commons on the Administration of the Army and Naval Services, and pending the issue of their Reports, and in view also of the circumstance that examinations for the Army Medical Service are temporarily suspended, have thought it advisable to postpone for the present further action in the matter. They believe that the effect of the immense mass of evidence elicited as to the unsatisfactory position of the army medical officers in respect to rank, and the conclusions of the Council on the subject, will not fail to have irresistible weight in the future determination of the questions at issue, and that, as heretofore, the influence of the Association will be found to have been exerted beneficially in informing the minds of the civil members of the profession, and of those who might otherwise desire to enter the Army Medical Service, of the existing grievances in that department of the service, and of the unsatisfactory conditions under which they would be required to serve. Army medical officers continue to join the British Medical Association in large numbers, the whole number of army medical officers now included in the membership of the Association being 1,113.

The Committee refer with gratification to the warm tributes paid by the Directors-General of the Naval Medical Service and of the Army Medical Service, on a recent public occasion, to the great benefits conferred on the medical officers of the army and the navy during a long series of years by the labours of the Parliamentary Bills Committee of the Association, and to the high satisfaction expressed by those authorities at the increasing union between the military and the civil department of the profession, and the large extent to which the officers of the respective departments were included in the membership of the Association. It should be noted that since the Parliamentary Bills Committee began to move in this matter certain improvements have been made, thus: whenever the name of a medical officer appears now in the official *Army List*, his military position is invariably notified by the words "ranking with" (that is, Major, Lieutenant-Colonel, Major-General, as the case may be).

Irish Lunacy Law.—The following resolutions in relation to Irish lunacy law were passed in the Section of Psychology at the last annual meeting, and were subsequently referred to the Parliamentary Bills Committee by the Council of the Association.

"It was moved by Dr. Yellowlees, and seconded by Dr. Savage:—

"'That this Section of the British Medical Association, having had under consideration during the meeting in Dublin the Irish lunacy laws and their practical working, and having strongly felt their grave defects when compared with those of England and Scotland, conclude to bring this subject under the consideration of the Council, in the hope that they will take such steps as to bring under the attention of the Government the urgent need of better regulations and further legislation in regard to this matter. The chief defects are the following:

"'1. The modes of admission of patients into asylums, which often involve injustice and injury to the patients, and great danger to the public.

"'2. The defective powers possessed by the medical superintendent for the proper and efficient management of the asylums, for example, his having no power to engage or to dismiss the attendants, on whose loyal discharge of duty the welfare of the patients so greatly depends.

"'3. The want, in the majority of asylums, of assistant medical officers, so that the medical superintendent is unable to give the necessary time to his strictly medical duties, and large asylums containing some hundreds of lunatics may be left entirely without resident medical supervision when the superintendent is absent.'"

A full report on these subjects was prepared by a Subcommittee, consisting of Mr. Ernest Hart, Dr. Bridgwater, Dr. Alfred Carpenter, and Dr. Mickle, and is published in the JOURNAL of May 12th, 1888. The conclusions arrived at were (1) that what is required in Ireland is (1) either a modification and expansion of the first mode of admission to asylums, described in the report; or else such changes as will, as nearly as possible, make the modes of admission the same there as they are in Great Britain, or in one or other part thereof; (2) as to the defective control of medical officers over the asylum staffs in Ireland.

The Governors of the Public Asylums in Ireland appoint all the servants and attendants. Obviously, it would conduce to the welfare of the asylum and their inmates if the selection was left to the medical superintendents, and if engagement or dismissal of members of the staff should primarily rest with them, subject to the approval and confirmation of the board of governors.

3. As to the absence of the post of assistant medical officer in many asylums in Ireland.

It is understood that only about nine asylums out of twenty-two in Ireland have a second medical officer. Where the asylums are of any but very small size, the desirability of having an assistant medical officer is too obvious to require any comment.

Lunacy Acts Amendment Bill, 1888.—The Lunacy Acts Amendment Bill, 1888, is practically the same Bill as that of last year in its final form, as somewhat amended during the session of 1887. The provisions of the Bill of last year having been fully considered by the Parliamentary Bills Committee, when that Bill was before the Houses of Parliament, the Committee this year readopted the recommendations made in 1887, except as regards points omitted as being no longer required, owing to changes introduced into the proposed legislative measure, and as regards one recommendation which was slightly modified. The Committee also added to their previous recommendations one as to the pensions of medical officers in county and borough asylums.

The chief recommendations of the Committee with regard to the Bill in its present form are (expressed briefly):

An alteration of Sections 4 and 9, which in their conjoint operation are thought to place certifying medical men and others in a position provocative of misunderstanding, and unfairly open to attack. A suggested provision that the justice should see the alleged lunatic would exclude Section 9, but not bear upon Section 8 and "urgency cases."

Remuneration (except in cases specified) of medical officers of workhouses for certifying; and modification of punitive provisions with regard to them.

Modification of the sections relating to the periodical special reports and certificates required, under the Bill, of asylum medical officers and others; and modification of the sections relating to the letters written by patients.

Omission of special disabilities with regard to "single patients" that may, under one interpretation of the Bill, accrue to medical men.

Omission or modification of the section relating to examination and discharge of lunatics on the initiative action of any person.

Modification of the provisions concerning registered lunatic hospitals.

That medical officers of county and borough asylums should be able to claim pensions as a right, after sufficient length of service with good conduct; and that such pensions should be estimated on a scale analogous to that of the Civil Service (First Class).

Tax upon Horses.—In consequence of numerous representations received from medical practitioners as to the onerous character of the tax upon horses, included in the financial propositions of the Chancellor of the Exchequer, representations were made direct

to the Minister by the Chairman of Committee, and communications were addressed to the Branches which led to further representations being made in Parliament, and privately with a view to lightening the incidence of the imposed tax. The precise results arrived at have not yet been made known in Parliament, but statements made by the Minister, and communications received from various sources, lead to the belief that some considerable reduction will be made from the taxation originally proposed.

Notification of Infectious Diseases.—This subject having been brought under the notice of the Committee in relation to two private Bills a Subcommittee was appointed consisting of the Chairman, Dr. Bridgwater, Dr. Alfred Carpenter, Dr. Langdon Down, and Dr. Grigg, to draw up reasons for opposing the compulsory notification of infectious disease by the medical attendant. The Subcommittee drew up an able paper on the subject, which was printed in the JOURNAL of May 5th, and of which copies were forwarded to the President of the Local Government Board, to members of the Sanitary and Police Committee, and to members of Parliament.

Pharmacy Bill.—In the Pharmacy Acts Amendment Bill of 1887 there were certain provisions which the Chairman brought under the notice of the Committee, and which indicated, it was thought, a tendency to encroach on medical rights, especially by including materia medica among the courses of instruction and examination. The Committee authorised the Chairman to address communications to the Privy Council and to the General Medical Council on this subject. The General Medical Council adopted the views brought before them, and the President of the Council, Mr. Marshall, and Dr. Quain, on behalf of that body, had an interview with the President of the Privy Council. The Pharmacy Acts Amendment Bill of 1888 has, the Committee are glad to report, been expressly modified to meet the views which they have put forward on the subject, and it now contains nothing which is in any way objectionable.

The Coroners Bill.—The Coroners Bill introduced into the House of Lords by the Lord Chancellor has been under the notice of the Committee, who considered that the clause by which it was proposed to abolish the present mode of election of coroners, and to place their nomination in the hands of the Lord Chancellor, was objectionable. Resolutions were passed to this effect, and favouring the election of coroners in the future by the County Councils contemplated by the Local Government Bill now before Parliament. Communications were accordingly made to Dr. Danford Thomas as representing the Coroners' Society, and to the leading persons in the House of Lords. It is satisfactory to your Committee to be able to report that in Committee of the House of Lords the opinions thus expressed were advocated by Lord Herschell and other eminent peers, and were accepted by the Lord Chancellor, who agreed to substitute "the county authority" for the "Lord Chancellor," leaving it to be decided whether such county authority shall be the County Councils when constituted or a joint committee of the Councils and of Quarter Sessions. A clause introduced into the Local Government Bill in Committee of the House of Commons gave effect to the views of your committee by conferring the power of election of Coroners on the County Councils.

The Local Government Bill.—The Local Government Bill proposes to create County Councils, and to entrust to them considerable sanitary powers and duties—without, however, providing them with medical officers or advisers, or with the necessary machinery for carrying out their sanitary duties and responsibility. Acting in accordance with the previous decisions of the Association, and the former reports of its State Medicine Committees, prepared by Dr. Stokes, Dr. Rumsey, Dr. William Farr, Dr. Acland, Dr. A. P. Stewart, and Dr. Sibson, the Committee adopted the following resolution, on the motion of Dr. Alfred Carpenter: "That an endeavour be made to introduce into the Local Government Bill a clause attaching the medical officer of health to the new County Councils." A committee delegated by the Society of Medical Officers of Health met a Subcommittee of the Parliamentary Bills Committee in conference, and unanimously concurred with the recommendation above made.

The joint committees conferred with the leading authorities in the House on Health legislation, and the following clause submitted by Mr. Stansfeld in Committee in the House of Commons was accepted by the Government, and passed without opposition:—"1. The Council of any county may, if they see fit, appoint and pay a medical officer of health, or medical officers of health, who shall not hold any other appointment or engage in private practice without express written consent of the Council. 2. The County Council and any District Council may from time to time make and carry into effect arrangements for rendering the services of such officer or officers regularly available in the district of the District Council, on such terms as to the contribution by the District Council to the salary of the medical officer, or otherwise, as may be agreed. 3. So long as such an arrangement is in force, the obligation of the District Council under the Public Health Act, 1875, shall be deemed to be satisfied without the appointment of a separate medical officer."

Qualification of Medical Officers of Health.—A clause was also moved by Sir Walter Foster on the subject of the qualifications of future medical officers of health which was passed in the following form:—"Except where the Local Government Board, for reasons brought to its notice, may see fit in particular cases specially to allow, no person shall hereafter be appointed the medical officer of health of any county or county borough or district, or combination of districts, or the deputy of any such officer, unless he be legally qualified for the practice of medicine, surgery, and midwifery; nor shall any person after the 1st day of January, 1892, be appointed the medical officer of health of any county or county borough, or of any such district or combination of districts, as contained, according to the last-published census for the time being, a popu-lation of 50,000 or more inhabitants, unless he is qualified as above mentioned, and also either is registered in the *Medical Register* as the holder of a diploma in sanitary science, public health, or State medicine, under Section 21 of the Medical Act, 1886, or has been during the three preceding years a medical officer of a district or combination of districts with a population according to the last census of not less than 20,000."

ERNEST HART, *Chairman.*

REPORT OF INEBRIATES LEGISLATION COMMITTEE.

YOUR Committee are glad to be in a position to report to the Council the enactment of permanent legislation which has taken the place of the Habitual Drunkards Act, 1879, enacted for ten years only.

As the expiry of the Act was approaching it was considered judicious by the Association, in concert with friendly members of the Legislature and with the Society for the Study of Inebriety, to endeavour to obtain amended and more stable legislation. Accordingly, the Habitual Drunkards Act Amendment Bill was introduced into the House of Commons last session by Dr. Cameron, Sir Walter Foster, Sir Trevor Lawrence, and Sir Lyon Playfair. The Bill, however, was blocked and did not reach a second reading.

Your Chairman, as instructed at last annual meeting, acting under the authority of the Council, requested on the part of the Committee an interview with the Home Secretary. A correspondence ensued, in the course of which the views of the Association were, at the request of the right honourable gentleman, fully laid before him, and he agreed to support the Bill with certain modifications. Notwithstanding this governmental assent, the second reading was opposed by one member, which rendered a new parliamentary departure expedient. Accordingly the Bill was withdrawn and a new Bill was introduced embodying the modifications stated by Mr. Matthews.

Bill No. 2, which has passed both Houses, having been taken charge of in the Upper House by the Earl of Aberdeen, as it now stands provides for a permanent Act to replace the original temporary measure. A clause provides for the appointment of a deputy to the licensee during temporary absence for the space of not more than six weeks, subject to the approval of the Inspector of Retreats and the local authority which grants the licence. Another clause will remove the existing restriction of the two attesting justices to the county in which the attestation of the applicant's signature to a request for admission into a retreat is made. A concluding clause provides for the original and amending Acts being designated The Inebriates Act.

Your Committee did all in their power to secure legislative provision for various other amendments advocated by the Association, such as attestation by one justice only; powers for compulsory admission in certain cases, for the establishment at the public charge of retreats for the poor, and for detention for purposes of cure of habitually drunken indoor paupers; the control over remittances to patients in residence; the taking back direct to a retreat any patient who may have escaped therefrom; and the inclusion of other forms of inebriety beside the alcoholic. But it

was found that none of these objects could at present be attained, and that to have insisted on any of them would have taken away every chance of permanent legislation. Your Committee, therefore, in concert with sympathetic legislators and with the Society for the Study of Inebriety resolved to accept the conditions laid down by the Home Secretary, as the assent of the Government would probably secure the passing of the Bill, a very difficult undertaking in the present state of political affairs.

The amendment by which the restriction of the attesting justices to the county in which the attestation of applicant's signature is made will be of considerable value in the working of the Act, and will render it easier for inebriates to apply for admission under the Act.

The alteration of title from "Habitual Drunkards" to "Inebriates" Act, will also have a favourable influence on the number of applications, and on the result of treatment. Many inebriates have a very strong and natural objection to declare themselves habitual drunkards, but are willing to confess themselves inebriates. Besides, all inebriates are not habitual. A large proportion are periodical. The new title is taken from the Victoria Act of 1872.

The clause relative to the appointment of a deputy in the temporary absence of the licensee will remedy an oversight and be serviceable, inasmuch as it will ensure the presence of a legally competent authority for the enforcement of discipline, in such circumstances. Under the existing *régime* the absence of the licensee has at times been taken advantage of by some of the patients who knew that no one in the retreat was clothed with legal authority and who presumed on this to defy the officials actually on the premises.

The most important provision, however, undoubtedly is the enactment of a permanent measure. Now that we have a permanent Act, the energies which hitherto have been concentrated on the agitation to secure this permanence can henceforth be devoted to agitation for improved legislation. Your Committee venture to express a hope that the Association will redouble its zeal in bringing pressure to bear upon the Parliament and the Government to complete the legislative provision for the inebriate on the lines of accomplished legislation in some of our Colonies and in some of the United States of America, especially in the providing of compulsory admission to a retreat, in the establishment of special homes for the care of the poor, in the detention for a time under treatment of pauper inebriates, in greater power over moneys sent to resident patients, in the reconveyance (without an appearance before a justice) of an escaped patient, and in the extension of the provisions of the Act to embrace inebriety in opium, chloral, and other narcotics.

Your Committee have noted with pleasure the marked impetus which has been given, during the past year, to the movement on behalf of the inebriate by the Colonial and International Congress on Inebriety, by the papers read to the International Medical Congress in Washington, and by special meetings of the Medico-Legal Society of New York.

The demand for legislation for the treatment of the diseased inebriate in this country originated with the British Medical Association. As in the United States and our own Colonies, this has practically been a medical movement; and it is earnestly to be desired that the Association will spare no effort to carry to a final and triumphant issue that call for adequate legislative provision for the treatment of inebriates which their own diseased condition, the sufferings of their families, and the public welfare so imperatively demand.

In future the Committee will be entitled "The Inebriates Legislation Committee." The Committee recommend their reappointment as follows: — The President and President-Elect, *ex-officio;* Dr. T. Bridgwater, President of Council; Dr. Norman Kerr, D. B. Balding, Esq.; H. Branthwaite, Esq.; Dr. C. Cameron, M.P.; Dr. A. Carpenter, J.P.; Dr. G. B. Clark, M.P.; Dr. C. R. Drysdale; Dr. J. W. Eastwood; Dr. R. Farquharson, M.P.; Sir W. Foster, M.D., M.P.; W. C. Garman, Esq.; Dr. J. Hill Gibson; Dr. A. Grant; Mr. F. J. Gray; Dr. C. J. Hare; R. H. B. Nicholson, Esq.; Surgeon-Major G. K. Poole, M.D.; J. Prankerd, Esq.; Dr. Pringle; Fleet-Surgeon G. Robertson; Dr. G. Danford Thomas, Coroner; Dr. H. W. Williams; Dr. E. Hart Vinen; and H. R. Ker, Esq.; Honorary Secretaries.

NORMAN KERR, M.D., *Chairman.*

DR. WOODHOUSE has obtained a superannuation allowance of £80 per annum on resigning as Medical Officer for the workhouse and No. 1 District of the Hertford Union.

REPORT OF THE SCIENTIFIC GRANTS COMMITTEE.

THE Scientific Grants Committee have to report that during the past year, 1887-8, the sum of £300 has been granted in aid of scientific research, of which the following are particulars:—

	£	s.	d.
Dr. H. H. Ashdown, University of Edinburgh, a Research upon Absorption from the Bladder	15	0	0
Dr. C. A. Ballance, 56, Harley Street, W., an Investigation with reference to the Presence of Micro-organisms in Healthy Living Tissues	15	0	0
Dr. C. E. Beevor, 33, Harley Street, W., Localisation of the Functions of the Brachial Enlargement of the Spinal Cord	30	0	0
Dr. W. B. Hadden, 21, Welbeck Street, W., Experiments on the Course of the Motor Tracts, Brain, and Spinal Cords of Monkeys	25	0	0
Dr. J. S. Haldane, Physiological Laboratory, Oxford, for a Research Relating to a Problem in the Physiology of Animal Heat, namely, to Ascertain the Influence which Variations of Surrounding Temperature Exercise on the Production of Heat, and the Activity of the Chemical Processes of Respiration as Indicated by the Rate of Discharge of Carbonic Acid and Absorption of Oxygen	50	0	0
Dr. J. B. Haycraft, F.R.S., 14, Douglas Crescent, Edinburgh, an Investigation on the Phenomena of Coagulation and Changes which Result when Blood is kept Artificially Fluid outside the Body	25	0	0
Dr. T. A. Helme, Schifflentgasse 29, Strassburg, Elsass, for a Study of the Phenomena of the Uterine Muscle: 1. The Character of Contraction; Absolute Power; Influence of Load and Distension of the Cavity. 2. The Influence of Temperature and Altered Conditions of the Blood (for example, De-oxidation, and with Excess of CO)	25	0	0
Dr. W. Hunter, Pathological Laboratory, New Museum, Cambridge, to Defray Expenses incurred by a Research on Intra-Peritoneal Transfusion and the Fate of Extravasated Blood, etc.	30	0	0
C. B. Lockwood, Esq., 19, Upper Berkeley Street, W., Pathology of Syphilis	25	0	0
Dr. A. Money, 24, Harley Street, W., to Carry On an Investigation on the Relations of the Cerebral and Motor Apparatus of the Spinal Cord	15	0	0
Dr. T. G. Nasmyth, Toulford, Cowdenbeath, Fife, Bacterial and Chemical Examination of Air of Coal Mines, of Scientific and Specially Hygienic Importance	15	0	0
Dr. D. N. Paton, 4, Walker Street, Edinburgh, the Influence of Fever on the Carbo-Hydrates (Glycogen and Sugar) of the Animal Body	30	0	0
	300	0	0

The following sums have been returned as unused:—

	£	s.	d.
Dr. W. B. Hadden	9	3	0
Dr. J. S. Haldane	34	0	0
Dr. J. B. Haycraft	7	0	8
Dr. W. Hunter	10	0	0
C. B. Lockwood, Esq.	16	17	6
Dr. A. Money	11	0	0
Dr. D. N. Paton	30	0	0
	£118	1	2

Dr. Herbert H. Ashdown is at present engaged in a research "On the Function of the Renal Epithelium" in the Physiological Laboratory of University College, London. His investigations tend to elucidate some of the more obscure chemical problems of excretion and elimination as affected by the epithelium of the tubercles of the kidney, under normal and altered physiological conditions, as well as the metabolic changes which occur within the kidney itself. The results of these observations, however, gained from a careful study of any increase or diminution in the quantity of the various urinary constituents, and the presence or absence of unusual substances in the urine, are not sufficiently complete to allow of the publication at present of his conclusions.

Dr. C. E. Beevor and Mr. Victor Horsley have been carrying out investigations of an experimental character of stimulating the cortex, and the internal capsule, as well as investigation on the brachial plexus of the monkey. These observations are not yet finished for publication, as further work on the subject is required. They have also finished an investigation on some of the functions of certain cranial nerves (v, vii, ix, x, xi, xii) and of the first three cervical nerves in the monkey, which has been read before the Royal Society, and of which they forward a copy. The chief points in this paper are that the soft palate does not receive its motor supply from the seventh nerve, but from the accessory nerve of the vagus; the hypoglossal nerve supplies only one half of the tongue, and it does not supply the depressors of the hyoid bone, through the descendens noni branch. The depressors of the hyoid are supplied by the first and second cervical nerves, of which the branch from the first cervical to the hypoglossal supplies especially the sternohyoid and sternothyroid, while the omohyoid gets its nerve supply especially from the branch from the second cervical nerve to the descendens noni. The nerves were stimulated by the faradic current, in the cranial and spinal cavities and also in the neck.

Dr. Hadden and Mr. Ballance have been continuing their stimulation experiments carried on by Dr. Hadden and Mr. Ballance which have led to conclusions of a positive and a negative kind. They have found that stimulation of the præfrontal region, as well as of the temporo-sphenoidal and occipital lobes, has not been followed by movements. They are inclined to think, also, that the ascending parietal convolution and the angular gyrus do not invariably possess the functions usually ascribed to them. This fact will be discussed in the forthcoming paper. As points of interest, attention may be called to the localisation of the movements of the thumb and of the great toe, which Dr. Hadden and Mr. Ballance have several times established. Occasionally they have found bilateral movements of a definite character to follow on stimulation of certain spots in the one hemisphere. Broadly put, the movements of the fingers, wrist, elbow, and shoulder, are represented in the cortex of the ascending convolutions in the order indicated, beginning from below. Certain definite movements have been observed in stimulation of the various parts of the internal capsule.

Dr. J. S. Haldane has sent the following report on the relation of variations of surrounding temperature to heat production and metabolism in animals. Most of the time given to the research has been devoted to an endeavour to work out a method of animal calorimetry more satisfactory than the more or less imperfect ones which have hitherto been employed. During the summer vacation of last year a number of experiments were performed with apparatus provided by the Physiological Department at Oxford. For these experiments Dr. Haldane obtained the assistance of Mr. A. F. Kerry, two observers being necessary in making an experiment. The results of their work, though on the whole encouraging, made it clear that considerable changes were necessary in the apparatus employed. A smaller portion of the time was devoted to the testing of an apparatus (arranged on the principle of that of Pettenkofer and Voit) for the estimation of the products of respiration of the animal under observation in the calorimeter. After new and considerably simpler calorimetric apparatus had been obtained, they continued the research during the spring vacation of this year. The results of a number of test experiments, with accurately known sources of heat introduced into the calorimeter, were entirely satisfactory, so that there is every reason to hope that the method will prove a good one. Dr. Haldane proposes to continue the research during the summer and autumn of this year.

Dr. John Berry Haycraft, in conjunction with Dr. E. W. Carlier, has investigated the morphological changes that occur in the blood during coagulation, and used a method, invented by themselves, by means of which the fluidity of blood, drawn in droplets from the finger, may be preserved. Blood is received directly from the finger-tip into a tall cylindrical vessel filled with viscid castor-oil. By occasionally inverting the vessel the blood may be kept from coming in contact with the sides of the vessel for a considerable time. They found that blood removed in this way from the body remained unchanged for an hour or more. Not only is its fluidity preserved, but the white corpuscles remain rounded in shape, and the blood plates do not tend to run together, or change in any way. As soon, however, as the blood comes in contact with solid matter, other conditions remaining the same, the white corpuscles exhibit amœboid movement (if temperature is high enough), fibrin is formed, and the blood plates become adhesive. They conclude that all these changes result from the mechanical stimulation of living and naked protoplasm by solid matter. By a method which postpones coagulation for a few minutes, they have examined under the microscope blood freshly drawn from the finger. They have failed to observe breaking down of corpuscles during coagulation, although somewhat obscure changes occur in some corpuscles after that process is over. Papers embodying these results have been read at the Royal Society, Edinburgh, and will be printed in their *Proceedings*, and in the July number of the *Journal of Anatomy and Physiology*, and corrected proof sent in time for contemporaneous publication in the JOURNAL. They have also investigated the changes which occur where invertebrate blood (crab, sea-urchin) is received into castor-oil straight from the vessels of the animal. Coagulation, which consists chiefly in the welding together of corpuscles, which become irregular and throw out processes, is prevented. The corpuscles remain rounded in shape, and the blood is unaltered. As soon as solid matter comes in contact with the blood, the corpuscles change, as a result of mechanical irritation, throwing out processes, and developing a dark, pigmentary substance. These results, Dr. Haycraft says, will be ready for publication this summer.

In conjunction with Dr. Ezard, Dr. Haycraft has investigated, by means of a method invented by Dr. R. T. Williamson and himself, the change in reaction of the blood during coagulation. This they have extended into a general inquiry as to the effect of injecting various acids, alkalies, and salts into the stomach, on the reaction of the blood and urine. The action of some twelve or fifteen substances has been studied, and from two to four experiments in each case conducted; and they hope to publish their results in the beginning of the following winter.

Dr. T. A. Helme has been engaged in a research to ascertain in regard to the uterus (1) the character of its contraction, (2) the influence of altered conditions of its blood-supply. Owing to many circumstances his work has been interfered with greatly, so that it is in an incomplete state. Dr. Helme has completed and simplified the method of recording, and has nearly finished the first half of the plan he laid down—namely, the character of the contraction—but in the second half he has not gone far, having experimented only with changes of temperature and with two or three drugs, namely, chloral hydrate, one or two preparations of ergot, physostigucin, and with menthol camphor, and strophanthus, the last three only for their effect on the blood circulation. But these experiments are incomplete and must be controlled. The work is being done in the new Research Laboratory of the Royal College of Physicians of Edinburgh.

Dr. W. Hunter has been engaged in a research on intra-peritoneal transfusion of blood; the life duration of red blood corpuscles after transfusion, in its bearing on the value of transfusion in man, etc. The results of the investigation in which the expenses were incurred have in the main been embodied in papers and abstracts already published in the JOURNAL.

Mr. C. B. Lockwood is unable to send a report, it being incomplete. The investigation has taken longer time than anticipated when the grant was made.

Dr. Angel Money has made experiments on anæsthetised curarised animals with a view of ascertaining further knowledge of the mutual relationship between the cerebral and spinal motor centres. The object has been to find out whether experimental irritation of the cerebral hemispheres has any power of causing movements in the plain muscular tissue of the stomach and intestines. The voluntary muscles were paralysed by means of curare, thereby preventing muscular contractions on the application of electrical currents to the surface of the cerebral hemispheres. The movements of the stomach and intestine were watched through a small window in the peritoneum. Artificial respiration was employed in the usual way. In some experiments the intestines were kept bathed in a warm bath of neutral saline solution. The animals used were rabbits, dogs, and cats. In none of these animals did experimental electrical irritation of any part of the surface of the cerebral hemispheres cause movements of the stomach or intestines. When the cortex of the brain was removed by slicing, and electrical irritation practised on the divided white matter, no result followed in the stomach or intestines unless a very strong current were used. A movement of the stomach and intestines was invariably excited when the electrodes were applied to the basal region of the brain. This movement could be arrested by electrical irritation of the dorsal region of the spinal cord. It has been asserted by Vulpian that experimental irritation of the surface of the brain in the motor area can cause a, so to speak, epilepsy of the plain muscular tissue of the stomach and intestines. Dr. Money, admitting the difficulties of the inquiry, has been unable to confirm this view, and believes that Vulpian's results may be attributed to diffusion of the current into the pneumogastric region. For the present the direct representation of these viscera in the cortex of the brain, however theoretically probable, remains unproved so far as experimentation is concerned.

Dr. Nasmyth has been engaged in an inquiry into the sanitary condition of the air of coal-mines. The inquiry was physical, chemical, and biological, and under these headings Dr. Nasmyth records the methods adopted and the results generally.

Physical Methods.—a. Temperature. Wet and dry bulb thermometers were used, one set being placed above ground and the other below; and both were read at the same time in the day for a period of three months, and the results are given in temperature tables in report. The most noteworthy points were the uniform temperature of the mine from day to day, and the fact that the air in this mine was nearly always saturated. On twenty-one consecutive days the temperature remained at 53° F. The highest

temperature in the mine was 55° F.; the lowest 53° F. The greatest difference below in the temperature was 2.5° F. *b.* Volume of air. This was measured by the anemometer, and tables are given showing the large volumes of air which are passed into mines.

Chemical Methods consisted in estimation of carbonic acid gas by Pettenkofer's method, ammonia and albuminoid ammonia by Wanklyn's method, organic matter by Carnelly's method, and oxygen by Franke's method.

Summary of Chemical Results.—Carbonic acid in mines under 100 fathoms deep, 0.181 per 100 volumes; carbonic acid in deep mines over 100 fathoms, 0.219 per 100 volumes.

Organic Matter by Carnelly's method showed a high result expressed as oxygen needed for a million volumes of air, for shallow mines 30, and for deep 39. This high result was due, in his opinion, to the presence of those various chemical substances which decolorise permanganate of potash, beside organic matter.

Oxygen by Franke's Method.—This method was not strictly accurate, and the results are comparative. The estimation showed that, when ventilation was deficient, oxygen was diminished.

Biological Method: Hesse's Method for Collecting and Estimating the Micro-organisms of Air.—It is impossible, he says, to give results in a summary. Nearly two hundred microscopic preparations were made, besides many cultivations. All varieties of microbes were found, the numbers not always being in relationship to the impurity of the air. Moulds preponderated. The presence of horses and men had always a distinct effect in increasing the numbers in Hesse's tubes. Hesse's method is, he says, the best we have, but not exact, as we cannot be sure all microbes are deposited on the nutrient jelly, and also a litre of air run out from the aspirator does not imply that a litre of air has passed into Hesse's tube.

General Summary.—The air of coal-mines is fairly good, and compares favourably with air of one-room houses, schools, and workshops. Miners are not unhealthy, and are not particularly affected by phthisis or bronchitis; and those statements are supported by statistics given in report showing the mortality for a series of years in a mining district.

Dr. N. Paton has returned the full amount of his grant, being unable to carry on his investigation through illness.

Messrs. S. G. Shattock and C. A. Ballance have forwarded an *interim* report on the histology of sterile incubated healthy and cancerous tissues. As the result of their investigations last year they were able to show that portions of cancer (that is, carcinoma and sarcoma), portions of normal tissues, namely, muscle, kidney, testicle, liver, submaxillary gland, could be maintained sterile upon blood-serum, agar-agar, and in nutrient jelly for an indefinite period at a temperature of 100° F. In these experiments no antiseptics were used; the precise details of the method have been before described. They have since then submitted a large number of the portions of tissue, morbid and healthy, so experimented with, to histological examination with the object of seeing what changes occurred. The material, after removal from the tubes, was hardened first in Müller's fluid, and then in spirit; and the sections were stained chiefly with fuchsin or logwood, and examined with $\frac{1}{25}$ (Zeiss's) water immersion, combined with Oc. 1 or 3, Reichert's $\frac{1}{15}$ hoz. Im. Oc. 3, Zeiss's apochromatic $\frac{1}{12}$ hoz. Im. Oc. 8.

The histological appearances observed in incubated cancer they have not seen in normal tissues after similar incubation. The changes observed in the first may be summed up as consisting (in carcinoma) of extrusion of the colouring substance (chromatin) (nucleoplasm) of the nucleus in the form of minute spheroidal buds, which project from the well-defined margin of the nucleus. Often these are distinctly stalked, like the capitate hairs of some leaves. The chromatic buds come eventually to be disconnected with the nucleus and are found in the cell protoplasm. Similar coloured granules occur free among the cells in the alveoli of the carcinoma, and have presumably arisen from them. Cells occur in places of which the nuclei are almost wholly or quite devoid of chromatin. From the deeply-stained nuclei of the connective tissue cells they have seen a similar budding, accompanied with the dissemination of granules into the fibrous tissue of the alveolar walls.

How far exactly the process of incubation aids in producing the appearance under notice they are not quite prepared to say. That the presence of free chromatic granules in carcinoma of the breast is not limited to the incubated specimens, they can assert from observation; and this in parts of the growth where there are no signs of degeneracy. They have also seen stalked granules attached to the nucleus of the epithelium cells in scirrhus not incubated.

In the case of normal tissues there is noticeable in the nuclei of the connective tissue corpuscles and epithelium an accentuation of the normal granular condition.

The appearances in cancer have not the same look as those which attend the breaking up of nuclei in acute inflammatory necrosis, as in glanders, or the breaking up of the nucleus in pus cells, or in parts of new growths in which degenerative softening has occurred; in the epithelium especially, the outline of the budding nucleus remains sharp and distinct, and the changes occur in tissue to all appearance free from degeneration. It is, they say, at least remarkable that somewhat similar processes obtain in the life-history of the cells concerned in sexual reproduction, namely, in the ova and spermatoblasts.

In the maturation of the ovum there occurs an extrusion of the nuclear chromatin with portion of the protoplasm, the extruded part constituting the polar globules, whilst the nucleus in which the nucleo-plasmic network is now visible remains as the pronucleus of the matured ovum; the cell in this state is ready on fertilisation to undergo the indefinite subdivision involved in the production of an embryo.

Balfour has advanced the hypothesis that the extrusion of the polar globules is the extrusion of the male element of the ovum-cell, which is originally hermaphrodite; and that the end of this is the prevention of parthenogenesis, since it necessitates the entrance of germ-plasma from a second individual—the male—in order that segmentation may proceed. It suggests itself that the remarkable appearances in cancer may be of a sexual nature, that the extruded granules are capable, as male elements, of exciting division in other cells prepared for fertilisation by similar extrusion.

Gussenbauer (*Zeitschrift für Heilkunde*, Band ii, 1880) has stated, from his researches on lymphatic gland infection in carcinoma and sarcoma, that the morbid process is set up in the glands by granules, which enter these cells and excite them to an atypical multiplication. His observations tally with their own, though of both it may be said that the evidence is insufficient as yet to prove the hypotheses proposed.

JOSEPH LISTER, *Chairman.*

REPORT OF THE COLLECTIVE INVESTIGATION COMMITTEE.

THE Collective Investigation Committee beg to present the following report to the Council to be laid before the annual meeting in Glasgow.

During the past year three reports have been completed by the Committee, and published in the JOURNAL.

The report upon the inquiry into Acute and Sub-acute Rheumatism, prepared by Dr. Whipham, was published in the JOURNAL of February 25th, 1888.

The report upon the Habits of Persons who have attained Advanced Life, prepared by Professor Humphry, was published in the JOURNAL of March 10th, 1888.

The report upon the Connection of Disease with Habits of Intemperance, prepared by Dr. Isambard Owen, Secretary to the Committee, was published in the JOURNAL of June 23rd, 1888.

Dr. Owen is at present engaged in completing a report upon the Geographical Distribution of Rickets, Acute and Sub-acute Rheumatism, Chorea, Cancer, and Urinary Calculus in the British Islands. This report will take the form of a series of maps with an explanatory commentary. If possible, the maps will be completed for exhibition at the annual meeting in Glasgow.

The returns upon the geographical distribution of the above diseases contain also a body of information respecting the diet of children and adults in different parts of the United Kingdom. A subsidiary report upon this subject will also be prepared by Dr. Owen for publication in the JOURNAL.

Two Inquiries have been open during the current year, namely, the Inquiry into the Etiology of Phthisis, which was issued in May, 1885, and a fresh Inquiry into the Origin and Mode of Propagation of Epidemics of Diphtheria, which was issued in December, 1887, and addressed especially to Medical Officers of Health.

The returns to these Inquiries have at present been few; but the Committee hope that during the ensuing year, when the completion of the current reports will leave the Secretary more time for personal correspondence, more information will be obtained; and, recommend that a sum be granted sufficient to complete the work in their hands.

The Committee, in conclusion, beg to lay before the Association

the accompanying additional Memorandum in continuation of the report of work accomplished by them which was presented a year ago. (Signed) G. M. HUMPHRY, Chairman.

ADDITIONAL SUPPLEMENT TO THE MEMORANDUM ON COLLECTIVE INVESTIGATION PRESENTED IN 1887.

WITH respect to the results of the Inquiry on Acute Rheumatism, Dr. Whipham, the Reporter to the Committee, writes.—

"Though, as might be expected, this inquiry did not reveal any new or startling facts in the natural history of so well-known a disease, it has, I believe, cleared up several uncertain points, and added to the definiteness of our knowledge on many others.

"A most important series of results is that concerning the behaviour of the disease among the classes respectively of total abstainers, the temperate, and the intemperate, upon which great diversity of opinion existed. It would appear that little difference in the average duration of the attack is found between these three classes, but that complete recovery from articular affection is most frequent among abstainers, and least frequent among the intemperate. On the other hand, a greater immunity from cardiac affections is found among the temperate drinkers of alcoholic liquors than in either of the other two classes, the total abstainers suffering most of all, a result perhaps due to the greater youthfulness of this class. Of the small number of deaths reported, a singularly large number, nine out of twenty-two, occurred among total abstainers, and only a third of that number among the intemperate.

"The most unexpected result is, perhaps, that which shows the greater prevalence of the disease in high, dry, and exposed localities than in low, damp, and sheltered ones, though the accepted opinion as to its occurrence especially in damp, cold, and cloudy weather is corroborated by the inquiry.

"We have, furthermore, from this inquiry a means of judging the effects of the salicin or salicylate treatment of the disease, as it presents itself in private practice. The failure of this mode of treatment is reported in only twenty-four out of five hundred and thirty-six cases in which it was tried.

"The frequent association of tonsillitis with acute rheumatism, reported in more than 24 per cent. of the cases, appears to go a long way to establish the connection, previously surmised, between these two forms of disease."

With respect to the "Old Age" Inquiry, now completed, Professor Humphry further writes:

"This inquiry, continued from May, 1884, to December, 1886, respecting 'the general condition, habits, and circumstances, past and present, and the family history, of persons who have attained or passed the age of 80 years,' produced nearly nine hundred returns, including sixty-nine respecting persons reputed to be 100 or more, and two hundred respecting persons reputed to be between 90 and 100; thus giving a greater amount of information on this subject than has ever been obtained before, or probably could be obtained by any other method of investigation. These returns were tabulated, and analyses were made with much labour and care, and the chief results were published in successive reports in the BRITISH MEDICAL JOURNAL as follows: 'On Old Age and the Changes incidental to it,' May 9th, 1885; 'On Centenarians,' December 11th, 1886; 'On Post-mortem Examinations of Centenarians,' March 12th and 19th, 1887; 'On the Maladies of Old People,' July 30th, 1887; and a general report 'On the Condition, Habits, Circumstances, etc., of Aged Persons,' March 10th, 1888.

"Besides the many interesting points discussed and determined in these reports, the analyses which have been published of the returns form a body of material to which reference can be made for assistance in the decision of various questions which may arise in relation to longevity and the means best calculated to promote it."

With respect to the Inquiry into the Connection of Disease with Habits of Intemperance, Dr. Isambard Owen, who prepared the Report, writes:

"The Collective Inquiry into the Connection of Disease with Habits of Intemperance has, I think it is not too much to say, placed our knowledge of the subject on an entirely new footing. For the first time it has been rendered possible to apply the comparative method to it in a satisfactory manner, and to replace by some solid ground of fact the chaos of opinion that existed as to the part played by alcoholic liquors in the production of particular pathological lesions. The influence of alcoholic excess on the development of at least ten of the leading forms of organic disease, and on the rate of mortality of two of the commonest acute affections of this country, may now be gauged with an approach to certainty hitherto quite out of reach. The results of the inquiry as regards tubercle, malignant disease, apoplexy, and chronic renal disease are especially important. The intimate connection between gout and alcoholic excess has been definitely demonstrated, and some interesting facts on the part taken by the former in the production of renal disease have incidentally been furnished.

"The inquiry has, moreover, shown not only the effects upon longevity of decided intemperance, which had been previously demonstrated, but also the relative effects of the minor degrees of the intemperate habit, upon which no information whatever was previously available.

"A considerable amount of information, also for the most part new, on the relative drinking habits of different classes of the community, though of less importance, adds to the interest of the results obtained in the inquiry."

ISAMBARD OWEN, Secretary to the Committee.

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

The Congress on Tuberculosis.

LE Congrès de la Tuberculose held its first meeting last Wednesday (July 25th). M. Chauveau was elected President, and MM. Verneuil and Villemin Vice-presidents. M. Chauveau, in his opening address, indicated the peculiar features of the congress. It had only one question to discuss, but this was so important that it justly demanded a congress for its sole discussion. Tuberculosis was a scourge, a veritable Minotaur devastating all ages, all countries where Europeans were found. Countries which before were exempt, when visited by Europeans, subsequently paid their tribute to this inexorable disease. Furthermore, the lower animals were not exempt, a fact which explained the large attendance of veterinary surgeons. Morgagni had already in his time asserted the contagious character of tuberculosis. Later on Audral also expressed a similar opinion though less positively, since the notion had almost fallen into oblivion, until quite recently, when Villemin reopened the question and brought forward further proof furnished by his personal researches. The President then did homage to Professor Koch's researches, and indicated the enormous impetus that investigator had given the question as proved in the term "Koch's bacillus," which was applied universally and unanimously to the bacillus of tuberculosis. M. Chauveau here regretted that the micro-organism of charbon was not termed "bacille de Davaine." The President then summarised the experiments made at the veterinary school at Lyons, which established the fact that tuberculosis of the lower animals and that of man were identical. M. Cornil in his address stated that the bacillus of tuberculosis could penetrate the mucous membranes independently of any lesion, scratch, or the slightest solution of continuity. The experiments of MM. Chauveau and Villemin proved this. Animals in perfect health fed on tuberculous material or made to inhale vapour proceeding from tuberculous matter, were attacked by tuberculosis. Professor Cornil, in concert with M. Dèbrechnowetri, had studied this question. These investigators caused guinea-pigs to swallow one or two drops of Koch's bacillus cultivation fluid. There was absence of diarrhœa. If the epithelium remained intact, nevertheless the follicles were swollen, and the mesenteric and lymphatic glands presented unmistakable tuberculous granulation. After the fourth day of the injection of the cultivation fluid, there was a considerable increase of cells in the lymphatic glands; on the sixth day actual tubercles were present. M. Cornil had twice examined a uterus removed during surgical operation; both uteri were tuberculous, in one instance contagion by coïtus was out of the question; the disease was seated in the Fallopian tubes, in the other the cervix was attacked, also the surface of the uterine mucous membrane beneath the epithelium presented tuberculous granulations. As the annexed organs, which were also removed, did not present any tuberculous lesions, M. Cornil considered that the last case was one of the transmission of tubercle by coïtus. In order to ascer-

tain the possibility of this mode of contagion, M. Cornil introduced some bacilli into the uterine cavity of guinea-pigs. The first result was catarrh of the cervix uteri; afterwards a considerable increase of lymphatic cells containing bacilli. On the fourth day small tubercles were observed situated beneath the stratified epithelial cells; the tubercles then invaded the connective tissue between the uterus and the bladder. M. Cornil concludes that sexual connection may furnish a means of contagion. M. Nocard in his address dwelt on the danger caused by the flesh and milk of tuberculous animals used as articles of food, and the necessity of boiling milk before drinking. When this was impossible, goats' milk should be used, as these animals were exempt from tuberculosis. With regard to the flesh of tuberculous animals, M. Nocard said the late M. Bouley, a distinguished authority on such questions, urged that if an animal presented tuberculosis in any organ, the animal should be seized and considered unfit for food. The Brussels Hygienic Congress supported this measure, yet it had never been rigorously applied. Later on, the "Comité Consultatif des Epizooties," sent to the Conseil d'État, a proposition that all meat taken from tuberculous animals should be considered unfit for food unless the tuberculous lesion were clearly localised. Moreover, the skins of such animals should only be utilised if they were thoroughly disinfected. M. Nocard had made a series of researches, which led him to believe that meat from tuberculous animals was rarely injurious, and only to a slight degree.

MANCHESTER.

[FROM OUR OWN CORRESPONDENT.]

Victoria University Examinations.—Report of Royal Infirmary.—Outbreak of Small-pox.

THE preliminary examinations in Science and the professional examinations for degrees in Medicine were concluded on July 26th. On this and on subsequent occasions the pass-lists are first arranged by sections of the examiners concerned in each examination, but the final approval of these lists rests with the Board of Studies. The list of successful candidates will be found elsewhere in the JOURNAL.

The annual report of the Manchester Royal Infirmary and the affiliated institutions has just been issued. The total number of patients treated during the year was 41,373, that is, including the institutions at Cheadle and Monsall. Of these 8,085 were in-patients and 33,288 were out- and home-patients. The number of out-patients is largely increasing year by year. Thus, ten years ago it was 18,826; five years ago it was 21,717. When one considers, in addition to this, that a very large number of patients attend other hospitals and dispensaries in the city, it will be seen that the system of obtaining gratuitous medical relief has grown into a serious evil. The Fever Hospital at Monsall has been enlarged, and is now capable of receiving 300 patients. The cost per bed at the Infirmary has been reduced to £41 16s. 9d., being the lowest point in the recorded history of the institution. The total expenditure at the Royal Infirmary for 1887-88 was £16,717.

Much discussion has taken place lately as to the incorporation of certain districts with the city of Manchester. The ratepayers of the large area of Moss Side have, by a considerable majority, elected not to be so incorporated.

A serious outbreak of small-pox was discovered on July 27th in a Girls' Industrial School in Manchester. No fewer than forty-six persons were removed to the hospital at Monsall on the day of the discovery of the outbreak. The disease is supposed to have been brought by a girl who was recently received at the institution from York.

NEWCASTLE-UPON-TYNE.

[FROM OUR OWN CORRESPONDENT.]

Election of Pathological Chemist to the Infirmary.—Epidemic of Scarlet Fever.—Certificates in Ambulance Work.—Suggested New Convalescent Home.—The College of Medicine.

THE post of pathological chemist to the infirmary has been filled up by the election of Professor Bedson, the Professor of Chemistry in the College of Physical Science. The contest lay between Mr. Bedson and Dr. Walker, the analyst for Carlisle, the former having a large majority.

Newcastle has been visited by a pretty severe epidemic of scarlet fever, the cases being for the most part limited to families whose milk-supply came from the same dairy. The cases were for the most part of a mild type, and through the energetic action of Dr. Armstrong, the medical officer of health, in closing the dairy in question, the epidemic has been limited in extent, and seems now to be subsiding.

The University of Durham College of Medicine has recently presented certificates of proficiency in ambulance work to certain members of the borough of Tynemouth police force, who, after examination by Mr. Page and Mr. Williamson, were deemed proficient. Considerable newspaper correspondence has taken place condemnatory of this action of the College authorities, but has been throughout anonymous, so that little weight may be attached to it.

Dr. Robinson, of Stanhope, a distinguished graduate of Durham, has recently published a letter suggesting the foundation of a convalescent home on the west coast. His idea is that this might be carried out easily by making a small levy on all members of registered friendly societies in the north, that this would be amply sufficient to build, equip, and maintain such an institution for the benefit of friendly societies' members and their families, each lodge would make an annual subscription and receive in return a certain number of admission tickets in proportion to the amount of subscription. The proposal is a good one, and from what I know of Dr. Robinson is in the hands of an energetic and enthusiastic supporter. The project deserves success.

The College of Medicine terminated its summer session a fortnight ago, the session being shortened in order to allow preparations to be made for removal to the new building which will be partially opened in October. The new college is being rapidly pushed on towards completion, and will, when finished, be a handsome addition to the architectural beauties of the town. The dissecting room, which is nearly completed and which will be quite ready for the students in October, is a very large one, and well lighted from the top and sides. It will have an asphalte floor, be heated with steam, and will accommodate from twenty to thirty tables. The anatomical lecture theatre adjoins it, and will accommodate two hundred and fifty students. The only regret is that the college is some distance from the infirmary, instead of the two buildings forming one block; the students must necessarily lose considerable time in travelling between the two institutions.

CORRESPONDENCE.

MODERATE DRINKING.

SIR,—My attention has just been called to a letter from Mr. George King, in which he states that the temperance and general sections of the United Kingdom Temperance and General Provident Institution are not kept rigidly separate. There is no ground whatever for this statement. Mr. King further suggests that the difference in the mortality of the two departments may be appreciably due to the "transfers." These cases have been very few, and nearly the same number have passed in and out of the two departments. The deaths of the "transferred" lives have been too insignificant to affect the relative result; and, even had the whole number of deaths been assigned to the "temperance" section, the difference of the death-rate would have been scarcely, if at all, perceptible. It is not the practice of the office to insist upon a transfer where alcohol is being temperately taken under medical advice, nor where it is believed death is imminent. This point has been continually under the observation of the directors, and was made the subject of a special investigation by me nearly three years ago. The recent experience of the office entirely bears out the results then obtained.

I avail myself of this opportunity to state that I have very carefully considered Dr. Isambard Owen's report which appeared in your issue of June 23rd: and, while I can offer no opinion as to the value of his results respecting the causes of death, I regret to have to state that I find the method of test adopted by him, of comparing the mean ages at death of the different classes, to be erroneous; and that the results are, therefore, without scientific value. I am aware that Dr. Owen has since admitted that his results give no warrant for the conclusion that the practice of total abstinence is detrimental to health: and this admission, even were his method correct, would be true, since he has only 122 abstainers amongst the 4,234 observations.

I recognise most fully the extraordinary pains Dr. Owen has be-

stowed in his endeavour to elucidate the subject, and I sincerely wish that I could have spoken as favourably of his method of investigation as I can do of the earnest endeavour he has made to arrive at the truth.—I am, etc., RALPH P. HARDY,

Actuary, United Kingdom Temperance and General Provident Institution.

1, Adelaide Place, E.C., August 1st.

SIR,—Permit me to thank Dr. Ridge for his frank and courteous letter. I trust he will pardon any warmth I may have displayed in defending, as I thought, my comrades in collective research. I should certainly agree with Dr. Ridge that, in its general aspects, the question of alcoholic indulgence must be regarded as a whole. The tendency to exchange moderation for excess, whatever be its source, is an essential factor in the case. But this does not, I think, hinder its being a process as legitimate as necessary to distinguish between the different grades of the habit in an inquiry directed, like that of the Collective Investigation Committee, to the estimation of the direct pathological effects of alcoholic liquors.—I am, etc., ISAMBARD OWEN.

5, Hertford Street, Mayfair, W., July 30th.

THE ST. JOHN AMBULANCE ASSOCIATION AND THE MEDICAL PROFESSION.

SIR,—Permit me, as an old lecturer and examiner for the Ambulance Association, to reply to your comments on Mr. John Furley's letter of last week.

The rulers of the Association always most heartily acknowledge the services rendered by members of our profession, and I feel sure that our loyal friend Mr. Furley would have been only too glad to welcome some of us at the Gate on July 18th; but this could not be. Nor was it quite the time or place to allude to our professional services. The chapter was a private meeting of a committee or council, and no one under the rank of Knight of Justice could possibly attend it. What may be the qualifications of such a functionary I do not know; but I believe that to attain the quaint-sounding title a considerable sum of money has to be disbursed to the ancient and benevolent Order.—I am, etc.,

July 28th. F.R.C.S.

*** It seems to us a pity that Mr. Furley has taken up the cudgels for the Order of St. John; no one doubts his excellent spirit, and we all know the devotion which he has given, besides time and money, without any kind of public recognition, to the Ambulance Department of the Order. But seeing that the Order would have been "nowhere" but for the ambulance work and various undertakings connected with it, it is an undoubted slight to the medical profession, without whose liberal and self-sacrificing help the Order would have lost its entire basis, that in the first great function of the Order no attempt should have been made to acknowledge this indebtedness. Although the Presidents of our Colleges have not been actively engaged in the work of the Order, it would have been graceful if on such an occasion they had been invited to accept some high place in it. As it is, the Order is without any responsible adviser in the medical profession to whom it could look for guidance and help in case of need, and it is not premature to prophesy that without such advice the Order will drift into broken and dangerous waters.

MEDICO-PARLIAMENTARY.

HOUSE OF COMMONS.—Thursday, July 26th.

The Indian Army Medical Service.—Dr. TANNER: I beg to ask the Under-Secretary of State for India if it is the case that the course of special instruction and ultimate examination hitherto required and passed by officers of the Indian Army Medical Service is to be abolished; whether the statement of the officer at the head of the Medical Service concerning the proposed change in the Bengal Presidency, quoted by the BRITISH MEDICAL JOURNAL, July 21st, 1888, is correct, namely, that it is no longer necessary; what reasons are given for such change by the Indian Government; and whether it is intended to substitute any other course for that it is proposed to abolish.—Sir J. E. GORST: No decision has been arrived at. The matter is still under the consideration of the Secretary of State and the Government of India. The reason given in favour of the change is that the special instructions can be given better and at less expense in India. If the present course were pursued a course of special instruction would be given in India.—Dr. TANNER asked if any of the schools were fitted with laboratories or any other appurtenances which were absolutely necessary for medical education, and whether considerable expense would not have to be incurred in making the proposed change.—Sir J. E. GORST asked that notice should be given of the questions, on the ground that they did not arise out of that on the paper.

Friday, July 27th.

Army Estimates: The Medical Vote.—Dr. FARQUHARSON asked the Secretary of State for War whether the medical vote would be taken during the present sitting.—Mr. E. STANHOPE said he did not propose taking the vote, which was being reported on by a Select Committee.

Vaccination in Wales.—Mr. RITCHIE, in answer to Mr. A. WILLIAMS, said the hon. member was under a misapprehension in supposing that a certificate of proficiency in vaccination was required by the Local Government Board of every medical man before he could hold a poor-law appointment. The certificate was required, not for a poor-law appointment, but for the office of public vaccinator. It was the case that there was no public vaccination station in Wales at which that certificate could be obtained, but the Board were not aware that any serious inconvenience had been occasioned thereby. The College of Physicians, the College of Surgeons, and the Apothecaries' Society now required the certificate from every candidate for their diploma or licence, and hence most medical men now obtained these certificates before entering on practice. It was not usual to appoint examiners to grant these certificates in towns in which there was no school of medicine. But if a medical school should be established for Wales, he should be prepared to consider the question of appointing an examiner who would be authorised to give these certificates.

Monday, July 30th.

Royal Marine Medical Officers.—In reply to Mr. FRASER MACKINTOSH, the FIRST LORD of the ADMIRALTY said there were full instructions for the guidance of the medical officers of the Royal Marine Light Infantry. The medical officers at Eastney Barracks denied any knowledge of Mr. MacGregor's suffering from the disease referred to, and it appeared that he himself never took any steps to inform them. The medical officers would certainly not wait to be consulted if they had any reason to believe that any officer or man under their care was suffering from disease. This was enjoined by the regulations. It was the case that Mr. MacGregor had to leave the service from failure to pass his examination.

Coroners' Inquests.—Sir A. BORTHWICK asked the Attorney-General whether the Government would be prepared, when the Coroners Bill came before the House, to insert a clause providing that inquests should be held in public, subject to the exclusion of the public and the press when the evidence was unfit for publication.—The ATTORNEY-GENERAL said it was not possible to answer the question directly. The question whether any alteration should be made in the law relating to the admission of the public to coroners' courts was one which required to be considered together with other provisions relating to those courts, and he was not able to say more at present than that Her Majesty's Government would give most careful consideration to the question raised.

NAVAL AND MILITARY MEDICAL SERVICES.

BRIGADE-SURGEONS IN INDIA.

THE Indian *Pioneer* recently pointed out the continued injustice meted out to these officers in withholding all extra pay from them, even although at one time virtually promised. Although these officers (there are only about fifteen belonging to the Medical Staff) are specially selected, and occupy an intermediate position between the executive and administrative grades, and are consequently saddled with heavy responsibilities, they get no more pay than any unselected or unpromoted surgeon-major. Their "just claims" have been at different times admitted by both the Indian Government and the Secretary of State, but between these two stools the question of extra pay has fallen, and all representations are now met with a practical *non possumus*, in the shape of such pleas as "unable to support," "cannot reopen," and such-like. The *Pioneer* calls upon the Governor-General in Council to see justice done.

THE NAVAL AND THE MILITARY MEDICAL SERVICES.

A NAVAL STAFF-SURGEON writes "that the recent threats to manipulate the medical departments of the two services to their disadvantage is causing very serious uneasiness in the naval service."

In reply to a recent correspondent, "N. C. L.," he states that three naval

medical officers are stationed at the Royal Naval Hospital, Hong Kong, of which the senior draws a foreign shore allowance of £112 a year, with a house, and the two others each £108, with quarters; the allowance is to meet increased expense, and in lieu of servants, fire, and light. Similar allowances are drawn elsewhere with shore appointments. Naval medical officers do, therefore, under certain circumstances, draw increased allowances for "extra expenses," which do and can "arise" as well as in the military service.

THE NAVY.

The Good Service Pension of £100 a year for Inspectors-General of Hospitals and Fleets, vacant by the death of Inspector-General H. J. Domville, C.B., M.D., has been awarded to Inspector-General Sir JOHN WATT REID, M.D., K.C.B., Honorary Physician to the Queen, and Director-General of the Medical Department of the Navy. Sir John Reid entered as Surgeon, February 6th, 1845; became Staff-Surgeon, September 12th, 1854; Fleet-Surgeon, September 5th, 1866; Deputy Inspector-General, March 31st, 1874; and Inspector-General, February 25th, 1880; when he was appointed Director-General. He served in the *Inflexible* and *London* in the Black Sea until fall of Sebastopol (Crimean and Turkish Medals, Sebastopol Clasp); in the *Belleisle*, Hospital Ship in China, during the war in 1857-9 (China Medal); in *Nebraska*, Hospital Ship, at Cape Coast Castle, at the end of the Ashantee campaign (mentioned in despatches, promoted to Deputy Inspector-General); promoted to Inspector-General, and appointed Medical Director-General, February 25th, 1880; Honorary Physician to the Queen, 1881; K.C.B., November 24th, 1882. He received the approval of the Board for services at Plymouth Hospital during the cholera epidemic in 1849, and at sick quarters, Halifax, during an epidemic of yellow fever in the West India Squadron in 1861; and the thanks of Admiral Sir W. Deans Dundas, Commander-in-Chief, for services to the sick of his flag-ship, *Britannia*, when stricken with cholera in the Black Sea in 1854. The degree of LL.D. was conferred upon him at the tercentenary of Edinburgh University.

Inspector-General DAVID L. MORGAN, C.B., M.D., has been appointed an Honorary Physician to the Queen, in place of Inspector-General Domville, deceased. Dr. Morgan's commissions are dated:—Surgeon, December 31st, 1846; Staff-Surgeon, November 13th, 1854; Fleet-Surgeon, October 15th, 1866; Deputy-Inspector-General, May 31st, 1870; and Inspector-General, December 22nd, 1877; he retired from the service May 30th, 1883. He served, says the *Royal Navy List*, on the West Coast of Africa in 1847-49, during which time he was constantly on detached duty in medical charge of boats employed in the capture of slavers; served in the Black Sea, during the Crimean war, as Senior Medical Officer of the *Trafalgar* during the outbreak of cholera, and at the attack on the forts of Sebastopol, on October 17th, 1854, and subsequently of the ironclad battery *Meteor*; specially promoted (Crimean and Turkish medals, Sebastopol clasp); served with the land forces in China in 1857-61; Surgeon of the 2nd Battalion of the Royal Marine Brigade, at the capture of Canton, in December, 1857, and Staff-Surgeon and Senior Medical Officer of the force (*vice* Turnbull, killed in action) during the subsequent operations until 1859; specially mentioned in the despatches; Senior Medical Officer in charge of the hospital ship *Cooper*, into which were received the wounded at the capture of the Taku forts in 1860, and Senior Medical Officer of the Provisional Battalion of Royal Marines until the the end of the war (China medal, Canton and Taku clasps); served again in China in flagship *Euryalus*, 1862-65; Senior Medical Officer in charge of the Naval Brigade in the expedition against Kahding, when there was an outbreak of cholera and dysentery, and at the attack on the batteries of Kagosima, Japan, and was also the Senior Medical Officer of the force at the capture of the batteries of Simono-seki, Japan (mentioned and highly commended in the despatches); especially promoted for "meritorious services;" Deputy-Inspector General at Bermuda Hospital, 1870-72, Hong Kong, 1874-76, Chatham, 1876-77; and Inspector-General of Plymouth Hospital, 1879, and Royal Hospital at Haslar, from 1880; Sir Gilbert Blane's gold medal; C.B., in June, 1861; M.D., F.R.C.S.Eng., F.R.G.S.

Fleet-Surgeon C. A. LEES, M.D., has been appointed to the *President*, additional, temporarily.

THE MEDICAL STAFF.

SURGEON J. P. HAYES, serving in the Bombay command at the Station Hospital, Kurrachee, is granted leave to England for six months on private affairs.

ARMY MEDICAL RESERVE.

ACTING-SURGEON G. H. TURNBULL, M.D., 1st Roxburgh and Selkirk Volunteers (Surgeon in the Army Medical Reserve of Officers), to be Surgeon-Major (ranking as Major).

Honorary Surgeon-Major G. W. HATCHELL, 3rd Battalion Connaught Rangers (late the South Mayo Militia), to be Surgeon-Major (ranking as Major).

The undermentioned officers to be Surgeons (ranking as Captains): Surgeon GEORGE HARRISON, Earl of Chester's Yeomanry; Acting-Surgeon R. T. MEADOWS, M.B., 2nd Volunteer Battalion Duke of Cornwall's Light Infantry (late the 2nd Cornwall Volunteers); and Acting-Surgeon A. D. L. NAPIER, M.D., 1st Haddington Artillery Volunteers.

THE INDIAN MEDICAL SERVICE.

BRIGADE-SURGEON W. H. ROBERTS, M.D., Madras Establishment, officiating Deputy Surgeon-General with temporary rank, is promoted to be Deputy Surgeon-General, *vice* J. Henderson, retired. Dr. Roberts entered the service as Assistant-Surgeon, July 23rd, 1858, and attained the rank of Brigade-Surgeon July 1st, 1885. He was engaged in the Burmese campaign in 1887, and was mentioned in despatches for his services (medal with clasp).

Surgeon JAMES ANDERSON, M.B., who has been doing general duty in the Eastern District, Madras, has leave of absence for six months on urgent private affairs.

Surgeon W. G. BIRRELL, M.B., on general duty, Bombay District, Northern Division, and Aden, is transferred to general duty Sind District, Bombay command.

Surgeon S. J. W. HAYMAN, having returned from Burmah, is posted to general duty, Bombay District, Northern Division, and Aden, in the Bombay command.

The services of Dr. Sir J. W. TYLER, Knt., C.I.E., Superintendent of the Central Prison at Agra, are temporarily placed at the disposal of the Government of India, Foreign Department.

Surgeon F. J. DRURY, Bengal Establishment, is appointed to the civil medical charge of the Bhamo district, Burmah, and its police.

Surgeon J. K. KANGA, Madras Establishment, officiating in medical charge of 11th Native Infantry, is appointed to do general duty in the Eastern District.

The services of Surgeon C. G. W. LOWDELL, Bombay Establishment, are placed at the disposal of the Government of India.

Surgeon A. MILNE, M.B., Bombay Establishment, in medical charge of the 27th Native Infantry, is allowed furlough to Europe for one year on medical certificate.

Surgeon-Major J. P. PILCHER, of the Bengal Establishment, who entered the service as Assistant Surgeon, October 1st, 1860, has been promoted to be Brigade-Surgeon. He has no war record.

THE VOLUNTEERS.

MESSRS. T. H. T. MUDGE and T. F. DEWAR, M.B., have been appointed Acting Surgeons to the 1st Volunteer (Devonshire) Brigade, Western Division, Royal Arsillery (late of the 1st Devon Artillery).

The following gentlemen have been appointed Acting Surgeons to the regiments specified:—WILLIAM RENDALL, the Dorset (Queen's Own) Yeomanry; ROBERT ECCLES, M.D., 1st Lancashire Engineers; A. K. RICHARDS, 3rd Volunteer Battalion, Hampshire Regiment (formerly the 3rd Hampshire); G. J. LLOYD, M.B., 1st Volunteer Battalion Warwick Regiment (formerly the 1st Warwick.

Lieutenant J. T. THOMAS has been appointed Surgeon to the 1st Worcester Artillery. Surgeon Thomas joined the corps as Lieutenant, July 8th, 1882.

Surgeon T. W. NUNN, of the 5th (West) Middlesex, has resigned his commission, which was dated March 3rd, 1862. He is permitted to retain his rank and uniform.

Sir MORELL MACKENZIE, Knt., M.D., is appointed Surgeon to the 13th Middlesex (Queen's Westminster).

ARMY MEDICAL SCHOOL, NETLEY.

THE fifty-sixth session of the Army Medical School was brought to a close on Monday last, when the prizes were presented to the successful students in the lecture room at the Royal Victoria Hospital at Netley. There have been only fourteen candidates for commissions in Her Majesty's Indian Medical Service during this session, but together with them there has been a large class of surgeons, of about seven or eight years' service in the Army Medical Department, going through a post-graduate course of instruction. Colonel Sir Owen Tudor Burne, member of the Council of India, delivered the prizes and addressed the young surgeons about to start on their service in India. Among those present were the Director-General of the Army Medical Department (Sir Thomas Crawford), Sir Joseph Fayrer, Surgeon-General Sir Thomas Longmore, C.B., Surgeon-General Maclean, and Mr. Borchest (Secretary of the School).

The following surgeons on probation in the Indian Medical Service were successful at both the London and Netley examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions are determined by the marks gained in London added to those gained at Netley, and the combined numbers are as follows:—D. G. Marshall (gained the Herbert Prize of £20, the Montefiore Medal and Prize of 20 guineas, with the Parkes Memorial Bronze Medal), 6,302; D. M. Moir (gained the Martin Memorial Gold Medal and the Montefiore Second Prize), 6,093; H. F. Whitchurch (gained the prize in pathology presented by Sir Joseph Fayrer, K.C.S.I.), 5,852; J. R. Roberts, 5,837; J. G. Hojel, 5,516; F. W. Gee, 5,475; A. E. Grant, 5,397; K. Prasad, 5,376; P. W. O'Gorman, 5,360; W. H. Gray, 5,347; G. T. Mould, 5,292; H. C. L. Arnim, 5,275; G. S. Thomson, 5,252; and C. F. Pereira, 5,231.

At the close of the distribution Sir O. Burne congratulated the recipients on the success which had attended their studies, and tendered to them some useful words of advice and counsel in reference to their future career in the service. Sir Joseph Fayrer followed with a few remarks, after which Sir Thomas Crawford thanked Sir O. Burne for his attendance and address, and the proceedings terminated.

MEDICO-LEGAL AND MEDICO-ETHICAL.

FEES TO MEDICAL WITNESSES.

PRACTITIONER asks what fee a medical practitioner is entitled to for attending as witness in the High Court of Justice (Probate Division).

*** The authorised allowance in the Probate Division to a professional witness, resident beyond five miles from the General Post Office, is £3 3s. per day and travelling expenses, according to the sums actually and reasonably paid. Unless a special agreement has been made for some other remuneration this sum would be recoverable.

ALPHA asks for an opinion on the following case. Dr. A. was engaged to attend Mrs. B. in her confinement. She lives two miles and half in the country, and labour coming on suddenly, and being all past before even the midwife (who lives near) could attend, the services of Dr. A. were never

called into requisition. Mrs. B. refusing to pay fees charged, can Dr. A. obtain them in a court of law?

*** The services of no medical man having been required, it cannot be said that Mrs. B. has broken her contract. Dr. A. has, therefore, as far as we can see, no ground on which to maintain an action for his fees. The cases where another medical man has been employed instead of the one retained, are quite different from the present.

COVENANTS NOT TO PRACTISE.

T. having bought the goodwill of Mc's practice, and both having signed the usual agreement, Mc. removes to a village about twenty miles from T., and is working a practice there. T. has a rather crotchetty lady patient, who goes on a visit to Mc., "apparently a friendly one, but more so to consult him about her ulcerated leg." Mc. prescribes for her, but says nothing to T. about it.

1. Is Mc. acting fairly or right after having signed an agreement not to practise or prescribe for any patients in T.'s district, or within eight miles of T.?

2. As one clause in the agreement distinctly says, "If vendor shall practise in any medical or surgical capacity, etc., thereby making a breach in this present article, he shall be immediately liable to pay the purchaser the sum of £——;" were I to put this clause in force, would he be liable?

*** "Mc." has apparently acted in breach of his covenant, and is consequently liable. The case seems similar to Rogers *v.* Drury, tried in November last year before Mr. Justice Chitty, when it was held that a medical practitioner who saw his old patients at his residence outside the agreed radius had broken his covenant not to practise within it.

UNIVERSITY INTELLIGENCE.

CAMBRIDGE.

CAVENDISH COLLEGE.—The following elections to open scholarships have been made: Classics: Jones, Merchant Taylor's School. Mathematics: Hood, St. Peter's School, York, and Tyrell, Cherbourg, Malvern. Natural Science: Fletcher, Owens College, Manchester. Exhibition of £20 for Natural Science: Hunter, Owens College, Manchester.

GLASGOW.

LIST OF DEGREES (conferred on July 26th, 1888).

Doctors of Medicine (M.D.).—I. Commended for Theses: D. Finlay, M.B., C.M., Scotland. (Thesis, "Clinical Observations on Epileptic Insanity.") C. Macpherson, M.B., Scotland. (Thesis, "Plural Pregnancies.") W. Wallace, M.B., C.M., Scotland. (Thesis, "The Field of Vision: with special reference to its anomalies in diseases of the nervous system.") II. Ordinary Degree: A. S. Alexander, M.B., C.M., Scotland. (Thesis, "Nasal Polypus, and its Radical Treatment by Galvanic Snare.") S. P. Alexander, M.B., C.M., Scotland. (Thesis, "The Atmosphere and Disease.") T. J. Grime, M.B., C.M., England. (Thesis, "Goitre: Its Etiology and Frequency in the Northern Division of the Yorkshire Dales." R. Horn, M.B., C.M., Scotland. (Thesis, "Midwifery Practice in Lancashire.") J. Keay, M.B., C.M., Ireland. (Thesis, "Some Features of Modern Asylum Practice.") J. Kennedy, M.B., C.M., Ireland. (Thesis, "Puerperal Eclampsia, considered in connection with Albuminuria: Treatment.") J. K. Love, M.B., C.M., Scotland. (Thesis, "The Limits of Hearing.") H. Mason, M.B., C.M., England. (Thesis, "Phimosis.") J. Maxwell, M.B., C.M., Scotland. (Thesis, "Clinical Notes, with Remarks.") D. C. Muir, M.B., C.M., Scotland. (Thesis, "Puerperal Fever: its Causation and Prophylaxis.")

Doctor of Medicine (M.D.), and Master in Surgery (C.M.).—Old Regulations: D. Munro, Scotland.

Bachelors of Medicine and Masters in Surgery (M.B. and C.M.).—I. High Commendation: *L. R. Oswald, Scotland; J. F. Fergus, M.A., Scotland. II. Commendation: H. Highet, Scotland; T. K. Monro, M.A., Scotland; H. J. Younger, M.A., Scotland; J. McC. Johnston, M.A., Scotland; A. Blair, Scotland; J. Stevenson, Scotland; J. P. Gillespie, England; W. Muir, Scotland; J. Adams, Scotland; H. Jones, Wales; J. Smith, M.A., Scotland; H. L. G. Leask, Scotland; J. A. Thoms, Scotland; R. O. Willis, England. III. Ordinary Degree of M.B. and C.M.: J. Adam, Scotland; J. Aitken, Scotland; W. M. Alexander, M.A., B.Sc., Scotland; W. E. L. Allen, England; A. Auld, Scotland; W. Auld, Scotland; R. Banks, Scotland; G. A. Bannatyne, Scotland; T. C. Barras, Scotland; M. Beattie, Scotland; T. L. Blackburn, Scotland; M. Blair, Scotland; M. H. Bland, England; J. F. Boa, Scotland; T. M. Bonar, Scotland; J. P. Boyd, Scotland; M. A. Boyle, Ireland; R. C. Brodie, Scotland; A. Buchanan, England; R. McN. Buchanan, Scotland; F. S. Campbell, Scotland; J. Charles, Scotland; J. Cook, Scotland; A. Copland, West Indies; H. O. Cowen, England; H. R. V. Crossfield, England; J. Culross, M.A., Scotland; W. J. Daly, Ireland; A. Davidson, M.A., Scotland; W. Diamond, Scotland; J. Donald, M.A., Scotland; W. C. Downs, Scotland; J. C. Duncanson, Scotland; A. G. Faulds, Scotland; D. Ferguson, M.A., Scotland; P. Ferguson, Scotland; H. Findlay, Scotland; C. J. Fife, Scotland; E. H. Fyffe, Australia; P. Gardiner, Scotland; W. Gemmell, Scotland; W. J. Giblin, England; H. Girvan, Scotland; A. Halliday, Scotland; W. C. Hamilton, Scotland; J. E. Hunter, Ireland; T. B. Hutcheson, Scotland; A. B. Kelly, B.Sc., Scotland; H. Kirkland, Scotland; E. Lang, Scotland; J. Livingstone, Scotland; W. Livingstone, Scotland; J. Mathie, Scotland; W. H. Murray, Scotland; J. F. D. Macara, Scotland; J. N. Macarthur, Scotland; D. M'Callum, Scotland; J. S. M'Convillee, M.A., Scotland; A. N. M'Gregor, Scotland; J. M'Kendrick, Scotland; K. C. Mackenzie, England; R. D. Mackintosh, Scotland; J. T. Maclachlan, Scotland; J. MacPherson, Scotland; C. R. Niven, Scotland; F. L. Norris, Scotland; T. L. Paterson, Demerara; R. L. Pinkerton, M.A., Scotland; W. Primrose, Scotland; D. Ramsay, Russia; W. Robb, Scotland; C. E. Robertson, Scotland; W. Roxburgh, Scotland; J. Sandilands, M.A., Scotland; W. P. Sandilands, Scotland; A. Shanks, Scotland; R. P. Shearer, Scotland; H. R. Sloan, Scotland; J. T. Smith, Scotland; J. Somerville, Scotland; J. A. Stewart, Scotland; J. Strang, Scotland; A. F. Walker, Scotland; J. B. Wallace, Scotland; J. P. Wilson, Scotland; R. Wilson, Scotland; A. S. Wotherspoon, Scotland; J. Wright, Scotland; J. Young, Scotland.

* Mr. Oswald gains the Brunton Memorial Prize of Ten Pounds, awarded to the most distinguished medical graduate of the year.

VICTORIA.

FACULTY OF MEDICINE.—Preliminary Examination in Science.

First Division.—F. J. H. Coutts, Owens College; J. L. B. Dixon, Owens College; A. J. Edwards, Owens College; J. Hartley, Owens College; D. Hunter, Owens College; C. R. Jones, University College; C. E. M. Lowe, Owens College; E. C. McCarthy, Owens College; C. R. Marshall, Owens College; F. C. Scotson, Owens College; J. H. Taylor, Owens College; R. T. Turner, Owens College; F. J. Woods, University College.

Second Division.—J. B. Carter, Owens College; T. S. Collin, Owens College; J. De Freitas, Owens College; F. S. Fletcher, Owens College; C. C. Garlit, Owens College; J. Healey, Owens College; J. Jones, Owens College; A. Murgatroyd, Owens College; J. B. Nixon, University College; A. J. Partridge, University College; W. C. Rigby, Owens College; G. M. Y. Whittingham, Owens College; W. A. Wilkinson, Owens College.

Intermediate M.B. and Ch.B. Examination.

Second Division.—E. M. Brockbank, Owens College; G. F. Chadwick, Owens College; S. H. Fairrie, University College; A. Greenhalgh, Owens College; W. J. Howarth, Owens College; J. N. H. Martin, University College; S. G. Moore, University College; L. Youatt, Owens College.

Final M.B. and Ch.B. Examination (Part I).

G. F. Edwards, Owens College; J. W. Ellis, University College; A. E. Giles, Owens College; W. J. Kerr, Owens College; W. Nuttall, Owens College; T. Porter, Owens College; H. Ramsden, Owens College; J. Simcock, Owens College; J. W. Unsworth, Owens College.

Final M.B. and Ch.B. Examination (Part II).

First Division.—J. H. Barker, Owens College; R. J. M. Buchanan, University College; A. E. Giles, Owens College; J. M. Johnson, Owens College.

Second Division.—J. Brown, Owens College; E. C. Lomas, Owens College.

Recommended for Distinction.—In Medicine: J. H. Barker, Owens College; R. J. M. Buchanan, University College.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

LIABILITY FOR DEFECTIVE DRAINS.

THE plaintiff in the case of Butler *v.* Goundry, which was heard before Mr. Justice Matthews in June, and was then commented on in the JOURNAL (June 16th, p. 1287), having failed to obtain a new trial from the Divisional Court, appealed to the Supreme Court. This appeal has now been dismissed. Lord Justice Lindley, in refusing the appeal, said that it was impossible to say that the defendant made the statement as to the condition of the drains without reasonable ground for believing it to be true. The statement was, in fact, untrue, but was honestly made.

HEALTH OF ENGLISH TOWNS.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 5,314 births and 2,844 deaths were registered during the week ending Saturday, July 28th. The annual rate of mortality, which had risen in the three preceding weeks from 15.0 to 16.0 per 1,000 declined again during the week under notice to 15.8. The rates in the several towns ranged from 8.1 in Derby, 8.3 in Brighton, 12.0 in Nottingham, and 12.4 in Leicester to 20.3 in Manchester, 22.1 in Bolton, 22.3 in Huddersfield, and 25.4 in Halifax. In the twenty-seven provincial towns the mean death-rate was 15.7 per 1,000, and was slightly below the rate recorded in London, which was 15.9 per 1,000. The 2,844 deaths registered during the week under notice in the twenty-eight towns included 158 which were referred to diarrhœa, 65 to whooping-cough, 62 to measles, 48 to scarlet fever, 40 to "fever" (principally enteric), 35 to diphtheria, and 3 to small-pox; in all, 411 deaths resulted from these principal zymotic diseases, against 354 and 311 in the two preceding weeks. These 411 deaths were equal to an annual rate of 2.3 per 1,000; in London the zymotic death-rate was 2.7, while in the twenty-seven provincial towns it averaged only 1.9 per 1,000, and ranged from 0.0 and 0.5 in Derby and Hull to 3.1 in Blackburn, 3.6 in Manchester, and 4.6 in Halifax. Measles caused the highest proportional fatality in Leeds, Leicester, and Halifax; scarlet fever in Birkenhead, Bolton, and Blackburn; whooping-cough in Manchester and Halifax; "fever" in Salford and Newcastle-upon-Tyne; and diarrhœa in Wolverhampton, Liverpool, Oldham, and Sheffield.

Of the 35 deaths from diphtheria recorded during the week under notice in the twenty-eight towns 21 occurred in London, 4 in Liverpool, 4 in Manchester, and 2 in Sunderland. Three fatal cases of small-pox were registered in Preston, but not one in London or in any the twenty-six other large towns. Only 2 small-pox patients were under treatment in the Metropolitan Asylums Hospitals on Saturday, July 28th. These hospitals also contained 787 scarlet fever patients on the same date, which showed a further decline from the numbers in recent weeks; 78 cases were admitted during the week, against 93 and 95 in the two preceding weeks. The death-rate from diseases of the respiratory organs in London was equal to 1.9 per 1,000, and was below the average. The causes of 48, or 1.7 per cent. of the 2,844 deaths registered during the week under notice in the twenty-eight towns were not certified, either by registered medical practitioners or by coroners.

MEDICAL NEWS.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentlemen having passed the necessary examination, and having conformed to the by-laws, were admitted Licentiates of the College.

Abbott, Francis Charles, St. Thomas's.
Acton, Charles James, University College and Liverpool.
Appleton, James Enderby, Charing Cross.
*Banerji, Umadas, Calcutta.
*Barnett, John Edward Sewell, Charing Cross.
Belcher, Henry Edward, University College.
*Blachford, James Vincent, Guy's.
*Blake, William Henry, University College.
*Bodilly, Reginald Thomas Harker, King's College.
Brownlow, George Percy, St. Bartholomew's.
Bryett, Lewis Thomas Fraser, King's College.
*Buchanan, Robert James McLean, Liverpool.
*Bullock, Charles Henry, St. Bartholomew's.
Burchell, Ernest, London.
*Cameron, Robert Watson, Manchester.
*Capron, Henri John, Bristol.
Carpenter, Percy Tranto, St. Mary's.
Carter, Weldon Cragg, University College.
*Cockerton, Herbert, St. George's.
Colborne, George, Middlesex.
Davy, Samuel, London.
Davis, Cyril Stephen, Guy's.
Davis, Harry, University College.
Duer, Charles, University College.
Duncan, Percy James, Charing Cross.
Dyer, John Edward, University College.
*Evans, George Edward Alfred, St. Bartholomew's.
Falkner, Edgar Ashley, Middlesex.
*Field, Edgar Alfred, Edinburgh.
Freer, Gerald Dudley, St. Bartholomew's.
Fryer, George Ernest, Manchester.
Gill, Joseph William, Middlesex.
Goldney, Arthur George Nelson, Charing Cross.
Goodfellow, Thomas Ashton, Manchester.
Gordon, William, Cambridge and University College.
*Greeves, Thomas Neville, King's College.
Grey, John Temperley, Bristol.
*Harris, George James, Westminster.
Harris, Sampson George Victor, Charing Cross.
Haviland, Frank Papillon, St. George's.
*Heale, Alfred Lawson, Westminster.
Higgins, Hubert, St. George's.
Hill, Robert, Middlesex.
Hosking, John Edward Francis, Guy's.
Housman, Basil Williams, Birmingham.
Hughes, Samuel Henry, St. Bartholomew's.
Huxley, Henry, St. Bartholomew's.
*Laing, Alfred William, St. Bartholomew's.
Langdale, Henry, Manchester.
Langridge, Frank Washington, Guy's.
*Leman, Thomas Curtis, Bristol.
Lockett, John Arthur Pope, London.
Maclure, Herbert William, St. Bartholomew's.
*Martin, Charles Lister, King's College.
Midelton, William John, St. Bartholomew's.
*Miles, Charles Henry, University College and Middlesex.
Murray, George Redmayne, Cambridge and University College.
O'Brien, Philip Kennedy, University College.
Ogle, John Gilbert, St. Bartholomew's.
Oldham, Benjamin Curwen, St. Bartholomew's.
Parkin, Alfred, Guy's.
Pearson, James, University College.
Pennell, George Herbert, Guy's.
Pierce, Bedford, St. Bartholomew's.
Plant, James Robert, Westminster.
Platt, John Edward, Manchester.
Powell, William, Westminster.
Poulter, Arthur Reginald, St. Bartholomew's.
*Pritchard, Trevor John, Edinburgh.
Rudd, William Arthur, London.
*Skinner, George Henry, Bristol.
Skyrme, Henry Edward, London.
*Stephens, James William, St. Bartholomew's.
Summerskill, William, Leeds.
*Sutton, James Bryan, Charing Cross.
Sylvester, Harold Augustus, St. Bartholomew's.
Tate, Walter William Hunt, University College.
*Tench, Montague, Middlesex.
*Tresidder, William Elliot, Guy's.
Turney, Horace George, St. Thomas's.
Vallancey, Aymer d'Estampes de, St. Thomas's.
*Verdon, Francis, King's College.
Wade, Charles, University College.
Watson, Arthur Edmonstone, Middlesex.
White, Edgar Ramsay, King's College.
White, Gilbert Benjamin Mower, University College.
*Wild, Charles Henry, University College.
Wilkinson, Edmund, University College.
*Willoughby, William George, St. Bartholomew's.
Wills, Ernest, University College.
Wilson, Charles, London.
*Woodhams, Sidney, Guy's.
Wright, Dudley D'Auvergne, University College.
Wright, Joseph Farrell, Manchester.
*Ziemann, Hermann Peter, Charing Cross.

* Candidates who have not presented themselves under the Regulations of the Examining Board.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH, AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—The quarterly examinations in Edinburgh for the Triple Qualification took place in July, with the following results.

First Examination. Of 49 candidates, the following 35 passed.

P. D. Addis, Bristol; C. Sturt, London; J. Welsh, Newtownbutler; H. Taafe, Londonderry; J. C Walker, Helensburgh; W. Daunt, Dublin; R. P. Cooke, County Roscommon; W. Jameson, Carlow; E. McCarthy, Kinsale; D. J. O'Mahony, Cork; G. B. Proctor, Birkenhead; F. W. Toms, London; J. T. Buckley, Co. Kerry; A. Jackson, Co. Cork; T. W. Clay, Anglesea; P. F. James, Glamorganshire; A. T. Kember, India; H. A. Smit, Cape Colony; C. H. Roberts, Cape Colony; F. J. Bonnalie, Chester; T. W. E. Waddington, Blackburn; S. H. Heald, Wakefield; A. J. Macdonald, South Australia; J. J. Brennan, Kilkenny; A. L. Smith, Hamilton; T. J. Frost, Co. Clare; L. S. Wells, Australia; J. Cumming, Banffshire; P. G. Findlay, Nairn; J. W. Wilkinson, Queen's County; T. P. Wells, Blackburn; M. J. Hickie, Castletownroche; E. Hughes, Wales; J. F. Butler-Hogan, Dunmanway; D. S. Browne, Mullaglass.

Second Examination. Of 59 candidates, the following 33 passed.

N. H. Runciman, Cork; J. Dunne, Co. Cork; E. W. St. V. Ryan, Cork; J. F. Roden, Edinburgh; R. P. Byrne, Cork; G. T. Tuke, Edinburgh; S. Ryan, Armagh; C. Sturt, London; A. E. Wynne, Stafford; J. H. Hart, Yorkshire; R. Love, Co. Antrim; Miss B. M. Harrison, Brighton; J. D. Watt, Leamington Spa; V. F. Allen, Co. Cork; P. D. Addis, Bristol; R. Fitzgerald, Co. Cork; P. M. Sheedy, Co. Cork; W. B. Arthur, Dundee; F. C. Foster, Canterbury, New Zealand; E. V. Eames, Donegal; D. I. Jones, South Wales; A. E. Shepherd, Adelaide; A. V. Bowen, Preston; J. H. S. Grant, Dunfermline; A. E. W. Burns, Chatham; F. A. Capps, Portsmouth; W. J. Langley, Co. Waterford; P. F. O'Hagan, Longford; J. F. Butler-Hogan, Dunmanway; J. Barry, Castletownroche; W. C. Rainsbury, Queenstown; J. R. Mason, Lancashire; and P. Stainsby, Yorkshire.

Final Examination. Of 60 candidates, the following 30 passed, and were admitted L.R.C.P.E., L.R.C.S.E., and L.F.P. and S.G.

T. McCubbin, Kirkintilloch; D. S. Moncrieff, Edinburgh; G. Gordon, Ontario; J. A. Nolan, Kilkenny; T. Everard, India; R. Griffith, Carnarvon; J. R. H. Dyson, Honley; W. W. Margenout, Colombo, Ceylon; C. B. Taylor, Manchester; Miss L. A. H. Jenkins, Tenby; R. W. Clayton, Wrexham; L. M. Clark, Kingston, Jamaica; N. H. Runciman, Cork; R. Trimble, Strabane; W. D. Russell, Co. Tipperary; T. S. Allan, Glasgow; A. L. Murray, Belfast; N. J. Newbould, Tott; C. A. Wickham, Co, Longford; J. H. Briggs, Yorkshire; C. E. Lownds, Newcastle-on-Tyne; C. Pearce, Santiago, Chili; A. Davidson, Bangor, Co. Down; A. D. Vardon, Calcutta; M. F. X. Nallétamby, Mauritius; E. Treharne, Glamorganshire; H. E. Mahonie, Sheffield; W. Keiller, Midlothian; W. J. Ryan, Limerick; and W. H. Macdonald, Inverness-shire.

SOCIETY OF APOTHECARIES OF LONDON.—The following gentlemen have been appointed Assistant Examiners to the Society by the General Medical Council, and conduct the examinations in Surgery and Anatomy:—*Andrew Clark, F.R.C.S.; *W. Adams Frost, F.R.C.S.; W. Arbuthnot Lane, F.R.C.S.; *G. H. Makins, F.R.C.S.; *W. J. Walsham, F.R.C.S. The following gentlemen have been appointed by the Society as Examiners for the ensuing year:—*Henry Bullock, F.R.C.S.; H. Radcliffe Crocker, M.D., B.S.Lond., F.R.C.P.; *William Duncan, M.D., M.R.C.P.Lond.; *F. de Havilland Hall, M.D.Lond., F.R.C.P.; *Robert James Lee, M.D.Cantab., F.R.C.P.; *A. H. N. Lewers, M.D.Lond., M.R.C.P.; William Robert Smith, M.D., D.Sc., F.R.S.Ed.; *John Sherwood Stocker, M.D.Lond., M.R.C.P., Chairman of the Court of Examiners; *John Charles Thorowgood, M.D.Lond., F.R.C.P.; Francis Warner, M.D.Lond., F.R.C.P. Dr. Klein, F.R.S., has been appointed the Society's Examiner in Physiology for the ensuing year. Dr. Charles Alfred Hebbert has been appointed Assistant Examiner by the Society for the ensuing year.

(*Members of the Court of Examiners.)

The following having satisfied the Court of Examiners as to their knowledge of the science and practice of Medicine, Surgery, and Midwifery received certificates entitling them to practise as Licentiates of the Society:—

Best, William Harris, London Hospital.
De la Motte, William, London Hospital.
Harris, Percival Seymour, Middlesex Hospital.
Hill, Robert, Middlesex Hospital.
Hulbert, Henry Harper, Oxford and St. Thomas's, London.
Midelton, William John, St. Bartholomew's Hospital.
Sargent, William Gostwycke, London Hospital.
Sheldon, Robert Garnett, Victoria University, Liverpool.
Sleeman, Richard Reginald, Cambridge and St. Mary's, London.
Smith, John Arthur, Leeds.
Stephenson, Owen Taunton, University College, Liverpool.
Stovin, Cornelius Frederick, London Hospital.
Webb, Helen, Royal Free Hospital.
Whitaker, George Herbert, St. Bartholomew's Hospital.

The following passed in Surgery:—

A. G. B. Lory, London Hospital; R. H. Gilpin, Middlesex, Hospital; E. S. Mitchell, Queen's University, Kingston; G. M. Bradley, Grant Medical College; J. G. Burgess, Guy's Hospital; J. Cornilliac, King's College; F. W. Gunn, King's College; A. P. Lange, King's College; A. R. Wilson, Oxford University.

The following passed in Medicine.

H. M. Holt, Leeds.

At the Examination in Arts, of the 217 present, 2 passed in the first class, 30 in the second class, and 148 passed in one or more subjects, but not in all.

MEDICAL VACANCIES.

The following Vacancies are announced:

BELGRAVE HOSPITAL FOR CHILDREN.—Resident House-Surgeon and Assistant Secretary. Appointment for six months. Salary at the rate of £30 per annum, with board and residence. Applications by September 15th to the Honorary Secretary, 79, Gloucester Street, S.W.

BRISTOL GENERAL HOSPITAL.—Physician's Assistant. Salary, £50 per annum, with board, lodging, etc. Applications by August 7th to the Secretary.

CARRICK-ON-SUIR UNION, No. 2 Dispensary District.—Medical Officer. Application to Mr. Michael Power, Honorary Secretary, Main Street, Carrick-on-Suir. Election on August 13th.

EAST SUFFOLK AND IPSWICH HOSPITAL.—Assistant House-Surgeon. Salary, £20 per annum, with board, lodging, etc. Applications by August 7th to the Secretary.

GENERAL HOSPITAL, Nottingham.—Senior Resident Medical Officer. Salary, £120, with increase; board, residence, and washing. Applications by August 8th to the Chairman of the Weekly Board.

HULME DISPENSARY, Manchester.—Honorary Surgeon. Applications by August 11th to the Honorary Secretary.

ITALIAN HOSPITAL, Queen Square, Bloomsbury.—Assistant Medical Officer. Applications to the Secretary.

PARISH OF ST. MATTHEW, Bethnal Green.—Assistant Medical Officer. Salary, £100 per annum, board and residence, with increase. Personal application on August 10th at the House Committee, Waterloo Road, E.

RATHDRUM UNION, Newcastle Dispensary.—Medical Officer. Salary, £110 per annum, and fees. Applications to Mr. Thomas Graydon, Honorary Secretary, Toornow, Delgany. Election on August 14th.

RICCARTSBAR ASYLUM, Paisley, N.B.—Assistant Resident Medical Officer. Salary, £65 per annum, board and apartments. Applications by August 4th to R. Rowlands, Esq., Inspector of Poor, Paisley, N.B.

ROYAL FREE HOSPITAL, Gray's Inn Road. Senior Resident Medical Officer. Salary, £104 per annum, with board and residence. Applications by August 8th to the Secretary.

SWANSEA HOSPITAL.—Resident Medical Officer. Salary, £100 per annum, with board and residence, etc. Applications by August 15th to the Secretary, 23, Gower Street, Swansea.

MEDICAL APPOINTMENTS.

BRODRICK, H. Edward, M.B., B.S.Durham, M.R.C.S.Eng., L.S.A., appointed Resident Medical Officer to the Chelsea Hospital for Women, Fulham Road, S.W.

BULL, William C., M.A., M.B.Cantab., F.R.C.S., Surgical Registrar to St. George's Hospital, appointed Surgeon to Out-patients at the Belgrave Hospital for Children, *vice* R. Marjorison, F.R.C.S., resigned.

CULLINGWORTH, C. J., M.D., F.R.C.P., appointed Visiting Physician to the General Lying-in Hospital, York Road, Lambeth, *vice* Robert Boxall, M.D., resigned.

EZARD, E. H., M.B., C.M.Ed., B.Sc., late Demonstrator of Physiology, Edinburgh University, appointed Junior Assistant-Physician, Royal Edinburgh Asylum.

HOLT, A. K., appointed House-Physician to the North Staffordshire Infirmary.

KIDD, W. S., L.R.C.P., L.R.C.S.Ed., appointed Medical Officer and Public Vaccinator for the Parishes of Lintrathen, Glenisla, and Ruthven, and Certifying Factory Surgeon for Alyth and District.

LEWIS, P. G., L.S.A., M.R.C.S.Eng., appointed House-Surgeon to the Royal South Hants Infirmary, Southampton, *vice* N. E. Aldridge, M.B., resigned.

MORRIS, J. A., L.K.Q.C.P.I. and L.M., appointed Medical Officer to the Gowran Dispensary, Kilkenny Union, *vice* J. J. Lyons, L.K.Q.C.P.I. and L.M., resigned.

NUTTALL, A. E., B.A., appointed Assistant House-Surgeon to the North Staffordshire Infirmary.

SANDERS, W. I., M.D., F.R.C.S.Eng., appointed Medical Officer to the Infirmary and Workhouse for the Parish of St. George's-in-the-East, *vice* W. Steer, M.R.C.S., L.S.A., resigned.

WILDE, L., M.B., M.R.C.S., appointed Senior House-Surgeon to the London Temperance Hospital, Hampstead Road, *vice* J. H. Griffin, M.R.C.S., L.S.A., resigned.

SALE OF FOREIGN MEAT.—A Bill was recently introduced into the House of Lords with the object of requiring butchers dealing in foreign meat to take out licences, and put up notices in their shops that they deal in such meat. Large quantities of cheese, ham, bacon, and lard are imported from abroad and sold as home products; it is the main object of this Bill to prevent this in either wholesale or retail trade. The Bill having been withdrawn, the Government promised to move next session for a Select Committee to inquire into the whole subject of selling foreign meat products in the country under the name of British.

LONDON SCHOOL OF MEDICINE FOR WOMEN.—Twelve students of this school presented themselves last week for the first and second examinations of the Royal Colleges of Physicians and Surgeons of Edinburgh, all of whom passed. Miss Waterston, M.D., formerly a student of the London School of Medicine for Women, has just passed the examinations of the Psychological Society for a certificate in mental diseases. Miss Waterston is the first lady who has presented herself for this examination.

THE annual meeting of the Western Branch of the British Dental Association was held on Friday, July 27th, at the Athenæum, Plymouth. After the meeting of the council in the Grand Hotel, the President delivered his address and several papers were read and discussed. After the interval for luncheon the business of the meeting was resumed, and several gentlemen gave demonstrations in the rooms of the President-elect, Mr. F. H. Balkwill, L.D.S. In the evening the annual dinner took place at the Grand Hotel.

THE POPE CENTENARY.—Pope numbered so many physicians among his most intimate friends, and expressed in such tender and eloquent words his gratitude for their services to him, that it may not be out of place to remind our readers that a valuable loan museum of rare editions of Pope's works, interesting autographs, paintings, and portraits of himself, his friends, and contemporaries, and personal relics was opened in the Town Hall, Twickenham, on Tuesday last, and will remain open until 8 P.M. this day, Saturday, August 4th.

CREMATION.—The remains of Mrs. Flora Lindsay Ritchie, the wife of Mr. David G. Ritchie, Fellow and Tutor of Jesus College, who died at Oxford last week, have been cremated at the building of the Cremation Society of England, at Woking, in accordance with the deceased lady's special desire. The process of cremation occupied about two hours.

AT the Commencement Exercises of Union College, Albany, New York, June, 1888, the honorary degree of LL.D. was conferred upon Mr. Lawson Tait, F.R.C.S., Professor of Gynæcology, Queen's College, Birmingham.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

MCLACHLAN.—On July 26th, at Longtown, Cumberland, the wife of Dr. McLachlan, of a son.

THOMAS.—On the July 29th, at 16, St. Peter's Street, Winchester, the wife of G. Harley Thomas, Esq., M.R.C.S., Army Medical Staff, of a daughter.

MARRIAGES.

BARKER—MASON.—On July 25th, at St. Cuthbert's, Bedford, Frederick Rowland Barker, M.B.Lond., Surgeon, Medical Staff, son of E. J. Barker, M.D., The Mount, Aldershot, to Anne Isabella (Ella), only daughter of the late C. F. Mason, M.R.C.S., Stone, Staffordshire.

MILLER—STUTTAFORD.—On July 24th, at the Parish Church, Walmer, F. R. Miller, L.R.C.P., M.R.C.S., L.S.A., to Effie, daughter of S. Stuttaford.

DEATHS.

BARKER.—On July 27th, at The Mount, Aldershot, Edmund John Barker, M.D.Aberd., M.R.C.S., L.S.A., aged 70.

JOY.—On July 6th, at his residence, 1, Bower Terrace, Maidstone, after many years of suffering most patiently borne, Henry Winkles Joy, F.R.C.S.Eng., J.P., aged 83.

BEQUESTS AND DONATIONS.—Mr. George Ash, of Barton Fields, Canterbury, bequeathed £200 to the Kent and Canterbury Hospital.—The General Hospital, Birmingham, has received £100 under the will of Mr. John Stubbs.—"Mr. V." has given £300 to the building fund of the British Home for Incurables.—The Town Council of Newcastle-upon-Tyne have, upon the recommendation of the Finance Committee, increased the annual subscription to the Royal Infirmary there from 160 to 300 guineas per annum.—The Baroness de Stern has given £150 to the North London Hospital for Consumption.—Lord Justice Fry has given £100 to University College Hospital; and the same institution has received £100 under the will of Mr. Enoch Thomas.—Mr. Thomas B. Kenderdine, M.R.C.S.Eng., of Auckland, New Zealand, has remitted £100 to the Staffordshire General Infirmary in aid of the fund for sending convalescent patients to the seaside.—Mr. Thomas Blizard Curling, F.R.C.S.Eng., F.R.S., bequeathed £1,000 to the Samaritan Society of the London Hospital, and £200 to the Royal Medical Benevolent College at Epsom, and £10,000 to the London Hospital on the death of his daughter-in-law, Mrs. George Swayne Curling.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.; Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.; Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).;

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.; Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's, St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.; London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.; King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's—1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.; Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.; West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, M. Th., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S. 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL, are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications, should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

ANSWERS.

PHYSICIAN AND SURGEON.—Yes, it is necessary to have a Spanish degree.

J. P. L.—An English medical man as such has no legal status in France; with regard to Italy see a note by Dr. Drummond in the JOURNAL of July 28th, p. 213.

TREATMENT OF ACNE.

DR. SPENCER SMYTH (Bournemouth) recommends the following ointment: ℞ Hydrarg. ammoniat. gr. 30; unguent. sulphuris (made with sulph. præcipit.), 5j; M. ft. mist. unguent. To be applied to the forehead at bedtime, and washed off in the morning with Pears' glycerine soap in warm water. At the same time, no stimulants to be administered, diet carefully regulated, and the following mixture: ℞ Sodii bicarb., gr. 80; magnes. sulph., 3j; syrup. zingib., ℥ss; infus. gentian. co. ad 5ij; M. ft. mist. A fourth part early in the morning.

INCOME-TAX.

GREAT YARMOUTH.—The publishers of *Income Tax: How to Get It Refunded; Inhabited House Duty: How and When to Appeal*; and *How to Appeal against your Rates*, are Messrs. Effingham Wilson, Royal Exchange. Copies of the above may also be obtained of the Income Tax Repayment Agency, 25, Colville Terrace, W., post free for thirteen stamps, who also supply special balance sheets for enabling medical men to present their accounts to the Commissioners.

NOTES, LETTERS, ETC.

ERRATUM.—In the abstract of Dr. A. Colles's Presidential Address on Massage, published in the JOURNAL of July 28th, p. 176, the words, "Massage was of course a panacea," should read "Massage was of course *not* a panacea."

MODERATE DRINKING.

DR. S. W. SMITH (Pershore) writes: What is one man's food is another's poison. All extremes are immoderate. Temperance stands between the two; on the one hand it is not restricted to total abstinence, on the other hand it avoids that which is excessive or injurious to any given individual. "In medio tutissimus ibis" is as true to-day as when the words were first penned. The late Dr. Easton, of Glasgow, said, "All medicines act relatively. Do not take them except when required." As hydro-carbons the alcoholic drinks are useful as fuel just as fats are, and these are used extensively in cold climates. No man would think of walking with crutches if he did not require them. The person who can walk and work daily without stimulants is to be congratulated. The savage tribes are of necessity exemplary in this respect. There is nothing like "a peaceful and a quiet life," free from excitement followed by corresponding depressions, and alcohol is guilty of like effects. Like lawyers, doctors, parsons, and the physical forces, they are necessary corrigents so long as this world lasts. Just as some people are so correct as to be above the criminal law, so are others healthy and strong above requiring props in the shape of stimulants which are injurious when taken upon empty stomachs, feverish and thirsty. This state of things is best relieved by rest and the recumbent position, etc. When the person is exhausted and not thirsty stimulants may be had recourse to, and sometimes are necessary. You will find in practice that the advocates of either extremes will have the opposite party hounded on to them, especially when men do not see eye to eye upon every public question. If you advocate the anti-alcoholic system you may, as I have done, find supposed "teetotallers" the bitterest foes. I have though always in principle, if not in practice, advocated temperance, for, as a nonagenarian told me, his mother always said, "Moderation means duration." (Proverbs xxxi, 3, 9; Romans i, 23.)

WHAT IS A STONE IN THE BLADDER?

LITHOTOMIST writes: Having had some experience of this subject, both in India and in this country, I should like, with your permission, to offer a few remarks on the issue in dispute in your columns. To have it clearly before us, it may not perhaps be undesirable to restate it divested of its arguments. Sir Henry Thompson wishes apparently to confine the term to calculi weighing at least twenty grains removed from the bladder. Surgeon-Major Freyer, on the other hand, is desirous of retaining the old definition, which applied to "any calculous formation, no matter of what size, which failed to pass out of the bladder spontaneously, and for the removal of which an operation was necessary." The difference is very obvious having regard to surgical operations, and the method of recording them. In the days prior to Bigelow's invention, surgeons had no difficulty in this matter, and the necessity of an operation generally determined the question for them in a practical

manner. That this is not so now (principally by reason of Bigelow's method) is self-evident, and therefore it seems desirable that the word operation should be specially defined or qualified. Sir Henry Thompson's substitute proposal of a weight limit seems to me objectionable, having regard to the age of patients, for obviously what would constitute a stone in A. B., aged 3 years, might not do so in C. D., aged 25.

A patient of mine, a very large man, passed a stone as big as an averaged sized marble as far as the fossa navicularis, from whence I excised it. It never occurred to me to record the case even in my memory as one of stone in the bladder, but, nevertheless, had such a calculus been retained in the bladder of A. B., and had I cut him for it, I should certainly, and I trust justly, have done so; and yet, perhaps—I didn't weigh the stone—I should have been precluded from doing so by a weight limit. Such a definition, I may add further, would tend to operate very unfairly against Indian surgery, for a very great majority of the cases that are dealt with in the dispensaries of that country occur in very young children, and where necessarily the weight of the calculi is limited.

On the other hand, if perfected mechanical contrivances enable surgeons to wash out small stones from the bladder, it obviously would not tend to enhance the value of surgical proceedings from any point of view, or of surgical statistics either, if they were recorded as cases of stone. It seems evident, therefore, that the old definition, which was very good as long as surgical procedures were limited to lithotomy and lithotrity, will not do now, and that it has been rendered obsolete by litholapaxy.

As regards the new proposal of a weight limit, I think I have shown that it is not comprehensive enough to include numerous cases of children, and the question for the profession is, "Can a better one be devised?" Obviously, no hard-and-fast line can be laid down, and the difficulty must always be great, especially so, perhaps, for surgeons who are working up to the record of Frère Jacques (5,000 cases) as to how they will classify their cases. Having no such difficulty immediately before me, I would beg, instead of adopting the new weight limit, to propose a modification of the old rule, and instead of using the word operation in the old sense, so to qualify it as to exclude removal by special forceps and incision from the urethra, as was always the case, but also the modern practice of washing out by means of enlarged instruments. The definition then of stone in the bladder would run thus: Any calculus formation retained in the bladder for the removal of which either lithotomy or lithotrity was necessary. This, I think, would cover the ground until Bigelow or some other surgeon still further simplifies the treatment of stone.

Nitrite of Amyl in Chloroform Syncope.

Dr. James Brydon (Hawick) writes: Possibly had this medicine been used on the patient who died after taking chloroform at Preston Infirmary the result might have been different, but most probably not. Notwithstanding it has all the prestige of Dr. Lauder Brunton's recommendation, I have, after many trials, found it nearly worthless. The first case I tried it in was one of angina pectoris; and although it is said to be a sovereign remedy in such cases, it afforded no relief. Several capsules were broken and inhaled, the patient became livid and blue, but the angina was not relieved. Nitroglycerine seemed to have more effect, but the only lasting relief was obtained by subcutaneous injections of morphine. I have used the capsules several times in acute asthma, in cases of heart disease, but in none of them was the result what I was led to expect. The old-fashioned remedies, spr. chloroformi, stramonium, and belladonna, were more effective. As far as my experience goes, it is just as inert in relieving heart spasms as the tincture of perchloride of iron is in arresting an attack of erysipelas.

Methylene as an Anæsthetic.

Dr. E. Field (Bath) writes: In his communication to the Journal, July 28th, Dr. Dudley Buxton refers to what he is pleased to describe as an "astounding" statement made by me in my letter a few weeks ago. It might be supposed from this that there was a unanimity of opinion among chemists as to the constitution of the liquid sold under the name of methylene, which I have always been under the impression was by no means the case. In leaving, therefore, the chemists to settle their differences, and in forming my own opinion from the effect of the compound on the patient, I think most impartial persons will not consider there is anything "astounding."

The mention of an *ether* inhaler in my letter was due only to a printer's error. I spoke of a perforated *leather* inhaler, which, of course, admits of free dilution with air.

A Warning.

We are requested by Messrs. Waller and Gaitskell, surgeons, Sydenham, to state that inquiry should be addressed to them before any engagement is made to employ a person who may apply for appointment as dispenser to a medical man, producing as a testimonial a certificate as to character given by Mr. Waller.

Gibson and Wife v. Jeffries and Hills.

(See Journal, May 26th, p. 1132.)

Mr. C. B. Keetley (George Street, Hanover Square, W.) writes: Will you permit me to once more to call attention to this most deserving case? If only 5 per cent. of the medical men who are every day in peril of a similar misfortune to that which happened to Messrs. Jeffries and Hills, would subscribe five shillings each, the balance required would be subscribed twiceover.

COMMUNICATIONS, LETTERS, etc., have been received from:

Dr. P. Sonsino, Pisa; F. A. Jackes, M.B., Leith; Mrs. Milner Fothergill, London; D. Laurie, M.B., Kilmarnock; Dr. A. Cook, Cardiff; Dr. J. P. Lewis, London; Mr. F. Peregrine, London; Mr. J. Bellamy, London; Mr. W. Carden, Portsea; Messrs. Street and Co., London; Mr. T. J. Digby, London; Dr. Maxwell, Woolwich; The Secretary of the Psychological Section of the Annual Meeting, Glasgow; Dr. Myers, London; Prof. C. Roy, Cambridge; Dr. Shuttleworth, Lancaster; Mr. J. E. Ady, London; Dr. T. T. Collins, London; Dr. A. Van der Veer, Albany, N.Y.; Messrs. Carr and Co., Carlisle; Dr. E. Walford, Cardiff; Dr. A. Smart, Edinburgh; Dr. T. A. B. Kane, Spennymoor; Mr. T. Holmes, London; Dr. Spencer Smyth, Bournemouth; Dr. Norman Kerr, London; The Secretary of the University of Glasgow; Mr. W. Robinson, Stanhope; Dr. E. Field, Bath; Dr. Willoughby, London; Dr. Mumby, Portsmouth; Dr. Hoffmeister, Cowes; Dr. J. P. R. Jamison, Broughshane; Mr. J. Hogg, London; Mr. Edmund Owen, London; Mr. T. R. Collins, Harrogate; Dr. A. Duke, Dublin; Dr. S. W. Smith, Pershore; Mr. F. Lowndes, Liverpool; Dr. J. J. Ridge, Enfield; Mr. W. Johnson Smith, London; Dr. J. McCaw, Belfast; Mr. W. C. Bull, Sutherland; Mr. R. M. Simon, Birmingham; Mr. C. Hodson, Bishop Stortford; Dr. Lush, Weymouth; Mr. Morris, Swansea; Mr. H. G. Stewart, Dunbar; Dr. H. D. Littlejohn, Edinburgh; Dr. F. H. Spencer, Exeter; Mr. J. Rhys, London; Dr. Major Greenwood, London; Dr. C. Norman, Dublin; Brigade-Surgeon F. P. Staples, Brighton; Dr. T. R. Bailey, Bilston; Mr. J. Rhodes, Glossop; The Proprietors of Bellagio, East Grinstead; Mr. G. Morgan, Brighton; Our Newcastle Correspondent; Dr. Gowers, London; The Secretary of the Hamilton Association; Our Paris Correspondent; Mr. W. Thorburn, Manchester; Dr. Edwardes, London; Mr. W. Thomson, Dublin; Dr. Swallow, London; Dr. G. Sims Woodhead, Edinburgh; Mr. J. A. Feeny, Mablethorpe; Dr. B. Naossop, London; Dr. J. Wiglesworth, Rainhill; Dr. Macindre, Chelford; Mr. W. Alexander, Tarland; Mr. E. Freund, Kirkcaldy; Dr. J. Owen, London; Dr. Tatham, Salford; Dr. P. A. Young, Edinburgh; Dr. J. W. Moore, Dublin; Our Liverpool Correspondent; Dr. Tinley, Whitby; Mrs Crisp, Keynsham; The Secretary of the Metropolitan Provident Medical Association, London; Messrs. Romeike and Curtice, London; Mr. A. J. Hawkins, London; Sir Walter Foster, M.P., Birmingham; Mr. H. Cocks, Shipham; Miss E. Salt, London; Mr. Wastell, Guildford; Dr. W. Robertson, Newcastle-on-Tyne; Dr. McCraith, Mitchelstown; Dr. J. McGregor Robertson, Glasgow; Mr. A. Corrie, Devonport; Dr. J. W. Byers, Belfast; Mr. J. H. Clegg, Stockton-on-Tees; Mr. C. B. Lockwood, London; Messrs. Burroughs, Wellcome, and Co., London; T. Jones, M.B., Eastbourne; Dr. J. Brydon, Hawick; The Honorary Secretary of the Oxford Branch of the British Medical Association, Oxford; Mr. A. McCullock, Tarporley; Mr. A. A. Clarke, London; Mr. J. Couldrey, Doncaster; E. H. Ezard, M.B., Edinburgh; Our Manchester Correspondent; Dr. Ronayne, Youghal; Mr. W. J. Meharry, Belfast; Mr. T. Fuller, New Shoreham; F. P. Nicholls, M.B., Oxford; Dr. A. Richmond, Paisley; Our Dublin Correspondent; Dr. S. West, London; Dr. H. F. Oldham, Newton Heath; Mr. Adams Frost, London; Dr. P. J. Cremen, Cork; Mr. H. E. Armstrong, Newcastle-on-Tyne; Mr. G. P. Atkinson, Harrogate; Mr. C. Jessop, London; Mrs. Turner, Poole; Dr. H. Marcus, Paris; Dr. Thursfield, Shrewsbury; Mr. F. R. Humphreys, London; Dr. Robert Barnes, London; Mr. G. H. Thomas, Winchester; Mr. H. Downes, London; F. H. Barendt, M.B., Bootle-cum-Linacre; Our Vienna Correspondent, etc.

To Correspondents.

Our correspondents are reminded that prolixity is a great bar to publication, and, with the constant pressure upon every department of the Journal, brevity of style and conciseness of statement greatly facilitate early insertion. We are compelled to return and hold over a great number of communications chiefly by reason of their unnecessary length.

BOOKS, ETC., RECEIVED.

The Thermal Baths of Bath, with the Aix Massage and Natural Vapour Treatment. London: Hamilton, Adams, and Co. Bath: Chas. Hallet. 1888.

A System of Obstetrics by American Authors. Edited by Barton Cooke Hirst, M.D. Volume I. Edinburgh: Young J. Pentland. 1888.

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PRESIDENT'S ADDRESS,

DELIVERED AT THE

FIFTY-SIXTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

Held in GLASGOW, August 7th, 8th, 9th, and 10th, 1888.

BY

WILLIAM T. GAIRDNER, M.D., LL.D.,

Professor of Medicine in the University of Glasgow; Physician in Ordinary to the Queen in Scotland.

ON THE PHYSICIAN AS "NATURALIST."

My Lord Provost, Mr. Ex-President, Ladies and Gentlemen,—The first words I speak from this chair, even in advance of those having a personal reference, must be words of welcome—welcome not as from a few of us here in this room, but also as from unknown thousands in this great city, to the British Medical Association. My honourable, and also my very good, friend, Sir James King, who rules over us, not with a "rod of iron," but with such a happy combination of the *suaviter in modo* and the *fortiter in re*, will pardon me if I anticipate him in this, because I owe it to him and to you alike to declare to you in this public manner that the labours and anxieties of those of us who have chiefly had the responsibility of providing for this great gathering have been much lightened and cheered by the consciousness that the Honourable the Lord Provost, the magistrates, and all who are associated with them in the government and administration of the city, have been heartily with us in our endeavours; and I will add, even in his lordship's presence, that in Sir James King himself we have a chief magistrate who well maintains the dignity of his great office, while diffusing around him an atmosphere of congeniality worthy of the cultured gentleman he is. We have here, then, the elements at least of a meeting worthy to be noted even in the annals of this great Association; a friendly meeting between the representatives of many industries and many arts on the one hand, in the city which is, perhaps, above all others a city of multiplied arts and industries, and, on the other, the representatives of the art of healing, assembled, not only from all parts of this country, but from almost every part of the world. The British Medical Association is, without question, by far the largest, and also by far the most widespread, of any of those numerous bodies which, founded on the model of the British Association, have carried out the principle of voluntary combination in regard to objects not personal, not selfish or narrow, but in the highest degree public-spirited and humane. To say any more about these subjects now would be not only superfluous, but something like self-laudation on your part through the mouth of your President. I allude to the matter only to emphasise the remark that as the healing art is probably the most cosmopolitan of the arts, so Glasgow is, beyond all doubt, as regards its commerce and its varied industries, one of the most cosmopolitan of cities. To place these two, therefore, more in touch with each other than heretofore, to allow the citizens of Glasgow to come face to face with the medical profession in a broad and impersonal sense, as well as with many distinguished individual members of it, is a work which ought of itself to give a special character and tone to the present meeting, and should enable it, in spite of all errors and shortcomings in detail, to be recorded as a very notable fact. There is one great, and in a measure insuperable, difficulty in the way. Glasgow is "out of town." In the long rows of houses in our West End, brown-papered as to the windows, and practically without an inhabitant, you will yourselves easily perceive indications of the annual exodus. Glasgow, in the beginning of August, is, if possible, even more "out of town" than London in the end of September. I cannot recall these absentees, and especially the better and fairer halves of them, for your advantage. And when I remember, as I have no doubt many of you do, the brilliant society, vice-regal, civil, and military, and the many other distinctions of the delightful and admirably organised meeting in Dublin only last year, I am seized involuntarily with a certain misgiving lest we should not be able to hold our own with that bright and attractive metropolis of the Green Isle. In another respect, also, there is room for a misgiving. It is no easy matter to succeed to the position, in this Association, of my dear friend of old Dr. John Banks. The courtesy, the amenity, the distinction (in the highest and best sense of the word) with which he fulfilled the duties of the office last year, are fresh in all your memories, and were to myself, personally, a source of enjoyment which I trust I shall never forget. I can only hope to follow him at a distance in the great and honourable duty of presiding over the present meeting.

And this leads me back very directly to the personal question. To say that I thank you, gentlemen, for the high honour you have done me would be a very feeble and conventional use of words. What I can really trust myself to say, because it is true and not conventional, is that during the twenty years or more that a meeting of the Association in Glasgow has been talked about it never once occurred to me, till very recently, to suppose that I was to be thus honoured. During all the earlier period of that twenty years or more my mind—everyone's mind—was instinctively set upon my late colleague—universally respected both as a distinguished man of science and as a Glasgow citizen—Professor Allen Thomson, as the one man whom the Association would naturally and inevitably have delighted to honour. To have taken my natural place under him would have been to me an unalloyed satisfaction, and all the distinction which I have ever coveted as regards this Association. It has been, however, your pleasure, first by inviting me to deliver the Address in Medicine in Dublin last year, and next, by electing me now as your President in 1888, to accumulate favours, honours, and responsibilities upon shoulders too weak to bear them. All I can endeavour to do is to respond to your unanimous wishes as best I can.

It possibly did not occur to the gentlemen who were so kind and generous as to ask me to deliver the Address in Medicine last year that they were, in effect, thereby stealing from me the materials for the present address. And yet it was even so, indeed, and very obviously so; for how is a man, twice over within the space of twelve months, to discourse of the present state of the medical art and not at every paragraph to be found repeating himself? I will not trouble you, however, with the heart-searchings and grave disquietudes entailed on me by this little incident. At one time I hoped to have got over it by avoiding medical subjects and speaking to you chiefly about the past history of Glasgow. But here I have found my purpose, if even in process of being matured, altogether forestalled by the very numerous and mostly admirably done publications[1] which have been called into existence by the International Exhibition; to the Executive Committee of which I hope, before long, we shall feel that we are under deep obligations in many ways. When you can purchase for the small sum of sixpence all about *Glasgow, Ancient and Modern*, by a first-rate authority; and all about the Clyde, the Exhibition, and what not, for one shilling, it would clearly be out of place for one who is not even a Glasgow citizen by birth or education but only by adoption, to occupy much of your time upon the subject. I will confine myself therefore to a very few words about the place in which we are assembled.

Glasgow in the Sixth Century.

It requires an effort of the imagination by no means slight or trivial to recall, as before the mind's eye, the beginnings of the city of Glasgow. The majestic, and in some respects unique, cathedral church, in which many of you have worshipped and listened to eloquent words this afternoon, is, of course, a standing evidence that Glasgow is not only a commercial and modern, but also a very ancient and historic city. But the historic vision must go back much further into the ages than even that venerable building to find the beginnings of ecclesiastical—perhaps, too, of commercial—life in Glasgow. You must try to fancy a small—and, to the modern eye, utterly insignificant—church, perhaps built of wood, perhaps of very rude and primitive masonry, surrounded by "a rude village of huts, constructed probably of wood and wattles,"[2] the dwellings of the clergy and their dependents, scholars, artisans, and labourers in the

[1] The most suitable of these that I have been able to look into are the following:—*Constable's Guide to Glasgow* (James Maclehose and Sons), *Glasgow, Ancient and Modern*, with an account of the Bishop's Castle, by George MacGregor, F.S.A.Scot., author of *History of Glasgow* (Hay, Nisbet, and Co.); *Pollock's Dictionary of the Clyde*, 1888 (John Menzies and Co.); *St. Mungo's Bells, or Old Glasgow Stories*, by A. G. Callant (David Bryce and Son). A work of more research and elaboration and well worthy of the attention of all who can afford the time is *Old Glasgow: the Place and the People; from the Roman Occupation to the Eighteenth Century*, by Andrew MacGeorge (Blackie and Son).

[2] MacGeorge, *ut supra*, p. 16.

latter part of the sixth century. Place this small and rude church and village—this "city set on a hill," to use the familiar expression of the New Testament—in the midst of a grove of trees, perhaps of some growth and stateliness, with which, or some of which, the name of St. Ninian has been associated, the tradition being that this very early missionary had for a time a cell here more than 150 years before, and that the "delicious density of overshadowing trees," and the holy memories had attracted even then the regard of the pious founders of this Christian colony. Such was the Glasgow of Kentigern or Mungo, the "beloved one" or "dear friend" of St. Serf, of Culross, according to the old traditions which, when disencumbered of their mythical element, still leave us in no doubt as to the life and character of one who was not only a true saint, but also a real civiliser, and not only a civiliser, but also a ruler of the highest class, strong in his nobility of character as well as of birth, a grand personality in those rude times, and a true Christian hero, powerful in word and deed to bring a barbaric people into the ways of righteousness and peace. The people over whom his spiritual influence extended were the Britons of Strathclyde, including a large part of south-western Scotland, and several counties in the north of England. The king's capital was Alcluith, or, as it was afterwards called, Dunbarton, the fort of the Britons; the spiritual centre was the city of St. Mungo, and the story of the life and work of this first bishop of an unruly, yet strong and capable, race, forms a bright and thoroughly human and beautiful episode in the early history both of Scotland and of Wales, whither he retired from persecution when driven for a time from Glasgow by the opposition of the King to form a new centre of influence in what is now known as the see of St. Asaph.

Kentigern died A.D. 603; and for 500 years thereafter Glasgow can scarcely be said to have a history. It is tolerably certain, however, that a small fishing village grew up on the right bank of the Clyde, and came into notice as a partially independent community in the very beginning of the thirteenth century. At this time the original church of St. Mungo had been replaced by another, probably wooden, erection, which not long after its dedication, in 1136, was destroyed by fire, and rebuilt again by Bishop Joceline, in 1197. But it is very doubtful whether the present cathedral, or any portion of it, existed at that time.[3] The fishing village just spoken of was the aboriginal source of commercial, as distinguished from ecclesiatical, Glasgow. Half a century later it had acquired something like municipal independence, or freedom from the tolls and customs levied by the still more ancient burgh of Rutherglen. In the latter part of the thirteenth century a bridge over the Clyde was built, probably of wood in the first instance. The town at this time, and for long afterwards, consisted of the residences of the clergy and their retainers, with the Bishop's Castle, all in the neighbourhood of the cathedral; with a straggling street extending in the direction of the river, and ending in the Fishergate or Bridgegate. Even in the middle of the fifteenth century, when its resources had been considerably developed, and the university founded, the town had a population probably not exceeding 2,000, and occupying very much the same area.[4] All around were the remains of the original forests, with all kinds of wild game, many marshes, and much uncultivated land. None but vessels of very shallow draught could navigate the river; for even at Dumbuck, twelve miles below the bridge of Glasgow, the Clyde was easily fordable on foot.

I do not mean to pursue this history further; but I ask you to contrast these small beginnings with the present city, or rather aggregate of cities, having a population of 750,000, numerous docks and shipbuilding yards, a wide range of varied industries, a commerce spread over every sea, almost innumerable churches and schools, and a university already 437 years old, and numbering more than 2,000 students. Out of that narrow river-channel, which was formerly fordable at Dumbuck, and which all the way down to Dumbarton was beset with shallows impeding navigation, there has within the last few days gone forth from the ship-yard of Messrs. J. and G. Thomson at Clydebank, without the slightest impediment, the *City of New York*, the largest vessel afloat, with the single exception of the unlucky *Great Eastern*. And this very *City of New York*, 580 feet long by 63½ feet beam, 30 feet draught, 10,500 gross tonnage, and 20,000-horse power, fitted up like a palace, and lighted throughout by electricity, is the descendant by evolution of the little *Comet*, which, drawing only four feet of water and driven by engines of three-horse power, was the wonder of the Clyde in the year 1812, and was only just able by careful navigation, to avoid getting aground in the state of the river at that time. But in order that I may avoid the imputation of unduly exalting, in this place, the city of my residence and occupation, I will conclude this part of my address in the well-informed and well-chosen words of H.R.H. the Prince of Wales, on the quite recent occasion on which he honoured us by opening, in person, our International Exhibition:—

"In the application of science Glasgow can point with just pride to the multifarious industries which have here found a home. To the widely different character of these industries, which secures to the population of this district immunity from many of the risks which necessarily attend devotion to one department of labour, it is only possible to allude in general terms. Here there exist and flourish side by side great establishments for shipbuilding, the production of marine machinery, locomotives, mill machinery, and other mechanical appliances for the working of iron and coal, for the production of mineral oil, the manufacture of thread, glass, and pottery, carpet-weaving, dyeing, and printing. It must not, likewise, be overlooked that Glasgow was the cradle of the steam-carrying trade with America and the great mercantile centres of the world."

Whether, then, we look to the old and historic ecclesiastical foundation of this city of Glasgow, or to its position as the seat of a university founded by Pope Nicholas V. in 1450-1, and still prospering; or whether we regard it as a modern city of commerce, handicrafts, and manufactures, we feel confident that in bidding you welcome to our precincts, we may claim to be and to appear to you, in the words of St. Paul, "citizens of no mean city."

The Physician as "Naturalist."

In seeking about for a topic on which I might occupy your attention this evening, I have been led to make some special reflections on the curious survival among us of an ancient way of thinking that is presented to the mind by the designation, in English, of the *physician*, or, as Chaucer has it in his well-known Prologue to the *Canterbury Tales*, the *Doctour of Physike*. I do not know if it has occurred to many of you to observe that in no other language than our own has this survival occurred. The surgeon—*chirurgus*—has, indeed, kept from a very remote antiquity the title which was given to him in the days of his subjection as the *hand-worker* or *operator* under the direction of the physician. But the most remarkable thing about this last, and conventionally the higher, title is that while it seems to recall a time when the medical art was distinctively associated in the minds of men with the study of φύσις, and when the healer of the sick was regarded as in a very special if not exclusive sense a *student of Nature*, it is very hard to discover from the traditions of language, either our own or any other, when this idea first took shape—how and when the notion began to be entertained that the most fitting title for the most highly honoured representative of the medical art was to call him, distinctively, a *naturalist*, or, if you will, a natural philosopher or *physicist*. It has occurred to me that it may not be an altogether unprofitable task for one who holds a chair in this University popularly designated as one of *Physic*, to inquire how the idea represented in this word *physic* came first into existence, and how it got floated into such a degree of popularity as not only to have practically displaced to a considerable extent in our own language the much older one of *medicine*—that is, healing—as applied to the art itself, but to have got itself into currency as applied to the very tools of the art, the drugs with which the physician, so called, was supposed mainly to work his cures. It is surely a very marked instance of what the late Archbishop Trench called the *degeneration* of words that in the course of ages all that nasty stuff which the Doctor Slops of the past made it a duty to send remorselessly down the throats of the lieges, whether in the form of pill, powder, or potion, should have got itself called by the name of *physic*—that is, Nature's remedies; while it

[3] Mr. MacGeorge, supported by the architectural authority of Mr. Honeyman, maintains that the present cathedral was not even commenced till after 1238, under Bishop Bondington; and that "the only portion which remains of the building consecrated in 1197 is a small pillar and part of the vaulting in the south-west corner of the crypt." *Loc. cit.*, p. 106.

[4] In 1450, and probably for long afterwards, Glasgow was regarded as a peculiarly healthy and attractive place. The papal bull founding the University speaks of it as "a place well suited and adapted to the purpose, on account of the healthiness of the climate, the plenty of victuals, and of everything necessary for the use of man." Even in the course of last century, travellers from the south are enthusiastic about the salubrity and the fine appearance of Glasgow, comparing it in these respects with Edinburgh and other places. We have not been accustomed to such compliments in these later days.

is the very irony of historical fate that this word, in this sense of it, should now be current in these islands only. "Throw physic to the dogs, I'll none of it," was not a phrase that would bear literal translation even in Shakespeare's time, I believe, into any other modern European language; but it perfectly represents the tradition of our own language in the time of Shakespeare, a century or more after Henry VIII granted their charter of incorporation to the Royal College of Physicians in London—a tradition which continues active up to the present hour.

If I propose to you to look with me a little into this historical question, it is not as a mere academical exercise in philology, though even from that point of view curious and interesting enough, but because it contains within this a further inquiry which, even in this nineteenth century, may be turned to profitable account in an assembly like this. I hope to be able to show you that these words *physician* and *physic* have relations with some of the very best and highest traditions of antiquity, and that it may be possible for us even now to make an application of them which will repay and at the same time justify their retention in the English language, although, it may be, tending also to discover certain deficiencies which still unhappily exist in our systems both of medical and general education.

My argument, in other words, will be this:—For a series of indeterminable ages, from the time, very probably, of Hippocrates downwards to what we call the Dark or Middle Ages, the tradition has continuously existed that the *healer* or physician of the highest class ought also to be, in a very real sense of the word, a *naturalist* or perhaps a man of *science* (physical science being, of course, understood); that it is his prerogative to be trained and exercised after the best manner and according to the most thorough discipline of the science of his age; and that he ought to be (or, at least, that he has been in very remote times) regarded as being admirable and trustworthy as a healer or physician, chiefly in proportion to the confidence reposed in him as a *naturalist*, that is, a humble, reverent, and exact follower and student of Nature.

The Hippocratic Tradition.—Anticipation of the "Novum Organum."

You are all familiar, no doubt, with the magnificent opening of the *Novum Organum*,[5] which ascribes to Man as the "minister (or servant) and interpreter of Nature," only so much either of power or of knowledge as he has gained by observing the order of Nature, outside of which he neither knows nor can do anything. Now, it is a curious fact, which has not escaped the editors of Bacon in recent times,[6] but which may require, nevertheless, to be brought to your notice, that the very word or phrase here used to designate the limitations imposed upon the *power* of Man in reference to Nature is the one which, in a very remote age, had suggested itself to Hippocrates as specially indicating the function of the healer. He is, he must be (according to Hippocrates), "the servant of Nature"—*ὑπηρέτης φύσεως*. Nor is this a mere accidental expression, which might be passed over as a coincidence not extending below the surface. On the contrary, the expression is taken up and specially commended by Galen (surely the best of all authorities on such a point) as being of the very essence—the key-note, as it were, of the Hippocratic teaching, with which all the later authorities (Aristotle and the Peripatetics), as he tells us, were essentially in accord. So that, as we are now being taught that Bacon was the real author of Hamlet, it might be a perfectly fair, if not actually verifiable, literary retribution to maintain that Hippocrates initiated the *Novum Organum;* or, at least, that the root-principle of all that is best in that great fragment was not only suggested but actually expounded and worked upon as the true method of medical science and practice more than two thousand years before. That Bacon should have derived this remarkable expression from Hippocrates (though he nowhere says so) is far from improbable, inasmuch as, scattered through his numerous writings, there are many evidences of his acquaintance, more or less exact, with the father of Greek medicine, of whom, in more than one place, he particularly notes the "ancient and serious diligence" in recording special cases, as opposed to the "much-iteration and small addition" of medical science in general, which, he says, has been "more professed than laboured, and yet more laboured than advanced; the labour having been, in my judgment, rather in circle than in progression."[7] But, in truth, Bacon's animadversions on the medical art are (as Harvey said of them) very much after the manner of a lord chancellor; and it is perhaps less of a marvel that he should have failed to indicate Hippocrates as the author of one of his own most pregnant sayings, than that he should have entirely overlooked and neglected the discovery of the circulation of the blood, which was being made and published under his own eyes; the direction of his thoughts as to medical progress, meanwhile, being in no single instance, I think, such as would approve itself to a modern nineteenth-century physician, or would appear to him to contain even the germ of any substantial improvement.[8]

But to return to Hippocrates and his remarkable declaration, that the *ἰάτρος*, or healer, is the servant of Nature (*φύσις*). This expression, as I have already said, is no merely casual one in the writings of Hippocrates; for, in one of the two places[9] in which Galen remarks upon it (probably six hundred years afterwards, and in the full knowledge, therefore, of all that could be said for or against the expression by rival sectaries) he does not hesitate to declare that Hippocrates was "*the first* to observe the works of Nature;" and that he "is always admiring and insisting upon the sufficiency of Nature, whereby what is necessary for the life of all animals is done *ἀδίδακτος*, that is, spontaneously and without apparently conscious effort." He thus places Hippocrates distinctly in advance of, if not above, Aristotle and the Peripatetics, in respect of originality in the study of *φύσις*; and he further maintains that Erasistratus, the Alexandrian anatomist, had adopted an inconsistent attitude towards Nature, and that his followers had exposed themselves to ridicule by their unintelligent criticism on what was simply a development, by the Peripatetics, of the *physiology*, that is, Nature-teaching of Hippocrates. It is not necessary to go into this old controversy now further than to show that, by the very fact of its having become a controversy at all, the position of the *ἰατρός*, or healer, as the "servant of Nature," must have been very well known not only to Galen but probably also to Aristotle; and through these to the Arabian physicians and to the whole of the Middle Ages, of which they were the teachers and lawgivers. And while a good deal of Galen's commentary is of course antiquated and little instructive for us here, there is a curiously modern look about one part of it, which shows that exactly the same great evils which have grown up about the art of medicine in later times, and on which I had something to say in my Dublin address of last year, had already become rife in the second century of the Christian era, long before the remoter East had sent us that long array of outlandish drugs, or *physic* (popularly so called); and with these the many ponderous tomes of medical philosophy, which were by-and-by retranslated from Arabic into Latin, and thus exercised a dominion alike over the scholars and physicians of the Middle Ages. Hippocrates, in Galen's opinion, was eminently right in calling the physician the servant of Nature; but this expression, he adds, "will apply only to the true *healer* and not at all to the mere *druggist*, who might more properly be called the enemy and adversary both of Nature and of the sick. For the healer acts only in view of the more continuous processes of Nature, in her innumerable ways of preserving the bodies (of animals), which (adds Galen), if I were to recount here, I should have to transcribe the whole of my treatises on the *Uses of Parts*. Therefore (he adds) it is not to be wondered at that Nature should be said (in the treatise of Hippocrates, on which he is commenting) to be all-sufficient; for he himself has written elsewhere, 'our natures are the healers of our diseases.'"[10]

[5] "Homo, Naturæ minister et interpres, tantum facit et intelligit quantum de Naturæ ordine re vel mente observaverit, nec amplius scit aut potest."—Aph. i.

[6] See note at p. 157 of Ellis and Spedding's edition of Lord Bacon's works, vol. i, 1870.

[7] *Advancement of Learning*, Book 2; compare *De Augmentis Scientiarum*, Lib. iv; but a far more depreciatory estimate of Hippocrates is to be found in *Temporis Partus Maximus*, chap. ii; Ellis and Spedding's edition, vol. i, 591, vol. iii, 373, 534.

[8] See the criticisms above referred to on the science of medicine, and in connection with some of these, the very singular exhibition of Bacon's own mind upon the subject in detail, in the *Historia Vitæ et Mortis*, vol. ii; and the Medical Remains at the close of vol. iii of Ellis and Spedding's edition.

[9] Galen, *Op.*, Edit. Kuhn, xv, 309, xvi, 35.

[10] Galen, *Comm. in Hippocrates*, *περὶ τροφῆς*, xiv. The isolated position of this last expression (so often ascribed to Hippocrates, though occurring in a work very certainly post-Hippocratic in date) might expose it to the suspicion of being an after-thought, and perhaps a graft from the Peripatetic or Aristotelian philosophy of "Nature;" but Galen's reference here shows that he, at any rate (by far the best authority we have on what was, or what was not, Hippocratic), recognised the often-quoted "vis medicatrix naturæ" as being distinctively on the lines of the older Hippocratic tradition. I may take this opportunity of acknowledging my great obligations to that most eminent and most admirable of medical scholars, Dr. Greenhill, formerly of London, now of Hastings, for some of these references.

Nor did Hippocrates, the Father of Medicine, escape the reproach which it has been so easy and so profitable in many ways to fling at those who, in a later day, have proceeded in accordance with his precept, if not his example. We hear chiefly from Pliny and Cælius Aurelianus of a certain Asclepiades, of Bithynia, a contemporary of Cicero, whose true character it seems rather difficult to decipher, but who at least may be said to have been a fashionable physician in Rome, with a brand-new system of his own. Asclepiades, whose *rôle* in the treatment of disease seems to have been one of constant interference, or, as we should say, of meddlesome physic, only (it is believed) using, as a rule, and in a temporising kind of way, the mildest and most agreeable of medicines,[11] had, of course, no appreciation at all of anyone who, in his character of a healer, professed to be a "servant of Nature." He said, in fact, that, in speaking of Nature as a kind of intelligent principle, Hippocrates was (not to put too fine a point upon it) talking nonsense. Nature is too often bent, not upon healing the man, but (as a witty member of this Association once said in my hearing) on putting him into his coffin! Hippocrates, as the servant of Nature, is simply a *waiter upon death* (θανάτου μελέτην). The true business of a physician is to "make himself master of the occasion;" that is, to shove old dame Nature out of the way, perform the cure *tuto, cito, et jucunde*, and claim all the credit, which, no doubt, he did in Rome, as the quacks in all ages have done everywhere, with great comfort and advantage to himself, and (let us hope) with the minimum of injury to his patients.

The truth and the falsehood that underlie this old-world argument I will not attempt to discuss this evening; having done so already on more than one occasion. I am alluding to it now mainly to show that the position of him whom we now call the physician, in reference to φύσις, was a well-recognised one long before the origin of the term *physicus*, as applied to him in the Latin of the Middle Ages and the French of the thirteenth century; from which, in all probability, we have derived our English word. What I have now to do is to inquire how far we are maintaining, in this nineteenth century of ours, the position assigned to Hippocrates by Galen (and, I have no doubt, rightly assigned) of being prominent among the seekers into φύσις, or, at all events, capable workers in this field, in accordance with the methods and advances of modern physical science.

The Physician in the Middle Ages.

It may be not unimportant for this purpose to remark that, so far as we can judge of him from literature, the physician of the Middle Ages, though retaining the name, was in a very small degree, if at all, cultivated according to the type. Chaucer's Doctour of Physike, though very far indeed from being a pedant, was assuredly much more of a *learned* than of a *scientific* physician. He was "grounded in astronomy (astrology)"; he spent much of his own time and his patients' in "magike naturel," which, though probably a very curious type of "physic," must not be supposed to be at all suggestive of the "black art" or of any kind of tampering with the powers of evil.[12] In other respects he was a "very parfite practisour," probably full of good common sense, and genial human nature, well up in the old Hippocratic doctrine of the *humours*, and in close relations with the apothecaries, "to send him dragges and his lettuaries"; but there is no hint of anything at all resembling genuine research (as we now understand it), nor even of the observation of natural phenomena in any really practical fashion. How, indeed, could there be, as we have every reason to believe that the thing at this time hardly existed? The fate of Roger Bacon in the century before Chaucer was an amply sufficient warning to the good-natured and easy going doctors of his time that anything like original research into φύσις was dangerous, nay, liable to be proscribed and punished with imprisonment, perhaps with the faggot, unless it proceeded exactly on the lines of St. Thomas Aquinas, the "angelic doctor." It was very much easier and more comfortable, in every way, to stick to Hippocrates and his "humours," where everything was sure and safe; and to add a little astrology, which at least was permitted, if not encouraged,[13] and could get no one into trouble. And when we come down more than a century and a half to Rabelais, two centuries to Montaigne, three centuries to Molière and Guy Patin, we find the position still much the same, or rather, in all probability, worse, as respects the *physician;* although surgery and anatomy may have been making some steps in advance. I apprehend that the doctor of medicine in the middle of the seventeenth century in France, unless he has been caricatured out of all recognition by Molière, must have been altogether the most stupid, pompous, brainless formalist that ever in any age of the world practised the art under a learned title. Scholastic lore, such as it was (and that, too, of a very poor and superficial kind) had eaten out the heart of him, and at the same time puffed him up into the *simulacrum* of a personage, who rode upon his mule with gorgeous trappings, and wore a robe, and surrounded himself with a wall of *etiquette*, which only served to conceal gross ignorance. The best of them, such as Guy Patin, Dean of the Faculty, who has left us a transcript of himself in almost innumerable familiar letters, were men of much conventional learning and good intentions, but wholly without insight, and tied up in chains of routine. The worst of them were, probably, what Molière describes, no doubt with pardonable and amusing exaggeration. Molière, indeed, could hardly fail to find out and make ridiculous for all time the weak points of such a medical *régime* as then existed. Everyone must remember M. Tomès in *L'Amour Médecin*,[14] who, when told as a matter of fact that his patient was dead and buried, replied that *that* was impossible, because Hippocrates had said that this particular kind of case was not fatal except on the fourteenth or the twenty-first day. Crushing rejoinder—"Hippocrate dira ce qu'il lui plaira; mais le cocher est mort!"—the force of learned folly could go no further. The satirical portrait of Thomas Diafoirus, which I have had occasion to quote before now,[15] and the magnificent installation of Argan in the *Malade Imaginaire*, remain for us and for our remotest successors, to show how the art of healing may degenerate under the influence of scholasticism, and how base a creature it was at least *possible* to represent a "physician" as having become in the days of Louis XIV., in the midst of a most brilliant outburst of literature and art, at the very time when Harvey's great discovery was slowly making its way against prejudices derived from the darkest of the Middle Ages, and the still overpowering authority of Aristotle and of Galen.

But at this time the Faculty of Medicine in Paris was probably the last retreat of obscurantism in all Europe, at least within the domain of the physician. In Italy, in England, in Switzerland, in Germany, in the Low Countries, the spirit of observation and experiment was awakening from a long sleep; and in many departments—anatomy, botany, physiology, surgery—things were moving on apace; but the physician was almost everywhere belated in the race. Even down to the last century, the man of *learning* (of

[11] He is reported to have been the inventor of the phrase: *tuto, cito, et jucunde*, as applied to medical treatment in general. But he also employed, according to Pliny, magical remedies to a great extent. (See *Le Clerc, Histoire de la Médecine*, 2nd partie, l. 3, cc. 4-7.)

[12] "Natural Magic," in Chaucer's day, was probably only a kind of astrological prognosis, and therewith (as the two succeeding lines show) an application of supposed means of cure resting upon the *arcana Naturæ* as then supposed to be accessible for this purpose. Although the "images" referred to may carry, even to our minds, a suggestion of the practices which were ascribed to the practitioners of witchcraft much later (even in the eighteenth century in the well-known case of Maxwell of Pollok, who was supposed to have been bewitched in some such way) there is no hint of this in Chaucer. But the course of history shows, and the famous Faust legend illustrates, the tendency of the popular imagination to associate "natural magic" with the supernatural; or, as Naudé puts it in his curious apology, to confound "la magie diabolique avec la naturelle." Naudé, *Apologie pour les Grands Hommes soupçonnés de Magie*; especially ch. 2. "De la Magie, et de ses Espèces.") Gabriel Naudé, the author of this most interesting and learned little work, was born in Paris A.D. 1600. He studied medicine in 1622-23, and in 1625 published the first edition of this book. He afterwards became librarian to Cardinal Mazarin.

[13] Judicial astrology, however, which (according to Naudé) was "l'enfant supposé de l'Astronomie," was (he says) very properly condemned by the Church, "non point comme suspect de magie, mais comme une science vaine et chimerique, *quæ stellis ea quæ geruntur in terrâ consecret*; qui veut penetrer dans nos destinées, et qui par la temerité qu'elle a de vouloir s'égaler à la Providence, en fouillant dans l'avenir, combat directement la Religion." So that Chaucer's Doctour of Physike was, perhaps, a heretic after all!

[14] It is worth while here to give the whole of this amazing dialogue, the point of which, as regards the present discourse, consists in the fact (I believe well-ascertained) that Molière had in view in M. Tomès (*i.e.*, the *venesectionist*) one of the four court physicians of Louis XIV., all of whom are caricatured under the thin disguise of Greek names carefully adopted to suggest to the audience of this particular play their most striking and ludicrous personal characteristics. "M. Tomès. Comment se porte son cocher?—Lisette. Fort bien. Il est mort.—T. Mort?—L. Oui.—T. Cela ne se peut.—L. Je ne sais pas, si cela se peut: mais je sais bien que cela est.—T. Il ne peut pas être mort, vous dis-je.—L. Et moi, je vous dis qu'il est mort et enterré.—T. Vous vous trompez.—L. Je l'ai vu.—T. Cela est impossible. Hippocrate dit que ces sortes de maladies ne se terminent qu'au quatorze où au vingt-et-un; et il n'y a que six jours qu'il est tombé malade.—L. Hippocrate dira ce qu'il lui plaira; mais le cocher est mort.' *L'Amour Médecin*, Act 2, Scene 2. Compare with this piece of admirable fooling the scene in *Le Mariage Force* (sc. 6), where the medical philosopher, Pancrace, overwhelms an unseen adversary with Aristotelian Billingsgate.

[15] Medical Education, Character, and Conduct. Introductory Addresses delivered to Students of Medicine in Edinburgh and Glasgow, 1885, 1868, 1882. Maclehose and Sons, 1885, p. 63.

the type of Linacre and Caius) in the Royal College of Physicians of London greatly predominated over the man of *science*, as exemplified in William Harvey; while Oxford and Cambridge, which alone could open the portals of the College, were absolutely *nowhere* as schools either of science or of medicine; and neither taught, nor professed to teach, anything but a mostly mediæval curriculum. And thus it came about, so late even as the year 1815, that the curious anomaly of the "double qualification" obtained a legislative sanction in English medical education. For, while in most European countries, the State and the Universities co-operated in arranging and controlling the issue of a single qualifying diploma for the general practitioner, the Royal College of Physicians of London was still too much the college of a learned *caste* to allow of their exclusive privileges being shared by any but University graduates; while the two great English Universities were altogether too helpless, as regards the necessary discipline of a medical career, to make it even possible for them to afford the slightest assistance. The Royal College of Surgeons, on the other hand, which had for ages concerned itself only with anatomy and surgery, to the exclusion of physic, continued on the even tenour of its way, including in its membership men ignorant of Latin, but instructed as regards fractures, dislocations, and surgical procedures generally; while the Worshipful Company of Apothecaries, cleverly perceiving and taking advantage of the enormous gap which was at once apparent between the technical discipline of the pure surgeon and that required for the all-round practice of the medical profession, marched into a position of legal independence through this gap, and, from being the humble servants of the physician, obtained for their licentiates not only the exclusive right to dispense medicines, but the status of prescribing them also, and thus a perfectly just and well-earned rivalry with the physician all over England. In Scotland we arranged matters somewhat differently; but the case of Scotland would imply a longer discussion than I can afford at present; and as I have already dealt with this contrast some years since, in another address,[16] I will pass it over now, at least in its political aspects. Fortunately, the sequel of the history, in so far as it dates from the Medical Act of 1858, is well known to most of us, and need not be here dwelt upon.

Modern Physic.—The Colleges and the Universities.

What I am chiefly concerned to bring under your attention, however, in this connection is that, according to the historical development, or evolution, of medical education in this country, and especially in England, the physician, in the sense of *Naturæ studiosus*, the devotee of φύσις, as aforesaid, stood a very fair chance of being altogether, and finally, suppressed and wiped out of existence. Before Linacre, in 1518, obtained from Henry VIII the letters patent which founded the Royal College of Physicians, we are told that the practice of physic was chiefly engrossed by illiterate monks and empirics; while the sole power of licensing practitioners of medicine lay with the bishops in their several dioceses; the survival of the power, as you know, remaining, up to a comparatively recent date, with the Archbishop of Canterbury in the Lambeth degrees. The charter of the College itself alludes to the "great multitude of ignorant persons, of whom the greater part had no insight into physic, nor in any other kind of learning"—who, nevertheless, rashly undertook and boldly practised the treatment of disease. But we may be nearly certain that Thomas Linacre, the pupil of Angelo Poliziano, the friend of Erasmus, the professor of Greek in Oxford, and the instructor in that language of Sir Thomas More, was not a particularly likely person to originate or to patronise the kind of studies which, a full century later, shed a lustre on the College and on England in the person of William Harvey; and, although it is on record that Linacre, about this time, founded lectures on physic both in Oxford and Cambridge Universities, it is also very certain that the origin of anything like a medical school, involving the teaching of the art in a practical sense, was of much later date, and that, up to the present century, nothing like an efficient medical discipline existed in either university; so that the learned graduates who formed the ruling body in the English College of Physicians continued (no doubt with many notable exceptions) to be distinguished more as the inheritors of the Hippocratic tradition than as the pioneers of a thorough and modern discipline, such as we now associate with the clinical and pathological study of our art. On the other hand, the very imperfect scientific training of the general practitioner, the early age at which he was often withdrawn from school, the distracting influence of the apprenticeship, and the tradesman-like habits arising from the mode of his remuneration, all combined in keeping the L.S.A. upon a much lower professional level, and led to the survival in England of a kind of polypharmacy, which was, up to a quite recent date, nothing less than a discredit to the whole medical profession in this country. As Dr. Graves remarked, within the memory perhaps of some who still survive: "The charge of inexperience is not necessarily confined to the beginner; it applies equally to many an old practitioner, whose errors have grown and increased in strength during a long series of years, because, from defects in his original education, from the absence of a properly directed clinical instruction, he commenced practice without having previously acquired the habit or power of accurate observation."

In an address which I had occasion to deliver to the students of this University, at the opening of the Session 1882-83 (*loc. cit.*, pp. 7, 17), I ventured to claim, on behalf of three of our great academic centres in Scotland, to have anticipated, in no inconsiderable degree, the Medical Act of 1858, in rectifying the more glaring of these defects in medical education. I concede at once that the Scotch graduate or licentiate was by no means an ideal "Doctour of Physike;" and that, according to the standard of the Royal College of Physicians, he was long very deficient in some of those refining influences which, drawn from a remote past, formed the character and moulded the career of such men as Linacre, Sir Thomas Browne, Sydenham, Mead, and Heberden. I concede also that he was for long, and perhaps still is, more or less wanting in the technical completeness of what is called the art of prescribing—the skill which enables a man to polypharmacise—if I may venture to coin a word, which I will further explain in terms of Voltaire's sarcastic phrase—neatly and profitably to put much physic and many complex mixtures, of which he knows little, into a body of which he knows less. But we claim for the Scotch graduate that, in the discipline of the art of medicine, he has, for several generations at least, been accustomed to make a good and a serious beginning, by means of a regular academic curriculum, in which a foundation was laid for "physic," in the systematised study of certain departments of natural science. No doubt there were difficulties in the way, even of attempting so much when, in England, the accepted type of medical discipline was that of the "surgery-boy,"—the apothecary's apprentice for three years, finished off by one year in a London hospital.[17] But in the middle of last century, when Willam Cullen, and after him Joseph Black (the discoverer of latent heat), and after him Thomas C. Hope (the first investigator of the law of expansion of water according to temperature), became professors of chemistry, and then of physic, first in this University and afterwards in Edinburgh, it could not but be that a great impulse should be given to the idea that a physician was bound to learn, at least, *something* which could be dignified with the name of science, more or less exact, about the constitution of the world in which he lives, and the instruments with which he professes to work cures upon the human body. In point of fact, we know that such an impulse *was* communicated, and that in the Scottish Universities chemistry, as a science (and perhaps also botany), have never lost a distinctive place in the medical curriculum from that day to this. I wish I could say the same for physics proper—natural philosophy, as we call it—which has been, comparatively speaking, left out in the cold, or treated as a step-child. But in botany we have had at least one opening into the sciences of observation, which, though often depreciated by sciolists and persons calling themselves "practical men," has maintained its ground among us, and has had added to it more or less of zoology, of comparative anatomy, and of natural history in general. Again, I concede that these things have often been very imperfectly done, at different times, in our Scottish universities; but in the mere attempt to do them at all, and to fulfil a regular four years' curriculum with these as its basis, instead of the old, old wearisome variations upon the aphorisms of Hippocrates, and the controversies, ending in smoke, of vitalists, and solidists, and humoralists, I ask you to accredit the Scottish universities with something like a new departure in the academic discipline of the physician.

I might enlarge upon this topic, but that I am not really so anxious, upon the present occasion, to dilate upon what has been done in the past as to inquire what is still wanting to bring about the professional ideal of the physician's training. I happen to

[16] Introductory Address for 1882-83 (as cited above), pp. 10-13.

[17] See the description of this type, as still existing "five and twenty years ago," from an evidently English hand, in the *Times* of October 3rd, 1882; and my remarks upon it, delivered a few weeks afterwards, in the address above referred to.

have been closely considering this subject lately, with a view to the education of a son of my own; and without attempting to justify my opinions in all respects in detail, I will, as it were, think aloud for your impartial consideration some of the thoughts that have been passing through my own mind, even if in a crude and undeveloped form.

What is still Wanting in the Training of the Physician.

From the earliest days of my experience as a teacher it has been customary with me to use expressions and to act in a spirit, of which you may readily judge for yourselves from the following brief paragraph, taken from an address to students of medicine, delivered more than twenty years ago:—

"The first lesson to be learned in order to make all other lessons possible is, in my opinion, this—to deal very largely with things and not with mere words; to realise as much as you can all your instruction by making it your own through personal observation; to suffer nothing, if it can possibly be avoided, to lie in the mind as a dead weight of vocables, oppressing the memory and dwarfing the intellect; but to bring everything into the living light of fact and of Nature, and thereby at once to assure to yourself the truth and exactness of your knowledge, while at the same time you are stamping it down upon the memory by the most sure and lasting of all technical methods."[18]

These words are not cited now as containing anything at all original or profound, but simply as an illustration of the spirit that, for a generation past or more, has ruled in the teaching of the Scottish universities. It is, in the very next line of the address, presented to the minds of our *alumni* of 1866 as "essentially the modern spirit of scientific inquiry, in virtue of which alone you can rise out of the dogmatisms and orthodoxies of the past, to make secure and beneficial progress in the knowledge of your profession." If you agree with me that these words are not in themselves inappropriate, nor yet extravagant or fallacious, as applied to our art, and that they come fitly from one who followed in the line of succession, as an academic teacher, to William Cullen and Joseph Black—then I will ask you to go with me one step further, and admit that during these hundred years past the Scottish universities have been, with more or less success, and amid considerable discouragements, labouring, on the whole, to build up again the great and noble ideal of the *physician* as *naturæ studiosus*, a Nature-seeker (Natur-Förscher) as the Germans call it; and this, in accordance at once with the most modern methods and the most ancient and venerable traditions of the Hippocratic age.

No one can be more ready than I am to admit that there are, nay, that there must be, limitations in the very nature of the case to the too absolute recognition of this ideal. It is said by some that the spirit of modern science is ungenial and hard, even pitiless, and therefore not at all fitted for the ministrations of humanity; that it tends to make the suffering man, the *patient* (as we call him), into a mere *case*—a thing to be observed and noted rather than a man of like passions with ourselves, and therefore to be treated with consideration and sympathy. There may be just a grain of truth in this; and to whatever extent it is true, we of this medical school claim to be aware of the fact, and to be ever on our guard against the tendency. But none the less it may be affirmed with entire truth, and with cumulative evidence if need be, that all the evils inflicted on poor suffering humanity by the physician as scientist have been but a drop in the bucket as compared with those which have sprung from the too slavish adoption of traditions, in which there never was any trace of the scientific spirit at all. The physicians satirised by Molière were very surely far more open to the charge of professional callousness than any of those in the present day who have been remarked upon as presenting, in their more favourable aspects, the tendencies of modern science. But it may be quite frankly conceded that when the physician, whether ancient or modern, has forgotten the claims of humanity, he is to be condemned alike, whether he proceeds along the lines of authority and scholastic tradition or according to the innovations of science and experiment. Moreover, it is certain that the day has long gone past when the physician, as healer, can expect for a moment to rival, or even to come into competition with, the scientist—the *physicus* in the etymological sense of the word—on his own ground. All that can be reasonably asked for him in these days is that he should be open to the influences, and should work in the spirit, and be subject to the corrections of the more exact sciences, in so far as they are applicable to the functions of the human body, whether in its sound or in its pathological condition.

I will venture in advance (although I know as yet but little more than the general subject on which he is to speak) to commend to your notice the forthcoming Address in Physiology by my esteemed colleague Professor McKendrick, as a sample of the kind of instruction which we of this university and medical school consider to be among the legitimate developments of the study of φύσις, as applied to our art. But in doing so I shall venture to anticipate, because I am well assured that anything I can say here will only give expression to what will still more clearly emerge from that discourse, some of the discouragements to which I referred a moment ago—the difficulties we experience in training our students adequately on the lines we have laid down for them. These difficulties are manifold, and they are not of our making, nor are they peculiar to Scotland. I have only time now to refer to two of them.

The first of these difficulties belongs to the medical curriculum, in which, although chemistry, botany, and natural history have long been with us a necessary part and, so far as they go, a well-conceived and valuable scientific basis for the more technical part of our teaching, nevertheless physics proper—or, as we call it, natural philosophy—the very first step in the study of the laws of matter, is still but very imperfectly recognised. This great omission has arisen, no doubt, from the fact that these laws were supposed to be taught, and in a measure were taught, in connection with chemistry, which, from its old hereditary relations with pharmacy and the pursuit of the philosopher's stone and the elixir of life, had from time immemorial a claim on the physician. But when we consider how completely modern science has demonstrated the subordination of living bodies and physiological processes, not to a wholly detached set of laws termed vital, but to all the most elementary laws of matter; and, further, the correlation of all the physical forces throughout the universe, so that the living body and its environment act and react on each other throughout infinite space and time, it will be readily admitted, I think, that some kind of systematised instruction in physics, and not a mere elementary examination in mechanics, should be an essential part of an education with a view to the medical profession. And when we further consider that most of the great advances in medical diagnosis in the present day, through the stethoscope, microscope, laryngoscope, ophthalmoscope, sphygmograph, electricity as applied to muscle and nerve, etc., involve applications of pure physics which are neither remote from practice nor yet very easily mastered by the beginner; and that, in the case of electricity and other physical reagents, even heat and cold, etc., we are every day extending the domain of these sciences in therapeutics, and still more perhaps in preventive medicine and sanitary science, their claim for an extended recognition in teaching seems to be enormously enhanced. I am persuaded that in a very few years the physical laboratory will become an absolutely essential preliminary step in the education of the physician of the future, and that those who have not undergone this training will be hopelessly distanced in the race.

But this leads me directly to the other difficulty, or disadvantage, under which the Scottish universities have hitherto laboured in endeavouring to restore to the healing art its ancient association with the study of Nature. And this is by far the graver difficulty of the two, inasmuch as its rectification depends in no degree upon us or upon any possible change in the medical curriculum, but upon what amounts to a practical readjustment of the entire edifice of general education.

Want of Early Training in Physics and Natural Science.

The evil to which I now refer, as some of you have already, no doubt, perceived, is the extremely unprepared state in which the minds of most boys and young men are found at the time of their leaving school as regards the most elementary truths and methods of physical science and of the observation of Nature. It is now more than a quarter of a century since this great defect in the English public schools attracted the attention of a Royal Commission appointed in 1861, and there is no reason to suppose that in Scotland at the time in question the state of school education was in this respect much better than in England. "Natural science," the English Commission reported, with some slight exceptions, "is practically excluded from the education of the higher classes in England. Education with us is, in this respect, narrower than it was three centuries ago, while science has prodigiously ex-

[18] *Medical Education, Character and Conduct*, etc., (*ut supra*), p. 70.

tended her empire, has explored immense tracts, divided them into provinces, and made them accessible to all."[19] About the same time that this Commission was appointed to inquire into the public schools, a most unfortunate result followed the application of the revised code of 1861, both as regards the training colleges and the elementary day schools. Evidence of the most convincing kind was given in 1872 before another Royal Commission to the effect that "the limitation of the examinations (under this revised code) to the subjects of reading, writing, and arithmetic unfortunately narrowed the instruction given in the elementary schools; and that this change, together with the lower standard adopted in the training and examination of pupil teachers, and the curtailment of the syllabus of the training colleges, exercised a prejudicial effect on the education of the country."

The recommendations of this last Commission,[20] presided over by the Duke of Devonshire, and commonly called by his name, were directed not only to the exposition of these evils in detail, but to their remedy; and it is not to be denied that some improvement as regards science teaching may have followed from these and other investigations conducted under public authority, and with great care and impartiality. Yet in 1885 a most important and instructive presidential address was delivered to the British Association in Aberdeen which, amid a great deal of brilliant and elaborate argument on the general subject of science as an element in the prosperity of nations, contained these words:—"The Commissions of 1861, 1864, 1868, and 1873 have expressed the strongest disapproval of the condition of our schools, and, so far as science is concerned, their state is much the same as when the Duke of Devonshire's Commission reported. . . . . No doubt there are exceptional cases and some brilliant examples of improvement since these words were written; but generally throughout the country teaching in science is a name rather than a reality. The Technical Commission which reported last year (1884) can only point to three schools in Great Britain in which science is fully and adequately taught. . . . . A return just issued, on the motion of Sir John Lubbock, shows a lamentable deficiency in science-teaching in a great proportion of the endowed schools. While twelve to sixteen hours per week are devoted to classics, two to three hours are considered ample for science in a large proportion of the schools. In Scotland there are only six schools in the return which give more than two hours to science weekly, while in many schools its teaching is wholly omitted. *Every other part of the Kingdom stands in a better position than Scotland in relation to the science of its endowed schools.* The old traditions of education stick as firmly to the school as a limpet does to a rock, though I do the limpet injustice, for it does make excursions to seek pastures new."[21]

It would have been extremely presumptuous in me to have asked your attention here to statements like these had they been made on my own authority, as the result of a necessarily limited personal experience; but when I add that these are the words of Sir Lyon Playfair, carefully considered, and advanced under all the sense of responsibility that can attach to a member of several governments, and from the Chair of the British Association only three years ago, it seems difficult to evade and impossible wholly to set aside the force of their appeal. I am well aware, indeed, that in Scotland, and even in our own city of Glasgow, there are schools which have already made some considerable advances in the direction here indicated; and that in the old High School of Glasgow, in particular, there exists now a chemical laboratory such as would do no discredit to any university. But, as regards the schools throughout the country, the advance has been so slow that, for a long time to come, our boys will leave their schools and our young men will continue to enter the universities in a state of great mental unfitness to grasp even the most elementary ideas of physical science, and therefore requiring more than ordinary care to ensure, at the very commencement of a medical education, the preparation in *physics* which will shortly become all-in-all to the true *physician*.

Faraday's Evidence in 1862.

Although I cannot here even attempt to discuss this matter as it deserves, I would fain hope that this mere allusion to it may induce some of my hearers to peruse some part of the evidence laid before the Devonshire Commission,[22] and even more, perhaps, that of a great number of eminent authorities who were examined at great length by the Public Schools Commission in 1862.[23] In particular I would direct attention to the words of one who has "built himself an everlasting name" not only as a profound and original investigator in physics, but as the most attractive of teachers. It might well have been thought impossible that Michael Faraday, speaking with earnestness and conviction, though with the modesty of one who confesses himself at the outset to be "not an educated man," should be even as "a voice crying in the wilderness." Yet it was so. It appears in this evidence that in 1855, more than thirty years ago,[24] Faraday drew attention to the fact that the most highly educated minds in this country were often so entirely undisciplined in the merest elements (the A B C, as he expresses it) of the knowledge of *things* as opposed to *words* and *abstract ideas* that these minds in mature age remained impermeable to truths which to one with any scientific discipline at all were all but axiomatic. The "want of judgment in natural things" (as he calls it), the "great deficiency in the power of giving the reason why"—were such among the educated class as often to defeat the ends of justice in courts of law, and to lead to the most humiliating exposures of confident ignorance and presumption in matters of fact; and all this in the case of persons who had received every advantage, and who, in all kinds of learning and in the discipline then provided in the schools, stood in the front rank of Englishmen. And this deplorable result—this all but entire omission to educate one side of our many-sided human nature—was as gratuitous and wilful as it was deplorable. For Faraday had abundantly satisfied himself, through his personal experience as a teacher in the Royal Institution, that these elementary ideas, this primary cultivation of the "judgment in natural things," was a discipline not only easily conveyed into the minds of children, but even having a quite peculiar fascination for them. "The young mind," he says, "as I find it.....is very observant and asks most acute questions. I do not find it, generally speaking, backward to understand a statement I make in simple language; and if I tell him this or that... and then shape it into a question, he can generally answer me. I must confess to you that I find the grown-up mind coming back to me with the same questions over and over again.....Their minds are not prepared to receive or to embody these notions, and that is where you want education; to teach them the A B C of these things.....I never yet found a boy" (he says in another place) "who was not able to understand by simple explanation and to enjoy the point of an experiment."

I am almost sorry that I cannot here trespass more largely on your time in quoting samples of this most remarkable evidence; but I will only detain you one moment longer over it in order to ask, Is it not most strange that we are able, many of us, to hear these things in 1888 as if they were a perfectly new and fresh revelation of the capacities for education, in a scientific sense, of the minds of our children? How many of our own boys and girls, in the best schools that we have been able to send them to, have been in the way of securing even a moderate amount of the *kind* of discipline—the A B C of science here alluded to? For, observe, Faraday makes it an absolute condition of the training he proposes that it shall be *real* of its kind—that is, *experimental* and not *doctrinal*. And here arises the great difficulty—where are you to find the teachers? "You want men who can teach," he observes, "and that class has to be created." Again, "Lectures depend entirely for their value upon the manner in which they are given. It is not the matter, it is not the subject so much as the man." And yet again, "Everything in these matters must depend upon the spirit and the manner in which the instruction itself is conveyed and honoured. If you teach scientific knowledge without honouring scientific knowledge as it is applied, and those who are there to convey it, you do more harm than good. You only discredit the study and the parties concerned in it."

Faraday was perfectly well aware of the difficulties of detail that his views would have to encounter—the obstruction arising

[19] *Report of the Public Schools Commission*, p. 32.

[20] *Second Report of the Royal Commission on Scientific Instruction and the Advancement of Science*, 1872. p. 9, section 8.

[21] Address by the Right Hon. Sir Lyon Playfair, K.C.B., M.P., F.R.S., President. *Report of the Meeting of the British Association for the Advancement of Science*, Aberdeen, 1885, pp. 7-8.

[22] *Sixth Report of the Royal Commission on Scientific Instruction*, 1875 (dealing with the teaching of Science in Public and Endowed Schools).

[23] *Report of H. M. Commissioners appointed to Inquire into the Revenues and Management of certain Colleges and Schools, etc., with an Appendix and Evidence*, vol. 3; Evidence, Part 2; General Evidence, p. 363, including that of Dr. W. B. Carpenter, Sir Charles Lyell, Faraday, Hooker, Owen, and others.

[24] In a lecture delivered at the Royal Institution, in presence of Prince Albert, and handed in to the Commissioners on Public Schools: Evidence (as above), p. 376.

from the incompetency of the average schoolmaster[25] even to take in the idea of the importance of elementary science as a discipline when properly taught, and to assign it, accordingly, a fair amount of time in the scheme of education. Although "not an educated man" (according to his own statement), he was a clear-sighted one, even where he had no personal experience. "I should be very sorry," he says, in answer to Sir Stafford Northcote, "that the introduction of science should be an injury to any other branch of knowledge. I say it in those general terms because I have not experience enough to know what the effect will be. As a general impression,.....I think that one-fifth certainly of the time which an individual devotes to study should be devoted to the attainment of natural knowledge. In what shape you should give it I cannot say. I think that in less than half a century it will deserve and obtain far more, but I am not for doing hastily an injury to the schools as they are at present established. Nevertheless, I beg you to understand that I am a very imperfect judge on these matters."

I venture to place before you these words from an almost forgotten Blue Book, because they seem to me as fresh as ever in their lesson to us now, as regards the training of the physician of the future. Moreover, by the very modest as well as the true wisdom inherent in them, they convey an implied rebuke to the arrogance and all-sufficiency of science in its own eyes, as much as to the traditional dogmatism and quasi-authority of the schools as then existing. Moreover, they afford a cover for one who is no Faraday, but who has a very abiding sense of the importance of Faraday's view of the position, for pleading in behalf of this before the British Medical Association. Personally, I have long held the view that no child is too young to take in what this consummate master of science calls the A B C, that is, the methods and some of the simpler processes of science; the manner *how* and the reason *why*, as Kingsley puts it; and in the ever-expanding cycle of the human faculties, from infancy upwards, it is quite curious to see how these, if they are not artificially interfered with and stunted, work into a spontaneous and (I believe) wisely-ordered harmony with all that is best in the linguistic and more commonly received scholastic elements of education, so that, far from suppressing, each of them protects, supports, and even nourishes the other. But our present programme of school discipline is still too largely founded on the idea that at six or at seven years old, as the case may be, a child may be withdrawn, in a great measure, from this strictly natural, wholesome, and all-round education of the faculties, to have his nose buried for ten long years in books and papers and mental and other arithmetic, till his little eyes become myopic, and his little brain suffers a corresponding deformity. Athletic sports, as a counterpoise, are no doubt good, and industrial training better, in some cases, especially for the children of the poor; but they do not supply the "missing link," which can only be found in the early discipline of *φύσις*, pursued in the very spirit of Faraday. And here it is, therefore, that I think the physician, by returning in some measure upon the old, the oldest, lines of his professional discipline, may establish a strong claim to be heard, even in the matter of early scholastic training, as against the too narrow view of the professed educationist. He will at least have as strong a claim as the old Scotchwoman, who (no doubt in the interest of *φύσις*, though possibly she knew it not) is reputed to have ventilated her dissatisfaction with the received methods in the education (so-called) of one of her boys at the parish school in these pithy, if not sapient, words: "Sin' ever he gaed to the schule, his edication's been stopit a' thegethir!"

Religio Medici.

I have now to ask your attention for a very few minutes only to a concluding topic which I approach, indeed, not without fear and trembling, but which is of too much prominence and importance in itself, in connection with the subject of this address, to allow of my passing it by without some reference.

Probably there may be some of you here present who have been led to take note of a proverb which I am bound to say I have not been able to trace to its source, but which I suspect to have been the growth of that mediæval period to which allusion has already been made in the course of this address: "Ubi tres medici, duo athei." I am not concerned in tracing out for you, even if I were able to do so, the most probable origin of this defamatory saying; nor shall I spend many words in venting my honest indignation upon it as a calumny and a reproach. It will be wiser and more profitable in every way to take it as it stands —as an example of what the late Earl Russell said of proverbs in general—"the wisdom (or in some cases the foolishness) of many," accentuated and condensed into a telling phrase by "the wit of one." From this point of view, it may be that there is something more or less worthy of careful reflection in this proverb, even if we should disown it in its literal acceptation. But I need scarcely say to those who are at all conversant with philosophical studies, that to have been accused of atheism in the Middle Ages may be quite the reverse of a real reproach to any man or set of men. From the time of Socrates downwards, indeed, this reproach has been a part of the stock in trade of vindictive, even if sincere, ignorance and bigotry all over the world; and to have been tabooed with atheism is often, almost without qualification, a passport into the ranks of those who have kept alive the flame of the human spirit, tending, and often vainly struggling, upwards, to escape from the jargon of scholastic controversies, and the mephitic vapours of ecclesiastical strife. From this point of view it was inevitable, nay it was essential, that the physician or naturalist, in so far as he really was, or aimed at becoming, such should incur this reproach. The marvel rather is, to us of this 19th century, that those who incurred it should have done so little to deserve it. The reproach, from a philosophical point of view, inconsistent with atheism, but not seldom conjoined with it of tampering in an evil sense with magic, was sure to be launched, in those days, at men who professed to be successfully investigating the "secreta Naturæ," by other than the most orthodox methods. And the prosecution and imprisonment of Roger Bacon, on the one side, and of Galileo on the other, not to speak of the numerous "martyrs of science" both before and after these, will remain as an imperishable record of the blind and impracticable spirit of mediæval dogmatism, which, covering itself with the mantle of religion, stood athwart the path of the physician for hundreds of years. But although the condemnation on the side of godlessness came most easily and naturally out of the mouths of ecclesiastics, it is not by any means to be inferred that, either in ancient or modern times, it has been confined to them. Even in the kindly and thoroughly human word-picture, drawn for us by Chaucer, of the typical "Doctour of Phisike," in the Prologue to the *Canterbury Tales*, (line 440) it comes out, that while

> Wel knew he the old Esculapius,
> And Dioscorides and eke Rufus,
> Old Hippocras, Hali, and Gallien,
> Serapion, Rasis, and Avicen,
> Averrois, Damascene, and Constantin,
> Bernard, and Gatisden, and Gilbertin—

Yet, alas! as a sad balance in the way of defect to all this learning of ancient, and also of then quite modern, date, it is quaintly and humorously added in a single line, without even an attempt at amplification or excuse, that

> His studie was but little on the Bible.

I had the curiosity to submit this passage to the judgment of two of the most noted students of early English literature—one of them perhaps the best living authority on Chaucer—that I know of in these islands, with the remark that in an age when the study of the Bible by lay persons is supposed to have been discouraged, if not proscribed, by the Church, it is curious, to say the least, to find this made matter of reproach, or even of satirical reflection, at all. The replies of both were alike instructive and quite in accord; but I give you *verbatim* that of the more professed Chaucerian, as being both brief and exactly to the point.

"Chaucer, I fear," he writes, "was not altogether above popular prejudices, and among those to which he fell a victim was one which is as venerable in age as it is enduring, and to which the Emperor Napoleon gave expression during his last days, when he said of his physicians, 'Ces messieurs qui ne croient à rien.' Chaucer's Doctour of Phisike was very respectable and very well read, but he was something of a materialist. It is, I think, a mistake to suppose that in Chaucer's time the Bible was a closed book to the laity in general. Even before Wiclif there were at

[25] On this point his words are definite enough, though I have refrained from inserting them in the text. "I am often asked," he says in answer to Question 22, "what men to recommend to spread a knowledge of natural physical things. I cannot recommend such; such men hardly exist at present. They want the A B C of science, not the X Y Z; they want the first elements. If I give a juvenile lecture, I lecture in as plain terms as I can to children, and I simplify as far as I can the ideas; *but men are not educated as yet to do that: the ordinary schoolmaster does not know how.*" And in another place he says of the ordinary school discipline, "It does not blunt the mind, but it so far gives the growing mind a certain habit, a certain *willingness to accept general ideas of a literary kind, and to say that all the rest is nonsense*..... It takes up the general impression that a *certain kind of knowledge, what I call the real knowledge, the knowledge of things, is of no importance.*" Qu. 80, 81.

least paraphrases in plenty. As to the learned, they certainly studied it, and the satire of Chaucer against the Doctour of Phisike was that, while he took kindly to all sorts of learned books, he instinctively turned a cold shoulder to one where he would find something besides learning."[26]

This, then, is the position and the stigma that we have to deal with as physicians or students of Nature and science in the present as in all former ages, in proof of which you will allow me simply to refer (without at all dwelling upon it) to an article in the actually current number of the *Contemporary Review*.[27] I will, therefore, close this address with a very few thoughts of my own on the subject, not at all in the way of controversy or of recrimination, but as expressing the matured convictions of a lifetime on a theme which must needs come home to every man's conscience in the exercise of our profession, and on which I should despise myself if either the desire of saying smooth things, or the fear of saying the opposite, were to move me in the least degree in addressing an assembly like this.

That the active ministry of the *healer*, if fitly and diligently pursued in a serious and not a sordid spirit, cannot possibly tend to irreverence, or to what I would call essential atheism or godlessness, is, I think, so obvious that it is only wonderful that any doubt should ever have arisen on the subject. That ministry is the ministry of the body, no doubt; physical, therefore, in its aim; physical also, to a certain extent, in its limitations; and I am not one of those who would argue that, because it is so, the physician is thereby degraded and straitened unless he is also constantly invading the province of the religious teacher. But when we consider how closely the one province trenches on the other; and further, that in all the greater and graver crises of the lot of man on this earth—birth and death, sickness and health, moral contamination producing disease, and, on the other hand, physical disease inducing moral aberrations, and, with or without these, positive insanity—we must acknowledge that the spiritual element in man is brought, necessarily, into the sphere of the physician's daily work. I am confident there is not a man in this room who will not emphatically agree with me in saying that a physician who even inclines towards irreverence as his habitual attitude of mind is thereby disqualified from performing aright the greatest of all the services that at times he can render to the sick. I am not saying—because I do not know—how it may have been in times such as the age of Chaucer, when the iron tyranny of the Church made independent and personal convictions often impossible to a physician conversant chiefly with his art; or in the age of Napoleon, when the disintegrating and revolutionary forces which still prevail largely in France were almost at their maximum of destructiveness; but I do say that in this our own time and country, when the thoughts of men, however distracted in details, are seriously bent upon the greatest of all questions involving both time and eternity, the practising physician who can treat these questions with unseemly levity, or who even stands aside and says that they are out of his reckoning altogether, is an anomaly, and, to that extent, a man out of his place in our social system and atmosphere. But I desire to qualify this statement with another, which may or may not appear to some of you to be opposed to it, that in the case of the man of pure science, or the absolutely devoted naturalist, I can easily recognise, even in the most advanced agnostic (in his own estimation), one who in the confusions of the present time is really pervaded by what I make bold to call a divine spirit; one who in the search after truth and fact (as they are in Nature) is so regardful of these and these alone that he refuses to commit himself to positions in abstract thought that may seem to himself, or to others, to carry implications opposed to the perfect impartiality of his research. I will not here name living men, to whom, in my opinion, or (I would almost say) according to my knowledge of them, this description is fairly applicable. But in the case of one great man, at least, who has lately passed away from our human and temporary judgment, we have been favoured with the most ample materials for seeing into the innermost recesses of a very noble character; and I say here, without a moment's doubt or hesitation, that a man who will, in the face of this evidence, call Charles Darwin a merely atheistic, an irreligious, or an irreverent man pronounces thereby a most severe criticism on religion itself and an implied condemnation on half the saints in the calendar, to whichever of the churches he may pin his faith. For in Charles Darwin (however we may explain it) we have, if his character is carefully and charitably studied, a man of the very stuff and moral fibre of which the most eminent saints are made. Grant, if you please, that he fell away from the conception of God as entertained by you, and to that extent came short of your ideal of humanity and of what you call saintship; no one was more sensible of this, or more candid in confessing it, than he was himself, when he described a large part of his own higher nature as having become (as he said) "atrophied" in the life-long course of developing his other faculties, which he almost with a grim humour (as one might say) described as those of "a machine for grinding large general laws out of large collections of facts."[28]

But, while you learn to use the lessons, grave as they undoubtedly are, of this magnificently candid avowal on Darwin's part, do not close your eyes to the life-long and unswerving devotion, amid pain and physical disabilities, to the work that was given him to do; the constancy, the transparent simplicity of character, the courtesy under differences of opinion, the chivalrous self-repression in argument, the consummate sense of justice, the abiding conviction that truth (shall we not say for him, God's truth) stands far and away above the level of human passions and infirmities in expressing or defending it; above all, take note of the abounding, the almost inexhaustible charity (in the highest Christian sense of the word) of that sweetly-composed nature, whether as shown in his published works, in his correspondence, or in the sacredness of the domestic circle; and then say for yourselves in what hierarchy of canonised saints you will find many that are his superiors, or even his equals, in all of these eminently Christian virtues and graces taken together. May we not say, then, that the life and work of Charles Darwin are a permanent lesson to all of us, whatever we may think of his theories and his confessedly somewhat agnostic position, not to restrict too much our own conceptions of what may or may not enter into the religious idea of a man's life here, but to leave it in all humility to one who looks on the various phases of man's aspirations "with larger, other eyes than ours," and by whom it is at least possible, if not probable, that in this our day (as in more ancient days) the current readings of the religious character may be weighed in the balance and found wanting, when in the Kingdom of God the "first shall be last, and the last first?"

I have not made this allusion without a definite purpose, though feeling that I am on dangerous ground, on which there may be some reasonable hesitation in admitting that one who has intellectually lost hold of some of the most central truths of religion, may nevertheless retain a more than ordinary share of its innermost spirit. But, if (as I am most ready to admit) the life and work of the great modern apostle of evolution tend towards the belief that science in these days, and especially the study of natural phenomena in the organic world, make, on the whole, rather for the weakening and dissolution than for the building up of religion, then it will assuredly be the part of the physician of the future to act as the mediator between the destructive and the constructive influences. Although he can never again become what he was in the early ages, the sole or the chief representative of physical science, he must always be, and must become more and more, a man trained in its discipline and familiar with its resources; while, on the other hand, his close relations with suffering humanity, and with the awful and solemnising ministrations of life and death, will serve to keep him in a region apart from that of pure science, and one in which, from day to day, the voices from the unseen world (if he will only listen) will be ever sounding close to his ears. It is not for me, here and now, to show how this work of conciliation is likely to be undertaken or to be accomplished, but that it must needs be undertaken, and that it will ultimately be accomplished no one can, I think, doubt who has not allowed himself to become, as Darwin puts it,

[26] My other correspondent writes, *inter alia*, as follows:—"The like was said of the Arabian physicians who, with the Greeks, were up to and after Chaucer's time the chief sources of medical opinion. Averroes cared more for Aristotle than for Mahomet, and was said to have expressed the wish for his soul—"Moriatur anima mea morte philosophorum." He is said to have called Christianity an impossible religion, Judaism the religion of children, and Mahomedanism the religion of pigs. Averroes died about 1216, but the Arabians before him bore the like character for putting science in the place of religion. When the studies of the Saracens were influencing in many departments of thought the best minds in Europe, the physicians among us based, necessarily, their science on the teaching of the Greeks and Arabs, which would give them speculations upon Nature that must often have been out of accord with mediæval orthodoxy."

[27] "The Scientific Spirit of the Age," by Frances Power Cobbe, *Contemporary Review*, July, 1888, p. 126.

[28] *Darwin's Life*, vol. i, p. 101. Compare p. 311, where he speaks of his early emotions in the presence of grand scenery as having completely died out, so that "it may be truly said I am like a man who has become colour-blind."

"colour-blind" to the higher spiritual influences. And in this work of conciliation the Bible will assuredly hold its own as the great spiritual guide of humanity, and as an inexhaustible treasury of spiritual wisdom, if it be studied according to the meaning of its own simple words, and not according to the glosses that have been passed upon these by innumerable generations of contending theologians.

The physician of the future will, I believe, be much more, instead of less, inclined to make his study of the Bible than hitherto, and in this respect will differ greatly from the representative and typical "Doctour of Phisike" of the *Canterbury Tales*. But he will study it in the spirit of modern scientific freedom and of historical research, not under the influence of mere tradition and ecclesiastical authority. And thus only, as it seems to me, can the reconciliation of science and religion ever be brought about.

In the address I had the honour to deliver last year in Dublin, I reproduced a sentence from one more than twenty years old, in which I had said as regards our own historical position at that time (but only in reference to the healing art), "The day of orthodoxies is over; the day of real science is only just dawning." The whole course of that address, as well as of the one which preceded it, was directed towards the demonstration of the enormous evils that have accrued to humanity and to the medical art from a blind reliance upon the tradition of the ages, and often upon traditions wrongly interpreted. "It is so hard," writes our humorous and venerable *confrère* across the Atlantic, Oliver Wendell Holmes,[29] "to get anything out of the dead hand of medical tradition. The mortmain of theorists extinct in science clings as close as that of ecclesiastics defunct in law." The abuses of blood-letting, of a senseless and obstructive polypharmacy, and of innumerable so-called remedies, either inert or positively mischievous, which have had to be cleared out of the way before medical science and practice could even begin to be reasonably simple and intelligible, have been a lesson to all of us, I trust, as to this "dead hand of medical tradition." How can we, of all men, fail to see that the same kind of mortmain, precisely the same or similar dead scholastic orthodoxies, have locked up the living words of the New Testament, and of our Lord Jesus Christ himself, in formulas around which the dust of ages has accumulated, till the dead letter has well-nigh choked out the living and life-giving spirit of Christianity. The beautiful story of a divine life and death, the miracles of healing, the sermon on the mount, the parable of the prodigal son, with its ever fresh lesson of the fatherhood of God; that of the good Samaritan, with its large sense of human brotherhood, are conspicuous by their absence as principles from those creeds of the church which profess to be the formulated essence of Christian doctrine; and instead of these we have the controversies of the first four centuries, marred and scarred all over with the traces of very human, very bitter, and often sanguinary conflicts; the scrambles for power of this or that bishop, "lording it over the heritage" in opposition to the very words of St. Peter, and giving to all time an example not of the "peace and goodwill" with which the first Christmas Day was ushered in, but rather of the sad prophecy "not peace, but a sword," which only too truly foreshadowed the ecclesiastical as opposed to the Christian *régime*.[30]

The physician of the future will do well if he remembers always the pernicious despotism which has been exercised over his own art (though in a minor degree) by the fetters of these dead orthodoxies, and will therefore be very slow to acknowledge their claims upon him to any more than a historical regard, even in the realm of theology. He will say of them, in the noble words of the Westminster Confession which (but for the formula connected with it in our Scottish churches) might almost be taken as the Magna Charta of Christian liberty in all such documents—"All synods and councils since the Apostles' times, whether general or particular, may err, and many have erred; therefore they are not to be made the rule of faith or practice, but to be used as an help in both."[31] But I desire you very specially to remark as my own personal anticipation, shared, I have no doubt, by many of those now present, that the physician, in his character of student of Nature, will make, and in the end will establish, this claim to emancipation, not in virtue of any irreverent, much less atheistic, tendencies, but for the very reason that he has access to a revelation of God distinct from the written revelation, and requiring a wholly distinct method of investigation. In obedience to this call he will, sooner or later, absolutely decline to walk in the leading-strings of ecclesiastical tradition. And in so doing he will (far from fulfilling old Dan Chaucer's satirical description) studiously insist upon the Bible, and especially the New Testament, and above all, the recorded life, words, and works, of our Lord himself, as containing, by implication, the charter of his emancipation, and the only perfectly free religious atmosphere as yet opened to human thought and inquiry. In proof of which I will now only submit one pregnant saying, with which, if it be indeed the word of God, all those who believe it to be such are bound to find all the other words of God in entire accord:—

"Henceforth I call you not bond-servants; for the bond-servant knoweth not what his lord doeth: but I have called you friends; for all things that I have heard of my Father I have made known unto you." John xv, 15.

[29] *Currents and Counter-Currents in Medical Science*; with other Addresses and Essays. By Oliver W. Holmes. Boston: 1861, p. 22.

[30] On the Apostles Creed (so-called), see *Histoire du Credo*: Par Athanase Coquerel, *fils*, esp. p. 20.—On the Nicene Creed, Milman; *History of Christianity*, Vol. iii; *Index* and *History of Latin Christianity*, Vol. viii, p. 391. The creed commonly called of St. Athanasius speaks for itself, and requires no commentary. On the Westminster Confession many most interesting personal details will be found in the *Letters and Journals of Robert Baillie*, A.M., Principal of the University of Glasgow, MDCXXXVII, MDCLXII. 3 Vols. Edinburgh: 1841.

[31] The Confession of Faith, agreed upon by the Assembly of Divines at Westminster, etc., chap. xxxi. Of Synods and Councils, 1643.

ADDRESS IN MEDICINE,

BY

T. CLIFFORD ALLBUTT, M.A., M.D.,
F.R.C.P., F.R.S.,
Consulting Physician to the Leeds General Infirmary.

ON THE CLASSIFICATION OF DISEASES BY MEANS OF COMPARATIVE NOSOLOGY.

MR. PRESIDENT AND GENTLEMEN,—The place to which you have called me is a high place in any meeting of this Association; but it is a rare and singular distinction to-day to be invited to deliver the Address in Medicine in the City of Glasgow, within the walls of its noble University.

If not *par cæteris*, I am *necessitate certe superior*; if not the peer of others, certainly I am put under greater obligations by the magnitude of my call. For, says Bacon, further: "Necessity hath many times an advantage, because it awaketh the powers of the mind and strengtheneth endeavour." I must hope, therefore, that the "power of the man" may prove not wholly unequal to the "power of the moment."

Of late years my avocations have prevented an attachment to that kind of special investigation to which my earlier years were devoted; I have, therefore, none of the results of experiment to lay before you.

Happily, however, as I think, the Address in Medicine should deal rather with the larger aspects of our art—with those broader conceptions which fashion themselves in the mind ripened by diversity of experience and fed by the continual discoveries of others who still labour in the various fields of inductive science. In one large conception of Medicine my mind has dwelt for many years, and I gladly seize this time to place it before you, for I believe it to be the *Novum Organon* of Medicine, its instrument, and a clew to its investigation. I ask your permission to make a few reflections on the Classification of Disease by means of Comparative Nosology—a method which will co-ordinate the ever-increasing accumulations of our clinical notebooks and of our laboratories, and create a system which, in its turn, will direct and inspire the labours of the inductive inquirer of the future.

Twenty-one years ago, in the second volume of *St. George's Hospital Reports*, I wrote a paper on the "Classification of Disease," from which I will venture to quote some sentences. "The philosophical inquirer," I then said, "is not satisfied to know that a person is suffering from the given disease of the moment. He desires to know why he is so suffering, or, in other words, what are the processes which necessarily precede and follow it. He wishes to include this phenomenon, now isolated, in the series of which it must be a member, to trace the period of which it must be a phase. He believes that diseased processes have their evolution and laws as have other natural processes, and he believes that these are fixed and knowable. But he feels that no

serious efforts are made to detect these laws. He feels that he and others are looking upon diseases as one ignorant of history looks upon a map. There are certain groups marked off by little pink lines and little blue lines and duly designated by appropriate names in neat roman letters. But he does not know their real affinities; he does not know how far the little blue lines and the little pink lines coincide with distinctions of kind or are only the result of artifice. He is ignorant whether any two neighbouring groups have anything in common beside their neighbourhood, nor does he know whether the component parts of any one group are held together by an accidental bond or by a natural affinity" (p. 188). "We are in the habit also, for practical convenience, of founding classifications upon properties selected only for their obviousness. No one dreams, for instance, of attaching any scientific meaning to an alphabetical classification, or to a classification of objects by their size, colour, weight, or immediate usefulness. Names given upon such obvious and separable characters have no value beyond themselves, and do not help us to perceive distinctions of kind. A scientific classification is the very opposite of this. It disregards the obvious as such, and may place together objects at first sight distant and disparate" (p. 191). "When we classify a disease scientifically, we do so, not to group together affections having a community of site or of aspect, not for easy reference or practical need, but to express the greatest possible number of facts concerning its relations with other diseases" (p. 192). "Conversely, false or artificial classifications do mischief, not only in declaring a kinship where no near kinship exists, but also in drawing the mind away from the perception of real affinities. We are led by them to think of all diseases as isolated disturbances, not of many of them that they are phases of certain periods of bodily development. We are led to regard a sickly person, not as one working out his own mode of life, but as one full of local knots, as the chalk is full of flints" (p. 189).

On another page I formulated the following propositions, among others:—

1. That classification in the study of disease is not a technical system as it is in the practice of it, but is the expression and organ of our progress in investigation; to classify being to think of things in such groups, and these groups in such an order as will best conduce to the ascertainment and remembrance of their laws.[1]

2. That life consists of a series of processes which together constitute varieties or modes of growth, that is, health, scrofula, syphilis, rheumatism, gout, rickets, tuberculosis, etc.

3. That diseases, taken severally, are often members of such series, which series may be constructed by a survey, not only of the individual, but of his collateral kin and of his ancestry, and also of other orders of the animal and vegetable worlds, a survey which cannot be made until comparative nosology becomes a recognised branch of our science.

4. Classification, then, can and must be founded on a natural method and on natural affinities, and must be the expression of them.

An artificial system, on the other hand, is based on separable attributes of size, locality, appearance, duration, usefulness, etc., which are not distinctions of kind.

Passing over intermediate essays, I said again, when President of the Section of Medicine in 1882: "To find new arms against disease, we must have a truer conception than we mostly have of the genesis of disease. No mere enumeration of symptoms or of pathological detail will suffice for this, nor even a full description of diseases severally. We have to work out the genetic affinities of diseases, their origins, parent stems, and alliances, as well as their issues. We can have no complete therapeutics until the science of comparative nosology is in great measure constructed—a science as yet scarcely begun—nay, as yet scarcely recognised. As Professor Geikie tells us, the modern geologist has to see that Europe and Asia were not created, but grew; and now that the whole phenomena of life, animal and vegetal, are comprehended as one, and this one is proved to have developed from the simplest beginnings, its diseases will appear as morbid varieties of growth, and its laws of dissolution will be discovered. With the manifestations of the higher forms of life, the most complex diatheses will be co-ordinate, and will present more and more heterogenous phenomena; and with the full diversity of life in man we shall realise the correlative display of its manifold modes of undoing. Yet further: our comparison even of human diseases cannot be bounded by the study of our nearer brethren—of the men of our time and country. We have to learn how diseases vary with the conditions of time and place, of season and soil, of race and temperament; for it may turn out that the races which enter into the composition of our own nation bring each their own tincture of decay." In the same address I referred also to the embryological interpretations of disease, these being based either on arrested development, as in the facial type of the idiot, or in retrogressions such as leucocythæmia. For the comparison of embryonic periods in the same and in different animals may be a master-key even to the diatheses themselves, as may be suggested, for instance, in lithiasis, wherein the formation of uric acid, and in diabetes, wherein the formation of glucose, are the resumptions of states normal to inferior types. M. Quanoff[2] says, in respect of primary progressive muscular atrophy, that there is a correlation between degree of predisposition to waste and the degree of the rapidity of the development of the muscles. In this disease, as in pseudo-hypertrophic palsy and facial hemiatrophy, muscles suffer in a certain order. Clearly, in them and in the nervous centres there is a connection between pathological anatomy and embryology. The strumous diathesis, again, seems to be an arrest of development which can be artificially made by deprivation of light and other forces. In 1864 that powerful medical thinker, Dr. Laycock, showed, with instances, that some basis of organic classification of disease was to be sought in a comparison of diseases as they originate in the several layers of the embryo—a hypothesis which has thrown a brilliant light upon the genesis and kinship of neoplasms. Dr. Laycock also says in general terms: "Perhaps no morbid change happens to man which is not a normal process in other organisms, animal or vegetable, and the nature of which may be known by a study of such analogous normal changes."[3] A good example of this is the shedding antler of the deer, which is a huge sequestrum, a case of normal necrosis.

To my own advanced pupils I have long been accustomed thus to convert an old aphorism: "Nihil in pathologiâ quod non prius in physiologiâ—Pathology contains nothing not previously in physiology."

Since my earlier words were written I gladly admit that some advances have been made in the ways which I have indicated, but the advance has been far less than in these days it should have been. To this moment comparative nosology is a term hardly heard, and although Sir James Paget, Mr. Bland Sutton, and others have dealt with the matter, and although the laborious investigations into minute life have lately taught us much of its simplest modes, yet we have made no real effort, as a profession, to cast off our anthropocentric point of view. From veterinary science we are now drawing new and valuable knowledge),[4] and shall draw more and more benefit from it; but its professors, able as some of them are, only differ from us in standing at a hippocentric instead of an anthropocentric point of view. We are thus in the position of anatomists before Cuvier and Von Baer. We have made a minute clinical study of human nosology; perhaps, indeed, no extensive discoveries remain to be added to this field of research. But the parts into which disease has been dissected are not the elements out of which it has grown. Nearly all remains to be done in tracing the homologies of disease throughout the animal and vegetable world; in studying its phenomena under the various and simpler conditions of lower organisms; in tracing its development upwards through the macrocosm of all life and through the microcosm of the embryo: in pursuing disease also through its variations in space and under changed climatic conditions; in registering the effects of change of function upon change of structure as these changes pass by hereditary transmission from the dynamic to the static form, and in so tabulating pathological sequences in family, race, or country as to detect the latent affinities of diseases apparently unkindred.

Hitherto our motto has been "ὂν γνῶσις αλλα πρᾶξις," and our nosological systems schedules constructed for immediate purposes; our method, admirable as it has been for the accumulation of detail and the drilling of the practitioner, is yet, as a method, what Bacon calls "mera palpatio;" it conveys no knowledge of the system of ideas which represents the world of disease, and has, indeed, little or no speculative value.

Robert Houdin used to fix above his doors on the Boulevard the whole alphabet, but he would only illuminate occasional

[1] Mill, *Logic* (Ed. 1872), vol. ii, page 271.

[2] *Lancet*, March 17th, 1888.

[3] *Medical Observations and Reflections*, p. 254.

[4] The new *Journal of Comp. Pathology*, Edin., 1888.

groups of letters. The cabalistic words thus revealed mystified thousands nightly. Of the alphabet of disease we see such scattered fractions, yet, accidental or arbitrary as they may appear, under the flowing robes of Nature there is an inflexible and insoluble continuity. Painfully I feel how little I can do, with the slender material at my service, even to indicate the lines on which we must work to fill up these gaps and to work out these new problems—painfully I feel that my subject is too deep for words and yet too strong for silence. "Prudens questio dimidium scientiæ." I earnestly call, therefore, for your help to indicate the lines of a natural classification of disease by affinity which shall supersede our present Linnean method of classification by clinical features. We shall thus reveal the laws on which diseases have developed themselves from the simplest deviations in the simplest forms of life on the globe up to the complex and heterogeneous maladies which are seen in ourselves. Such a natural classification will coincide with those mental processes by which such knowledge ought to be acquired, retained, and enlarged, and will give us deductively, in specific instances, that diagnosis and prognosis upon which all therapeutics must intimately depend.[5]

As Dr. Laycock observed, "When men complain that medicine has no principles, they forget that their complaint extends beyond medicine." They must extend their complaint not only to nosology but to biology, of which it forms an essential part. We must study the pathology of structure and function in the entire series of organisms, a study scarcely begun; and in them recognise the retrocessions of structure and function from higher modes of life, not forgetting also the reversions of the higher mental faculties through the instincts and propensities of the brutes.

For example, let us for a moment consider that factor in the highest organisms which we call the nervous system, the functions of which have been of late years so ardently studied. The attainment of higher degrees of organisation has been gained by means of a correlative development of this system until the whole and every part of the organism are so interfused with it, and the influence of it, that local autonomy has been gradually controlled. Omitting the intermediate term, we may say that the increasing power and complexity of the nervous system and the integration of diverse functions in it are correlative, on the one hand, with an equivalent complexity of disease, and on the other with a subordination of local morbid changes to the balance of systemic forces. Thus it is that diseases tend more and more to take a neurotic quality.

In man the nervous system has gained a development so enormously beyond that of the highest pithecoid forms, that the diseases of man are correspondingly heterogeneous. As we descend from pithecoid types to lower forms—to dogs and cats, for instance—we shall find their diseases to be simpler and more localised. Everyone who has had dealings with animals knows how long they may live, and even recover with great local lesions, even of organs we should call vital.[6] If we descend further we shall find local autonomy becoming still more evident, until in many reptiles we observe a reproduction of amputated limbs, and in still lower organisms a reproduction of their wholes from aliquot parts. For example, a systemic thermotaxy can come only with a certain extension and integration of the nervous system, so that thermoataxy, or fever, is a nervous phenomenon, as recent observers have established. The earlier form of thermotaxy was, no doubt, an ebb and flow, of which a trace remains in the diurnal variations of normal human temperature, and which appears again in the reductions of disease, and is, as we should expect, more visible in the remittent form of the fevers of the child whose nervous system is less organised. So as we descend the scale of warm-blooded animals, and simplify the nervous system, we approach those organisms in which fever cannot be, and local lesions have no constitutional symptoms. In man, on the other hand, so readily are local vibrations propagated, and in so many directions, and so profoundly in him have local autonomies been supplanted by nervous governance, that modern observers are beginning to say that in man, not fever only, but all maladies are primarily or secondarily neurotic. I have elsewhere indicated at length the nervous factors of phthisis and of granular kidney, and many writers have expressed a conviction that gout is a neurosis. By this we mean, not that these diseases are generated primarily in the conducting machinery itself, but that the different organs and tissues of the body have become so entirely subordinate to the nervous system and so bound up thereby with all and several parts of the body, that local disturbances cannot remain isolated but, exciting sympathetic changes in all other parts, they put on the complex features of general maladies, and necessitate indeed the readjustment of all other parts. Central lesions, on the other hand, may put on the characters of local disturbances in so far as they precipitate change of function in any part or parts over which they exercise influence. For each part no longer suffices for its own nutrition, but all conspire to the nutrition and function of each; the "trophic action of a nerve" on a part being but the converse of the mutual support of all by each; it is division of labour which makes boycotting effective. Hence, as the nervous system develops in higher animals, all diseases must take on a "change of type," become more systemic, more complex, more sympathetic with disorder elsewhere; must tend to be, in a word, primary or secondary neuroses. This tendency is more or less perfectly compensated, and steadfastness secured by that integration which technical physiologists call inhibition. The same process may be traced from man to man, from the lower to the higher examples of nervous organisation in him. Nervous organisation has, of late years, progressed at a vastly accelerated ratio by means of quickened speech and locomotion; a higher scheme and also a higher average of nervous structure being thus attained. It is a matter of common observation that many functions of mind, especially the social functions, are now firmly organised, which some centuries ago were instable or scarcely organised at all. And these higher and higher strata, being more and more instable, bring further degrees of mobility and of capacity for change into the nervous system of modern peoples, and give a more neurotic character to their disorders. This is in part the so-called "change in type of disease," which I think has been unreasonably denied, but which is only another aspect of the variations of disease in nations of different age, blood, and circumstance—as the English and the French, for instance—such variations being first visible, of course, in the nervous elements of disease, that is in the highest and least organised tissues, which are at once most complex and most readily disturbed, and are the last to be submitted to inhibition. For the most recent strata of organisation are, from the nature of the case, not inhibited at all.

The diseases of lower races of men will thus differ, and as a matter of fact do differ, from those of the higher, as we shall see presently.

In order to attain to a true system of classification, a διακόσμησις or marshalling of diseases of men, animals, and plants, on a basis of affinity, we must pursue at least four different methods of inquiry, namely, the hereditary, the historical, the geographical, and the experimental methods. These methods of inquiry, which touch each other closely and cannot on all sides be logically dissociated, must however be separated for convenience of handling.

The Hereditary Method.—I will consider first the phenomena of heredity in disease, "to our ears The murmur of a thousand years." We are only on the threshhold of knowledge as to the vast significance of the doctrine of heredity, says a recent author.[7] Our survey of family history, even in these days of records of the generations of civilised man, is, of course, very limited, and very imperfect within these limits. When we disregard the conventional trail of descent in the male line, and remember how rapidly the family tree expands backwards, even in the van of time, we find our scrappy pedigrees so flimsy that we may tend to undervalue the little light which "tradition, time's suspected register" has hitherto undoubtedly afforded. Yet for any fulness of knowledge, the nosology even of a nation is inadequate; we must pierce beyond the human race itself, and pursue our inquiries into the diseases of animals, yea, even of plants likewise,[8] before we can establish our system. Nor is this sufficient. Dividing, as well as we may, the autogenous diseases, such as gout or cancer, from the extraneous such as small-pox or ague, and these again from diseases like phthisis in which the extraneous cause is a touchstone of diathesis, we have to investigate the embryology of men and animals, and the diseases of the young which betray reminiscences of earlier forms. The phenomena of arrest again must be observed, distinguishing arrest from atavism; nor must we

[5] Into the question of nomenclature I cannot enter now, but the great need of revision and accuracy in our nomenclature is well set forth in a brief and popular way by a leader writer in the BRITISH MEDICAL JOURNAL, June 30th, 1888. Our terms tend not only to express but also to dominate our meaning.

[6] Bland Sutton, *Proc. Zool. Soc.*, March 18th, 1884.

[7] Clodd's *Story of Creation.*

[8] Compare here the Bradshaw Lecture, by Sir James Paget, in 1884.

forget to trace the heredity of morbid function in separate parts, even in the leucocytes, which, when so far specialised as in man, are said to have less individual power of fight in them. We have to note, also, the effects on subsequent generations of such external agents as syphilis, alcohol, or depressing passions. Again we have not only to record single affections, but to compare subgroups of affections—diatheses, as we call them—learning to place them in subordination, distinguishing the more simple, universal, and elementary diatheses such as struma, from the more special and complex diatheses such as the nervous; as we distinguish the more simple and elementary neoplasms, such as exostosis, from those of a more special character.

At certain stages of this great inquiry we shall mark the emergence of the larger kinds of morbid process, such as the explicit capacity for fever, which, as I have said, can only come with the explication of that part of the nervous system which makes for thermotaxy.

Now when we look for the facts of hereditary disease in man, even within the limits of modern records, we find that observation has been almost wholly directed to the detection of the recurrences of the same form of malady in one family tree. In my search for recorded facts, I can find much information concerning the heredity of phthisis, for instance, of asthma or of cancer, but the words of Bacon are forgotten, "Nemo alicujus rei naturam in ipsâ re feliciter perscrutatur." To know the affinities of asthma, let us say, we must trace the records not only of asthma, the res ipsa, but also the records of all other morbid reversions in the same stock. Thus we may find in this stock not only angina pectoris, which is like it, but gastralgia, which is less like it, and eczema, which is less like it still. Unhappily, this kind of search has not yet been made. Mr. Galton, Dr. Isambard Owen, and Dr. Billings tell me that when we desire something more than the notes of the family history of the same disease, when we ask for a scheme of all the diseases, fatal and non-fatal, found in one family, we desire that which does not exist. The only persons indeed who could make adequate records of this kind are family medical advisers who have watched over the same households for long periods of time. Public opinion is not yet alive to the importance of such records, and as busy doctors decline in years, they are less willing to embody the invaluable results of their experience. Thus a synopsis of all the maladies current in one family tree is rarely or never met with; although we admit that the individual is but one link in a chain. In nervous diseases indeed, such groupings are attempted; insanity (the kind often not defined), epilepsy, chorea, and neuralgia may be recorded in one tree; but the fact that phthisis and rheumatic fever often concur with these and with each other, and link them to, or cross them, let us say, with mental diseases, rheumatoid arthritis, and gout, is neglected, and trivial disorders are unnoticed altogether. Into the causes of hereditary variations, for such are many diseases, I need not enter. The inherent tendency of organisms to vary—"Nature's bent for inequality," to use Matthew Arnold's words—is well known, if not yet explained, and if organisms be exposed to changed conditions for two or three generations a structural effect becomes visible in those which adapt themselves (Darwin *A. and P.*, ii, 270).

To use Herbert Spencer's words, "The belief is not to be resisted that the inheritance of functionally produced modifications takes place universally."[9] Pathological races, if I may use such a word, thus tend continually to appear, a tendency as constantly disturbed by atavism. Virchow speaks of atavismus "als discontinuirliche Vererbung." But he says, "wahre Atavismus ist stets erblich" (Virchow's *Archiv*, vol. ciii), and is to be distinguished from mere arrest of development from, let us say, a theromorphic heart due to intra-uterine endocarditis. Thus again, in a microcephalic child, we must distinguish between "pithecoid atavism" and "pathological pithekismus," a distinction not always easy; and, again, say, between slight degrees of hypospadias and the alleged inheritance of circumcision.

Once more we have to distinguish not only between theromorphism and atavism, but between maladies essentially and accidentally related, as, for instance, in hemiplegia, between a palsy due to embolism and one due to rupture of a diseased artery, and again between groups of maladies which are essentially connected in the individual but accidental to his family. For instance, tabes dorsalis is often seen in association with diseases of the heart and aorta, but this association may be due to the introduction of syphilis, and the establishment of a new series thereafter. It is only by the careful record in pedigree of every malady great or small, and the comparison of many such series, that we shall learn thus to distinguish and to separate the accidentally from the essentially related members of them.

For example, Dr. Stephen Mackenzie, in some recent remarks on cutaneous diseases, sketched out some part of a rheumatic series when he declared that kinds of purpura, of urticaria, of pemphigus, of erythema are associated with peri- and endocarditis, chorea, and arthritis, but that the sudamina and miliaria which come with them are phenomena of wider signification, and tend to occur in all series in which there is profuse perspiration. If we establish and complete such a series, calling it, let us say, rheumatic, we should then inquire if any such phenomena appear, and, if so, in what series, in lower animals, as, for example, in horses or birds, and many others. In these the series will vary, and will become simpler as we descend, until we reduce it to some relatively simple and general term, probably to some inferior mode of oxidation.[10]

Again, we may group—say under the name of gout—a series which would contain kinds of dyspepsia, of arthritis, of phlebitis, of arteritis, of nephritis, of angina pectoris, of migraine, of hypochondriasis, of insanity, of eczema, of glycosuria, of neuritis, of bronchitis, of tonsillitis, of hæmorrhoids, and so forth, including probably many other terms which have not as yet been so attributed, such as hæmophilia, as suggested by Mr. Hutchinson. It is obvious that to complete such a series as this or the former, not only would an individual life be inadequate, but so would be the best of clinical pedigrees. It could be completed only by the comparison of a vast number of family histories, and these not within the limits of one family or of one race, but of many, and not on one plot of the earth's surface, but on all. The comparison of such a human series with those obtained by observation of animals will lead us to the uric acid mode of oxidation in birds, a state normal to them, as Dr. Laycock reminded us, so that gouty families may appear to be a kind of birds.[11]

Again, a neurotic series may consist of other kinds of insanity, of chorea, of eczema, of pruritus, of angina pectoris, of gastralgia, of asthma, of sneezings, of flatulence, of catarrhs, of migraine, of hysteria. I was once called in consultation to a father and three children whose maladies were as follows: carcinoma, lymphadenoma, pernicious anæmia, and pseudo-hypertrophic palsy; and I have noticed that families containing phthisis often produce weakly, ill-thriven, neuralgic members who do not become phthisical but have some defect which underlies both conditions. In this way we shall construct series and series as symptoms group themselves, hunting about any apparently unrelated morbid phenomena in any man, animal, or plant, until we drive them into their place to reveal their kinships. Such a compulsion we see in the intention of an able leader-writer in the *Lancet* (April 28th, 1888), who says, in the language of a genuine and fruitful philosophy, "Whilst recognising the great differences between osteitis deformans, leontiasis ossea of Virchow, myxœdema, and acromegaly, it is impossible not to be struck with some similarities or points of contact between these so variously-named affections. To our mind the connection between this remarkable acromegaly and the abnormal state of the thyroid observed in almost all of the cases is one fraught with significance. It cannot but be that the trophic agency of the nervous system is in some way or other concerned in the pathogeny of the disease. The tendency of malignant tumours of the thyroid to recur in bone—a fact emphasised by Mr. Godlee—must be borne in mind also. The experiments of Filehne on the influence of the medulla on the thyroid body should be considered, as also the changes in the cortex of the brain following extirpation of the thyroid".

To the above remarks I would add that the embryology of the thyroid, its correlations with the development of other parts, the formation of myxomata and cysts, and the mucoid degeneration of neoplasms must also be studied. And that these features must be comparatively studied in different races and in different climates and in animals, for, as Mr. Bland Sutton points out, the connective

[9] *Factors of Evolution*, p. 35.

[10] Those persons who have not studied questions of heredity and dissolution are often disposed to argue as if the series we describe were linear series, and to expect a human disease to revert to a canine or a reptilian, as they expect to find transitions from man to monkey and from monkey to cat. Darwin's arguments have done much to dispel this prejudice, so that in the field of nosology we do not expect such reversions any more than we expect a minster in decay to break up into parish churches. The laws of the dissolution of both must be sought in the weatherings of the cliff whence they took their birth.

[11] Mr. Bland Sutton states that tophaceous podagra has been found rarely in birds.

tissues of the fœtus consist almost entirely of soft, mucin-yielding substance, and mucin is developed abundantly for the purposes of some animals. Moreover, many other affections, trivial or grave, will be found to run in families with those already noticed, and will form a series with them. Thus we may complete a survey of the great mucin regression so honourably associated with the name of Dr. Ord. On the negative side such researches would point out to us when the association of certain affections is accidental, and possibly still further that some affections are never concurrent; which chapter of possible incompatibilities we can but glance at curiously and pass by. "It is quite conceivable," says Professor Huxley,[12] "that every species of constitutional disease tends to produce varieties of a limited number and kind, and elective affinity in the constitution of the race or individual towards certain causal and concurrent factors of disease favours the development of some and opposes that of others along their predetermined lines of development."

The phenomena of "metastasis" also are to be noted, not in the individual only, but also in the family; and in nosology as in anatomy the study of aberrant cases—morbid teratology, may I call it?—may often indicate lines of development which are latent in ordinary cases.

If for lack of material I cannot trace out the affinities of disease as detected in the pedigree of man, still slighter must be any attempt to indicate these affinities in the pedigrees of horses, cattle, or other animals and plants. That special groups of diseases would be notable in such pedigrees I already believe. Roaring, for example, associated no doubt with other special morbid peculiarities, occurs in horses of certain strains. Certain breeds of dogs, such as white terriers, are more liable than others to distemper;[13] bassets are very subject to eczema; and breeders of families of horses, sheep, cattle, dogs and so forth, would be able to tell us that in animals of definite pedigrees each strain tends to present morbid phenomena in more or less definite and contrasted groups; but as few animals have been subjected to artificial selection, such comparisons are only possible in those few species. It might perhaps be easier to prove definite morbid proclivities in varieties of plants, but in such a case as "gumming," for example, it may be difficult to distinguish between an autogenous malady and an inherited affinity for some external morbific agent, a large subject which may interest us presently.

The Historical Method.—Passing from heredity, as time compels me to do, we have three other methods for our use, namely, the historical, the geographical, and the experimental. The historical method leads to the philosophical in all studies, and no less in nosology. Unhappily, this study has scarcely yet emerged from the prehistoric period. We have to learn how changes of function become in generations change of structure, and how therewith come variations into less useful or "morbid" function, and this soonest in the highest and least organised parts, that is, in the nervous system, the adapter and organiser.

Of heterogeneous maladies we must not, indeed, forget in how many low forms of living organisms are concerned which may vary more than higher organisms, and thus change the sufferings of their victims. Nay more, it would seem that between the infective and passive organisms there is some law of equivalent adaptations ending in the curious immunities of individuals, families, and races, which seem to correspond with the wonderful impregnations and sterilities of sexual congress. Scanty and indefinite as are the records of human diseases in earlier times, of the diseases of plants and animals we have little or none. That the diseases of men, of animals, or even of plants, have been the same in the far off past as we now see them is contrary to the evidence of more recent time, and to the cognate evidence derived from the comparison of racial types.

The slower or quicker accumulation of changed characters which results from the action of environment and variation on successive generations must have been visible on the morbid as well as on the normal side of life. But in comparing human disease as it is now with its history in the past we must remember this, that in ruder states of man, as among animals, morbid variations were continually eliminated in the struggle for existence. Not only were organisms of inferior vitality constantly abolished, and their seed with them, but even the more vigorous were for the most part cut off as they passed their prime, so that those inherent morbid proclivities, such as gout, whose period of development belongs to later life, had no opportunity of presenting themselves. Nature's experiment was thus left incomplete. But when human societies attain a high degree of development we begin to see the converse of this order. In them arises a civil consciousness and with it the disposition and the power to react upon themselves, to interfere wisely or unwisely with their own growth and their own media, and thus to modify, not only the society at large, but necessarily also the individuals of which it is composed. Thus natural selection is modified by deliberate counterplots; bad strains are preserved, which in former times would have died out, and higher social qualities are developed at the cost of some retardation of physical improvement.

On the opposite hand, societies attain physical improvement and eliminate morbid tendencies by many means, among the chief of these being the sanitary means, which are described in such early records as the Pentateuch. By removing dirt, which is the agar-agar of saprophytes, the Jews banished those pestilential germs of whose very existence they were ignorant, and favoured the vitality of the survivors. Bodily improvement may, however, be sought at the cost of the higher mental and affective organisations, as, for instance, in the prevention of marriage in diseased stocks. "Artificial selection may some day replace Cupid with his random darts;" but we must remember that this prevention would have deprived us of some of the greatest geniuses who have lived for the service of man, not a few of whom have handed down their nervous organisation to later generations.

Again, civil societies may interfere directly or indirectly with multiplication. So far as we can see, every vigorous race tends constantly to expand, and to cease to expand is to retrograde. As the race is benefited by cross fertilisation, so it is benefited by change of environment, and by expansion this is secured. It must be constantly enlarging its boundaries, invading different areas, fighting new battles, and kindling its fires with new conflicts. This means new differentiations of structure, new variations in progeny, and new sources and modes of social and individual variation and dissolution. By some such pressure of the environment races of man must have been established: but those races or varieties have qualities and differences so tenacious that periods of time, very far beyond historical records, must have elapsed since the fixation of those main stocks, which, in anthropology, we must accept as ultimate factors. It is probable, for instance, that the populations of Asia and Africa were twenty centuries ago what they are now. On the other hand, the potency of the environment must increase at a far greater ratio as organisms become more complex.

Comparative nosology has to investigate the morbid characters of the races which recent anthropometrical research has done so much to distinguish; but beyond the records of certain striking immunities and susceptibilities, nothing has been done in this direction, and I find myself almost without material for the discussion. Dr. Joseph Coats, of this city, justly observes[14] that Hirsch not only avoids this aspect of comparative nosology, but minimises the influence of racial peculiarities as much as possible, though he is compelled to admit many facts of the kind against his own inclination in favour of the action of the environment. This, of course, is the attitude of an ardent geographer; and indeed, in a new subject, it may be that all true causes should be pushed to extremes that we may see what they will cover. But shrewd observers have said for many a day that "breed is stronger than pasture;" and we cannot fail to see how alien races, on the same ground, may and do differ in their features. Putting aside their normal attributes as foreign to my purpose, I will take a few homely instances of racial characters in disease.

I wrote to Dr. Beddoe, of Bristol, whose practice lies near the marches where racial types are more distinct, to ask him what contrasts, if any, are to be seen between the maladies of the older and newer races in the west of England and Wales. He replied that the phenomena of disease in the "Celts" "differ undoubtedly and, in some ways, curiously" from those in the "Saxon." He goes even deeper, and suggests certain elections in the maladies themselves, attributing cancer rather to dark-haired people, and after them to the rufous, and noting in dark people melancholia but not especially other forms of insanity, and noting chorea and epilepsy in the two extremes of light and dark.

Investigation of racial characters may then bring together two maladies apparently so unkindred as melancholia and cancer.

In another letter, Dr. Beddoe says that radical difference lies lower than Welsh and Saxon, "the breed is more complex than that." "There is, in Wales, a Mongoloid type, generally dark,

[12] *Science and Culture*, Macmillan, 1881.

[13] Darwin, *A.* and *P. D.*, contains many such facts.

[14] *Lancet*, January 14th, 1888.

mixed with a long-headed Basque type; and there is the true Celt of Broca, also dark but broad-headed." "It is the dark races as a whole" which give the special characters to the Welsh." Dr. Beddoe, in commenting upon a valuable private letter to me from Dr. Davies of Aberceri, agrees with Dr. Davies as to the "difficulty of rearing fine, well-developed, fair children in towns, especially in the lower ranks." Dr. Davies gives also independent testimony to the fact that, in Wales, we must go down to the main division of light from dark races, in order to obtain any marked contrasts of morbid proclivity. A proclivity to scrofula and tubercular phthisis Dr. Davies finds in both divisions, but refers it to a common dampness of dwellings, to a common hatred of fresh air, and to other sanitary defects. But, he adds, "the Welsh Basque element is increasing in the west of England by a slight natural selection. In Bristol mixed parents often have one child of a fair Saxon and another of a dark Basque type, and the chances of survival of the dark child are better than those of the fair one. Spasmodic croup and other convulsive diseases or chest affections will often kill the latter and leave the former. Dr. Davies goes on to say that even in the well-to-do classes it is a comparatively difficult task in Bristol to rear a well-developed fair child. He says, further, "that the abdominal rings are tight in the Welsh Basque type; few cases of rupture occur among them in Bristol and few about Newcastle Emlyn, whereas, at a Midland charity, I dispensed about eighty trusses a year, and fitted them on myself, so that there was no deception. . . Welsh people, when they migrate to Bristol, most readily assimilate to the natives of the city." I may add that Dr. Davies was Medical Officer of Health in Bristol, and had, therefore, a large field of observation. On the other hand, I am disposed to think that hernia is common among the more phlegmatic Teutonic peoples, among the Dutch, for example, who are not tried, as a rule, by any greater severity of corporeal labour.

Sir William Roberts writes to me as follows:—"Easterns, of whom there are many in Manchester, are markedly more susceptible to neurotic troubles than the English, I speak of the males. Greeks, Syrians, Armenians and Eastern Jews are very much inclined to hysteria, 'visceral neuralgias,' as you would call them, and so forth. I have known all the children of a Greek family pass through a period of profound hysterical disturbance, both boys and girls, extending over the two or three years about puberty, and then pass on to a more steadfast nervous equilibrium. In a like degree I have observed that Welshmen are unduly inclined to be *malades imaginaires*." My own experience strongly supports these opinions.

We may inquire whether the nervous instability of Anglo-Orientals is due to their transplantation to new conditions of life. Possibly even in the Welsh the pressure of an alien civilisation may have set up an instability extending over many generations, for, reversely, we know that a relative organic perfection of body and mind was attained by the Attic Greeks. Now this people, a pure fixed type of Pelasgic Ionians, had occupied Attica from prehistoric times, and from the sixth to the fourth century B.C. was an exceptionally homogeneous stock, autochthony being held sacred, and the only legal form of marriage being between citizens[15] Yet we know that every distinct nation has its own temperament, and the colour of its health must also be the colour of its disease. Mr. Hutchinson[16] says, "To distinguish between temperament and diathesis, we may say that the former is a matter of physiology and the latter of disease."

The Dutch are so near akin to the English, that their contact with us involves little clashing of temperament, and little change of circumstance. Yet the Dutchmen, whom I see occasionally from Axholme, Crowle, Epworth and other parts of eastern England, seem to have a seal of morbid as they have of normal constitution. They tend to long life and to the deposit of fat. They are rarely the subjects of irritative neuroses, but rather to mesoblastic deteriorations—to dilated heart, venous stagnations such as chronic œdemata, varicose veins, and hæmorrhoids; to apoplexy and to chronic senile dementia dependent on vascular defects. They seem to be a people of stable nervous equilibrium, not very liable to disturbance from without, and who die, so to speak, rather by gravitation than "driven from their orderly spheres."

Dr. Macdougall, whose home is now in Carlisle, but who has experience both in the Highlands and in the Lowlands of Scotland, tells me that the Scotch Celt when he is sick is "essentially a despondent man.....hope vanishes with the onset of disease.....that this is in many instances due to the lack of nerve force," he adds, "I have little doubt." This is curiously like Dr. Beddoe's account of the Cumbrian Celt who "lies down and gives way to disease, while the Englishman, similarly brought up, is more patient and courageous." The Breton seems to accept disease in the same apathetic or fatalist manner.[17] My own experience of the Celtic Irishman, of whom we see much in large towns, is otherwise. Him disease fires and alarms; he is loud and voluble in his complaints, and as disorderly in his story of them as the Anglo-Dane is orderly and systematic; but by sheer buoyancy he is saved; he protests and transfigures his ailments, and glows with superstitious faiths undisturbed by knowledge until he would seem to deceive himself into recovery.

Of the Scotch generally, Dr. Macdougall notes a "relative rarity of purely nervous diseases, believing this people to have stronger and more stable nerve centres as gifts of heredity, derived perhaps from a slower speed in the race of life."

"Cancer," he says, "is unquestionably more common in Cumberland than in any other of the Border Counties." The exceeding rarity of gout in the Scotch he does "not regard as a fixed racial attribute—seeing that the impress of gout is still obvious in those older families whose pedigree may be retraced to days when smuggled wines were cheap, when the use of them was as free as their effects were prejudicial." This is a most interesting observation, and it has lately been publicly made also by Dr. Martin, of Portlaw.

In the vital statistics of the United States census of 1880[18] Dr. Billings finds that cancer is rarer in coloured peoples, which traverses somewhat our experience of the readiness of pigmented moles to set up melanotic cancer. Still the conclusion is well supported. Of a population of 29,000,000, including 6,000,000 negroes, 6,321 of whites died of cancer, and 790 of the negroes, the proportion being 27.96 per 100,000 in the white to 12.17 in the coloured race—that is, more than twice. After allowing for disturbing causes, it seems that of the whites the Irish and the Germans are more liable to cancer than the rest. To redress the balance, apoplexy and palsy are more common in the white than in the coloured people, and in the German than in the Irish. Among the Indians diseases of the nervous and circulatory systems, bronchitis, and pneumonia are less common, but scrofula and consumption are very prevalent.

I need but refer, as I pass, to the many strange and extreme forms of hysteria seen in the French people and described by Professor Charcot, forms and degrees of it which are rare in England, and rarer in our northern counties than in the southern. Hysteria, in its eminent types, is seldom met with in Yorkshire. Historical matter of this kind exists abundantly, and should be brought together; and, although my direct speech to-day is of constitutional states, yet of these extraneous diseases may also be a test; for in truth, if we go more closely into the subject, all morbid phenomena are the outcome of reactions between the mediate actions of the environment stored up in the organism and the immediate actions of the present: so that, if the present be constant, variation must depend upon the innate. Now such variations are known to be manifold, and should be brought together systematically. I will mention a few cases. To the immunity of negroes from yellow fever I have already referred, and this immunity does not depend upon survivals, as does their relative immunity from paludal fevers and sunstroke: for, as Dr. Coats says,[19] these latter immunities do not lie deep, but wear out on removal of the individual to a healthy locality; so that he and his descendants tend to lose such immunity. Moreover, the resistance to yellow fever is common to all negroes, whether inland or coast bred, and is transmissible by them to mixed progeny so far as their admixture goes. Their immunity from syphilis[20] is likewise a deep-set quality. On the other hand, the negro is very susceptible of cholera and small-pox, elephantiasis and tetanus, and is also liable to prolonged suppuration. The Arab, Dr. Bertherand says, is not liable to tetanus. The poison of beriberi, oddly enough, does not attack Europeans until they have lived in the district of it for some time; then they become liable to attack. But for all Aryans—for Europeans and Hindus, let us say, whose habits are so different—its death-rate is low: the average death-rate for all races being 34.6 per cent., and even 51.9

[15] *Vide* interesting paper by Dr. Rally, *Rev. d'Anthropologie*, 1887, p. 408.
[16] *Pedigree of Disease*, Churchill, 1884, p. 4.
[17] Souvestre, *Les Derniers Bretons*, Paris, 1843.
[18] *Tenth Census of the United States*, 1880, vols. xi to xii.
[19] *Lancet*, January 14th, 1888; *vide et* Corre, *op. cit.*
[20] *Vide* Hirsch *in loc. cit.*

for Chinese; for the European it is 28·6, and for the Hindu 27.8; for the Japanese it is only 12.4. Mr. Darwin thinks that these fixities of inheritance are not merely results of antiquity, but are necessary correlations of growth.

The curious facts made out by the late Mr. Denny, of Leeds, and others, concerning the inability of certain lice to live on other varieties of man or species of animal than their own, are of the same kind, though in some of these cases the inability to attach themselves may be simply mechanical. Pasteur tells us again that Cochin China fowls resist chicken cholera, and that the field mouse resists the septicæmia so fatal to the house mouse; with this a "concomitant variation" has been shown by Koch, who finds that the normal blood of the latter forms crystals with difficulty, whereas that of the field mouse gives crystals readily,[21] Darwin[22] tells us that white cocooned silkworms resist the disease which devastates the yellow, Chauveau, that Algerine sheep are not subject to anthrax.[23] Cattle and swine are very subject to pearl-evil, while the goats which graze beside them escape. The dog is almost insusceptible to glanders, but the ass and the guinea-pig take it readily.[24] Peptones which prevent the coagulation of the blood in carnivora have not that power in herbivora; carnivora again are said to be subject to cancer, and herbivora not to be so.[25] Cattle in marsh lands seem indifferent to the marsh poison, and so do dogs; but individuals of different races of the same species, if brought into the district, become infected.[26] Mildew, curl, and aphis rather attack fruit trees in which the glands under the leaves are absent. Mildew selects also white onions and verbenas, and the paler grapes. New sorts of potatoes, as I am told at Goole, are at first disease-proof, but in ten or twelve years, although these varieties stand as to appearance, they lose the immunity, and new seedlings have to be raised. Magnums and Beauty of Hebron are expected to lose immunity gradually. So new apples die out. Ribstons are failing in constitution, though not in character, and are very subject to extraneous disease.

Not only may we accumulate many more such instances, but we may add others from the phenomena of poisons of lower series. The black pigs spoken of by Darwin as unaffected by the blood-root, and the white pigs which are injured by buck-wheat, and most curious of all, the horses which are poisoned by honey-dewed vetches and by fools' parsley only in respect of the white parts of them, come to mind.[27] The tolerance of morphine by rabbits again is well known; but to my mind the strangest of these cases is that of the tsetse fly, which is only fatal to domestic animals, such as the domestic ox, horse and dog, while the buffalo, zebra and jackal, bitten at the same time, graze on unharmed.[28] Man is bitten, but does not suffer; nor do dogs reared wholly on game; but if fed on milk they die, yet all young sucking animals are safe so long as they suck only. Inoculation is no defence, nor any length of life in the district. By the study of concomitant variations there is some law to be found here which will explain, not only these cases, but a whole group of cases in which morphological and even racial similarity are compatible with enormous physiological differences; deductions cannot therefore directly be drawn from the results of experiments in one animal to another; such experiments serve rather to promote the building of a series. The differences probably consist in some simple and general condition, such, for instance, as the quantity or intensity of oxidation; in any case it is erroneous to say that the phenomena of disease must differ clinically according to class, and it seems as if we must learn some other perspective of facts than the scale of life and death. But at the same time we must not forget how many are the pitfalls to be avoided by the inquirer, how many the conditions to be observed. For example, Mr. Sutton has shown that avian tuberculosis is not essentially peculiar to graminivorous birds, as was supposed, but is propagated rather in them by the manner of their feeding.[29]

Finally, I will refer with the utmost brevity to some facts in the constitutional diseases of animals; and herein I would especially acknowledge my debt to Mr. Bland Sutton, not only for his facts and his large views of pathology, but also for the generosity and tireless pains with which he explains them to pertinacious correspondents. The quadrumana, though so near to man, cannot bear a low temperature. They do not die of phthisis, as commonly asserted, but of bronchitis with atelectasis, and this the more as they are exceptionally liable to rickets. Indeed, rickets and rheumatism are so common in animals as to seem fundamental diatheses. Rheumatism attacks in animals, as in man, the left side of the heart almost exclusively,[30] and pericarditis is also a common complication. Rickets in animals leads to far more terrible results than in man. But," says Mr. Sutton, "in mammals each group seems to exhibit predisposition to some maladies and absolute immunity from others" (Extract from private letter, June 5th, 1888). For instance, we find pulmonary affections thus distributed: (1) Primates (excluding man); bronchitis, atelectasis, lobular pneumonia. (2) Carnivora; bronchitis, double pleurisy, lobar pneumonia. (3) Ruminantia; bronchitis, pearl-evil, parasitic bronchitis.[31] Sclerosis, both in tracts and disseminate, peripheral neuritis, and perforating ulcer are found in animals,[32] the so-called "chorea of dogs" being due to sclerosis. Dogs are also subject to tabes.

Chronic nephritis, either as a sequel of acute, or as an independent affection, is found in horses, and "arterio-capillary fibrosis" may in rare cases be associated with it.[33] Dr. Dickenson has recorded chronic interstitial nephritis in cattle, but he does not know that cardio-arterial disease accompanies it. This leads me to the most remarkable and interesting fact that vascular degenerations are practically unknown in animals. This was my own belief, and Mr. Sutton, on far wider data, confirms the generalisation. Atheroma and aneurysm, as known in horses, are due to parasites. Surely it is of deep interest to man to learn from animals the secret of this immunity. Phlebitis in non-traumatic forms is also unknown, and gout scarcely known. I cannot discover how rare vascular degenerations may be in wild men and in those whose ancestry has known neither alcohol nor syphilis. Syphilis is unknown in the animal world, and cannot be inoculated in any animal. Mr. Sutton has never seen primary calcification of an artery in any animal other than man, and cirrhosis of the liver is equally unknown. Long suppurations are rare in animals, and amyloid disease is, I believe, unknown. Scirrhous cancer is very rare in animals; Sutton can quote but one mammary case. If such cancers are abortive glandular formations, how do animals escape? Epitheliomata are equally rare; perhaps no well certified case is on record. But I must now close these random illustrations, and the interesting but unsolved questions to which they give rise, and conclude this section with Mr. Sutton's "main conclusion," which seems to be this: "Evolution has played as important a part in pathology as in biology, and structural peculiarities, pathological in their origin, have been transmitted as race-characters in more than one group of animals. Every great class of animals is distinguished by anatomical details, habits of life, and surroundings from other groups. These differences involve liabilities to some diseases, immunity from others. So far as our present knowledge extends, we know that certain diseases occur with extreme frequency in one class of animals and are rarely seen in another."[34]

In this section I have used the word "history" in the sense in which we speak of natural history. Historical records of disease in the past are, however, full of matter of the greatest interest, which will extend and illustrate the laws of comparative nosology. But these materials, like all recorded evidence, can be better estimated and used when investigations of a more direct and certain kind are farther advanced.

Geographical Method.—How have the morbid varieties of man arisen? The answer to this question, like that of the origin of races, lies in the dark backward and abysm of time. We can only say in general terms that as we look backward we find the natural variation of organisms to be more and more under the control of external circumstances, so that, to study the geographical con-

[21] Professor Griffith, of the Yorkshire College, has referred me to a paper by Drs. Sterling and Brito, showing that human blood, after digestion by the common leech, gives hæmoglobin crystals, *J. of Anat. and Phys.* Ap. 1882.

[22] *A. and P. D.*, i, 321.

[23] *Vide et* Coats *loc. cit.*

[24] M. Nocard, *Recueil de Méd. Véterinaire*, December, 1887.

[25] I state hereafter that this generalisation seems to have been otherwise explained in the case of birds by Mr. Bland Sutton, but Dr. Braithwaite adopts it in his paper on Cancer, in the *Lancet* of July 8th, 1888.

[26] *Vide* Corre, *op. cit.*

[27] Darwin, *A. and P. D.*, c, xxv, ed., 1888.

[28] *Vide* Livingstone's *South Africa* and Anderson's *Lake Ngami*: London, 1856.

[29] *Journal Comp. Med.*, October, 1886.

[30] J. Bland Sutton, Diseases of the Vascular Mechanism in Animals, *Path. Trans.*, vol. xxxvii, p. 573.

[31] Sutton, *Path. Trans.*, vol. xxxvi, p. 548.

[32] Sutton, *G. Path.*, p. 27.

[33] Sutton, *Path. Trans.*, vol. xxxvii.

[34] Introduction to *General Pathology*, p. 379.

ditions of variation, we must have especial regard to areas long undisturbed, and must register in these the phenomena of morbid variation with the qualities of soil, aspect, seasons, atmosphere, food products and so forth. Again, as we must not confound nations with races, so must we not confound kingdoms with physiographical areas. Mr. Haviland, whatever the ultimate value of his propositions, based as they are upon the features of a mixed, highly modified and shifting population like our own, has, at least, impressed these principles upon us with great industry and originality.[35] We have also to observe the effect on long-settled tribes of their removal to new areas, such removals, if harmless to individuals, being often attended by morbid consequences to the race of a very remarkable kind,[36] and likewise the rapid changes which follow a break in the uniformity of external conditions, as, for instance, when a more adaptable race penetrates into the area of a race which has grown into its own climate and has hardened under simple rules and customs into a fixity of type.[37] A close study of the diseases of isolated savage peoples may thus indicate to us simpler stages of our own maladies. For in the migrations of tribes, certain races would succumb to climatic changes which others would surmount and would gain thereby a greater flexibility and development and a greater capacity for further change, the highest parts of the highest organisms being the most mobile.[38] These changes, with their intimate correlations of growth, teach us the lesson again that as in various families so in various regions we must work out in each not only the prevalence of diseases taken singly, but more especially the schedules of its diseases, noting both coexistences and respective degrees of intensity. We must not only note, for instance, as Hirsch notes, the almost universal prevalence of rheumatism; but in each area we must observe the kinds and degrees of it and the associated maladies in man and in animals—nay, in plants also, for rheumatism is so universal a disease it may have its correlative in plant life as scrofula probably has. M. Boudin well says, "De même que chaque pays possède son regne végétal et son regne animal caracteristiques, de même il possède aussi son regne pathologique à lui: il a ses maladies propres et exclusives de certaines autres."[39] Hitherto the effects of climate have been studied in man almost exclusively, and in him with regard almost wholly to the prevalence of external poisons. Dr. Aitken sums up the geographical factors, in the second volume of his *Practice of Medicine*, from this point of view, and he indicates and elsewhere sets forth, as Dr. Creighton has also done, large and philosophical views of the origin and transmutation of organised and organic morbid agents. In the monumental work on the *Vital Statistics of the Census of the United States in 1880*, edited by Dr. Billings, of Washington, there is a mass of tabulated material on the geography of disease, with very discriminating comments thereon, to which I cannot now do more than refer my hearers. Dr. Billings sums up the seventh section thus: "In concluding this subject of the relation of special causes of death to topographical features of the country, the general results of the study may be summed up in saying that the conditions of the climate, the amount of annual rainfall, the amount of low-lying and swamp land, age and sex, the distribution of the people, and the proportion of the coloured and foreign population, appear to be the chief causes of the differences between the several grand groups, or between different portions of the same group. Except in so far as it influences climate or drainage, the geological formation of different regions does not appear to have a marked influence upon the proportion of deaths from various causes, with the exception of goître, urinary calculus, lead poisoning, and perhaps diseases of the digestive organs, due to inorganic impurities in the water supply."[40] For the schedule of the diseases severally, I must refer to the work itself.

Dr. Billings notes (page xxxviii) that: "In a general way, where the proportion of deaths from enteric fever, from cancer, or from consumption is the highest, there the proportion of deaths from malarial fever is the lowest and *vice versâ*." That the malarial fever of one district should be the enteric of another will interest Sir W. Aitken. But how curious is the absence of phthisis from malarious regions, a disease which so many observers associate with damp. Dr. Billings is, however, supported herein by Dr. Livingstone, who says of the Barotze Valley[41] that the site is flat and damp, and "fever" bad there, but that phthisis and scrofula are unknown, and insanity and epilepsy rare. Sir George Paget tells me that in the English fens there was a tradition that phthisis avoided the region; he himself was unable to verify it, partly because before his time ague had much subsided, and is now nearly extinct. Mr. Sutton states that his tubercular mammals nearly all came from the "delightful climate" of his neo-tropical region.[42] Livingstone adds that cancer is also absent from the Barotze Valley, which supports the conclusion of Dr. Billings. Dr. Billings says, moreover, that the cancer statistics of the United States support Mr. Haviland's views of its geography. The United States statistics and Mr. Haviland's inquiries seem to be the only serious attempts yet made to study the genetic affinities of constitutional diseases by the geographical method. The field is enormous, the discrimination of facts most difficult, and general conclusions almost impossible at present—"Qui respiciunt ad pauca facile pronuntiant."

Experimental Method.—Finally, let us consider the results of experiment. Experiment likewise will teach us that drugs and poisons do not vary in their clinical effects upon living beings by gradual augmentation of differences, but by "leaps and bounds," as "musical flames" respond to scales of vibration; it will teach us thus once again that clinical types can be no basis of nosological classification.

Great diversities, contrasts, and strange conjunctions of morbid phenomena do not necessarily signify great divergence of nature in morbific agents, and a classification of disease cannot, therefore, be made only or mainly by putting together like groups of morbid phenomena, but must be made by putting together those groups which, however disparate outwardly, belong to the same series. Can we, then, experimentally test the affinities of morbid groups so as to sort out the like and the unlike, to separate those which only mimic each other from those which are αὐτοφύως ὅμοιοι—alike to the core. Dr. A. M. Brown notes the startling fact "that the most terrible poison (cyanhydric acid) forms the chemical skeleton of that cellular nucleus which is the most active phenomenon of vitality. An internal change which converts a benignant or anabolic molecule into one of dire and destructive malignancy may be exceedingly small. This seems to be equally true whether we consider the products of normal or of abnormal metabolism, or the effects of poisons in the body. How strange it is that as the highly organised molecules of our bodies fall into lower orders, giving way to the ascending series, these lower substances take, not a relation of indifference or of mere inconvenience to the former, but of positive and violent antagonism; so that by virtue only of incessant excretion we incessantly escape destruction by those of our own household. It seems to me that as ptomatines and leucomatines are classified[43] and their generation detected and distinguished in diseases springing from various causes, and from the various organs of the body, and as these substances again are synthetically obtained, they ought to serve as one test series for our purposes. A fundamental distinction of this kind seems to have come out already, namely, that poisoning by extractives in general is attended by hyperthermia, and that poisoning by animal alkaloids is attended by hypothermia.[44]

Hoppe Seyler has extracted another substance having peculiar attributes from the spleen, which he has called adenine. Gautier, again, has shown that there is a distinction between alkaloids formed by bacterial and those formed by normal bio-chemical action,[45] though, no doubt, intermediate substances may exist in any or every degree. The phenomena of isomerism suggest to us how large differences in effect may come about with a rearrangement of molecular groups, and without any change in the sum of their chemical composition. No doubt the highly complex molecular units of tissues in the different varieties and species of animals have a large play of this kind, and may admit of various internal recompositions, and show reactions as various as we see in the relation of saliva to the poison of serpents.

[35] *The Geographical Distribution of Heart Disease and Dropsy, Cancer and Phthisis.* With Maps. By Alfred Haviland. London, 1875.
[36] Darwin, *D. of M.*, i, 291, *et seq.*
[37] *Vide* Bagehot's most interesting essay on Physics and Politics, 8th Ed., 1887.
[38] The brain of civilised man is nearly 30 per cent. larger than that of the wild man.
[39] *Traité de Fièvres Intermittentes*, Paris, 1842, p. 69, quoted by Daremberg, Hippocrate, 1855, p. 303.
[40] *Loc. cit.*, vol. xii, p. 22.
[41] *South Africa*, pp. 504-5.
[42] Bland Sutton, *Path. Trans.*, vol. xxxvi. p. 546-7.
[43] I trust these legitimate forms may be accepted, and replace the barbarous words "ptoma-ines" and "leucoma-ines."
[44] Dr. A. M. Brown, quoted by Sir W. Aitken, *Animal Alkaloids*, 1887.
[45] *Vide* Sir W. Aitken, *loc. cit.*

My friend Professor Thorpe, in discussing this matter with me and the strangeness of it, points out the fact that even so simple a body as kakodylic acid, which contains 70 per cent. of arsenic and is perfectly soluble, is yet a non-poisonous body: and he refers especially to the cyanides and carbamines as complex molecular aggregates showing widely different reactions to one or similar agents.[46]

Dr. Weyl[47] shows that chrysarobin is powerfully poisonous, while its near relation, anthrarobin, has absolutely no action on the living organism, however administered. Although anthrarobin has a great affinity for oxygen, yet it is detected unaltered in the urine. The albuminoids, of course, have these characters in increasing degrees, but are more difficult to handle.

Professor Smithells, of the Yorkshire College, has kindly explained to me the new method of chemical notation in space of three dimensions; and showed me, in molecules of these higher groups, how wide may be the functional changes resulting from slight atomic dislocations. Not only may atomic substitutions have such consequences, or the incidence of sympathetic vibrations as in the case of unorganised ferments, but alien atoms may enter temporarily into a compound molecule, and cause a dislocation of its atomic system, leaving the group again as the dislocation is effected. Such a dislocation reminds us of the effect of the protective poisons, such as small-pox and scarlatina, which, thus temporarily entering the tissues of some organ or organs of the body, may shift the components of their molecules into a system of somewhat less stability, which system may be stable enough to synchronise with the vibrations of that poison for an indefinite time, but which would tend sooner or later, in the individual or his descendants, to revert to the original and more antipathetic form. In proportion to the extent of this reversion would return the liability to disturbance on a renewed impact of the poison. When we remember how long a step it is from the most complicated of delineated molecules to the simplest of living protoplasms, we prepare ourselves to apprehend the infinite adaptability and convertibility of the latter. Professor Smithells thinks chemical analogy would rather indicate that reversion to susceptibility may consist in the formation of all new molecules, after the poisoning, on the original type, so that the old and distorted ones are gradually outnumbered. My own impression, however, derived from the phenomena of physiology and heredity, is rather in favour of the former hypothesis.

Those animal extractives and alkaloids which have as yet submitted themselves to the chemist are of no high degree of complexity, and are probably common to a very large part of the animal kingdom, and work on planes far below those on which the highest functions are developed. We should not, therefore, expect to find any test reactions from them which would differentiate human diseases from those of organisms a little or even much lower in the scale. The behaviour of bodies of lower degrees of complexity may be better studied in humble forms of life and in plants, in which latter organisms the simpler alkaloids play a very important part.[48] If we first learn what special orders of oxidation there are for the generation of motion in the several classes of plants and animals, beginning with the simplest, we shall see how the perversions of such oxidations may differ in the different classes.

The general factor which becomes of next importance to Isomerism is Inhibition. As we rise to higher and higher planes of function we enlarge the office of inhibition. Every higher order of motion regulates, or in other words inhibits, that of the order below; so that, if we could discover a series of counter-potent agents, corresponding in catabolism to the successive planes of complexity in warm-blooded animals, let us say, they would give us the means at each stage of neutralising the dominant function on that plane, so that we should be able in plane below plane to liberate each in order, and thus to reveal a series of morbid states caused by the enfranchisement of orders of activity proper to lower stages of life.[49]

Drs. Fraser and Crum-Brown revealed to us years ago the great conversions of activity resulting from small molecular substitutions, and the change of selective affinities for animal tissues shown by molecules thus artfully varied in one or a few atoms. Drs. Brunton and Cash[50] tell us that the distinctive action of the lower members of the fatty series is their stimulant and anæsthetic action on the nerve centres. The members of the aromatic series also affect the nervous system, but more the motor than the sensory centres, causing tremor, convulsions, and palsies. Again, a substance has been isolated from the spleen by Morell, which has a paralyso-motor action with powerful effect on the medulla oblongata,[51] and this substance should be carefully and repeatedly tested upon animals in which the homologue of the medulla is the upper centre, as well as upon all others. Some drugs have a large reducing power, such as curare, by means of which a mammal may be reduced to a cold-blooded animal whose temperature varies with the atmosphere. By testing such agents over a large series of animals, and by systematic replacement of molecules, we might find the means of subtracting inhibition on successive planes, and so discover some serial order in the resulting diverse morbid phenomena, and form a table of genetic affinities which would show how the proximate principles of higher organisms are the ultimate of the lower.[52]

Wide and untrodden are the marches which still lie between organic bodies such as those and the mobile and complex molecules of living matter. In these the potentialities of change are as infinite as their functions. We have little common measure as yet for chemical and vital reactions, but we see, as we have seen already in our discussion on races, that as the same chemical or vital agent or even different doses of the same agent may exercise, and in numberless cases does exercise, an enormously different influence upon organisms which are very closely related; so closely allied organic substances may cause reactions seemingly very different in the same organism. Mazy and dissolute as from outside these phenomena may appear, they have nevertheless radical and ramifying laws, and classification by genetic affinity is one method at least of discovering them, and of explaining to us wherein consist those changes, so vast physiologically, so small phylogenetically and morphologically. Moreover, diatheses or morbid varieties may be tested by drugs so as to establish hereditary qualities and their reactions. In the graphic method again we have found a potent means of detecting the distinctive kinds and the more secret transitions of those vital motions in which ultimately all normal and abnormal vital phenomena have their being.[53] The relative weights of every organ in all animals should also be ascertained, and the chemical characters and correlations of such transitory and primitive organs as the Wolffiian bodies correctly estimated in various animals. Thus, by following what Aristotle calls the double track —the track of the one into the many, and of the recombinations of the many into the one—we shall analyse and reconstruct the problems of life.

Thus, gentlemen, have I regarded comparative nosology and the classification of disease. I have said that to know disease or any other matters we must think of things in natural groups, and, as Comte told us,[54] and Darwin afterwards proved and illustrated, these natural groups must be arranged in natural series. Even if there be some varieties, of which the place be dubious or which appear equally bound to two groups, yet, as Dr. Whewell admirably says, "this does not destroy the reality of such groups any more than the scattered trees of the intervening plains prevent our speaking intelligibly of the distinct forests of two separate hills."[55] Our knowledge of the properties of a Kind is never complete. We are always discovering and expecting to discover new ones, the common properties of a true Kind being inexhaustible and significant of a common parentage.[56]

Classification by Types, on the other hand, was a service of temporary value, and of ultimate mischief, which still pervades our textbooks, though Dr. Whewell was the last philosopher of im-

[46] I may remind the reader in how many ways mere iron may be modified and varied in its properties. Mr. Hadfield, of Sheffield, says: "Steel is but particular states of iron, produced by the union of this metal, not with carbon only, but with many other bodies of different nature." *Vide Proc. Instit. of Civil Engineers*, vol. xciii, pt. iii.

[47] *Nature*, June 7th, 1888.

[48] *Cf.* Mr. Walter Gardiner, *Proc. Roy. Soc.*, November 24th, 1887; *vide et* article on Vegetable Rennets, *Nature*, July 19th, 1888, wherein "the essential similarity of the metabolism in plants and animals" is illustrated, and the vegetable alkaloids are compared with the animal ptomatines.

[49] Compare Dr. Hughlings Jackson, *Croonian Lectures*, 1884.

[50] *Proc. Roy. Soc.*, March 31st, 1887.

[51] *Vide* Sir William Aitken, *loc. cit.*

[52] The evolution of the nervous system is of course but one part of the whole inquiry. Dr. MacMunn has traced elements of mammalian blood even so low as the sea anemones, and other investigators are opening out like paths of discovery (*vide* MacMunn, *Proceedings of the Royal Society*, No. 296, 1883, and *Philosophical Transactions*, 1885).

[53] *Vide* Professor Stirling's *Physiology*, 1888; and Professor Lauder Brunton's *Pharmacology*, 1885.

[54] *Vide* Mill, *Logic*, vol. ii, p. 280.

[55] Whewell, *Novum Organum Renovatum*, p. 290.

[56] *Vide* Mill, *loc. cit.*

portance who ventured to defend it. For the most obvious properties of things may be of trifling importance compared with those which are not obvious, as we acknowledge when, for example, we divide plants into dicotyledons and the monocotyledons.

Yet, when I say this to the physician, who, as a man of science, must constantly reopen the theorems of physiology, I do not forget that the practical physician, like the farmer, must have rules suitable to common cases—rules which point out the "least perilous way." As Dr. Whewell observes (*Novum Organum Renovatum*, p. 286), "a plea that human laws which mention fish do not apply to whales would be rejected at once by an intelligent judge." Health and disease are both equally functions of living bodies, and, scientifically speaking, one is as good as the other. But in art we must have rules and precepts as well as natural laws; we must have a teleology to dictate not what is but what ought to be. Yet such precepts or axiomata media, if they are to serve us well, must continually be altered as we push forward the discovery of those natural laws which are the Institutes of Medicine. Again, when I say that a knowledge of disease must base itself upon a complete survey of both the great kingdoms of life, and when I say that every disease and disorder of man has been evolved from the variations of lower animals and plants, and must, in every shade of them, be developed from the implicit properties of the ovum or even of protoplasm,[57] yet I admit no less readily that, as in the lowest forms of life these actions are rudimentary or feeble, we should study their variations best in man, in whom they are most explicit and have their highest intensity, were it not for that old source of error: "Errare non modo affirmando et negando, sed etiam sentiendo." Were I worthy to use the irony of Socrates well might I cry, *ἀκων εἰμὶ σοφός*. While we are theorising of diseases the fates prevail over our counsels. Nevertheless, with such intellectual powers as we have must we "go sounding on our dim and perilous way through words and things." As said a great critic of the third century, "Of what did those divine ones take regard.....As well as of many other things they had regard of this—that Nature did not judge man to be a mean or ungenerous animal, but introducing us into this life, into this universe, as into a great assembly, to behold her contests and to be keen competitors in her rivalries, she implanted in our souls an irrepressible love of whatever is great and nobler than ourselves. And therefore the whole world is not enough to satisfy the speculation and apprehension of human understanding, but our reflections will often travel beyond our environment."[58] Thus have my reflections wandered to-day, "striving to attain by shadowing out the unattainable."

Gentlemen, many of us too well know conditions and times of abasement; times when we see Nature beautiful, magical, but remote, unmindful, pitiless; when we humble ourselves in silence before "Him who fastened the foundations of the earth, who spread His light upon it and balanced the clouds of the air, who binds the sweet influences of the Pleiades and guides Arcturus with his sons; who gave to the horse his strength, and goodly wings unto the peacocks, and who is King over all the children of pride." But the time and circumstance of this Convocation bring not these moods of awe and withdrawing but surely those of hope and uplifting even to victory; for, like Jacob at Penuel, we have striven with the Great Unknown, not without prevailing. Our mood to-day is rather that of Sophocles in the well-known words of the Chorus of the Antigone, "Wonders are many and none more wonderful than man; the power that crosses the white sea, driven by the stormy south wind, making a path under surges that threaten to engulf him; and Earth, the eldest of the gods, the immortal, the unwearied, doth he wear, turning the soil with the offspring of horses, as the ploughs go to and fro from year to year.....And he masters by his arts the beast whose lair is in the wilds, who roams the hills, he tames the horse of shaggy mane, he puts the yoke upon its neck, he tames the tireless mountain bull. And speech, and wind-swift thought, and all the moods that mould a state, hath he taught himself; and how to flee the arrows of the frost and of the rushing rain; yea, he hath resource for all; without resource he meets nothing that must come: only against Death shall he call for aid in vain—*νόσων δ'ἀμηχάνων φυγὰς ξυμπέφρασται*—but from baffling maladies he hath devised escapes."[59]

[57] *Vide* the researches of Gaskell, Walter Gardiner, Spencer Moore, and others.
[58] Longinus, *De Sublimitate*, ed. Vahlen, Bonnæ, 1887.
[59] *Antigone*, 332-364, Jebb's translation, 1888.

ADDRESS IN SURGERY,

BY

SIR GEORGE H. B. MACLEOD, M.D.,

Regius Professor of Surgery in the University of Glasgow; Surgeon-in-Ordinary to the Queen in Scotland.

ON THE PROGRESS OF SURGERY DURING THE LAST HALF CENTURY.

GENTLEMEN,—Deeply sensible as I am of the honour done me in being entrusted with the Address in Surgery on this the first occasion on which your great and important Association has visited this city, I am nevertheless overwhelmingly conscious of my inability to do justice to a position which has been on previous occasions filled by representatives of all the great schools of this country. Your indulgent kindness can alone sustain me in my attempt to follow in their footsteps.

It is my wish, in the time devoted to this address, to attempt a brief epitome of the leading advances which Surgery has made during the auspicious reign of Queen Victoria, as that period is naturally suggested by recent events, and is one over the greater part of which my own recollections extend. It is fully admitted that in every department of human knowledge our half century has been signalised by a progress greater, more momentous, and more permanent than any other in the world's history; and in this advance medicine in all its branches has so largely and bountifully shared that even a bare recital of what has been done fires the imagination and makes the heart throb with triumph.

Since 1837 all the collateral sciences on which medicine so largely leans have been in a great measure reconstructed, and the very foundations on which our art is built have been in no small measure relaid.

It is with pardonable pride that one speaks of medical science in this northern land, where for so long a time it has acquired a high place by the fruitful labours of many devoted men; and with no department of the one great and indivisible art have the names of Scotchmen been more honourably associated than with that which I to-day humbly represent. We are met in the city where Peter Lowe early sowed the seeds of surgical knowledge and founded one of the oldest of the corporations, and we are within the walls of the University where that modern steam engine was born which has more than trebled man's physical power, and has so largely contributed to the national success and the well-being of mankind.

In this ancient institution, originally "part of the great corporation of the learned men of the world," and the daughter of that far more venerable University of Bologna, which has just celebrated her eighth centenary, men celebrated in all the departments of mental and physical science have lived and taught. Not a few who afterwards largely contributed to the reputation of other schools (Cullen, Black, Charles Hope, Wm. Gregory, Thomas Graham, Granville Pattison, Ure, Hooker, Balfour, Lister) began their career here as medical teachers—men who have gone elsewhere, like the wandering Scottish surgeons of the Middle Ages, who in their time helped to enrich so many Continental colleges. We cannot forget that the immortal Hunters were educated in Glasgow, and that from regard to his old school the elder brother bequeathed to us his museum, and in 1765 proposed to Cullen the establishment of a medical school, for which he offered to build a theatre, and teach for no other motive than the love of his art. The early history of surgical anatomy, too, owed much to Allan Burns, whose premature death deprived Glasgow of a man of the greatest promise. My time, however, will not allow of further local references, though one other fact I will state, as it may tend to show with what fervour and enthusiasm learning and medical science is regarded in Scotland. While in England 1 in 5,000 attend the universities, in Scotland 1 in 600 avail themselves of that privilege—a remarkable fact when it is remembered that the universities here at first possessed no endowments but the privilege of teaching, and the scholars no claim but ambition to learn. Of the 1,639 medical students registered last year in Great Britain, no fewer than 666 belonged to the Scottish schools.

To understand aright the position of surgery in 1837, a few preliminary leading facts must be stated. Before 1800 much had, no doubt, been done in anatomy by "the great masters," but as a

science it has certainly been reconstructed within the last fifty years. The microscope and new methods of study have entirely changed its whole bearings. Comparative anatomy has assumed its appropriate place, and pathological anatomy has been created. To John Hunter (though derided and defamed by many of his contemporaries as a mere theorist) we owe more than to any other man. He brought order out of chaos, and established surgery on the only sure basis of observation and experience; making, as Malgaigne has well said, a "science" of what Paré and Petit had left but an "art." He was the teacher of the leading men who followed (Abernethy, Lawrence, Cooper, Home, and the Bells), and the inspirer of all that was best and most abiding in British surgery. Before 1800 the great Continental and British schools of surgery had been founded (Berlin, 1714; Edinburgh, 1719; Dublin, 1710; Paris, 1721; London, 1750; Vienna, 1750). The old Academy of Surgery in France, which had achieved much, died with the other medical schools of that country, at the hand of the revolution, whose centenary falls this very year. "Knowledge" was said to be "aristocratic," and medical science was not made an exception till the needs of the great war, in which 600 surgeons fell in eighteen months, recalled to life the medical institutions of France, and inspired them with an energy and enthusiasm without parallel. Desault, one of the greatest surgical teachers who ever lived, died amid the throes of the revolution. It was well said that when men amidst the crash of all order did not know where to look, "Desault showed them the way, and led them to the Hôtel Dieu." He and Dupuytren, who succeeded him, established a great school, though neither contributed directly hardly a line to the literature of their profession. Bichat, the pupil and literary executor of Desault, did for general and pathological anatomy in France what John Hunter a quarter of a century before, had accomplished for us. He died in "the glory of his manhood" and of his literary fame, at 31 (an age at which it is said Hunter could hardly read), having in the short space of $2\frac{1}{2}$ years revolutionised medicine in France. He passed the torch to Laennec (whose great discovery of auscultation was made public in 1819) and Bayle; and above all to Dupuytren.

From the beginning of the nineteenth century up to 1837, two figures stand out from the great throng of the distinguished surgeons of that period, Dupuytren in France, and Astley Cooper in England. They had much in common, but more that was dissimilar. Both were absorbed in the same pursuits,—anatomy, experimental physiology, and pathology, in their bearing on practical surgery. Both possessed a perseverance and a devotion which has been seldom equalled, and never excelled, an originality too, which sought to conquer everything for themselves, and a success which has never been approached. Here, however, the resemblance may be said to cease. Cooper's generous and open disposition made him beloved of all; while the gloomy hauteur, crafty malignity, and unscrupulous selfishness of his rival, caused him to be feared and hated. Notwithstanding this, Dupuytren was beyond question the greatest teacher of the age, beyond all others inspiring the men who afterwards became the glory of the French school. Nélaton, the "most modest and one of the greatest" of surgeons, whom many of us knew, was his assistant and successor, and the last who gained his chair by "concours" (1851). Cooper survived until 1841 (he was a candidate with the great Duke of Wellington for the Lord Rectorship of this University during the year of the Queen's accession), and was universally regretted; while, when Dupuytren died in the zenith of his fame in 1835, it was said that the surgical world was relieved "from the burden of his authority, which had pressed on it like a nightmare."

Almost contemporary with these men (he died in 1826) was Scarpa, who in Italy worked much on the same lines, but from the slight international intercourse which then prevailed, they knew but little of one another's labours. Incredible as it may seem, we have it on the best authority that the doctrines of John Hunter were hardly known in France for forty years after they were promulgated, and in the first edition of Boyer's classical work on *Surgery*, published in 1814, the labours of the English and Italian schools are ignored. After the peace of 1814, surgeons on either side of the Channel became, for the first time, acquainted with one another's progress, and Roux's celebrated *Parallel* spoke with enthusiastic admiration of the courage and enterprise shown by British surgeons in tying the great vessels, resecting joints, and promoting early adhesion. Then it was Boyer wrote that "surgery seems to have attained the highest degree of perfection of which it is capable!"

Between 1796, when Abernethy first tied the external iliac, and 1827, when Mott ligatured the common iliac, all the great vessels (including the abdominal aorta) had been tied in Great Britain or America.[1]

In 1837 the doctrines of Broussais, which had been accepted with the enthusiasm of a revelation, and had deeply imbued the surgical as well as the medical practice of the day, had spent their force. Hahnemann and Brown, Gall and Spurzheim, had come and gone with their disturbing influence, and men turned wearily from the discussion of mere doctrines and the dogmas of authority to a careful study, aided by experiment, of *facts*. Many remarkable discoveries in mechanical science, especially that of the achromatic microscope (1824 and subsequent years), the spectroscope, and the applications of electricity, powerfully contributed to the rapid progress of biology, morbid anatomy, pathology, and chemistry. In 1838 Henle and Mandl made known what their countrymen had then accomplished, and the members of the German school have ever since been the most enthusiastic and competent workers on these subjects.

The most distinguishing features of the period under review (1837 to 1887) have undoubtedly been anæsthetics and antiseptics. They are both "epoch-making" discoveries. Each has done almost as much for surgery as the discovery of hæmostatics, and when combined may, I think, be said to excel even steam and electricity in their gracious benefits to mankind. Though from the earliest times men sought for the means of allaying pain during operation, and numerous imperfect methods (as that of Dr. James Moore of this city, the younger brother of Sir John Moore, by compressing the nerves) had been tried to effect it, yet the statement of Velpeau, published in 1839, may be taken as expressing the opinion held seventeen years before the great discovery —"All research for an agent to destroy pain in operations is a mere chimera and unworthy of further consideration." Suddenly, however, the riddle was solved by one who, recalling the experiments of Humphry Davy with nitrous oxide and sulphuric ether, dimly perceived the use they might be put to in surgery. Whatever credit in this matter may belong to the unfortunate Horace Wells, it was really Mr. Morton who worked out the practical application of ether, and in the theatre of the Boston Hospital may still be seen the sponge by which it was administered on that memorable October morning in 1846. Many of us can still recall the enthusiasm which that discovery evoked, and the unbounded anticipations which it suggested. After the abortive trial of various other agents, chloroform was brought into use by Sir James Simpson, within a year of the time when attention was directed to the subject. This, the most valuable of anæsthetics, was discovered by Soubeiran in 1831, and had been shown to be a powerful anæsthetic by Flourens some years afterwards. Many years have passed, but we remember with amused astonishment some features of the warm controversy which arose regarding these agents—the frivolous objections ("religious" and other), the endless discussions and statistics—the hopes and fears which were expressed. It is not perhaps too much to assert that the relative merits of these and other anæsthetics, which I need not stop to enumerate, have not even now been universally determined. I myself, after fairly trying most of the agents in use, now exclusively employ chloroform, and having for years kept an accurate record of its administration, and given it freely and without stint in all sorts of surgical proceedings, never refusing its benefits to a single patient, no matter what his condition or the operation to be performed, I have never had an accident except once, when an epileptic took a fit while being put under its influence, and died with a full and fixed chest. For speed and energy, for ease of application and agreeableness, for rapid recovery with little subsequent trouble, and for safety *when properly administered*, chloroform is, in my opinion, unrivalled. That it needs no apparatus but a towel is a great point in its favour. This is the record of one who has administered it constantly almost from the time of its introduction into practice, and the statement in this sense may not be without its value. I never measure the quantity used, but exhibit it freely, and take the colour of the lips and the respiration as my chief guides. Making the patient count at the beginning of the administration is a most valuable aid; and Nélaton's inversion of the body with artificial respiration is, I think,

[1] External iliac by Abernethy in 1796 and 1806; primitive carotid by Cooper in 1805; subclavian, attempted by Cooper in 1806 outside of the scalenus; the same by Ramsden of Edinburgh in 1809; inside scalenus by Colles in 1811; internal iliac by Stevens of Santa Cruz, 1812; common iliac by Gibson of Pennsylvania, and Mott, in 1827; innominate by Mott, 1819; abdominal aorta by Cooper, 1817; brachial by Mott, 1818.

the surest mode of resuscitation in danger from failure of the heart. A minute is about the average period for inducing insensibility; and it is very rare, if proper precautions are taken in the way of preparation and after-management, to have any sickness. There is little doubt that "nervous" persons and those who are intemperate in the use of alcohol, tobacco, and narcotics, and also epileptics, require special care. Over-saturation from the too frequent renewal of chloroform induces, in my opinion, the chief after-trouble.

Local anæsthesia in its present form is also a conquest of the last half century, and though many agents possess this power, and some of them, like cocaine, are specially valuable for particular purposes, the finely-divided ether spray introduced by Dr. Richardson (a distinguished student of the Glasgow school) in 1866, is more efficient and easy of application than any other for practical purposes. Finally as regards this point I may note that Braid, of Manchester, who published in 1843 on hypnotism, caused much interest in a system which had been largely tried in India, but which has now fallen entirely out of use.

I need hardly say that anæsthesia has changed the whole face of surgery. "The lion heart" is no longer the requisite of a surgeon. Finesse and manipulative skill now take the place of force. Innumerable operations are rendered possible which could not before be attempted, and the surgeon has benefited almost as much as his patient.

It was in this school that the other great improvement of our time, the use of antiseptics in surgery, was practically applied, so that I might be pardoned if I spoke warmly and enthusiastically of that invaluable discovery. But as its principles and practice (though doubtless much modified and simplified of late years) are so well known, and have been so much discussed in former addresses to your Association, and in the whole range of our professional literature, I have no excuse for dwelling upon it at any length now. Suffice it to say that, notwithstanding all the criticism and opposition which it has met with, the fundamental principles on which it rests remain, in my humble opinion, unassailable, and that it has led to practical results (not alone in its immediate effects, but in the discussions and studies which it has produced) which have, in an extraordinary degree, widened the domain of our art, diminished the sufferings, and saved innumerable human beings.

The study of micro-organisms which a quarter of a century ago were mere microscopic curiosities have been an outcome of the controversy. Within a few years the tracing of the life-history, varieties, and changes under cultivation of bacteria has become a great and enthralling pursuit, and has opened up a field of practical application, not in medicine and surgery alone, but in hygiene and public health, which the most far-seeing cannot pretend to limit. The present tendency is, perhaps, to exaggerate the influence of microbes, to take effects for causes, and ascribe to their agency almost every ailment. It was not till 1837 that the true nature of the yeast plant and its effects on fermentation were discovered, and as many diseases were long thought to arise from a process similar to fermentation, an entirely new view of pathological phenomena was suggested. The remarkable observations of Koch on the bacillus of malignant pustule foreshadowed what has been done for other similar disease-producers; and now what was lately but a dream seems, by the revelations of experimental pathology (for clinical observation alone would take generations to accomplish it), to be capable of realisation in the near future: namely, that every zymotic disease, and all those which owe their origin to putrefaction and fermentation, will be finally stamped out. What a consummation if septicæmia, pyæmia, erysipelas, puerperal fever, spreading gangrene, *et hoc genus omne*, were arrested at their inception, yet such promises to be the reward of those methods of study now pursued, which teach us the nature and varieties of the morbid agents, their different modes of propagation, their channels of access to, and exit from, the body, with their effects under different conditions on the tissues and the economy.

The practical application of aseptic surgery has amazingly augmented the importance and value of the surgeon's services, as the advantages of that system cannot be secured without wide knowledge and great assiduity on his part. Perfect drainage; entire rest, both mechanical and physiological[2] (which includes the avoidance of all tension in the wound), and such attention to hygienic and constitutional conditions as will maintain and increase the resistance of the tissues, and of the general system, to the invasion of disease, are essential to the "system" on which wounds are now treated, and demand the most assiduous care from the practitioner. Of the many germicides which have been used I undoubtedly prefer the bichloride of mercury, which, with the soft alembroth lint and Gamgee elastic absorbent wool, are most perfect local applications. Dry and elastic dressings (the many medicated and absorbent wools, cottons, and lints now in use) have been, in my experience, most valuable advances in wound management. With reliable antiseptics (that is, agents which are capable of destroying the septic germs, or, at least, inhibiting their development, without at the same time causing local or constitutional harm), and with a scrupulous attention to details which must never flag, almost every organ and cavity of the human body may be, and have been, invaded, in some cases, perhaps, with too confident temerity.

There is no more interesting study in surgical history than the development of our present practice as regards wounds, from the blind groping of the surgeons of last century to discover the secret enemy which baffled their best efforts, to the brilliant dawn which we have been permitted to see. Hunter, and others before him, recognised the evil effects of atmospheric air, especially as met with in hospitals, and futile attempts were made to exclude or medicate it with various gases and fluids. The exigencies of military practice brought about the substitution of pure water for the filthy poultices, ointments, and balsams, and simplified the mechanical appliances in use in civil practice. Irrigation followed the entire submersion of the wounded part (1839), and cold affusion, which became the fashion in both medical and surgical practice, culminated in the hydropathic system of the Silesian peasant, Priessnitz. The "glyceroles" gave place to disinfectants (iodine, the salts of iron, alcohol pure and variously combined, chlorate and permanganate of potash, and many other agents), and of these, coal tar and its compounds attracted most attention. "Occlusion" by various plans, collodion, gums, gold-beaters' leaf, "insufflation," filters of purified cotton wool, etc., had all their day, till, finally, in 1860-1 Lemair, and in 1865 Declat, used phenic acid, and Pasteur's researches about the same time explained its remarkable properties. Independently, however, of Lemair's observations (published in 1863), and inspired alone by the discoveries of Pasteur, Sir Joseph Lister a few years later, 1866-7, used the same agent; and to his indomitable perseverance, scientific discernment, and philosophic grasp of the subject, we owe that practical application of antiseptics which has founded the "system" with which his name will be ever indissolubly and honourably associated. The rubber tubes of my old friend Chassaignac (1851), and the other means for securing drainage (bone and glass, metal and spiral wire drains, horsehair, catgut, etc.), the metallic sutures which, though described by Fabricius and others, are often erroneously attributed to Marion Sims,[3] the ligatures[4] rendered aseptic and so fundamentally different in their behaviour from some of these same materials as used by Crampton, Physick, Wardrop, Cooper, and others, have been the outcome of, or made subservient to the antiseptic method. The proper use and best form of deep and superficial stitches and dressings are also now well established, and the reign of dirty sponges and foul instruments and hands has passed away for ever. Modern pathology has put an end to the keen controversy which for 150 years bulked largely on surgical attention regarding purulent infection. The direct absorption doctrine of Boerhaave held the field till the middle of the eighteenth century and was followed by the hydraulic, the metastatic, the spontaneous generation, the phlebitic (in various forms) and other theories, till Virchow (1846-56) threw a new light on the subject by his researches on thrombosis and embolism, after which the investigations on sepsin, blood ferment, and micro-organisms explained what was still unintelligible.

As a result of the misfortunes of the Crimean war, and to a less extent, perhaps, from the alarm caused by the cholera epidemic of 1852, the construction and organisation of hospitals and other public institutions have received more attention during the last

[2] I desire here to express my great admiration of Hilton's Lectures on Rest and Pain. I consider them to be the most suggestive contributions to surgery which have appeared in my time.

[3] Sims curiously thought metal sutures were the great surgical achievement of the century and "one of the most beautiful examples of the inductive philosophy!"

[4] Chinese silk, doeskin, tendon of moose and Caribbean cariboo, of reindeer and kangaroo, aorta structure, silkworm and catgut, metal, india-rubber, vegetable fibre, etc.

25 years than during the previous 75 which had elapsed since Tenon wrote. The official statement in 1861 of the insalubrity of the Parisian hospitals (where it was said that it was the exception for a patient to recover from any important operation, so that many of them had to be abandoned), from the effects of that "hospitalism" to which Sir James Simpson in 1860 vividly drew attention, helped largely the progress of this question. That intra-mural hospitals are, however, on their trial, cannot be doubted, notwithstanding the immense addition which antiseptics have made to their salubrity; and the multiplication of village infirmaries, country adjuncts to city hospitals, and convalescent institutions since 1860 is evidence of the belief that smaller establishments in rural districts meet modern ideas more nearly than huge piles without space for fresh air and recreation, in the dense and polluted precincts of our great cities. I cannot avoid in this connection referring to the good that has been done in late years by the use of ambulance waggons, after the American model, for the conveyance of the sick, and for the instruction of many in the first care of the wounded. The nursing sisterhoods too, which originated with Miss Nightingale, are now our most valued assistants, and have been of unspeakable benefit to both patient and surgeon, while they have given an aim and object to the lives of many refined and cultivated women, by supplying them with a field well fitted for the display of their best and highest qualities.

Of the advances in doctrine and practice since 1837 much might be said. Not only has general anatomy been greatly advanced, but pathological anatomy has been created, while physiology has become a new and practical science under the influence of experiment. Chemistry has also been reconstructed. Experimental and microscopic research have elucidated in a remarkable manner the whole phenomena of inflammation and the febrile condition. The blood and its vessels, the reaction of the tissues involved, the part played by the nerves, the nature of the exudations, with their destinations and changes, as well as the growth, degeneration, and metamorphosis of structures, have all been laboriously studied by the aid of the microscope and by chemical processes. It was within the years 1838-39 that the cellular pathology was born. It took the scientific world by storm. Though, no doubt, it can be plausibly asserted that both John Hunter and Raspail dimly foreshadowed it, certain it is that Schleiden, Schwann, and Müller laid its true foundations, while Virchow and his pupils worked it out. Constant advance continues to be made by the use of new and improved methods of research, so that our knowledge of the ultimate elements of the tissues is daily increasing. An immense scientific activity followed the year 1840. Within a few years almost all the tissues and organs and the secretions of the body, both in their normal and altered conditions, were laboriously studied, and the phenomena of the respiratory, digestive, and nervous systems, as well as the great subject of embryology, which throws so much light on congenital deformities, were largely investigated, and by none with more ability than by my late colleague Professor Allen Thomson.[5]

Within the last half century, and especially since the discovery of anæsthetics, all surgical operations have been greatly improved, and many new ones have come into use. The operator being no longer hurried, or his feelings harassed by the sufferings of his patient, and happily possessing better control of the result, is left free to plan and conduct his operation without embarrassment.

In this progress of operative surgery, amputation has largely shared. The improved methods of arresting bleeding, both during and after operation, have essentially contributed to its perfection. The india-rubber (1873), and more lately the spiral-wire tourniquets of Esmarch, and the "bloodless" system (though now no longer carried out as at first practised), which these appliances rendered so easy of application, have been of the most eminent service in amputations and excisions, as well as in all operations on bones and deep structures. The old method of closing arteries by torsion (used by Galen and Avicenna, but more especially studied by Amussat in 1829), was much in vogue a few years ago; but it and acupressure (described by Heister and many others), which Sir James Simpson (1859) supposed would supersede all other hæmostatic methods, have been replaced by the antiseptic ligatures now in use. The modern practice of using water at a temperature from 120° to 160° F., for the arrest of oozing is in my experience admirable.

Amputation by the circular method, after being exclusively used for over 1,800 years, was largely superseded by the flap operation; and in the Scottish schools, from the example set by Syme and Liston, it came into almost universal use forty years ago. The extraordinary dexterity ("his operation was as a flash of lightning compared with others," Fergusson), with which Liston amputated the thigh with only one assistant to hold the foot; compressing the vessel, and retracting the flaps, with one hand, while he cut and sawed with the other, is still a tradition of the Edinburgh school. The "oval" (or method in γ), so much employed at the joints, was introduced by Scoutetten in 1827: and the less known oblique or elliptic by Soupart in 1842. Innumerable varieties of the three leading methods, as regards the length, shape, number, and the tissues constituting the flaps, have been introduced into practice within the last forty years, and many of these have proved most useful. The square flaps of Teale (described in 1858), and now generally made with less disparity between their relative length, give an admirable result at some parts of the limbs. The other "modifications" of the standard methods at some places are endless, as for example, in the neighbourhood of the knee, but some of these are both fantastic and useless. Carden's and Syme's amputations are perhaps the most successful methods in use, and little improvement has been made upon them by the changes on the original plans which have been proposed at various times. They conform to most of the conditions requisite to a good method of amputation—viz.: sufficient and healthy covering falling easily into place and being easily retained, the blood-vessels, nerves, and cicatrix kept out of the way of pressure, the drainage perfect as the limb lies at rest, and all this with the least sacrifice of parts. Nowadays we must add that the operation should be performed at a place where a false limb could be best attached, as the modern improvements in mechanical science have altered the estimate we form of many procedures. Thus in Pirogoff's operation (1854) at the ankle, the stump is too long for a good foot to be attached, and Syme's method (even as now performed with a more limited heel flap) must yield to Roux's lateral internal operation, at least in adults, because of its greater facility of performance, better drainage, greater ease of retaining the equally good flap in position, and the less risk of sloughing from the better blood supply. The advantages of the osteoplastic methods, as in Pirogoff's and Gritti's amputations, in my opinion are more plausible than real.

Before the time when Syme's amputation became appreciated (that is before 1843), it was the practice to amputate below the knee for disease or injury of the foot, and that notwithstanding the fact that Lisfranc's and Hey's tarso-metatarsal amputation had been introduced in 1790, and Chopart's medio-tarsal in 1787. The longitudinal amputations of the foot have very properly almost disappeared from practice, as from the balance of the foot being lost, the result is not good; and the countless varieties of transverse amputations which have been suggested at various times have now almost entirely given place to amputation at the ankle-joint.

The amputation by which the bones forming the posterior portion of the tarsus are alone removed is still on its trial, and nothing need be said regarding it.

Excision of joints and resection of shafts of bone, now of daily performance, were by no means common at the time of the Queen's accession. True, most of the articulations had been cut out during the last century,[6] but it was not till Syme published his book in 1831, giving an account of his results in shoulder and elbow operations, that the practice became general. Syme says that in 1826 amputation at the shoulder was the rule for disease of the head of the humerus; and even as late as 1844 Fergusson says excision of the elbow had not been done a dozen times in London. Syme afterwards—as Langenbeck also—removed the scapula as well as the head of the humerus rather than amputate the arm. In dealing with the knee-joint, however, Syme failed, and it was reserved for Fergusson and his pupils, with Jones of Jersey, after 1850, to secure, amidst much opposition, that assured position for excision of the articulation which it now possesses. Better results will doubtless be obtained when there is greater experience in the recently suggested plans for fixing the bones by pegging, wiring, dividing the patella vertically or longitudi-

[5] The microscope in 1835 discovered for the first time the acarus scabiei and drew attention to the important kingdom of parasites. After that time the achorion Schonleinii, tænia, trichina, the filariæ, etc., were demonstrated, and their clinical aspects investigated. Marshall Hall's great discovery of reflex action, and the chemistry of the urine as applied clinically, also date from a period subsequent to the Queen's accession.

[6] The head of the humerus by White in 1768, the knee by Park in 1781, and the elbow and ankle by Moreau in 1797.

nally, and afterwards wiring the sections. That excisions were in little vogue even as late as 1860 is evident from the statement of Fergusson, that at St. Bartholomew's the elbow had only once been operated on, and the knee never in that great institution till that date ("not a breath, not a pen, not a knife stirred in England on the subject").

Humphry's important researches between 1858 and 1862 on the growth of the long bones, contributed largely to the development of this question. In Germany and America much was done between 1830 and 1850 in excising joints, and most of the practical points connected with the subject were then worked out. The application of De Morgan's solution of chloride of zinc was a no mean contribution to the surgery of bone. We all know that even in the most unpromising cases much can be done by perseverance and patience, and sometimes by renewed excision; and the sharp spoon of Volkmann has in this, as in other operations, proved most serviceable. The emptying of the epiphyses (first used by Sédillot on scientific principles in 1858), the sparing use of the saw, and the careful discrimination of diseased from merely changed structures have greatly advanced excisions in these later years. The subperiosteal method (first suggested by Heine, of Würzburg, in 1846), though preserving not only the reproductive tissue, but also the insertion of the tendons, has been less used than was expected, partly because of the difficulty of accomplishing it in some cases, and in others from the excess of new bone formed becoming an embarrassment. Researches on the functions of the periosteum have been most fruitful since 1858, and have, combined with antiseptics, led to great freedom in dealing with diseased bone; while osteotomy, though from early times applied to rectify vicious repair, false joints, and ankylosis, has, within the last twenty years, acquired a high importance as an orthopædic recource from the practice of Annandale, Ogston, and above all, Macewen. No fact in modern surgery is more remarkable than the absence of all local and constitutional disturbance after these operations. To Adams, Sayre, Barton, Buck, and Esmarch, we owe various valuable additions to our operative resources within recent times.

Phosphorus necrosis, the result of the manufacture of the lucifer match, which has been signalled as one of the important discoveries of the Queen's reign, was first noticed in Germany in 1843, but both it and "looking-glass makers' necrosis" have been happily stamped out within the last few years, mainly by improved methods of manufacture.

Operations on the jaws, which were so much dreaded fifty years ago, that excision of either bone was not infrequently preceded by the ligature of one or both carotids and by tracheotomy, are now performed with very little hesitation or risk. In 1844, both upper maxillæ were removed for the first time by Heyfelder, and in 1842 Maissonneuve excised both lower jaw-bones. The method adopted by the latter of twisting out the bone has facilitated and diminished the risk of the operation. Fergusson did much in this department to limit the amount removed, and to retain the more important parts of the framework as the floor of the orbit and the base of the lower jaw. The temporary displacement of both the upper and lower jaws has been practised since 1837 to give access to pharynx and palate.

Much good work has been done in all countries regarding the anatomy, pathology, and treatment of diseased joints, since Brodie first dealt with the subject in 1818. Richet added much to our knowledge by his treatise in 1844. Hip-joint disease has been specially elucidated since 1840; while during the twenty years subsequent to that date, Bonnet's most important observations were published. He combined in a remarkable manner experimental and clinical research to explain the physical signs of joint ailment, and defined the proper stage and limits of rest and passive motion in their treatment, as well as the operations for removing resulting deformities. His work marked a new starting-point in this department.

Within the last thirty years, the forcible rupture under chloroform of adhesions in joints (a practice borrowed from the bone-setters) has been much employed, as well as the free division subcutaneously of contracted structures. For the restoration of stiff joints, for rigid or irregularly contracting muscles, as well as for the removal of passive effusions, and strengthening weakened circulation and innervation, the value of massage is at last recognised in this country; and, though it threatens to become a fashionable hobby, yet it is, when properly employed, and especially when combined with the douche and electricity, capable of affording most valuable results. Inventive skill has provided us within the last few years with many useful splints for joint affections, and those of Thomas, Sayre, and Bryant are well worthy of mention, as is Scott's mode of treating chronic thickenings which has come into use within the half century. In connection with bone affections, I shall merely mention osteitis deformans, described by Paget in 1877, and that form of neurarthritis which Charcot recognised and described; since which the dependence of certain joint affections on disease of the nerve centres and nerves has become well understood.

Tenotomy is practically another conquest of the last half century, as it was only in 1831 that Stromeyer perfected what was before a most incomplete process, and made it applicable to many uses.[7] In 1835 Dieffenbach's work on club-foot showed how great had been the advance since Scarpa wrote in 1804. Little's book in 1837 started the practice of tenotomy in England. During recent years greater liberty is taken in the division of structures, but the antiseptic system has emboldened operators to adopt methods, some of which are both unnecessary and retrogressive, as in the open plan of treating club-foot. The excision of the astragalus, however, or the removal of a wedge from the tarsal bones may possibly be necessary in some very bad cases.

By the untimely and tragic death in 1832 of Delpech, who had established at Montpellier the first hospital for its practice, orthopædic surgery lost one of its greatest advocates. For a time subcutaneous operations ran much risk of abuse, especially in the hands of Jules Guérin, who in 1840 is said to have divided forty muscles, tendons, and ligaments in one patient! The extraction of foreign bodies from the knee had then been rendered comparatively safe by the subcutaneous method. In 1851 it was stated at the Surgical Society of Paris that thirty deaths had resulted in 135 cases operated on by the open method, but now antiseptics have enabled us to revert with success to the old plan again; and Annandale's recently-described proposal to suture loose semilunar cartilages is another triumph in the same direction. I may add to what has been said that Adam's observations on the regeneration of tendons (published in 1860) was a most important contribution to the progress of tenotomy. I shall not delay to allude to operations on the cleft palate, though all that has been done of value in that department may be said to date from 1840, but will pass on to remark that plastic or reparative surgery, both in its auto- and hetero-plastic forms, though long ago borrowed from the practitioners of India and Italy, took no root in Europe till after the large and varied experience of Dieffenbach was published, when many processes dealing with lost, deformed, and contracted parts came into use with most gratifying results. Ollier's suggestion to retain the periosteum in rhinoplastic operations has not met with much favour. The successful repetition in recent years of the Tagliacozzian operation by Mac Cormac and others is worthy of note, as is the proposal to replace the nose from the integument and even from the bone of the finger.

I cannot avoid mentioning that the plan of restoring the lower lip from the chin, so often ascribed to Syme, was first described by Professor Andrew Buchanan of Glasgow in 1841.

Within the half century aneurysm has been much studied in all its aspects, and its treatment has been simplified, though the methods of dealing with it have been greatly multiplied. It has been shown to be curable by the rapid coagulation of the contained blood, and not alone by the lamination of fibrin and contraction of the sac, a fact long denied; and this has suggested some of the most recent methods of dealing with it. Up to 1842, when the Dublin surgeons laid down the proper mode of using compression, and improved the mechanical means of carrying it out, it may be said that the ligature was alone employed, for though compression in some form (on the surface of the tumour, or within it after it was opened, or over the whole limb, or proximal or distal to the sac separately or combined) had been long in use, it was on a wrong principle, as the whole current was stopped, and inflammation intentionally produced in the vessel. But whether applied by instruments or the hand (Vanzetti, 1846), the modern method, up to a very recent date, aimed at not entirely arresting the blood flow so as to promote a deposit of fibrin. This dates from between 1840 and 1850. The enthusiasm with which it was pursued for some years has been hardly maintained, from the difficulties attending it, and its not infrequent failure. In some positions, however, it will be always employed; and the remarkable success in abdominal aneurysm obtained by Murray (1864), and in iliac

[7] Hunter divided the tendo Achillis for purely experimental purposes, and in 1784 it was cut in the human subject, as the sterno-mastoid was in 1822, but in neither case subcutaneously, as that term is now understood.

aneurysm by Heath and Mapother, applied to the proximal side under chloroform, has been most encouraging.

The method of applying the ligature, which was the great achievement of Hunter (1785); together with the practice of Brasdor and Wardrop (1825-1827) and Anel have been again much discussed of late years, and distal deligation has been frequently applied with signal success. Antiseptic buried ligatures, with antiseptic dressings, have again placed the use of the ligature in the ascendant, though it would be difficult to excel the success of Syme, who tied the femoral thirty-five times with only one failure before the modern methods were introduced. Since 1852, when Thiery used flexion at the elbow, Mr. Hart and others have applied it to small firm aneurysms of the popliteal with marked success (1858).

Galvanism, first used by Phillips in 1832, was unavailing for aneurysm till Pétrequin (1845) and Ciniselli improved the apparatus and the methods of employing it. Of less important plans we have had introduced since 1837: Fergusson's somewhat dangerous "malaxation;" Blake's displacement of clots by cataract needles; electrolysis with fine needles; acupuncture, now used by leaving gilded entomological pins for days in the sac; acupressure to the main vessel; coagulant injections (ergotine by Langenbeck in 1869, perchloride of iron, alcohol, acetate of lead, tannin, various acids, etc.); foreign bodies, as iron wire, horsehair, etc., passed into the sac (Loreta) or combined with galvanism (Barwell). These plans have been chiefly used when the aneurysm was so placed as to be inaccessible to the more reliable methods, and a certain amount of success has attended them. Syme's most remarkable recurrence to the "old operation" of opening the sac cannot fail to be chronicled when speaking of aneurysm. His operations on the carotid, axillary, iliac and gluteal arteries were brilliant examples of bold and skilful practice. Perhaps the most striking, because most easily applicable and novel plan of treatment is, however, that introduced by Reid (1875), namely, emptying the limb entirely of blood by the use of Esmarch's bandage and cord, while the sac is kept full, so that coagulation *en masse* may take place, and subsequent consolidation be induced. That *in favourable cases* no harm arises either in the limb or within the body, though the treatment is kept up for hours, and, finally, that a *cure* is effected, are points of surpassing interest.

Finally, I may note that the confidence of the profession in the iodide of potassium has increased of late years as an internal remedy in aneurysm; and that the sedative effects of the bromide of potash are found of great service. On the whole subject of aneurysm, Broca's great work, published in 1856, is complete up to that date.

Modern research has greatly advanced the pathology and treatment of fractures and dislocations. Between 1847 and 1855 great attention was bestowed on these accidents. Astley Cooper's pioneer work (1822) did much for the elucidation of these subjects, which were then involved in great confusion; but it is to Malgaigne (1847) more than to any other man, and after him to Smith of Dublin, Hamilton of New York, and Gurtl of Berlin (1860) that we owe our present accurate knowledge. Nothing could excel Malgaigne's systematised and exhaustive researches. Treatment by weight and pulley of fractures of the lower limb, introduced in its present form from America in 1867 (but in use forty years previously) is a distinct improvement over the cumbrous long splint.

"The immovable apparatus" of the Arabian and Greek surgeons, as varied and improved since 1834 by Seutin, Dieffenbach, and others,[8] gives us great advantage in dealing with fractures. Many "mouldable" materials too (such as poro-plastic and gutta percha), which from their lightness and close application to the part are of inestimable service, have been added to our resources of late years. I would ask your attention to the ratchet, as seen in use in our hospital. I have used it for twenty-five years in the treatment of fractures of the femur and in that of hip-joint disease. It is a simple and most efficient method of applying and regulating extension. Salter's cradle (1864) and other ingenious methods of suspension have also been added to our means of treatment, and, from one cause or another, it fortunately happens that now ununited fracture and vicious union have nearly disappeared. Antiseptics and wiring the fragments have enabled surgeons to do away with the many methods of treating ununited fracture which before prevailed. Compound fractures have also lost their danger and rarely lead to amputation.

[8] Plaster-of-Paris, starch, glue, silicates, dextrine, paraffin, gum and chalk, paper and starch, etc.

As to dislocations, the great achievement of the era is the substitution of manipulation for force in their replacement. This has been erroneously supposed to be a wholly recent idea, and to have originated in America. Not only did Hippocrates and Paulus Ægineta describe it, but Pouteau and Scultetus, and latterly Collin (1832), Desprès, and others both used it and described it accurately. Undoubtedly it has only recently become properly appreciated, and now it is universally employed. The use of anæsthetics has largely contributed to our means of replacing dislocated bones, and has entirely done away with the many "adjusters" which were at one time in vogue. We have with advantage adopted from the bone-setters the practice of freely breaking up adhesions formed in joints kept too long at rest, employing at the same time, if necessary, the subcutaneous division of contracted structures. "The mechanical tonic" of massage is in such cases also invaluable.

The surgery of the genito-urinary organs has been greatly pursued since 1837, and the mechanical appliances for treatment much improved. The pathology of stricture has been carefully worked out, and the treatment fitted for each variety discriminated. Smooth and reliable bougies, from the fine filiform size to the great bolts used by the Americans, can be readily obtained, and dilatation becomes more easily managed. Internal and external urethrotomy, though neither of them new (the former dating from Ambroise Paré and the latter in one form from the Arabians), have been so improved by modern mechanical instruments as to have given us, in a large measure, the command of those troublesome affections. Electrolysis, too, has again come into use in strictures, with more promise of success. Syme's operation, first published in 1844, has proved most useful in the worst cases; and Wheelhouse's improved *boutonnière* has simplified a very difficult operation. Of urethrotomes there are no end, some cutting from before and some from behind, while others combine rupture or stretching with incision. Perrève in 1847 gave us the best instrument for rapid dilatation. Though using it frequently I have never seen any harm follow, while it has proved most serviceable in limited recent contractions.

I may remark in passing that the bougie-à-boule has supplied us with so valuable an instrument for recognising the position and closeness of a urethral stricture, that no surgeon should be without it; and that the catheter coudé, if widely known, would, in my opinion, save many lives, as it allows an almost uninstructed man easily and quickly to relieve retention from enlarged prostate, when he would be baffled, or cause irreparable harm, with the ordinary instruments.

When chemistry had demonstrated the composition of urinary calculi it was hoped that their solution within the body would be shortly accomplished with the same ease as it was attained in the laboratory. After many and varied attempts in different countries this has been abandoned, as has also the use of galvanism alone or with chemical solvents. At present this hopeful field of research may be said to remain barren of results.

In 1813 a Bavarian surgeon combined lithotrity with galvanism, and used large straight catheters for evacuating the *débris*, which by his drills and "bruisers" he produced, but with no good result. This, however, was the dawn of lithotrity, which now threatens to displace in most cases that lithotomy which, under various forms, has been in use for 2,000 years, and about which over 1,000 treatises have been written. Elderdon, of Edinburgh, described in 1817 the first lithotrite. Since then that instrument has been enormously improved in simplicity of action, form, and strength, chiefly by English makers, so that now it is capable, even in the smaller sizes, of breaking all but the hardest stones. The instruments used in the early days of lithotrity by Leroy, Civiale, and Heurteloup were very complicated and varied. Some had even twelve branches for grasping the stone, and each stage of the operation needed a different instrument.

For over fifty years lithotrity has been gaining ground, and since 1878, when Bigelow introduced his litholapaxy, the whole practice has been so changed as to constitute an entirely new operation. The greater capacity of the urethra which Otis demonstrated; the immensely greater tolerance of the bladder to the presence of instruments which Bigelow showed to exist; and the improvements in the apparatus for breaking up and removing the fragments, together with the use of anæsthetics, have all combined to establish the triumph which has undoubtedly been achieved. The extension to young boys (even to infants, as has been lately shown) of the advantages of lithotrity has also been attained, so that great size and extreme hardness are almost the

only obstacles which now stand in the way of its universal application. With a better knowledge of the causes which produce calculus, an earlier recognition of its presence, and the modern system of removing it entirely at one sitting, it may be said that one of the greatest of human calamities has been nearly overcome.

Lithotomy had attained to great perfection before 1837, in the hands of many surgeons in all countries, and in none more than in Scotland. The "methods" employed in different schools were very numerous, though the lateral operation, performed with the gorget or the simple knife, was that most followed in Great Britain. Very many modes of opening the bladder were in use in France, and there the now popular hypogastric operation originated (with Franco in 1561), an operation which by the use of antiseptic dressings and Petersen's (1880) rectal bags (suggested by Garson's experiments on frozen bodies in 1877), has been reintroduced as practically a new operation. The suprapubic method was largely practised by Cheselden and Frère Côme, who by the way used a perineal drain.

It is unnecessary here to allude to the many methods which have been used within the last half century for opening the bladder—the median, with or without the use of the lithotrite; the bilateral; the medio-bilateral, now largely used in France; the recto-vesical—have all had their advocates, but in this school the rectangular plan of the late Professor Andrew Buchanan (1848) is now almost exclusively employed, and is, in my opinion, the simplest, safest, and best method that has ever been suggested, as it provides the most direct access to the bladder, and is so simple that the least experienced may perform it with confidence. The only objection which has been advanced to the rectangular method is the difficulty of introducing the staff. This I venture to say has been wholly overcome by an alteration in its construction, of which I published an account in the JOURNAL of your Association in 1877; and I shall have much pleasure in showing it and the mode of its employment to any of your associates who may be interested in the subject. In connection with the genito-urinary organs, I may add that it was in 1834 that iodine injections in hydrocele were introduced into European practice by the late Sir Ranald Martin, and that at first their use was much opposed. Iodine injections, however, were quickly extended to the treatment of fluid collections in all parts of the body,[9] and now it constitutes, for many purposes, one of our most valued resources. For spina bifida, as is well known, the combination of iodine with iodide of potassium and glycerine, introduced by Dr. Morton, of this city, has proved by far the most useful and efficacious of any of the plans of treatment in use.

I cannot leave this part of my subject without at least referring to the remarkable advances which have been recently made in the surgery of the kidney; the confidence with which it is now stitched to the parietes when movable or opened for drainage or for extracting a stone (Morris, 1880), and the safety with which it has even been entirely removed (first by Simon, of Heidelberg, in 1869), has contributed to the solution of most interesting physiological as well as surgical questions. Then the ready removal of some growths from the bladder by perineal or suprapubic incisions, and the admirable results got by Mac Cormac and others by suturing the ruptured bladder (an idea thrown out by Benjamin Bell in 1789) and cleansing and draining the pelvis, are clear and important gains to practical surgery.

During the last half century venereal diseases have received great attention and a new interpretation. Ricord, in 1838, by his experimental proof of Tode and Bell's views regarding the distinction between gonorrhœa and syphilis, removed the confusion which long followed Hunter's teaching on that point; but his views on the unicity of the virus were overthrown by the researches of his pupil, Bassereau, in 1852, and the Dualists were left entire masters of the field, Ricord giving his adhesion to their doctrine in 1857. Now Mr. Hutchinson proclaims that doctrine as "dead," and the soft sore as being due to the inoculation of syphilitic pus, in which there is no virus, or in which its active qualities are destroyed. There can be little doubt but that constitutional disease often follows sores in which there is no characteristic hardness of base; but specific hardness, if present, is still of the utmost clinical significance. Thus, again, the question of whether there be one or two primary poisons has come into discussion, the knowledge now possessed of the effects produced by the inoculation of mere inflammatory products giving a new complexion to the question; while the dependence of both syphilis and gonorrhœa on micro-organisms is the growing conviction of many.

It was in 1857 that Clerc showed the different effects produced by the inoculation of the true chancre on persons already affected, and those who had not suffered from the disease, and two years afterwards the contagiousness of secondary, and even some tertiary, lesions (which had been wholly denied by Ricord, though to a certain extent proved by Wallace, of Dublin, in 1835) was amply confirmed. The communicability of the disease in vaccination came out in 1860. For a few years after 1850, syphilisation attracted much attention, but it was soon seen to be founded upon an entirely false interpretation of facts, and the doctrine has long disappeared.

In the treatment of the later stages of constitutional syphilis, a great change has taken place in late years by the replacement, in a large measure, of potash by mercury. When Wallace, in 1836, and Ricord subsequently, showed how efficacious the iodide (which Brera had introduced into practice) was in dispersing the later manifestations of syphilis, a great gain was undoubtedly made, especially at a time when mercury was so much abused; but with improved and, above all, restricted modes of administration, mercury is now most trusted to combine with quinine, iron, and other tonics to overcome the final assaults of this protean disease, and that even in scrofulous and unhealthy constitutions. Syphilis has, within my own recollection, greatly diminished in frequency and violence, though I think its commonness and its pernicious influence as an inherited ailment is far greater than is generally supposed. That the subcutaneous method of administering mercury, which some advocate, is not fitted for the long course of treatment now recognised as necessary for the eradication of the disease may, I think, be admitted, and that in private practice neither inunction (though greatly improved by the use of the oleates) nor moist vapour, can compete with the internal use of mild forms of the drug is, I think, equally certain. We owe much to the teaching of Mr. Hutchinson in this direction, as well as to his instructive views on the influence of idiosyncrasy in syphilis and in the action of the remedies employed in its treatment. Much clinical research is still required on many points, especially on the congenital forms of the disease, before the subject is thoroughly understood. Since Diday wrote in 1856, great advance has been made, and a vast body of observations have been recorded regarding the syphilis of internal organs, and the countless forms in which the acquired and hereditary malady affects the various tissues of the body.

In recording the improvements in surgical practice in the department of the genito-urinary organs, I would very shortly note the greater command we now possess over fistulæ in the male and female organs, brought about by improved manipulative methods. These improvements date chiefly from 1839, when Hayward, of Boston, took up vesico-vaginal fistula, and Marion Sims and Bozemann introduced wire sutures, covering plates, improved specula and the knee-elbow position. The labours of the unfortunate Jobert de Lamballe in this department should not be forgotten.

The surgery of the female reproductive organs is an immense subject, and has risen to the highest repute well within the half century, and has recorded triumphs of the highest importance to the comfort and life of thousands. Very many operations have been performed for the first time within the last few years, and others have been brought to great perfection. It has been unquestionably the extraordinary success of ovariotomy which has led to the rapid progress of abdominal surgery. We claim for Houston of this city (1701) the pioneer place in ovariotomy, though his operation was but the draining, and not the removal, of a cyst. M'Dowel, of America (1809), to whom the initial step is usually ascribed, and who operated, in all, thirteen times, was admittedly incited thereto by the teaching of John Bell, of Edinburgh, whose pupil he was. Lizars, of Edinburgh, operated repeatedly about 1825, and Clay afterwards continued the practice amidst disappointment and obloquy. Certainly ovariotomy was on all sides met with ridicule and contempt! In 1823, Boyer says, "the least reflection suffices to show the dangers and impossibility of this operation which has never been performed, and which never will be," and its position, shortly before it was taken up by Sir Spencer Wells (1857-59), is best shown by quoting Sir W. Lawrence's query whether it could be any longer pursued, "without

[9] By Bonnet, in 1839, to the joints; by Velpeau to hernia; by Dieulafoy to the abdomen; by Brainard to hydrocephalus; by Aran to the pericardium; and by others to affections of the chest.

damage to the character of the profession." It is undoubtedly to the experiments of Wells on the union of serous surfaces and drainage, and subsequently on the command of bleeding and the treatment of the pedicle that we owe the present position of the operation, though others have done much to make it not only a justifiable but an eminently safe operation, when the disease is early recognised and a careful aseptic condition assured. I may say in this connection, as it has a bearing on some discussions which have taken place, that when during operation the contents of a cyst have escaped into the abdominal cavity, I have on eight occasions repeatedly poured from a kettle a 1-40 hot solution of carbolic acid into the belly, turning the patient on her side, so as to allow it to escape, and that of these cases seven recovered without any annoyance whatever. Almost all my cases in recent years have been operated on in the public theatre of the hospital, and without any special preparation—a very different affair from the elaborate and fantastical precautions still sometimes pursued abroad. The plan of twisting long pedicles, as I described some years ago, succeeds perfectly, but as the ligature and cautery combined have been so effective and reliable, I now prefer them in all cases.

Many most important operations in obstetric surgery have been introduced of late years, but these lie beyond my present theme.

Cysts connected with the liver and peritoneum; abscesses in the abdomen; fluid in the Fallopian tubes; extra-uterine fœtation; excision of portions of the bowel; intestinal obstruction; cholecystotomy (Sims, 1878); improved Cæsarean section; and many other grave operations have been frequently performed, especially in America, within the last ten years. The recent remarkable results obtained by Apostoli in the treatment of fibroids and other uterine ailments by galvano-chemical cauterisation cannot be passed over in silence, as a painless, safe, and manageable method of removing some very terrible ailments has apparently been attained by him, and the appliance is capable of extension to other surgical affections.

Colotomy, though suggested by Callisen in 1800, was really not put into practice till 1839, when Amussat, meditating on the death of Broussais from cancer of the rectum, determined to reintroduce it, notwithstanding its condemnation as impracticable by both Dupuytren and Velpeau. We all know how serviceable and simple the proceeding is, and we also feel grateful for the important addition to our resources in intestinal obstruction which Nelaton has made by his operation in the right groin.

Pathological research has done much within the half century as to the large and important subject of new growths. Much, however, remains to be done. Since Müller, in 1838, brought neoplasms within the pale of the cellular pathology, and Virchow added so much to our knowledge, innumerable workers, aided by many new or improved mechanical contrivances and beautiful methods of preparing sections for microscopic examination, have turned their attention to the subject. A simpler classification and arrangement have resulted, with a better understanding of the clinical progress and results of tumours. That carcinoma and tuberculosis are specific diseases due to a microbe seems to be accepted. That cancerous tumours are due to *materies* or virus in the blood, arising from congenital or acquired causes, and that the local outbreak is induced by some occult weakness of the part is generally admitted; but it is by no means proved, as some would allege, that the disease is at first wholly local, and consequently capable of eradication if early enough removed. On the contrary, my own experience, which has been large, tends to confirm the view that cancer, if once present, defies our efforts to cure it either by operation or any other means. From the simplest to the most "malignant" growth, the gradation is one of degree. We can extirpate and cure the lower or simpler forms, but the more complex defy us. The prior existence of a cachexia to the outbreak of cancer has now been abandoned in theory, as it has long been in common experience, and the later constitutional empoisonment is explained on the ground of the non-exhaustion of the virus in the local outbreak, or the multiplication of the micro-organisms and the contagion of the morbid elements within the body. The first note struck in the modern theory of cancer was by Sibley in 1839. Cohnheim's "inclusive" or embryonic theory has now been before the profession for some years; and the heredity of neoplasms has been much but inconclusively debated. If any good is to follow operation in cancer, it must be from a very free and complete ablation, and antiseptics admit of this without increase of danger. The kelectome of Bouisson, the steel needles of Ciniselli, and other recent inventions permit the examination of the intimate nature of growths before operation.

In no department of surgery has so much that is new and notable been achieved as in injuries and affections of the head. Much has been done both by experiment and clinical observation in the localisation of the phenomena of motion and sensation, and though much remains to be done which can only be cleared up by long and accurate research, still results have been garnered sufficient to give a confident hope that before long a complete and reliable map of the brain will be at the service of the practitioner.

The brain areas which supply the face, the tongue, the limbs, and the muscles of respiration have been clearly defined by British and foreign physiologists. Clinical observations on man have supplemented experiments on animals, and already fruitful practical results have been obtained, so that the trephine has again come into use, but on far different grounds from those theoretical ones which guided its application at the beginning of the century. The first operation for the removal of a cerebral growth planned on the modern physiology was performed so recently as 1885. The new American perforator is much more precise and speedy than the old trephine, especially when worked by the "surgical engine," which has been invented for driving saws and perforators.

In the treatment of affections of the spinal column, Sayre's plaster jacket and its modifications have greatly helped treatment, as have also the systematised exercises of the Ling and Roth methods in lateral curvature.

The improved laryngoscope of Czermak (1858) and Türck, which was the legitimate outcome of Babington's "glottiscope" (1820), and Garcia's instrument of 1854, has been invaluable in affections of the throat and nose. It has admitted of instrumental and other treatment (as in the case of the late lamented Emperor of Germany) which was before impossible.

Excision, partial or complete, of the larynx dates from 1866, and has now been many times repeated with increasing success, though its adoption in simple growths seems indefensible. Intubation of the larynx is another interesting subject which promises important results.

Amputation of the tongue has reached its acme of simplicity in Whitehead's practice with scissors, a bold proceeding rendered possible by the improvement in mouth-gags. I have been accustomed to use the *écraseur* or the thermo-cautery, and am not inclined to abandon them, as they have proved reliable instruments in such serious operations.

Numerous improvements have been made in operations on the palate, and in the construction of substitutes for it (especially those by Kingsley, of New York, since 1844), as well as in the closure of hare-lip, but time prevents me referring further to them.

External (Watson of New York, 1884) and internal (Maisonneuve, 1861) division of undilatable stricture of the œsophagus are proposals of recent years; while gastrostomy, first suggested in 1837 (the year before the celebrated case of St. Martin allowed the subject of digestion to be carefully investigated), has been rendered infinitely more safe by Howse's proposal to secure adhesion between the stomach and the parietes before opening the viscus.

The draining of cavities in the lung has been added recently to our operative and curative resources with encouraging results. The difficulty lies more in an exact diagnosis of the position of the cavity than in the risk of the operation itself, for when there is but one to deal with, and it lies at the base of the lung, and the pleura is adherent over it, the operation is comparatively simple, for not only is mere puncture of lung tissue found to be attended with little danger, but even the removal of a portion of the organ ("pneumonectomy") has been suggested, and in one case partially carried out, in the excessive zeal of our time for sensational operations.

The whole subject of empyema has been carefully studied within the last few years, and the operation and its subsequent management by drainage and cleansing greatly advanced. Resection of the ribs ("thoracoplasty") and of all unyielding structures, so as to admit of more complete draining and collapse of the cavity, which was a startling suggestion only five or six years ago, is now frequently and successfully performed, and has been the means of saving not a few lives which otherwise would have been slowly and hopelessly destroyed. This proceeding Estlander has systematised, and the operation often goes by his name. How

great is the change of opinion as regards the operation for empyema since the time of Dupuytren, who preferred to die rather than submit to the risk of having his chest tapped!

Reference has already been made to some of the more important operations which are performed on the abdomen, but there are many others which have attracted attention in recent times which I will at least mention. Splenectomy, an old operation, has been revived since 1849 with greater prospects of success when performed with modern appliances and care. The pylorus, which was first excised by Péan in 1879, has now been frequently excised and dilated by Billroth and others; while various substitutes for pylorectomy, such as gastro-enterostomy (first performed by Woelfler in 1881); duodenotomy and jejunostomy have been put in practice. Colectomy, cholecystectomy, and cholecystotomy are also available operations, and many other proceedings have been attempted with more or less success. Complete excision of the rectum is still on its trial. It, too, dates only from 1838. My own experience of it shows that it is both easy and safe as an operation, but is of little abiding benefit. Laparotomy, now so frequently had recourse to, is justifiably employed even for exploratory purposes. After all penetrating wounds, or even after injury without a wound where there is reason to fear that bleeding or extravasation has taken place, opening the abdomen, securing the aperture by suture, and cleansing and draining the cavity is the recognised practice since Gross suggested it in 1843. In intestinal obstruction and all forms of peritonitis, laparotomy is now the rule.

In no department of surgery has better work been done in our time than in that of hernia. Here the influence of antiseptic surgery has been very apparent, as it has emboldened surgeons to attempt the permanent cure of rupture in a more complete way than could be achieved formerly,—the sac, in whole or in part, being employed to plug the internal ring, where it is secured either within or without the abdominal cavity, and supported by bringing together the pillars with catgut or wire. Such practice provides a more permanent and reliable barrier to the descent of the bowel than the unstable products of inflammation. I have myself obtained the best results when metal sutures were left in the tissues. In working out the radical cure of some forms of hernia and in other directions of practical surgery, my colleague, Professor George Buchanan, has much distinguished himself. Astringent or irritating injections, as the alcoholic extract of white oak bark, used by Heaton and Warren, or the alum of Velpeau, iodine, etc., have claimed some attention. Mere invagination of tissue, or the introduction of foreign bodies as Belma's gelatine; Gerdy's skin of the scrotum; Wutzer's cylinder; caustics; setons, etc., have disappeared for ever. Chloroform and occasionally the use of the aspirator and inversion, have made a larger number of herniæ amenable to the taxis. There is less hesitation about early operation, and a permanent cure is now usually secured after herniotomy. The sum of all this means a great and notable improvement.

Many other points of practice, too numerous to be recorded, have been amended in recent times, as the conservative treatment of injuries of the hand, the management of scrofulous masses by excision, scraping and the electro-cautery, and the discriminate use of caustics and the proper field for the various forms of cautery, whether actual, or gas and electric.

The galvano-cautery was first used in England by Professor Marshall in 1850, but to Middeldorpff, of Breslau, we chiefly owe its systematic use in a large variety of surgical cases, where its rapid action, manageability, and the very light which it emits can be utilised. It can never, however, replace the knife for the mere division of structures, nor the actual cautery for counter-irritation in chronic inflammation.

Electricity has made great advances as a practical agent since 1872. In experimental physiology, and as a diagnostic and curative agent, Erb's recent work will do much to promote its more precise use. To Duchenne (1855) must, however, belong the credit of having first recognised its importance; and it is probable that, with the aid of improved batteries and the modern "accumulator," better work will be done in the near future.

Among the many ingenious and useful instruments for clinical research and demonstration, the ophthalmoscope stands pre-eminent. Foreshadowed by Babbage in 1847, its present important position in ophthalmic surgery is due to Von Helmholz, who took it up in 1851, and with Ruete perfected it as a clinical instrument. To it we owe a knowledge of the pathology of the deeper structures of the eye, and the suggestion of various operations which have proved of the greatest service. The introduction of cocaine, since 1884, as a local anæsthetic, has added largely to the progress of ophthalmic surgery. The otoscope, the laryngoscope, and other similar instruments naturally followed on the construction of the ophthalmoscope, and have been fruitful of good in their respective departments. The sphygmograph, made practically useful by Marey in 1860, realising the idea of Hales (1748), and of Herisson's sphygmometer, has largely aided the diagnosis of many conditions of the circulatory system, and by its pictorial tracings secures permanent records of their variations. The sphygmophone, which professes to render the arterial sounds audible, is still of no practical use. The endoscope, which was much improved by Desormeaux, after 1853, has never attained a practical position from the difficulty of using it, and the limited field to which it can be applied. Recently, however, Leiter, by using the smallest Edison lamp, and improving the construction, portability, and cost, has provided an endoscope which may possibly promote its employment. It is capable of being applied to all the passages and cavities which are accessible from the surface. As yet the splanchnoscope, which, it was hoped, would enable the abdominal cavity to be illuminated by the electric light, has not come to practical application.

The thermometer, first used in medicine by Boerhaave and his pupil, De Haën, has become one of the most important clinical guides in consequence of the researches of Traube (1850), Wunderlich, and Zimmermann. I need hardly say that now not a few ailments can be recognised and complications anticipated by its employment, and that both prognosis and treatment are essentially promoted by its use. Even brain affections are asserted by Voisin of the Saltpêtrière to be recognisable by its readings. The aspirator, which was perfected in 1855 by Dieulafoy, is much valued for diagnostic and curative purposes. The *écraseur* of Chassaignac (1850), though received at first with ridicule like many other innovations, is beyond doubt an admirable instrument in dividing vascular structures. The hypodermic syringe, introduced by Dr. Alexander Wood of Edinburgh, is highly valued as supplying us with a more rapid, easy, certain and manageable means of administering many drugs.

The beautiful discovery of skin-grafting by Reverdin, in 1869, provides us with a valuable resource in many difficult cases of delayed repair and deformity. The permanence of such grafts is not, however, as yet fully assured. The transplantion of periosteum, muscle, bone, nerve and even eye tissues has also been achieved of late years under the magic shield of aseptic surgery. Hydrophobia promises to be deprived of its terrors. Extensive burns are no longer dangerous when kept free from pollution, as the intestinal lesions which Curling drew attention to (1842), are now known to be due to septic poisoning. Nerves are stretched, with or without previous exposure, to the relief of many complaints; nay more, divided nerves and tendons also are successfully united by suture. Thermal, chemical, and sea baths have their appropriate domain assigned them. Cod-liver oil and many concentrated foods, easy of assimilation and rendered more so by the addition of digestives, have come into use. Patients are no longer reduced by diet, purging, and bleeding, or blindly over-stimulated with alcohol, but a dietary founded upon their requirements is prescribed before and after operation. The therapeutic advantages of change of scene and climate are fully taken advantage of, as the means of locomotion have been improved and cheapened. Of the innumerable new drugs with which chemistry has endowed us many highly valuable ones have come into general use, while greater concentration and more elegance have been employed in their manufacture. The surgical instrument maker has, by his ingenuity and skill, simplified and improved the surgical armamentarium, and for every purpose has supplemented our manual dexterity.

Last, but not least, sanitation, that great achievement of our nation, has not only rendered more comfortable the lives of our people, but has, in an incredible manner, saved thousands from an untimely grave. In its official and active form it dates only from 1838. Compulsory registration has also introduced order into our records, and amazingly increased the national welfare. In war, too, as the records of the more recent European contests amply show, improved hygiene and the better management of the wounded, notwithstanding the greater rapidity of the manœuvres of modern war, and the vastly more destructive nature of projectiles, have accomplished marvels. The medical reports of our army and naval surgeons, and those most valuable records of the American army, are models of information upon such subjects.

The Geneva Convention of 1864 and the International Red Cross Association, to which it gave origin, have brought unspeakable amelioration to the horrors of war.

The extraordinarily extended literature of our profession, which in every language makes known the researches of medical men throughout the world, has found expression in Hirsch's great work on the geographical distribution of disease. The International Congresses which have brought men together from every clime to compare their experience have proved how cosmopolitan is our science, though to us the words of Scripture may be fitly applied, that we are "ever learning, and yet never able to come to a full knowledge of the truth." The remarkable subdivision of subjects which has been necessitated by the expansion of every department; the substitution of laboratory for systematic teaching; the use of statistics for generalising experience, are all striking features in modern medical education.

Every collateral science has been made subservient to our purposes. Even the beautiful art of photography, which has been created since the Queen ascended the throne, has been employed, with remarkable advantages, for the record of our labours.

The General Council of Medical Education has been created to govern and direct our organisation, and its influence is already felt and valued. But I must make an end.

Gentlemen,—I have thus, in the limited time at my disposal, and to the best of my power, noted the changes and improvements in surgical theory and practice which have emerged during the last half century. The task I set myself has proved longer and more difficult than I anticipated, as the harvest has been extraordinarily abundant. I am conscious of having omitted much from want of time and knowledge; but I trust I have succeeded in showing that in every branch of the surgical art there has been a wondrous advance, and that the profession to which we belong marches in the very van of the great army, recruited in all climes, whose aim it is to enlarge human knowledge. Such a retrospect as I have attempted make us reverence a profession whose hope and ambition it has ever been to abate suffering without distinction of race or creed. We see how an abiding and ever increasing purpose has run through these long ages, and that while we now rejoice at being no longer bound by the authority and crude doctrines which shackled our forefathers, we can yet honour the traditions of the past, and appreciate the efforts of that great host of devoted men who have, by their unselfish labours built up the famous temple of our art.

AN ADDRESS

ON

THE SURGERY OF THE BRAIN AND SPINAL CORD.

Delivered at the Annual Meeting of the British Medical Association, held in Glasgow, August 9th, 1888.

BY WILLIAM MACEWEN, M.D.,

Surgeon to, and Lecturer on Surgery in, the Royal Infirmary, Glasgow; Surgeon to the Hospital for Sick Children, Glasgow.

MR. PRESIDENT AND GENTLEMEN,—Allow me to thank you for the exceptional honour you have conferred upon me, by inviting me to address the British Medical Association on my "recent investigations in Surgery." It would have been more in harmony with my own feelings to bring before such a meeting the work of others, but this the form of invitation explicitly precludes. From among the various subjects which have engaged my attention, it would have been difficult for me to single out one as especially worthy of notice. Fortunately, I was so far relieved from that decision by receiving a very direct hint from one whose position in the Association demands respect. In obedience to that expressed wish, I now venture to address you on the Surgery of the Brain and Spinal Cord—a subject which has been of much interest to me, and which I hope may not prove uninteresting to you. In doing so it is necessary to premise, in the briefest possible form, the history of the evolution of cerebral surgery.

THE SURGERY OF THE HEAD IN THE PAST.

Lesions of the head have at all times held a prominent place in the annals of surgery; much has been done by surgeons before our day to advance the healing art as applied to this particular region. Their efforts were, however, chiefly directed to the superficial parts, the skull and its membranes, and were exclusively confined to the results of injury. Their operations were simple, undertaken for the most part upon the primitive evidence of direct visual and tactile observation. There is no reference made by them to cerebral surgery, as it is now known. The brain, whose function was at that time little understood, inspired fear; it was intimately associated with the seat of life; it was the "mysterious dome of thought;" it gave lodgment in its recesses to the soul; and was surrounded by all the mysticism which a highly speculative philosophy inculcated. Although surgeons did not share the popular belief that to touch the brain was to induce certain death, yet they had just grounds for concluding that to them it was practically inviolable. It was no want of boldness or lack of manipulative dexterity, in which, indeed, they greatly excelled, that determined this reluctance in dealing with brain lesions. *Post-mortem* examination revealed the fact that many cerebral lesions could have been easily reached, had the surgeon only known during life at what particular part they had been situated. There were two formidable barriers to the advance of surgery in this region: first, the fact that the majority of intra-cranial operations were attended by inflammatory action, which so often proved fatal as to cause surgeons to shun active interference; and, secondly, the brain was a dark continent, in which they could descry neither path nor guide capable of leading them to a particular diseased area, and, did they attempt to reach it, it could only be by groping in the dark. Therefore, they were constrained to confine their efforts to traumatic lesions, and of these to such as afforded external indications of their presence, and which called out clamantly for relief. From the days of Pott to our own, there seemed to be a growing conviction, not only of the impotence, but of the positive harmfulness, of active interference; so that the trephine was regarded as an almost obsolete instrument. Yet, surgery was fully abreast of the physiology of the day. Such was the state of cranial surgery till 1870.

TWO FACTORS NECESSARY FOR THE INTRODUCTION OF CEREBRAL SURGERY, AND HOW THEY WERE OBTAINED.

However wishful one might be to extend the sphere of surgery to the brain, it was necessary first to adopt means whereby immunity from the inflammation which so constantly attended brain lesions could be secured, and secondly, to endeavour to gain a better physiological knowledge, in the hope that light might be shed upon the localisation of cerebral lesions.

In the wards of the Glasgow Royal Infirmary, Lister had formulated the theory, and wrought out the practice of the antiseptic treatment of wounds, and already much had been done to dissipate the fears of surgeons regarding operations practised on other parts of the body. Experience gained by me showed, that not only compound fractures of the skull, but large osseous defects in the cranial vault, accompanied by extensive loss of cerebral substance, were quite amenable to treatment, exhibiting no tendency to inflammatory action, as long as the tissues were preserved aseptic. When this held true of the rough and often septic lesions produced by machinery accidents, how much surer would well planned and carefully executed operations be? This conclusion was subsequently amply confirmed by the results of operations undertaken by me for the relief of injury, in which the brain had to be exposed, and from which detached portions of it had to be removed. In such instances no inflammatory phenomena interrupted the even course of healing. A striking feature of these wounds of, and operations upon, the brain, was the absence of false hernia cerebri, which had hitherto formed such a conspicuous complication of brain lesions in man, and which had so often marred the success of physiological experiments, by extending the zone of irritation, and by the fatal results which ensued. It was thus manifest that inflammation arising from exposure of, and operations upon, the cerebrum, could be obviated under aseptic conditions.

Meanwhile many workers had been sedulously endeavouring to unravel the intricate and complex questions relating to the structure and functions of the brain. Previously the cerebrum was supposed to perform its function as a whole, in the same way as the liver, heart, and kidneys performed theirs, there being no differentiation of function. Broca, in 1861, from observation on human pathology, isolated a particular limited area, as the seat of the faculty of articulate language. This very important in-

vestigation foreshadowed the localisation of function in other cortical centres, for if the existence of a definite function confined to an isolated area were admitted, then the question arose, how many other centres with specialised functions might there be? Broca's discovery was thoroughly iconoclastic, it shook the notion entertained regarding the unity of brain function to its foundation, it awakened thought, and made men explore anew with critical eyes, fields which previous investigators were supposed to have exhausted. Dr. Alexander Robertson, of Glasgow, suggested, in 1866,[1] that there were separate sets of fibres for the conveyance of special motor impulses from the cortex. Hughlings Jackson, in 1869, stated that there were many limited areas on the brain connected with separate and distinctive functions, founding his opinion not on speculative deductions, but on clinical experience, and on the direct observation of pathological facts. The inception of the idea that there was a portion of the brain whose function was related to motion, was treated with extreme scepticism, and the suggestion was likely to have long remained a speculative question, had it not been for the advent of another and more direct mode of examination. This new departure consisted in the performance of experiments upon the lower animals, by Fritsch and Hitzig, who in 1870 published an account of their observations. They demonstrated the existence of a series of circumscribed areas on the surface of certain of the cerebral convolutions, the electrical stimulation of which caused, on the opposite side of the body, co-ordinated movement, in distinct groups of muscles. These were momentous facts, destined to revolutionise former ideas of cerebral function. But their full force and significance were not recognised, in this country at least, until Ferrier's observations on the brains of animals, undertaken to put to an experimental proof the views entertained by Hughlings Jackson, were published in 1873. Then the mind of the physiological world was fairly awakened. The suggestions of Hughlings Jackson on the motor cortex became crystallised. Another link in the unity of plan of creation was manifest, as even in the higher and more complex brain of man, parts existed whose function found homologous expression in that of the lower animals.

Abundant proof has been gathered from human pathology, such as that afforded by the elaborate observations of Charcot and Pitres, to put beyond cavil the broad fact that there are points in the human cortex cerebri intimately related to the motor and sensory functions of certain parts of the body. The apportionment of definite areas and their precise delimitation is still the subject of investigation.

Many interpretations have been put on these facts; some hold that the central convolutions are distinctly motor in function; some that they are sensory; others that they are both motor and sensory; and still others believe that the excitable regions of the cortex are but points of departure and not foci of production of motor reactions. These views, interesting in themselves, cannot be discussed here; it is enough for our present purpose to recognise that there are certain regions of the brain in intimate relation with the movement and the sensation of certain parts of the body, and which, in the presence of either irritative or destructive lesions, give rise to phenomena which are of the greatest diagnostic value.

The Initial History of Cerebral Surgery.

This extended physiological knowledge enabled cerebral lesions to be more accurately localised, while my experience showed that, by preserving aseptic the parts operated on, surgical interference with the brain could be robbed of its chief danger.

1. *Case in which the Symptoms of Focal Cerebral Disease led to Diagnosis of Lesion in Broca's Lobe:* 1876.—While in possession of this knowledge a case of cerebral abscess presented itself to me in July, 1876. The general symptoms of this affection were clearly manifest. A cicatrix on the forehead marked the site of an injury under which the skull was bare. Had this cicatrix been taken as a guide to the localisation of the abscess, and an operation performed there, no abscess would have been found. But other phenomena were exhibited which enabled its seat to be definitely recognised. A convulsion, accompanied by loss of consciousness, commenced on the right side, and gradually involved the whole body. On its cessation absolute hemiplegia of the right side was present, and remained for two hours, during which the patient was aphasic. Both these phenomena became much less marked at the end of this period. From these symptoms the abscess was diagnosed to be situated in the immediate vicinity of Broca's lobe. It was evident that the whole of the base of the left third frontal was not involved in a destructive lesion, otherwise the aphasia would have persisted for a much longer period, and it was probable that Broca's area had become involved in the inflammatory zone surrounding the abscess. Trusting to these localising symptoms, it was proposed to open the abscess aseptically by exposing Broca's lobe. Unfortunately, the result of a consultation was decidedly to negative this proposal. The parents then refused consent, notwithstanding the assumption by myself of the sole responsibility of advising and performing the operation. Thirty-six hours afterwards the convulsions returned and persisted until a fatal issue ensued. After death the friends acquiesced in the proposal to have the operation performed just as it would have been had permission to do so been granted during life. The skull was trephined, the brain exposed, and an instrument was introduced through the third frontal convolution for half an inch, when pus flowed through the incision, proving the accuracy of the diagnosis and giving poignancy to the regret that the operation had not been permitted during life. The abscess, about the size of a pigeon's egg, was situated in the white matter of the basis of the second and third frontal convolutions.



Fig. 1.—Abscess in vicinity of Broca's lobe diagnosed from symptoms exhibited.

The blade of the bistoury which had been left *in situ* after insertion through the trephine opening, was found to have penetrated its outer wall. The congested zone in the periphery of the abscess extended from the anterior horn of the lateral ventricle to the cortex of the base of the second, but especially that of the third left frontal convolution.

Here the precise spot in the brain which the abscess occupied was accurately determined from the localising phenomena induced by the focal lesion, which were trusted as indicating its position, though pointing to a different part of the brain from that which would have been selected had the seat of injury been accepted as a guide. The operation showed how easily the pus could have been evacuated, though the unfortunate refusal to allow it to take place during life leaves uncertain the ultimate issue, but judging from my subsequent experience, worse cases have recovered after operation.

2. *Case in which Motor Phenomena were the sole Guides to the Cerebral Lesion:* 1879.—In 1879, a case with definitely localising motor symptoms was seen by me, occurring in a boy who had had a fall six days previously, which occasioned some slight bruising about the face and head, accompanied by a shade of mental obscuration. At the termination of forty-eight hours he was so well that his parents could with difficulty be dissuaded from allowing him to rise from bed. On the sixth day he had a series of convulsions, the twitchings beginning in the left side of the face, gradually involving the left arm and subsequently the left leg, during which consciousness was preserved. Paresis of these parts remained, though sensation was unimpaired. On the following day there was a renewal of the convulsions, the parts being affected in the same order, but the convulsions persisted and finally became general, with loss of consciousness. Those motor phenomena indicated a lesion on the right side of the brain, pronounced at the middle and lower portion of the ascending convolutions, as the face and arm centres were the first to show evidence of stimulation. The lesion was evidently of an irritative nature, such as might be occasioned by a spiculum of bone driven into the brain or by a degree of pressure exercised on its surface. It was clearly not destructive, such as might be occasioned by severe cerebral contusion. Dr. Alex. Robertson was asked to see the case, and agreed with me that the motor symptoms presented a sufficiently clear guide to the localisation of the lesion in the lower part of

[1] *Journal Mental Science*, January, 1867; *Glasgow Medical Journal*, February, 1871, Observations on Aphasia.

the fissure of Rolando. It was therefore resolved to expose that portion of the brain. As a preliminary, the head was shaven, when a scarcely perceptible irregularity was detected in the cranial vault near the coronal suture. When the skull was exposed a fissure was discovered running across the coronal suture. Trephining was performed at a point slightly behind the auriculo-bregmatic line, and midway between the external auditory meatus and the vertex. This point *happened* to correspond to the posterior extremity of the fissured fracture. There was no blood between the dura mater and the skull, but the dura had a very dark colour. This membrane was opened and gave vent to two ounces of fluid and coagulated blood contained in the subdural cavity. The operation was conducted aseptically and the patient made an uninterrupted, typical, afebrile recovery. There was no recurrence of the fits; paralysis of the left arm soon disappeared, and he is living now and in perfect health.

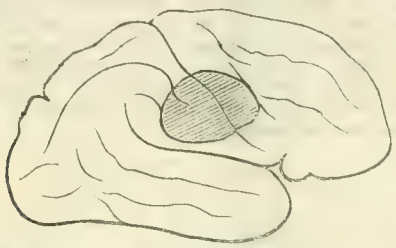


Fig. 2.—Intracranial Subdural Effusion of Blood diagnosed from Motor Symptoms alone.

3. *Case in which the Symptoms Exhibited pointed to Lesion in Frontal Lobe:* 1879.—In 1879, an idiopathic case came under observation, in which the totality of the symptoms indicated a lesion in the left frontal lobe. It occurred in a patient the subject of a small tumour above the left eyeball, in the orbital cavity. A tumour had previously been removed by me from that position, and had now recurred. Other symptoms had, however, meanwhile presented themselves. The left pupil was in a state of stabile myosis; there was obscuration of intelligence, slowness of comprehension, want of mental vigour, and pain in the head. These pointed to the probability of a lesion in the left frontal lobe, but were not sufficient to permit a diagnosis to be made. The patient was, therefore, placed under the observation of an educated skilled nurse. Some weeks later a series of convulsions occurred, the initial stages of which were carefully recorded by the nurse, without which the key to the brain lesion as indicated by the convulsions would have been lost, as, when seen by me, they had become general, and threatened speedy dissolution. The convulsions were at the outset strictly limited to the right side, commencing in the face and arm, and confined to these two parts during the initial attacks. The leg on the same side was affected during the third seizure, and ultimately the convulsions became general, with complete loss of consciousness. These phenomena were construed as indicating extension of the irritation to the lower and middle portions of the ascending convolutions; and, when this was considered along with the former evidence, it was concluded that an irritative lesion existed in the left frontal lobe. On these grounds it was resolved to trephine midway between the centre of the ascending convolutions and the anterior aspect of the cranium. At this point a minute nodule, the size of a barley grain, was detected on the outside of the skull. A large trephine was applied, a disc of bone removed, and a tumour of the dura mater which was exercising pressure on the brain was exposed. It was half-an-inch in thickness at this point, gradually becoming much thinner, and spreading all over the anterior two-thirds of the frontal lobe. The tumour was, after a prolonged operation, carefully dissected out along with the brain membranes, where they were involved in the neoplasm. The patient rapidly recovered, was restored to perfect health, and subsequently was able to gain her own livelihood. She lived for eight years afterwards, ultimately becoming affected with chronic Bright's disease, from which she died. The skull and brain were examined, and there was no trace of further tumour growth. This case was published in 1879. A paper by me, illustrating some points in the localisation of cerebral affections and the advantages of antiseptic trephining, published in 1881, concludes:—"When the skull can be opened, the cerebral coverings incised, and the brain exposed without fear of inflammatory mischief, trephining ought to be employed when the localisation of the lesion is established. And, further, besides operating in traumatic cases, trephining is justifiable in idiopathic cases."

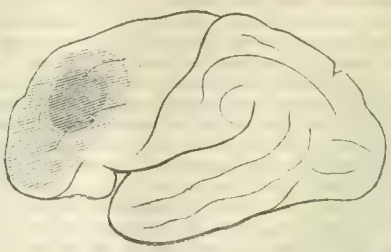


Fig. 3.—Tumour of Dura Mater pressing on Frontal Lobe.

4. *Cerebral Abscess in Temporo-sphenoidal Lobe: Involvement of Motor Area:* 1881.—In 1881, a very large cerebral abscess, located in the temporo-sphenoidal lobe, but involving the basis of the third frontal and ascending convolutions, came under notice, but at such a late period of the disease, that before arrangements could be made for the operation, the patient suddenly exhibited all the phenomena of the abscess having burst into the lateral ventricles. Prior to this, asphasia could be discerned through the clouded state of patient's intelligence; there was paralysis of the left third nerve, and of the brachial and facial muscles on the right side. From these the extent and localisation of the disease was determined. Notwithstanding the fact that the patient was *in extremis*, the operation was performed. The membranes were congested, and the abscess was reached on penetrating a quarter of an inch of the cerebral surface. After several ounces of pus had been evacuated, something like a tennis ball was seen floating in a sea of pus, which still remained in the interior of the brain. This proved to be an old encysted abscess, in the periphery of which an acute abscess had developed, which had destroyed the whole of the tempero-sphenoidal lobe. The patient, though greatly relieved, died from exhaustion. It was seen *post mortem* that the whole tempero-sphenoidal lobe had disappeared, and the basis of the second and third frontal, as well as the basis of the two ascending convolutions, were the seat of acute encephalitis.



Fig. 4.—Destructive Lesion (with motor symptoms) obstructing Tempero-sphenoidal Lobe.

5. *Intracranial Effusion of Blood diagnosed from Motor Symptoms alone:* 1883.—There are three cases which occurred in 1883, to which brief reference may be made, two of them having already been published. In May of that year, a traumatic intracranial effusion of blood was correctly diagnosed from the motor symptoms exhibited, as being located over the base of the ascending convulutions. There were no external marks of injury, and the motor symptoms alone were the guides to the position of the lesion. The patient is now alive, in robust health, and regularly at work.

6. *Syphilitic Tumour in Paracentral Lobule Diagnosed from Motor Symptoms alone:* 1883.—In the following month, a case of brachio-crural monoplegia, without loss of sensation, was relieved by the removal of a syphilitic tumour from the paracentral lobule and a plastic effusion from the centre of the ascending convolutions. Within a week the patient had recovered the power of the lower limb, and within a month was able to walk and perform her household duties. She has continued since in fair health, and can walk long distances, though with a slight hemiplegic gait, a certain amount of structural contraction having occurred prior to the operation.[2]

7. *Focal Lesion in Ascending Convolution Recognised by Motor Symptoms alone:* 1883.—A few months later, a brachial monoplegia

[2] Case shown Path. Soc., Glasgow, Jan. 24th, 1884, and published in *Glas Med. Journal.*

was correctly diagnosed, a focal lesion being found in the white substance of the motor cortex of the middle portion of the ascending convolution. The lesion was an extravasation of blood into the brain, around which encephalitis had occurred, inducing irritation and compression of this area. The relief given was immediate and complete. The patient has since been in perfect health and regularly at work.

With the relation of these seven cases, all of which occurred prior to the end of 1883, the initial history of the movement ceases to be solely personal as regards myself. In December, 1884, Dr. Bennet and Mr. Godlee, assisted by Dr. Ferrier, had the first case operated on in London in which a tumour was removed by Mr. Godlee from the brain.

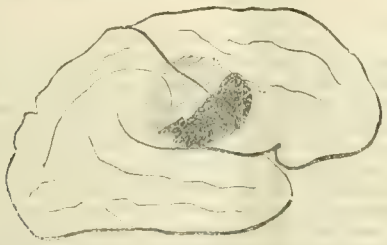


Fig. 5.—Lesion in Ascending Convolutions diagnosed from Motor Symptoms alone.



Fig. 6.—Syphilitic Tumour in Paracentral Lobule. Lighter shading indicates effusion on surface of upper part of central convolution.

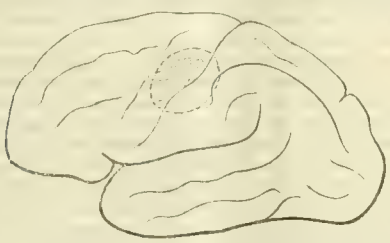


Fig. 7.—Focal Lesion in Ascending Convolutions diagnosed from Motor and Sensory Symptoms.

A Few Points Regarding the Present Aspect of Cerebral Surgery.

Reference may now be made to a few points regarding the present aspects of cerebral surgery. First, are the localising motor phenomena reliable guides to the diagnosis of cerebral lesions situated in the motor cortex? My answer is unhesitatingly affirmative. Each case, however, requires to be studied on its own merits, the whole phenomena presented, the *unobtrusive* as well as the prominent features must be carefully searched for, the degree in which each is present must be accurately measured, and the whole weighed and compared with former experience before drawing a conclusion. The various points upon which reliance is to be placed should be tested wherever possible by instruments of precision, instead of the rough impressions conveyed by the hand being trusted. In testing the power of the muscles in brachial paresis, the dynamometer will impart much more accurate information than that which can be gained through the sense of touch, and occasionally shades of difference may be determined by it, which otherwise would remain undetected. In many cases the evidences of focal lesions are so distinct that a diagnosis is easy; in others they are so intricate that a prolonged and minute investigation is necessary to decipher them; while there are still others in which the signs are so perplexing that at best an approximation only can be arrived at. To lay bare a certain known convolution on a cerebral surface and observe the results of its stimulation, is an easier task than to take what appears to be a tangled skein of nerve phenomena, such as is presented by many lesions of the complex brain of man, and to relegate each to its true source and infer from a study of the whole what particular parts of the brain are affected.

8. *Epilepsy (Jacksonian) induced by Focal Facio-Lingual Lesion: Removal of Cyst from Brain: Cured.*—In support of the foregoing the following instances are adduced, and a case is first presented in which the symptoms were so definite and precise that the diagnosis was easy, and permitted me to perform the operation on first seeing the patient. He was 22 years of age, and suffered from epileptiform convulsions, each lasting from two to three minutes, and as these occurred on an average every five minutes, he consequently had over 100 in twenty-four hours. The convulsions were limited to the tongue, the right facial muscles, and the platysma on the same side. When they subsided the parts remained paralysed. Consciousness was retained throughout. Eight years previously he had received an injury to the head, after which his right arm became weak, the weakness persisting, though he was quite able to work. It was clear that an irritating focal lesion existed, confined to the base of the ascending convolutions, causing a Jacksonian epilepsy. The only question was, whether the base of the ascending parietal was involved as well as that of the ascending frontal. The contraction of the platysma on the opposite side has been asserted to be



Fig. 8.—Epilepsy (Jacksonian) Focal Lesion in the Facio-lingual Centre. Cyst removed.

induced by stimulation of the base of the ascending parietal. Dr. Whitelocke reminded me, however, that the platysma is often supplied by a branch of the facial, so that a single lesion in the base of the ascending frontal would be sufficient to account for the whole phenomena. The operation was at once undertaken, when in the lower part of the ascending frontal, a cyst about the size of a filbert was found situated partly in the cortical and partly in the white substance of the brain, and was surrounded by a narrow zone of encephalitis. In manipulating the medullary substance, in process of removal of the cyst, the patient, while under chloroform, had a convulsion confined to the same group of muscles as were affected in his fits prior to the operation. The convulsion ceased with the removal of the cyst, and he has never had another. The wound healed firmly under one dressing, the paralysis of the facial muscle soon disappeared, and he has since been constantly at work. The power of the right arm has also been increased. Possibly the cyst might have caused indirectly slight pressure on, or had set up an inhibitory action of, the middle portion of the ascending frontal. This case affords important evidence of the position occupied by the facio-lingual centre in man, and on the whole corroborates that assigned to it by experiments on the lower animals. It was also interesting to note when this part of the brain was exposed and irritated that it gave rise to the same kind of convulsion.

9. *Protospasm of the Hallux preceded by Sensory Impressions, and followed by Paralysis.*—In another instance, a very definite protospasm, accompanied by a sensory impression, gave the key to the localisation. It occurred in a girl aged seven, the subject of frequently recurring attacks of severe epileptiform seizures, followed by paralysis of the affected parts. At the onset of these attacks, patient first experienced in the great toe of the right foot a painful sensation of such severity as to cause her to scream out. Shortly after, that toe was firmly extended in tonic spasm, which lasted about five minutes. Sometimes this ended the attack. More frequently it was followed by clonic contractions of the muscles of the right foot, leg, and thigh, where the convulsions often terminated. Occasionally they extended to the muscles of

the trunk, then to those of the right side of the face and right arm, the contractions ceasing in the order of accession. Rarely did they involve the opposite side, and when they did, patient lost consciousness. Though there was motor paralysis in the affected parts, the cutaneous sensibility remained unimpaired. From the great number of fits which patient had, following each other in rapid succession, occurring in parts affected with paresis, the result of former attacks, while the cutaneous sensibility remained unimpaired, and from the limited area affected, it was concluded that the lesion was cortical. The sensory impression in the hallux, followed by tonic and then clonic contractions of the same parts, extending to the lower limb, pointed to the upper region of the ascending convolutions as the area of irritation. From the general condition of the patient and her family history, the lesion was probably tubercular, and if so, might be multiple. During operation the upper portion of the ascending convolutions was exposed, and with the exception of a few tubercular nodules, the size of barley grains, adhering to the vessels over the upper part of the ascending frontal, there was nothing visible on the surface. On careful palpation of the ascending convolutions, there was found in the upper part of the ascending parietal, a circumscribed nodule buried in the cerebral substance, which on exposure by cutting through the grey matter, was seen to be a tubercular tumour, about the size of a hazel nut, which was easily shelled out. As an immediate result, there was prolonged trepidations of an erratic kind, affecting the muscles of the right side of the body, but especially those of the arm and the leg. These were continuous for fully a week, thereafter gradually subsiding. There have been no fits for over a year, and the girl is now in excellent health.



Fig. 9.—Epilepsy (Jacksonian)—Protospasm of Hallux—Focal Lesion in Upper Part of Ascending Parietal. Tumour removed.

The marked sensory impression which this lesion produced supports Dr. Gowers's opinion that the parts in the so-called motor area subserve a sensory as well as a motor function. The localisation of the movements of the hallux in the upper part of the ascending frontal has not been borne out by this case (unless the minute barley-grain tubercular nodules attached to the vessels in the pia mater could account for the stimulation), the tumour being found in the upper part of the ascending parietal, but the whole lesion could be included in the ring which Beevor and Horsley place on the upper portion of the ascending convolutions.

Other Instances.—A brachial monoparesis, accompanied by sensory impressions confined to the same parts, has already been alluded to, in which, though the centre of both ascending convolutions was involved, yet the chief lesion was confined to the ascending parietal, and implicated both its medullary and cortical substance.

10. *Brachio-crural Monoplegia: Cyst removed from Brain.*—In another, occurring in a boy of three years, a brachio-crural monoplegia, with late rigidity, was present, the result of a traumatism received eight months previously. In it a large thick-walled subdural cyst, containing clear fluid, was found pressing upon the motor convolutions, and a spiculum of bone, detached from the inner table of the skull, was seen to have penetrated the brain. These were removed, and the bone was placed in proper position. The patient made an uninterrupted recovery. The paralysis, with the contractions of the muscles, passed off to a great extent. He could neither walk nor stand before the operation; now he can run about and use his hand well, though there is still paresis in both.

With these data from my own experience, as well as from cases reported by Mr. Godlee, Mr. Horsley, and many others, it is clear that the motor and sensory phenomena form reliable guides to localisation of lesions in the central convolutions.

The Diagnosis of Cerebral Lesions in Non-motor Regions may be made from Sensory Phenomena.—The following instance shows this, and is also an example of the difficulty of finding the exact clue to the lesion and how easily it may be overlooked.

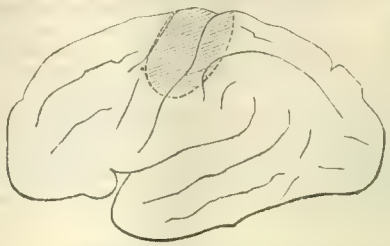


Fig. 10.—Brachio-crural Monoplegia; Cyst removed from Upper Part of ascending Convolution.

11. *Psychical Blindness the Key to a Lesion in the Angular Gyrus: Removal: Recovery: Medico-legal Aspects.*—A man who had received an injury about a year previously, suffered from deep melancholy, strong homicidal impulses, relieved by paroxysms of pain in the head of indefinite seat. Though the pain was excruciating he welcomed it, as it temporarily dispelled the almost irresistible impulse to kill his wife and children or other people. Prior to receiving this injury he was perfectly free from impulses of this kind, and had led a happy life with his family. Behind the angular process of the frontal there was a slight osseous depression, which could not account for his symptoms. There were no motor phenomena, but on minute inquiry it was discovered that immediately after the accident, and for about two weeks subsequently, he had suffered from psychical blindness. Physically he could see, but what he saw conveyed no impression to his mind. An object presented itself before him which he could not make out, but when this object emitted sounds of the human voice, he at once recognised it to be a man, who was one of his fellow-workers. By eyesight he could not tell how many fingers he held up when he placed his own hand before his face, though by the exercise of his volition in the act, and by other sensations he was cognisant of the number. He had been in the habit of reading the New Testament, and when he had so far recovered from his injury, he wished to resume his reading. He knew where the book lay near his bed and could put his hand on it in the dark. One day he stretched out his hand, took the book, recognising it, through the sense of touch, by its smooth leather covers, and the deeply indented letters on its back; he opened it, saw what he considered must be the letters, and the blocking of them into divisions for the words, but they were unknown symbols to him, they conveyed no impression of their meaning, the memory of their signs was gone, it was a sealed book to him. These phenomena, however, gave the key to the hidden lesion in his brain. On operation the angular gyrus was exposed, and it was found that a portion of the internal table of the skull had been detached from the outer, and had exercised pressure on the posterior portion of the supra-marginal convolution, while a corner of it had penetrated and lay imbedded in the anterior portion of the angular gyrus. The bone was removed from the brain and re-implanted in proper position, after which he became greatly relieved in his mental state, though still excitable. He has made no further allusion to his homicidal tendencies—which previously were obtrusive—and is now at work.

Such cases of complete mind-blindness are rare, and the definite localisation in this case will assist in indicating in man what

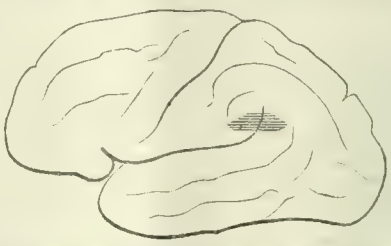


Fig. 11.—Psychical Blindness; Lesion in Posterior Part of Supra-marginal Convolution in Anterior Part of Angular Gyrus.

function the anterior portion of the angular gyrus and the posterior portion of the supra-marginal convolution subserve.

Other cases have been related above; one where a combination of symptoms pointed to a lesion in the frontal lobe, and guided by these, a tumour was found pressing upon that area of the brain from which it was successfully removed; in the other, a lesion was definitely recognised from the localising symptoms, as seated in the immediate vicinity of Broca's lobe. But even in such areas as the temporo-sphenoidal lobe, where destructive lesions may exist without localising symptoms, one may occasionally by a process of exclusion, definitely localise the lesion as seated in that part.

12. *A Lesion Localised Definitely as Existing in the Temporo-Sphenoidal Lobe.*—A patient exhibiting symptoms of cerebral abscess, had on the left side ptosis, stabile mydriasis, paresis of all the ocular muscles, with the exception of the external rectus, without external squint. On the right side paralysis of the facial muscles, which retained power of emotional expression to a slight degree and the patient power to close the right eyelid by an effort of will, though it remained partially opened during sleep. He had also paresis of the right arm, which during the few hours he was under observation before operation had amounted to distinct paralysis. The leg remained normal. There was no diminution of cutaneous sensibility. From these symptoms it was concluded that a single lesion must be large which could affect at once the third nerve in its course, and the lower half of the ascending convolutions. Second, it was clear that it was not a destructive lesion of large size in the motor area, or the crural centre would probably have been involved, thus causing absolute hemiplegia. The same observation applies with greater force to the crus cerebri, which must be excluded, as the effects of pressure would probably have led to more extensive involvement. Had the pressure even indirectly affected that area from without inwards it would have implicated the parts in the reverse order—the leg first, the face last. The tentorium cerebelli would prevent pressure downwards on the pons. Third, the internal capsule could not be the seat of a large lesion, otherwise hemiplegia with destruction of "Charcot's cross-way" would have resulted. Fourth, though the whole trunk of the third nerve was involved, paresis was alone produced, probably resulting from a degree of pressure. Fifth, the lesion was gradually implicating the motor area from below upwards, and was probably occasioned by pressure and its consequences. The only place where a lesion could be situated, producing all these phenomena just to that precise degree, was the temporo-sphenoidal

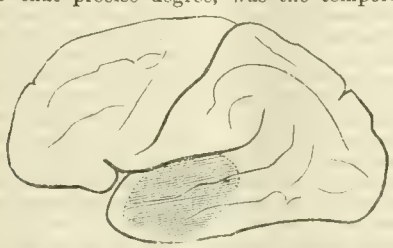


Fig. 12.—Lesion in the Tempero-sphenoidal Lobe.

lobe. It was cut down upon, and in the medullary substance of the temporo-sphenoidal lobe an abscess, containing three ounces of pus, was found, which was evacuated, when the whole of the above symptoms vanished. Three weeks afterwards, the wound was looked at for the first time and found healed.

Can the Motor Area be Removed in Large Pieces with Immunity from Serious Consequences?—If this region be of such psychical importance to movement, and destructive cortical lesions in it are followed by secondary degeneration of the motor tracts, then excision of these areas will necessarily induce permanent paralysis, late rigidity, and ultimate structural contracture. The removal of large wedges from the brain, especially in the motor centres, will induce serious effects upon the brain as a whole, causing, during cicatrisation, a dragging and displacement of the neighbouring parts, with final anchoring of the cerebrum to the cicatrix. In an acute ulcerative process rapidly advancing, such as an abscess, none can hesitate to evacuate the pus; it is not the living brain-substance which is removed, but the peccant matter alone. Epilepsy presents quite another aspect. In the presence of a stationary cicatrix, or of a slow-growing neoplasm in the motor area, occasionally producing fits, few would attempt the removal of such a large wedge of the motor region as to induce permanent hemiplegia. Even when the fits are much more numerous and aggravated, it is serious to contemplate the production of hemiplegia while attempting the cure of the fits. No doubt these epilepsies, when long continued, especially in early life, are apt to lead to great and extensive instability of the motor cortex, so as to warp the whole cerebral function, and ultimately involve life itself. Still, how much better is the cure by the removal of a large wedge, involving the greater part of the motor area? How many people would submit to have their upper and lower limbs, on the same side of the body, amputated by disarticulation at their proximal joints—for this is what the hemiplegia amounts to—in the process of cure of their fits? Numerous epileptics have been asked the question by me, but none have expressed their willingness to undergo such a cure. Even had they done so, the circumstances would require to have been exceptional to have induced one to hazard the life of the patient for so poor a result. It is true that corresponding wedges have been removed from the brain of monkeys, and these animals have survived for months thereafter. In men also they have been removed by others; in one instance reported to me the patient remained completely hemiplegic until his death some months after. Nor is the removal of very large tumours and large wedges of brain free from immediate peril to life. In several instances operated on elsewhere, death has ensued—one while the tumour was being removed from the brain, and one immediately after the completion of the operation.

In cerebral surgery, not only does one require to localise the lesion, and to select suitable cases, but also, after exposing the brain and its lesion, to judge when to advance and when to hold the hand. In a case rightly localised from the motor symptoms, a tumour was exposed in the leg and arm centres, on the left side of the brain; but its dimensions were such as to cause me, after carefully contemplating them, to refrain from removing it, as it would have led to a hemiplegia of a much more pronounced character than was present. Instead, the vessels which supplied it with nutriment and which ran into its substance, from the surface, were all ligatured, in the hope that this would effect a restraining influence on its growth. The patient recovered and is considerably improved. Though the fits are not quite cured, they are not so severe as formerly, and are somewhat altered in character.

Anchoring of the Brain and some of its Consequences.—When injury has been inflicted on the surface of the cerebrum, followed by plastic effusion and cicatricial formation, the superficial substance is apt to become soldered to the membranes when these remain intact, which in turn may be soldered to the skull, or in the event of their detachment, the brain may become directly adherent to the bone by means of cicatricial adhesion. Thus, the surface of the brain becomes anchored or soldered to its rigid walls. It has no longer the free play within its water bed to expand and contract according to the varying states of the circulation. Each variation produces a dragging of the brain at this spot, and through it the whole hemisphere at least is affected. Any sudden physical effort pulls on the brain, producing a slight shock, a momentary disturbance, just as if the cerebrum had received a blow. Vertigo results. People affected in this way cannot rise up quickly, or perform any sudden movement of the body or head, without experiencing a sensation of giddiness, which sometimes causes them to drop. Consequently, they are often incapacitated from pursuing their usual avocations.

Following upon this, the grey matter of the cortex, immediately surrounding the cicatrix, by the incessant movement is apt to become unstable and to produce fits. Some cases of traumatic epilepsy are thus caused. Further, if the cortical irritation be continued, encephalitis is occasionally produced, often appearing in a chronic form and long remaining so, though susceptible of being lit up into an acute affection. If the temperature remains high, active interference is apt to induce an extension of the encephalitis. Operation in such cases should be, when possible, postponed. The disregard of this advice has, to my knowledge in one instance, hastened the fatal issue, encephalitis becoming rapidly general.

False Hernia Cerebri.—It is true that, round many neoplasms, there is a zone of encephalitis, and, should this be extensive and of the nature of red softening, false hernia cerebri is prone to form. It was supposed that false hernia cerebri was entirely due to decomposition, many recent writers averring that it cannot occur unless when operations are conducted non-antiseptically, basing their belief on experimental investigations conducted on brains in a physiological state. Had they concluded that the formation of false hernia cerebri, after operations, was principally caused by decomposition, and always so when it occurred after operations on a physiological cerebrum, they would have been right. The consistence of false hernia cerebri is identical with red softening of the

brain, occurring in idiopathic affections in which there had been no operation. In one instance, in which trephining was performed for the relief of pressure causing total hemiplegia, and where the symptoms indicated either acute encephalitis or abscess, or both, the moment the dura mater was opened a large mass of red encephalitis protruded through the membranes, forming a false hernia cerebri on the surface of the scalp. This encephalitis was not occasioned by septic matter introduced through a wound, as it occurred the moment the wound was made. Around neoplasms red softening sometimes exists, and interference might possibly occasion an extension of the affection, though, were the operation conducted with strict antiseptic precautions, the possibility of its formation would be reduced to a minimum. With this exception, there has been no false hernia cerebri after any of my operations.

Re-implantation of Bone to fill the Hiatus in the Skull left by Injury or made by Operation.—Osseous defects in the cranial wall had hitherto remained permanent, the surgeon making no effort to fill the gap. The brain, in the majority of cases, had thus been exposed, the thin membrane forming an insufficient covering, the patient being doomed for the remainder of his life to wear some kind of plate as a protection from injury. Since 1873, the portions removed by me from the skull have been carefully preserved, rendered aseptic, divided into minute fragments, and reimplanted. Whenever there has been immunity from suppuration these have grown, and the continuity of the osseous wall has been preserved throughout. In a case of injury, nearly one-half of the left anterior portion of the skull was broken into fragments, which lay in a confused mass, mixed with brain substance, shreds of membrane, hairs, *débris* of lime and blood. The portions of bone were all rendered aseptic, divided into fragments, and replaced, quite a mosaic work being thereby formed. On the tenth day, a portion of the damaged scalp having sloughed, exposed four of the reimplanted pieces, two of which, lying side by side, presented a striking contrast, one being suffused with the pinkish blush of life, the other with the pallor of death. With the exception of two fragments which shed, all the others remained, grew, and now form a firm osseous wall, affording complete protection. This case, operated on four years ago, will be shown at the demonstration in the Royal Infirmary, along with many others, where lesser defects have been filled. At the same time, a boy whose humerus has been restored by bone grafting will be presented. He was operated on ten years ago, and the bone has grown in length and thickness since.

The Note Elicited on Percussion of the Skull an Aid to Diagnosis of the Consistence of Intracranial Contents.—When the skull is intact and the ventricles distended with fluid, such as may arise in consequence of tumour in the cerebellum, exercising pressure on the fourth ventricle, the percussion note elicited affords indications of the altered consistence of the intracranial contents. In some instances this note has been found prior to the exhibition of other symptoms indicative of the presence of tumours in the middle lobe of the cerebellum; it, however, became distinct at a later stage. *Post-mortems* have fully borne out the diagnosis. The percussion note, when properly fenced, is, therefore, an aid to the altered consistence of the intracranial contents. It is clear that it will be of most value in early life in the diagnosis of tumours of the cerebellum.

Statistical Résumé.—Of twenty-one cerebral cases (exclusive of fracture of the skull with brain lesions or other immediate effect of injury) in which operations have been performed by me, there have been three deaths and eighteen recoveries. Of those who died, all were *in extremis* when operated on. Two were for abscess of the brain, in one of which the pus had already burst into the lateral ventricles; in the other, suppurative thrombosis of the lateral sinus had previously led to pyæmia and septic pneumonia. The third case was one in which there existed, besides a large subdural cyst over the one hemisphere, extensive softening at the seat of cerebral contusion on the opposite hemisphere, accompanied by œdema of the brain. Of the eighteen who recovered, sixteen are still alive in good health, and most are at work, leaving two who have since died, one eight years after the operation, from Bright's disease, she in the interval being quite well and able to work; the other forty-seven days after the operation, after the abscess was perfectly healed, from an acute attack of tubercular enteritis.

Operations for the Relief of Paraplegia caused by Pressure on the Spinal Cord.

Six Cases in which the Posterior Arches of the Vertebræ have been Removed.—Turning to another portion of the nervous system, to which only brief allusion can be made, it is found that certain sensory and motor phenomena, due to lesions within the spinal canal, are amenable to operations, which are attended by a measure of success sufficient to offer a prospect of relief to a distressing, and hitherto regarded as a hopeless, class of sufferers. The spinal membranes and the cord itself can be exposed, and neoplasms and encroachments upon the lumen of the canal may be removed therefrom without unduly hazarding life. Such interference is unsparingly condemned by writers on the subject, their remarks, however, being applied to injuries, as no such operations have been hitherto contemplated in idiopathic cases. They contend that they are, first, full of danger, being difficult, prolonged, and attended by profuse hæmorrhage; secondly, that the operation could hardly benefit the patient; and, thirdly, that no one had yet been able to present a successful case. Each of those points has now lost its validity.

The first operations of this kind were undertaken by me for the relief of paraplegia due to angular curvature of the spine. In such cases pressure may be exerted on the cord either by connective tissue neoplasms, or by direct displacement of the bodies of the vertebræ, both lessening the lumen of the canal. By lifting the laminæ from the affected part, the tumour could be removed, and relief at the same time given to the compressed cord, were the osseous walls in front found to encroach upon the calibre of the canal. This was successfully carried out by me first in 1883. By the making of an incision on the tips of the spinous processes, and severing the tendinous connections, and then shelling the soft parts from the bone with periosteal elevators, the hæmorrhage was so trifling as to be for the most part arrested by sponge pressure, and with suitable instruments the operation, though demanding care, was easy to perform.

Case of Paraplegia with Incontinence of Urine and Fæces, due to Connective Tissue Tumour at Seat of Angular Curvature of Spine, completely Cured by Removal of Tumour and Laminæ of Vertebræ.—In 1882 a boy, aged 9, came under observation, suffering from complete sensory and motor paraplegia, with incontinence of urine and fæces, which had existed for two years previously, but had been absolute during the last eighteen months. For three years he had had angular curvature of the spine, most marked between the fifth and seventh dorsal vertebræ, for which he had been treated by extension and plaster jackets. When seen by me the curvature had become fixed by ankylosis of the bodies of the vertebræ. Treatment by extension and plaster jackets was, however, tried again, under direct supervision, in the hope of amelioration. It proved futile. The limbs were livid and cold, affected with marked spastic rigidity and with wasting of the muscles. The symptoms exhibited pointed to irritation of and pressure on the spinal cord about the level of the sixth dorsal vertebra. The paralysis having existed slightly for two years and markedly for eighteen months, and showing no signs of amelioration under ordinary treatment, this operation was deemed expedient. Dr. Alex. Robertson saw this case and agreed in the hopelessness of any other procedure than operation. On May 9th, 1883, the laminæ of the fifth, sixth, and seventh dorsal vertebræ were removed. There was no pulsation in the portion of the cord exposed. Between the theca and the bone there was found a fibrous neoplasm of one-eighth of an inch in thickness, which was firmly attached to the theca and covered about two-thirds of its circumference. This was carefully dissected off. The cord was then able to expand backwards, and its pulsations, which up to this period were absent, began to show themselves, especially opposite the fifth dorsal. Twenty-four hours after the removal of the pressure the limbs had lost their livid colour, were distinctly warmer, the spastic rigidity had greatly lessened, the sense of tickling the soles had returned, and that of touch had improved. The first return of movement was observed eight days after. Soon he had perfect control over his sphincters. Six months subsequently he was able to go about without support. Five years afterwards he walked three miles to pay me a visit. He attends school regularly, joins in all the games, including football, and he says he feels quite strong.

A Second but more Aggravated Case.—In 1884 another case was seen of a somewhat similar kind, though much more aggravated, the symptoms being so far advanced as to indicate organic changes in the cord itself, which rendered operation almost hopeless. It was only on the urgent and touching appeal of the girl herself that the operation was undertaken. A dense connective tissue tumour existed between the bone and the theca, which was so firmly adherent to both that in some places the theca was

elevated along with the neoplasm. The portion of the cord thus exposed was shrunken to about half its normal dimensions and lay like an inanimate rod. After the elevation of a sufficient number of laminæ to expose a portion of the cord which pulsated, the pulsations were communicated to this rod, pushing it from above downwards, but there were no distensile pulsations in the rod-like part of the cord. From the whole appearances presented at the operation, it was considered that there was no hope of her recovering from her paralytic state. However, ten hours after the operation the limbs had lost their lividity, felt warm to the touch, and the patient said she experienced a sensation "as if she were dreaming that her legs were on and hot water was running through them." From the fourth day after the relief of pressure she had continence of urine and fæces, for which alone she declared she would willingly have undergone the operation. Sensation quickly returned to the limbs, motion very slowly. Six months after she could move her limbs freely. Eight months subsequent to the operation she walked a quarter of a mile, stated she could perform many light duties in the house, besides attending to herself. She has since been very well and able to enjoy life. A third case was also successful, but two others have not been so; one succumbed a week after the operation, the other some months later to an attack of general tuberculosis. In both of these the temperature was high prior to the operation and was subject to exacerbations, indicating an activity in the tubercular disease at some part distant from the ankylosed angular curvature. Since this experience no case has been deemed fit for operation in which the temperature did not run an even, regular, and continuously a febrile course.

Abscess in the Posterior Mediastinum Evacuated successfully.—In connection with these cases an abscess in the posterior mediastinum which was exercising pressure on the heart and bronchi, and threatened life, was evacuated with complete success.

Compression of the Cord from Traumatism.—Another class of cases is that of localised compression of the cord, arising from traumatism. Traumatic lesions are as a rule so gross, and the destruction so complete, that in such operative treatment can be of little service. Still, there are cases in which traumatism has produced localised pressure, primary or secondary, which can be relieved.

Paraplegia from Traumatism, Cured by Elevating Connective Tissue Tumour and Depressed Arch of Twelfth Dorsal Vertebra.—From a coal-pit accident a man, 22 years of age, received a severe injury to the spine, at the level of the lower dorsal vertebræ, which caused absolute motor paralysis with incontinence. There was marked hyperæsthesia of the affected parts, which increased in severity during the first three weeks, so that he could not bear to have the floor shaken or his limbs touched. Between the third and fifth week a rapid change took place. At the termination of that period the muscles of the lower limbs would not respond to electricity, they had become so shrunken and wasted that the contour of the bones stood prominently out, and notwithstanding massage of the limbs, after the cessation of the pain, the flexor muscles had markedly contracted, causing drooping of the feet and toes and fixation of the joints. Later the skin over the bony prominences became red; pressure points and bed-sores formed, irrespective of the most scrupulous attention; the urine became ammoniacal, and his temperature ran up. It was evident that a fatal issue was imminent, unless an attempt to relieve the pressure on the spine were at once made. In February, 1885, this was done. The lower dorsal and the first lumbar vertebræ were exposed. The arch of the twelfth dorsal was found fractured and slightly depressed, and between it and the theca there existed a connective tissue tumour, measuring nearly a quarter of an inch in antero-posterior diameter, and extending from the eleventh dorsal to the second lumbar vertebræ. Both above and below the twelfth dorsal the tumour gradually shaded off to about one half of its thickness at that point. It was confined to the posterior aspects of the canal. This tumour was carefully dissected from the theca. The same night there was a decided improvement in the warmth of the lower limbs. He began to move his toes on the third day. A month afterwards the contracted tendons about the ankle and feet were extensively tenotomised to relieve the structural contractions, after which motor power rapidly increased. He was soon able to walk with support, which a year subsequently he discarded, and now he can move about with ease, but with a paraplegic gait.[3]

[3] These last two cases were shown at Path. and Clin. Soc., Glasg., Dec. 22, 1885, and published in *Glasg. Med. Journal*, besides notes of them appearing in the JOURNAL.

Here are, therefore, six cases in which elevation of the posterior laminæ of the vertebræ has been performed. Four of these have completely recovered, and two have died, one from extension of tubercular disease, months after the operation, and after the wound had healed, leaving one in which the operation possibly hastened the death of a patient, who was otherwise in a painfully helpless and hopeless condition.

Such operations are now beginning to be practised by others. Mr. Horsley has a few months ago published a successful case, in which a somewhat similar operation had been performed for the removal of a small tumour of the theca, diagnosed by Dr. Gowers.

In conclusion let us remember, that the same phenomena by which we are now able to recognise certain cerebral lesions and locate them in precise areas, were exhibited by patients who came under the eye of our surgical predecessors, some of whom must have had the album of their memory filled with such impressions, yet they saw not their import. They were so hampered by the inculcated physiological dogma of the time, that their true significance never dawned on them. The facts were reflected from their brain as objects from a mirror, and no more. Gentlemen, there are all around us phenomena, each with its hidden truth, obtrusively impressing our senses, and how do *we* fail to read their riddle?

REVIEWS AND NOTICES.

THE MEDICAL INSTITUTIONS OF GLASGOW: a Handbook prepared for the Annual Meeting of the British Medical Association held in Glasgow, August, 1888. Compiled and Edited at the request of the Local Committee by JAMES CHRISTIE, M.A., M.D., etc. Glasgow: James Maclehose and Sons, Publishers to the University of Glasgow. 1888.

THE handbook giving full information about the medical institutions of Glasgow forms a handsome octavo volume of nearly two hundred pages. Dr. CHRISTIE has been assisted in his editorial duties by Dr. C. Fred. Pollock, and has had the co-operation of a number of contributors who are each entitled to speak with special authority on the subject with which they deal.

The first article on "The University of Glasgow" has been written by Dr. William Snodgrass, Muirhead Demonstrator of Physiology in the University; it is illustrated by a lithograph drawing of the front of the fine new building, designed by Sir Gilbert Scott, which, though it has been in occupation since 1870, has only recently been completed. The article on the Faculty of Physicians and Surgeons is from the pen of Mr. Alexander Duncan, B.A., the Secretary of the Faculty, and contains a short sketch of the history of that corporation since its foundation by King James VI in 1599. Dr. C. Fred Pollock gives an interesting account of Anderson's College Medical School, where David Livingstone obtained the medical training which he subsequently found so useful in the wilds of Africa. The articles on the Royal Infirmary and its School of Medicine are by Dr. M. Thomas, the medical superintendent, who acted as the medical adviser of Mr. James Thomson, the architect of the new buildings of the school. Dr. A. W. Russell, the medical superintendent, has written an account, illustrated by drawings and plans, of the new Western Infirmary, which was opened just seven years ago; the building may be said to stand in the grounds of the University. Dr. James B. Russell, medical officer of health for Glasgow, contributes an interesting description of the City of Glasgow Fever and Small-pox Hospitals; this article is illustrated by a block plan of the fever and small-pox hospitals, with "elevations and sections of a pavilion specially prepared by the Master of Works, and photolithographed at the cost of the local authority."

Dr. Yellowlees has written an account of the Glasgow Royal Asylum, which is illustrated by a drawing of the fine façade of that large building. Articles on the other General Hospitals, on the Special Hospitals, on the Lunatic Asylums, on the Dispensaries, on the Convalescent Homes and Homes for Incurables, on the Institutions for the Blind and the Deaf and Dumb, on Institutions for the Training of Nurses, on the Medical Societies, on the Sanitary and Cleansing Departments of the City, and on the Ambulance Association, have also been written by competent hands.

The volume concludes with short notices of the *Glasgow Medical*

Journal and the *Sanitary Journal*, and a list of the medical staff of the various institutions. As will be seen the volume will have more than a passing interest, and will remain a source of trustworthy information about the University, the Medical Schools, and the Hospitals of Glasgow.

FIFTY-SIXTH ANNUAL MEETING
OF THE
BRITISH MEDICAL ASSOCIATION.

Held in GLASGOW, August 7th, 8th, 9th, and 10th, 1888.

First General Meeting of Members: Tuesday, August 7th, 1888.

The first general meeting was held in the University Buildings, Glasgow, at 11.30 A.M. on Tuesday, August 7th, 1888.

The chair was taken by Dr. J. T. Banks, President for 1887-88.

The minutes of the previous annual meeting were taken as read, having been published in the Journal, and confirmed.

Address of Retiring President.—Dr. J. T. Banks, the retiring President, said that his duty on the present occasion was a very light one, but he must crave the indulgence of the meeting for a few minutes. He first congratulated the members on meeting in the city of Glasgow, the second city in the empire, and also on receiving the hospitality of the ancient and renowned University. As the retiring President it was a source of great gratification and satisfaction to him to be able to congratulate them in the fifty-sixth year of the Association upon continued progress. The year which closed that day had been one of the most prosperous which the Association had ever yet known—he believed he might say that it was unprecedented. When by their favour he assumed the office of President in Dublin last year, the Association numbered something like 11,000 members, and now it had attained to the enormous number of 12,000. Its Branches had spread to the most remote regions of the British Empire. There was no sign of decadence, though their age was so advanced. If he might play the *rôle* of prophet he would say that in the coming year, under the auspices of his successor, the advance would be even more remarkable. He might also congratulate them on the financial state of the Association. There was a good balance at the bankers, and that to the Association as well as to the individuals themselves was a very agreeable state of things. In speaking of the accession of numbers, he ought to say one or two words with respect to the losses they had sustained. There was one especially of whom he spoke with extreme regret, one intimately known to the greater number of members present—Dr. Fergus, with whom he had the satisfaction of sitting on the General Medical Council, for some years, and whose loss they all deeply deplored. He had to congratulate the members upon their choice of the distinguished gentleman who was to succeed him in the chair. He had had the happiness of a long and intimate friendship with him, and he could say with truth that that friendship had been cemented as years had rolled on. He affirmed unhesitatingly that in their great and noble Association the choice could have fallen upon no man more worthy. He had now but to bid them farewell, and to repeat the thanks which he expressed at the meeting in Dublin, and his profound gratitude for the honour which had been conferred upon him. There were occasions, and the present was one, in which the honour was reciprocated. He thought that his friend Professor Gairdner conferred as much honour upon the Association by accepting the office of President as the Association had conferred upon him.

Installation of New President.—Dr. W. T. Gairdner, President for 1888-9, then took the chair. He said it would be more becoming on his part not to pause just then, but only to express his hope that next year he should be able to render as good account of his stewardship as Dr. Banks had done. At the same time, as there was no room for boasting there was plenty of room for thanks, and from the bottom of his heart he most cordially thanked the members for having even thought of conferring upon him the honour of electing him President of the Association.

Vote of Thanks to Dr. Banks.—Dr. Cameron, M.P., proposed that the thanks of the Association be given to Dr. Banks for the courteous way in which he had presided during the past year, and that he be elected a vice-president for life. Dr. Banks, he said, had alluded to the Association as having entered upon the second half-century of its existence, and having shown no sign of decadence. It would hardly be believed that the ex-president of the Association had himself also entered into the second half-century of his existence, and he certainly showed not the smallest sign of any diminution of his youthful vigour. He thought he might congratulate the Association both in the case of Dr. Banks and Dr. Gairdner on having chosen men who, above all men that he knew, exemplified the power of resistance to the ravages of time. In his youthful days he had had the opportunity of knowing Dr. Banks, and it would hardly be believed that when Dr. Banks was professor, he (Dr. Cameron) was a student and a pupil, but such was the fact. At that time Dr. Banks was beloved by his students, and the qualities which had endeared him to them were precisely the qualities which, undiminished, had endeared him to the entire profession, and had rendered his tenure of office as President of the Association a notable one. That rollicking humour, tempered by a constant kindliness and consideration for the feelings of others, an innate courtesy, an ingrained hospitality, coupled in a most extraordinary degree with high professional and scientific attainments, had rendered him a most worthy and honourable occupant of the chair. He believed the Association would be a success under the presidentship of Dr. Gairdner, but he was perfectly certain that the success would be rendered all the more difficult by the very great success of the meeting of the Association last year in Dublin under the presidency of Dr. Banks.

Sir George Macleod seconded the motion, which was agreed to.

Dr. Banks briefly acknowledged the compliment.

Report of Council.—The report and financial statement of the Council was taken as read.

Dr. Bridgwater, in moving that the report and financial statement for the year ending December 31st, 1887, be received and adopted, said he thought that those who had carefully read the report would gather from it that it was written in a sense of satisfaction as to the progress of the Association, and also as to the view taken in regard to the future. He thought it his duty to say that he had noticed that that kind forethought and warmest consideration for the success of the meetings of the Association had been carried out in the building in which they were then met, and it rested with the members to do what they could to reward those who had so ably provided for them, by showing that they appreciated what had been done. They had a field of usefulness surrounded by beauty, and, although to men of mature age it might perhaps be a little out of place to give a note of warning, yet, knowing the various attractions that existed in such a large city as Glasgow, he would impress upon them the strong Masonic maxim, that refreshment was most enjoyed after labour; that labour would give them a thirst for refreshment; and that refreshment would bring them back reinvigorated to their labour. Their Branches were increasing, there being some in nearly every part of the British Empire and its colonies; and, although they thought they had a Branch everywhere, there came, again and again, requisitions that Branches might be formed. He believed that there were at present forty-five Branches, and there had been requisitions from Malta and Tasmania to form Branches there. Of course the Association would be very glad to have Branches, provided that the rules established by it were complied with. One departure had been made this year—namely, to appoint honorary corresponding secretaries in the remoter districts where Branches could not be formed. There were many parts of the world where there were not sufficient members to constitute a Branch, and yet there were great fields for observation from which much instruction and profit might be sent home. He believed there were many gentlemen ready to accept those appointments, which would be valued and prized. The Council had resolved to carry it into effect, and had appointed Surgeon Lamprey (who, in a letter written to the General Manager, originated the idea) as the first General Corresponding Secretary on the Gold Coast, and Brigade-Surgeon Waters as Corresponding Secretary for Allahabad and the North-West Provinces of India. He hoped that was a step that the Council would be able to report as productive of very good results. Each Branch did an immense work in its own particular district. They knew the advantages that were derived under their more direct observation, but they would see in the report two instances in the Colonies and other places where Branches had been formed, of the Government realising the advantages of consulting a body of intelligent men

to guide them in what would be pertinent, more or less, to medical subjects. The Council also took the opportunity of this occasion of thanking the Secretaries of the different Branches, because they knew that upon the Secretaries devolved the greater amount of work, and upon their efforts and exertions depended in a great measure the success of the Branches. He was, therefore, glad to convey to them the thanks of the Council for their efforts. They had to regret, however, the resignation of Mr. Shettle as Honorary Secretary and Treasurer to the Reading Branch. They had already been told that the number of members had increased. The number of new members enrolled during the last year was over eighteen hundred. Of course, there had been a certain number of resignations and deaths, but the balance was 12,425 as against 11,107 last year. A certain proportion of the increase in numbers had been traced to a very large influx from the Army Medical Service, who came to the Association seeking protection, assistance, and guidance in the matter of the army relative rank. He would not enter into details in connection with that subject, because it would very properly come in the report from the Parliamentary Bills Committee. Nor need he enter into detail with regard to the finances, for Dr. Holman would lay that matter clearly before the members. The JOURNAL was so well known that he need not sound its praises. They all knew the value of Mr. Hart. Of necessity the JOURNAL was very much larger than formerly, and the circulation had very much increased. For the working details of it he was quite sure that everyone present would believe him when he said that they owed more than a debt of gratitude to their General Manager, Mr. Fowke. With regard to the question of the enormous increase of cancer he would draw attention to the reply of the Assistant Registrar-General, in order that the members might help him to the solution which they desired to obtain. If that were done there was reason to hope that the Registrar would be able to give a more detailed registration of the cases and of the parts of the body affected. The reports of the various committees alluded to in the report would be submitted. The Therapeutic Committee was in a forward state, but was not yet prepared to report. It had, however, been active, and would no doubt present a good report at a future meeting. He would now ask Dr. Holman to present the financial statement, which would be taken as forming part of the annual report.

Treasurer's Statement.—Dr. HOLMAN (Treasurer), in submitting the annual balance sheet, said that he found it necessary to direct their attention to the increased figures which had to be dealt with, and, as far as he was able, to explain them, and to show that they were dealing with a business on principles of sound finance; and to present such facts as would prove that the proportion of increased outgoing was giving, and was likely to give, a proportionately increased incoming. It was often difficult in the early stages of a company to prove this relative proportion; but he was enabled to give such figures as incontestably showed such a remarkable, nay, almost unexpected, increase of business, as well as increased numbers in the Association, that the happiest auguries might be drawn for the future. The balance sheet showed an actual balance in their favour of £31,367, which consisted in actual valuation of the plant—now (he thought) for the first time placed before the members of the Association—the valuation of the investments of the Association, as made by the brokers, the amounts of the assets realised, and the absolute balance at the bankers. These were facts, and were not to be controverted. There was an excess in the valuation of plant of £600 over that shown in the balance sheet at the time the auditors signed it. The increased value of securities over cost price was £2,477. He wished to draw attention to the separation of items on the asset side of the balance sheet, showing the relative outlay of moving into the new premises. Lease, £4,500; alterations, £3,580 5s. 4d.; and furniture, £1,431 16s. 4d. The first item was paid for by sale of Consols, and the other two came out of revenue. He would also direct attention to the depreciation written off, which he had no doubt they would say was drawn on a very safe basis. The increased receipt under the heading of subscriptions was most satisfactory, as showing the rapid augmentation in the number of members; and the very largely increased sum received for advertisements was a subject for warm congratulation. The amount under this last heading might possibly have been increased, but the policy of the Manager had not been of an aggressive character, but he had sought rather to attract good and steady business, and to lay the foundation of a successful reliable future. He (Dr. Holman) did not think he need trouble them with a lengthy detailed account of the various items of the increased expenditure. It would be sufficient to epitomise them by saying that under the head of editorial expenses we found the salary of a new sub-editor, in the place of their tried and faithful old friend and servant, Dr. Alexander Henry, who was now incapacitated from work, and was receiving a retiring salary. A better quality of paper had been provided for the JOURNAL, and a very largely increased weekly issue had been printed. The foreign circulation had very rapidly enlarged, giving rise to greatly increased payments for special paper and postage. The other expenses with larger premises and a larger business had gone up; but all these, and in fact every detailed item of expenditure, was carefully considered by the Journal and Finance Committee, and subsequently underwent the criticism of the Council at the quarterly meetings. A careful inspection showed that their larger business had been economically conducted, and the increased expense was but small in proportion to the increased and increasing receipts. Dr. Holman concluded his financial statement by showing a surplus balance of £2,619 2s. 7d. on the year, and this was beyound doubt, as was shown by the investment of £2,000 in Nottingham Corporation Stock, and the balance in hand. It might be well, in contrasting the last two years' receipts, to point to the fact that last year's surplus was augmented by £500 received from the sale of the lease of the old premises, 161A, Strand. His firm belief was that they had a sound and prosperous business, social, scientific, and financial; and that it only required care for the future to make the Association and JOURNAL still more prosperous and useful than they now were.

Dr. MORTON, in seconding the motion for the adoption of the report and balance sheet, expressed a hope that the Sectional meetings would be well attended. The gentlemen who gave themselves the trouble to prepare papers for the Association had a right to expect that the members would attend and listen to what they had to say.

The motion was then agreed to.

Report of Parliamentary Bills Committee.—Mr. ERNEST HART, in moving the adoption of the report of the Parliamentary Bills Committee, said it would be sufficient to call attention to the text of the report and to assure the members that every consideration had been given during the year to a great number of important and delicate questions which had arisen in connection with the various professional interests touched on in the report. The results of the Committee's work had been for the most part successful in every way. The Pharmacy Bill, which appeared to threaten the interests of medical practitioners by the method in which it was proposed to teach materia medica to persons not medical, had, by the efforts of the Committee, been so modified that no such encroachment as had been anticipated could possibly be feared; and happily, by the aid of the Privy Council and with the consent of the General Medical Council, they were able to come to a satisfactory arrangement with the Pharmaceutical Society, so that the amendments proposed by the Committee were introduced and carried without any contention. Another important and delicate question was that of the rank and titles of army medical officers. The subject was brought before the last annual meeting, and some exception having been taken to the action of the Committee by the Director-General of the Army Medical Department, the meeting, with the complete assent of the Committee, thought it desirable to refer the report back for consideration by a special committee to be appointed by the Council. Very extensive and exhaustive inquiries had been carried out throughout the whole Army Medical Department, and all those voluminous documents were carefully examined by the special Committee with the assistance of retired medical officers of great eminence. The general result had been to confirm in all respects the conclusions arrived at by the Parliamentary Bills Committee, and the Council had thought it its duty, in accordance with the instructions of the annual meeting, to press upon the Government the recommendations already made by the Committee, and repeated in this year's Report. The Government were now aware that the opinion of the Department and of the profession was as stated by the Committee, and that the recommendations made were such as the Association had adopted after careful consideration. They could not conceal from themselves the fact that the contest was one that would not be quickly terminated, and in the carrying on of which they were under some disadvantages. The head of the administrative department of the army, when asked by Dr. Farquharson (who had rendered invaluable services to the Committee and to the Department) had refused to allow army

medical officers to express any collective opinion. The Committee then took measures to ascertain from each man his individual opinion; but they were told that that also was not permitted, and they had been expressly rebuked by the Secretary of State even for endeavouring to ascertain confidentially the individual opinions of the men. Then a number of retired medical officers and others had desired to meet the Committee in a conversational way and express their views in confidence, but that also was forbidden as contrary to discipline. Those decisions were probably technically correct, and he referred to them merely to show that it was only to the civil profession and to the schools which would furnish future candidates to the Army Medical Department that they could look for such an expression of opinion as would ultimately obtain for the Army medical officers that improvement in their position to which they were undoubtedly entitled. He had entered into the matter thus fully that the members might understand that they had to deal with considerable official and parliamentary difficulties, and to assure himself that the Committee and the Department would have the support of the Association in persistently pressing their claims. In the meantime it was satisfactory to know that so highly had the Department esteemed the services rendered by the Association that they had joined it in hundreds during the last year, and that the number of members from the Department was now 1,100. With regard to the Local Government Bill they had had the good fortune to obtain two amendments of great importance in the general improvement of the health administration of the country, favouring the formation of adequate areas with adequate medical officers, fully paid and wholly devoted to their duties. That principle was first brought before the Royal Sanitary Commission by the representatives of the Association, and it had been repeatedly passed at the annual meetings at the instance of Rumsey, Acland, Stokes, Farr, Stewart, Sibson, and others (with W. H. Michael still living) whose names he need not mention. An opinion had been expressed in some quarters that they were innovating. They were not ashamed to innovate where a great principle was concerned. Even if some interests suffered they would not cease to act if they were convinced that the great interests of the public and the profession were concerned. But they were not innovating; they were following upon the lines laid down thirty years ago for the purpose of sanitary legislation. They had had the satisfaction of seeing their amendments accepted by all parties in the House: they were proposed by Mr. Stansfeld, accepted by Mr. Ritchie, and passed by the House unanimously. In conclusion he desired to express his warm thanks to Sir Walter Foster, Dr. Farquharson, Dr. Cameron, and other members of the House for the great assistance they had rendered in carrying through the parliamentary business of the Association.

Dr. FARQUHARSON, in seconding the motion, said he was sure that all members would join in admiring the progress of the Association during the last few years. Institutions of that kind had a difficulty in getting beyond the scientific picnic state, but the British Medical Association had advanced much farther, and it was now a great and important engine for upholding the honour and protecting the interests of the profession. They were a large and scattered body, but they knew what good work the Parliamentary Bills Committee had done in concentrating the energies of the Association on points of great public importance. He knew that the Government felt grateful to it for bringing before it the feeling of the profession, and enabling them to put their Bills or amendments in a practical shape. Their admiration for the Committee was tinged with a good deal of respect, and perhaps a slight touch of fear. He did not think that there was any great movement in connection with sanitary progress or the interests of the profession which had not been helped on by the Association through the Parliamentary Bills Committee. Mr. Hart, of course, could not say much about himself; but they all knew that the Committee could not have done what it had if it had not had the good fortune to be presided over by a gentleman of his ability and energy. He believed that the time was shortly coming when they would have to stand up for the Army Medical Department against serious opposition. In the autumn session an attempt would probably be made to cut away the essential parts of its proper constitution, to deprive it of its position, and lessen its emoluments. He hoped that the Parliamentary Bills Committee would be on their side, and that it would receive the hearty support of the Association.

Surgeon-Major INCE, in supporting the motion, said that the civil branch of the profession was greatly indebted to the Committee; for amongst the subjects that had engaged their attention were several that vitally interested the general interests of the profession. With regard to officers of health he thought that at present they did very little good, understanding very little of hygienic laws and principles. If the areas were increased and the jurisdiction of the officers extended, they might get men who had time and opportunity to go through a requisite examination and obtain certificates. In regard to relative rank in the army, a doctor's rank would largely depend upon himself; and he ought to be able to rise above the position of an ordinary combatant officer.

Dr. FITZPATRICK also considered that, from the civilian point of view, undue prominence was given to the subject of relative rank in the army. He also expressed his disapproval of the action of Mr. G. W. Hastings, M.P., in regard to the compulsory notification of disease; who, he said, would allow no Bill to pass without a clause for the dual notification.

Dr. FARQUHARSON said that the remark of Dr. Fitzpatrick, with reference to Mr. Hastings, was entirely without foundation. The fact was that every Bill which had come before the Committee last year had contained the clause referred to.

Mr. HUSBAND thought that the Association was deeply indebted to the Parliamentary Bills Committee for the action it had taken with regard to the question of relative rank. It was not a mere matter of lace or uniform, but of position and influence; and he knew from his own experience that the medical officers did not now possess the influence which they did before the change had been made. With reference to poor-law medical relief, he could confirm the observations of Mr. Hart, that they had always followed one uniform policy, that of forming large districts, so as to secure good and well-paid medical officers. How could a man in a small provincial town be expected, for £20 or £30 or £50 a year, to sacrifice all his professional interests for the purpose of promoting the public health, and then be liable to be dismissed at the caprice of a board of guardians? If united they would have great influence, but at present they were scattered over the length and breadth of the land. Let them educate their representatives in their duty to the profession, and then no minister, however tyrannical or despotic he might be, would be able to resist the just claims of the profession.

Dr. ALDERSON said that there were many subjects more interesting to the profession than the question of relative rank in the army; he referred especially to the social rank and prosperity of the general medical practitioner.

Lunacy Acts Amendment Bill.—Dr. HARRISON said he should like to move an amendment to the effect that the Lunacy Acts Amendment Bill in its present form did not deserve the support of the Association.

Mr. HART said that that might be brought forward at a subsequent meeting, but could not be taken as an amendment.

The PRESIDENT put it to the meeting whether the subject should be taken at once or adjourned to a future meeting, and the latter alternative was adopted by the members.

The motion for the reception and adoption of the report of the Parliamentary Bills Committee was then put and agreed to.

Report of Inebriates Legislation Committee.—Dr. LANE FOX moved the adoption of the report of the Inebriates Legislation Committee. He would simply remind the Association that preeminently inebriate legislation was a child of its own; it was one of the numerous ways in which they had influenced the nation for its highest good. The Bill was now a permanent one. They none of them thought it absolutely perfect, but the fact that it was permanent would enable them to get alterations made in it in a much more easy way. He thought they might congratulate themselves upon the change in the name of the Committee. There were many persons who did not like to be called habitual drunkards, but thought it an honour rather than otherwise to be called inebriates. The effect of legislation had been an almost unmitigated success, and the recovery of wretched victims of the alcoholic demon was a matter of sincere congratulation.

Dr. EASTWOOD, in seconding the motion, also congratulated the Association upon the change in the title of the Committee. The alterations made in the Bill, he believed, would prove very satisfactory. One of them was the removal of the magisterial element, which had been regarded as very objectionable. The permanence of the Bill would be found very advantageous, and he hoped that the next change would be a compulsory instead of a permissive measure.

The motion was then put and agreed to.

Report of Scientific Grants Committee.—Professor McKENDRICK said he had been requested, in the absence of Sir Joseph Lister, to move that the report of the Scientific Grants Committee be received and adopted. He believed that among the many active purposes served by the Association there was none deserving their support more than the work of the Scientific Grants Committee. So long as the Association did not promote investigations of a scientific character it failed in a part of its duty. During the past few years the Association had done exceedingly good work in that respect, and by the expenditure of a comparatively small amount of money important and valuable contributions had been made to science. Every care had been taken to ascertain something regarding the nature of the investigation proposed, and of the qualifications of the gentleman asking for a grant; and the best proof of the care taken in the selection was to be found in the very interesting and able reports from time to time presented. The Committee did not limit its operations to giving grants to gentlemen engaged in scientific laboratories throughout the country. Several very important reports had been made by men not connected with any great educational and scientific institutions, but men in active professional practice, who were encouraged in that way to carry out their scientific investigations. He thought that it would be found more important to endow scientific institutions than scientific research. The prominence of Germany, he believed, was in a great measure due to the fact that each of its universities was provided with a means of carrying on scientific investigations. When a man went to a German laboratory he was provided with everything he required; a thesis was given to him to work out, and he was aided and encouraged by the teachers in the laboratory in every possible way. That point had not been yet attained in this country, but he might be allowed to refer to the interesting experiment being carried on in Edinburgh in the Physiological Laboratory of the Royal College of Physicians He had only to call attention to the report of the Committee as showing what excellent work had been carried on by scientific workers in various parts of the country with a very small amount of pecuniary aid. The money was not given in the way of remuneration, but simply for the purchase of apparatus, chemicals, and other things required to carry on the research. He hoped that the Association would continue to develop that kind of work, which was of the highest importance. They ought not to be disappointed if the investigation did not lead to the discovery of any very striking scientific truths. Such discoveries were made by comparatively few persons, but every contribution made to the accumulation of facts and details would be a contribution to the upbuilding of the temple of science, in which they were all so greatly interested, and of which they were so proud.

Surgeon-General MACLEAN seconded the motion, which was agreed to.

Report of Collective Investigation Committee.—Dr. A. CARPENTER moved that the report of the Collective Investigation Committee be received and adopted. He said his position was rather uncomfortable, since the report would probably be the last presented by the Committee to the Association. The fact was that they had been too ambitious, seeking to embrace too large an area and to obtain too much information at a time when members of the Association were not likely to adopt the suggestions made by the Committee. They had, however, done useful work; but the time had come, in the opinion of the Council, when they ought to draw in their horns in regard to further allowances. As an illustration of the value of the Committee's work he might refer to Dr. Isambard Owen's observations on the effects of intemperance on life, which had been suddenly taken up by the outside world, and inferences had been drawn which were not borne out by those observations. That showed how the work of the Committee would have developed if the opportunity had been afforded.

Dr. CUMMING, of Belfast, seconded the motion, which was adopted.

Dr. WATERS, who had a notice of motion on the agenda, suggested that its consideration should be adjourned to a future meeting, and this was agreed to.

The meeting then adjourned.

TUESDAY EVENING, AUGUST 7TH.

Professor GAIRDNER, President, took the chair at 8.30 P.M.

President's Address.—The PRESIDENT delivered his Address, which is published at page 275.

Sir ANDREW CLARK said he felt an inexpressible pleasure in proposing a vote of thanks to the President for his admirable address. He had perhaps known him longer than any of his hearers, and he had admired his life and followed his example. He had the privilege of being a student of medicine in Edinburgh at the same time as Dr. Gairdner, who was *facile princeps* the student of his time, the representative of the students, their leader, and their guide. What he said was accepted, what he did was approved of. More recently, and with growing interest, he had watched his career as a physician, and it was no abuse of language to say that he had become among physicians exactly what he was in the old days among students. He had inherited or acquired those very characteristics that went to make a great physician. His natural ability, his earnestness, his knowledge, his familiarity with modern medicine, his especially great knowledge of the natural history of disease, his still more useful knowledge of what it was necessary to do and what cannot be done in the treatment of disease, his conscientiousness, his high sense of duty, his tenderness to the sick, all these had contributed to make him one of the most illustrious of physicians, not only in Glasgow and in Scotland but throughout Europe and America. And it was not only as a physician that they had benefited by his good example, but as a man. His simplicity, his candour, his frankness, his quaint humour, his magnanimity, his feeling of humility with independence, his self-effacement, had contributed to make him, even as a man, distinguished among men. And there was still another quality with which, in the same sobriety of language, he would invest him, the greatest quality a man could possess, that of righteousness: he was a man who subdued his personal desires, his interests, and everything pertaining to his mere self for the sake of what was just and true and good. But his (Sir A. Clark's) duty was to propose a vote of thanks to the President for the address to which they had listened. In its conception and execution, in its felicities of language and illustration, in what it had suggested and what it held back, it was one of the most remarkable addresses to which he had ever listened; and he asked the members to return to the President their warmest thanks by their enthusiastic acclamation.

The LORD PROVOST, in seconding the motion, said his first duty was to thank the President for his consideration to his non-professional hearers, for there was nothing in his address of a technical character. It was most thoughtful and suggestive, but a layman could follow it with pleasure and understanding from beginning to end. They owed the President very much for his suggestions in regard to the better teaching of physical science, a branch of study whose beneficial influence was not confined to medicine, but was helpful in every department of life; also for in so religious a spirit vindicating independence of thought amongst those who might not be accounted by the Church orthodox. The President had referred to matters in the history of Glasgow as far back as the year 600, but in that he should not attempt to follow him. The Town Council records did not go so far back, but they went farther back than the twenty years which numbered Dr. Gairdner's professional life in Glasgow; and it was in a very early period in his Glasgow career that the then Town Council, with rare discrimination, invited him to be its first officer of health. Even in the organisation of that important work he was happy in having a convener who was most deservedly esteemed by every citizen of Glasgow, Mr. John Ure. They were fellow-workers in that important undertaking. It had been carried on in the most able manner by his successor, Dr. Russell; and its effects were shown in the tables of mortality of the city. The discrimination shown by the Town Council had been well followed by the honour which had been conferred on Dr. Gairdner as Physician to Her Majesty for Scotland, and his appointment as President of the British Medical Association might be regarded as the crowning honour of his life. He therefore proposed three hearty cheers for Dr. Gairdner.

These having been given with great enthusiasm,

The PRESIDENT said that his experience that evening was unusual and overwhelming. He did not wish to feel insensible of what had been said, but he felt that a great deal of it was in excess of his merits. He was most grateful to his old friend, Sir Andrew Clark, for his kindly recollection of him. He had made his acquaintance in Edinburgh almost immediately after he (the President) had recovered from typhus fever, and he was hardly out of his delirium before he began to compose his thesis. At that time Sir Andrew Clark was one of the members in a medical society which they had to do with, but which was now extinct, and what he remembered most about him was the extraordinary

way in which he fulfilled Chaucer's idea of a physician, being well up in:—

Old Hippocras, Hali, and Gallien,
Serapion, Rases, and Avicen,

far beyond anything to which he himself could pretend. But he confessed that his (the President's) estimate of that kind of learning did not lead him to believe that the pursuance of that line would lead his friend to become a leading physician in the great metropolis of the world, and he was quite satisfied that Sir Andrew Clark would agree with him in saying that he had to get considerably out of the scholastic track and to go in a new direction before he prepared himself for the distinguished position which he had since occupied. He was sure that Sir Andrew Clark in the main agreed thoroughly with what he (the President) had endeavoured to propound, namely, that the education of the physician of the future must lie, to a very great extent, in his being indoctrinated almost from earliest infancy in the knowledge of things and the power to reason upon them, rather than in scholastic methods.

Irish and Scotch Diplomas and Public Appointments.—Dr. WATERS, in bringing forward the motion of which he had previously given notice, reminded the members that at the annual meeting in Dublin the following resolution was passed: "That the Association is of opinion that the diplomates of the Irish and Scotch Universities and Corporations should possess the same privileges in respect of public appointments that are enjoyed by diplomates of the other divisions of the kingdom." At a subsequent meeting of the Council he had suggested that that resolution should be laid before the General Medical Council for their consideration; but it so happened that the Association had not directed the Council to transmit the resolution, and they accordingly thought that they might be going beyond their powers if they did so. The resolution, therefore, had not up to the present time been acted upon, but he thought it would be a monstrous thing that a resolution passed at a great annual meeting should be without effect. He now begged to propose "that the Council of the Association be desired to place before the General Medical Council the resolution passed at the annual meeting held in Dublin in 1887, with a view of obtaining the opinion of the General Medical Council on the subject." If the General Medical Council accepted the resolution and acted upon it, it could not fail to have a very beneficial effect in removing the narrow spirit which characterised the Boards of numerous hospitals in England by which the Fellows of the Colleges of Physicians and Surgeons in Ireland and Scotland were excluded even from competition for medical appointments. Such an exclusion he considered to be monstrous. There could be no doubt that the great advance in medical education which had characterised the present century was in a great measure due to the Universities of Scotland, and it was an absurdity that the diplomates of a school which had produced a Gregory, a Simpson, a Christison, and a Gairdner should not be considered qualified even to offer themselves as candidates for appointments in the provincial hospitals of England. It was the same thing with regard to Ireland. The Fellows of the King and Queen's College of Physicians were men of the highest distinction, but they were also excluded from becoming candidates for those appointments. Even the present Director-General of the Army Medical Department, Sir Thomas Crawford, was not qualified to become a candidate for an appointment in an English hospital, and the same thing might be said of Sir John Watt Reid, the Medical Director of the Navy.

Dr. BANKS, in seconding the resolution, said that the grievance complained of was a real, not an imaginary, one. He agreed with Dr. Waters in thinking that it was monstrous that the graduates of the Scotch and Irish Universities and Colleges should not be allowed to compete for appointments in England.

Dr. BATEMAN (Norwich) said that he was senior physician to a hospital where there were three physicians, one of whom was an English graduate, one a Scotch, and the other an Irish.

Dr. HADDON thought that the proposed resolution was not wide enough in its terms, and he wished to call attention to the fact that the graduates of the University of Edinburgh were boycotted from the medical charities in that city. No graduate of the University, holding merely his M.D. diploma, could enter any medical charity in the city; he must first become a Member of the College of Physicians, and then take up his Fellowship, for which he had to pay £86 10s.

The PRESIDENT said that the motion of Dr. Waters could not be altered as suggested. The proposal was simply that the resolution passed at Dublin should be communicated to the Medical Council.

Mr. SIBLEY said they were always glad to follow Dr. Waters in his advocacy of a uniform minimum qualification, but in regard to a uniform maximum qualification he felt bound to part company. It was useless to try and reduce everything to a dead level of mediocrity. There could be no doubt that the higher qualifications of medicine and surgery in the different universities and colleges were on a different level from that of the ordinary qualifications, and that fact ought not to be ignored. He would propose that the Council should take no further action in the matter. If the resolution went up to the Medical Council they would probably consider that they could not legislate in hospitals where they had no authority.

Dr. WARD COUSINS, in supporting the motion, maintained that all appointments should be open to all candidates, whatever their qualifications might be. All that they wanted was to have a fair field and no favour, giving a free chance to all. He believed that the lay element cared very little as to what the qualifications of the candidates were; the difficulty was really with the medical element, into which they should seek to infuse a broader spirit.

Dr. STEWART thought it would be unworthy of the Association to allow a resolution passed by it at its annual meeting to remain a dead letter. He hoped that some good would arise from forwarding the resolution to the General Medical Council, which was not merely a council of registration but of medical education, to whom the lay governors of hospitals would naturally look for guidance.

Dr. WATERS, in reply, said he would base his resolution upon the simple fact that their late President, Dr. Banks, and the present President would not now be qualified to stand as candidates for the post of physician to the Liverpool Infirmary.

The motion was then put and agreed to.

SECOND GENERAL MEETING:
WEDNESDAY, AUGUST 8TH.

The PRESIDENT, Dr. Gairdner, took the chair at 3 P.M.

The SECRETARY read the names of colonial representatives and foreign guests.

The Annual Meeting of 1889.—The PRESIDENT announced that the Council had received a cordial, numerous, and influentially-signed invitation to hold the next annual meeting in Leeds; and it had been resolved to recommend that the invitation be accepted, and that Mr. C. G. Wheelhouse be appointed as President-elect.

Dr. BRIDGWATER, President of Council, after reading the invitation received from Leeds, moved that it be accepted with thanks, and that Mr. Wheelhouse be elected President-elect.

Mr. HUSBAND said that, as a Yorkshireman, though unfortunately obliged to seek refuge in a foreign clime, he had great pleasure in seconding the motion. He knew of no place where they were more likely to have a cordial reception than in Leeds. He well remembered the last meeting in Leeds, more than twenty years ago, under the presidency of a man to whom the Association owed an eternal debt of gratitude, Dr. Chadwick. The meeting was one of the most successful that the Association had ever held. Leeds possessed everything that would tend to render the meeting a successful one; and when it was remembered that they would have for president a man whom they all esteemed so highly, whose genial qualities, business habits, and sound good sense and wide experience were so well known, there could be no doubt that they might confidently look forward to a pleasant and useful gathering.

The resolution was then put and agreed to.

Mr. WHEELHOUSE thanked the meeting for the manner in which the motion had been received, and promised that no effort should be wanting on the part of the members of the profession in Leeds to make the meeting not only pleasant, but scientifically useful.

The Address in Medicine.—Dr. CLIFFORD ALLBUTT then delivered the Address in Medicine, which is published at page 284.

Dr. MCCALL ANDERSON, in proposing that the best thanks of the Association be given to Dr. Allbutt for his admirable Address in Medicine, said they were all aware of his great ability, his high attainments, and the great services he had rendered to medical science. Indeed, almost every word uttered by Sir Andrew Clark in reference to the President might be applied with truth to Dr. Allbutt. Not only was he a man of science, but a man of sense; and he was distinguished not only for his professional attainments, but for his Alpine climbing. They had in his paper on the treat-

ment of disease in high altitudes a good illustration of the manner in which he combined business with pleasure. In whatever point of view he was regarded, it would be admitted that the Council was well advised in asking him to deliver the Address in Medicine.

Sir DYCE DUCKWORTH, in seconding the vote of thanks, said that the members had had great expectations in regard to the address, and that they had been abundantly realised. It was a most philosophical address from one of the most accomplished physicians in England, and would give food for reflection for many months and years to come.

The motion was put and unanimously agreed to.

The PRESIDENT said that Dr. Clifford Allbutt, during the composition of his address, had poked his fun at him (the President) by asking him questions, amongst others, as to the prevalence of gout amongst Scotchmen; but when he went on to ask if, in his wide experience, he had been able to recognise any difference in the characters of disease as between black Highland and other breeds, he confessed that he felt remarkably small, and recognised how narrow and "anthropocentric" he had been in his career. He felt very much as a recent candidate did who was asked whether rats were subject to tetanus, a question which he (the President) felt bound to say he could not answer. Dr. Allbutt had shown them how much there was yet to learn, but if all the subjects to which he had alluded were to be put in the future curriculum of the medical man, he did not know what would be the result. He certainly hoped that he himself should before that time have gone the way of all flesh.

Dr. ALLBUTT briefly acknowledged the vote of thanks.

Payment of Railway Fares.—Dr. FITZPATRICK then moved, pursuant to notice: "That every representative attending a Council meeting be paid first-class railway fares, to and from, out of the funds of the Association." He contended that, if the members of the General Medical Council were paid for their attendance, there was no reason why the Association representatives should not receive their travelling expenses. Some of them came from very long distances, and were, therefore, in a very different position from those who had only to pay shilling fares to attend the Council. The Association had ample funds to meet the outlay, and there was no ground, sentimental or otherwise, why the payment should not be made.

Surgeon-Major INCE said that the question had been decided on many former occasions, and he considered the proposal nothing less than an insult to the members of the Council.

Mr. SIBLEY said that the proposal (which was in the nature of a compromise) brought before the meeting at Dublin was rejected by a decisive majority, and it was premature to revive the subject so soon, especially as the Council had appointed a small committee to consider, with legal advice, the question whether the general meeting could override the action of the Council in financial matters.

Dr. HOLMAN protested against the idea of a small meeting of members like the present passing a motion which had been rejected by an enormous majority in Dublin, and contended that if the proposal were adopted the same high class of men would not be returned as members of the Council. The great majority of the present members did not ask for a single sixpence towards their expenses.

The PRESIDENT said that while he sympathised with Dr. Fitzpatrick in the effort he was making, he could not regard his proposal as an insult. For one, he thought that as a matter of expediency, the question ought not now to be revived.

Dr. A. CARPENTER asked Dr. Fitzpatrick to withdraw his motion, but he declined to do so.

Mr. R. W. WILLIAMS then moved that the question be not put.

Mr. HUSBAND seconded this proposal, which was put to the meeting and carried by a large majority.

The meeting then adjourned.

BEQUESTS.—Mrs. Jemima Ince, of Montague Square, bequeathed £500 to the Dorset County Hospital, Dorchester, in memory of her father, the late Mr. Edward Williams, of Harringstone House, Dorsetshire.—Mr. James Patry, of Cambridge Terrace, Regent's Park, and Mincing Lane, East India and Colonial broker, bequeathed £100 each to University College Hospital, the Metropolitan Free Hospital, and the Home for Incurable and Infirm Women.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

NEW SPIRAL WIRE STEM FOR PRESERVING THE PATENCY OF THE CERVICAL CANAL AFTER THE OPERATION FOR STENOSIS.

THE tendency of the os and cervical canal to contract after the operation for stenosis (with a view to the cure of dysmenorrhœa and sterility) must have been observed by every gynæcologist. There are various means adopted to counteract this tendency. Some advise the daily introduction of the sound. This I believe gives rise to a great deal of irritation and sometimes hæmorrhage, any newly-cut surface resenting such interference, and the pain produced by the proceeding is sometimes described by the patient as worse than the operation itself, and certainly likely, to say the least, to set up metritis, parametritis, and subsequent cellulitis. Others advise the use of Greenhalgh's india-rubber stem. Its disadvantages are the difficulty of introduction, the sound frequently finding its way either through one of the side openings near the point or right through the point itself. Again, there is liability of the openings in the stem to become plugged with clot or discharge, and so prevent drainage of the uterine cavity, thus neutralising one of the principal points of value in the operation. Others cauterise or paint with iron solution or other styptic the newly-cut surfaces, and this, though no doubt successful in some cases in preventing union, has the disadvantage of aiding by its styptic action the subsequent contraction of the canal. Some practitioners plug the vagina directly after the operation, with the twofold object of preventing hæmorrhage and by distending the vaginal walls press the divided parts asunder and so prevent union. This plan also gives rise to discomfort, retention of urine frequently following on the removal of the plug, and renewal of the same for some time afterwards is anything but pleasant for either patient or doctor. The apparently simple plan of plugging the cervix itself is not so easily accomplished as one would think, and the Greenhalgh stem, though acting well in some cases, is very liable to be expelled by uterine action unless supported by vaginal tampon, the disadvantages of which I have already alluded to.

After some trouble I have endeavoured to design a simple means of keeping the cut surfaces apart, and at the same time allowing free exit for the uterine secretions by stem of spiral wire (nickeled), which I find is well retained as being of a flexible and yielding nature, and is well tolerated by the patient if the proper sized stem be chosen. I generally allow it to remain *in situ* for a week or ten days, the syringe being used daily for that time during the healing process.



The stems are made in various sizes, and I find it useful to have a very large one, as thick at the base as the index finger, for keeping the os and cervical canal open for some time after the operation of rapid dilatation has been performed for subsequent exploration of the cavity, which operation is now fast taking the place of the slow and unsafe process of expansion by sponge tents or sea-tangle.

There can be no difficulty in removing the stem by grasping the last strands of wire with the dressing forceps at either side, and rotating from right to left, thus unscrewing, as it were, from above downwards. The one introducer as sold with stems will do for all. The makers are Corcoran, Dublin, and Messrs. Arnold and Sons, London.

ALEXANDER DUKE, F.K.Q.C.P.I., etc.
Dublin.

LIBRARY OF THE OBSTETRICAL SOCIETY.—We are requested to state that the Library of the Obstetrical Society of London will be closed from August 20th to September 20th.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

Subscriptions to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, AUGUST 11th, 1888.

FIFTY-SIXTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION AT GLASGOW.

It is with the deepest satisfaction that we have to announce to those of our body who are unfortunately prevented from attending, that the meeting of the Association at Glasgow is pursuing its course with all the success which the most favourable anticipations could have foreseen.

The site of the meeting in the buildings of the University is more than usually commodious and convenient, all the Sections being comfortably housed within the precincts of the building, while the Bute Hall offers a meeting-place of unusual size and architectural beauty. The University authorities, the civic fathers of the city, the heads of all the public institutions, and the executive of the International Exhibition which is now being held in the grounds of the University adjacent to the meeting place of the Association have united to offer to the members of the Association, all the courtesies and conveniences which their large resources and gracious disposition furnish. The administrative departments have been very carefully organised under the direction of local committees, and Scottish hospitality has seized the opportunity of welcoming the members of the Association with the utmost cordiality.

Glasgow is a great literary as well as commercial centre, and the important journals issued in Scotland have given to the proceedings of the Association a wide publicity which cannot fail to be useful, both to the public and to the Association—to the public in informing it of the general aims and objects of the Association, and of the earnestness with which it works for the public as well as for the professional good; to the Association because it is satisfactory that, from time to time, and without unduly seeking obtrusive publicity, the nature of its scientific and professional work, and the self-denying way in which they are pursued, should be brought to general notice, and be made the subject of friendly comment, and, if necessary, of impartial criticism. The general proceedings of the Association are this year uneventful, and have that absence of incident which commonly accompanies uninterrupted success and unqualified usefulness. The Council has to report an accession of members during the past year larger than at any period in the history of the Association, and due chiefly to the continued adhesion of large numbers of our colonial brethren in all parts of the world, who find in the Journal a means of uniting in scientific communion with their colleagues in Great Britain, and who also seize the opportunity which the Association offers to any number not less than twenty resident in any part of the dominions of Great Britain, to unite and form a Branch. The report is able, also, to speak in terms of just congratulation of the excellent local work which such Branches can carry out, and of the influence which, by union and combined action, they are able to bring to bear in enlightening the legislative action of their respective localities, in influencing public health and in promoting social progress in the far distant dependencies of the kingdom. The other great sources of this remarkable numerical increase have been the admission to the Association of great numbers of the officers of the Army Medical Department who have in this way sought to signify their appreciation of the action of the Parliamentary Bills Committee in promoting their welfare and advancing their interests and who strengthen themselves at the same time that they give strength to the Association by incorporating themselves in bonds of union with the great civil corporation. It is satisfactory to know that the heads of the Army and the Navy Medical Departments have recently expressed the pleasure with which they have seen the rapidly increasing movement by which members of both departments are entering the membership of the Association. With this continued growth in numbers has come a corresponding increase of income, due to subscriptions, and due even more largely to the income from advertisements which the great and growing circulation of the Journal now commands in an increasing degree from year to year. Thus the new officers of the Association, Dr. Bridgwater and Dr. Holman, were able to give a favourable account of the expanding resources of the Society, and they were able also justly to take credit to themselves and to the Finance Committee and the General Secretary for the care with which the finances of the Association are husbanded, and the success with which they are invested. Seldom has any treasurer been able to present a more satisfactory account of his first year of office than Dr. Holman was able to lay before the meeting. Dr. Bridgwater's statement—lucid, careful, and judicious—was received with general acclamation.

The expenditure of the Association on scientific, social, and professional objects is, perhaps, that part of the outlay of the surplus income which may be regarded with the most unalloyed satisfaction; and the reports of the Scientific Grants Committee and of the Collective Investigation Committee show what valuable results have been achieved by very moderate expenditure. For this we have chiefly to thank the earnestness and disinterestedness of a large band of scientific workers, who ask nothing for themselves, but who are willing, nay eager, to devote themselves to the most difficult and arduous pursuits, and recognise with high appreciation, the liberality with which, from time to time, the Association makes grants in payment or in part payment of the costs of their researches, without putting too strict a limit upon a place or method of publication. In this connection, we can but express our regret that the valuable labours of the Collective Investigation Committee have for a time been brought to an end. We trust that the founders

and the executive of that part of the Association's work will not be discouraged by narrow and ungenerous criticism from continuing their labours in perhaps new directions, and under a freshly-shaped method of conducting their inquiries. It is possible that, by a more rigid selection of the agents of inquiry, by narrowing the limit of inquiry to definite points, and entrusting them to selected inquirers, new fields of investigation may be opened which will yield results more definite than it has always been possible to achieve in the past.

We entertain no doubt of the great value of such inquiry if only as a method of clinical education continued throughout professional life, and as serving at once as an incentive and a guide to a large number of vigorous and able practitioners. Nor can the Association regard the series of reports which have been issued with anything less than pride and satisfaction. We heartily hope that the Collective Investigation Committee will meet and reconsider a new course of labour such as can but be fruitful in good results in science and of high value to the whole body of practitioners whose energies it enlists. A new branch of inquiry is this year started under the auspices of a Therapeutical Committee, which includes the most able, well trained, cautious, and public-spirited of our scientific pharmacologists and physicians. It has started on its arduous course with a grant of ridiculously small dimensions. It is certain that such a Committee, in order to carry out its work with vigour and effect, and to produce results either fruitful to science, creditable to the Association, or useful to practical medicine must be endowed liberally with the necessary resources. Pharmacological laboratories are few and far between in this country; those who are skilled in carrying out such researches are for the most part men beginning life, of limited resources, but who need every possible encouragement No mere collation of what are called the results of practice can yield any good results in this connection unless they are accompanied by collateral but exact scientific research. This branch of work of the Association deserves therefore, and will no doubt receive, the most liberal encouragement, and we can but regret that it has not from the outset made far larger demands upon the available resources, and that its work has not been begun on a greater and more liberal scale than is implied in the inconsiderable sum which constitutes the first grant towards this work. It is evident that without an expenditure of at least £500 a year such a Committee can neither enlist good workers, pay adequate scientific assistants, nor conduct pharmacological or therapeutical work in such a manner as will enable therapeutic studies to be carried on in this country on a footing at all comparable with that in Continental countries.

Of the other business of the Association we shall be able to speak further next week. The report of the Parliamentary Bills Committee described a year of usefulness and of public activity which is in the highest degree creditable to the Association, and represents influences, results, and promises of future progress on which the reputation, the public power, and the public credit of the Association in this year as in the past largely depends. On that Committee all the Branches are represented. Its work is done quietly, laboriously, and with a deep sense of responsibility. Its influence, as Dr. Farquharson was able to state, is greatly felt by the Government, and reaches to every department of sanitary and social legislation. It has been the champion of all the departments of the public medical services, and is recognised by them as their great bulwark and protector. Each year brings fresh and heavy demands upon the time, mental effort, and self-sacrifice of those who conduct its business; and it is satisfactory to know that its work this year has been more than ever active and important, and that it has succeeded in so many important respects in obtaining useful modifications of Bills which are passing through Parliament. The working of Sections has been smooth and successful, as usual. Some Sections have been very full, and even crowded to excess, while others have had but scanty attendance. It may be questioned whether the division of Sections into numerous specialities has not somewhat injured their efficiency. It has at least led to attendances so scanty in some of them as to be very discouraging to readers of papers valuable in themselves, and which would be more appreciated had they been read in general Sections, where larger audiences would have awaited them. The experience of this year seems to suggest that further progress in promoting the efficiency of the Sections may be directed rather to diminishing than to increasing their number. The amount of work has been considerable, and of a very good quality. No one who has attended the Sections can doubt that some of the papers which have had the smallest audiences will, when published, command the largest number of readers.

THE PRESIDENT'S ADDRESS.

The higher education of the physician, as a man of culture and trained in mental discipline, was the subject of an address by the President, which in its subject matter and its treatment was both deep and wide. Our readers will be able to follow Dr. Gairdner as he evolves from history, literature, and much personal observation and thought, the methods by which, at various eras, the best class of "healers of the sick" have been equipped for their labours and responsibilities.

The first appearance of an educated healer of the sick is in the light of a Naturalist. Dr. Gairdner shows that for a series of ages—from the time, very probably, of Hippocrates to the Dark or Middle Ages—the tradition continuously existed that the *healer*, a physician of the highest class, ought also to be in every real sense of the word a naturalist, or man of science, trained and exercised after the best manner and according to the most thorough discipline of the science of the age. There still remains with us a mark of this ancient idea in the designation "physician." He was a student of Nature, and the medical art was associated in the minds of men with the study of φύσις. We have here two leading characteristics of education—the need to acquire knowledge by observation of Nature, and mental discipline by practising scientific methods of thought. It is not always that the student desires this mental discipline, which is really as necessary to his future success as a knowledge of facts. The two kinds of training are essential, but the average preparation for examination does not necessarily teach correct thinking. It is pointed out that Socrates, long before the time of the author of the *Novum Organum*, showed that the physician must be a student of Nature; and Galen observed that in his teaching

Socrates was *the first* to observe the works of Nature. This is the spirit, or mental tone, that was so admirably exemplified in the life and work of John Hunter—a spirit too little encouraged by some corporate bodies, who dissociate natural history from medical education, and neglect to illustrate physiology and the life-history of living things in collections of comparative anatomy. An eminent physician and pathologist said last year that botany had no bearing whatever upon the study of pathology! What is a pathological process but some interference with the results of natural forces? In comparing these early physicians with those of our own time, it must be remembered that we have the records of those only whose names and works survived, and probably these were the best men of their age; they should therefore be compared with the best-trained men of our time. The physician of the Middle Ages was, as far as we can judge, not an ideal man of the type described above as a cultivated student of Nature; he was learned rather than scientific, a scholastic rather than a humble student of Nature. The dicta of the schools, embodied in learned language, replaced accurate observation, the comparison of facts, and the cultivation of mental discipline. The designation of "physician" was retained in name only; the idea of Hippocrates faded away in the dark Middle Ages. The mental habits induced by scholasticism tend to what has been well called "working with other people's brains," not simply observing or receiving impressions from the sight of Nature's work, and thinking about them, but trying to think what some great master would say of what the student thinks he sees. This is a bad habit, and one that is to some extent encouraged by examinations. Dr. Gairdner points out that about the time when Harvey's great work was spreading scientific light on the practice of physic in this and other countries, the last retreat of the obscurantists within the domain of medicine was found in the Faculty of Paris; in other parts, the study of anatomy, botany, physiology, surgery, moved on the lines of scientific investigation. The purely scholastic learning, to the neglect of observation and thought founded thereon, long held its place in the College of Physicians of London, as its ancient and classical library indicates; the same thing may be said of the old universities up to a very modern date. At the College of Surgeons, anatomy and surgery were cultivated to the exclusion of other branches of "studies of Nature," a criticism from which the College and its museum are not yet wholly free. It was under these circumstances that the Society of Apothecaries, perceiving the public need for a class of all-round practitioners, secured a position for their Licentiates.

The President, then, turning to more recent times, showed that early in the present century there were two classes of medical practitioners: the learned graduates, who formed the ruling body in the College of Physicians, and who mainly followed the Hippocratic methods, on the one hand; and, on the other hand, very untrained general practitioners. These latter, as students, were not learned, and the early apprenticeship closed an imperfect school career, while the method of dispensing and charging for drugs, instead of advice, still further removed them from the type of students of Nature. Much has been done to recover lost ground, and to raise the practitioner to a higher level; still much remains to be desired; it is a matter of regret to many that in the conjoint examination of the two Colleges no place is given to biology, animal and vegetable. Now as to difficulties in the way of educating our future physicians, say in a university course, according to the high ideal—the science training includes chemistry and natural history, animal and vegetable; but Dr. Gairdner thinks that physics and natural philosophy have been too much neglected. We heartily agree with the President when he urges that the root of the difficulties of the medical educationalist lies in defects in early training, especially in natural science. Faraday, in his evidence before the Devonshire Commission on Education in 1862, drew special attention to the need of scientific instruction in public schools; he pointed out that the most highly educated minds in this country were often so entirely undisciplined in the merest elements of the knowledge of *things* as opposed to *words* and *abstract ideas*, that these minds in mature age remained impermeable to truths which, to one with any scientific discipline at all, were all but axiomatic The boy at school is generally pleased to receive any scientific teaching, and readily follows the meaning of any experiments demonstrated and explained to him. Children often tend spontaneously to observe the works of Nature, and like to be taught to observe; many schools are provided with good laboratories, but it may be that in many instances the teacher tries to impress the memory of facts rather than to train the mind to scientific methods of thought, thus failing to give the needful mental discipline. What is greatly needed for school training is scientific methods of imparting knowledge by well trained teachers; we must not rest contented simply to see natural science taught to children. We want an all-round education in the schools, such as may brighten all the mental faculties, not simply an acquaintance with the knowledge contained in books. School training should make the child conversant with the methods and the works of Nature, as subjects of thought, and as means of training the faculties. Primary education too often fails in this; knowledge is imparted without mental training; sometimes the school system even impairs mental development; as the old Scotchwoman said of her son, "Sin ever he gaed to the schule his edication's been stopit a'thegethir." If the university career has been preceded by good training at school, the enlarged associations of the university are likely to elevate and expand the mental powers; but if the lad comes up to the university uneducated, the mental discipline of the higher education will profit him but little.

The President in conclusion raised some questions involved in considering the effects of medical education upon the moral faculty, and man's reverence and appreciation of religion. The physician in his life work has to deal with physical facts, and in his scientific work admits no phenomenon as due to other than physical causes, but this mental attitude need not—and usually does not—make him lacking in reverence or totally unable to look at mental facts, or to deal with feelings which are unobservable by the physicist. The physician is usually the consoler of the sick and the dying; his knowledge does not render him impious or irreverent. As to the charge of agnosticism often brought against our profession, Dr. Gairdner aptly quotes the mental attitude of Charles Darwin, in whose character we see a man of such stuff and moral fibre as leads to the recognition of high religious duty.

The constant endeavour to discharge certain plain but arduous duties may lessen other feelings and other mental faculties, and may to some extent change—for the individual—the line of mental duties and the power of conception, and ready acceptance or faith. The physician does not deny many things that he cannot admit on the axioms of physical science; time and ratios are not visible physical things, and we do not commonly consider them as factors with which we have to deal as physicians, but we do not deny their value to other people in helping their work.

THE ADDRESS IN MEDICINE.

THERE can hardly be a greater stimulus to medical observation or a greater intellectual enjoyment in medical study than to hear, read, and inwardly digest the Address in Medicine which Dr. Clifford Allbutt has just delivered to the Association at the Annual Meeting this week. To encourage medical observation we want the gaps in present knowledge pointed out which we may fill, the new dominions we may make our own; for intellectual enjoyment we want some brief deductions from solutions of difficulties in the past and some luminous suggestions for the methods of solution of the difficulties in the present and the future. Dr. Allbutt was well aware of his responsibilities and well able to meet them. His address does not call for formal compliments but sincere thanks.

He boldly brings to bear the *Novum Organum* of evolution on the widest possible survey of disease. Whether it be a plant or a sea anemone, a frog or a guinea-pig, an ape or a man, he will not be satisfied with regarding any of their morbid processes except as parts of a continuous chain, of which any link may be compared and contrasted with any other, and out of such a vast scheme of observation may be gradually evolved the great science of comparative nosology. Of the methods of attaining such a science his address is a compendium and an advocacy. Not only is a survey of the present condition of the world needed for comparison but a careful estimate of the past. A study of the history of disease is a difficult and important part of the scheme, a work that demands skilled students, who must be men who can draw true pictures of far-off events from scanty material and slight, probably unconscious, hints; they should be men who have had some experience of the entire reconstruction of the earlier ages of human history which is being effected in this century, some idea of the modes and meanings of development and their bearing on the conduct and practice of to-day. The thorough consideration of the historical origin of diseases is an epoch-making step which belongs to the present generation, and presents itself to us as a difficult derivative of the still greater question of the origin of species which has yielded to Darwin's master-key. And it is not too high-flown a question to be practical. If anyone could find out how the negroes have secured immunity from yellow fever and teach his fellow men he would have not only fame but practice. Or again, to take a more modern instance, if the historical student could find the true origin of diphtheria and the analogies of such an origin in other cases, he would have the best chance of being engaged to provide for its prevention.

The strict and careful study of heredity is one of the points that Dr. Allbutt not unnaturally urges upon his hearers: it is history on a small scale. How complex man may be we perhaps have as yet failed to realise, but we get our hints of how much there is still for us to learn when we notice as included in a heritable diathesis such apparently widely-separated diseases as asthma and eczema, phthisis and rheumatism, urticaria and chorea. Towards a good natural classification of diseases, which, as yet, has hardly been formally attempted, the close observation of heredity is most important. Our present current classification is, as Dr. Allbutt says, of a like kind to the Linnean system of botany, based on some obvious symptom, or the organ most conspicuously affected. We may yet hope to advance to less patent but more deep-meaning divisions, such as those between monocotyledons and dicotyledons. It might be possible, for example, to simplify the rheumatic group with its allies in the skin diseases into a subdivision of the Natural Order of Imperfect Oxidations.

The characteristics of race, again, are, roughly speaking, the aggregates of heredity, and as such, as well as in their origin, deserve careful attention. It is a maxim, used sometimes a little too indiscriminately, that what seems pathologically and physiologically unknown in the group of people with whom we are most familiar is impossible to everyone else. Dr. Allbutt, in accordance with Dr. Hughlings Jackson's now classical Croonian lectures of 1884, recognises the strata of which the nervous system is built up, and the special instability and want of organisation that attaches to the most recently acquired and highest stratum. In this highest nervous stratum the differences of race are peculiarly liable to show themselves, and one race may find it difficult to credit the peculiarities of another. The lengths to which hysteria major and its accompaniments may go among the French is a matter very strange when related to English ears; but its observation and credibility are very much explained and assisted by a wider consideration of the neurotic tendencies of disease as a whole among the French race. Of racial peculiarities Dr. Allbutt gives us some very interesting examples; the tendency of the Dutch to mesoblastic and chiefly vascular degenerations, the comparative immunity of the negroes from cancer and syphilis, the loss of spirit among the Scotch and Cambrian Celts in the struggle with disease, and the capacity, nevertheless of the Irish Celt, in spite of noisy complaint over his troubles, to survive "by sheer buoyancy." These and suchlike matters require years for their full observation and volumes for their due discussion. But in the short time at his command Dr. Allbutt has drawn a vivid sketch of a very important aspect of medical science which is as yet imperfectly realised in England—the history and geography of disease. It is all the more important that it should be thoroughly realised in England inasmuch as by virtue of the worldwide "expansion of England" it is the English who have the best opportunities of supplying the data as to people in all stages of savagery and civilisation and in every variety of physical surrounding. And if the diseases of animals, as Dr. Allbutt reminds us, are to be carefully studied for the light that they throw on their higher allies, studied with such care and discrimination that we may distinguish, as Dr. Allbutt phrases it, a "pithecoid atavism" from "a pathological pithekismus," there is every prospect that the intimate knowledge of the habits of animals which has been for so long a notable feature

in English life would show itself of great service. Historical and geographical researches on such a large scale as the great work of Hirsch have not yet been attempted in England, but the subject is one of the most far-reaching in its consequences that can be brought under medical notice, and we owe our thanks to Dr. Allbutt for his full and public recognition of its true value, which the well-balanced genius of Sophocles endorses, though the Attic poet can hardly be supposed to have looked forward to the modern application of some of his most famous lines.

THE ADDRESS IN SURGERY.

THE Address in Surgery delivered at this year's Annual Meeting at Glasgow by Sir G. H. B. Macleod does not yield in interest to any of those contributed to our proceedings by the famous surgeons who have preceded him. It is a difficult task to give, within the compass of a single article, any adequate idea of a speech so rich in matter; but we doubt not that our readers will supplement all deficiency in our account by reference to the original. Sir G. Macleod takes for his theme "The Progress of Surgery during the last Half-Century," a subject which, though it has been treated by others, is ever new and is a record of ever-increasing triumphs.

As Sir George truly says, "It is fully admitted that in every department of human knowledge our half-century has been signalised by a progress greater, more momentous, and more permanent than any other in the world's history: and in this advance medicine in all its branches has so largely and bountifully shared that even a bare recital of what has been done fires the imagination and makes the heart throb with triumph."

The introductory sketch with which his address commenced is a model of terseness. It concludes with this singular statement as to the estimate formed by a great surgeon just after the conclusion of the French war: "Then it was Boyer wrote that 'surgery seems to have attained the highest degree of perfection of which it is capable!'" How many are inclined to echo Boyer's words now, and how much reason have we not to hope that fifty years hence they will seem as absurd now as we know they were then!

The first topic which Sir G. Macleod handles is that of Anæsthesia, and here he makes a statement so important that we must make room for the extract:—

"I myself, after fairly trying most of the agents in use, now exclusively employ chloroform, and having for years kept an accurate record of its administration, and given it freely and without stint in all sorts of surgical proceedings, never refusing its benefits to a single patient, no matter what his condition or the operation to be performed, I have never had an accident, except once, when an epileptic took a fit while being put under its influence, and died with a full and fixed chest. For speed and energy, for ease of application and agreeableness, for rapid recovery with little subsequent trouble, and for safety *when properly administered*, chloroform is, in my opinion unrivalled. That it needs no apparatus but a towel is a great point in its favour. This is the record of one who has administered it constantly almost from the time of its introduction into practice, and the statement in this sense may not be without its value. I never measure the quantity used, but exhibit it freely, and take the colour of the lips and the respiration as my chief guides. Making the patient count at the beginning of the administration is a most valuable aid; and Nélaton's inversion of the body with artificial respiration is, I think, the surest mode of resuscitation in danger from failure of the heart. A minute is about the average period for inducing insensibility; and it is very rare, if proper precautions are taken in the way of preparation and after-management, to have any sickness. There is little doubt that 'nervous' persons and those who are intemperate in the use of alcohol, tobacco, and narcotics, and also epileptics, require special care. Over-saturation from the too frequent renewal of chloroform induces, in my opinion, the chief after-trouble."

At the present time, when some speak so strongly as to the relative safety of ether, the contrary evidence of a man of Sir G. Macleod's vast experience deserves surely, not only to be put on record, but to be carefully pondered by operating surgeons. Equally important is what he has to say about antiseptics and bacteria, and we doubt not that the good sense of the profession will echo Sir G. Macleod's opinion that "the present tendency is, perhaps, to exaggerate the influence of microbes, to take effects for causes, and ascribe to their agency almost every ailment," though we need hardly say that our orator is as enthusiastic, as it is natural and indeed inevitable for one speaking in Sir J. Lister's old school to be, as to the future of antiseptics and germicides.

In speaking of the construction and location of hospitals Sir G. Macleod is, to our thinking, less happy. After a short reference to Sir J. Simpson's assertions about "hospitalism," without any hint at their extremely dubious nature, he proceeds:—

"That intramural hospitals are on their trial cannot be doubted, notwithstanding the immense addition which antiseptics have made to their salubrity; and the multiplication of village infirmaries, country adjuncts to city hospitals, and convalescent institutions since 1860, is evidence of the belief that smaller establishments in rural districts meet modern ideas more nearly than huge piles without space for fresh air and recreation in the dense and polluted precincts of our great cities."

We cannot but say that great as is the good which has been done by the institution of cottage hospitals, that good is due not to any greater salubrity in the buildings themselves (at least no evidence has ever been offered to show anything of the sort), but to the bringing of the institution near to the door of the sufferer, or the place of the accident; and that the insalubrity of the hospitals of Paris, to which reference is also made, was caused by well-known offences against cleanliness, etc., which had nothing to do with the urban position of the buildings, and which would have produced the same effects on the top of a mountain as surely as by the banks of the Seine. It is imprudent, to say the least, to shake the confidence of the public in the healthiness of the hospitals, which must, of necessity, be established in the great centres of population; and we believe that all argument and experience, not only since the introduction of the antiseptic practice, but before it, testify to the fallacy of the conclusions of Simpson and his followers.

The other topics touched on in this address are almost in-

numerable. We must content ourselves with a few specimens. The following refers to an interesting point of practical surgery, and will be heartily endorsed by those who have always maintained the superiority of the ligature over not only the bungling method of acupressure, but the elegant and seductive process of torsion.

"The old method of closing arteries by torsion (used by Galen and Avicenna, but more especially studied by Amussat in 1829), was much in vogue a few years ago; but it and acupressure (described by Heister and many others), which Sir James Simpson (1859) supposed would supersede all other hæmostatic methods, have been replaced by the antiseptic ligatures now in use. The modern practice of using water at a temperature from 120 to 160 deg. F., for the arrest of oozing, is in my experience admirable."

With regard to aneurysm, Sir G. Macleod speaks thus of compression:

"The enthusiasm with which it was pursued for some years has been hardly maintained, from the difficulties attending it, and its not infrequent failure. In some positions, however, it will be always employed; and the remarkable success in abdominal aneurysm obtained by Murray (1864), and in iliac aneurysm by Heath and Mapother, applied to the proximal side under chloroform, has been most encouraging.....Antiseptic buried ligatures, with antiseptic dressings, have again placed the use of the ligature in the ascendant, though it would be difficult to excel the success of Syme, who tied the femoral thirty-five times with only one failure before the modern methods were introduced."

Here, again, we think that the judgment of his contemporaries will approve our orator's statement. The much increased success of operations in late years has proportionally diminished the reason for avoiding the knife in this as in other diseases.

The same is the case, also, in ununited fracture.

"From one cause or another, it fortunately happens that now ununited fracture and vicious union have nearly disappeared. Antiseptics and wiring the fragments have enabled surgeons to do away with the many methods of treating ununited fracture which before prevailed. Compound fractures have also lost their danger, and rarely lead to amputation."

We need not wonder if many of the opinions which are here expressed are disputable, being on topics as to which experience has hardly yet been sufficiently extensive. We are not sure that all surgeons would agree in the following: "Perrève in 1847 gave us the best instrument for rapid dilation [of stricture]. Though using it frequently, I have never seen any harm follow, while it has proved most serviceable in limited recent contractions."

As to lithotrity, again, our author is, to say the least, somewhat sanguine. "The extension to young boys (even to infants, as has been lately shown) of the advantages of lithotrity has also been attained, so that great size and extreme hardness are almost the only obstacles which now stand in the way of its universal application. With a better knowledge of the causes which produce calculus, an earlier recognition of its presence, and the modern system of removing it entirely at one sitting, it may be said that one of the greatest of human calamities has been nearly overcome." No doubt, in theory, the early detection and early crushing of stone in the bladder ought much to limit the scope of lithotomy; but, while the intellect of ordinary humanity remains at its present level, we fear that cases of formidable calculus will still occur, and we must say that in these the advantage of litholapaxy over lithotomy, in one or other of its forms, is more a matter of opinion than demonstration.

One very short allusion is all that Sir G. Macleod has given to a most important improvement in the art of surgery originating in his own city. "For spina bifida, as is well known, the combination of iodine with hydriodate of potash and glycerine introduced by Dr. Morton, of this city, has proved by far the most useful and efficacious of any of the plans of treatment in use."

Another interesting topic is the accessibility of the bladder to various operative proceedings above the pubes: "the ready removal of some growths from the bladder by perineal or suprapubic incisions, and the admirable results got by Mac Cormac and others by suturing the ruptured bladder (an idea thrown out by Benjamin Bell in 1789), and cleansing and draining the pelvis, are clear and important gains to practical surgery."

Passing over the interesting observations on the subject of syphilis, on ovariotomy (which our orator connects with Houston, an ancient Glasgow surgeon, for the somewhat insufficient reason that he used to drain ovarian cysts), on numerous other interesting topics, and particularly on the nature of cancer, we come to cranial surgery; but as this is so much more fully treated by Dr. Macewen, we prefer to direct our readers' attention to some other extracts.

Everyone now is talking and thinking of excision of the larynx, as to which Sir G. Macleod speaks thus: "Excision, partial or complete, of the larynx dates from 1866, and has now been many times repeated with increasing success, though its adoption in simple growths seems indefensible. Intubation of the larynx is another interesting subject which promises important results."

We fear this opinion, if acted on, would nearly banish the operation from practice, for growths which are confirmedly malignant seldom admit of it, and the recent case of the Emperor Frederick suffices to show how difficult the diagnosis is in the early period of a tumour. The operation itself, however, whatever we may think of its after-results, is a striking evidence of the daring of modern surgery, as well as of the ingenuity of our instrument makers.

The new developments of the operative surgery of the thorax are succinctly but very satisfactorily treated. "Resection of the ribs," says Sir George, "('thoracoplasty') and of all unyielding structures, so as to admit of more complete draining and collapse of the cavity, which was a startling suggestion only five or six years ago, is now frequently and successfully performed, and has been the means of saving not a few lives which otherwise would have been slowly and hopelessly destroyed. This proceeding Estlander has systematised, and the operation often goes by his name. How great is the change of opinion as regards the operation for empyema since the time of Dupuytren, who preferred to die rather than submit to the risk of having his chest tapped!"

Next we come, naturally, to abdominal surgery; and here

our orator shows himself on the side of those who think the boldest course the safest. "Laparotomy," he says, "now so frequently had recourse to, is justifiably employed even for exploratory purposes. After all penetrating wounds, or even after injury without a wound where there is reason to fear that bleeding or extravasation has taken place, opening the abdomen, securing the aperture by suture, and cleansing and draining the cavity is the recognised practice since Gross suggested it in 1843. In intestinal obstruction and all forms of peritonitis, laparotomy is now the rule." We quite accept our orator's teaching; but it must be with the reservation that all possible means of diagnosis and treatment have been previously tried. We hear a great deal of the successes of laparotomy and but little of its failures; and, without dwelling too much on the latter, or wishing to use them as an argument for decrying an operation which, on the contrary, we believe will soon become even more common than it is now, yet every surgeon must allow that it is a grave and often very dangerous proceeding, not lightly to be undertaken, nor in any case which is not entirely beyond the hope of relief by less heroic treatment.

We had marked many other portions of this most interesting and suggestive address for extract and comment; but the laws of space are rigid, and we can only make room for the following eloquent peroration:

"Gentlemen,—I have thus, in the limited time at my disposal, and to the best of my power, noted the changes and improvements in surgical theory and practice which have emerged during the last half-century. The task I set myself has proved longer and more difficult than I anticipated, as the harvest has been extraordinarily abundant. I am conscious of having omitted much from want of time and knowledge; but I trust I have succeeded in showing that in every branch of the surgical art there has been a wondrous advance, and that the profession to which we belong marches in the very van of the great army, recruited in all climes, whose aim is to enlarge human knowledge. Such a retrospect as I have attempted must make us reverence a profession whose hope and ambition it has ever been to abate suffering without distinction of race or creed. We see how an abiding and ever increasing purpose has run through these long ages, and that, while we now rejoice at being no longer bound by the authority and crude doctrines which shackled our forefathers, we can yet honour the traditions of the past, and appreciate the efforts of that great host of devoted men who have, by their unselfish labours, built up the famous temple of our art."

Thus ends, well and worthily, an address which deserves, and we have no doubt will receive, the profound attention of all those who are engaged in the terribly responsible but glorious profession which has rendered such great services to mankind in the past, and promises still greater benefits in the near future.

THE SURGERY OF THE BRAIN AND SPINAL CORD.

Dr. Macewen's Address "On the Surgery of the Brain and Spinal Cord," read at the Glasgow meeting, is in many respects the most remarkable contribution to surgical literature which the present day has produced. When we recollect how rare were the occasions on which a few years since even the most enterprising surgeons thought it justifiable to attempt any operation on the brain, and how exclusively such operations were restricted to dealing with the visible and tangible results of localised injuries, it seems almost magical to hear such a statement as the following of the experience of a single surgeon, and to know that these operations were undertaken not only to relieve the immediate and direct effects of injury, but also as curative methods in the most various affections, some consequent on old injury, others owning no known cause. Here are Dr. Macewen's statistics:—"Of twenty-one cerebral cases (exclusive of fractures of the skull or other immediate effect of injury) in which operations have been performed by me, there have been three deaths and eighteen recoveries. Of those who died, all were *in extremis* when operated on. Two were for abscess of the brain, in one of which the pus had already burst into the lateral ventricles; in the other, suppurative thrombosis of the lateral sinus had previously led to pyæmia and septic pneumonia. The third case was one in which there existed, besides a large subdural cyst over the one hemisphere, extensive softening at the seat of cerebral contusion on the opposite hemisphere, accompanied by œdema of the brain. Of the eighteen who recovered, sixteen are still alive in good health, and most are at work, leaving two who have since died, one eight years after the operation, from Bright's disease, she in the interval being quite well and able to work; the other forty-seven days after the operation, after the abscess was perfectly healed, from an acute attack of tubercular enteritis."

The conditions which have rendered possible this great advance in surgery are stated by our author as two, namely, (1) the absence of consecutive inflammation of the brain and its membranes after operation, due to the improved operative methods of modern surgery; and (2) the possibility of inferring the locality of a limited irritating lesion in the accessible portions of the brain which has been brought about by the researches of modern pathologists, dating from Broca's discovery in 1861. Of these pathologists perhaps the first place is due to our countrymen, Hughlings Jackson and Ferrier, and it is only right to remember the great part which direct experiment has borne in producing this inestimable advance in surgery which has already achieved much in saving life, and what is even dearer than life, and which promises so much more in the future. These researches have established (to use Dr. Macewen's words) the great fact that "there are certain regions of the brain in intimate relation with the movement and sensation of certain parts of the body, which, in the presence of either irritative or destructive lesions, give rise to phenomena which are of the greatest diagnostic value."

It is this cardinal fact of which Dr. Macewen has been the first to make such bold and such successful use. His paper begins with a modest and succinct account of seven cases in his own practice between the years 1876 and 1883, in which limited lesions of the brain were accurately diagnosed and localised by their symptoms, and were exposed by operation, and the irritating material removed. In the first case the operation, though urged during life, was negatived, and was only performed after death; but the case is important as

showing the reliability of the means of diagnosis, and must have powerfully supported the surgeon in advising subsequent operations. It was one of abscess in Broca's lobe, following an old injury. The other six cases were, one of traumatic ecchymosis of blood beneath the dura mater; one of idiopathic tumour of the dura mater; one of large cerebral abscess, which before operation had burst into the lateral ventricle (death followed the operation, which was performed *in extremis*); one of traumatic effusion of blood, the locality of which was diagnosed from motor symptoms only, the seat of injury being unknown; one of syphilitic tumour; and one of extravasation of blood in the white substance of the motor cortex of the ascending convolution. With the one exception indicated, all these operations proved successful, and they all occurred before the case under the care of Dr. Bennet and Mr. Godlee, which attracted so much attention in London in 1884. With indisputable justice, therefore, may Dr. Macewen claim the proud distinction of having been the leader in this country, and we believe in the world, of this great advance in our art.

Of the future of cerebral surgery it is encouraging to find Dr. Macewen speaking with confidence. Obviously the great question is how far diagnostic signs are trustworthy. "First, are the localising motor phenomena reliable guides to the diagnosis of cerebral lesions situated in the motor cortex? My answer is unhesitatingly affirmative. Each case, however, requires to be studied on its own merits, the whole phenomena presented, the *unobtrusive* as well as the prominent features must be carefully searched for, the degree in which each is present must be accurately measured, and the whole weighed and compared with former experience before drawing a conclusion."

"In many cases the evidences of focal lesions are so distinct that a diagnosis is easy; in others they are so intricate that a prolonged and minute investigation is necessary to decipher them, while there are still others in which the signs are so perplexing that at best an approximation only can be arrived at. To lay bare a certain known convolution on a cerebral surface and observe the results of its stimulation is an easier task than to take what appears to be a tangled skein of nerve phenomena, such as is presented by many lesions of the complex brain of man, and to relegate each to its true source and infer from a study of the whole what particular parts of the brain are affected."

Clearly, then, much caution, much careful study, and much experience are needed by all surgeons who venture on these operations. Dr. Macewen has shown unmistakably that he possesses these requisites; but his example is not to be lightly followed by persons who do not possess them, or the progress of this new branch of surgery will be checked by disasters which more mature wisdom and more caution would have avoided.

Dr. Macewen relates several interesting cases to show that "the motor and sensory phenomena form reliable guides to localisation of lesions in the central convolutions," and a most important and suggestive case to prove that "the diagnosis of cerebral lesions in non-motor regions may be made from sensory phenomena. A man who had received an injury about a year previously suffered from deep melancholy and strong homicidal impulses, relieved by paroxysms of pain in the head of indefinite seat. Though the pain was excruciating, he welcomed it, as it temporarily dispelled the almost irresistible desire to kill his wife or children or other people. Prior to receiving this injury he was perfectly free from impulses of this kind, and had led a happy life with his family. Behind the angular process of the frontal there was a slight osseous depression, which could not account for his symptoms. There were no motor phenomena, but on minute inquiry it was discovered that immediately after the accident, and for about two weeks subsequently, he suffered from psychical blindness. Physically he could see, but what he saw conveyed no impression to his mind. An object presented itself before him which he could not make out, but when this object emitted sounds of the human voice, he at once recognised it to be a man, who was one of his fellow-workers. By eyesight he could not tell how many fingers he held up when he placed his own hand before his face, though by the exercise of his volition in the act, and by his own sensations, he was cognisant of the number.... ..These phenomena gave the key to the hidden lesion in his brain. On operation the angular gyrus was exposed, and it was found that a portion of the internal table of the skull had been detached from the outer, and had exercised pressure on the posterior portion of the supra-marginal convolution, while a corner of it had penetrated and lay imbedded in the anterior portion of the angular gyrus. The bone was removed from the brain and reimplanted in proper position, after which he became greatly relieved in his mental state, though still excitable. He had made no further allusion to his homicidal tendencies—which previously were obtrusive—and is now at work."

A case such as this is, indeed, a triumph of surgery, and one which a very short time since would have been regarded as a mere impossibility, but surgery has achieved such wonders lately that it is difficult to say now what is impossible.

Much more in Dr. Macewen's experience of cerebral surgery deserves quotation and remark, such as the possibility of removing large portions of the motor area of the brain; the method of avoiding inflammation and false hernia cerebri after operation; the reimplantation of bone to fill the hiatus in the skull left by injury or made by operation; and the aid to diagnosis which may be furnished by the percussion-note of the skull; but we must refrain.

As to the operative surgery of the spinal column, Dr. Macewen mentions six cases in which the posterior arches of the vertebræ have been removed, four for the relief of paraplegia caused by pressure on the spinal cord. In reference to this he remarks: "The spinal membranes and the cord itself can be exposed, and neoplasms and encroachments upon the lumen of the canal may be removed therefrom without unduly hazarding life. Such interference is unsparingly condemned by writers on the subject, their remarks, however, being applied to injuries, as no such operations have been hitherto contemplated in idiopathic cases. They contend that they are full of danger, being difficult, prolonged, and attended by profuse hæmorrhage; secondly, that the operation could hardly benefit the patient; and, thirdly, that no one has yet been able to present a successful case. Each of those points has now lost its validity.

"The first operations of this kind were undertaken by me for the relief of paraplegia due to angular curvature of the spine. In such cases pressure may be exerted on the cord either by connective tissue neoplasms, or by direct displacement of the bodies of the vertebræ, both lessening the lumen of the canal."

He illustrates this point by the description of a case in which paraplegia, with incontinence of urine and fæces, was completely cured by removal of the laminæ of three dorsal vertebræ and a subjacent connective tissue tumour, and another similar case is referred to. Two similar cases, however, terminated fatally, in which the temperature before operation was irregular, indicating, it was thought, some activity in the tubercular disease at other parts of the cord. "Since this experience no case has been deemed fit for operation in which the temperature did not run an even, regular, and continuous afebrile course."

The other two cases were, one in which an abscess in the posterior mediastinum was successfully opened, and one in which paraplegia from traumatism was cured by elevating the arch of the twelfth dorsal vertebra and a subjacent mass of connective tissue.

"Here are, therefore," says Dr. Macewen, "six cases in which elevation of the posterior laminæ of the vertebræ has been performed. Four of these have completely recovered and two have died; one of those from extension of tubercular disease, months after the operation, and after the wound had healed, leaving one in which the operation possibly hastened the death of a patient, who was otherwise in a painfully helpless and hopeless condition.

"Such operations are now beginning to be practised by others. Mr. Horsley has within the last year published a successful case, in which a somewhat similar operation has been performed, for the removal of a small tumour of the theca, diagnosed by Dr. Gowers."

With these samples of Dr. Macewen's Address, our readers will not think us extravagant in saying that it marks an epoch in surgery, the initial stage of a branch of our art obviously destined to a glorious and beneficent future. All honour to the surgeon who has so ably and so successfully led the way in this grand undertaking!

THE ANNUAL MEETING AT GLASGOW.

THE service in the Cathedral of St. Mungo, Glasgow, arranged for the Association on Tuesday afternoon, was very largely attended, every available seat being occupied, late comers having difficulty in finding standing room. The Presiding Minister was the Rev. George Stewart Burns, D.D., of the Cathedral. The sermon was preached by the Very Rev. John Caird, D.D., Principal, and Vice-Chancellor of the University of Glasgow, who completely held the attention of his congregation throughout the whole of a long and closely reasoned discourse on the relation of science to religion. The sermon was especially remarkable for the candid spirit in which the arguments of the supporters of materialism were stated. The two considerations which Principal Caird considered rendered the doctrine untenable were that disappearance or production of energy in psychical action was contrary to the doctrine of the conservation of energy, and the theory that mind was a function of matter rendered necessary the presupposition of matter independent of thought, an assumption which not only could not be proved, but was contrary to all that was positively known. The musical arrangements were under the direction of Albert L. Peace, Mus. Doc., organist to the Cathedral.

ON Monday evening Professor Gairdner gave a private dinner in the Senate Room of the University; among those present wer Dr. J. T. Banks, Regius Professor of Physic in the University of Dublin (the retiring President), Sir James King (Lord Provost of Glasgow), Sir Spencer Wells, Bart., Sir George Macleod, Dr. Clifford Allbutt, F.R.S., Surgeon-General Maclean, C.B., Dr. Farquharson, M.P., Dr. Cameron, M.P., Dr. Edward Waters, Mr. Ernest Hart, Professor Jack, Professor Roy, F.R.S., of Cambridge, and many of the officers of the meeting; the vice-chairs were occupied by the Very Rev. J. Caird, D.D., Principal of the University, and Dr. James Morton, President of the Faculty of Physicians and Surgeons. After the dinner Professor and Mrs. Gairdner held a reception in the Randolph Hall of the University, which was attended by most of the leading members of the medical profession in Glasgow, and by many prominent citizens.

THE honorary degree of LL.D. will be conferred by the Senate of the University of Glasgow on the following gentlemen: Sir William Aitken, Dr. Clifford Allbutt, Professor Ball, of Paris; Professor Banks, of Dublin; Dr. Fordyce Barker, of New York; Professor Benedikt, of Vienna; Dr. Thomas Bridgwater, President of the Council of the British Medical Association; Dr. John Macintyre; Surgeon-General Maclean; Dr. James Morton, President of the Faculty of Physicians and Surgeons; Surgeon-General Munro, C.B.; Dr. Pavy, Sir George Porter, and Dr. David Yellowlees. The ceremony will take place in the Bute Hall of the University, at 2 P.M. this day (Friday).

ALL the meetings, both general and sectional, are held in the commodious halls and class-rooms of the University, which are admirably adapted for the purposes of a scientific gathering. The annual museum is in the same building; the collection is one of more than ordinary interest. The catalogue forms a volume of over 150 pages. There is, in addition, a separate catalogue of Professor Cleland's anatomical collection. The pathological division of the museum is very full and interesting, containing specimens of drawings lent by Sir George Macleod, Professor Buchanan, Professor Gairdner, Mr. Jonathan Hutchinson, and Dr. Joseph Coats. Mr. Ernest Maylard exhibited a series of cultivations of bacteria, and Dr. Beaven Rake, of Trinidad, a series of curious specimens of leprosy. Dr. Carlier showed a number of beautiful microscopic preparations from Professor Rutherford's laboratory. The collection of drugs, instruments, and sanitary appliances is also representative. The Corporation of Glasgow exhibit a convenient ambulance-brougham with deep blue glass windows.

DR. WILLIAM MACEWEN gave his first demonstration at Glasgow Royal Infirmary on Wednesday morning, the cases shown being examples of the radical cure of hernia and of excision of joints. Dr. Wolfe demonstrated his method of operating for cataract, which gives remarkably good results.

IN the Section of Medicine the discussion on the opening paper by the President was well maintained, occupying nearly the whole of the time of the section on Wednesday. Mr. Teale's paper in the Section of Surgery on abscess of the lung brought together a large audience, and led to an interesting discussion. Much interest was shown in the discussion on diphtheria in the Section of Diseases of Children. Dr. Jacobi, of New York, opened the discussion, and was followed by Mr. R. W. Parker, of London. Professor Ranke, of Munich, and Dr. Macewen were among those who spoke. Dr. Waxham, of Chicago, showed instruments for

intubation, and explained the method of use. The Section of Public Medicine, after hearing an address from Dr. Littlejohn and some discussion thereon, adopted a resolution expressing the opinion that an amended Public Health Act was required for Scotland, in which the provisions shall apply alike to the urban and rural districts.

THE summer general meeting of the Irish Medical Schools and Graduates Association was held at the Glasgow University on Wednesday, August 8th; a report will be published next week. A *conversazione* was held at the Grand Hotel on the previous evening. Among those present were Sir William Aitken, Sir Andrew Clark, Dr. Farquharson, M.P., and Dr. Cameron, M.P.

THE annual meeting of the Medical Sickness, Annuity, and Life Assurance Society was held in Glasgow University on August 8th. The report was unanimously adopted after a speech by Mr. Ernest Hart, and much satisfaction was expressed at the remarkable progress which the Society had made.

THE address given on Thursday by Dr. Macewen on his recent surgical investigations (see p. 302) attracted a large audience, and was received with enthusiastic applause. A hearty vote of thanks was given to Dr. Macewen, on the proposal of the President, seconded by Dr. Ward Cousins.

AFTER his address Dr. William Macewen gave a demonstration of cases so remarkable that it alone would suffice to render the Glasgow meeting memorable in the annals of surgery. Many of the patients whose cases had been described in the address were present, but the many eminent surgeons who attended were greatly interested also in the examples of re-implantation of bone; the head cases afforded many instances, but the most remarkable was a boy, in whom the whole shaft of the humerus had been reformed from grafts, forming a useful limb. The audience was large, and Dr. Macewen was loudly applauded and received numerous congratulations on his brilliant results.

THE discussion in the Section of Therapeutics, introduced by Professor Cash in an able paper, was well maintained, and attracted a large audience on Wednesday. On Thursday, Professor Fraser's paper on the Relative Value of the Opium Alkaloids in Diabetes was highly interesting, and the papers on health resorts attracted much attention. In the Pathological Section an important discussion on Overstrain of the Heart was raised by Professor Roy's paper. The Section of Diseases of Children was extremely well attended, the debate on Rickets being not less well sustained than that on Diphtheria.

IN the Public Health Section, on Thursday, there was a large attendance, and an important discussion on the Communicable Diseases of Men and Animals. This was opened by Principal Walley, Edinburgh, and carried on by Dr. Farquharson, M.P.; Professors Crookshank, McCall, McFadyen; Drs. Seaton, Edington, McVail, Tompkins, and others.

IN the afternoon the Address in Surgery was delivered by Sir George Macleod, and the Association Gold Medal was presented by the President to Dr. Ormrod.

WELSH UNIVERSITY EDUCATION.

A DEPUTATION of Welsh Members of Parliament has been trying to move the Government to found a University in Wales in connection with the colleges at Aberystwith, Bangor, and Cardiff. Such a movement could not affect Wales at once, and the Government wisely decided to await the report of the Royal Commission on a University for London before taking any steps in the matter.

MEDICAL WOMEN.

IN the pass-list of the Intermediate Examination for the M.B. degree of the University of London, which has just been published, we notice the names of no fewer than twelve students of the London School of Medicine for Women. Whatever may be thought of the general fitness of women for the practice of a profession so harassing to mind and body as that of medicine, it is satisfactory to find that so many of those who have resolved to embark on that career are preparing themselves for it with such thoroughness as is implied in the course of study necessary for obtaining a medical degree from so exclusive a body as the London University.

CAVENDISH COLLEGE, CAMBRIDGE.

WE are glad to learn that this college, which was founded in 1876 for the purpose of enabling students, somewhat younger than the ordinary undergraduates, to pass through a university course and take degrees in an economical manner, and which has enabled many medical students to do this who could not otherwise have enjoyed the advantages of university training, is to be extended, certain much needed buildings are to be added, and the general efficiency increased. With this view a new association has been formed, the Duke of Devonshire, who has always been an active supporter of the college, being president, and the Earl of Derby, the Master of Trinity College, and Professors Humphry and Liveing being among the vice-presidents. Mr. S. H. Flather, M.A., who was lately tutor, and who obtained a first class in the Classical Tripos of 1876, has been elected master. Particulars respecting admission of students and other points relating to the college can be obtained from him.

THE LATE DR. LUSH.

THE profession will have seen with great regret the news of the death of Dr. Lush, of Salisbury. During his long life, Dr. Lush earned the good will and respect of a very wide circle of friends in the profession, and in the sphere of Parliamentary life in which he was long engaged. His profound interest in legislation for inebriates, his great tact and popularity in the House, enabled him, after many years of patient work in moulding public and legislative opinion, to carry through successfully the Habitual Drunkards Bill, of which he was the chief author, and which has recently been extended and continued by a fresh Act of Parliament. He throughout life took a warm interest in all the questions which affected the general interests of his profession. For many years he contributed much by his aid in Parliament and by his kindly influence in Government offices which was always at the disposal of the Parliamentary Bills Committee of our Association to forward medical interests in the hundred and one questions which arise from time to time and have to be settled by conference with public officials as well as by open party action. In these matters Dr. Lush always cheerfully placed himself at the disposal of the chairman of the committee, and by his wise counsel, his strong personal influence, and his unwearying patience he was able to render services to the poor law medical officers, and to medical officers of the army and navy, and to public health departments, and redress many individual grievances in a quiet, unaffected way. We cannot allow so worthy, upright, and valuable a life to pass away without paying a tribute of professional respect and affectionate esteem due to labours so useful and so varied, and to a nature so kindly.

SIR WILLIAM BOWMAN, F.R.S.

AT a meeting recently held at the house of Dr. George Johnson it was proposed that some public acknowledgment should be made of this distinguished surgeon's services to ophthalmology and to physiological science. It was suggested that the testimonial

should take the form of a portrait of himself, painted by an eminent artist, together with a reprint of some of Sir William Bowman's works. Dr. George Johnson, Mr. J. W. Hulke, and Professor Burdon Sanderson saw Sir William Bowman on the subject and obtained his consent to the proposal. A provisional committee was then formed, at whose invitation a number of leading men of science formed themselves into the first list of the "Committee of the Bowman Testimonial Fund." The practical arrangements for carrying the scheme into effect have been intrusted to a subcommittee, consisting of Dr. George Johnson (treasurer), Dr. W. A. Brailey and Mr. W. H. Jessop (secretaries), Mr. Henry Power, and Dr. E. Klein. No limit is placed on the amount of individual subscriptions, but it is hoped that the sum collected will be sufficient to enable a good reproduction of the portrait to be distributed to subscribers of at least two guineas.

SCOTLAND.

PSYCHOLOGICAL ASSOCIATION.

A MEETING of the Psychological Association was held in Edinburgh on August 6th, under the presidency of Dr. Clouston, who delivered an address on Secondary Dementia. A resolution was adopted agreeing to petition the General Medical Council to recognise and register certificates of efficiency in psychological medicine granted by the Association.

ANEURYSM OF INNOMINATE ARTERY.

DR. JAMES DUNLOP ligatured the right common carotid and subclavian arteries for innominate aneurysm, at the Glasgow Royal Infirmary, on August 1st, and the patient is so far doing well. This is the second case of innominate aneurysm operated on by Dr. Dunlop within a few months. The first case has been almost a perfect cure, and the patient has been seen this week by many members of the Association to be strong and well, and with barely a trace of his former ailment.

RESIGNATION OF PROFESSOR BRAZIER, ABERDEEN.

AT a meeting of the Aberdeen University Court, on August 3rd, a letter was read from Professor Brazier, resigning, on account of continued ill-health, the Chair of Chemistry in the University. Principal Geddes and the other members of the court expressed their regret at the announcement, and it was agreed to recommend that the professor should be allowed the maximum rate of retiring allowance corresponding to the long period—thirty-six years—during which he had served the university.

THE UNIVERSITIES (SCOTLAND) BILL.

IN his recent statement on the course of public business in the House of Commons, the First Lord of the Treasury made no reference to the Scotch Universities Bill, which he had announced a week before must be disposed of before the adjournment. On further consideration, it has been found necessary to postpone this Bill to the autumn session. Three days is the minimum time required for passing the second reading and committee stages.

EDINBURGH UNIVERSITY UNION.

A FURTHER endeavour is being made to complete the additional sum of three thousand pounds, which is necessary for the opening of the Edinburgh University Union free of debt. As the trustees have bound themselves not to inaugurate the institution unless this condition be fulfilled, it is earnestly hoped that graduates of Edinburgh who take an interest in the well-being of their *Alma Mater* will come forward and assist in the good work. The institution should commend itself especially to medical graduates of the University, who know what is meant by a long day of work without the prospect of recreation or refreshment in suitable quarters. The handsome building, which is fast approaching completion, from its immediate proximity to the medical buildings, promises to meet this want.

UNIVERSITY OF EDINBURGH: GRADUATION CEREMONIAL.

THE annual graduation ceremonial in the Faculty of Medicine was held at Edinburgh University last week. The Chancellor of the University presided. There was a large attendance of the University and the public. Forty-eight gentlemen were admitted to the degree of Doctor of Medicine, 192 received the M.B. and C.M. diploma, 2 that of B.Sc., and 1 that of Doctor of Science in the department of Public Health. Of the Doctors of Medicine, 3 received the highest commendation for their graduation theses, to which gold medals were awarded—namely, James Graham, John Berry Haycraft, and George Mackay. The "promoter" of the year was Sir William Turner. After a short retrospect of the progress and changes which the Edinburgh School had witnessed during the last thirty or forty years, the professor devoted the remainder of his address to the consideration of the method and aim of professional work. They must combine keen, quick observation with reflection; facts and phenomena must be pondered over; but they must not content themselves with the intellectual aspect merely. The practical side of a physician's career ought to exercise an elevating and, at the same time, a softening influence on his character. In their relations to patients, as in their relations to professional brethren, they should be honest and generous, not avaricious of fame.

EPIDEMIC JAUNDICE.

DR. RUSSELL reported to the Health Committee of the Glasgow Town Council the occurrence of a group of cases of what has been described as "epidemic jaundice." They were eleven in number, and occurred chiefly during June and July in five families living in Parkhead, Glasgow. Nearly all the patients were children, and there have been two deaths. A woman, aged 36, died after two months' illness on July 8th of what is certified to have been "jaundice, acute yellow hepatic atrophy." Her child, aged 14 months, was taken ill on July 7th, and is still jaundiced. In the same street another child, aged between 2 and 3 years, died on July 13th after a fortnight's illness of "gastric catarrh, hepatic congestion, jaundice." On July 14th a child, aged 2½ years, fell ill, and still suffers from jaundice. In one family six of the children have been ill. All the cases have occurred in the same small district. Hirsch, in his *Geographical and Historical Pathology*, gives particulars of thirty-four epidemics of jaundice, all of which were purely local, confined to one place or part of a place, such as a camp, a barracks, a work, or even a house. The precise causation is not clear, but in a number of outbreaks it is distinctly associated with sanitary defects and nuisances, such as stagnant sewage, choked drains, and the like. The investigation of the present affected area is not yet complete, but the drainage is, for the most part, "surface drainage," and the house drains and connections are very defective. Measures are being taken to get these conditions remedied.

IRELAND.

THE LATE DR. RIDLEY.

AT a meeting of the Tullamore Dispensary Committee held last week, the following resolution was adopted:—"That we wish to give expression to our approval of the career of the late Dr. James

Ridley, and his general kindness towards the poor while acting as medical officer for this dispensary, and we beg to assure his father and his family of our sympathy with them in their affliction. That we express our surprise at the efforts made during the progress of the inquest on the late Dr. Ridley to misrepresent the action of the people of this locality. Owing to our intimate knowledge of the cordial relations that always existed between the people of Tullamore and the late Dr. Ridley, we feel bound to protest against the unjust insinuations that have been made."

THE AMALGAMATION OF DUBLIN SCHOOLS.

THE Council of the College of Surgeons, after several meetings, has approved of a scheme of amalgamation between its school and the Carmichael and Ledwich. A report will be made to a special meeting of the College in due course, and it is believed that it will be adopted. There are rumours regarding the retirement of several professors and lecturers, who will receive compensation on the basis of four years' purchase of the fees derived from their respective classes.

RICHMOND HOSPITAL MUSEUM.

THE very valuable collection of specimens and pathological drawings at the Richmond Hospital has been purchased by the Senate of the Royal University, and will henceforth be stored in the university buildings at Earlsfort Terrace.

CORRESPONDENCE.

PRIZES OFFERED FOR COMPETITION BY THE EMPRESS AUGUSTA OF GERMANY.

SIR,—I take the earliest opportunity of mentioning that the meeting of the International Jury at Brussels, which was arranged for September 3rd next, will not take place. I have just been informed by the Central Committee of the German Red Cross Associations, that the number of persons who have expressed a desire to compete for prizes is too restricted to render the competition serviceable, and that the Committee, with the assent of Her Majesty the Empress, has therefore decided to postpone it to some future occasion. It may be remembered that the object of the competition was an exhibition of the most suitable furniture for a portable hut-hospital, and that the prizes offered amounted to 6,000 marks (about £300), together with three gold and nine silver medals. The terms of the competition were fully set forth at p. 442 of the JOURNAL of February 25th last.—I am, etc.

THOS. LONGMORE.

Woolston, near Netley, August 4th.

MODERATE DRINKING.

SIR,—I cannot attempt to controvert Mr. Hardy's criticism on my report, for he has taken Lord Thurlow's advice to heart, and delivered his opinion without stating his reasons; but I must express some surprise at his remark that "Dr. Owen has *since admitted* that his results give no warrant for the conclusion that the practice of total abstinence is detrimental to health."

"Since admitted?" Is Mr. Hardy not aware of the distinct assertion, prominently made in the report itself (Summary, par. 2), that "we have not in these returns the means of coming to *any conclusion* as to the relative duration of life of total abstainers and habitually temperate drinkers of alcoholic liquors?" Criticism is robbed of half its value when room is left to mistrust the critic's familiarity with the subject of it.—I am, etc.

ISAMBARD OWEN.

5, Hertford Street, Mayfair, W., August 7th.

MEDICO-PARLIAMENTARY.

HOUSE OF COMMONS.—Thursday, August 2nd.

Medical Officers of Health.—Dr. FARQUHARSON asked the President of the Local Government Board when the return granted in August, 1887, in continuation of Parliamentary Paper No. 359 of Session of 1873, as to the appointment of medical officers of health would be in the hands of members.—Sir LYON PLAYFAIR asked the President of the Local Government Board when the return relating to medical officers of health ordered by the House on August 12th, 1887, No. 22, would be presented; and whether he could assure the House that it would be ready for the autumn session.—Mr. RITCHIE replied that it had been necessary to obtain returns from more than 1,500 authorities, and in some cases several applications had to be made for the information required. The returns were now complete, but in some cases further inquiries would be necessary. They hoped to have the return in the hands of the printers in about three weeks from the present time, and they should endeavour to expedite the printing as much as possible.

Friday, August 3rd.

Surgeon Thomas Munan.—Dr. KENNY asked the First Lord of the Admiralty whether the Treasury could procure for Mrs. Munan, the widowed mother of Surgeon Thomas Munan, some compensation for the loss of her son (who was her chief support), by the foundering of H.M.S. *Wasp* in September, 1887, and who was now left almost destitute by his death.—Lord GEORGE HAMILTON, in reply, said he regretted that the conditions of Mrs. Munan's case did not bring her within the scope of the regulations that would authorise the Admiralty to assist her.

Monday, August 6th.

Naval Medical Service.—On the report of the vote for the medical establishment of the navy, Dr. TANNER pointed out that several points in the report of the Committee on the Army and Navy Estimates were altogether in antagonism to the statement made by the Director-General of the Navy in his evidence. He drew attention to the evidence given before that Committee as to the advantages enjoyed by the Army Medical Staff as compared with the Naval Medical Staff, in the shape of more pay, more comforts, more leave, and better opportunities of keeping up their medical knowledge. He also urged that those medical officers ought to have better chances of keeping up their medical knowledge than they now enjoyed; and he suggested that when they came home from foreign service they should have the advantage of attending the metropolitan hospitals and medical schools, where they could learn the latest additions made to medical science.—Lord G. HAMILTON said that the Committee on the Naval Medical Service reported that exceptional advantages of pay and retirement attached to the service. He could not hold out any hope of increased pay being given to medical officers in the navy. There was no lack of capable candidates, and that would be a sufficient reason for not increasing the vote for the service. The medical officers of the army might have advantages not possessed by those of the navy, and it was proposed to appoint a small Committee with a view of assimilating the practice in the army and navy. It was desirable that navy medical officers should have access to large hospitals when they came ashore. It was not an easy matter to provide a reserve of medical officers who were at once competent and accustomed to the sea. The medical officers of the navy acquiesced in the rule that there should only be one officer on board a ship who should be able to inflict punishment.—The report of the vote was then agreed to.

The Surgeon of Galway Prison.—Mr. MACARTNEY asked whether it was a fact, as stated by Mr. Blunt in the *Freeman's Journal*, that Dr. Kinkead, surgeon of Galway Prison, was summoned before the Prisons Board in Dublin, and cautioned by Mr. Bourke, the chairman of the Board, regarding Mr. Blunt; whether Dr. Kinkead was forbidden to take Mr. Blunt into hospital except in the case of serious illness, or threatened with the interference of another doctor if he should so remove Mr. Blunt; and whether Dr. Kinkead ever received, directly or indirectly, either from the Chief or Under-Secretary to the Lord-Lieutenant of Ireland or the Prisons Board, or any member thereof, any instructions as to how he was to treat prisoners, political or others.—The SOLICITOR-GENERAL FOR IRELAND replied that the allegations contained in Mr. Blunt's letter referred to in the question were without foundation. Dr. Kinkead received no instructions in the matter other than those which he had before him in the ordinary prison rules.

BEQUESTS.—Mr. William Earl, of Stroud Green Road, bequeathed £1,000 to the Great Northern Hospital, £500 to the Earlswood Asylum for Idiots, £500 to the British Home for Incurables, and £50 to the City of London Truss Society.

MEDICAL NEWS.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following candidates for the College Licence, having conformed to the by-laws and regulations, and passed the required examinations, have been admitted Licentiates of the College:

Baker, Arthur Ernest, Charing Cross.
Bell, Frederick, St. Bartholomew's.
Bremner, Ramsay Allan, Guy's.
Brown, Francis Joseph, Middlesex.
*Burns, Robert John, University College.
*Caudwell, Francis Bernard Henry, Charing Cross.
*Dallewy, John, Charing Cross.
*Davidson, Frederick William, Westminster.
*Ensor, Charles William, London.
*Furber, Edward Price, St. Bartholomew's.
*Grün, Edward Ferdinand, London.
*Hancock, John Edwin, Charing Cross.
*Jowers, Lancelot Emilius, St. Bartholomew's.
Kingston, Percy John, St. Mary's.
*Larkam, Edward Thomas, Middlesex.
*Lewis, Charles Harvey, St. Bartholomew's.
*Ozzard, Fairlie Russell, London.
Part, John Shepley, Westminster.
*Pym, Charles Brownlow, St. Bartholomew's.
Roberts, John William, Guy's.
*Shells, William Francis Michael, Guy's.
*Speedy, Robert George Dunell, St. George's.
Wilkins, John, London.
*Wilkinson, John Cooper, Guy's.

*Candidates who have not presented themselves under the regulations of the Examining Board.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having undergone the necessary examinations for the diploma, were, at the last meeting of the Council, admitted Members of the College:

Abbott, Francis Charles, L.R.C.P.L., 14, Cowley Street, Westminster.
Acton, Charles James, L.R.C.P.L., 15, Scarisbrick Street, Southport.
Appleton, Enderby James, L.R.C.P.L., 1, Victoria Road, Old Charlton.
Baker, Arthur Ernest, L.R.C.P.L., 28, Camden Street, Oakley Square, N.W.
*Barnett, John Edward Sewell, L.R.C.P.L., 20, Ditching Road, Brighton.
*Bedford, Charles Henry, M.B., C.M.Ed., Gesto Hospital, Edinbain, Skye.
Belcher, Henry Edward, L.R.C.P.L., 23, Grafton Place, Euston Square, N.W.
Bell, Frederick, L.R.C.P.L., 6, Winckley Square, Preston, Lancs.
*Blachford, James Vincent, L.R.C.P.L., 9, Laurel Grove, Penge, S.E.
*Bodilly, Reginald Thomas Harker, L.R.C.P.L., 12, Belitha Villa, Islington, N.
Bremner, Ramsay Allan, L.R.C.P.L., 26, Penge Road, South Norwood.
Brown, Francis Joseph, L.R.C.P.L., 16, Mornfield Road, Shepherd's Bush.
*Brown, Walter Sigismund, L.S.A., Guy's Hospital.
Brownlow, George Percy, L.R.C.P.L., Brooklyn, Alexandra Road, Manchester.
Bryett, Lewis Thomas Fraser, L.R.C.P.L., 4, Girdler's Road, West Kensington.
*Buchanan, Robert James McLean, L.R.C.P.L., 23, St. Alban's Road, Bootle, Liverpool.
*Bullock, Charles Henry, L.R.C.P.L., 59, Fortess Road, N.W.
Burchell, Ernest, L.R.C.P.L., 2, Kingsland Road, E.
*Cameron, Robert Watson, L.R.C.P.L., 140, Cecil Street, Greenheys, Manchester.
Capron, Henri John, L.R.C.P.L., 4, Tyndall's Park, Clifton.
Carpenter, Percy Tranto, L.R.C.P.L., 142, Portsdown Road, W.
Carter, Weldon Cragg, L.R.C.P.L., Old Dalby Grange, near Melton Mowbray.
*Caudwell, Francis Bernard Henry, L.R.C.P.L., 8, Matthias Vicarage, Stoke Newington.
Colborne, George, L.R.C.P.L., 58, Loudoun Road, S. Hampstead, N.W.
*Dallewy, John, L.R.C.P.L., Frodsham, Cheshire.
Davey, Samuel, L.R.C.P.L., 373, Coldharbour Lane, Brixton.
*Davidson, Frederick William, L.R.C.P.L., Westminster Hospital.
Davis, Cyril Stephen, L.R.C.P.L., St. Aldwyn's, Lewisham Park, S.E.
Davis, Henry, L.R.C.P.L., 136, Stanhope Street, N.W.
Duer, Charles, L.R.C.P.L., 22, Harewood Square, N.W.
Duncan, Percy James, L.R.C.P.L., 51, Great Marlborough Street, W.
Dyer, John Edward, L.R.C.P.L., University College.
*Elias, James, L.S.A., Maespoth House, Senny Bridge, Brecon.
*Ensor, Charles William, L.R.C.P.L., Corfe Mullen, Wimborne, Dorset.
*Evans, George Edward Alfred, L.R.C.P.L., Netherhayes, Seaton, Devon.
*Exley, John, L.K.Q.C.P.I., 13, Sardinia Street, Hunslet, Leeds.
Falkner, Edgar Ashley, L.R.C.P.L., Middlesex Hospital.
*Field, Edgar Alfred, L.R.C.P.L., 5, Edge Hill, Wimbledon, S.W.
*Fox, James Stanilaus, M.B., C.M.Ed., Cowley Hill, St. Helen's, Lancashire.
Freer, Gerald Dudley, L.R.C.P.L., The Lawns, Stourbridge.
*Frost, John Kingdon, L.S.A., Dunheved House, Saltash, Cornwall.
Fryer, George Ernest, L.R.C.P.L., Merle Bank, Bowdon, Altringham.
*Furber, Edward Price, L.R.C.P.L., 6, Upper Hamilton Terrace, W.
Giles, Arthur Edward, M.B.Vict.Univ., 88, Tyrwhitt Road, St. John's, S.E.
Gill, Joseph William, L.R.C.P.L., Bruton Cottage, Wells Road, Bath.
Goldney, Arthur George Nelson, L.R.C.P.L., 18, Brook Green, Hammersmith, W.
Goodfellow, Thomas Ashton, L.R.C.P.L., Bank House, Hatherton, near Stockport.
Gordon, William, L.R.C.P.L., 25, Bernard Street, Russell Square.
*Greville, Sampson John Rodger, L.R.C.P.Ed., 4, Finnart Terrace, Greenock, N.B.
Grey, John Temperley, L.R.C.P.L., Thornhill, Cotham Park, Bristol.
Hancock, John Edwin, L.R.C.P.L., Callington, Cornwall.
*Handcock, George, L.S.A., Leathley Lodge, Hunslet, Leeds.
Harris, Sampson George Victor, L.R.C.P.L., 30, Strathblaine Road, Clapham Junction.
*Harvey, Frank, L.S.A., 1, Oakleigh Terrace, Plymouth.
Haviland, Frank Papillon, L.R.C.P.L., 37, Warrior Square, St. Leonard's-on-Sea.
Higgins, Hubert, L.R.C.P.L., La Huerta, Wallington, Surrey.
Hill, Robert, L.R.C.P.L., 22, Mecklenburgh Square, W.C.
Hosking, John Edward Francis, L.R.C.P.L., 25, Montem Road, Forest Hill, S.E.
Housman, Basil Williams, L.R.C.P.L., Perry Hall, Bromsgrove.
Hughes, Samuel Henry, L.R.C.P.L., Woollora, Shortlands, Kent.
Huxley, Henry, L.R.C.P.L., 4, Marlborough Place, N.W.
*Jowers, Lancelot Emilius, L.R.C.P.L., 1, Barnard's Inn.
*Kearney, James, L.S.A., 108, Stockwell Road, Brixton.
*Keller, Otto Eugene, M.B.Berne, German Hospital, Dalston.
Kingston, Percy John, L.R.C.P.L., 31, Sutherland Avenue, W.
Laing, Alfred William, L.R.C.P.L., Summerfield, West Hill, Putney.
Langdale, Henry, L.R.C.P.L., Birch Pologon, Rusholme, Manchester.
Langridge, Frank Washington, L.R.C.P.L., 35, Dulwich Road, Herne Hill, S.E.
*Larcombe, George Garmany, M.D.Bellevue, 25, Hogarth Road, South Kensington, S.W.
*Larkam, Edward Thomas, L.R.C.P.L., 69, St. John's Road, Highgate.
*Leman, Thomas Curtis, L.R.C.P.L., Chipping Sodbury, Gloucestershire.
*Lewis, Charles Harvey, L.R.C.P.L., Meopham Vicarage, Gravesend.
Lockett, John Arthur Pope, L.R.C.P.L., 165, Victoria Park Road, E.
*Lomas, Ernest Courtney, M.B.Vic. Univ., Carlton Cottage, Withington, Manchester.
Maclure, Herbert William, L.R.C.P.L., 17, Westbourne Park Terrace, W.
*McCardel, Edward John, M.D.Kingston, 51, Torrington Square.
*McCullagh, Richard Cheveley, M.D.R.U.I., Egeria Mount, West Cliff Gardens, Bournemouth.
*Martin, Charles Lister, L.R.C.P.L., 22, Kidbroke Grove, Blackheath.
Midelton, William John, L.R.C.P.L., 31, Sutherland Avenue, Maida Vale, W.
*Moss, Arthur James, L.S.A., 11, Royal Crescent, Whitby.
Murray, George Redmayne, L.R.C.P.L., 65, Green Street, Park Lane.
*Newton, Sidney Frederick, L.S.A., Holmfield, Crofton, Fareham, Hants.
*Oakman, Joseph John, L.S.A., The Priory, Battersea, S.W.
O'Brien, Philip Kennedy, L.R.C.P.L., 71, Clyde Road, Croydon.
Ogle, John Gilbert, L.R.C.P.L., 7, Camden Street, Oakley Square, N.W.
Oldham, Benjamin Curwen, L.R.C.P.L., 70, Avonmore Road, West Kensington.
*Ozzard, Fairlie Russell, L.R.C.P.L., 1, Hampton Road, Forest Gate, E.
Parkin, Alfred, L.R.C.P.L., Hightown, Liversedge, Yorkshire.
Part, John Shepley, L.R.C.P.L., 25, Ashchurch Park Villas, Goldhawk Rd.
Pearson, James, L.R.C.P.L., 37, Bank Road, Liverpool.
Pennell, George Herbert, L.R.C.P.L., Guy's Hospital.
Pierce, Bedford, L.R.C.P.L., 8, Union Road, Tufnell Road, N.
Plant, James Robert, L.R.C.P.L., 16, De Montfort Street, Leicester.
Platt, John Edward, L.R.C.P.L., High Street, Uppermill, near Oldham.
*Pogson, John William Buckley, M.B.Ed., 95, Albert Rd., Aston, Birmingham.
Poulter, Arthur Reginald, L.R.C.P.L., The Hawthorns, Shortlands, Kent.
Powell, William, L.R.C.P.L., 136, Acre Lane, Brixton.
*Pringle, James Hogarth, M.B.Ed., Torquhan Stow, Midlothian, N.B.
*Pym, Charles Brownlow, L.R.C.P.L., Manor Road, Wallington, Surrey.
*Richards, George Oliver, 33, Paradise Street, Birmingham.
Roberts, John William, L.R.C.P.L., Dolenog, Llanidoes, Montgomeryshire.
Robinson, Edward Stanley, L.R.C.P.L., Stourport.
Rudd, William Arthur, L.R.C.P.L., 186, Amhurst Road, Hackney, E.
*Schnehage, Caleb, M.B.Ed., 120, Fenton Street, Leeds.
*Sclater, Nelson Cameron, L.K.Q.C.P.I., 3, Westmoreland Road, Liscard, Cheshire.
*Shells, William Francis Michell, L.R.C.P.L., 4, Farm Avenue, Pendennis Road, Streatham.
*Sims, George Samuel, L.R.C.P.L., 644, Commercial Road, E.
*Skinner, George Henry, L.R.C.P.L., 29, Collingwood Road, Bristol.
Skyrme, Henry Edward, L.R.C.P.L., The Woodlands, St. Arvans, Chepstow, Mon.
*Smith, Harry Lyon, Chester-le-Street, Durham.
*Speedy, Robert George Dunell, L.R.C.P.L., 51, Queen Anne Street, W.
*Stephens, James William, L.R.C.P.L., Glanderry, Kilgerran, R.S.O., South Wales.
Summerskill, William, L.R.C.P.L., 6, Kingston Place, Leeds.
*Sunderland, Oliver, L.R.C.P.Ed., Bexley Heath, Kent.
Sylvester, Harold Augustus, L.R.C.P.L., 1, Barnard's Inn, Holborn, E.C.
Tate, Walter William Hunt, L.R.C.P.L., 2, The Terrace, Camden Square, N.W.
*Tench, Montague, L.R.C.P.L., 2, Edith Road, West Kensington.
*Thomas, Archibald, L.S.A., 42, Portland Road, Notting Hill, W.
*Tresidder, William Elliot, L.R.C.P.L., Cawnpore House, Alleyne Park, West Dulwich, S.E.
Turney, Horace George, L.R.C.P.L., 198, Camberwell Grove, S.E.
Vallancey, Aymer d'Estampes de, L.R.C.P.L., 5, Tavistock Crescent, Westbourne Park.
*Verdon, Francis, L.R.C.P.L., 37, Craven Street, Charing Cross.
Wade, Charles, L.R.C.P.L., Boscastle, Cornwall.
Watson, Arthur Edmondstone, L.R.C.P.L., 8, King's Road, Norbiton.
White, Edgar Ramsay, L.R.C.P.L., 2, Queen Anne's Gardens, Bedford Park.
White, Gilbert Benjamin Mower, L.R.C.P.L., 42, Hazelside Road, Hornsey Lane, N.
Wilkins, John, L.R.C.P.L., 43, Wolseley Road, Crouch End.
Wilkinson, Edmund, L.R.C.P., 15, Queen's Terrace, Hammersmith.
*Williams, Charles Louis, M.B.Dub., 8, Prince's Terrace, Ball's Road, Birkenhead.
Willoughby, William George, L.R.C.P.L., 14, Downshire Hill, Hampstead.
Wills, Ernest, L.R.C.P.L., 33, Union Street, Torquay.
Wilson, Charles, L.R.C.P.L., Beresford House, Cambridge Road, Mile End.
*Woodhams, Sidney, L.R.C.P.L., The Limes, Rochester, Kent.
Wright, Dudley D'Auvergne, L.R.C.P.L., Friedenshein, Tordon Road, Ealing.

Wright, Joseph Farrell, L.R.C.P.L., Strathspey House, Fairfield, Manchester.
*Wynne, John Darley, M.B.Dub., Public Hospital, Sheffield.
* Candidates who have not presented themselves under the regulations of the Examining Board in England.

SOCIETY OF APOTHECARIES OF LONDON.—The following gentlemen having passed the qualifying examination in Medicine, Surgery, and Midwifery, received certificates entitling them to practise in the same, and have been admitted as Licentiates of the Society:—

Baly, Ernest, London Hospital.
Brown, Walter Sigismund, Guy's Hospital.
Fernando, Hilarion Marcus, University College.
Haviland, Frank Papillon, St. George's and Addenbrooke's.
Hiley, Richard Farrar, St. Thomas's and Addenbrooke's.
Howe, George Bradley, Manchester Royal Infirmary.
Howse, Arthur Edward, King's College.
Tench, Montague, Middlesex Hospital.

The following passed in Surgery.

F. G. Cory, Manchester; H. H. Crickitt, St. George's Hospital; J. W. Lloyd, Liverpool; G. A. Robinson, London; H. B. Lee, Sheffield.

The following passed in Medicine.

L. Francis, London Hospital; R. Alcock, Manchester; H. Davis, University College; E. B. Chamberlain, London; P. T. Lunn, Middlesex; J. W. Whitehead, Manchester.

The following passed in the first part of the primary examination.

R. R. Pearse, University College; W. Wilson, Manchester; R. P. Mitchell, London Hospital; L. Macdona, Manchester and Middlesex Hospital; S. Wimbush, St. Bartholomew's Hospital; H. B. Lee, Sheffield.

The following passed in the second part.

L. F. Dods, St. Bartholomew's Hospital; J. M. Bennett, Liverpool; J. T. R. Miller, St. Thomas's Hospital; J. C. Cook, Middlesex.

MEDICAL VACANCIES.

The following Vacancies are announced:

BELGRAVE HOSPITAL FOR CHILDREN.—Resident House-Surgeon and Assistant Secretary. Appointment for six months. Salary at the rate of £30 per annum, with board and residence. Applications by September 15th to the Honorary Secretary, 79, Gloucester Street, S.W.

CARRICK-ON-SUIR UNION, No. 2 Dispensary District.—Medical Officer. Application to Mr. Michael Power, Honorary Secretary, Main Street, Carrick-on-Suir. Election on August 13th.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITAL, Grafton Street.—Resident Medical Officer. Salary, £100 per annum, with board and residence. Applications by August 27th to the Town Clerk, Municipal Buildings, Liverpool.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY. — House-Surgeon. Salary, £50 per annum, with board, etc. Applications by August 14th to Mr. Symons, Treasurer, Dumfries.

GENERAL HOSPITAL, Birmingham. — Assistant House-Surgeon. Board, residence, etc. Applications by September 1st to the House Governor.

HULME DISPENSARY, Manchester.—Honorary Surgeon. Applications by August 11th to the Honorary Secretary.

ITALIAN HOSPITAL, Queen Square, Bloomsbury.—Assistant Medical Officer. Applications to the Secretary.

KILKENNY UNION, Tiscoffin Dispensary.—Medical Officer. Salary, £120 per annum, and fees. Applications to Mr. John Barrett, Honorary Secretary. Election on August 13th.

LIVERPOOL DISPENSARIES.—Assistant-Surgeon. Salary, £80, with board, apartments, etc. Applications by August 24th to R. R. Greene, Esq., Secretary, Leith Offices, Moorfields, Liverpool.

PARISH OF COLMONELL, Lower District.—Medical Officer for the Poor. Salary, £50 per annum. Application by August 14th to Mr. J. M'William, Inspector of the Poor, Colmonell, Ayrshire, N.B.

PARISH OF OCHILTREE.—Medical Officer. Salary, £20 per annum. Applications by August 27th to Mr. Andrew Smith, Inspector of the Poor, Ochiltree, Ayrshire, N.B.

RATHDRUM UNION, Newcastle Dispensary.—Medical Officer. Salary, £110 per annum, and fees. Applications to Mr. Thomas Graydon, Honorary Secretary, Toornow, Delgany. Election on August 14th.

ROYAL BERKS HOSPITAL, Reading.—Assistant House-Surgeon. Board and lodging. Applications by August 28th to the Secretary.

ROYAL HOSPITAL OF BETHLEM.—Assistant Medical Officer. Salary, £300 per annum, with furnished residence. Applications by September 4th to J. Baggallay, Esq., Bridewell Hospital, 14, New Bridge Street, E.C.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Physician (out-department). Applications by August 20th to G. Scudamore, Secretary, Lower Seymour Street, Portman Square, W.

SWANSEA HOSPITAL.—Resident Medical Officer. Salary, £100 per annum, with board and residence, etc. Applications by August 15th to the Secretary, 23, Gower Street, Swansea.

SWINFORD UNION, Low Park Dispensary.—Medical Officer. Salary, £120 per annum, and fees. Applications to Mr. James C. Brady, Honorary Secretary, Hagfield, Charlestown. Election on August 31st.

MEDICAL APPOINTMENTS.

DOUGLAS, —, M.D., elected Medical Officer for the Middle District of the town of Greenock.

ELKINS, F. A., M.B., appointed Assistant Medical Officer at Smithston Poorhouse and Asylum, in room of Dr. Thorpe, resigned.

HASWELL, J. F., M.B., C.M.Edin., appointed House-Surgeon to the Cumberland Infirmary, *vice* W. C. Sprague, M.B., C.M.Edin., resigned.

HILL, H., M.R.C.S.Eng., L.R.C.P.Lond., appointed Physician's Assistant to the Bristol General Hospital, *vice* W. M. Barclay, M.R.C.S.Eng., L.R.C.P.Lond., resigned.

LIGHT, E. M., M.D., appointed House-Physician to the Hospital for Consumption, Brompton, *vice* Dr. Wethered.

LOVERIDGE, Arthur W., M.R.C.S., L.S.A., appointed Honorary Surgeon to the Newport and County Infirmary.

LYDDON, Richard, M.R.C.S.Eng., L.S.A., appointed Medical Officer and Public Vaccinator for the Deal District of the Eastry Union, *vice* T. E. Mason, M.D., deceased.

MACDOUGALL, J., M.D., re-elected Medical Officer for the East District of Greenock.

MCCULLAGH, R. Cheveley, M.D., M.R.C.S.Eng., appointed Resident Medical Officer to Union Hospital, Belfast, *vice* Joseph A. Purdon, L.K.Q.C.P.I., L.R.C.S.I., transferred to Infirmary.

MEIKLE, T. C., M.B., C.M.Ed., appointed Assistant House-Surgeon to the Cumberland Infirmary, *vice* Hugh Rhodes, M.B., C.M.Glas., resigned.

MURRAY, W. H., M.B., C.M., appointed Assistant Resident Medical Officer to the Riccartsbar Asylum, Paisley, *vice* M. McMurrich, M.B., resigned.

POGSON, J. W. B., M.B. B.S.Durham, appointed Assistant House-Surgeon to the Birmingham General Hospital.

PRINGLE, J. J., M.D., appointed Physician for Skin Diseases to the Middlesex Hospital, *vice* R. Liveing, M.D., resigned.

THE REGISTRATION OF PLUMBERS.—At the City and Guilds Institute, Finsbury, on Saturday afternoon, August 4th, an examination was held, under the auspices of the Plumbers' Company, for certificates of registration. The practical examination included various branches of lead work and the theoretical questions relating to the subjects of plumbers' materials, house fittings, and sanitation. Plumbers attended from several districts of Middlesex, Surrey, and Yorkshire. The examiners were Mr. Charles Hudson (Assistant-Chairman of the Registration Committee), and Messrs. Clarke, Gilbert, Nurse, Webb, and Millis. Seventy-five per cent. of those attending passed the full examination, being 25 per cent. higher than the result of the previous week's examination.

DISINFECTION IN THE EAST END.—The floods in the East End of London having rendered the condition of the streets and houses highly dangerous to health, the Lord Mayor accepted the offer of Jeyes' Sanitary Compounds Company gratuitously to disinfect the places which had suffered from the visitation. It is to be hoped that equal promptness in meeting the emergency may be displayed by the authorities in many other parts of the kingdom which have suffered in the same way from the late heavy rains.

PROFESSOR GERHARDT, who attended the late Emperor Frederick in the earlier stages of his fatal illness, has been elected Rector of the University of Berlin. Professor Waldeyer has been appointed Dean of the Medical Faculty for the coming year.

MEDICAL MAGISTRATE.—Mr. G. Robinson, of Bedford, has recently been appointed Justice of the Peace for the borough of Bedford.

SUCCESSFUL VACCINATION.—Mr. James Mitchell Ferguson, M.B., C.M.Edin., of Hounslow, Middlesex, has received the Government grant for successful vaccination (first class).

IT is stated that there are four women studying medicine at the University of Christiania.

MR. FREDERICK PALMER, F.R.C.S., and J.P., of Great Yarmouth, celebrated his "golden wedding" in July.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTH.

GARDNER.—On July 30th, at Nürnberg, Boscombe, Bournemouth, the wife of T. Fred Gardner, L.R.C.P.Lond., M.R.C.S.E., L.S.A., of a son (Frederick Geoffrey).

MARRIAGE.

HOLMES—WHITE.—On July 25th, at St. James's, Piccadilly, Dr. W. Reid Holmes to Lizzie, only daughter of the late Andrew White, Esq., Ormiston Colliery, East Lothian, and niece of Dr. Slight, 3, Clifford Street, W.

DEATH.

THIELE.—On July 7th, at Muree, North-West India, Herman Thiele, M.B., Surgeon, A.M.D. Friends will kindly accept this, the only, intimation.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL, are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications, should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

THE BRUSSELS M.D.

SURGEON would like particulars concerning the M.D.Brux. as regards dates of examination, subjects, and books.

DIET IN GALL-STONES.

M.B., M.A., asks for a dietary suited to a patient who suffers at intervals from passing gall-stones. He is extremely fond of butter, cheese, and cream.

CAULS.

A MEMBER desires to know in what way "cauls" are preserved for sale? Why are they prized by some people; and what is their supposed virtue?

TEETOTAL SHIPS AND SURGEONS.

M.M.Q.F. wishes to know which of the teetotal ships sailing from different ports carry surgeons.

LARYNGO-VAGINOSCOPE.

H. E. K. would be glad to be informed where he could obtain a good laryngoscope which would also be available for vaginal examinations. It must be fairly moderate in price. He does not wish the electric light.

DIPHTHERIA AND DIABETES.

D. asks whether diabetes has ever been noted as a sequela of diphtheria. "I am just now," he writes, "attending a case of diabetes (or at any rate of glycosuria) which insidiously supervened some time after an attack of diphtheria, and it has struck me that the one disease may have been connected with the other in an analogous way to the various forms of paralysis which so frequently follow diphtheria."

THUJA OCCIDENTALIS AND WARTS.

ALLOPATH would be glad of any information (either favourable or the reverse) respecting the use of the drug "thuja occidentalis" for warts. Can any member speak favourably of its internal administration for such affections, and are there any known ill-effects likely to follow from the prolonged use of the drug in doses ranging from 5 to 30 minims three times a day (say for three months)?

ANSWERS.

CERTIFICATE IN SANITARY SCIENCE, CAMBRIDGE.

PERPLEXED.—Parkes's *Hygiene*, edited by De Chaumont; Wilson's *Handbook of Hygiene*, Fox's *Sanitary Examination of Water, Air, and Food*, are the works usually read for this examination; but other books must be consulted. The chapter on Vital Statistics in Parkes's *Hygiene* is insufficient and inaccurate. On this subject Farr's works, as issued by the Sanitary Institute, should be consulted, and Dr. Ogle's Report (Supplement to the 45th Annual Report of the Registrar-General) should be carefully read, and the mortality tables studied. The various Acts relating to sanitary matters mentioned in the Cambridge Syllabus must be mastered.

URTICARIA AFTER SEA-BATHING.

MR. F. P. NICHOLS, B.A., M.B.Cantab., Surgeon, Medical Staff (Oxford) writes: In answer to "Epidermis" (JOURNAL, July 28th), I would suggest syphilis as a possible cause of the skin affection. I have known two cases of a similar character in which cold bathing brought out a latent, secondary, evanescent rash. Mr. Jonathan Hutchinson, I think, has called attention to such cases as not being very uncommon.

ASSOCIAZIONE DEI BENEMERITI ITALIANI.

DAMON.—We regret that we are unable to give any information on the subject.

NOTES, LETTERS, ETC.

AN APPEAL.

WE desire again to call attention to the appeal printed in the JOURNAL of June 23rd, p. 1368, asking for funds to enable a medical man of good position who has been reduced to destitution through no fault of his own to buy a small practice and make a living for himself and wife. Contributions may be sent to Dr. Farquharson, M.P., Migvie Lodge, Porchester Gardens, W., or to Mr. Marmaduke Sheild, F.R.C.S., 20, Stratford Place, W. Subscriptions have been received from Sir William Jenner, Sir James Paget, Sir Joseph Lister, Sir Andrew Clark, Sir Prescott Hewett, Sir Spencer Wells, and others. Further subscriptions are much needed to enable a start to be made in a small and suitable practice, where an opening exists and where it is believed that a moderate income may be secured without much outlay. Since the last insertion of this appeal (July 7th, p. 58) the following subscriptions have been received:

	£	s.	d.		£	s.	d.
Sir Joseph Lister	2	0	0	Berkeley Hill, Esq., F.R.C.S.	1	1	0
Do. (Previous subscription)	20	0	0	Dr. Heywood Smith	1	1	0
Sir Edwin Saunders ...	2	2	0	Dr. J. Caldwell Uhthoff ...	1	1	0
Inspector-General W. Dick	6	0	0	E. Noble Edwards, Esq. ...	1	0	0
Sir Dyce Duckworth ...	1	1	0	J. Tulk Hart, Esq.	1	0	0
Dr. W. J. Ogle	1	1	0	Dr. E. G. Whittle	0	10	0
Sir Tindal Robertson, M.P.	5	0	0	Anonymous	2	1	0
Dr. Pye-Smith	2	2	0	Edward Treves, Esq.	1	1	0

EARLY MATERNITY.

F.R.C.P. writes: Some weeks back there appeared a paragraph about a young mother of 12, but possibly some of your readers may not remember that the mother of Henry VII (Margaret Beaufort, Countess of Richmond) was little more than 13 when he was born at Pembroke Castle, June 26th, 1456.

COMMUNICATIONS, LETTERS, etc., have been received from:

The Dean of the University of Edinburgh; Mr. F. Shapley, Sidcup; Mr. T. O. Sandell, London; The Medical Officer of the Local Government Board, London; Dr. Yeaman, Glasgow; Dr. D. Thomas, London; Dr. Thin, London; Mr. S. T. Fairland, London; Dr. Cranstoun Charles, London; Mr. J. S. Part, Tring; Mr. E. Lloyd Jones, London; Mr. E. Brooks, Middleton; Dr. S. Smyth, Bournemouth; Dr. H. Handford, Nottingham; Dr. F. Rennie, Boston Spa; Mr. Marshall, Hastings; Mr. W. S. Frew, Princetown; Dr. T. Bell, Morchard Bishop; Dr. A. Pavone, Naples; Mr. J. J. Serres, Loughborough; Dr. Farquharson, M.P., London; Dr. A. M. Fraser, Whitstable; P. Bert, M.B., Louth; Dr. Vivant, Ware; Dr. Louis Parkes, London; Mr. T. V. Jackson, Wolverhampton; Sir T. Longmore, Woolston; Dr. D. Drummond, Newcastle-on-Tyne; Mrs. A. Parsons, London; Dr. J. D. McFeeley, Killybegs; Mr. A. Ransom, Bedford; Mr. A. C. Clark, Bothwell; Mr. J. Cantlie, Hong Kong; Mr. T. Wallace, Weston-super-Mare; Messrs. Knighton, Hayman and Co., London; Mr. R. J. Kerby, Newbury; Professor Humphry, Cambridge; W. Harris, M.B., Hellesdon; Lord Balfour of Burleigh, London; Mr. F. Gardner, Boscombe; Mr. E. Perry, London; The Secretary of the University of Aberdeen; Dr. J. McGregor Robertson, Glasgow; Dr. J. F. Brice, Oxton; Mr. J. Kendall, Coniston; Mr. W. A. S. Royds, Reading; Dr. Hamilton, Aberdeen; Mr. W. Mayne, Longford; Messrs. J. Robertson and Co., Edinburgh; Mr. W. Yorke, Southborough; J. K. Robinson, M.B., Doncaster; Dr. H. G. Edwards, Bangor; The Secretary of the Gateshead Children's Hospital, Gateshead; Dr. Ogle, Derby; Mr. W. Berry, Wigan; Mr. W. A. H. Barrett, Ely; Mr. J. J. Pitcairn, London; Mr. J. G. Corkhill, Matlock Bridge; Dr. Grant Bey, Cairo; Dr. J. Oliver, London; Mr. H. M. Dancey, Southwell; Dr. Gunther, Montreux; Mr. J. K. Pickford, Cleethorpes; Dr. R. Wade Savage, London; The Secretary of the Bristol Hospital for Sick Children; Mr. R. C. Dobbs, Greystones; Dr. Hime, Bradford; Mr. A. Sykes Ward, Nottingham; Dr. J. N. V. Ryan, Weymouth; Dr. C. E. Cormack, Hyères; Sir E. Lechmere, London; Mr. W. A. Thomson, Ampthill; Dr. Carruthers, Runcorn; Dr. H. Bennett, London; Mr. H. Snow, London; Mr. G. King, London; Dr. J. Ruxton, Blackpool; Mr. S. Wallich, London; Dr. D. P. Gaussen, Dunmurry; Dr. I. Owen, London; Mr. F. A. Juckes, Leith; Mr. A. Green, Middlesbrough; Dr. J. Abercrombie, London; Mr. G. Todd, Brigg; Mr. P. G. Gilmour, Chew Magna, near Bristol; Mr. H. Hill, Bristol; Mr. J. R. Seymour, London; Mr. C. R. Scott, Waterford; Mr. A. C. Fenn, Dover; Mr. C. H. Fowler, London; R. H. Morrison, M.B., Rothesay; Mr. A. Dalton, London; Messrs. Street and Co., London; Mrs. Isabel Thorne, London; Mr. W. Hefferman, Clonmel; Dr. W. W. Young, Aldershot; Mr. R. P. White, Wigan; Messrs. Sell, London; Dr. W. D. Symington, Wolverton; Mr. L. C. Alexander, London; Mr. W. Logan, Crieff; Dr. C. Ronayne, Youghal; etc.

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ADDRESS IN PHYSIOLOGY.

BY

JOHN GRAY McKENDRICK, M.D.,

LL.D., F.R.SS.L. and E., F.R.C.P.E.,

Professor of the Institutes of Medicine in the University of Glasgow.

ON THE GASEOUS CONSTITUENTS OF THE BLOOD IN RELATION TO RESPIRATION.

MR. PRESIDENT AND GENTLEMEN,—The subject I have chosen is a consideration of the gaseous constituents of the blood in relation to some of the problems of respiration. This has been selected both because it deals with a province of physiology in which there are many profound problems connected with the molecular phenomena of life, and also because it gives me the opportunity of illustrating some of the methods of physiological research. I purpose to treat the subject chiefly from the physical standpoint, and to demonstrate some of the phenomena as I would endeavour to do to a class of students, believing that this will be of more interest to many of my audience than if I placed before you anything like an encyclopædic account of recent researches. I cannot help adding that as I speak in the class-room of one of the most distinguished physicists of the day, I feel the genius of the place is hovering over me, and I shall be impelled to guide you to the borderland of physics and of physiology. It is in this territory that we meet with the most profound questions regarding the nature of vital activity, and it is here that the physiologist and the physicist must join hands in working out their solution.

Respiration may be shortly defined as the function or group of functions by which an interchange occurs between the gases formed in the tissues of a living being and the gases of the medium in which it lives. It is interesting to take a brief survey of the investigations which laid the foundations of our knowledge of this subject, as it illustrates to us the facts taught by the history of all sciences that those truths which we now regard as elementary were at one time unknown, and that they have been gained by laborious inquiry.

The oldest writers do not appear to have had any clear notions even as to the necessity for respiration. Hippocrates dimly recognised that during breathing a *spiritus* was communicated to the body. Many of the older anatomists, following Galen, thought that the "very substance of the air got in by the vessels of the lungs to the left ventricle of the heart, not only to temperate heat, but to provide for the generation of spirits." This notion of cooling the blood was held by Descartes (1596-1650) and his followers, and seemed to them to be the chief, if not the sole, use of respiration. In addition, they supposed it aided in the production and modulation of the voice, in coughing, and in the introduction of odours. The celebrated Van Helmont (1577-1664) strongly expresses these views, and attaches particular importance to the necessity for cooling the blood, which otherwise would become too hot for the body.

About the middle of the seventeenth century clearer notions began to prevail. These rested partly on an anatomical and partly on a physical discovery. Malpighi (1621-1694) discovered that the minute bronchial tubes end in air-vesicles, or membranous cavities, as he termed them, on the walls of which, in the frog, he saw with his simple microscope the blood flowing through capillaries. This pulmonary plexus was for many years termed the "rete mirabile Malpighii." The physical observations were made by the celebrated Robert Boyle (1627-1691), who describes in his treatise entitled *New Experiments, Physico-Mechanical, touching the Spring of the Air*, published in 1662, numerous experiments as to the behaviour of animals in the exhausted receiver of the air-pump. He showed that the death of the animals "proceeded rather from the want of air than that the air was over-clogged by the steam of their bodies." He also showed that fishes also enjoyed the benefits of the air, for, said he, "there is wont to lurk in water many little parcels of interspersed air, whereof it seems not impossible that fishes may make some use, either by separating it when they strain the matter thorow their gills, or by some other way."

His conclusion is "that the inspired and expired air may be sometimes very useful by condensing and cooling the blood;" but "I hold that the depuration of the blood in that passage is not only one of the ordinary but one of the principal uses of respiration." Thus, by the use of the air-pump, invented by Otto von Guericke about 1650, Boyle was able to make a contribution of fundamental importance to physiological science.

He also first clearly pointed out the real cause of the influx of air into the lungs. The older anatomists, from Galen downwards, held that the lungs dilated actively, and thus sucked in the air; and there was much controversy as to whether the chest, with the contained lungs, resembled a pair of bellows, which was filled because it was dilated, or whether the lungs resembled a bladder, which is dilated because it is filled. Boyle shows clearly that the cavity of the chest is actively dilated, and that the lungs are distended because the "spring" of the air is then less on their outer than on their inner surface. This simple explanation was not generally accepted, because the minds of Boyle's contemporaries were under the influence of an ancient idea that air existed in the cavity of the chest external to the lungs. This prevented them from seeing the simplicity and accuracy of Boyle's explanation, and to be constantly on the outlook for some mechanism by which the lungs could actively dilate. Such notions were held by Willis, Malpighi, and Erasmus Darwin. The opinion of Darwin is shown by the following passages in the *Zoönomia;*

"By the stimulus of the blood in the right chamber of the heart, the lungs are induced to expand themselves, and by the pectoral and intercostal muscles and the diaphragm act at the same time by their associations with them." And, again, "to those increased actions of the air-cells are superadded those of the intercostal muscles and diaphragm, by irritative association."

Boyle's observations were published in 1660, and in 1685 we find Borelli (1608-1679), in the second portion of his great work, *De Motu Animalium*, giving expression to very clear notions regarding respiration. Thus in the eighty-second proposition he shows that the lungs are not the effective causes of respiration, but are passively concerned in the movements; and in the eighty-third proposition he states that the efficient cause of inspiration is the muscular force by which the cavity of the chest is increased and permits the lungs to be filled by the elastic force of the air. Borelli was also the first, as shown in the eighty-first proposition of his work, to make an estimate of the quantity of air received by a single expiration. At the same time he attributed calm expiration to the elastic resiliency of the ribs, and he pointed out that the deepest expiration could not entirely empty the lungs of air (Propositions 92, 93, and 94). Whilst Borelli thus recognised the air as necessary to animal life, he naturally failed in explaining why this was so, being unacquainted with the composition of the air and of the so-called "fuligineous vapours" (carbonic acid, aqueous vapour, etc.) which were supposed to exist in expired air.

I find, in a work by Swammerdam (1637-1680), dated 1667, and entitled *Tractatus Physico-Anatomico-Medicus de Respiratione usuque Pulmonum*, at pp. 20, 21, a description of an experiment in which he immersed in a vessel of water a dog having a long tube inserted in the trachea, and he observed the rise and fall of the level of the water during respiration. This was practically the method followed by Borelli, but I am unable to say which experiment was first performed.

Here I may also refer to the curious experiments of Sanctorius, Professor of Medicine in Padua, who flourished from 1561 to 1636, as being probably the first quantitative estimate of substances escaping from the body. Sanctorius constructed a balance by which he weighed himself repeatedly, and observed what he gained by food and what he lost by excretion. The results appeared in his work *Ars de Statica Medicina*, published in 1614, and he states the amount of matter separated by pulmonary exhalation at about half a pound in twenty-four hours. It is not easy to say precisely what these figures represent, and therefore we find the amount, on the authority of Sanctorius, differently stated by writers during the next century. His observations are of interest, however, as being a distinct step in physiological investigation.

Among the contemporaries of Boyle, Pascal, Spinoza, Barrow, Newton, and Leibnitz—all men of the first intellectual rank—was Dr. Robert Hooke, one of the most versatile and able of scientific thinkers. Hooke was born in 1635, and died in 1703. One of the founders of the Royal Society, its early proceedings show that there was scarcely any department of science at the time to which he did not make important contributions. In particular, he showed a remarkable experiment in October, 1667, to the Royal Society. This experiment, as detailed in Lowthorp's *Abstract of*

the Philosophical Transactions, vol. iii, p. 67, is so important as to require quotation.

"V. I formerly tried an experiment of keeping a dog alive after his thorax was all displayed by the cutting away of the ribs and diaphragme, and after the pericardium of the heart also was taken off. But divers persons seeming to doubt of the certainty of the experiment, I caused it to be repeated at a meeting of the Royal Society with the same success, the dog being kept alive by the reciprocal blowing up of his lungs with bellows, and then suffered to subside for the space of an hour or more after his thorax had been so displayed, and his aspera arteria cut off just below the epiglottis and bound on upon the nose of the bellows.

"The dog having been thus kept alive above an hour (in which time the trial was often repeated, in suffering the dog to fall into convulsive motions, by ceasing to blow the bellows and permitting the lungs to subside and lie still, and of a sudden reviving him again by renewing the blast, and consequently the motion of the lungs), I caused another pair of bellows to be immediately joined to the first by a contrivance I had prepared, and pricking all the outer coat of the lungs with the slender point of a very sharp penknife; this second pair of bellows was moved very quick, whereby the first pair was always kept full, and always blowing into the lungs; by which means the lungs also were kept very full and without any motion, there being a continual blast of air forced into the lungs by the first pair of bellows supplying it as fast as it could find its way quite through the coat of the lungs, by the small holes pricked in it as was said before. This being continued for a pretty while, the dog, as I expected, lay still, as before, his eyes being all the time very quick and his heart beating very regularly. But upon ceasing this blast, and suffering the lungs to fall and lie still, the dog would immediately fall into convulsive fits; but he as soon revived again by the renewing the fullness of his lungs with the constant blast of fresh air. Towards the latter end of this experiment a piece of the lungs was quite cut off; where it was observable that the blood did freely circulate and pass through the lungs, not only when the lungs were kept thus constantly extended, but also when they were suffered to subside and lie still, which seems to be arguments that, as the bare motion of the lungs, without fresh air, contributes nothing to the life of the animal, he being found to survive as well when they were not moved as when they were; so it was not the subsiding or movelessness of the lungs that was the immediate cause of death or the stopping of the circulation of the blood through the lungs, but the want of a sufficient supply of fresh air."

This celebrated experiment showed that it was the fresh air, and not any alteration in the capacity of the lungs, which caused the renewal of the heart's beat. It has been said that a similar experiment was performed by Vesalius, but with this difference, that whilst Vesalius observed the fact, he failed in giving a rational explanation. He supposed that the movements of the lungs affected the movements of the heart, but he did not see, as Hooke did, that the heart moved because it was supplied with blood containing fresh air. Hooke's experiment is one also of great practical importance as being the basis of the modern practice of using artificial respiration in cases of the impending asphyxia.

We thus see that the necessity of a continual supply of fresh air was recognised as being essential to life. It was further surmised that the air imparted something to the blood, and received something in return; but no further advance was made in this direction until the researches of Mayow, a name now famous in the early history of chemistry and of physiology. John Mayow was born in 1645, and died at the early age of 34. His principal work was published in Oxford in 1674. In it, by many ingenious experiments, he showed that combustion diminishes the volume of the air and alters its qualities; that respiration also affects the quality of the air; that an animal will die if kept in a confined space full of air, a fact to be explained, according to Mayow, by saying that the animal had used the respirable portion of the air, and that the residue was unfit for life; and, finally, he showed that an animal suffers if placed in an atmosphere the qualities of which have been injured by combustion. Further, he gave the name of "nitro-aërial spiritus" to the "principle" in the air, which he said had to do with life, muscular action, and combustion. Thus, he no doubt came near the discovery of oxygen, made by Priestley nearly a century later. It would be difficult to estimate the enormous influence on theories of combustion and of respiration exerted by the researches of Boyle, Hooke, and Mayow. They prepared the way in physiological science for the next great step—namely, the identification of the gaseous elements concerned in respiration. The dependence of progress in physiology on the state of scientific opinion regarding chemical and physical questions could not be better illustrated than in the history of physiological ideas regarding respiration. Thus the researches of Boyle with the air-pump did much to explain the mere mechanism of breathing. Hooke made this even more apparent, and Mayow gave greater precision to the idea that in respiration the blood lost something and gained something. It is difficult to determine precisely, after the lapse of time, the contributions made by each of these distinguished observers, who were contemporaries; but I would venture to say that the germ of the ideas that bore fruit in the minds of Hooke, and more especially of Mayow, may be found in the writings of Robert Boyle.

The researches of Mayow, indicating the existence in the air of a "nitro-aërial spiritus" necessary to life, and the presence in expired air of something deleterious to life, did not immediately produce the fruits one would have expected. At first his writings attracted considerable attention; they passed through two or three editions, and were translated for Continental readers, but from the beginning of the eighteenth century, nearly twenty years after Mayow's death, they passed almost into oblivion. Thus Hales vaguely refers to him in only two instances, and, as stated by Bostock, "in the discourse delivered by Sir John Pringle before the Royal Society, upon the assignment of Sir Godfrey Copley's medal to Dr. Priestley, which commences with a sketch of the discoveries that had been made in the science of aërology, previous to the period when this philosopher entered upon his experiments, the name of Mayow is not mentioned."

Mayow's writings were first again brought into notice in this country by Reinhold Forster, who gave a summary of Mayow's views in an introduction to his translation of Scheele's Essay on Air and Fire.

As another example of how Mayow's observations were neglected, it may be pointed out that Boerhaave (1668-1738), one of the most learned men of his time, states that he cannot explain the change which the air experiences by respiration, and even Haller, in his great work *Elementa Physiologiæ Corporis Humani*, published 1766, sums up his knowledge regarding expired air by stating that it is combined with a quantity of water and a noxious vapour, and has its elasticity diminished.

The next step in the physiology of respiration was the discovery in 1754 of carbonic acid by Joseph Black, then Professor of Medicine and Chemistry in this University. About this time there was much discussion in the medical world as to the use of lime water in cases of stone and gravel. It was supposed that the lime water dissolved calculi and assisted in expelling them from the body. A discussion arose as to the virtues of lime-water produced from different substances. Two professors in the University of Edinburgh—Alston, and Whytt—specially investigated the subject, and Whytt asserted that the lime-water of oyster-shell lime had more power as a solvent than the lime-water of common stone lime. This led Black to examine the question. "I therefore," says he, "conceived hopes that, by trying a greater variety of the alkaline earths some kinds might be found still more different by their qualities from the common kind, and perhaps yielding a lime-water still more powerful than that of oyster-shell lime."

This led Black to his celebrated investigation on magnesia. He showed that in the case of magnesia alba (carbonate of magnesia) the disappearance of the effervescence on treatment with an acid after heating was accompanied by a loss of weight. The substance thus given off he called "fixed air," or what we now term carbonic acid. This led to an examination of the salts of lime, and in 1757 he made two important physiological discoveries, namely: (1) that the fixed air was injurious to animal life; and (2) that fixed air was produced by the action of respiration. These important observations are thus described in his own words: "In the same year, however, in which my first account of these experiments was published, namely, 1757, I had discovered that this particular kind of air, attracted by alkaline substances, is deadly to all animals that breathe it by the mouth and nostrils together; but that if the nostrils were kept shut, I was led to think that it might be breathed with safety. I found, for example, that when sparrows died in it in ten or eleven seconds, they would live in it for three or four minutes when the nostrils were shut by melted suet. And I convinced myself that the change produced on wholesome air by breathing it consisted chiefly, if not solely, in the conversion of part of it into fixed air. For I found that by blowing

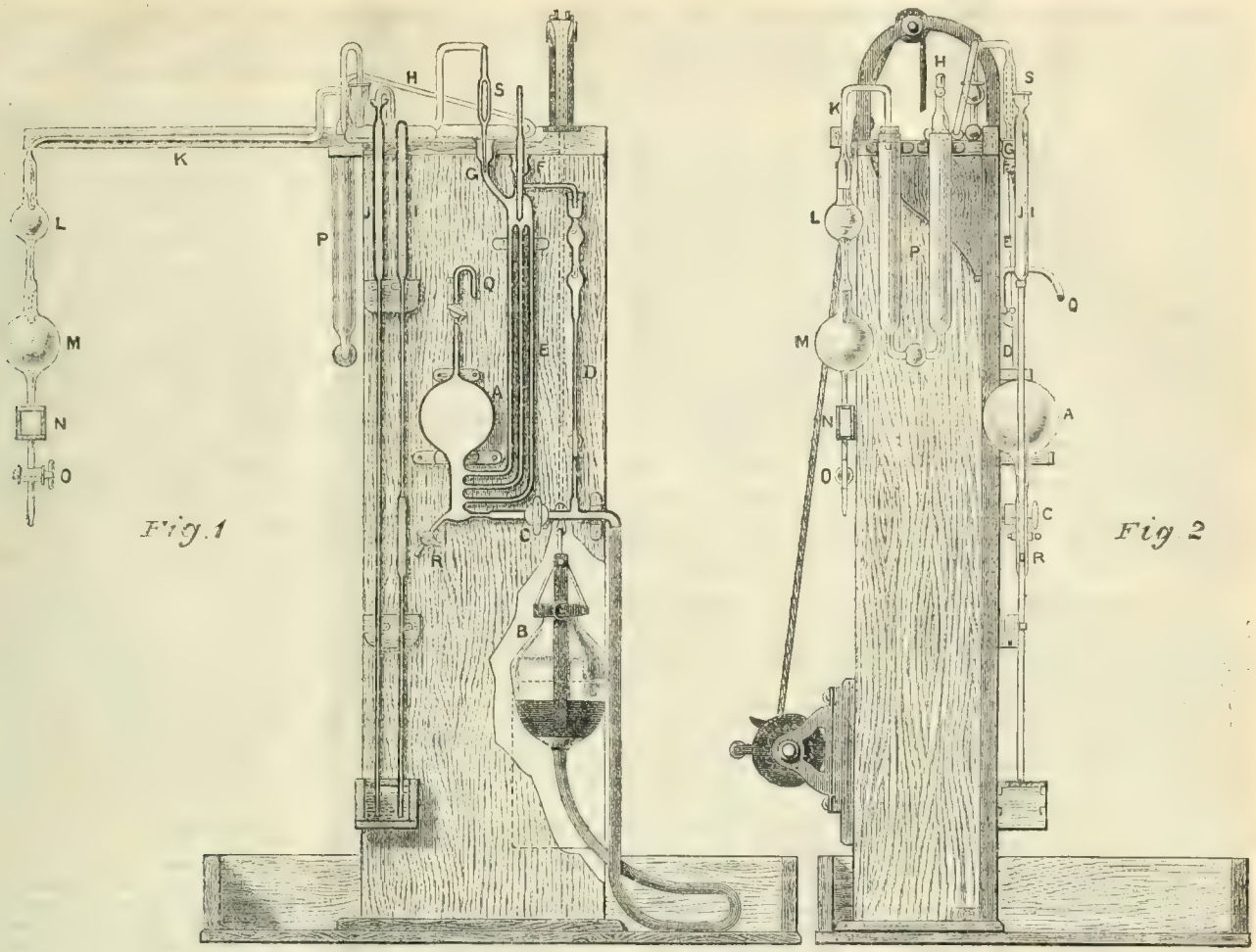


Fig. 1

Fig 2

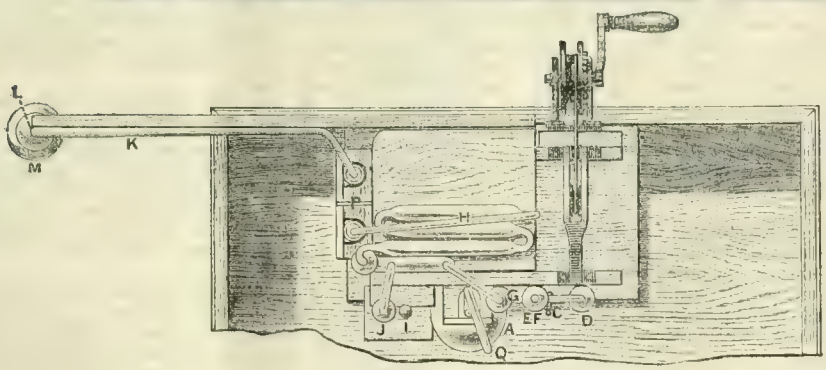


Fig. 3

DESCRIPTION OF FIGURES.

Figs. 1, 2, and 3.—Views of a gas pump constructed for the purpose of extracting and collecting the gases of the blood and suitable for the physiological lecture table. These views have been correctly drawn on the scale of 1 to 10 by my friend the Rev. A. Hanns Geyer.* Fig. 1, front view: A, glass bulb connected by horizontal glass tube with bulb B; this tube is guarded by stopcock C. By elevating B, A is filled with mercury, stopcock of delivery tube Q is closed, and B is lowered; A is thus exhausted and air is drawn into it by tubes E, connected by G with drying apparatus and blood chamber. I, permanent barometer. J, barometer gauge tube connected with part of instrument to be exhausted. Both I and J dip into mercury trough seen below; S, a glass float to prevent mercury from running into drying apparatus when B is raised. After A and the drying apparatus and the blood chamber have been well exhausted, B is raised and mercury may be allowed to pass up D, and then the apparatus acts as a Sprengel pump by the three tubes E. Fig. 2, side view of apparatus: same references. Fig. 3, drying apparatus, placed on a shelf at the top of the pump, consisting of H, tubes containing solid phosphoric acid and U tube P, seen in Fig. 2, containing sulphuric acid. The tube K passes to receiver. In the drawing it is seen to be connected with an apparatus suitable for projecting the spectrum of oxy-hæmoglobin by lime or electric light on screen; then exhausting the blood of oxygen and showing the spectrum of reduced hæmoglobin. L and M, froth chambers with traps; N, parallel-sided chamber for blood; O, stopcock. The whole pump is modelled on one I obtained about ten years ago from Messrs. Mawson and Swan, of Newcastle, but it has been much altered and added to so as to make it suitable for physiological demonstration. It is evident that the gases can be readily obtained for analysis by driving out of A by delivery tube Q. A rough demonstration of the gases can be made in from five to ten minutes.

* The pump can be obtained from Mr. W. Potter, glass blower, Physical and Physiological Laboratories, University of Glasgow, who will give information as to cost.

through a pipe into lime water, or a solution of caustic alkali, the lime was precipitated, and the alkali was rendered mild. I was partly led to these experiments by some observations of Dr. Hales, in which he says that breathing through diaphragms of cloth dipped in alkaline solutions made the air last longer for the purposes of life."

Fifteen years afterwards, namely, in 1772, Joseph Priestley examined the chemical effects produced by the burning of candles and the respiration of animals upon ordinary air; and he made the important discovery that, after air had lost its power of supporting combustion, as by the burning of candles, this property might be restored by the agency of plants. Pushing his experiments still further, he found that air, deteriorated by the breathing of animals, might again become suitable for respiration by the action of plants. In these experiments he employed mice for ascertaining how far an air was impure or unfit for respiration. In 1774 Priestley obtained oxygen by heating red precipitate by means of the sun's rays concentrated by a burning glass. This led to an investigation of the constitution of the atmosphere, and it was shown that it was not a homogeneous elementary body, but consisted of two gases, and that its constitution was remarkably uniform. Priestley showed that by fermentation, combustion, the calcination of metals, and respiration, the air lost a portion of one of its constituents, oxygen.

Thus the chemical researches of Black and Priestley showed that in respiration oxygen was consumed and carbonic acid produced, although the latter fact, owing to the theoretical views of Priestley as to phlogiston, was not fully appreciated by him.

Within a year after Priestley's discovery, a paper on respiration was written by Lavoisier (1743-1794), in which he showed that Priestley was correct in stating that the air lost oxygen in breathing, but Lavoisier specially pointed out that it had gained carbonic acid. No doubt Lavoisier was well acquainted with Black's researches, as is shown by the correspondence between these distinguished men. Lavoisier was the first, however, to make a quantitative examination of the changes produced in the air by breathing. In 1780 he performed a remarkable experiment, in which a guinea-pig was confined over mercury in a jar containing 248 cubic inches of gas consisting principally of oxygen. In an hour and a quarter the animal breathed with much difficulty, and, being removed from the apparatus, the state of the air was examined. Its bulk was found to be diminished by 8 cubic inches, and of the remaining 240 inches 40 were absorbed by caustic potash, and consequently consisted of carbonic acid. Still later, he performed a more accurate experiment, giving quantitative results. During 1789 and 1790, by a special apparatus, Lavoisier and his friend Séguin attempted to measure the changes in the air produced by the breathing of man. These researches are not of value so much for the results they gave as for the method employed. Lavoisier constructed a still more elaborate apparatus with which he began experiments. This research, however, he never finished, as, in 1794, he fell a victim to the blind fury of Robespierre. It is narrated that he earnestly requested a respite of a few days to give him time to prepare for publication the results of his investigations. This was denied, and thus perished one of the greatest scientific sons of France.

Stephen Hales (1677-1761) attempted to measure the amount of aqueous vapour given off by the lungs by breathing through a flask filled with wood-ashes, which absorbed the moisture, and he estimated the amount at about 20 ounces in twenty-four hours. Similar observations were afterwards made by Menzies and by the eminent surgeon, Mr. Abernethy. Lavoisier also attacked the problem by an indirect method. Thus, he determined the quantity of oxygen consumed and of carbonic acid produced, and, assuming that the amount of oxygen was more than sufficient to form the carbonic acid, he came to the conclusion that the excess united with hydrogen in the lungs, and passed off as water. As may be supposed, this method gave widely different results.

Various other attempts were made to estimate the amount of the respiratory changes. In particular, Sir Humphry Davy, in March, 1798, investigated the physiological action of nitrous oxide gas. In this research, published in 1800, he began by observations upon animals, and observations as to the effect of the gas on life, on muscular irritability, on the action of the heart, and on the colour of the blood are recorded with great precision. He then passed on to observations on the respiration of hydrogen, and this led him to a repetition of the experiments of Lavoisier and Goodwin. Next he subjected himself to experiment, and gave himself and friends to experiment, and records a number of interesting physiological and psychical phenomena. This research is of great historical interest as being the first leading to the discovery of a method of producing anæsthesia, or insensibility to pain, by breathing vapours or gases.

Another eminent man who contributed largely to the physiology of respiration was Lazarus Spallanzani, who was born in 1729 and died in 1799. He was educated under the direction of the Jesuits. When about 16 years of age he went to Bologna, and studied at that University, specially under the tuition of his cousin Laura Bassa, a woman celebrated in her day for eloquence and scientific knowledge, and who was then a professor in the University. His biographer, Senebier, says: "Under the direction of this enlightened guide he learned to prefer the study of Nature to that of her commentators, and to estimate their value by comparing them with the originals they professed to describe. The scholar at once perceived the wisdom of these counsels, and quickly experienced their happy effects. He evinced his gratitude to his instructress in a Latin dissertation published in 1765, which was dedicated to Laura Bassa, and in which he recounted the applauses she received at Modena when, entering the hall where her pupil, on being appointed a professor, defended a thesis, *de lapidibus ab aquâ resilientibus*, she opposed it "with the graces of an amiable woman and the wisdom of a profound philosopher."

Spallanzani became Professor of Logic, Mathematics, and Greek in Regio in 1754, and about this date he published researches on infusoria. In 1760 he became Professor in the University of Modena. In 1765 he showed that many microscopic animalculæ were true animals, and in 1768 he published his celebrated researches on the reproduction of portions of the body removed from worms, snails, salamanders, and toads. He paid special attention to the great question of spontaneous generation, showing that infusions of animal and vegetable substances exposed to a high temperature, and hermetically sealed, never produced living things. He also investigated respiration, more particularly in invertebrates. He showed that many such animals breathed by means of the skin as well as by the special breathing organs. He placed many animals, but more especially different species of worms, in atmospheres of hydrogen and nitrogen, and showed that, even in these circumstances, carbonic acid was produced. He also showed the production of carbonic acid by the dead bodies of such animals, and reasoned from this that the carbonic acid was produced directly from the dead tissues and not from the action of the oxygen of the air. He contrasts the respiration of cold-blooded and warm-blooded animals, and shows the peculiarities of respiration in hibernating animals. Nor were these by any means superficial observations. They were usually quantitative, and by the use of the eudiometer, he analysed the air before and after respiration. Probably the most important contribution made by Spallanzani to the subject was showing what he states in the following paragraph:

"I inquire not here why the quantity of carbonic acid gas was greater in azotic and hydrogen gas than in common air. I shall only conclude, from these experiments, that it is clearly proved that the carbonic acid gas produced by the living and dead snails in common air resulted not from atmospheric oxygen, since an equal and even a greater quantity of it was obtained in azotic and hydrogen gas; consequently, in the oxygen gas destroyed by the presence of these animals, its base alone is absorbed by them either during life or after death."

But Spallanzani supposed that the carbonic acid thus produced was formed by digestion in the stomach, passed through the tissues, and was then exhaled. Thus he missed a great step in discovery—namely, that the carbonic acid is produced by the tissues themselves. It was, however, pointed out in 1823 by W. F. Edwards, in his work on the *Influence of Physical Agents in Life*, that the amount of carbonic acid produced by animals breathing was too great to be accounted for by the amount of oxygen in their lungs at the beginning of the experiment, or by carbonic acid supposed to be in the stomach. The importance of this observation will be seen when we discuss the phenomena of the breathing of the tissues.

In 1809 the subject of aquatic breathing was investigated with great care by Provençal and Humboldt. They collected and analysed the gases of water before and after fishes had lived in it for a certain time, and showed that oxygen was consumed and carbonic acid produced by these creatures.

We have now seen how gradually knowledge was arrived at as to the respiratory exchanges. At the beginning of the present

century it was recognised that expired air had lost oxygen, gained carbonic acid and aqueous vapour, and had become hotter. Since then many researches have been carried on to determine with accuracy the quantities of these substances. In all of these, as shown in these diagrams, the method followed has been to draw through a chamber containing the animal a steady, constant, stream of air, the quantity and composition of which are known. Thus, suppose a certain quantity of dry air, free from carbonic acid, and consisting only of oxygen and nitrogen, is passed through such a chamber. In the chamber some of the oxygen is consumed, and a certain amount of carbonic acid and of aqueous vapour is given up by the animal. The air is drawn onwards through bulbs or glass tubes containing substances such as baryta water to absorb the carbonic acid, and chloride of calcium or sulphuric acid to absorb the aqueous vapour. It is evident that the increased weight of these bulbs and tubes, after the experiment has gone on for some time, will give the amounts of carbonic acid and aqueous vapour formed. Thus Andral and Gavarret in 1843, Vierordt in 1845, Regnault and Reiset in 1849, von Pettenkofer in 1860, and Angus Smith in 1862, determined the quantities both by experiments on animals and on human beings.

The results are—first, the expired air, for its own temperature, is saturated with aqueous vapour; secondly, the expired air is less in volume than the inspired air to the extent of about one-fortieth of the volume of the latter; thirdly, the expired air contains about 4 per cent. more carbonic acid and from 4 to 5 per cent. less oxygen than inspired air; fourthly, the total daily excretion of carbonic acid by an average man amounts to 800 grammes in weight, or 406 litres in bulk. This amount of carbonic acid represents 218.1 grammes of carbon and 581.9 grammes of oxygen. The amount of oxygen, however, actually consumed is about 700 grammes; so that nearly 120 grammes of oxygen absorbed are not returned by the lungs, but disappear in the body. It must be remembered, however, that carbonic acid escapes by the skin and other channels. These figures may be taken as averages, and are subject to wide variations depending on nutritional changes.

There is, however, another side to the problem of respiration—namely, a consideration of the chemical changes involved in the process.

According to Lavoisier, respiration was really a slow combustion of carbon and of hydrogen. The air supplied the oxygen, and the blood the combustible materials. The great French chemist, however, did not entirely commit himself to the opinion that the combustion occurred only in the lungs. He says that a portion of the carbonic acid may be formed immediately in the lung, or in the blood-vessels throughout the body, by combination of the oxygen of the air with the carbon of the blood. Lavoisier's opinions were understood correctly by only a few of his contemporaries, and a notion prevailed that, according to him, combustion occurred only in the lungs, and that the changes in these organs were the main sources of animal heat. Such a notion, however, was contrary to the opinion of the great mathematician Lagrange, announced in 1791, a few years after the first publication of Lavoisier's on respiration. Lagrange saw that, if heat were produced in the lungs alone, the temperature of these organs might become so high as to destroy them; and he therefore supposed that the oxygen is simply dissolved in the blood, and in that fluid combined with carbon and hydrogen, forming carbonic acid and aqueous vapour, which were then set free in the lungs. It will be observed that this opinion of Lagrange in 1791 was practically the same as that stated by Lavoisier in 1789.

Now, if the production of carbonic acid in a given time depended upon the amount of oxygen supplied in the same time, these views of Lavoisier and Lagrange would be correct; but Spallanzani had shown that certain animals confined in an atmosphere of nitrogen or of hydrogen exhaled carbonic acid to almost as great an extent as if they had breathed air. He was therefore obliged to say that carbonic acid previously existed in the body, and that its appearance could not be accounted for by the union of oxygen with the carbon of the blood. Spallanzani therefore thought that in the lung there was simply an exhalation of carbonic acid and an absorption of oxygen. These views were supported by the experiments of W. Edwards, published in 1824. Edwards showed that animals in an atmosphere of hydrogen produced an amount of carbonic acid not to be accounted for by any oxygen supposed to exist free in the body. In 1830 Collard de Martigny performed many similar experiments, and stated that carbonic acid was secreted in the capillaries and excreted by the lungs. This opinion was supported by Johannes Müller, who repeated the experiments of Spallanzani.

It might thus be said that two theories of respiration were before physiologists—the one, that combustion occurred in the lungs or venous blood, furnishing carbonic acid and aqueous vapour, which were exhaled by the lungs; the other, that there was no such combustion, but that oxygen was absorbed by the lungs and carried to the tissues, whilst in these carbonic acid was secreted, absorbed by the blood, carried to the lungs, and there exhaled. Some writers, soon after Lavoisier, misunderstood, as I have already stated, the opinions of that distinguished man, and taught that in the lungs themselves there was a separation of carbon, which united immediately with the oxygen to form carbonic acid. But this was not really Lavoisier's opinion; and we have to do, therefore, with two theories, which have been well named—the theory of combustion, and the theory of secretion.

The difficulty felt by the older physiologists in accepting the secretion theory was the absence of proof of the existence of free oxygen and carbonic acid in the blood, This difficulty also met those who rejected the notion of combustion occurring in the lungs, and substituted for it the idea that it really occurred in the blood throughout the body, because, if this were true, free gases ought to be found in the blood. Consequently, so long as physiologists had no definite knowledge regarding gases in the blood, the combustion theory, in the most limited sense, held its ground. This theory, although fruitful of many ideas regarding respiration and animal heat, was abandoned in consequence of the evidence afforded by two lines of inquiry—namely, researches regarding the gases of the blood, and researches as to the relative temperature of the blood in the right and left cavities of the heart.

Let me first direct your attention to the gradual development of our knowledge regarding the gases of the blood. The remarkable change in the colour of the blood when it is exposed to, or shaken up with, air, was observed so long ago as in 1665 by Fracassati, and is also alluded to by Lower (1631-1691), Mayow, Cigna (1773), and Hewson (1774); but Priestley was the first to show that the increased redness was due to the action of the oxygen of the air, and that the blood became purple when agitated with carbonic acid, hydrogen, and nitrogen. The presence of gas in the blood was first observed about 1672 by Mayow. I find in a paper of Leeuwenhoek (1632-1723), entitled "The Author's Experiments and Observations respecting the quantity of Air contained in Water and other Fluids," published in 1674, a description of a method devised by this ingenious man for detecting the existence of air in certain fluids, and amongst them in the blood. It consisted of a kind of syringe, by which he was able to produce a partial vacuum. He then observed bubbles of gas to escape, and he estimated, in the case of human blood, that the air in the blood amounted to $\frac{1}{100}$ or $\frac{1}{200}$ part of the volume of the blood. He argues, from this interesting observation, against one of the prevalent medical theories of the time, that various diseases were caused by fermentations in the blood. How, said he, was such a theory consistent with the existence of so small a quantity of gas? He made the mistake, from the inefficiency of his apparatus, of stating that blood, when it issues from the veins, contains no air.

Gas was also obtained from the blood in 1799 by Sir Humphry Davy, in 1814 by Vogel, in 1818 by Brand, in 1833 by Hoffmann, and in 1835 by Stevons. On the other hand, John Davy, Bergman, Johannes Müller, Mitscherlich, Gmelin, and Tiedeman failed in obtaining any gas. The first group of observers, either by heating the blood, or by allowing it to flow into a vacuum, or by passing through it a stream of hydrogen, obtained small quantities of carbonic acid. Sir Humphry Davy was the first to collect a small quantity of oxygen from the blood. John Davy, by an erroneous method of investigation, was led, in 1828, to deny that the blood either absorbed oxygen or gave off carbonic acid. He was shown to be wrong, in 1830, by Christison, who devised a simple method of demonstrating the fact.

So long as the evidence in favour of the existence of gases in the blood was so uncertain, the combustion theory of respiration held its own. At last, in 1836, appeared the researches of Heinrich Gustave Magnus, latterly Professor of Physics and Technology in the University of Berlin. He first attempted to drive off carbonic acid from the blood by a stream of hydrogen, and thus obtained as much as 34 cubic centimètres of carbonic acid from 62.9 cubic centimètres of blood. He then devised a mercurial air-pump, by which it was possible to exhaust a receiver to a much greater extent than could be done by the ordinary air-pump. When blood

was introduced into such a vacuum, considerable quantities of carbonic acid, oxygen, and nitrogen were obtained. This research marks an epoch in physiological discovery, as it threw a new light on the function of respiration, by demonstrating the existence of gases in the blood.

In order to appreciate the value of this evidence, and the method employed, let me direct your attention to the laws regulating the diffusion of gases. As a mass of gaseous matter has no independent form, like that of a solid body, nor a fixed volume like that of a liquid, but consists of an enormous number of molecules which, in consequence of their mutual repulsions, endeavour more and more to separate from each other, it is easy to see that if two masses of gas are brought into contact, they will mix, that is, their molecules will interpenetrate, until a mixture is formed containing an equal number of the molecules of each gas. The force by which the molecules repel each other, and by which they exercise pressure in all directions, is known as the pressure or tension of the gas. It is evident that the greater the number of gas molecules in a given space, the greater will be the tension of the gas, and from this it follows that the tension of a gas is in the inverse proportion to its volume (this is known as Boyle's law). Suppose now that two gases are separated by a porous partition; the two gases will mix, and the rapidity of the diffusion will vary according to the specific weight of the gases. Thus light gases, like hydrogen or coal gas, will diffuse more quickly than air, or chlorine, or carbonic acid.

It is important also to note the laws regulating the absorption of gases by fluids. If we allow a little water to come into contact with ammonia gas above mercury, the gas is rapidly absorbed by the water (1 volume of water absorbs 730 volumes NH_3) all the gas above disappears, and in consequence of this the pressure of the outer air drives up the mercury in the tube. The higher the temperature of the fluid the less gas it absorbs. At the boiling point of the fluid its absorption = 0, because at that temperature the fluid itself changes into gas. The power of absorption of different fluids for the same gas and the absorptive power of the same fluid for different gases fluctuate between wide limits. Bunsen defined the co-efficient of absorption of a fluid for a gas as that number which represents the volume of gas (reduced to 0° and 760 mm. barometric pressure) which is taken up by 1 volume of the fluid. Thus 1 volume of distilled water takes up the following volumes:

Temp. Cent.	N.	O.	CO_2.	Air.
0	0.02	0.041	1.797	0.025
5	0.013	0.036	1.5	0.022
15	0.015	0.03	1.002	0.018
37	—	0.02	0.569	—

Again, 1 volume of distilled water at 0° C. absorbs 0.00193 volumes of hydrogen, while it can take up no less than 1180 volumes of ammonia; again, 1 volume of water at 0° C. absorbs only 0.2563 volumes of olefiant gas, but 1 volume of alcohol, at the same temperature, will take up as much as 3.595 volumes. The volume of gas absorbed is independent of the pressure, and the same volume of gas is always absorbed, whatever the pressure may happen to be. But, as according to Boyle's law the density of a gas, or in other words the number of molecules in a given space, is in proportion to the pressure, and as the weight is equal to the product of the volume and the density, so while the volume absorbed always remains the same, the quantity or weight of the absorbed gas rises and falls in proportion to the pressure (this is the law of Dalton and Henry). It therefore follows that a gas is to be considered as physically absorbed by a fluid, if it separates from it not in volumes but in quantities, the weights of which are in proportion to the fall of pressure.

When two or more gases form an atmosphere above a fluid, the absorption takes place in proportion to the pressure which each of the constituents of the mixture would exercise if it were alone in the space occupied by the mixture of gases, because, according to Dalton's law, one gas does not exercise any pressure on another gas intermingled with it, but a space filled with one gas must be considered, so far as a second gas is concerned, as a space containing no gas, or in other words, a vacuum. This pressure, which determines the absorption of the constituents of a gaseous mixture, is termed, according to Bunsen, the partial pressure of the gas. The partial pressure of each single gas in a mixture of gases depends then on the volume of the gas in question in the mixture. Suppose atmospheric air to be under a pressure of 760 mm. of mercury, as the air consists of 21 volumes per cent. of O and 79 volumes per cent. of N, then $\frac{760 \times 21}{100} = 159.6$ mm. of mercury, will be the partial pressure under which the oxygen gas is absorbed, while the absorption of nitrogen will take place under a pressure of $\frac{760 \times 79}{100} = 600$ mm. of mercury. Suppose, again, that above a fluid containing a gas, say carbonic acid, which has been absorbed, there is an atmosphere of another gas, say atmospheric air, then as carbonic acid exists in the air only in traces, its tension is equal to zero, and carbonic acid will escape from the fluid until the difference of tension between the carbonic acid in the water and the carbonic acid in the air above it has been balanced, that is, until the carbonic acid which has escaped into the air has reached a tension equal to that of the gas still absorbed by the fluid. By the phrase "tension of the gas in a fluid" is understood the partial pressure in millimètres of mercury which the gas in question has to exercise in the atmosphere, when no diffusion between the gas in the fluid and the gas in the atmosphere takes place. The terms "pressure" and "tension" mean the same thing.

The method followed by Magnus will now be understood. By allowing the blood to flow into an exhausted receiver surrounded by hot water, gases were set free. These were found to be oxygen, carbonic acid, and nitrogen. He further made the important observation that both arterial and venous blood contained the gases, the difference being that in arterial blood there was more oxygen and less carbonic acid than in venous blood. Magnus concluded that the gases were simply dissolved in the blood, and that respiration was a simple process of diffusion, carbonic acid passing out and oxygen passing in, according to the law of pressures I have just explained.

Let us apply the explanation of Magnus to what occurs in pulmonary respiration. Venous blood, containing a certain amount of carbonic acid at the temperature of the blood and under a certain pressure, is brought to the capillaries, which are distributed on the walls of the air-vesicles in the lungs. In these air-vesicles, we have an atmosphere at a certain temperature and subject to a certain pressure. Setting temperature aside, as it may be assumed to be the same in the blood and in the air-cells, let us consider the question of pressure. If the pressure of the carbonic acid in the blood be greater than that of the carbonic acid in the air-cells, carbonic acid will escape until an equilibrium is established between the tension of the gas in the blood and the tension of the gas in the air-cells. Again if the tension of the oxygen in the air-cells be greater than that of the oxygen in the venous blood, oxygen will be absorbed until the tensions become equal. This theory has no doubt the merit of simplicity, but it will be observed that it depends entirely on the assumption that the gases are simply dissolved in the blood. It was pointed out by Liebig that according to the experiments of Regnault and Reiset, animals used the same amount of oxygen when breathing an atmosphere composed of that gas alone as when they breathed ordinary air, and that the vital processes are not much affected by breathing the atmosphere of high altitudes where the amount of oxygen taken in is only about two-thirds of that existing at the sea-level. It was also shown at a much later date, by Ludwig and W. Müller, that animals breathing in a confined space of air will use up the whole of the oxygen in the space, and it is clear that as the oxygen is used up, the partial pressure of the oxygen remaining must be steadily falling. Liebig urged the view that the gases were not simply dissolved in the blood, but existed in a state of loose chemical combination which could be dissolved by the diminished pressure in the vacuum, or by the action of other gases. He also pointed out the necessity of accurately determining the co-efficient of absorption of blood for the gases, that is, the amount absorbed under a pressure of 760 mm. of mercury by one volume of the gas at the temperature of the observation. The next important observations were those of Fernet, published in 1855 and 1857. He expelled the greater part of the gas of the blood (dog) by passing through it a stream of hydrogen and then submitting it to the action of the air-pump. He then introduced into the apparatus the gas under a given pressure, the absorption co-efficient of which he had to determine. He then estimated the amount of gas absorbed, under different pressures, and found in the case of oxygen that the amount absorbed with gradually decreasing increments of pressure was greater than what would have been the case had it been in accordance with Dalton's law of pressures. The oxygen was not then simply dissolved in the blood. Further, Fernet arrived at the conclusion that the greater portion of the oxygen was in a state of combination,

whilst a small amount was simply dissolved according to Dalton's law.

It is evident, then, that while the amount of oxygen absorbed varies with the pressure, it does not do so according to Dalton's law. The amount decreases slowly with pressures below atmospheric pressure, and it increases rapidly with pressures above it. It is when the pressure in the vacuum is as low as one-thirtieth of an atmosphere that the oxygen is given up. The view that something in the blood is chemically united to the oxygen is strengthened by the fact that serum does not absorb much more oxygen than water can absorb, so that blood at a temperature of 30° C. would contain only about 2 volumes per cent. of oxygen gas were the latter simply dissolved in the fluid. It can also be shown that defibrinated blood takes up oxygen independently of the pressure, and that the quantity of oxygen taken up by defibrinated blood is about equal to the quantity absorbed by a solution of pure hæmoglobin containing as much of that substance as exists in the same volume of blood.

By similar experiments made with carbonic acid, Fernet determined that the greater portion of it was in a state of loose chemical combination, whilst a small amount was simply dissolved according to the law of pressures. Experiments with blood serum showed similar results as regards carbonic acid, with the difference that the co-efficient of absorption for oxygen was much less than with ordinary blood. He therefore concluded that nearly the whole of the carbonic acid was chemically retained in the fluid of the blood, whilst nearly the whole of the oxygen was combined with the red blood corpuscles. He then proceeded to investigate whether or not the three principal salts of the blood, carbonate of soda, phosphate of soda, and chloride of sodium, in any way influenced the absorption co-efficient of carbonic acid. He found (1) that the addition of these salts to distilled water in the proportion in which they exist in the serum slightly diminishes the absorption co-efficient; (2) that chloride of sodium has no influence on the absorption co-efficient; and (3) that carbonic acid combines with the carbonate and phosphate of soda.

In the same year (1855) Lothar Meyer published the results of a series of researches of the same nature. Under the direction of Bunsen, the blood was diluted with ten times its bulk of water, and the gases were collected by boiling the liquid in vacuo at a very gentle heat; a certain amount of gas was thus obtained. He also found that blood absorbs a much larger quantity of carbonic acid than pure water at the same temperature, and stated that when blood was exposed to oxygen at various pressures the quantity of that gas taken up might be regarded as consisting of two portions, one following Dalton's law and the other independent of it.

Further researches of a similar kind have been carried out by Setschenow, Ludwig, Alexander Schmidt, Bert, Pflüger, and others, and ingenious methods of collecting and of analysing the gases have been devised. To Professor Pflüger and his pupils in particular are we indebted for the most complete series of gas analyses on record. The result has been to enable us to give the average composition of the gases of the blood as follows. From 100 volumes of dog's blood there may be obtained:

	Oxygen.	Carbonic Acid.	Nitrogen.
Arterial	18.4 to 22.6, mean 20	30 to 40	1.8 to 2
Venous	Mean 11.9	43 to 48	1.8 to 2

the gases being measured at 0° C. and 760 mm. pressure. The venous blood of many organs may contain less than 11.9 per cent. of carbonic acid, and the blood of asphyxia may contain as little as 1 volume per cent. It is clear, then, that the gases of the blood do not exist in a state of simple solution, but that they are largely combined with certain constituents of the blood. Take, for example, the case of oxygen. Berzelius showed long ago that 100 volumes of water will absorb, at a given temperature and pressure, 2.9 volumes of oxygen: while, in the same circumstances, 100 volumes of serum will absorb 3.1 volumes, and 100 volumes of blood will absorb 9.6 volumes. Something in the blood must have the power of taking up a large amount of oxygen.

The next step was the discovery of the important part performed in respiration by the colouring matter of the red blood corpuscles. Chemically, these corpuscles consist of about 30 to 40 per cent. of solid matter. The solids contain only about 1 per cent. of inorganic salts, chiefly those of potash; whilst the remainder are almost entirely organic. Analysis has shown that 100 parts of dry organic matter contain of hæmoglobin, the colouring matter, no less than 90.54 per cent.; of proteid substances, 8.67; of lecithin, 0.54; and of cholesterine, 0.25. The colouring matter, hæmoglobin, was first obtained in a crystalline state by Funke in 1853, and subsequently by Lehmann. It has been analysed by Hoppe-Seyler and Carl Schmidt, with the result of showing that it has a perfectly constant composition. Hoppe-Seyler's analysis first appeared in 1868. It is now well known to be the most complicated of organic substances, having a formula, according to Preyer (1871), of

$$C_{600}\,H_{959}\,N_{154}\,Fe\,S_3\,O_{179}.$$

In 1862 Hoppe-Seyler noticed the remarkable spectrum produced by the absorption of light by a very dilute solution of blood. Immediately thereafter, the subject was investigated by Professor Stokes, of Cambridge, and communicated to the Royal Society in 1864. If white light be transmitted through a thin stratum of blood, two distinct absorption bands will be seen. One of these bands next D is narrower than the other, has more sharply defined edges, and is undoubtedly blacker. "Its centre," as described by Dr. Gamgee (*Physiological Chemistry*, p. 97), "corresponds with wave-length 579[1], and it may conveniently be distinguished as the absorption band α in the spectrum of oxy-hæmoglobin. The second of the absorption bands—that is, the one next to E, which we shall designate β, is broader, has less sharply defined edges, and is not so dark as α. Its centre corresponds approximately to W. L. 553.8. On diluting very largely with water nearly the whole of the spectrum appears beautifully clear, except where the two absorption bands are situated. If dilution be pursued far enough even these disappear; before they disappear they look like faint shadows obscuring the limited part of the spectrum which they occupy. The last to disappear is the band α. The two absorption bands are seen most distinctly when a stratum of 1 cm. thick of a solution containing 1 part of hæmoglobin in 1,000 is examined; they are still perceptible when the solution contains only 1 part of hæmoglobin in 10,000 of water."

Suppose, on the other hand, we begin with a solution of blood in 10 times its volume of water; we then find that such a solution cuts off the more refrangible part of the spectrum, leaving nothing except the red, "or, rather, those rays having a wave-length greater than about 600 millionths of a millimètre." On diluting further, the effects, as well described by Dr. Gamgee, are as follows: "If now the blood solution be rendered much more dilute so as to contain 8 per cent. of hæmoglobin, on examining a stratum 1 centimètre wide the spectrum becomes distinct up to Frauenhofer's line D (W. L. 589)—that is, the red, orange, and yellow are seen, and in addition also a portion of the green, between b and F. Immediately beyond D, and between it and b, however (between W. L. 595 and 518), the absorption is intense."

These facts were observed by Hoppe-Seyler. Professor Stokes made the very important contribution of observing that the spectrum was altered by the action of reducing agents. Hoppe-Seyler had observed that the colouring matter, so far as the spectrum was concerned, was unaffected by alkaline carbonates and caustic ammonia, but was almost immediately decomposed by acids, and also slowly by caustic fixed alkalies, the coloured product of decomposition being hæmatin, the spectrum of which was known. Professor Stokes was led to investigate the subject from its physiological interest, as may be observed on quoting his own words in the classical research already referred to: "But it seemed to me to be a point of special interest to inquire whether we could imitate the change of colour of arterial into that of venous blood, on the supposition that it arises from reduction."

He found that:

"If to a solution of proto-sulphate of iron enough tartaric acid be added to prevent precipitation by alkalies, and a small quantity of the solution, previously rendered alkaline by either ammonia or carbonate of soda, be added to a solution of blood, the colour is almost instantly changed to a much more purple red as seen in small thicknesses, and a much darker red than before as seen in greater thickness. The change of colour which recalls the difference between arterial and venous blood is striking enough, but the change in the absorption spectrum is far more decisive. The two highly characteristic dark bands seen before are now replaced by a single band, somewhat broader and less sharply defined at its edges than either of the former, and occupying nearly the position of the bright band separating the dark bands of the original solution. The fluid is more transparent for the blue and less so for the green than it was before. If the

[1] Dr. Gamgee gives the measurements of the wave-lengths in millionths of a millimètre.

thickness be increased till the whole of the spectrum more refrangible than the red be on the point of disappearing, the last part to remain is green, a little beyond the fixed line b, in the case of the original solution, and blue some way beyond F, in the case of the modified fluid."

From these observations Professor Stokes was led to the important conclusion that:

"The colouring matter of blood, like indigo, is capable of existing in two states of oxidation, distinguishable by a difference of colour and a fundamental difference in the action on the spectrum. It may be made to pass from the more to the less oxidised state by the action of suitable reducing agents, and recovers its oxygen by absorption from the air."

To the colouring matter of the blood Professor Stokes gave the name of cruorine, and described it in its two states of oxidation as scarlet cruorine and purple cruorine. The name hæmoglobin, given to it by Hoppe-Seyler, is generally employed. When united with oxygen it is called oxyhæmoglobin, and when in the reduced state it is termed reduced hæmoglobin, or simply hæmoglobin.

The spectroscopic evidence is, therefore, complete. Hoppe-Seyler, Hüfner, and Preyer have shown also that pure crystallised hæmoglobin absorbs and retains in combination a quantity of oxygen equal to that contained in a volume of blood holding the same amount of hæmoglobin. Thus, 1 gramme of hæmoglobin absorbs 1.56 cubic centimètre of oxygen, at 0° C. and 760 millimètres pressure; and, as the average amount of hæmoglobin in blood is about 14 per cent., it follows that $1.56 \times 14 = 21.8$ cc. of oxygen would be retained by 100 cc. of blood. This agrees closely with the fact that about 20 volumes of oxygen can be obtained from 100 volumes of blood. According to Pflüger, arterial blood is saturated with oxygen to the extent of 9-10ths, while Hüfner gives the figure at 14-15ths. By shaking blood with air, its oxygen contents can be increased to the extent of from 1 to 2 volumes per cent.

These important researches, the results of which have been amply corroborated, have given an explanation of the function of the red blood-corpuscles as regards respiration. The hæmoglobin of the venous blood in the pulmonary artery absorbs oxygen, becoming oxyhæmoglobin. This is carried to the tissues, where the oxygen is given up, the oxyhæmoglobin being reduced. Thus, the colouring matter of the red blood-corpuscles is constantly engaged in conveying oxygen from the lungs to the tissues. Probably the union of hæmoglobin with oxygen, and its separation from it, are examples of dissociation, that is, of a chemical decomposition or synthesis, effected entirely by physical conditions; but data regarding this important question are still wanting. If the union of oxygen with the colouring matter is an example of oxidation, it must be attended with the evolution of heat, but, so far as I know, this has not been measured. My friend Mr. J. T. Bottomley and I have recently been able, by a thermo-electric arrangement, to detect the heat produced by the union of hæmoglobin with oxygen. We mean to continue the investigation. If heat were produced in considerable amount, the arterial blood returned from the lungs to the left auricle would be hotter than the blood brought to the right auricle by the veins. This, however, is not the case, as the blood on the right side of the heart is decidedly warmer than the blood on the left, a fact usually accounted for by the large influx of warm blood coming from the liver. The heat-exchanges in the lungs are of a very complicated kind. Thus heat will be set free by the formation of oxyhæmoglobin; but, on the other hand, it will be absorbed by the escape of carbonic acid, and by the formation of aqueous vapour, and a portion will be used in heating the air of respiration. The fact that the blood in the left auricle is colder than that of the right auricle is, therefore, the result of a complicated series of heat-exchanges, not easy to follow.

Our knowledge as to the state of the carbonic acid in the blood is not so reliable. In the first place, it is certain that almost the whole of the carbonic acid which may be obtained exists in the plasma. Defibrinated blood gives up only a little more carbonic acid than the same amount of serum of the same blood. Blood-serum gives up to the vacuum about 30 volumes per cent. of carbonic acid; but a small part—according to Pflüger, about 6 volumes per cent.—is given up only after adding an organic or mineral acid. This smaller part is chemically bound, just as carbonic acid is united to carbonates, from which it can be expelled only by a stronger organic or mineral acid. The ash of serum yields about one-seventh of its weight of sodium; this is chiefly united to carbonic acid to form carbonates, and a part of the carbonic acid of the blood is united to those salts. It has been ascertained, however, that defibrinated blood, or even serum containing a large number of blood-corpuscles, will yield a large amount of carbonic acid, even without the addition of an acid. Thus, defibrinated blood will yield 40 volumes per cent. of carbonic acid—that is, 34 volumes which would be also given up by the serum of the same blood (without an acid), and 6 volumes which would be yielded after the addition of an acid. Something, therefore, exists in defibrinated blood which acts like an acid in the sense of setting free the 6 volumes of carbonic acid. Possibly the vacuum may cause a partial decomposition of a portion of the hæmoglobin, and, as suggested by Hoppe-Seyler, acid substances may thus be formed.

But what is the condition of the remaining 30 volumes per cent. of carbonic acid which are obtained by the vacuum alone? A portion of this is probably simply absorbed by the serum; this part escapes in proportion to the decrease of pressure, and it may be considered to be physically absorbed. A second part of this carbonic acid must exist in chemical combination, as is indicated by the fact that blood-serum takes up far more carbonic acid than is absorbed by pure water. On the other hand, this chemical combination is only a loose one, because it is readily dissolved by the vacuum. There can be no doubt that a part of this carbonic acid is loosely bound to carbonate of soda Na_2CO_3 in the serum, probably to acid carbonate of soda $NaHCO_3$. This compound exists only at a certain pressure. On a fall of pressure, it decomposes into sodium carbonate and carbonic acid, the latter becoming free. A third part of this carbonic acid is probably loosely bound chemically to disodium phosphate, Na_2HPO_4, a salt which also occurs in the blood-serum. Fernet has shown that it binds two molecules of carbonic acid to one molecule of phosphoric acid. This salt occurs in considerable quantity only in the blood of carnivora and omnivora, while in that of herbivora, such as in the ox and calf, only traces exist. It cannot be supposed in the latter instances to hold much carbonic acid in chemical combination. There must exist, therefore, other chemical substances for the attachment of the carbonic acid of the blood, and it has been suggested that a part may be connected with the albumin of the plasma.

According to Zuntz, the blood-corpuscles themselves retain a part of the carbonic acid, as the total blood is able to take up far more carbonic acid out of a gaseous mixture rich in carbonic acid or consisting of pure carbonic acid, than can be absorbed by the serum of the same quantity of blood. No compound, however, of carbonic acid with the blood-corpuscles is known.

The nitrogen, which is contained in the blood to the amount of from 1.8 to 2 volumes per cent., is probably simply absorbed, for even water is able to absorb 2 volumes per cent. of this gas.

If we then regard the blood as a respiratory medium having gases in solution, we have next to consider what is known of the breathing of the tissues themselves. Spallanzani was undoubtedly the first to observe that animals of a comparatively simple type used oxygen and gave up carbonic acid. But he went further, and showed that various tissues and animal fluids, such as the blood, the skin, and portions of other organs, acted in a similar way. These observations were made before the beginning of the present century, but they appear to have attracted little or no attention until the researches of Georg Liebig on the respiration of muscle, published in 1850. He showed that fresh muscular tissue consumed oxygen and gave up carbonic acid. In 1856, Matteucci made an important advance, by observing that muscular contraction was attended by an increased consumption of oxygen, and an increased elimination of carbonic acid. Since then, Claude Bernard and Paul Bert, more especially the latter, have made numerous observations regarding this matter. Paul Bert found that muscular tissue has the greatest absorptive power. Thus we arrive at the grand conclusion that the living body is an aggregate of living particles, each of which breathes in the respiratory medium passing from the blood.

As the blood, containing oxygen united with the colouring matter (hæmoglobin), passes slowly through the capillaries, fluid matter transudes through the walls of the vessels, and bathes the surrounding tissues. The pressure or tension of the oxygen in this fluid being greater than the tension of the oxygen in the tissues themselves, in consequence of the oxygen becoming at once a part of the living protoplasmic substance, oxygen is set free from the hæmoglobin, and is appropriated by the living tissues, becoming part of their protoplasm. Whilst alive, or at all events whilst actively discharging their functions, as in the contraction of a

muscle, or in those changes we term secretion in a cell, the living protoplasm undergoes rapid decompositions, leading to the formation of comparatively simple substances. Amongst these is carbonic acid. As it has been ascertained that the tension of the carbonic acid in the lymph is less than its tension in venous blood, it is difficult at first sight to account for the absorption of carbonic acid by venous blood; but its tension is higher than that of carbonic acid in arterial blood, and it must be remembered that the lymph has had the opportunity, both in the connective tissue and in the lymphatic vessels, of modifying its tension by close contact with arterial blood. Strassburg fixes the tension of the carbonic acid in the tissues as equal to 45 mm. of mercury, while that of the venous blood is only 41 mm. We may assume that as the carbonic acid is set free, it is absorbed by the blood, uniting loosely with the carbonates and phosphates of that fluid, thus converting it from the arterial into the venous condition. This constitutes respiration of tissue.

In connection with the respiration of tissues, as determined by the analysis of the blood gases and of the gases of respiration, there arises the interesting question of the ratio between the amount of oxygen absorbed and the amount of carbonic acid produced, and very striking contrasts among animals have thus been determined. Thus in herbivora the ratio of the oxygen absorbed to the carbonic acid produced, or the respiratory quotient, as it is termed by Pflüger, $\frac{CO_2}{O}$, amounts to from 0.9 to 1.0, while in carnivora it is from 0.75 to 0.8. Omnivora, of which man may be taken as the example, come between, $\frac{CO_2}{O} = 0.87$. The quotient is greater in proportion to the amount of carbo-hydrate in the diet, whether the animals are carnivora, herbivora, or omnivora. The respiratory quotient becomes the same, about 0.75, in starving animals, a proof that the oxidations are kept up at the cost of the body itself, or, in other words, the starving animal is carnivorous. The intensity of respiration in different animals is well shown in the following table, in which the amount of oxygen used is given per kilogramme of body-weight per hour. (Dr. Immanuel Munk, *Physiologie des Menschen und der Säugethiere*, 1888, p. 82.)

Animal.	O in grammes.	Respiratory Quotient. $\frac{CO_2}{O}$
Cat	1.007	0.77
Dog	1.183	0.75
Rabbit	0.918	0.92
Hen	1.300	0.93
Small Singing Birds	11.360	0.78
Frog	0.084	0.63
Cockchafer	1.019	0.81
Man	0.417	0.78
Horse	0.563	0.97
Ox	0.552	0.98
Sheep	0.490	0.98

Smaller animals therefore have, as a rule, a greater intensity of respiration than larger ones. In small singing birds the intensity is very remarkable, and it will be seen that they require ten times as much oxygen as a hen. On the other hand, the intensity is low in cold-blooded animals. Thus a frog requires 135 times less oxygen than a small singing bird. The need of oxygen is therefore very different in different animals. Thus a guinea-pig soon dies with convulsions in a space containing a small amount of oxygen, while a frog will remain alive for many hours in a space quite free of oxygen. It is well known that fishes and aquatic animals generally require only a small amount of oxygen, and this is in consonance with the fact that sea-water contains only small quantities of this gas. Thus, according to the elaborate researches of my friend, Professor Dittmar, on the gases of the sea-water brought home by the *Challenger* Expedition, collected in many parts of the great oceans, and from varying depths: "The ocean can contain nowhere more than 15.6 cc. of nitrogen, or more than 8.18 cc. oxygen per litre; and the nitrogen will never fall below 8.55 cc. We cannot make a similar assertion in regard to the oxygen, because its theoretical minimum of 4.30 cc. per litre is liable to further diminution by processes of life and putrefaction and processes of oxidation." (Dittmar, *Proceedings of Phil. Soc. of Glasgow*, vol. xvi, p. 61). As a matter of fact, a sample of water from a depth of 2,875 fathoms gave only 0.6 cc. per litre of oxygen, while one from a depth of 1,500 fathoms gave 2.04 cc. per litre. Taking 15° C. as an average temperature, one litre of sea-water would contain only 5.31 cc. of dissolved oxygen, that is about 0·5 cc. in 100 cc. Contrast this with arterial blood, which contains 20 cc. of oxygen in 100 cc. of blood, or there are about forty times as much oxygen in arterial blood as in sea-water. At great depths the quantity of oxygen is very much less, and yet many forms of life exist at these great depths. Fishes have been dredged from a depth of 2,750 fathoms, where the amount of oxygen was probably not so much as 0.06 cc. per 100 cc., or 300 times less than that of arterial blood. Making allowance for the smaller quantity of oxygen in the blood of a fish than that of a mammal, it will still be evident that the blood of the fish must contain much more oxygen than exists in the same volume of sea-water. No doubt we must remember that the water is constantly renewed, and that the oxygen in it is in the state of solution, or, in other words, in a liquid state. But the question remains, where do these deep sea creatures obtain the oxygen? Probably by a method of storage. Biot has found in the swimming bladder of such fishes 70 volumes per cent. of pure oxygen, a gas in which a glowing splinter of wood is relit. This oxygen probably oxygenates the blood of the fish when it plunges into the dark and almost airless depths of the ocean.

Aquatic breathers, however, if they live in a medium containing little oxygen, have the advantage that they are not troubled with free carbonic acid. One of the most striking facts discovered by the *Challenger* chemists is that sea-water contains no free carbonic acid, except in some situations where the gas is given off by volcanic action from the crust of the earth forming the sea-bed. In ordinary sea-water there is no free carbonic acid, because any carbonic acid formed is at once absorbed by the excess of alkaline base present. Thus the fish breathes on the principle of Fleuss's diving apparatus, in which the carbonic acid formed is absorbed by an alkaline solution. There is nothing new under the sun. The fish obtains the oxygen from the sea-water, no doubt, by the chemical affinity of its hæmoglobin, which snatches every molecule of oxygen it may meet with, while it gets rid of its carbonic acid easily, because there is not only no tension of carbonic acid in the sea-water to prevent its escape, but there is always enough of base in the sea-water to seize hold of the carbonic acid the moment it is formed. If we could get rid of the carbonic acid of the air of expiration as easily, we could live in an atmosphere containing a much smaller percentage of oxygen.

I have now placed before you the generally accepted doctrines regarding the chemical and physical problems of respiration. But one has only to examine them closely to find that there are still many difficulties in the way of a satisfactory explanation of the function. For example, is the union of hæmoglobin with oxygen a chemical or a physical process? If oxyhæmoglobin is a chemical substance, how can the oxygen be so readily removed by means of the air-pump? On the other hand, if it is a physical combination, why is the oxygen not absorbed more in consonance with the law of pressures? It is important to note that, as a matter of fact, hæmoglobin absorbs a quantity of oxygen nearly constant for ordinary temperatures, whatever may be the amount of oxygen present in the mixture of gases to which it is exposed. This is true so long as the amount of oxygen does not fall below a certain minimum, and it clearly points to the union of the hæmoglobin with the oxygen being a chemical union. Suppose we diminish the amount of oxygen in the air breathed, the partial pressure of the gas is of course also diminished, but it is evident that we might diminish the total pressure instead of diminishing the amount of oxygen. To avoid difficulties in respiration, when one is obliged to breathe an air deficient in oxygen, we ought to increase the pressure at which the air is breathed; and, on the other hand, to avoid danger in breathing air under a low pressure, we ought theoretically to increase the richness of the air in oxygen. Thus, with a pressure of 760 mm. the air should contain, as it normally does, 21 per cent. of oxygen, while with a pressure of 340 mm. it should contain 46 per cent., and with a pressure of 250 mm. it should contain as much as 63 per cent. On this basis a pressure of 5 atmospheres should be associated with an atmosphere containing about 3 per cent. of oxygen. By increasing the pressure, we increase the quantity of oxygen by weight in a given volume.

The explanation is that in all of these cases the partial pressure of the oxygen is nearly the same—that is, not far from 157 mm. of mercury, and the general law is that for all kinds of breathing the pressure of the oxygen should be nearly that of the oxygen in ordinary atmospheric air. Whilst the absorption of oxygen by the hæmoglobin has nothing directly to do with the pressure, it is

striking that any atmosphere contains enough oxygen by weight for the hæmoglobin in the blood, when the partial pressure of the oxygen is near 157 mm. On each side of this median line life can be supported with considerable differences of pressure. Thus the pressure may be gradually reduced until the point of the dissociation of oxyhæmoglobin is reached—that is to say, down to from $\frac{1}{10}$ to $\frac{1}{30}$ of an atmosphere. On the other hand, animals may breathe an atmosphere containing two or three times the normal amount of oxygen without appearing to be affected. This was first noticed by Regnault and Reiset, and the observation has been much extended by Paul Bert. The latter distinguished physiologist found that an increase even up to 8 or 10 atmospheres did not produce any apparent defect, but on reaching the enormous pressure of 20 atmospheres, death, with severe tetanic convulsions, was the result. He also showed that the additional increment of oxygen absorbed by the blood under the influence of each atmosphere of added pressure was very small. Thus, with a pressure of 1 atmosphere the amount of oxygen absorbed by the blood was about 20 per cent. by volume; a pressure of 2 atmospheres caused an increase of only 0.9 per cent., of 3 atmospheres 0.7 per cent., of 4 atmospheres 0.6 per cent., of 5 atmospheres 0.5 per cent., of 6 atmospheres 0.2 per cent., of 7 atmospheres 0.2 per cent., of 8 atmospheres 0.1 per cent., of 9 atmospheres 0.1 per cent., and of 10 atmospheres 0.1 per cent. Thus from 1 atmosphere to 10 atmospheres the increase was only to the extent of 3.4 per cent., so that the blood now contained 23.4 per cent. by volume instead of 20 per cent. These facts indicate that when all the hæmoglobin has been satisfied with oxygen it becomes indifferent, within limits, to any additional oxygen that may be forced into the blood under pressure, and thus the blood of animals breathing an atmosphere richer in oxygen than ordinary air is not more highly oxygenated than normal blood. The practical result also follows that it is of no use in the treatment of disease to cause patients to breathe an atmosphere richer in oxygen than ordinary air, because, at ordinary atmospheric pressure, no more oxygen can thus be caused to enter the blood, and if it be desirable to hyperoxygenate the blood, this can only be done by breathing oxygen, under a pressure of three or four atmospheres, in a chamber in which the body of the patient is subjected to the same pressure.

In this connection it is important to notice the enormous absorptive surface for oxygen presented by the red blood-corpuscles of man. There are about 5,000,000 red corpuscles in each cubic millimètre. Each corpuscle has a superficial area of 0.000128 square millimètres. Taking the blood in the body of a man of average size at 4.5 litres, that is 4,500,000 cubic millimètres, the number of corpuscles is about 22,500,000,000,000, and this would give a superficial area of 2,880,000,000 square millimètres, or 2,880 square mètres, or about 3,151 square yards—that is to say, the absorptive area of the blood-corpuscles is equal to that of a square having each side about 56 yards. The hæmoglobin in a red blood-corpuscle amounts to about $\frac{1}{3}$ of its weight. The blood of a man of average size may be taken at 4,536 grammes, or about 10 lbs. Such blood contains about 13.083 per cent. of hæmoglobin, and 4,536 grammes will contain about 593 grammes of hæmoglobin, or about 1¼ lb. As regards the iron, which is supposed to be an essential constituent of hæmoglobin, 100 grammes of blood contain 0.0546 gramme. It follows that the total amount, 4,536 grammes, contains about 2.48 grammes, or nearly 39 grains. Twenty-five minims of the tinctura ferri perchloridi contain about 1 grain of pure iron, so it will be seen that not many doses are required to introduce into the body an amount of iron as large as exists in the whole of the blood.

The absorption of oxygen, therefore, probably takes place as follows: the inspired air is separated in the alveoli of the lung by delicate epithelial cells and the endothelial wall of the pulmonary capillaries from the blood which circulates in the latter. The exchange of gas takes place through these thin porous membranes, so that the velocity of the transit must be practically instantaneous. As the oxygen is bound loosely to the hæmoglobin of the corpuscles, the laws of diffusion can have only a secondary influence on its passage, and only so far as it has to pass into the plasma so as to reach the blood-corpuscles. The plasma will absorb, at 35° C., about 2 volumes per cent., if we take the coefficient absorption of the plasma as equal to that of distilled water. Many of the blood-corpuscles of the pulmonary blood have just returned from the tissues with their hæmoglobin in the reduced state, and the latter at once withdraws oxygen from the plasma. In an instant more oxygen passes out of the pulmonary air into the plasma, from which the oxygen is again quickly withdrawn by the hæmoglobin of the corpuscles, and so on. It is interesting to note that, if the oxygen did not exist in loose chemical combination, it would only be absorbed, and its amount would depend on the barometrical pressure at the moment, and would follow each fluctuation of pressure through a range, say, of one-fourteenth of the total pressure. Such an arrangement could not fail in affecting health. If, on ascending a high mountain, say 15,000 to 20,000 feet above the level of the sea, the pressure sank to nearly one-half, the blood would then contain only half its normal quantity of oxygen, and disturbances in the functions of the body would be inevitable. High-flying birds, soaring in regions of the air where the pressure falls below half an atmosphere, would suffer from want of oxygen; but in deep mines and on high mountains men and animals live in a state of health, and the quick-breathing bird has a sufficient amount of oxygen for its marvellous expenditure of energy, because the amount of oxygen in the blood is independent of the factor which exercises an immediate influence on the gas contents of the fluid, namely, the partial pressure. Kempner has also proved that so soon as the amount of oxygen in the respiratory air sinks only a few per cents. below the normal, the consumption of oxygen by the tissues and the formation of carbonic acid also fall in consequence of the processes of oxydation in the body becoming less active.

It is a remarkable fact that, in certain circumstances, tissues and even organs may continue their functions with little or no oxygen. Thus, as quoted by Max Marckwald, in his work on the *Innervation of Respiration in the Rabbit* (translated by T. A. Haig, with introduction by Dr. McKendrick. Blackie and Son. 1888), "Kronecker and MacGuire found that the heart of the frog pulsates just as powerfully with blood deprived of its gases as with that containing oxygen, while the blood of asphyxia, or blood containing reduced hæmoglobin, soon stops its action."

Further, Kronecker has found that dogs bear the substitution of two-thirds to even three-fourths of their blood by 0.6 per cent. solution of common salt, and Von Ott withdrew 14-15ths of the blood of a dog, and replaced the same with serum from the horse, free from corpuscles. For the first day or two after the transfusion, the dog had only 1-55th part of the normal number of red blood corpuscles, so that it had only 1-55th part of its normal amount of oxygen. But this dog showed no symptoms except weakness and somnolency, nor did it suffer from distress of breathing, a remarkable fact when we consider that the blood of an asphyxiated dog still contains 3 per cent. of oxygen, and that it may show great distress of breathing when there is still 1-6th part of the normal amount of oxygen in its blood.

The conditions regulating the exchange of carbonic acid are quite different. We have seen that the carbonic acid is almost exclusively contained in the blood-plasma, the smaller part being simply absorbed, and the greater part chemically bound, a portion existing in a fairly firm combination with the sodic carbonate of the plasma, and another portion in a loose, easily decomposable combination with the acid sodium carbonate, and a third portion with the sodium phosphate. Carbonic acid is contained in air only in traces, and its tension in the air is almost nothing. The air contained in the lungs is not wholly expelled by each respiration, but a part of the air of expiration, rich in carbonic acid, always remains in the lung. It is evident, then, that by the mixing of the air of inspiration with the air in the alveoli, the latter will become richer in oxygen and poorer in carbonic acid. The air in the alveoli, however, will always contain more carbonic acid than atmospheric air. Pflüger and Wolffberg have found the amount of carbonic acid in alveolar air to be about 3.5 volumes per cent., therefore its tension will be $\frac{3.5 \times 760}{100} = 27$ mm. of mercury. The tension of the carbonic acid in the blood of the right ventricle (which may be taken as representing venous pulmonary blood), amounts, according to Strassburg, to 5.4 per cent. = 41 mm. of mercury, and is 14 mm. higher than that in the alveoli. Carbonic acid will, therefore, pass by diffusion from the blood into the alveolar air until the tension of the carbonic acid has become the same in the blood and in alveolar air. Before the state of equilibrium is reached, expiration begins and removes a part of the air out of the alveoli, so that the tension of the carbonic acid again becomes less than that in the blood. During the expiration and the fol-

lowing pause, the elimination of carbonic acid continues. This physical arrangement has the advantage for diffusion, that by expiration the whole air is not driven out of the lungs, for, if expiration had emptied the lungs of air, the diffusion would have ceased altogether during expiration and the following pause, and diffusion have been possible only during inspiration. There would thus have been an incomplete separation of the carbonic acid from the pulmonary blood. But as air remains in the lungs, the stream of diffusion between pulmonary blood and pulmonary air goes on steadily and fluctuations occur only in regard to its velocity.

Any account of the gaseous constituents of the blood would be incomplete without a reference to the ingenious theory recently advanced by Professor Ernst Fleischl v. Marxow, of Vienna, and explained and illustrated in his work *Die Bedeutung des Herzschlages für die Athmung: Eine Neue Theorie der Respiration*, a work distinguished alike by the power of applying a profound knowledge of physics to physiological problems, and by a keen and subtle dialectic. The author starts with the antagonistic statements that of all animal substances, hæmoglobin is the one which possesses the greatest affinity for oxygen, *or* that substances exist in the animal body which, at least occasionally, have a greater chemical affinity for oxygen than hæmoglobin possesses. If the tissues have a greater affinity for oxygen than hæmoglobin has, how is it that in the blood of animals that have died of asphyxia there is still a considerable quantity, in some cases as much as 5 volumes per 100 volumes, of oxygen? It is well known that the blood of such animals invariably shows the spectrum of oxyhæmoglobin. The tissues then do not use up all the oxygen of the oxyhæmoglobin, and they cannot, therefore, have a stronger affinity for the oxygen than hæmoglobin has. On the other hand, as the tissues undoubtedly seize hold of the oxygen, and rob the hæmoglobin of it, it would appear as if they really had a stronger affinity for the oxygen. There is thus a contradiction according to Fleischl v. Marxow, and it shows that our theories as to the ultimate chemical changes of respiration are not valid.

It might be objected at this point that the death of an animal from asphyxia, while oxygen still remains in its blood, is no proof that the tissues have lost their power of removing oxygen from oxyhæmoglobin. It only indicates that certain tissues, probably those of the nervous centres, require more oxygen than is supplied to them; and, therefore, this part of the bodily mechanism is arrested with the result of somatic death. Other tissues still live, and use up oxygen so long as their vitality lasts. At the same time, I am willing to admit that it is a striking circumstance that the nervous tissues stop working before they have exhausted every atom of oxygen in the blood.

But if tissues have, as all admit, an affinity for oxygen, and if, at the same time we grant, for the sake of argument, that this affinity is not strong enough to dissociate the oxygen from the oxyhæmoglobin, can we conceive any physical action which would, in the first place, perform the work of dissociation, and then present the oxygen to the tissues in a form in which they would readily take it up? Ernst Fleischl v. Marxow holds that he has discovered such an action or agency in the stroke of the heart. He founds his theory on some remarkable experiments, which may be readily repeated with an ordinary tight-fitting hypodermic syringe: 1. Immerse the syringe wholly in water, so as to exclude air. Place one finger over the nozzle, draw up the piston for about half the length of the syringe, and then suddenly remove the finger from the nozzle. The water will rush in, and gas will be given off in considerable amount, the water being quite frothy for a short time. This is what one would expect. 2. Then carefully empty the syringe of air and gently draw it half full of water; then place the finger on the nozzle and draw the piston up a little, so as to leave a vacuum above the water. In these circumstances a few large bubbles of gas will come off, but the water will not froth. 3. Empty the syringe thoroughly, fill it half full of water, raise it obliquely so that the knob at the end of the handle of the piston is above the water, strike the knob sharply with a piece of wood, using the latter as a mallet; then draw the piston up a little, so as to leave a vacuum above the fluid. You will now observe that so large an amount of gas is given off as to cause the fluid to froth. In this experiment, the percussion stroke has evidently altered the mode in which the gas escapes when a vacuum has been formed above it. These experiments may also be done by using a long barometer tube, with a stop-cock at one end, and an india-rubber tube communicating with a movable mercury cistern (a bulb) at the other. By lowering and depressing the bulb, a Torricellian vacuum may be formed, and water may be admitted, as with the syringe. Of the effects of percussion, in these circumstances, there can be no doubt, and the experiments are extremely interesting from the physical point of view. Fleischl v. Marxow holds that when gases are dissolved in fluids, the condition is analogous to the solution of crystalloids. If a fluid containing gas is shaken, more especially by a sudden sharp stroke, the close connection between the molecules of the fluid and of the gas is rent asunder, and the gas molecules lie outside and between the molecules of fluid. A shock, therefore, converts a real solution into a solution in which the fluid and gaseous molecules are in juxtaposition; and, if a vacuum is formed soon after the stroke, small bubbles of gas make their appearance more readily than if a stroke had not been given.

He then applies this theory to the phenomena of the circulation and of respiration. Starting with the query why the stroke of the heart should be so sudden and violent, when a much slower and more prolonged rhythmic movement would have been sufficient to keep up the tension in the arterial system on which the movement of the fluid depends, he boldly advances the opinion that it serves for the separation of the gases. The blood is kept in motion by a series of quick, sudden strokes, because, for the taking up of the oxygen by the tissues, and the elimination of carbonic acid by the lungs, it is not sufficient that the blood runs steadily through the systemic and pulmonary circulations; and, therefore, a short, hard stroke is given to it immediately before it enters the lungs and immediately after it has left the lungs. These strokes liberate the gases from a state of solution, and they become mixed with the fluid in a state of fine dispersion. This condition of fine dispersion is favourable for the elimination of the carbonic acid by the lungs, and for the using up of oxygen by the tissues.

Fleischl v. Marxow then proceeds to state that loose chemical combinations may also be dissolved by shocks, the gas passing into a condition of fine molecular dispersion, and that a quick repetition of the shocks prevents a recombination. As examples of such loose combinations, he cites oxyhæmoglobin and the compounds of carbonic acid with the salts of the plasma. It is here, in my opinion, that the theory fails from want of experimental evidence. There is no proof that shocks, such as those of the contraction of the right and left ventricles, can liberate gases from loose chemical combinations such as those with which we have to deal, and it is somewhat strained to point to the explosion of certain compounds excited by strong mechanical shocks or by vibratory impulses.

Some of the applications of the theory are very striking. For example, Fleischl v. Marxow suggests that asphyxia occurs before the oxygen has disappeared from the blood, because it is held by the hæmoglobin so firmly that the tissues cannot obtain it. Thus, suppose no oxygen is admitted by respiration. It is well known that all the blood in the body passes through the heart and lungs in the time of one complete circulation, that is, in about twenty seconds; and we have it on the authority of Pflüger that in this time one-third of the oxygen is used up by the tissues. According to the percussion theory, the stroke of the left ventricle arterialises the blood, that is, liberates the oxygen from the hæmoglobin, and this arterialised blood is carried to the tissues. The hæmoglobin does not get sufficient time to recombine with the oxygen, because of the successive strokes of the heart and the vibrating thrill kept up in the arterial ramifications. The free oxygen is used up by the tissues in the capillary circulation, to the extent of one-third. After leaving the capillaries, the two-thirds of oxygen again recombine with the hæmoglobin, and in this condition return to the heart, along with one-third of hæmoglobin that has lost its oxygen. In ordinary circumstances this one-third would again obtain oxygen from the alveoli of the lungs; but if all the oxygen there has been used up, of course it cannot obtain any oxygen. The blood flows from the lungs to the left ventricle, when it is again arterialised, and again sent out through the arteries; but as there is now a large amount of free hæmoglobin present in the capillary circulation, it will seize hold of a part of the oxygen, and the tissues will obtain less than the usual supply. With each successive circulation, the amount of oxygen available for the tissues will become less and less, until the tissues receive none, because all the oxygen set free by each beat of the left ventricle is seized hold of in the capillary circulation by the reduced hæmoglobin. The tissues die from want of oxygen, because there is too much reduced hæmoglobin present, a substance having a greater affinity for oxygen than the tissues possess, a result that would probably occur, as in drowning, in the time of six or eight complete circulations, that is, in three or four minutes.

Time will not allow me to refer further to this ingenious theory, which still requires the proof that such shocks as those of the heart can liberate gases from the compounds that exist in the blood. In my opinion, Fleischl v. Marxow exaggerates the importance of the shock, while he underestimates the evidence of the spectroscope, which always shows the spectrum of oxyhæmoglobin even in arterial blood drawn from the neighbourhood of the heart, and kept from contact with the air. Nor can I accept his statement that the force of the stroke of the heart is practically the same in all classes of warm-blooded animals, and one can hardly imagine that the feeble stroke of the left ventricle of a mouse would be sufficient to liberate the oxygen from the oxyhæmoglobin of its blood. Further it may be urged that the conditions of the experiments with the syringe are very unlike those of the circulation, more especially in the fact that the walls of the syringe are rigid, while those of the heart and vessels are yielding and elastic. Again, when an organ is supplied with a solution of oxyhæmoglobin from a pressure bottle, by a process of transfusion, the tissues will reduce the oxyhæmoglobin, and take up the oxygen without any kind of percussion action being brought into play.

Physiologists, however, cannot but treat with the greatest respect the experiments and reasoning of a physicist so able as Fleischl v. Marxow is known to be, and the theory will be thoroughly tested in every detail. I may be allowed to contribute an expression of deep interest in this brilliant speculation, and to say that I entirely agree with its author in accepting the suggestions of teleology in the investigations of such problems. While the rigid investigation of facts is no doubt one of the great methods of science, we must not forget that by asking questions as to the use or value of a particular physiological arrangement, we may obtain light as to the road along which investigations are to be pursued. This is the guiding star of Fleischl v. Marxow's speculation, and it has led him and other physiologists to scrutinise anew the theories of respiration now in vogue.

In this address we have had abundant evidence of the fact that physiology, in the solution of some of her problems, depends entirely upon the methods of chemistry and physics. The air-pump, the special advantages of the mercurial air-pump, the methods devised for collecting and analysing the gases of the blood, the spectroscope, have all contributed important facts to our knowledge of respiration. The narrative placed before you also illustrates in a striking manner the relation of modern physiology to the physiology of our forefathers. The latter were engaged in observing and explaining the more obvious phenomena, whilst the modern physiologists are pushing their researches further, and are endeavouring to study the hidden phenomena, which, like a second order, lie behind these. I need scarcely add that even the results of modern research are not to be regarded as final. Although we see a little further and more clearly than those who went before, there is still uncertainty as to fact and obscurity as to explanation in most departments of physiological science, and not least as regards the function of respiration. Enough has been said to show that in the study of respiratory mechanisms we meet with numerous examples of the same wonderful adaptation of organic structure to physical conditions as may be traced in the mechanism of the eye and of the ear. The structure of a lung or of a gill is just as much adapted for the play of the physical laws regulating gases as the retina is tuned to the vibrations of the ether, or as the organ of Corti responds sympathetically to the waves of musical tone.

List of Experiments in illustration of the Lecture.

1. Appearance of blood after having been shaken with carbonic acid.
2. Appearance of blood after having been shaken with hydrogen.
3. Appearance of blood after having been shaken with nitrogen.
4. Appearance of blood after having been shaken with oxygen.
5. *Fac-simile* model of Leeuwenhoek's syringe, by which gases were first demonstrated in the blood.
6. Absorption of ammonia by water.
7. Gases escaping from water in Torricellian vacuum.
8. Gases escaping from blood in Torricellian vacuum.
9. Spectrum of oxyhæmoglobin shown by electric light.
10. Spectrum of reduced hæmoglobin; the reduction effected by ammonium sulphide.
11. Spectrum of oxyhæmoglobin changing into that of reduced hæmoglobin by heating blood *in vacuo*.
12. Demonstration of a new gas pump for the physiological lecture table (Figs. 1, 2, and 3).
13. Demonstration of the use of Pflüger's gas-pump.
14. Collection of blood-gases and demonstration of the existence of carbonic acid and of oxygen.
15. Method, by use of thermo-electric piles with galvanometer, of observing thermal changes attending formation of oxyhæmoglobin.
16. Demonstration of Fleischl v. Marxow's experiments, not with a syringe, but with the fluid in a Torricellian vacuum so arranged as to receive a shock.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF SURGERY.

At the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By Professor GEORGE BUCHANAN,

Professor of Clinical Surgery in the University of Glasgow; Surgeon to the Western Infirmary; President of the Section.

The Tendency of Modern Surgery.

In welcoming the members of the Surgical Section to this great meeting, my first duty is to express my sense of the honour conferred on me by my appointment as President of the Section. I attribute it in no small degree to the fact that I hold the position of Professor of Clinical Surgery in this University, and it will be my earnest endeavour so to preside over your meetings as to conduce to your comfort and to the value of the large number of valuable contributions which are offered by the members. The position I now occupy I regard not only as an honourable one as a member of the Association, but personally I feel it as the fulfilment of hopes I indulged in long ago, in the early days of my professional career; for it may interest some of you, and especially those who were formerly students in Glasgow, to know that I am the first person who ever in Glasgow adopted the practice of surgery to the exclusion of all the other branches of medicine. Shortly after my return from the Crimea I devoted my whole time to the teaching of anatomy and the practice of surgery, which no one had ever done before. The professor of surgery of that day engaged in general and even midwifery practice, and the preceding professor was better known by his work on midwifery than by his surgical writings. Many of my compeers declared that it would be a great risk in Glasgow to endeavour to make a livelihood by surgery alone; but I adhered to my resolution, and soon afterwards was joined by Sir Joseph (then Mr.) Lister, who was appointed professor of surgery in 1860, and by Sir (then Dr.) G. H. B. Macleod, who began to teach surgery about the same time. So that the practice of surgery is now adopted by others who have obtained hospital appointments—I think to the advantage of the profession and the medical school.

Departing from this personal matter, no one who has had so long an experience as I have had can fail to be struck with the rapid strides with which the science and practice of surgery has advanced. My early years as a student are associated with the introduction of anæsthetics, for I was the first person in Scotland who was made insensible to pain by the inhalation of ether—an experiment I performed on myself. From that date to this the development of surgical pathology and practical surgery has been enormous. In the year 1874, when I was appointed professor of clinical surgery, I gave an address containing a *resumé* of the surgical advances within my own experience, and possibly this might have been a suitable occasion to continue the review up to the present day; but it is not the part of the President of a Section to occupy time in that manner, especially in presence of such an *embarras de richesses* as our programme contains. I shall content myself with stating that quite recently I got my former address reprinted for the use of my students, and those members who desire may have a copy for perusal at some leisure time. But, while my inclination coincides with the hint I got from the President of the Council and the President of the Association, I shall in a few sentences express what I conceive to be the tendency of modern surgery—that is, within the last thirty years. I think that period more than any previous one has been characterised by scientific research, and has profited by the investigations of pathological histology.

It may seem a little late in the day to refer to antiseptic surgery as one of the advances of the present time, but it is not out of place to do so in this University, where the principle was first enunciated, nor at this meeting where Sir Joseph Lister was expected to be present. It was while he held the chair of surgery here, from 1860 to 1869, that he made those observations by which the germ theory of putrefaction was established, and which culminated in the antiseptic treatment of wounds. Many have been the varieties of the substances used as antiseptic dressings, and many the methods of using them; some things at one time considered essential are now discarded; but the experiments and observations on which the system was founded are among the most ingenious and convincing of any in recent times.

The discovery in the later part of the period, which perhaps has caused most interest, is that of the bacillus of tubercle, not only because it shows the germ origin of a disease long believed to be constitutional, but because it betokens the probably similar origin of many allied affections, such as syphilis, cancer, etc. Of course a bacillus can only live in a suitable pabulum supplied by a peculiar constitution, so that it is to be considered only as an exciting cause acting on a predisposed part; still it is a newly discovered element of the pathological state, which must be taken into account in prophylactic as well as curative measures.

In pathological histology the researches into the local beginnings of cancer have greatly cleared the way for a more precise etiology than formerly; still it must be admitted that that dread disease still baffles the most skilful, both as to its origin and progress.

Recent events, which were and are of interest to us all, demonstrate to us how difficult is the diagnosis of malignant disease, even when discharges from the diseased surface are available for microscopic examination. How much more so when no histological examination is available till after the removal of the growth.

In operative surgery the advance has been no less remarkable. Operations on the head, chest, and abdomen are now daily practised, which twenty years ago would have been deemed unjustifiable. May I take the liberty, from my experience and from the position in which you have placed me, of saying that in some of these the limit of prudence has been reached, if not exceeded? Especially in cases of malignant disease, where it can be recognised, the utmost caution is required in determining for or against operation. And in this view it is not out of place to commend to your careful attention the views discussed by Mr. Butlin in his recent book *On the Operative Surgery of Malignant Disease.*

Gentlemen, I do not wish to take up your time with any further remarks. The executive of the Surgical Section co-operating with me have chosen, as the subject of general discussion, first, a surgical subject involving much interest to the physician as well as the surgeon—the operative treatment of suppurations in the chest. The other is more purely a surgical question—the operative surgery of club-foot. I trust that both of these subjects will afford ground for interchange of ideas between those who have experience of them. We have other papers of great value, and perhaps you will allow me to refer to one which vividly recalls to us that, though for practical purposes practitioners of medicine are divided into physicians and surgeons, yet the subject itself is one and indivisible. I allude to the paper to be read in the Surgical Section by the distinguished President of the Royal College of Physicians of London.

Before beginning the business of the Section I wish to call the attention of the members to the opportunity they have of examining the Pathological Museum bequeathed to this University by Dr. William Hunter, the brother of the still more celebrated John Hunter. Unfortunately, the circumstances of this University have not enabled the Senate to appropriate a place to this collection worthy of its value or of its founder; but though the room is not very easily accessible, they are sufficiently well seen to prove of interest to all who desire to see the starting-point of the great Hunterian collection in the College of Surgeons, London. I have also to state, on behalf of my fellow-surgeons in the Western and Royal Infirmaries, that every facility will be given to members to visit these institutions. The regular visit hour is 9 A.M., but arrangements can easily be made for admission at other hours. I have now to declare the Section open.

THE Italian Society of Obstetrics and Gynæcology will hold its fourth meeting at Naples from September 3rd to 8th.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF OBSTETRIC MEDICINE,

At the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

BY THOMAS MORE MADDEN M.D., F.R.C.S.ED.,

President of the Section; Obstetric Physician to the Mater Misericordiæ Hospital, Dublin; Ex-President of the Obstetric Section, Royal Academy of Medicine; Physician to St. Joseph's Hospital for Sick Children; Formerly Examiner in Obstetrics and Gynæcology at the Queen's University, etc.

RECENT PROGRESS IN OBSTETRICS AND GYNÆCOLOGY.

GENTLEMEN,—I gratefully appreciate the honour of my election to the Presidency of this important section of the British Medical Association, which I regard as a compliment to the Dublin School of Midwifery, with which I have been long connected, rather than as one offered to an individual otherwise so unqualified for the distinction as myself. I must therefore trust to your continued indulgence for condonance of any shortcomings observable in my attempt to discharge the duties now entrusted to me.

The present meeting of the Association should, I think, be especially valued by the members of this Section: for it is to Scotland and to the genius of her sons that the twin sciences of obstetrics and gynæcology, which we are here met to cultivate, owe their earliest development in Great Britain; and to a large extent their recent progress is traceable to the same source.

Long before there was any systematic teaching of midwifery, either in Dublin or in London, and fully twenty years before the foundation in the former city of the great maternity hospital (on the staff of which I served my apprenticeship to the obstetric art), a Professorship of Midwifery was in 1725 established in the University of Edinburgh. And I have had in my possession the ancient manuscript notes of the obstetric course delivered there in 1756 by Professor Young, as well as of the lectures of Dr. Hamilton, by whom he was succeeded. From that time the obstetric teaching of the Scottish schools has come down in an unbroken continuity of excellence to our own day, and its character has been amply maintained by the reputation of their alumni. Thus it was to William Smellie, a native of Lanarkshire, that our professional forefathers owed a *System of Midwifery* which was as far in advance of any that had preceded it as the obstetric science of these last twenty years of the nineteenth century has progressed beyond that taught by Smellie in 1752. To the same writer is more especially due the credit of the first real improvement on Chamberlen's original forceps, as well as directions for using that instrument, as he said, "on rational and mechanical principles," which even yet might be studied with some advantage by modern obstetricians.

It was in this country also that the mind of William Hunter received its early training in that obstetric art which he afterwards so succesfully cultivated and practised in London, and of which he there became the most distinguished of all its older British teachers. Nor even in this brief retrospect can it be forgotten that in the city wherein we are now assembled, modern intraperitoneal gynæcological surgery was first anticipated in 1701, by Dr. Houstoun, in the curative treatment of an ovarian tumour by abdominal section. Moreover, a century later it was to another Caledonian surgeon, Mr. Lizars, of Edinburgh, whose early ovariotomy cases were published in 1825, that the revival, although in a very different and improved form, of Houstoun's first laparotomy operation is mainly due. I shall not follow further the long history of the obligations of our art to the older Scottish school, or pause to offer my humble tribute of respect to the memory of the late Sir James Simpson, whose name should be recalled as long as suffering seeks relief in anæsthesia, and as long as obstetrics and gynæcology are cultivated. Nor need I here refer to the services to our branch of medicine of Dr. Matthews Duncan, who, at the last meeting of the Association in Edinburgh, filled the position which, *longo intervallo*, I now for a brief space occupy; or allude to the well-recognised obstetric or gynæcological work of Dr. Leishman and Dr. Keith, and that

accomplished by so many other no less distinguished living Scottish authorities.

Whilst willingly acknowledging how much we thus owe to Scotland, I cannot omit a briefer reference to the similar services of the Dublin school, although the credit of not a few of the advances that originated there has been elsewhere appropriated. Thus, for instance, the employment of version as a substitute for version as advocated by some modern German and English writers, was first suggested in 1752 by Sir Fielding Ould, the second Master of the Dublin Hospital, and was there revived a century later by the late Dr. M'Clintock, whose genius, erudition, and obstetric skill entitle him to remembrance even in our most oblivious of professions. In like manner the management of the third stage of labour, by the method which is claimed as his own in the late Dr. Spiegelberg's recently translated *Textbook of Midwifery*, is practically almost identical with that followed in the Rotunda from time immemorial, as described several years ago in my edition of *The Dublin Practice of Midwifery*. The resuscitation, moreover, of the use of the forceps, the prophylaxis of *post-partum* hæmorrhage, and many other improvements in the management of childbirth and the puerperal state, the introduction of which is claimed elsewhere, have, I may repeat, also emanated from the same practical school of midwifery.

The foregoing reference to the historic claims of the ancient Scotch and Irish centres of obstetric science might be readily expanded. Time, however, forbids my further trespassing either in this way or by any allusion to the better known services of the early fathers of English midwifery, such as Raynald, Willoughby, Harvey, Cook, Chamberlen, Chapman, Giffard, Denman, and the host of other pioneers of obstetric knowledge, many of whose lives and labours are so well chronicled in Dr. Aveling's erudite *Biographical Sketches of British Obstetricians*. I shall therefore devote the remaining portion of this address to the more practical consideration of the results of some of the recent developments of obstetric and gynæcological science.

The Progressive Improvement of Midwifery Practice has been strikingly evinced during the past few years. Thus the pathology and preventive treatment of intra-uterine death and abortion have been freed from much of their former obscurity and difficulty by the recent writings of Dr. Priestley. The prevalence of puerperal septicæmia by epidemic outbursts—by which in my earlier days I have seen the crowded wards of a great maternity hospital decimated—has been largely diminished by the hygienic and antiseptic measures now adopted for its prevention; whilst, if septicæmia should still occur, we are now armed with more scientific means for the curative treatment of this disease, which some years ago was generally classed amongst the incurable *opprobria* of our art. In like manner, by the adoption of improved methods for the prevention and treatment of *post-partum* hæmorrhage, that once frequent source of obstetric mortality has been almost completely removed. At the same time the throes and pains of labour have been rendered more endurable by the employment of comparatively safe anæsthetics, such as the mixture of two parts of ether and eau de Cologne with one of chloroform, which for nearly twenty years I have found a generally efficient and agreeable anæsthetic in such cases. Moreover, by more judicious instrumental assistance we may now in many instances safely abridge the duration of that formerly often long-protracted period of parturient suffering which, when a student, I have often seen allowed to continue unrelieved for forty, fifty, or even for eighty hours and upwards.

Lastly, the former appalling frequency of child-destroying operations has been reduced in an exact proportion to the increasing employment of the forceps. Nor have the limits of the utility of this instrument as a substitute for the cephalotrite, craniotomy forceps, cranioclast, *et hoc genus omne*, been even yet fully reached. The main reason why any embryotomic instruments are still included in the ordinary obstetric outfit appears to be that the compressive power of the long forceps is not sufficiently recognised generally, and also the fact that most midwifery practitioners rely exclusively on some one form of forceps, whether the head be above or within the pelvic cavity, and without reference to the kind of mechanical power—tractile, lever, or compressive—that may be specially required in each case. Desirable as it may be to carry as few implements as possible in the obstetric bag, it is, nevertheless, impossible to combine in any one instrument properties so distinct as those referred to. In operative midwifery there should be some definite proportion between the power employed and the resistance to be overcome. Hence, it seems to me about as needless to resort to an instrument of such compressive and lever power as the double-curved long forceps to assist delivery in an ordinary case of delay in the second stage as it would be to employ a steam hammer to crack a walnut.

I have endeavoured to carry out these views in the two instruments now exhibited, which have been considerably modified and, as I think, improved, in the course of experience, since I first demonstrated the use of their original models. The first (Fig. 1) is a short, straight traction forceps, the blades of which are only six inches in length, and are so curved as to fit the fœtal head very exactly, and so widely fenestrated as to allow the scalp to protrude when applied, and thus protect the maternal passage during extraction. This instrument, as may be seen, is very portable, and, locking readily, is easily applied, and being, moreover, a really efficient tractor, may be employed, as I have found in my own practice, in nine-tenths of the cases in which any instrumental assistance is required—namely, those in which delay arises simply from inertia in the second stage of labour.

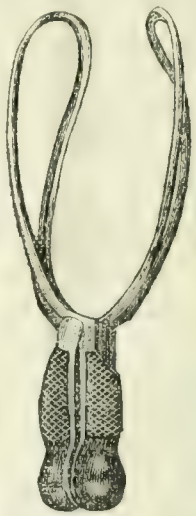


Fig. 1.—DR. MORE MADDEN'S SHORT MIDWIFERY TRACTOR.

The second instrument (Fig. 2) shown is intended only for cases of difficulty from disproportion or pelvic flattening. The blades are, therefore, of considerable length and strength, and are approximated by a powerful screw, by which the amount of compressive force exercised may be exactly regulated. The appended traction rods are closed or separated by a novel and simple mechanical arrangement. They can be applied to any other forceps, and include in their handle a case for hypodermic syringe and discs. This instrument, as will be seen, is not only a tractor and lever, being convertible at will into a short forceps by removal of the compressing handles, but in its entirety, where these are affixed, is moreover a compressor of great power, by which the fœtal head may be gradually moulded out or compressed, within the limits of viability, so as to admit of delivery through pelves from which living children could hardly be otherwise extracted. I need hardly add that such an instrument requires caution and skill in its use, and should be employed chiefly as a substitute for embryotomic implements.

Recent Progress of Gynæcology.—The development of this branch of medicine since our Association last met in Scotland has been still more remarkable than that effected in the practice of midwifery during this period. Thus, for example, only a few years ago many of the most frequent forms of endo-uterine and peri-uterine disease were beyond the diagnostic and remedial reach of gynæcologists, then unprovided with any efficient means of rapidly and thoroughly dilating the cervical canal, or with those other methods of direct investigation by the aid of which every well-educated practitioner may now recognise and treat utero-ovarian, tubal, and other intra-peritoneal and pelvic complaints that previously baffled detection or treatment. Nor in those pre-antiseptic days could have been anticipated the wonderfully successful results since realised from laparotomy operations, and more especially ovariotomy, as well in some still more recent developments of

intraperitoneal surgery, in tubal and other diseases, including tubercular peritonitis and cancer of the uterus—the latter a subject which has been ably elucidated in Dr. J. Williams's Harveian Lectures. In the last-named cases, however, it is a very debatable question whether we should persevere further with the intraperitoneal method for the removal of the uterus introduced by Freund, in view of the better results obtained from the vaginal method advocated by Dr. Martin, of Berlin; and also whether, in the latter case, the operation should be limited, as recommended by Dr. Braithwaite, to the removal of the cancerous portion, and not be extended to the extirpation of the entire uterus.

Only within the time referred to has the general correctness of Dr. Graily Hewitt's views with regard to the importance and treatment of uterine displacements and flexions become commonly accepted. Neither were the symptoms and appropriate treatment of ovarian displacements understood until a more recent period, when attention was directed to them by Dr. Barnes's able paper on this subject in the *American Journal of Obstetrics* and in a minor degree, perhaps, also by a memoir of mine on the same topic in the *Transactions of the Irish Academy of Medicine*. Nor is it so very long since the bearing of cervical lacerations on pelvic pathology, as first demonstrated by Dr. Emmet, of New York, has become recognised in this country. Finally, the diagnosis, importance, and curability of diseases of the uterine appendages, such as hydro- and pyo-salpinx, together with many other of the causes of female suffering and death, were practically ignored by gynæcologists until within the recent period now referred to.

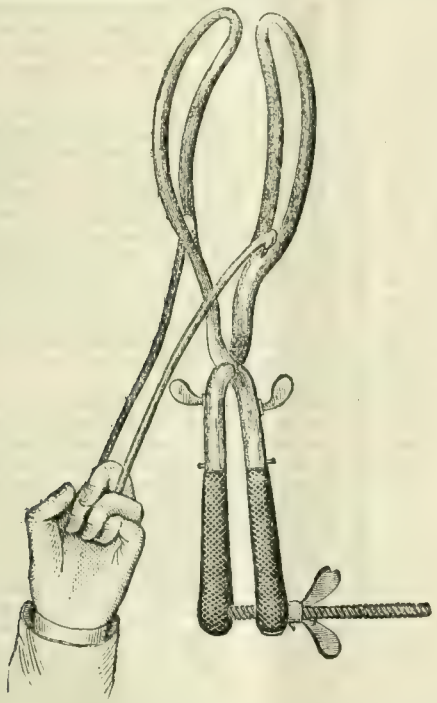


Fig. 2.—DR. MORE MADDEN'S COMPRESSING DOUBLE FORCEPS

Influences of Prejudice and Fashion on Gynæcological Progress.—In the history of many of the successful developments of gynæcology just alluded to we may observe proofs not only of the progress of our own art, but also of two of the causes which have temporarily retarded its advancement. The first is the opposition generally offered in matters medical, as in most others, to all innovations, and the consequent reaction by which the pendulum of professional opinion is swung back from one extreme to the other, exaggerated over-estimation thus generally succeeding to earlier adverse prejudices. The second is the potent influence of fashion on medical opinion and practice; for strange as it may be why this should be the case it is nevertheless true that:—

> In physic as in fashion we find
> The newest is ever the rage of mankind.

This is strikingly illustrated in gynæcological practice, in which it now seems almost as much the fashion to ascribe all obscure female complaints to ovarian and tubal disorders as a few years ago it was to attribute similar ailments to uterine flexions and displacements; or, as ten years earlier, it was the mode to credit them to chronic inflammation, and what was then regarded as ulceration of the neck of the womb; or yet a century previously to set them down, in the phraseology of our professional ancestors, to "the spleen" or "the vapours."

Gynæcological Specialism and Woman's Place therein.—In this connection I may venture to observe that I cannot agree with those who are opposed to the admission of women into the practice of our department of medicine, for which their sex should apparently render them especially adapted. I can see no valid reason why any well qualified practitioner should not be welcomed amongst us. Nor does it seem fair, if there are women who prefer the medical attendance of their own sex, that in this age of free trade they should not be afforded every opportunity of exercising their discretion in a matter so personal to themselves. For my own part, I greatly doubt that, in these countries "the lady doctors" will ever replace the ruder sex in the general estimation of their sick sisters. But if not here, elsewhere at least there is unquestionably an ample field for female practitioners, and more especially in India and other Oriental countries, where millions of suffering women and children are fanatically excluded from the possibility of any other skilled European medical assistance. I therefore venture to think that such practitioners are fully entitled to admission into our ranks in the British Medical Association.

Laparotomy in Relation to Gynæcology.—Foremost amongst the proofs of modern gynæcological progress the most signal is that afforded by the results of abdominal surgery in the treatment of ovarian tumours, as demonstrated in countless cases at home and abroad, and in this country more especially in the practice of Sir Spencer Wells, Dr. Keith, Mr. Lawson Tait, Dr. Bantock, and numerous other specialists in this department of operative surgery, which not very many years since was so unjustly decried. Whether this should encourage the present frequency of resort to laparotomy in the various other intraperitoneal morbid conditions in which it is now advocated or not, is, however, another question, and one which, I think, may still be very advantageously reconsidered.

Treatment of Fallopian Tube Diseases.—With respect to the tubal diseases, to the operative treatment of which so much attention is now devoted, and which I have elsewhere discussed, I shall only here again observe that, whilst recognising the fact that in some instances of pyo-salpinx and hydro-salpinx the removal of the diseased uterine appendages affords the only available means of treatment, and fully appreciating the surgical skill by which operations for this purpose have been brought to their present perfection, I have not, in my own experience, found laparotomy operations by any means so generally necessary in such cases as they are apparently now deemed by others. On the contrary, I am confirmed by increasing experience in the belief that in some instances these tubal diseases, more especially in cases of hydro-salpinx, may terminate favourably without any surgical treatment, and, moreover, that in other cases such collections, whether purulent or serous, may be evacuated by cautious aspiration through the vaginal roof. Very recently I had again an opportunity of proving the advantages of this method of treatment in the case of a lady who, after many months of suffering, was sent to me from a distant country to have the affected uterine appendages removed, but whom I succeeded in relieving of her trouble, with the assistance of my friend Dr. Duke, by simply aspirating the Fallopian tube, and thus removing about ten drachms of fluid from the distended duct. I would therefore again urge the expediency of a fair trial of other less serious and, as I believe at least, equally effectual methods of treatment before resorting to the extirpation of the uterine appendages in these cases generally.

Operative Treatment of Uterine Tumours.—It would be impossible, within the limits of this address, to enter at length on the consideration of questions so large and so controversial as the general necessity for surgical interposition in the treatment of uterine fibromata. This topic, however, I am glad to see, will be brought before you during this meeting by those eminently qualified to speak on the subject. And I trust that in the course of the ensuing discussion some new light may be thrown on the comparative value of the various intra-peri-

toneal and vaginal surgical procedures advocated in such cases, as well as on the value of electrolytical treatment. With regard to the former, I may venture to repeat that in the majority of cases of interstitial and subperitoneal uterine tumours no active treatment whatever appears to me essential, inasmuch as such growths seldom if ever directly destroy life, and in many cases become arrested in their development and quiescent in their symptoms at the menopause, or may even possibly disappear altogether in the course of time. The latter event is, however, too exceptional to have much influence in determining the expediency of surgical treatment, and more especially that by oophorectomy, which is unquestionably called for in the case of fast-growing fibroids giving rise to otherwise uncontrollable urgent hæmorrhagic or pressure troubles, particularly when occurring in young patients.

With regard to hysterectomy, although exceptional cases may also be met with in which this procedure is necessitated, the average mortality that has followed its performance is such as to forbid its general employment as an operation of election in a disease the average mortality of which, when left to Nature, is so comparatively insignificant. Whilst as to myotomy, in view of its too common results, I can only repeat that it would appear to be a method by which a patient may be effectually removed from a tumour, rather than an operation by which a tumour may be safely removed from a patient.

Treatment of Uterine Fibroids by Electricity.—Although I have so nearly exhausted the allotted limits of this address, I cannot in this connection omit a few words in reference to the latest and apparently most promising of the methods available in the treatment of uterine fibromata, namely, that by electricity. Within the past year and a half I have had occasion to try this method in some ten instances in my hospital and private practice; and, so far as the arrest of hæmorrhage is concerned, the result was most satisfactory, the bleeding being thus arrested in six of these cases. With regard, however, to the cure of the disease by this treatment, the possibility of which in this way had been demonstrated by the experience of Dr. Apostoli and others, who had employed it on a larger scale, I can only say that whilst I have not as yet seen the complete subsidence of the tumour effected in any of the cases so treated by myself, in several of them its apparent bulk became distinctly diminished even after six weeks' or two months' treatment of this kind. It should, perhaps, be added that in all these cases I used Dr. Apostoli's original plastic abdominal electrode, the current used being, of course, unipolar, and acting directly on the growth by the intra-uterine pole, and was obtained from an ordinary twenty-celled Leclanché battery, of an estimated maximum current strength of 200 milliampères. In the first of these cases I employed the electrolytic negative current, but, after a little experience, I abandoned this, and in the subsequent cases used only the positive current, which, although non-energetic as a galvano-caustic, is far less liable to give rise to trouble, and, from its decided hæmostatic action, is more suitable to those cases of large hæmorrhage-producing tumours, in which alone this or any other active treatment seems to me generally necessary.

If, however, the results obtained by Dr. Cutter, and still more conspicuously those recorded by Dr. Apostoli from the employment of electricity, namely, permanent benefit in 95 per cent. of the cases of fibromata thus treated by him, should be confirmed, as I hope may be possibly the case, by the experience of those who are here about to discuss this disease, then we may well congratulate ourselves on having at last arrived within sight of the long sought-for safe and effectual curative treatment of uterine tumours.

In conclusion, Gentlemen,—it only remains for me again to thank you for the honour you have conferred upon me, as well as for the patience with which you have listened to this address; and I may venture to hope that you will agree with me in thinking that the foregoing summary of some of the recent developments of gynæcological science, imperfect as it is, affords a sufficient vindication of our branch of medicine from the aspersions which have been poured upon its followers. These advances and their results are surely more than enough to show at least that those by whom so much has been accomplished are engaged in no narrow specialism, but on the contrary, should rank high in that noble and ever progressive Profession of Medicine whose great objects are the prolongation of life and the relief of every form of human suffering.

BEQUEST.—Mr. Fleetwood Pellew Wilson, of Portman Square and of Wappingham Manor, bequeathed £2,000 to St. Mary's Hospital.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF ANATOMY AND PHYSIOLOGY.

At the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY JOHN CLELAND, M.D., LL.D., F.R.S.,
Professor of Anatomy in the University of Glasgow; President of the Section.

RATIONAL TERATOLOGY.

APPRECIATING as I do the honour conferred upon me in being asked to preside over this Section, I shall endeavour to comply with the request which has been issued that Presidents of Sections shall be brief in their opening remarks.

I am glad that in this Association there is a Section of Anatomy and Physiology, and I think it well that two subjects so closely allied that they are in many respects one should be dealt with together. Specialisation, though a good thing in its own place, is liable to go too far. It may be possible to find a surgeon who knows nothing of the medical conditions with which the surgical affections of his patients are complicated, and oculists who forget the constitutional causes in limiting and defining the topographic peculiarities of diseases of the eye; and in like manner it is possible to make too broad a distinction between anatomy and physiology. Yet you will agree with me that he is no all round physiologist who neglects any of the three subjects—anatomy, chemistry, and physics—forming the tripod on which physiology securely rests.

It is, moreover, mainly in its physiological relations that anatomy can claim a place at a meeting of a medical association, for, when most strictly human, anatomy becames most especially physiological. Structure, when not looked at purely physiologically, must be studied in its morphological relations, and these can only be established by embryology and comparative anatomy. Thus the true anatomist is carried far above the mere technicalities immediately useful to the practitioner, and anatomy asserts itself as the highest branch of biology; and, absorbed into the larger conception of the study of structure and functions of living bodies in all time, anatomy and physiology again united may boldly claim their place among the most ennobling pursuits that can engage the human faculties, and among the best suited to evolve them and liberalise the mind.

To you then, anatomists and physiologists, we in Scotland about to enter, as it seems, on an era of university reform—brave in its talk but perhaps too indefinite in its aims—look for support to give to natural science its proper place in the education of the country. We have educationalists who are incompetent to describe with accuracy the simplest object before their eyes, and philosophers with theories of the universe, but untrained to investigate or learn the phenomena which the world around them presents; and it is precisely because literature and philosophy are important, that this is a state of matters which ought not so to be. But, whilst I thus protest that it is pernicious and ignorant folly which fails to see that the *studium generale* of centuries long gone-by is no longer fit to be the *studium generale* of the universities of to-day, and that biology must take its place in the higher general education, as a branch of knowledge important to all, and not of a merely professional interest, I claim the attention of medical men particularly to the necessity, from a sanitary point of view, of having diffused among the community at large a greater acquaintance with anatomy and physiology. I cannot help thinking that parents would bring up their children better, that many lives of misery would be prevented, and that temptations to prurience would be taken away, were more accurate notions prevalent of the functions of the body and, within the bounds of reason and judgment, imparted to the young.

The neutral ground between anatomy and physiology is embryology. It is anatomical structure which is developed, and the development takes place by physiological processes. The examination of the specimens is mostly anatomical, while the means by which they are obtained belong more to physiological method. This is a study, the relations of which to medicine are often very imperfectly appreciated, and yet by it alone can we hope to understand the nature of anomalies and monsters. Disease, after the

organs of the body have been completely formed, may deface them and modify their appearance by changing the character of their textures and altering the nutrition of parts to the extent of great deformity; but similar processes of interference with corpuscular life taking place in the embryo before organs are completed, or at a period antecedent to their formation, must obviously have far greater effect on the structure of the body; and, in this circumstance, we have the great key to unlock the secrets of teratology. In point of fact it is time for scientific men to define teratology as pathological embryology. If, therefore, Sir William Aitken (himself formerly engaged in the teaching of anatomy in the University of Glasgow) should claim this subject for Section F, I must acknowledge the propriety of the demand, and can only excuse my interference on the plea that it has ever been the habit of the anatomist to give fatherly guidance to physician, surgeon, and pathologist alike; and for the same reason that we willingly receive in this Section communications on surgical anatomy, I intend, with your permission, directing your attention to teratology.

In every organism the internal hereditary properties are acted on by external circumstances. Every nucleated corpuscle is affected by the fluids, the temperature, and the other conditions to which it is exposed; and life is nothing else than the interaction of internal properties and external agents. In disease the ordinary sequence of events in tissues or organs is interfered with by the influence of irritations other or greater than they can bear. The tissues of the embryo have greater activity and potentialities than the tissues of the adult, and they are very dependent on constancy of surroundings, for example, on an even temperature. Thus, apart from direct evidence, which is abundant, there is an antecedent probability that disease may occur in the embryonic structure; and, if it does, it is evident that the masses of corpuscles implicated will not be left afterwards in the normal condition suited for developing into new organs; and, therefore, the organs dependent on these masses will either fail to be formed or will be abnormal. On the other hand, the circumstance that the early embryo is destitute of nerves and of a vascular system to bring its parts into connection, and consists wholly of sheets of corpuscles, favours the simplification and localisation of the effects of irritation; and in this I do not doubt we have the explanation of the fact that grave abnormality of important parts may accompany a perfectly healthy condition of the rest of the body. Not only do we find such minor affections as hare-lip and cleft palate in children who grow up to be well developed men, but it is not very uncommon for an anencephalus to be born at full time with trunk and limbs as sound and large as in a perfectly formed infant; and even when the diseased condition has involved the whole length of the cerebro-spinal axis, so as to produce complete rachischisis or open spina bifida in combination with the anencephalus, the deformity of the trunk is merely the result of the spinal column having been rendered, by increased density in its early state, less expansive, so that it has refused to elongate, and has thus forced the sprouting ribs and enlarging viscera to accommodate themselves to their abnormal conditions, while their textures and growing powers have remained quite healthy. And here I may point out how instructive these cases of complete open spina bifida are in demonstrating the effects of alteration of pressure in changing the forms of parts. We meet with laminæ and transverse processes marvellously expanded, because freed from the normal pressure, subject to which they have the hereditary tendency to take the normal shape; and probably to the same cause may be referred the branching and coalescence of ribs and transverse processes, for which, in detail, it is often difficult to account.

But it will be said that all this has reference merely to abnormality by defect, and is inapplicable to double monsters. Not so. The law is really one throughout. The proliferation of the corpuscles of which the body is composed plays the most important part in defects of development. Proliferation is multiplication by division and the transmission of the characteristics of the parent to the offspring, and this is precisely what can be traced as taking place in all varieties of double monstrosity; for, instead of one embryo on an ovum, two completely separate embryos are sometimes found on one ovum, or an embryo partially divided; and we judge, therefore, that the essence of double monstrosity consists in the division of the embryo more or less perfectly into two parts, each of which inherits the properties of a complete embryo. Thus, in monstrosity by defect, the external irritation acts on individual corpuscles, affecting their proliferation as well as their other activities; while in double monsters it is the whole mass of corpuscles which is stimulated to unwonted proliferation. In fact, double monstrosity consists in the outbreak of proliferation at an unusual period, with consequences dependent on the greater or less perfection of the process; and this outbreak we may fairly impute to irritation, especially when we consider that double monstrosity is remarkably common in fish ova artificially impregnated, and in hen's eggs artificially incubated. The mode in which duplication of the embryo occurs admits of division into three varieties; it may extend from the cephalic end, in which case it may be conveniently termed abcranial; or it may extend forwards from the tail-end of the embryo, and may be termed abcaudal; or it may be both abcranial and abcaudal. To one of these three varieties every double monster may be referred; further variety being occasioned by the equal or unequal growth of the divisions of the embryo, their pressure one on the other, and, in the event of unequal growth of the divisions, the continued adhesion of the less to the more nourished division, or its separation by rupture to form an acormus or acephalus.

Besides double monsters, there is another form of anomaly by excess, referable to the same principle of increased proliferation—namely, polydactylism; for apparently the carpus and tarsus are the first parts of the limbs to be developed, while the elongated part of the limb appears subsequently as a peduncle, and the division into digits by the breaking up of the distal edge; and, considering the similarity of the digits one to another, it seems to me very probable that polydactylism is due to a cause similar to that by which an embryo may be divided, affecting the dactylogenic blastema. But this requires detailed investigation.

I must, however, await a more fitting opportunity for launching into the details of a reformed teratology. What I specially wish to point out at present is that, just as in the case of varieties of races, external influences modify the internal or hereditary tendency; just as in the nourishment of both plants and animals, modifications of the external conditions affect the configuration of both individuals and races; and just as, in disease, the external factor has a constant importance in accounting for aberration from health, so also, in the modification of the form of the embryo, it is to the operation of external agents not always easy to appreciate, that generally, if not always, the modification is to be traced.

The more that in detail we are able to trace all sorts of monstrosity to physical irritations acting directly on the tissues or the early embryonic mass, the more disinclined, I think, we shall be to believe in the curious stories, widely disseminated, of imaginations on the part of the mother affecting the form of the offspring. If we were the creatures of stray imaginings fleeting through the minds of our mothers, monstrosities might indeed be not only more frequent, but more various and more comical even than those depicted in the works of old writers. How easily mistakes may be made I may illustrate by showing you a common old Scotch chimney-piece decoration—the sixth cervical vertebra of a horse painted to represent a minister preaching. It was brought to me along with this anencephalous monster, to which it has a considerable resemblance, and got credit for producing the monster by attracting the mother's attention. But anencephalus is now so thoroughly investigated that we know that in this instance the minister was falsely accused. This case I consider specially instructive, for, were we as ignorant of the nature of monstrosities as once we were, the appreciable resemblance between the accused minister and the anencephalus might well be thought sufficient to support the accusation. But anencephalus is a subject which has received a large amount of attention, and I believe I shall be held warranted in saying that in my own memoir on the subject (*Journal of Anatomy and Physiology*, April, 1883) I have completed the chain of evidence which traces its origin conclusively to dropsy of the cerebro-spinal axis setting in at a very early period subsequent to the closure of the cerebro-spinal cylinder and obliteration of the communication of the primary optic vesicles with the brain. The principles on which Cyclopian and other well-known monstrosities are to be explained can in like manner be carried out with considerable precision; and when this is done it is possible even already to account in some measure for that curious constancy of type seen in different kinds of monstrosity, which attracts the attention of every investigator since Geoffroy St. Hilaire. I shall only add that not only does teratology, now that it is appreciated as depending on fixed laws, offer an interesting study in itself, but it is calculated to exhibit to the thoughtful biologist the operation of natural laws in unusual circumstances, and thus to throw light on the laws themselves, and

afford advances in biology which cannot otherwise be obtained.

A number of specimens illustrating such teratological work as I have been able to overtake since coming to Glasgow may be studied in the practical anatomy rooms by members wishing to consult them. I have there placed in such a position that they may be conveniently inspected during the meeting of the Association a large part of the anatomical collection prepared under my direction. I only regret that there is no accommodation at present for the permanent exhibition of museum specimens in such a manner as would enable the students attending the anatomical classes to profit by them. I live, however, in hope that a proper building will be provided before my interest in the chair shall terminate, that I may have the gratification of handing over to the University the whole of my private museum.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PATHOLOGY.

At the Annual Meeting of the British Medical Association, held in Glasgow, August 1888.

By Sir WILLIAM AITKEN, Knt., M.D., LL.D., F.R.S.,
Professor of Pathology in the Army Medical School, Netley;
President of the Section.

ON THE PROGRESS OF SCIENTIFIC PATHOLOGY.

To have been invited to preside over the Section of Pathology at this important annual meeting of our Association in this famous city, is, for me, a very great honour. And, in spite of an overpowering consciousness of inefficiency to discharge the duties of a president from sheer inexperience in such duties, I nevertheless accepted the position, because in the selection made by your Council I consider that a compliment has been paid to the Army Medical School at Netley, to which I have the honour to belong, not less than to myself.

Nevertheless, I feel the responsibility of venturing to follow those distinguished men who have year by year from this chair addressed the Sections in Pathology—men whose names are famous throughout the world for their genius, their talents, and their culture. But I am encouraged to undertake the duty believing that I can rely upon your indulgence and upon the able assistance of my friends who are associated with me as Vice-Presidents and Secretaries of the Section.

Personally, it is a great gratification to me to occupy this position, because of my previous connection with the ancient University of this great city, in which I had formed friendships that have never ceased to be, for me, a source of the most pleasant recollections. My remembrances of this University are of "long ago"—forty years ago—(1848), when I became associated as Demonstrator of Anatomy with one of its most distinguished professors—the late Dr. Allen Thomson—the memory of whose name must be ever cherished by the thousands of pupils he helped to teach, not less than by his colleagues, who are still left to add lustre to the University of Glasgow.

My first duty, therefore, is respectfully to acknowledge and to express thus publicly my personal appreciation of this distinction, and to thank the members of your Council for an opportunity of revisiting this ancient city under such auspicious circumstances.

I would here also speak a word of welcome, in the name of this Section, to our foreign friends, many of whom have come long distances to take part in its work. We feel highly honoured that men so distinguished in pathology should be with us to-day—men whose names are not only "familiar as household words" in their own country, but of world-wide reputation wherever pathology is studied as a science.

The object of the British Medical Association, throughout all its Sections, is "to promote the progress of medicine;" and in this respect its combined work may be said to have a practical rather than a purely scientific aim. But in this Section of Pathology (as a branch of biology) the Association finds a link which immediately connects it with the science side of medicine, as distinguished from the art or practice of our profession; and in the records of pathology, if we seek diligently, we shall find those maxims which will most safely guide us to the rational practice of our art.

But pathology must be studied as a branch of biology, in the widest acceptation of that term; and when medicine is thus thought of as a pure science, it implies a "pathology" which has no more necessary subservience to practical ends than zoology or botany. The logical connection between this purely scientific doctrine of disease or pathology and ordinary biology has been traced out by the master-mind of Professor Huxley, and expressed in these words: "Living matter is characterised by its innate tendency to exhibit a definite series of the morphological and physiological phenomena which constitute organisation and life. Given a certain range of conditions, and these phenomena remain the same, within narrow limits, for each kind of thing. They furnish the normal and typical character of the species; and, as such, they are the subject-matter of ordinary biology. Outside the range of these conditions, the normal course of the cycle of vital phenomena is disturbed, abnormal structure makes its appearance, or the proper character and mutual adjustment of the functions cease to be preserved. The extent and the importance of these deviations from the typical life may vary indefinitely. They may have no notable influence on the general well-being of the economy, or they may favour it. On the other hand, they may be of such a nature as to impede the activities of the organism, or even to involve its destruction. In the first case, these perturbations are ranged under the wide and somewhat vague category of 'variations;' in the second, they are called 'lesions,' 'states of poisoning,' or 'diseases;' and, as morbid states, they lie within the province of pathology. No sharp line of demarcation can be drawn between the two classes of phenomena. No one can say, for example, where anatomical variations end and tumours begin; nor where modification of function, which may at first promote health, passes into disease. All that can be said is that whatever change of structure or function is hurtful belongs to pathology. Hence it is obvious that pathology is a branch of biology; it is the morphology, the physiology, the distribution, the etiology of abnormal life. Henceforward the connection of medicine with the biological sciences is clearly defined, and pure pathology is that branch of biology which defines the particular disturbances of cell-life, or of the co-ordinating machinery, or of both, on which the phenomena of disease depend."[1]

Our first object, therefore, is to ascertain the laws under which organic bodies live in their usual healthy or normal course of life; on the other hand, we desire to ascertain how those laws come to be altered in an unusual, unhealthy, or abnormal course. When we attempt to do the first of these things, we are physiologists. When we attempt to do the second, we are pathologists;[2] and pathology may be still more concisely described in the words of a veteran and most distinguished pathologist—Sir John Simon—as "a study of the science of life under other conditions than those of ideal perfection."

As to the mode of working in pathology, it is essentially by research—a searching out of the secrets of Nature by experiments. And while such may be described as the very essence of practical pathology, we have also a speculative pathology (too apt at times to run rampant) in which we are constantly tempted to speculate on the nature and origin of diseases, from a most fascinating desire to understand and explain all that we observe. Hence we are tempted to speculate as to the intimate nature, the origin, and essence of the "morbid processes," we have more or less constantly before our eyes, even before we know what these processes really are. By such speculation we seek for and obtain what has been called "a good working hypothesis"—a theory of disease.

It is only through the agency of practical pathology that we are safeguarded from the errors inherent in all kinds of speculation, and in speculative pathology in particular. Theory and experiment, so long as they go hand in hand, help and check each other; and I think you will agree with me that there never was a time in which there has been greater activity than now in all kinds of pathological work, or more encouragement given to workers in pathology.

Your Association, under its excellent management, has greatly contributed to this activity by the far-seeing organisation through which it has sought to extend the area of original research: 1, by arrangements for the collective investigation of diseases; 2, by its grants in aid to members of the profession engaged in researches for the advancement of medicine and the allied sciences;

[1] *Science and Culture, and Other Essays*, by T. H. Huxley, LL.D., F.R.S., 1881, p. 328-345.

[2] *History of Civilisation in England*, by Henry Thomas Buckle, 1867, vol. iii, p. 410.

3, by the more recent creation of scholarships of research of the annual value of £150 a year, tenable for three years, at any of the suitable schools or laboratories of the British or Continental universities or medical schools.

In all our practical work in pathology we must ever keep in view that it was the great pioneers in physiology who opened its gates for pathology to enter in; and the names of Scheiden and Schwann, Kölliker, Bowman, Goodsir, Allen Thomson, Sharpey, Burdon Sanderson, and Schäfer are familiar to us as the great workers in normal histology. It is the faithful study of normal human histology in British medical schools during the past thirty years which has done so much to promote good pathological work in this country. The establishment of the "cell theory" in physiology was swiftly followed by a "cellular pathology" as its logical counterpart. But it is unquestionably to Virchow that we owe the great advance by which histology came to take a first place as an aid to elemental pathology; and from 1858, the date of the first appearance of his great work on *Cellular Pathology* we may regard as the opening of the present era of modern pathology. This great work, dedicated to John Goodsir "as one of the earliest and most acute observers of cell-life both physiological and pathological," put a new life into pathology. Thus, following in the footsteps of Goodsir, Remak, and other physiologists, it was as a physiologist that Rudolph Virchow gave this great work to the world—a general theory of the relation of the elements of tissue to disease. Starting from the discoveries of Schleiden in 1838 on the cellular structure of the vegetable tissues (which was afterwards put on a sure foundation by Schwann in its application to the animal tissues in 1839), it was shown how, in the cell, is the vital unit of all organised structures, how intimately its changes are associated with all the processes of organic life, both in health and in disease, with the development and maintenance of the tissues, and in all their functional reactions, whether normal or abnormal. In this work Virchow did ample justice to comparative pathology, and to the lessons to be derived from the study of morbid processes, even in plants—as in the comparison he makes of cell growth in the syringa to the proliferation of cartilage. To him, to Sir James Paget, to Pasteur, and to Bland Sutton we are mainly indebted for removing the stigma hitherto attached to us for neglecting the lessons in pathology to be learned from a study of the diseases of plants and animals. It has been found that the comparison of diseases in animal and vegetable life throws much light upon the nature of diseases of man, so that a true and comprehensive human pathology must have a basis in comparative pathology. Philosophers who have had no special acquaintance with our branch of science have been impressed with this truth. Buckle, for example, has thus expressed himself: "The best physiologists distinctly recognise that the basis of their science must include, not only the animals below man, but also the entire vegetable kingdom; and that without the commanding survey of the great realm of organic Nature we cannot possibly understand human physiology, still less general physiology. The pathologists, on the other hand, are so much in arrear that the diseases of the lower animals rarely form part of their plan; while the diseases of plants are almost entirely neglected, although it is certain that until all these have been studied, and some steps taken to generalise them, any pathological conclusion will be eminently empirical on account of the narrowness of the field from which it is collected."[3]

Sir James Paget, in recent years, has most of all helped to exonerate pathologists from this seeming neglect of comparative pathology. It was as a physiologist that he so eloquently expounded the doctrines of an "elemental" pathology at the general meeting of 1880, based on changes seen in the actual elements of the tissues, from numerous and elaborate observations on the diseases of plants—a pathology almost unstudied from a medical point of view—an elemental or cellular pathology, capable of explaining processes common to organisms which possess and organisms which do not possess a nervous system and a circulation, and of explaining those which take place in non-vascular parts, as distinguished from a pathology which refers everything to changes in the blood and to the action of the blood-vessels. And I may here further say that the continuous works of Sir James Paget (like those of Virchow) have marked epochs in English pathology, especially by the publication of his lectures on *Tumours* and those on *Surgical Pathology*, subsequently edited by Sir William Turner—lectures which are essentially those of the blood or vascular pathology, and recognising also inborn or hereditary constitutional disease; and now we have his elemental pathology of plant-life. In this latter direction Sir James Paget has not only indicated a new path in an attractive field of research, but has himself led the way.

[3] *Loc. cit.*, vol. iii p. 412, new edition, 1867.

Following in the footsteps of Sir James Paget, an important contribution to comparative pathology was published in 1886 by Mr. John Bland Sutton, as *An Introduction to General Pathology*, which shows that much information concerning disease in man can be gained by studying pathology in the lower animals, and that there is much community of disease in them and in man.

Such elemental pathology has been still further advanced by the researches of Mr. W. Roger Williams, Surgical Registrar of the Middlesex Hospital. In his recent work on *The Principles of Cancer and Tumour Formations* (1888) he reviews cell-multiplication and the phenomena of the more complicated types of reproduction, as well as the evolution of vegetable neoplasms. He next describes and discusses animal neoplasms. He lays great stress on the influence of evolution and the ancestry of cells in determining their growth. He thus studies cells in the lower animals and plants in order to compare them with the cells and their mode of growth which form tumours in man, and so proceeds from the study of cells to the study of tissues as combined in the structure of tumours.

The study of elemental cell-life has received a still more recent expansion and embodiment in a splendid physiological essay, *On the Modern Cell Theory, and Theories as to the Physiological Basis of Heredity*, by Professor John G. McKendrick, who gives the address in physiology on Friday next. This question of heredity is one of the most important, alike in physiology and pathology, and at the same time one of the most abstruse; for physiology has not yet opened its gates sufficiently wide to enable us to explain the well established facts of heredity, either as regards normal life, or as regards disease. Professor McKendrick has given a clear and condensed account of the various theories put forward in explanation of it in the light of our present knowledge regarding cells, nuclei, and protoplasm. But in discussing them he finds that not only are they still incapable of explaining all the facts, but to a considerable extent are merely restatements of facts already known. The ultimate problem is still mysterious, and will continue to be so, even if it should be possible in the far off future to trace it to the play of molecular forces; and Mr. Roger Williams notes the influence of evolution and ancestry of cells as of importance in pathology, and suggestive in a scientific point of view as to the hereditary transmission of diseases.

It has now been abundantly shown that all distinctions between physiology and pathology are fictitious and unreal—a position which (following from the teachings of Alison, Allen, Thomson, and Bennett, in Edinburgh; Henlé, in Germany; and Sharpey, in London) has been amply established in various addresses spoken at our Association meetings; notably, in August, 1873, by Professors Dr. George Murray Humphry, Dr. John Burdon Sanderson, the late Dr. Parkes in his address on Medicine; and still more recently in the admirable address of Professor Michael Foster, at the Cambridge meeting of 1880, when he discoursed *On the Relations of Physiology to Pathology*. These are the men who, in this country, above all other men, have done the most to bring physiology and exact inquiry to bear on our knowledge of disease and its treatment. They have shown that "the things we call pathological, are but the deeper strata of the healthy phenomena of life prominently thrust upwards to the surface; functional disturbances placed *en évidence*, by processes which we call diseased, morbid, or pathological, but which are governed and directed by the same fundamental laws which direct the normal processes of life—physiological laws." From this point of view, even physiological teaching is incomplete without the elements of general pathological science in its widest sense, including that of animals and plants; and for this reason, that "the tendency to decadence, disease, degeneration and decay, is just as much an integral part of the living economy as to development, growth, and maturity."

The study of dead matter in morbid anatomy can only guide us up to a certain point. It is living matter with which we have to do. Moreover, it is by the exact study of the phenomena of life, through the science of physiology, that we are able to bridge over the chasm between dead morbid anatomy and living pathology. Practical biology, chemistry, and experimental physiology, combined with the natural history and clinical observation of diseases, are the inseparable adjuncts for working out a scien-

tific pathology; and in proportion as this combined method of working has been recognised, so have been the advances in pathology. It was as a physiologist, working by methods purely physiological that Sir Joseph Lister carried out those remarkable researches which mark an epoch alike in medicine and surgery; on the one hand as regards inflammation, and on the other as regards the circulation of the blood; on which I shall have more to say presently.

As a physiologist Professor Foster has shown that there is but the most superficial distinction to be made between the normal and the abnormal, the healthy and the diseased. The physiologist and pathologist must go hand in hand. Their aims, their subject-matter, and their methods, are essentially the same. Both are building up sciences, partly by observation and partly by experiment. Both find a certain amount of material on which to operate in the every-day phenomena of life which present themselves without interference on our part, and which we call normal on the one hand, or abnormal on the other—the "'irruptive,' the 'explosive,' the 'troublous,' and sometimes the 'terrible' phenomena of disease—in Nature's own experiments."

"But the mere observation of Nature's phenomena of disease may be so few and far between, that a physiology and pathology founded on such observation alone is so slow of development, so uncertain, and with life itself so short, one may not live long enough to see Nature do the experiment which we ourselves might do to-day." A more rapid progress of science, impossible without experiment and at its best but slow, is demanded by human needs. Every student of medicine ought therefore to be well trained at an early period of his career in practical physiological experimental studies, so as to learn under simple conditions the methods and the means of which he may afterwards make use, so as to become practised in the solution of problems identical in their nature with those of disease; but of an easier type, because not overlaid, disguised, or obscured by the "processes of disease," which demand in the first instance a physiological interpretation. Pathology being thus essentially an experimental science, dealing with the same fundamental phenomena as physiology—using the same methods, working in the same spirit, and resolving in the end the same or analagous problems, a special training becomes necessary, which can only be obtained by the establishment of pathological laboratories, fitted up with the proper appliances, wherever researches in pathology are to be carried on. Such laboratories have been fitted up by the College of Physicians in Edinburgh, superintended by our able Secretary, Dr. Sims Woodhead; also by the College of Surgeons in London; at Cambridge, superintended by our Vice-President, Dr. Charles Roy; at Aberdeen, by Dr. Hamilton, and at Edinburgh, by Dr. Greenfield. But every school of medicine must take its share in this labour, if continuous progress is to be made in the science of pathology. Let but the pathologist follow in the footsteps of the biologist, and a great field of labour is open before him. He will go safely from the known to the unknown, guided by the brilliant lamp of the biologist, casting its rays from many luminous centres of light. "No serious advance is made in physiology which is not sooner or later translated into the language of pathology; and no really independent advance is made in pathology which does not either show itself to be in accordance with sound physiological doctrine, or compel the current physiological teaching to widen its doors and admit the new truth."

Professor Michael Foster further points out that the best test of a "new physiological doctrine is that, if true, it will in nearly every case, when properly applied, help to solve some hitherto insoluble pathological problem; and the best criterion of a sound pathological doctrine is that it will stand the ordeal of searching physiological criticism, and show itself in accord with the trustworthy results of independent physiological inquiry. And possibly no function of physiological science is more important than this—namely, of serving as a touchstone by which to try the value (whether true or false) of the pathological theories which flutter down on the pages of our medical literature, thick as the falling leaves of an autumnal day."[4]

In very recent years we have seen how pathology and physiology (human and comparative) have been helps to each other in establishing the doctrine that different parts of the cerebral cortex have different functions. Physiological experiment and the clinical observation of disease—Nature's own experiments—have combined to establish this fact; but it was only by dint of continued experimental inquiry that somewhat contradictory teachings were rectified through the combined experiments of Hitzig, Fritsch, Ferrier, Goltz, and Munck.

In like manner, through clinical observation and experiment a new pathological explanation has recently been given concerning the symptoms and mode of death in a particular class of cases after ovariotomy. Mr. Malcolm, one of the junior surgeons of the Samaritan Free Hospital, London, in a paper read at the Royal Medical and Chirurgical Society of London on October 25th, 1887,[5] has shown by clinical and *post-mortem* evidence how paralysis of the intestines and consequent death may result from exposure and manipulation of the abdominal contents during such an operation. His new explanation of the symptoms and mode of death in such cases is based on our knowledge of the minute anatomy and physiology of the muscular and nervous tissues entering into the structure of the intestines, and especially as a result of the experimental researches of Sigmund Mayer, Von Basch, Schiff, Landois, Nasse, Lister, and other physiologists, who have demonstrated that all kinds of stimuli brought to bear on the intestines produce increased activity, followed (if stimulation be sufficiently prolonged and strong) by paralysis of the muscular tissue of the wall of the gut, through Auerbach and Meissner's plexus of nerves. Intestinal obstruction follows as a result of this paralysis, and becomes a frequent cause of death.

We have every reason to believe, therefore, that "as in the past, so in the future, the truths of physiology will serve, on the one hand, as the starting point of pathological doctrine, and, on the other hand, as a tribunal before which each new pathological theory must be tested at its birth. Hence it becomes necessary that students of medicine should be trained early into good habits of physiological criticism—seeing that the physiological is the true pathological mind."[6]

Here, also, one might show how the altered relations of surgery to medicine, as set forth by Sir William Stokes[7] have tended to further the progress of pathology; and how, as Sir James Paget has shown, "scientific methods have been more fully brought into the study of the principles of our art than ever they were before, so that scientific knowledge has become welded with the lessons of experience." It has been very generally known for some time that a perfectly new surgical success has been won in England and in Scotland, of which as yet we are not able to measure the results. I refer especially to the operations of Dr. William Macewen, of this city, of which he will give an account to-morrow, and of Dr. Gowers and Mr. Victor Horsley, Mr. Godlee, and Dr. Bennett in London. At the concluding meeting of the Royal Medical and Chirurgical Society of London, held on Tuesday, June 12th, 1888, Dr. Gowers and Mr. Horsley detailed the facts of a case in which a tumour of the dura mater of the cord was successfully removed from within the bony canal, with complete recovery of the patient.[8] We shall get accustomed in time, no doubt, to the idea that, under proper conditions of precaution some tumours of the brain may be removed *en masse*, with the gain of life; and now but recently the spinal cord has been laid bare of part of its bony covering, in order that by the surgeon's knife it might be relieved of a tumour pressing upon it. The experiments by Professor Ferrier have now been amply justified both in this country, in France and in America; and with the evidence of the usefulness of experiments on living animals to the human race, it would seem to be a natural consequence that the restrictions under which these are now pursued in this country would be materially relaxed. "Knowledge itself is a benefit to mankind; and all knowledge wrested from Nature will sooner or later be turned to profitable account, both in the enlargement of man's intelligence and in the relief of man's estate. This is the broad ground on which experiments on living animals must in the long run be justified."[9]

Pathology, like physiology, in spite of the obstacles that block its path by original research and experiments in this country, and the restrictions which thus cripple its efforts, is still a progressive science; and many are the questions and theories of increasing interest and importance for us at the present time, questions and

[4] *On the Relation of Physiology to Pathology*, JOURNAL, August, 1880, vol. ii.

[5] Reports of Medical Societies in the medical journals of October 29th, 1887. The pathology of this form of paralysis has since been confirmed by the independent observations of Professor Olshausen (JOURNAL, May, 1888, p. 1073, also *Centralblatt für Gynäkologie*, January 7th, 1888).

[6] Michael Foster, *loc. cit.*

[7] The Cavendish Lecture *On the Altered Relation of Surgery to Medicine*, JOURNAL, June 19th, 1888.

[8] JOURNAL, June 16th, 1888.

[9] The *Times*, December 27th, 1884.

theories which may seem to be transcendental and useless. But relying on the abundant evidence of progress in the past, it may be predicted that the solution of these transcendental questions, or of problems equally beyond our ken in their present aspect, will become in time part and parcel of the known pathology of the future."[10] Living in the present we are often incompetent and always imperfect judges of the value in the future of scientific knowledge, or even of single facts; for every fact in science, wherever gathered, has not only a present value, which we may estimate, but has a living, germinal, potential value, of which none can guess the issue.[11] Let us aspire then to know everything; the limits will come later. In the human family the last to be born are the privileged ones. What a host of things they will know which we can never know! How many problems will be clear for them, the solution of which we would gladly purchase with many years of our lives, if we had them to give!

If I might now shortly indicate the direction in which the greatest advances have been made in pathology during the past thirty years, I should say it lay (1) in a better appreciation of the "processes of disease," (2) in an increasing importance attaching to the many factors which combine to produce disease. In other words, an ever-increasing importance attaches to morbid anatomy, physiology, and etiology.

As to Processes of Disease.—Morbid anatomy has discovered lesions and diseases before unknown, which clinical observation has been able to connect with the symptoms and functional disturbances associated with them, and which notify their existence. New processes of disease have been discovered, and older processes have been better explained and understood. Some pathologists have already accepted it as a fact that certain morbid poisons, the contagia of erysipelas, pyæmia, and tuberculosis, are intimately related to the common ferments of putrefaction; and that the most vehement of those contagia can be developed by the artificial culture of successive transmissions in the living body from the comparatively mild contagium of any common inflammatory process.[12]

Professor Burdon Sanderson's papers also show that the occurrence of tubercle (characterised by more or less well-marked features) may be derived by cultivation[13] from such a common inflammation as that induced by a chemical irritant. It therefore "concerns us to remember that apparently every common inflammatory process includes more or less of textural changes which are necrotic and of septic tendency."[14]

This doctrine of a common disorder acquiring specific power is not a new one, as I hope to be able to show.

Great and important changes in subjects connected with the doctrines of pathology and in morbid anatomy have been gradually brought about in recent years "by the accumulation of facts, and by the collection of truths inferred from facts by successive discoverers;" and so effectually will "truths continue to kindle light for truths."[15] The more prominent and interesting "processes of disease," alike in a scientific and practical point of view, which have in this way received greater elucidation during the past thirty years, may be here referred to. They are especially:—1. Those of Virchow, as regards the phenomena of thrombosis and embolism. 2. The pathological relations of blood pressure as an important factor in "disease processes." Ludwig, by applying the kymograph to the hæmo-dynamometer in 1848, enabled the pressure of the blood to write its own story; and as physiologists, appreciating its vascular mechanism, we have been better able to understand the conditions under which, for example, albumen may appear in the urine and again disappear, and how the excretion of urine may also be increased or diminished. Further, we are able approximately to determine the internal pressure which the blood is exercising on the walls of the capillaries and on the minute arteries and veins by studying and determining the effects of "peripheral friction" and "peripheral resistance." As physiologists, by a knowledge of "blood pressure," we can appreciate how some diseases of the heart and circulatory system are brought about; and in connection with investigations on "blood-pressure" I beg leave to connect the name of Dr. Roy of Cambridge, one of our vice-presidents. 3. I would name the phenomena of "inflammation," especially in the structural changes of the minute tissue elements and of the vascular phenomena. The results are in a great measure due to the experiments and observations of Sir Joseph Lister, Virchow, and his pupil von Recklinghausen, and to Cohnheim. They have especially studied the effects of irritation on the vascular and extravascular elements of the tissue; and their results show that in inflammation the functional, nutritive, and formative properties of the tissues are gravely and essentially implicated. They have shown that the process is one in which many phases of morbid action are passed through, finishing by the exudation not only of liquor sanguinis, but by the permeation of the walls of the blood vessels of the inflamed part by the white and red corpuscles of the blood into the surrounding tissue, and without rupture of the blood vessels. More than thirty years ago the beautiful experiments and observations of Sir Joseph (then Mr.) Lister, Professor of Clinical Surgery in King's College, London paved the way for appreciating the phenomena of inflammation as they have since been demonstrated. He clearly showed that a suspension of the concurrent exercise of function among the minute elements of the tissue involved is the primary lesion in the hyperæmia of inflammation. As a rule it precedes stasis, and immediately leads to such derangement of the blood that, in the vicinity of the impaired tissue elements, it tends to assume the same characters as blood always assumes when it is in contact with ordinary solid matter, and renders it unfit for transmission along the course of the blood-vessels. But a return of the tissue elements to their usually active state will be associated with a restoration of the blood to the healthy characters which adapt it for circulation.[16]

The distinguished German pathologist, Professor Virchow, has since taught us to distinguish two classes of inflammation, in one of which the changes consist in an increased nutritive activity, the implicated tissues themselves taking up a large proportion of nutriment. These he named "parenchymatous" inflammations as distinguished from the other form in which an increase of secretion occurs, and to which he has given the name of "secretory." The cornea and cartilages, the liver, the kidneys, the solid organs generally, and the connective tissue are subject to the first of these forms, while the mucous and serous membranes are commonly the seats of "secretory" inflammation.

In 1867 and 1868, Cohnheim described the transit or permeation of white and red blood cells through the unruptured walls of the capillaries. But the phenomena which Cohnheim described in 1867 had been discovered long before. That these observations had been disregarded so long is another striking instance of the want of appreciation at the time of a cardinal fact of which so many examples are to be found in the history of all sciences.

So long ago as from 1832 to 1842, Dr. William Addison, of Brighton, had perfectly described the emigration of the white blood cells, as well as many other phenomena which attended inflammation. His observations are to be found recorded in the *Transactions of the Provincial Medical Association* for 1842 (now worthily supplanted by THE BRITISH MEDICAL JOURNAL). In other writings he had already shown that white corpuscles not only accumulate in the vessels of inflamed parts, and adhere to their walls, but that they seem to become incorporated with the substance of the vessel, and to pass through it (without permanent solution of continuity) into the surrounding tissue, where they constitute the corpuscles of inflammatory lymph, pus or mucus. The red corpuscles act in the same way. Similar observations were independently made and recorded by Dr. Augustus Waller in vol. xxix of the *Philosophical Magazine*. But Cohnheim's observations went a little farther. He found that these corpuscles may even migrate to some distance from the vessel through which they have permeated, having a power of spontaneous movement by various changes of form, as by sending out processes, blunt or thread-like, to be again withdrawn and the spheroidal form resumed. Thus, by repetitions of these changes of form, the blood corpuscles change from place to place after permeating or passing through the walls of the blood vessels as a swimmer passes through a fluid without leaving a trace of his way. Cohnheim believed, as did Addison and Waller, that the white corpuscles become pus cells. Dr. Charles Williams, in his well-known work on the *Principles of Medicine*, was the first to appreciate the importance of Addison's discovery; but, with re-

[10] Professor Michael Foster: Address in Physiology in BRITISH MEDICAL JOURNAL, vol. ii, 1880.

[11] Sir James Paget, Bart: International Congress Address, JOURNAL, 1881, p. 196, vol. ii.

[12] Quain's *Dictionary of Medicine*. Art. "Contagion," by Sir John Simon, vol. i. p. 292.

[13] *Reports of the Medical Officers of the Privy Council for 1868 to 1877*, by Dr. Burdon Sanderson.

[14] Holmes's *System of Surgery*. Art. "Inflammation."

[15] *Lucretius*, Book I, 1600.

[16] *Royal Society's Proceedings*, June 18th, 1857.

gard to practical medicine, the discovery remained a dead letter, so that when Cohnheim reannounced the fact and redescribed the phenomena twenty-eight years later, it came as a surprise and a novelty upon the world of pathology.

Two important things have thus within the past thirty years been slowly demonstrated since Addison's observations on the phenomena of inflammation in 1832, namely, first, the yielding permeability of the soft, nucleated protoplasm which forms the walls of the living capillaries; and, secondly, the spontaneous amœboid movements possessed by the corpuscles of the blood. Professors von Recklinghausen, in Berlin, Burdon Sanderson, and Bastian, University College, London, have each confirmed these observations in more recent years.

Here, again, we have "a collection of truths inferred from facts by successive physiological discoverers," and the pathology of inflammation seems now to be settling itself on a mixed humoral and solid basis. The albumen in the blood which feeds the organs varies in its nature, and partakes of the quality of the food which supplies it, while it is also modified by the condition of the organs whose actions prepare it for introduction into the current of the blood. The composition of the blood-albumen is thus shown to vary much, and while degrees of nutritive adaptability may exist in it, it is possible that it may be sometimes so degraded as to justify the idea of crases, and may thus again give support to the doctrine of the Vienna school, that every disease implies a dyscrasia, and that alteration of the fluids, and especially of the blood, underlies most morbid changes. But it has now become clear that the main phenomena of nutrition (normal and abnormal) rest with the cells, and that a much larger interpretation must be given alike to the structure of the cell and to the physiology of cell life. To this extent the cellular pathology of Virchow has been a valuable generalisation, and it will be seen how all these recent facts have an important practical bearing on the modern treatment of inflammations.

In addition to the powers possessed by the leucocytes, of effecting a change of place and form, they have also been more recently shown to possess the power of removing foreign matters, combined with the power of "intra-cellular" digestion. The researches of Allman and Meschnikoff have helped to confirm the possession of this power by the cell, and to illustrate or explain also the occasional formation of giant cells in pathological formation. In this way some parasitic existences come to be destroyed by the action of living cells, and the cells which perform the function of eating up other living organisms have received the name of "phagocytes." No wonder they now and then become "giant cells—gigantic cells," and practically inflammation seems to be a struggle between irritant bodies and white blood corpuscles.

Fourthly, I would name the "processes of disease" associated with the condition of "fever" of which Dr. D. MacAlister, of Cambridge, and Drs. Maclagan and Ord, of London, are the most recent exponents in continuation of the expositions of Parkes, Liebermeister, Burdon Sanderson, von Pettenkofer, and Ringer. A rise in the temperature of the body is an essential factor in the condition of fever with which many others are combined. The increase of temperature being measurable, clinical thermometers have come into general use to determine the existence or the absence of this factor of the febrile state. Up to 1864, the thermometry of disease had no home in England. Up to that period we look in vain for records of temperature in the clinical history of cases of febrile diseases published in our medical journals. It was not till 1865 that the temperature of the body in disease began to excite much attention in the metropolitan hospitals.[17] It is, therefore, very gratifying to me to find that since the time when the subject was first expounded in any English textbook on medicine in 1863, the importance of the thermometer in the diagnosis, prognosis, and treatment of disease has become more and more apparent, and the use of the instrument more and more universal. We have ample evidence of this in the numerous contributions to the literature of the subject during the past twenty-three years in the pages of our medical journals, and in separately published monographs. Hence the thermometer is now as much a necessity as the stethoscope; but what it tells us is not always easy to interpret.

In 1863, the first attempt in this country was made to bring the subject of the thermometry of disease to the notice of the profession in a systematic treatise,[18] and so to give thermometric observation the place it ought to hold as an aid to the study of disease. In that year and in that work, "diagrams illustrative of the typical ranges of temperature in the acute specific and in other febrile diseases were given for the first time in a textbook." The author of that work was induced to do so from a belief in the great practical importance of the subject, and with the hope that it would lead those who had opportunities to add to our knowledge of febrile diseases in this direction.

The first registering clinical thermometers for general use in this country were made by the veteran philosophical instrument maker, Mr. Casella, under my directions. But in their first large size they were soon found to be too cumbrous for general use, hence the thermometer was in danger of remaining a stranger in the practice of our art. But the great advantages to diagnosis and treatment, both direct and indirect, which were demonstrated to follow from an accurate register of temperature in disease, and the expressed wants of many men in large practice very soon brought about a manufacture of accurate clinical thermometers sufficiently small to be carried in the waistcoat pocket. For this the profession is mainly indebted to the representations of Dr. Clifford Allbutt, of Leeds, so that Harvey and Reynolds of that town, Casella and others in London and elsewhere, now vie with each other in producing neat and efficient clinical thermometers.

It is not to be inferred from these statements that during the past twenty-seven years thermometry has been for the first time studied in connection with disease. There is, indeed, no better example of the truth "that the success of a discovery depends more upon the time of its appearance" than the value of the thermometer in the diagnosis of disease. In very early times it was known that those suffering from various diseases often presented marked changes of temperature. But this knowledge was never formulated, nor was its full meaning perceived until within the past thirty years. Many interesting thermometrical measurements were made by Sanctorius, as long ago as 1638; also by Boerhaave and Van Swieten, and by De Haen about 130 years ago; and, in more recent times, by John Hunter, Robert Currie, Benjamin Brodie, and others. There appeared indeed to be no reason why the prosecution of such researches might not then have continued to advance. But the period was not ripe for the work. Physics had not supplied instruments of the requisite precision and delicacy to be efficient. No rational idea of the essential meaning of the changes of temperature in disease could be entertained until the more general laws of heat were known, and until it was established that the human body is at one in its movements with the forces external to it, and until the laws of the generation of heat in the body, and its co-relation with the vital and all the other forces, were discovered and confirmed. It is this solidarity between the vast onward movement of modern medicine and that of the other sciences which has made, and is continuing to make, our science so seductive and inspiring a study when pursued for its own sake; and hence it is always able to draw some of the ablest men of the time into its ranks, with a highly cultivated education and training in the collateral sciences (Clifford Allbutt).

It was in 1851 that Traube, as a physiologist and physician, published in Germany the earliest systematised thermometrical observations of febrile diseases.

In this country the late Dr. Parkes was amongst the first to use the thermometer as a means of clinical instruction at University College Hospital. So early as 1853 he had made both thermometrical observations and urine analyses in fever, which so far confirmed those of German observers. In his Goulstonian Lectures on Fever, published in 1855, he then for the first time insisted upon and demonstrated the uses of the thermometer in clinical work. We point with pride to these researches, for by his investigations into the tissue-changes in febrile diseases he largely contributed to the extent and accuracy of modern doctrines. There were, indeed, few subjects in practical medicine which during his busy life he did not touch as a teacher and as an experimentalist; and there was no subject he touched which he did not elevate and adorn. His mind, graced by the possession of the imaginative faculty, tempered by culture and chastened by natural refinement, shines forth in its greatest perfection in these classic lectures, pregnant with suggestions for work still to be accomplished. Adopting the opinions of Virchow, Parkes showed how numerous febrile disorders are attended by variations of temperature, having a very intimate relation to the whole bodily processes. He showed, by original clinical observations, that in all fevers there is increased metamorphosis of tissue; and that this metabolism is

[17] *Lancet*, December 9th, 1865, p. 647.

[18] *The Science and Practice of Medicine*. By William Aitken, M.D., F.R.S., Professor of Pathology, Army Medical School, Netley.

effected through the agency of certain parts of the nervous system, and how increase of temperature is the most constant objective sign of the existence of fever.

In all respects medical thermometry during the past thirty years has been shown to be of increasing significance and importance. It gives us the most intimate knowledge we can have of the variations of functional balance. It is a most subtle indicator of disease; a most accurate measurer of conditions affecting the body whether in health or disease; but it cannot tell us whether the increased temperature is due to an increased production of heat, or to a diminished loss, or to both. Cotemporaneous with Dr. Parkes in this country, I would mention the name of Mr. (now Sir) John Simon, who in his erudite reports to the Privy Council on public health contributed largely to the development of the value of thermometry in disease. Thirty years ago, German students and physicians had been familiar with the uses of the thermometer; but with the exception of Mr. Simon and the late Dr. Parkes, and the pupils he taught in University College Hospital (and perhaps a few other distinguished hospital physicians), the usefulness of the thermometer in recognising febrile diseases had not been appreciated in the medical schools of this country. Even now, however, the thermometric observation of diseases is but yet a recent industry. If not still in its infancy, it is merely in its youth. Many interesting monographs have been written on it, while many physicians and general practitioners in the larger towns all over the world are at daily work with the thermometer, stimulated by the results set forth in the works to which I have referred. But as yet only one treatise has been published which deals adequately with the whole subject, namely, that of the late Dr. von C. A. Wunderlich, of Leipzig, published in 1868, twenty years ago. "It is a work which shows such perseverance and thoroughness, such caution and insight, such wide and minute learning and experience, that it has not only established this branch of investigation for the first time upon a deep and lasting basis, but it has built up the edifice to a great extent; and points out with clearness the directions in which future labour must be applied" (Dr. C. Allbutt).

One important distinction has gradually become clear from the use of the thermometer, namely, those high abnormal temperatures due to the specific fevers, as distinguished from those high temperatures due to lesions of the nerve centres. This distinction is the gradual outcome of the accumulation of facts, and the collection of truths inferred from facts by successive observers in recent years. In illustration of this we have (1) Sir Benjamin Brodie's case, in which inordinate elevation of temperature occurred upon a crushing injury to the cervical portion of the spinal cord. (2) There is the case which Mr. J. W. Teale, of Scarborough, communicated to the Clinical Society of London, in February, 1875, in which a temperature ranging from 108° to 122° F. had been maintained for a period of nearly nine weeks. The patient, thrown from horseback, had serious injuries to the spine and ribs. Three years and nine months after this injury, Dr. Teale informed me that the patient continued to suffer great pain in the back at times, when the temperature rises somewhat sharply. (3) Similar cases described by Dr. Donkin. (4) Those experiments on living animals in which different regions of the spinal cord have been accurately divided, causing increase of temperature. The most recent are those done by Dr. H. C. Wood, whose conclusions have been published by the Smithsonian Institution of New York. He found that sections of the nervous tract at the junction of the pons and medulla, by which the vasomotor centre is unaffected, lead to a large increase of heat production, which is independent of any change in the blood pressure or heart beats. But Dr. D. MacAlister has greatly extended our accurate knowledge of heat production, and the outcome of recent experiment is that fever consists in a greatly increased tissue metabolism, with simultaneous increase of temperature; the mechanism regulating the balance, the formation and the expenditure of heat being disturbed. The body is thereby incapacitated for doing mechanical work, so that the amount of potential energy transformed is almost all converted into heat. Hence the consuming or wasting character of fever. It has been shown that the production of heat is most abundant where the metabolic changes are most active, namely, in the voluntary muscles, and in the glands in part. Muscles are shown to have a double function, motional and "thermogenic," and in abnormal states the thermogenic function may become obvious withous the contractile function being exercised. The definite result of experiment further shows that a special nervous mechanism, including one or more nerve-centres in the cerebrum, control the "thermogenic" function in muscle. All agree in placing the chief heat centre above the pons—a localisation of fundamental importance, since it excludes any implication of the chief vasomotor centre in the upper part of the medulla. But precise localisation is not yet fixed.

The registration of local temperatures has more recently attracted attention, and with successful, because definite, results. The precise locality of cerebral lesions have been also thus determined by Broca and others, so that a positive value for local thermometry may now be accepted as an aid in making regional diagnosis.

Fifthly, I would mention the combination of many factors concerned with the process of local death, necrosis, and gangrene of tissues and parts. This is of great importance in connection with the occurrence of microbes in specific diseases.

Sixthly, the nature and extent of "the degenerative processes." Degeneration is a term unknown in our medical textbooks up till 1860. The microscope has since enabled us to discriminate various forms of degeneration, and to recognise especially (1) those which are simply the result of age, "from the cessation of the influence of that formative force which first builds up, then maintains existence, and then finally dies out, leaving behind a tissue or a structure of an organ worn out, effete, and useless." The general diffusion of such degenerations is characteristic of advancing age. They are of the nature of decay and death; so that parts of us are dying while we ourselves continue to live. Hence the name of "necrobiosis" which has been applied to them, because degeneration and death seem to be naturally brought about towards the close of our existence. In this respect it has been truly said that "as we begin to live, we begin to die." (2) The second great class of degenerations are those which are the result of disease. They are the slow but certain result of some excessively slight but continuous failure of some process in nutrition.

We are now able daily to recognise how fibroid, fatty, pigmentary, calcareous, atheromatous, and molecular wastings and degenerations, especially of muscular fibres, large and small blood vessels, of gland cells, of mucous membranes, of nerves and nerve centres come to complicate the more acute maladies, and largely increase their mortality both in medical and in surgical practice. Hence the probability of degenerations being present, not only in aged but in middle-aged patients, is at once an embarrassment in prognosis, and the existence of degeneration will oftentimes account not only for failure in treatment but for sudden death.

The mere separation of these degenerations from the substantive diseases which has been effected during the past twenty-eight years is regarded as one of the greatest advances in modern medicine. Such is the opinion of one of the most eminent physicians of our day, Sir William Jenner; and the recognition of them has very much modified our practice and experience in recent years, especially as regards the diagnosis and treatment of degenerative heart diseases, and certain forms of apoplexy.[19]

It must be admitted, however, that these degenerations are still diagnosed during life with great difficulty, except where the kidney or muscular substance of the heart is their seat; while the slow degenerations of the mucous membrane of the alimentary canal, and those of the various regions of the spinal cord, and nerve centres in the brain are still amongst the most puzzling of maladies. After death they can only be recognised in the affected parts by using the higher powers of the microscope. "In the means of detecting the presence and estimating the amount of these degenerations we have still much to learn; and a faithful analysis of the circumstances under which they have arisen, and a recognition of how they are to be avoided would confer a great benefit on the human race" (Parkes).

Seventhly, I would mention the processes connected with the formation of new growths, the processes of cell-multiplication, or cell-proliferation, the formation of tumours and their relation to embryology, their identification as "innocent" or "malignant," and the infective nature of malignant growths.

It was as a physiologist that Cohnheim, in his classical *Lectures on Pathology*, insisted on a wider conception of the subject of cell-formation and growth than had hitherto been given to these topics. A too exclusive, or rather an undue, importance had been attached to the "mere form of cells" and to mere alterations of structure. The tubercle corpuscle of Lebert, the cancer cell, the typhus cell, the giant cell, the microcyte, all have had their day as absolute criteria of particular diseases; and in all our microscopic work we have been too apt to bestow undue attention to

[19] *The Practical Medicine of To-day*, by Sir William Jenner.

visible changes apart from the more important vital processes which underlie these changes. But a reaction has set in, and it has now become the aim of pathologists to discover what structure, if any, is always associated with certain living conditions—with, for example, malignant properties. The researches in this direction during the past thirty years may now be summed up in the following results:[20]

1. There is no kind of structure absolutely characteristic of malignant growths.

2. It may be broadly stated, nevertheless, that malignant growths are nearly always heterologous or atypical in structure, and that typical or simple growths having such properties are quite exceptional, the only simple tumour at all frequently malignant being "lymphoma."

3. The great majority of malignant growths fall under one of two heads, either "sarcoma" on the one hand, or "carcinoma" on the other; the latter having, as a rule, more definitely malignant properties than the former.

But these results do not give a sufficient nor a convenient basis for practical rules of diagnosis. And here again physiology comes to our aid. As physiologists we argue from structure to properties by adopting the biological method in natural history. This method consists in arranging all morbid growths for purposes of classification and diagnosis according to their structure solely, and not according to properties, in the first instance. Having thus determined the systematic position and name of a growth, we have all the existing recorded experience respecting its properties and character, an experience now so large, that there is usually no difficulty in predicting from the growth what is likely to be its future history, its course, and its effect on the organism, except in the improbable event of our having to deal with an entirely new kind of tumour. This is exactly what we do in botany and in zoology. When we have determined the name of a plant or of an animal, we can then learn all that is known of its habits and properties, but we do not find it necessary to classify plants according as they are useful, poisonous, or harmless, and animals as rapacious, or innocent and the like. Hence a classification of tumours on structural grounds is that which has at present most practical value as well as the highest scientific completeness.[21]

This, then, being our present position as to tumour growths, we must try and not lose sight of the spark in the flame it has served to kindle, as is usually the case. While Johannes Müller was the first to systematise pathological histology as applied to tumours, and was followed in the same direction by Henle, Gluge, and Vogel; it was Rudoph Virchow who showed how cell changes are concerned in all morbid growths, and in a vast number of diseases; and how in cell systems and in cell territories disease processes may be often localised. The "cellular pathology" of Virchow was at the time, and still is, the most important exposition of the elemental side of pathology, but it has never entirely displaced what may be called the "central," or vascular theory,[22] and of late years the "cellular pathology," while it has undergone serious curtailment in some directions, especially in its application to the phenomena of inflammation, and in respect to the importance of the connective tissue in relation to disease, it has expanded in other directions, and has tended much to widen the area of practical pathology. But apart from its great value as a study in histology and physiology, Virchow's great work did an incalculable service in sweeping away fallacies that still lingered, in compelling attention to the most minute changes which lie at the root of disease, and in showing how in these minute changes are to be sought both the evidence and explanation of functional disorder.[23] Hence the doctrine is every day becoming more securely established—that there can be no alteration of function without some material change. Virchow made a study of the living cell as distinguished from dead tissue—of the cell endowed with vitality and with functions, governed by laws of existence, and capable of self-multiplication and propagation, and the arrangement of them in territories and organic systems. He studied the cell as the living agent in the production of disease, or in the arrest or perversion of its action by disease-producing causes.

It is, indeed, the great merit of Virchow's work that, passing by the mere study of structure, he endeavoured to show how the morbid changes came to be developed, what were their bearings to living action, and what their relations to the normal processes of evolution, development, and growth.

At this point the present era of modern pathology may be said to have begun.

In the first thirty years of the century we had the renewed study of general anatomy giving a new impulse to the study of mere morbid anatomy, both in relation to normal anatomy and to clinical medicine.

During the next thirty years we had the more general application of morbid anatomy to clinical medicine as an expounder of the phenomena of disease. At the same time there came a fuller knowledge of the structure and functions of the several organs, and the more elaborate working out of detached portions of normal and pathological histology, rendered possible by the great improvements in the manufacture of microscopes and their lenses.

But when, in 1860, Virchow's work became more fully known through its English translation, that event may be looked upon as the culminating point of the period, the commencement of the present era of progress in the science of pathology—a progress which has made gigantic strides, advancing by leaps and bounds throughout the past twenty-eight years.

"During the past ten or twelve years also, and especially during the last three or four, still more important advances have been made as to the minute structure of the cell and the functions which it performs in its reproductive processes. The mobile molecules of which it is composed are constantly changing—giving to, and taking from, the outer world—manifesting by their special action on polarised light, and by their reducing influence on the salts of silver, the intense molecular activity that undoubtedly prevails in the inner world of living matter."[24]

Further, the minute structures that since 1882 have been shown to characterise the nuclei of cells have probably a definite physiological purpose (Strasburger and Flemming). The nucleus is not the simple structure that has been hitherto supposed. The chemical nature of nuclear matter has still further opened up to us a new world of real phenomena; and molecular science sets us face to face with physiological (and pathological) theories, and forbids alike the physiologist (and the pathologist) from imagining that mere structural details of infinitely small dimensions can furnish an explanation of the infinite variety which exists in the properties and functions of the most minute organisms.[25]

Eighthly, processes immediately connected with changes in the blood, the nature of "leukæmia," and of the crystals found in leukæmic blood by Professor Charcot must be noted.

Ninth and lastly, I would mention those "processes of disease" associated with minute microscopic parasitism, animal and vegetable, which are so extensive that their recognition (if fully established) will revolutionise whole fields of pathology.

In these investigations the names of Rayer, Davaine, Pollender, De Bary, Flügge, Klein and Gibbes, Baumgarten, Eisenberg, Greenfield, Crookshank, Woodhead, Pasteur, Friedlander, Koch, Watson Cheyne, Cohen and Zopf, Hüppe, Weigert, Klebs, Gaffky, Obermeier, Hüber and Becker, Burdon Sanderson, and many others will be associated for all time—investigations which have greatly enlarged our knowledge of minute structural changes, necessitating still more extended inquiry and study alike of morbid anatomy and chemical and biological changes, so that new facts and new discoveries are daily being added to our already overwhelming stores. Here the need for generalisation is urgent, so that laws may be evolved which will bind together the immense accumulation of such facts as may be substantiated.

As to Causes of Disease.—1. We have undoubtedly learned much from a knowledge of the action of poisons which are known and can be experimented with. We have thus learned to appreciate the action of "specific poisons," as causes of certain diseases. 2. We have learned to appreciate the nature and action of ferments, also of animal and vegetable poisons as causes of disease; of substances formed by living animals and plants, often the products of special glands and having physiological uses, all of which may become injurious or poisonous. 3. We have learned to appreciate the nature of septic and cadaveric poisoning, of fæcal poisoning, and the effects of decomposition products in the living body, the causes of cadaveric, fæcal and septic decomposition—the formation of the ptomaines or cadaveric alkaloids and of the

[20] *Manual of General Pathology*, p. 256, by Joseph Frank Payne, M.D.Oxon., F.R.C.P.

[21] Payne, *loc. cit.*, p. 257.

[22] Editor, JOURNAL, October 23rd, 1880, vol. ii, p. 655.

[23] Professor W. S. Greenfield, JOURNAL, 1881, vol. ii, p. 695.

[24] *The Modern Cell Theory*, etc., by J. Gray McKendrick, M.D., LL.D., F.R.S., *Proceedings of Physiological Society of Glasgow*, 1888.

[25] Art. "Atom," in the *Encyclopædia Britannica*, by Professor Clark Maxwell.

leucomaines in the living.[26] 4. We have learned to appreciate the influence of "specific morbid poisons," so called because they are believed to be capable of producing each one special disease and that only. The question of a "living contagion," is at present only represented by that analogy which subsists between a possible contagium and the growth of some living thing. The actual contagium is in the case of most specific diseases still unknown.

While we thus far recognise physiology and pathology as the basis of the science of medicine, the physiologists (through biology) have hitherto immeasurably outstripped the pathologists in the comprehensiveness of their views, and therefore in the value of their results. For this reason we are compelled to recognise a pathology which may be described as indirect, or as only inferentially based on anatomy and physiology, Dr. Hughlings Jackson is the able exponent of this pathology. As a physiologist, he has expounded (as far as anatomical knowledge permits) the pathology of epileptiform affections. With the help of Hitzig and Ferrier's experiments, epileptiform seizures are shown to be more or less localised; and to be only a great excess of the normal physiological action, a great exaggeration of the liberation of energy, by some part of the nervous system. We thereby infer that a group of nerve cells has become permanently abnormal, and highly unstable and uncertain in action. But this anatomical knowledge is only vaguely inferential; and while we recognise the physiological process, physiology has not yet sufficiently opened the gateway of knowledge to enable us to find out the pathology of this terrible disease, and to ascertain "by what abnormality of nutrition the local hyperphysiological condition is produced," or in what tissue of the nerve organ does the abnormal change begin. And, indeed, in most diseases of the nervous system our knowledge of their pathology is only indirect and inferential. We do not know that the essential elements—nerve cells and fibres—go wrong primarily, but that they suffer indirectly. And nearly all diseases of the nervous system, of which there is a known morbid anatomy, are diseases beginning in the subordinate elements. The nervous tissues are innocent, and suffer only as a secondary result. For example, the commonest nervous affection is primarily an affair of the arteries. Hemiplegia in the majority of cases is due to blocking up of a diseased artery, or to a rupture of one, and the nerve tissue suffers only as a consequence. It is locally starved, because its blood supply is cut off, and to find out the pathology of the arterial lesion, we must make a study of cardiac, arterial and renal diseases, as well as of syphilis, gout, and rheumatism, and so we learn, indirectly, the pathology of nervous diseases.

Dr. Hughlings Jackson continues to point out that the syphilitic affections of the nervous system are the most important clinical groups of such cases. Anatomically, it is certain that the syphilitic lesion begins primarily in subordinate tissues of the nervous system, unless where a definite nerve trunk is directly the seat of the lesion, otherwise the process is an indirect one. Syphilitic hemiplegia, no doubt, depends on "local softening of the brain," and indirectly on the syphilis. The order of events is, that the man gets (1) a chancre and subsequent secondary symptoms; (2) months or it may be years later when apparently well (except perhaps for headache), some of his cerebral arteries become syphilitically diseased, and one unfortunate day a branch gets blocked up and hemiplegia results. For this apparently simple accident, there has been a long, slow, insidious degeneration of the vessel going on. The syphilitic degeneration is slow, but the thrombosis is rapid, and the brain softening follows as an indirect result of the syphilis.

There is also another kind of syphilitic hemiplegia, due to the formation of a cortical gumma; and one day the patient has a convulsion (often beginning unilaterally), and afterwards he becomes temporarily hemiplegic. The "disease process" here leading up to the hemiplegia is a very *indirect* one. The nerve cells round the gumma are irritated into exaggerated nerve discharges, and the pathological stages are: (1) the syphilitic infection; (2) formation of a gumma; (3) induction of instability of function in the nerve cells, exactly as by a glioma, or perhaps by some encephalitis; (4) sudden excessive discharges of motor energy in the form of epileptiform convulsions, and (5) consequent hemiplegia. The physiological gate is not yet opened wide enough for us to appreciate the pathology of chorea, epilepsy, insanity, neuralgia, hydrophobia, or tetanus.

We have now come to a point at which it is obvious that ordinary human physiology is not in a position to elucidate all pathology. We find that there is undoubtedly a large class of diseases for which we have not yet found a link to connect them with mere perturbations of normal physiological life; and that a great deal of pathology appears to be quite different in kind from any physiology known to us. What, for example, are the physiological analogies of the "constitutional" and "infective" diseases? For it has hitherto been held that the specific infective diseases cannot be included in the physiological scheme of diseases which I have thus far attempted to illustrate. These constitutional and infective diseases constitute so large a portion of medical ailments that diseases whose pathology is explicable, on strictly physiological principles, are rather the exception than the rule. There would seem to be no place in a physiological pathology for the long list of specific infective diseases, such as cholera, yellow fever, plague, typhus, enteric fever, small-pox, leprosy, syphilis, cancer, consumption. Hence these diseases still constitute the real difficulties of pathological science.

It seems that the logical outcome of the position arrived at is "that we can conceive of any one of the so-called specific diseases arising *de novo*, as must certainly have happened at some period of the world's history for the first time; and that, having so arisen, the disease subsequently acquired an autonomous or independent existence, and became capable of transmitting its life apparently only by infection."[27]

Dr. Charles Creighton[28] in his interesting address to the Association made an important contribution to pathology from this standpoint in his account of what he believes to be the *de novo* origin of some specific diseases.[29] He attempted to show, with much success, that the acute specific diseases are, in their origin, to be explained on biological laws. He showed that in these diseases we have what he describes as a "pre-autonomous" stage, and afterwards an "autonomous" stage. The pre-autonomous stage of disease is that stage or state in which there is merely a perturbation of the physiological processes. When, however, the disease has become established in all its clinical features it has passed into the autonomous or independent stage, when the functional disease acquires individuality, and by-and-bye the power of infection, it thereby asserts its independence, its autonomy, in working out this formula he endeavours to find some relation between common aberrations of structure and function and the specific infections, or a relation between disordered states of the body and the self-existent species of diseases. Is it possible, for example, in the case of cancer and tuberculosis (consumption) to show that these malignant and wasting infections have arisen out of common disturbances of the physiological life? Whether we do not find, in the case of tuberculosis, a pre-tubercular stage (an old belief) by small beginnings in certain disturbances of nutrition which devitalise the tissues? And whether we do not also find a pre-cancerous stage of cancer in certain irregularities of the apparatus and process of secretion? These beginnings would correspond to the pre-autonomous stages of these diseases; while the autonomous life of each of them asserts its semi-independent existence through the quality of infectiveness. Both of them are at once constitutional, hereditary, infective, and perhaps contagious. "The cancerous element comes in usually after a particular time of life, characterised by the implication of other tissues than the glandular or secreting structure whose irregularities were the exciting cause. Epithelial cells that have not been used for secretion can become mischievous as infecting cells; and if we examine the affected region we shall find an epithelial-like kind of structure springing from the tissues around where there is no epithelium naturally; a little later the same epithelial pattern is, as it were, carried out in the lymphatic glands, or in the liver, or in the deeper layers of the skin, or even in still more unexpected places. The pattern of this widely distributed structure is always the same in a given case, and there is always something in it which reminds us of the primary seat of glandular disturbance. An intelligible disorder of structure and function not without its close analogies in physiology (animal and vegetable) has thus acquired a kind of individuality or independence and a power to reproduce itself throughout the body.

[26] *On the Animal Alkaloids; the Ptomaines, and Leucomaines, and Extractives in their Pathological Relations*, by Sir William Aitken, Knt., M.D., F.R.S.; also *A Treatise on the Animal Alkaloids, Cadaveric and Vital*, by A. M. Brown, M.D.

[27] Millican, *Evolution in Disease*, p. 46.

[28] On the Autonomous Life of the Specific Infections, JOURNAL, August 4th, 1883.

[29] Hirsch *On Geographical and Historical Pathology*, vol. i.

In other words, by its infectiveness it has become a ravaging cancer."[30]

The disease may thus be traced along the track of physiological perturbations for a certain distance, after which it assumes a semi-independent life, and becomes an *imperium in imperio*—a power inseparable from the general life of the body, but in the end sure to gain the mastery. In vegetable physiology we have this analogy: "that when the corm of a crocus forms the bud which is to be the bulb of next year there is the gradual differentiation of the being until it becomes an *imperium in imperio* and finally an *imperium* in itself. Does not the new bud act the part of a cancer in reference to the old, eating out its life and substance, and leaving it a dried-up husk? Then, again, has not the bud of this year the germ within it of the bud of next year? And we cannot tell how many potential existences are thus wrapped up inside of one another. There is no germ or sperm action here. (A. W. Wallace, of Parsonstown.)

In animal physiology the effects of cross-breeding furnish remarkable analogies.[31] We know that the contact of the spermatic fluid will set an action agoing in the female of some animals which results in the production of myriads of proliferating cells. If these were retained in the body, instead of being extruded as ova, would it not be a case of "exogenous contagium;" and to carry out the parallel between this and the acute specific diseases, "the male which produces the infective (spermatic) germ is incapable of producing the proliferating cells which are the analogues of the germs of the infective diseases. Again, some plants grow either by spores or by fission. May not then a specific disease take its origin and be propagated by the distribution of the germs which have been formed during its progress? May not this explain the origin of typhoid, scarlet fever, etc., out of the same foul drain? May not the infecting germ originate a different kind of proliferating cells, according to the reaction with which it comes into contact, as the same semen may produce either a horse or a mule.[32]

To find the proper biological analogies for the infective disease processes is the task of modern pathology.[33] Hitherto we have been too much given to study cases as to how near their symptoms approach to certain clinical standards which we consider typical, as laid down in books, and not as they merely show departures from healthy types, that is, from those normal physiological processes which maintain the state of health.[34]. Working in this comparatively narrow groove we have become oblivious to a great mass of facts, increasing from day to day, which cannot be explained on the older theories of pathology; but much evidence is accumulating in favour of a theory of progressive evolution, as sufficient to explain not only the origin of many forms of "constitutional" or "inbred" diseases, but also the progressive development of specific fevers like enteric fever, scarlet fever, and diphtheria, from simple cases more or less anomalous, and obviously departures, in the first instance, from the usual types of these diseases, gradually acquiring specific infectiousness and independence of existence as the cases multiply.

I have had myself experience (and perhaps many in this room are prepared from experience to admit) of sore throats commencing in more or less acute tonsillitis, due apparently to indifferent causes, but gradually becoming more and more severe as case followed upon case, until (as if by progressive development) they eventually culminated in scarlet fever or in diphtheria, with its unmistakable sequelæ of paralysis. Such cases thus acquire (by a process of evolution through several individuals) their typical infectiveness, each new case furnishing its quota of pernicious material to its surroundings, and thereby adding to the virulence and amount of concurrent factors, and so eventually setting up the independent infective disease.[35]

Similarly, cases of diphtheria have been shown by Dr. Thorne[36] and others to be evolved from cases of membranous croup, inasmuch as it was observed in several outbreaks of diphtheria that while the earlier deaths were due to membranous croup, the later ones were due to malignant diphtheria. Over a large area there would be a great tendency to sore throat; then groups of cases would occur here and there in which the disease became decidedly infective, and at last, in a single village in the area, an outbreak of diphtheria would occur in its most malignant and fatal form.[37] But I could wish no better example, because without bias, as to the question of the gradual evolution of zymotic disease than that furnished by the Director-General of the Army Medical Department of the War Office, Sir Thomas Crawford, at p. 4 of the very comprehensive memoranda which he recently issued for the guidance of the officers of the medical staff of the Suakim expeditionary force. There it is written: "The events making up the medical history of an army in the field develop themselves with a regularity that is almost monotonous. Looseness of the bowels, under the name of camp diarrhœa, begins to be common almost as soon as the army takes the field. This is in a large number of cases compatible with apparently good health, and is doubtless attributable to the changed condition of life. Soon cases of fever appear, some of very brief duration, which are classified as heat fever, and some are attended with diarrhœa, marking the commencement of enteric fever in the force. The development of this disease and the proportions it will assume will be merely a question of time and circumstances. The disease embraces every variety, from the mildest to the severest types, from the so-called ambulant to the most fatal forms. The instances in which this fever occurs as a relapsing typhoid properly so-called, with an invasion fever period, followed by one or more febrile recurrences in which all the characteristic phenomena are repeated with intervals of apyrexia between them, are also not uncommon. The disease occasionally runs so mild a course as to resemble a febrile dyspepsia, and then the thermometry of the fever either fails to be recognised at all, or at any rate fails to be recorded with any degree of accuracy."

Again, I think it will be admitted that no broad nor defined lines can be drawn between the severest cases of cholera and those slighter and generally curable cases which are seen during the prevalence of an epidemic, or which occur as sporadic cases during its intervals. An attentive observer may trace up every grade from the merest cholerine to the terrible disease which kills inevitably in a few hours. The cases may, in fact, be seen to pass into each other, and the one may seem to induce the other, so that an alliance is implied, at least, in such a possibility. Abrupt lines of demarcation between such allied affections have no existence in Nature.[38] So, too, erysipelas is seen to be interchangeable in lying-in hospitals with puerperal fever (Playfair); also that diphtheria and puerperal septicæmia are one and the same (Hicks). Moreover, we have seen that the association of diphtheria and scarlet fever is not infrequent; and on the testimony of so competent and experienced a physician as Dr. Broadbent, the approach of diphtheria may be absolutely independent of any pre-existing cause; while so distinguished a physician as Sir William Gull has stated his belief that diphtheria "may commence locally, forming a poison which will propagate itself."[39]

The recorded irregularities from the artificial clinical types of disease are now so numerous that they form a very large class, still standing alone—so large a class, indeed, that, comparatively, the so-called typical cases of specific diseases become an insignificant minority. Practically, for example, it has not been found possible to classify all the fever cases under the definite types described in books. Cases of an anomalous or mixed nature do constantly occur, concerning which a distinctive diagnosis cannot be made. While certain forms of continued fever are capable of being recognised as described, there can be no doubt that cases of fever do occur all over the world, which run a continuous course; but, having no other specific characters, and which in many respects do not seem quite the same as those with which we are familiar, and which can at once be clinically recognised. For example, the late Dr. Murchison records[40] that he had to leave out of consideration about 200 anomalous or doubtful cases, which he could not classify as either typhus or enteric fever. So, also, our distinguished president, Professor W. T. Gairdner has stated that from 1853 to 1862 the cases of fever in the Edinburgh Royal Infirmary under his notice, included "numerous anomalous fevers, which have quite overborne the numbers of genuine typhus and enteric fever together."[41]

[30] Address in Pathology, by Charles Creighton, M.D., JOURNAL, vol. ii, August 4th, 1883, p. 219.
[31] Consult Harvey, on *The Identity of the Bud and the Seed*, Nisbet and Co., 1887, p. 81.
[32] A. W. Wallace, M.D., of Parsonstown, JOURNAL, August 18th, 1883, p. 361.
[33] Dr. Creighton, on the Autonomous Life of the Septic Infection, JOURNAL, August, 1883.
[34] Hughlings Jackson, *loc. cit.*
[35] See "An Address on the Etiology of Diphtheria," by Edgar G. Barnes, M.D., London, of Rye, Suffolk, in the JOURNAL of July 28th, 1888, p. 173.
[36] Report of Medical Officers of Health.
[37] Millican, *loc. cit.*, p. 80.
[38] Dr. E. A. Parkes, *On Cholera*, p. 5.
[39] JOURNAL, May 3rd, 1879, p. 666.
[40] *Transactions of Royal Medical and Chirurgical Society*, vol. 41.
[41] Dr. W. T. Gairdner, *Clinical Medicine*, 1862, p. 154.

On the other hand, with regard to the "constitutional diseases," their pathology finds a direct explanation upon purely biological principles, in which heredity plays a prominent part—a property of parental origin, representing the innate tendency which each organism possesses to reproduce its like, while another influence exists in the action of the environment upon nascent organisms. The three great principles which regulate variation, namely (1) the tendency of offspring to differ slightly from their parents; (2) inheritance, or the tendency of offspring to resemble their parents; and (3) atavism, or the tendency of offspring to resemble remote ancestors, are sufficient to account for the remarkable diversity which has been brought about by the steady accumulation of innumerable slight variations alike in health and in disease. With regard to diseases, there is ample evidence to show that certain variations are more apt to be inherited than others; for example, skin affections, affections of the nervous system, and of the generative organs. Also that modifications result from the action of unusual agencies on the embryo, and that processes of repair take place the more readily the younger the age of the subject.

So also Dr. Wilks has written in one of his thoughtful addresses to the Association,[42] that "hereditary tendencies have much to do with the physical and mental characters of individuals; that the temperaments and idsosyncrasies so evolved are most important factors in the production of our ailments, and that our surroundings (environment) are in themselves sufficient to produce active disease. There are, for example, a number of conditions which tend to the development and prevalence of the gouty constitution in England which may be carried through several generations, while the same conditions operating on a person already predisposed may actually induce an acute attack in him. Many diseases thus come about through the deleterious operations of our ordinary surroundings, both in the air we breathe and in the food we eat, rather than from any single and well-defined specific cause. Nearly all such diseases are slow in their origin and progress, and as Hippocrates wrote, they 'do not fall upon men instantaneously, but being collected by slow degrees, they explode with accumulated force;'" and it must still be the aim of the physician to seek the causes of much disease in our ordinary surroundings, and in the constitutional tendencies transmitted to us, and to try to remove them.

Sir Andrew Clark,[43] the President of the London College of Physicians, has very clearly summed up the pathology of these diseases in these words: "Do we not find that, for the most part, such diseases are of very gradual evolution, the essential outcome of continued violation (consciously or unconsciously) of physiological laws, as they exist for the race, or as they are conditioned by the peculiarities of the individual; that these violations are not exceptional and gross, but daily and minute, and that their specific effects, infinitesimal from day to day, become visible only after long periods of time, and so escape recognition except by those who are trained to discern the causal connection of subtle things?" Such an evolution is thus apt to be unnoticed from its slowness; but it is just these minute and almost inappreciable conditions of daily life which practically make or unmake health. Slight variations, moreover, are also being introduced in Nature with every successive generation of existences. Many of these variations are transmitted to the generations which follow, and therefore in the course of time, from any one parent stock would descend a great variety of kinds, and with them we should expect to find variations in diseases—constitutional and hereditary, and perhaps also infective. Hence it may be fairly inferred that the long-continued influence through many generations and ages of time of hereditary influences, and of unsuitable but inevitable environments may establish new diseases of constitutional or autochthonous production, and if not absolutely new diseases, at any rate diseases of such variable chronic types as are daily met with and classed as general or constitutional ailments. The effects of physiological forces acting under unphysiological conditions constituting the essential and true disease.

So far, therefore, as the doctrine of evolution in biology has assumed a position and acquired an importance ever since 1859 which it had not possessed before, it is, I believe, especially capable of illustrating the pathology of constitutional diseases from the biological view here indicated.

From this point of view the constitutional diseases may be regarded as "sports" or "variations" from the normal line of health. Evolution may thus not only explain their origin, but may account for the persistence of some forms of diseases unchanged through long epochs of time, while others undergo comparatively rapid metamorphoses. The causes and conditions of variations in constitutional diseases, as in biology, have yet to be thoroughly explored, and more extended inquiry may prove "that variability is definite, and is determined in certain directions rather than in others by conditions inherent in that which varies.....It is quite conceivable that every species of constitutional disease tends to produce varieties of a limited number and kind," and that the effect of some kind of "elective affinity" in the constitution of the race, or of the individual towards certain causal and concurrent factors of disease rather than to others would be "to favour the development of some of these, while it opposes the development of others along their predetermined lines of development."[44]

While these diseases appear to be developed under the influence of agents generated within the body itself, through the customary exercise of its functions in the daily course of nutrition, development, and growth, the original organisation of the body may be of such a kind that the continuous exercise of its functions, in place of preserving the system in a state of health, ultimately leads to the evolution of diseases of various kinds, which, from their mode of origin and development, have received the name of constitutional diseases.[45]

Altogether, therefore, it seems undeniable that the characters and variations of species and of constitutional diseases are due to the combined action of internal and external agencies, acting in a more or less direct, positive, and constructive manner, suggestive of an "intelligent purpose, which is, as it were, incarnate in the living world."

There can now be no doubt that changes of type alike in the inherited and in the so-called specific fevers do take place; "but we are prone to think too little of the variations—to regard them rather as unmeaning exceptions, or as the result of some unusual external conditions diverting diseases from their customary course. It will be better for us if we study in pathology, as in natural history, varieties as much as species, changes as well as more stable forms. It will then be impossible not to perceive, to reflect on, and to appreciate the pertinacious persistence of some forms amidst the vast mutations of others. Types of disease there are, the tenacity with which they are maintained—some even from prehistoric times—in all the variety of the conditions of our lives, is one of the most remarkable facts in all pathology. But even they are not unalterable. Types vary in diseases as they do in species; even in diseases which depend least upon external conditions, and most on the qualities which are transmitted by inheritance." These are the words of one of the greatest surgeons of modern times, and the most philosophical of pathologists—Sir James Paget—as to the value of recording "anomalous" cases of disease, and he proceeds to lay down rules for study especially applicable to them. "It would be of use if such cases were collected by the hundreds and thousands, and we ought not to set them aside with idle thoughts or words about 'curiosities' or 'chances.' Not one of them is without a meaning—not one but might be the beginning of excellent knowledge, could we but answer the question, 'Why is this?' Or, being so rare, 'How or why did this instance happen?'"

In his eloquent Bradshawe Lecture (1882) Sir James Paget further expresses his belief that there are rare cases, which are also cases of diseases lately new, and becoming more frequent, and which are mainly due to morbid conditions changing and combining in transmission from parents to offspring. Medical journals and Proceedings of Societies teem with records of such rare cases of diseases, some of which, although apparently common, differ in some feature from the usual type or standard of such common ailments; and hence they must rank amongst the "anomalous" cases of disease, to be considered as pathological "sports" from normal physiological states.

I would now quote the opinion of one not less eminent as a physician—the late Dr. Parkes—as to the value of recording "anomalous" cases of continued fevers and specific diseases. "It is these doubtful or anomalous cases," he says, which require careful and special methods of investigation. They are of the utmost importance to science, for more extended information regarding them will either connect them with forms of fever between which they seem to stand; or these "doubtful"

[42] JOURNAL, vol. ii, 1885, p. 196.
[43] *Transactions of the Clinical Society*, vol. xvi, p. 57.
[44] *Science, Culture, and other Essays*, T. H. Huxley, LL.D., F.R.S., 1881, p. 347.
[45] Aitken's *Science and Practice of Medicine*, various editions from second to seventh inclusive; also Dr. Farr in *Sixteenth Annual Report of the Registrar-General; Appendix*, 1856.

cases will eventually separate themselves into distinct forms whose history is still unknown. Dr. Millican[46] has made a laudable attempt to classify these doubtful or anomalous cases.

These and such-like examples of the progressive development of disease from a simple ailment to a more complex case—from a comparatively benign and common inflammation to a malignant infective type—through a series of many cases, proceeding from a common origin—furnish cumulative evidence of a very cogent kind in favour of Darwin's doctrine of evolution as sufficient to explain "the coming into being" of some types or forms of specific diseases.[47] It therefore appears to me, as it has done to others, that all the weight of *a priori* evidence tends to show that in disease, as in Nature generally, evolution results in the origin of new diseases; that perturbations of the physiological life may ultimately acquire an independent or autonomous existence, so that common disorders may ultimately acquire specific power.

It also appears to me that, like erysipelas and diphtheria, the weight of evidence is in favour of the original and occasional *de novo* origin of enteric fever, yellow fever, and typhus fever by "progressive development" through as yet unknown and undetermined factors in the surroundings of the individual—his environment in the widest sense of the term, and that such *de novo* origin does not exclude the possibility of subsequent spread by contagion.

When viewed in the light of our knowledge of the whole world of biology (of which human physiology is but a very small part), the meaning of the facts to which I have referred is unmistakable; and, having regard to pathology as a part of biological science, it will be seen that Darwin's theory of evolution is not inapplicable to its needs; that it is a theory which is capable of explaining much in pathology, when viewed from a biological standpoint, that otherwise and hitherto has not been capable of explanation. It appears, therefore, that "the problem of evolution, in its application to pathology, is to show how the complex, the differentiated, the heterogeneous, have come from the simple, the undifferentiated, the homogeneous; and that some of the present marked types of diseases have slowly arisen by transmutation and descent from, comparatively, a few primordial types; and diseases, like other things, in becoming increasingly numerous, have become more and more different, or, in other words, more complex.[48] The great principle of evolution in pathology stands out clear and firm when the groups of facts relating to disease are considered in co-relation to each other—such facts, for example, as are related to the mutual affinities of diseases in the same group—to the geographical distribution of diseases in past and present times; to their succession and progressive evolution in epidemics; to their progressive development, with increasing definiteness and differentiation, combined with increasing complexity—as slowly evolved in time and space from simpler forms by slow and gradual modifications, through varying elective affinities.

In all cases the process of evolution of diseases implies a succession of changes in the combination of their phenomena, or in the character and grouping of the phenomena, by which one disease passes into another, step by step, from an extreme simplicity or relative homogeneity to a greater degree of complexity or heterogeneity. It has been shown that the variations of diseases from well recognised types are extremely frequent and numerous—that the combinations of morbid phenomena or symptoms presenting themselves always in the same concourse or succession are not always uniform—that cases run by insensible gradations from one type into another. We also see diseases perceptibly getting milder and milder, weaker and weaker, and that they become rarer and rarer as they tend to become extinct altogether, just as races of mankind do. Such has been the case with plague, typhus fever, ague, and dysentery in this country. And although our ignorance of the laws of variation is profound, gradation is shown to prevail from extreme simplicity to great complexity in many diseases of the constitutional and zymotic class, and in their relationship to each other; and to some extent we have also seen that their variations admit of being classified. This recognition of gradation is the first step towards the acceptance of the doctrine of evolution in disease, although the nature of all the physiological factors to which the evolution of diseases may be due is still an open question.[49] "It is these continuously minute differentiations and integrations which constitute evolution."[50]

Through this process, then, it is contended that "diseases of the type known as specific may arise *de novo;* that diverse diseases may own a common ancestry; that specificity depends on the soil in which the seed is sown, and on which it is subsequently cultivated; that the property of contagiousness or infectiveness, dominant in every inflammation and fever, increases in proportion to this specificity, in proportion to successful cultivation on suitable soil; that there is in diseases as in all Nature a tendency of the common to become the specific, the homogeneous to give birth to the heterogeneous; that the distinctive characters of the acute infectious diseases have been and are being progressively built up from an ancestral common fever; and that the relations of the specific fever to common fever have an exact parallel and counterpart in the relation of specific local inflammation to common inflammation; that in anomalous or nondescript cases of disease we are dealing, as it were, with natural variation of species under cultivation.[51]

It is further contended "that in the processes of evolution the living tissue elements of the body itself play a much more important part in the elaboration of septinous and allied poisons than what has been hitherto ascribed to them."[52] "Syphilis, erysipelas, necusia, metria, rubeola, scarlatina, and other zymotic diseases are also seen to put on different forms, which may be referred to the state of the exciter, the mode of its application, the matter on which the exciter acts, or the vitality of the patient, and furnish examples of the changes induced in diseases by the actual constitution of the individual and the mode of infection."[53]

Clinical specificity in disease has been shown to be only partially true. Numerous exceptions or departures from well-known clinical types have been recorded from time to time, alike in constitutional and in zymotic diseases, so that the inevitable questions arise—"How are such cases to be accounted for?" "To what do such cases tend?" and "How do lesser differences or variations become augmented into greater?" "How have species arisen in a state of Nature?" These questions in pathology are equivalent to such a question in biology as is "the origin of species." They are, indeed, but two phases of one question. The anomalous cases of disease cannot any longer be set aside. It may be that they are incipient species, and therefore much greater attention must be given to them than they have hitherto received, so that accurate records as to departures from type should be sought for and obtained, instead of forcible attempts being made to get the records of such cases to conform to type. It is their vagueness or indefiniteness which renders their true nature liable to be overlooked or misunderstood;[54] and in the appropriate language of Sir James Paget they must be made "to probe or to test the rule."[55]

I think we have abundant evidence to show that the potentialities of Nature are apt to be underestimated; and we must accept the doctrine in pathology as a part of biology that the laws of variation are ever operative in connection with the origin and development of diseases. Not only does it seem to me that there are good grounds for believing that new diseases are in constantly progressive phases of development, although we may not be able to appreciate them on account of their slowness of evolution, and because in point of time we are living too close to the changes which are constantly going on around us to appreciate their influence sufficiently. "Habitually looking at things rather in their statical than in their dynamical aspects, we never realise the fact that by small increments of modifications any amount of modification may, in time, be generated."[56] There are also grounds for believing that the old diseases are no less constantly being redeveloped side by side with those that are believed to be more widely spread by infection, perhaps because transmission by direct infection may seem to be a more easily recognised cause.[57] As with

[46] *On Evolution in Disease.*

[47] "Darwin's Doctrine of Evolution in Explanation of the Coming into Being of some Diseases," by William Aitken, M.D., F.R.S., in *Glasgow Medical Journal*, 1885-86.

[48] Dr. J. Hughlings Jackson, F.R.S., Bowman Lecture, in medical journals of November 21st, 1883.

[49] Compare Huxley, *Coming of Age of the Origin of Species*, p. 348.

[50] Herbert Spencer, *Principles of Biology*, vol. i, p. 80.

[51] Dr. W. J. Collins, *Specificity and Evolution in Disease*, 1884, p. 10.

[52] Surgeon-Major Dr. T. R. Lewis's *Microscopic Organisms Found in the Blood*, Calcutta, 1879, p. 57, and collected works "In Memoriam."

[53] *Vital Statistics*, by Dr. William Farr, a memorial volume edited by Mr. Noel Humphreys, of the Registrar-General's Office, for 1885, p. 247.

[54] Millican, *loc. cit.*, p. 23.

[55] Paget, Bradshawe Lecture, 1882.

[56] Herbert Spencer, *Elements of Physiology*, vol. i, p. 350.

[57] Darwin's Doctrine of Evolution in Relation to Pathology. By William Aitken, M.D., F.R.S., *Glasgow Medical Journal*, 1885-86.

embryonic development, so with diseases. "I cannot conceive any doctrine professing to bring the phenomena of the former within a general law, which is not like the theory of Darwin, consistent with their fundamental identity, their endless variability, their subjugation to varying external influences and conditions, and with the possibility of the transmission of the vital conditions and properties, with all their variations, from individual to individual, and in the lapse of ages, from race to race."[58]

The eloquent addresses on Pathology to the general meetings of this Association, and to the Section of Pathology during the past ten years, have left me few topics I could make my own, and nothing to say that has not been better said by better men; but it appeared to me that a statement of the position of pathology in relation to biology and to the origin and nature of the specific disease might be of interest, as tending to show that we must continue to look to physiology, through the wide field of biology, as a competent guide for us, and as capable of explaining the abstruse problems still awaiting solution.

If the judicious questioning of received opinions is to be regarded as a sign of scientific vitality and advancement—the very source and root of healthy progress and growth—the Section of Pathology of this great Association of workers during the past ten years may be accepted as evidence of the undoubted vitality of the science of pathology, of advancement in its methods, and of a sound basis for its healthy progress and growth in the future. "All such advances must change the circumstances of our mental life, so that minds that cannot or will not adjust themselves to the changed condition of thought and action become less useful, or at any rate modify the manner of being useful."[59] Seeing, also, that there are no absolute certainties in science—that the conclusions of science are never more than in a high degree probable—that they are no more than the best explanations of phenomena which are attainable in the existing state of knowledge, great advantages accrue from the meetings of such an Association as this throughout its various Sections, where errors are allowed full room for expression, in the belief that truth in the end will prevail, and that in the liberty of opinion, which is the life of knowledge, we ensure the death of what is false. Moreover, in the prosecution of such inquiries as I have here but feebly outlined, every allowance must be made for the opposing influence inspired by that human frailty through which "truth provokes those whom it does not convert." It must also be remembered how difficult it is to get rid of old theories once embraced; and that, whether in pathology or in any other department of science, few are willing to break up trains of thought to which they have been inured.[60] "Emancipation from the thraldom of dogmatic opinion is a slow and difficult process, and the adoption of large and independent views more consistent with observation, reason, and philosophy has only been possible under the influence of the general progress of scientific knowledge, and the acquisition of sounder methods of applying its principles to the explanation of natural phenomena."[61]

To all this the British Medical Association has largely contributed by its organisations in Branches and Sections, by its annual meetings, and by its JOURNAL, where objections reasonably urged always obtain a hearing, where they may be reasonably met, and where new truths, after encountering sufficient opposition to test their value, finally make their way to general acceptance. Out of such a scientific crucible the golden ore of knowledge cannot fail to come out well refined. Moreover, when the opinions of men best able to judge are divided, the questions at issue remain doubtful, and reasonable men who are unable to give special attention to the points at issue withhold their judgment, while those who are able to arrive at conclusions do so with diffidence and modesty, the most fitting frame of mind, holding in remembrance, with Sir Isaac Newton, that "we are diffident in the presence of Nature!"

[58] Dr. Allen Thomson's Presidential Address at the Forty-Seventh Annual Meeting of the British Association at Plymouth.
[59] Sir James Paget, JOURNAL, vol. ii, 1881, p. 196.
[60] Buckle, *History of Civilisation*, vol. iii, p. 415.
[61] Dr. Allen Thomson's Presidential Address at the Forty-seventh Annual Meeting of the British Association at Plymouth.

THE PROFESSION IN PARIS.—During the past few years, says the *Progrès Médical*, the ranks of the medical profession in Paris have increased terribly. People in 1866, says another French contemporary, the *Paris*, were fortunate, for then only 6,506 physicians, surgeons, and druggists undertook to send them to another and a better world; now 10,360 doctors and chemists look after the Parisians, or sell them physic.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF OPHTHALMOLOGY.

At the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY THOMAS REID, M.D.,
President of the Section.

GENTLEMEN,—My first duty is to bid you welcome, as members of the Ophthalmological Section of the British Medical Association, to the city of Glasgow; and in doing so I know that I express the sentiments of the profession in the West of Scotland when I say that it has been their most earnest desire and no efforts have been spared on their part to make this meeting of the Association a success from a social as well as from a scientific point of view. And in this University, where the late Dr. McKenzie lectured for many years with great acceptance, the Senate with whom the appointments rest, in conjunction with the Directors of the Glasgow Eye Infirmary, who for the last sixty years, that is, since 1828, have regarded ophthalmology as an important, if not essential, part of the medical curriculum, will, I am sure, accord a most sympathetic welcome to those gentlemen who have honoured us by their presence here to-day; for they, as well as those of us who are more particularly interested in this specialty, feel assured that the executive of the Association, by their action in instituting a special branch on ophthalmology, have given a powerful impulse towards a fuller recognition than it has hitherto obtained in the curricula of the medical schools of this country. Our only regret on the present occasion is that the incidence of the Heidelberg Congress the same week has deprived us of the pleasure of seeing here many gentlemen who, but for that circumstance, would have certainly taken an active part in the business of this Section; and we regret it the more that at this the first meeting of the Association in Glasgow, by a fortunate combination of circumstances, our city has this year more attractions for the visitor than it possibly can have at any possible future meeting of the Association. But if we cannot congratulate ourselves on having with us on this occasion the founders of modern ophthalmology, we are gratified to see many earnest and enthusiastic workers who are contributing largely towards the perfecting of those details so essential in every progressive science, and which have perhaps a more direct application in ophthalmology than in other branches of medicine. And now that experimental and clinical observations have demonstrated the intimate anatomical and functional relations of the eye to nervous and other systems, a competent knowledge of the relations of ocular disease to that of the system generally is indispensible to the physician as well as the specialist; and it is to the meetings of this Association, specially instituted for the promotion of medical science, that we have to look for an adequate discussion of many of those questions which are still *sub judice*.

Gentlemen, I will not detain you longer, but shall conclude by thanking the executive of the Association for the honour and the privilege of presiding on the present occasion.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF LARYNGOLOGY AND RHINOLOGY.

At the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY FELIX SEMON, M.D.,
President of the Section.

GENTLEMEN,—Whilst it is one of the most pleasant duties of the President of every Section of this Association to bid a hearty welcome to those who have assembled to share in the work of his Section, the duty thus devolving to-day upon me is of an exceptionally gratifying character. For it is my privilege to welcome you now, upon the first occasion on which, at any medical meeting in the United Kingdom, the rank of a full Section has been granted to laryngology and rhinology, this branch of medical science being thus at last placed on a par with the older recognised specialties.

Considering that fully thirty years have elapsed since the introduction of the laryngoscope and rhinoscope into medical practice, and considering further, that manifold difficulties have had to be overcome before this position has been attained, we may, I think, fairly congratulate ourselves upon the progress made, and this day may perhaps, without exaggeration, be looked upon as marking a distinct epoch in the history of British laryngology.

No more fitting subject, it appears to me, could be chosen on a day of such character for the inauguration of our common work than a retrospect of the past, a consideration of the present, and an outlook into the future of our specialty. But the subject is a large one, and the time allotted to me is so short, that I must be content merely to remind you of some of the more important features of the development of our specialty in this country, and to offer rather material for reflection than to do that full justice to my task which it deserves.

It is a curious fact that, though the physiological principle of laryngology and rhinology was originated in this country, its medical application appears to have been received by the profession from the first with a somewhat languid interest. When, a few years after Manuel Garcia's discovery, Professor Czermak, shortly after having perfected the method, came to London, and illustrated its utility by demonstrations and lectures, his personal endeavours no doubt attracted for the time considerable attention, but this attention was more of a Platonic than of a practical character, and the laryngoscope for a long time continued to be looked upon by the majority of the profession as a "physiological toy." Nor were the interesting communications and the brilliant therapeutic results of the pioneers of British laryngology sufficient to rouse the bulk of the profession from its passive attitude. The importance of the method was not yet realised; no provision for a long time was made for its efficient study by the necessary formation of special departments in the large hospitals; and, in those days, a suggestion that an elementary knowledge of its practice ought to form part of the medical education of every qualified practitioner would probably have been received as the impracticable dream of an enthusiast.

In view of these facts, it is not surprising that at a comparatively early period the expedient usual under similar conditions was resorted to, and special hospitals were founded for the better study of diseases of the throat and nose. This departure, however, did not increase the popularity of laryngology. The majority of the profession was in those days, even more than at present, averse to special hospitals, and laryngology did not escape the unpleasant consequences of asserting its independence. It is no part of my function to-day to examine the merits of this question; I merely wish to state facts. Other circumstances no doubt contributed to the undesirable turn which matters took for a time. The supposed small compass of laryngology was ridiculed, it was dogmatically asserted, over and over again, that constant occupation with so small a subject must necessarily lead to "narrow-mindedness," and a very general, and unfortunately not altogether unfounded, opinion gained ground, that there was too much local and too little constitutional treatment in the practice of laryngologists. Personal questions very largely entered into the abstract discussion of the merits and demerits of laryngological specialism, in short, the general feeling of the profession resulting from all this was, for a considerable time, decidedly unfavourable to our aspirations. The younger generation of laryngologists can hardly realise how earnestly their predecessors had in former days to struggle for a better appreciation of the aims of scientific laryngology, what deep rooted prejudices had to be overcome, what difficulties offered themselves *extra muros et intra*.

But there is too much inherent good in laryngology and rhinology for it to be possible that such obstacles could permanently bar the way towards its recognition. An improvement, slow at first, but none the less sure, began to manifest itself about ten years ago, and has ever since continued. The advances made by our Branch, in scientific as well as in therapeutic respects, became too obvious to be permanently overlooked; the authorities of the teaching hospitals could no longer shut their eyes to the importance of the method, and to the necessity of providing suitable accommodation for it; the good work done by the Laryngological Subsection of the Seventh International Medical Congress, held in London in 1881, convinced many adversaries that there was more in laryngology than had so far been admitted; a new generation of practitioners grew up, who had the opportunity of convincing themselves during their student's career, of the importance of laryngoscopic examination, not merely for the diagnosis of laryngeal, but of severe intracranial and intrathoracic diseases, and of rational local treatment in affections of the throat and nose; the public became more and more aware of the advances made in our line, and—last not least—the laryngologists themselves, who for a time seemed perilously near one of the most fatal mistakes of specialism, namely, of becoming totally absorbed in the observation of minor details and in the perfection of minute modifications of local treatment, turned their attention towards more important subjects, and began to devote themselves, more than had been hitherto done, to the study of the mutual relationship of local affections of the upper air-passages with more general systemic disturbances.

It is difficult, where so many factors have been at work, to assign its proper share of importance to each, but I am strongly inclined to believe, that powerfully as the other ones may have influenced public opinion in favour of a more just appreciation of laryngology, none has had a greater effect in procuring us the goodwill of the profession, than the turn of laryngology towards questions of broader and more general interest, which, I venture to say, has been the distinctive characteristic of the scientific work of our branch, not only in this country, but throughout the world, during the last seven or eight years.

However that may be, there can be no doubt that the present position of laryngology in Great Britain and Ireland is much better than the boldest of its adherents and well-wishers would have ventured to hope for only ten years ago.

To-day it is, as our present meeting shows, recognised by the profession at large; already previously colleges and medical societies had recognised its legitimacy by electing professed laryngologists to the higher grades and to positions of trust in their councils; there are now in most of the large towns in England, Scotland and Ireland, well trained and well known specialists for laryngology and rhinology; in almost all the large teaching hospitals special throat departments have been provided. Special hospitals, exclusively or mainly devoted to the study of matters laryngological and rhinological, exist in London, in the provinces, in Scotland and Ireland, and their number almost yearly increases; several of them have lately instituted regular "post-graduate classes;" the literary activity has never been so great as it is at this moment and it may perhaps specially interest my hearers to learn, that the number of papers, etc., on laryngological matters produced within the last year in Great Britain and Ireland, namely, 375, was, as my statistics in my own *Centralblatt* show, in excess of the number of laryngological contributions produced within the same period in any other country, while the intrinsic value of many of them was undoubtedly great; finally, there is now a special journal written in English which serves as an analytical record of current literature relating to the throat and nose. With regard to the recently founded British Laryngological and Rhinological Association, which no doubt will be looked upon by many present as another sign of progress, I regret that I cannot take that view, and I will further on give my reasons for my divergent opinion. But leaving this one point for the moment *sub judice* it is clear from the foregoing that all along the line considerable progress has been made.

Much, however, still remains to be done. It is undeniable that a very large fraction of the profession is still unacquainted with our methods and our achievements; that the organisation of the throat departments of the large hospitals is by no means above improvement; that laryngology, so far as its place in the plans of teaching and examination is concerned, occupies a most subordinate position; and that a good deal more of useful work might be done by laryngologists at the general medical societies. For the present, therefore, it will, I think, be desirable to concentrate our efforts upon the achievement of the following points:

1. That compulsory attendance on a practical course of laryngology and rhinology be included in the official curriculum.

2. That the proficiency of every student going up for final examination regarding the use of the laryngoscope and rhinoscope be tested in the course of his clinical examination.

3. That the organisation of the throat departments in the teaching hospitals be further improved, and co-operative action amongst the teachers of laryngoscopy be aimed at.

4. That by frequently bringing forward subjects of general interest at the meetings of general medical societies, the interest of the profession at large in our endeavours be, if possible, further increased.

The first two of these propositions may well be discussed together, as the second is only a corollary of the first.

It is true of laryngology as of so many other things, that its greatest adversaries are those who know least of it. Our first aim, therefore, ought to be that every qualified practitioner ought to be acquainted with it. Now it is perfectly true that in this country, as well as elsewhere, there are a good many students who already during their hospital career understand that they do not learn for examinations, but for life, and who eagerly seize upon every opportunity of becoming thoroughly acquainted with every progress of modern medicine. For such men no compulsion is necessary. Unfortunately, however, men of this stamp are, and are likely to remain, in a minority; and to the great mass of students those subjects only appear important which are prescribed by the official curriculum, and form part of the examinations. Considering the frequency and importance of throat and nose affections, and the light thrown by the laryngoscope upon severe diseases of distant parts, it appears urgently desirable, first, that attendance on a practical course of laryngology and rhinology should be made compulsory; secondly, that proficiency in these two subjects should be tested in the final examination. To avoid all misunderstandings, however, I beg to say distinctly that I do not propose to harass the already overburdened student with a separate laryngological examination, conducted by a specialist, but merely that the extent of his acquaintance with the use of the laryngoscope and rhinoscope should be ascertained in the course of his clinical examination, and that ignorance in these respects should be noted against him, in the same way as deficiency in any of the other recognised methods of physical examination.

Concerning the organisation of the throat departments of the teaching hospitals, the wish may fairly be expressed, that they should be all placed in the charge of gentlemen taking more than transitory interest in the subjects they are called upon to teach, and further, that the principle of rapid rotation of clinical assistants, which may answer well enough in the general departments, should not be extended to special branches, demanding a technique which necessarily can only be acquired in the course of time. So long as the present principle of a three-, or at the best, six-monthly change of the clinical assistants is continued, the work of the head of the department is a real Sisyphus-task. He loses his helpers just at the moment when they become really useful to the department; he has personally to do much work, which ought to be, and is elsewhere, left to the assistants; he cannot devote sufficient time to the really important cases, and above all, he is prevented from fulfilling to its full extent what I consider his most important duty, namely, to instruct the students. This is a question of the highest importance, and I hope that the authorities will soon admit that the present system benefits a few students at the expense of the many, and in a larger sense, of the public in general. In the present circumstances we shall never be able to compete with the throat cliniques abroad, to which so many English and American students flock, not because they beat us with regard to material, or to experience, but merely on account of their superior practical arrangements. Perhaps it may some day be possible to organise in that great clinical centre, London, an association of teachers, similar to those formed in so many Continental universities, whereby the opportunity may be given to students and practitioners to utilise, better than is possible at present, the time they wish to devote to the study of throat and nose diseases. Whilst, for instance, at Vienna the budding laryngologist has the opportunity of devoting himself from 8 A.M. to 1 P.M., without interruption, to the study of his favourite subject, under the guidance of four different able and experienced teachers, at London, with its infinitely larger material, with but few exceptions, the hours of attendance at the throat departments of the teaching hospitals, as well as at the special hospitals, are from 2 to 4 P.M., and the student has hardly an opportunity of visiting more than one throat clinique in the course of the day. This fact forms a standing complaint of foreign visitors, who wish to make the most of their limited time. It will probably be difficult to make satisfactory arrangements with regard to all these points, upon which I could but hurriedly touch to-day, but the questions ought to be submitted to consideration, in order to be satisfactorily solved in the future.

I now come to the last part of my task, the advocacy of greater dissemination of laryngological knowledge by papers brought forward in general medical societies. I trust that the whole gist of this address has not left it doubtful to the minds of my hearers in what direction, according to my opinion, the true progress of laryngology must be sought for. I say it is in remaining intimately connected with our mother science, with medicine and surgery in general. We may and must try to obtain so much independence as is absolutely required for the sound development of our branch, but we ought not, I think, to be led astray by a false ambition for independence at any price, and we ought to avoid the fatal mistake of becoming isolated. From this point of view I recommend as the best bond of union between general medicine and laryngology and rhinology the frequent reading of papers of common interest in general medical societies, to be discussed by specialists, physicians, surgeons, and general practitioners in union, and to be published in general medical journals. From the same point of view I cannot but express my regret at the formation of a special Laryngological and Rhinological Society. Two years ago I fully stated my reasons for opposing such special societies when the same plan was brought forward in Germany, and all the objections I then raised and victoriously maintained apply, I think, with still greater force to this country. I do not doubt for a moment that when my friend Dr. Whistler last year brought forward his suggestion, which since has taken practical shape, he was actuated by the most ideal motives, but in this as in so many other questions theory and practice unfortunately differ.

Had this Association obstinately refused to grant a position to laryngology, the formation of a special Society would have been intelligible enough. As matters, however, actually stand there is, plainly speaking, but too much reason to fear that there will be always a latent rivalry between the new Society and the Laryngological Sections of this Association, splitting up the few British laryngologists into two camps, and leading to insufficient attendance at the meetings of either. Moreover, although there are undoubtedly some questions continuously arising, such as we shall have presently before us, which can be better discussed in a smaller circle of experts than in a large general Society, the number of these questions is very small, and they can be quite sufficiently discussed at the annual meetings of this Association. Again, it is almost certain that, in order to fill up the programme of the meeting of the new Society, a number of papers will be read on these occasions which might have been brought forward with much greater advantage before general medical societies. Several other reasons strongly speaking against a separation from the general body could be adduced, but what I have said will I think justify my fears that, far from benefiting laryngology, this departure will only lead to its isolation. I wish I may be mistaken, but I do not believe it. My own conviction is that no specialty can lastingly flourish which aims at independence at the expense of too complete a separation from the general body; and a specialty like ours, which possesses so many points of common interest with medicine and surgery in general, with neurology, with otology, with children's diseases, with public medicine, and with numerous other branches, ought, I strongly feel, rather to work in connection with them, and to impart ideas to and receive ideas from territories apparently rather distant from our own, than to retire into its own little snail-shell, and there to lead a self-satisfied existence.

Cultivation of intimate relations with our great mother science, *in hoc signo vincemus*, and under this motto we will now begin our common work.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF DISEASES OF CHILDREN.

At the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By W. B. CHEADLE, M.D., F.R.C.P.,

Physician to St. Mary's Hospital; and Senior Physician to the Hospital for Sick Children, Great Ormond Street; President of the Section.

ON THE PRESENT POSITION OF THE STUDY OF DISEASES OF CHILDREN IN RELATION TO MEDICAL EDUCATION.

THIS Section of Diseases of Children, gentlemen, cannot boast of ancient standing or a long record of regular and continuous work. It has had but a brief and intermittent existence. It did not come into life until 1883, at the meeting held in Liverpool, but in that

solitary session it did useful and notable work. Dr. Gee, the President, delivered a most interesting and scholarly address, and the discussions on Rheumatism and on Infantile Diarrhœa, ably introduced by Dr. Barlow and Dr. Ballard, were most instructive and successful. In spite of this promising commencement, however, the Section did not reappear until this year 1888. We are like the American aloe, which only blooms after many years, and then dies down, flowering again only after a certain term. We, too, require apparently a period of rest, during which we slowly mature, before we are able to blossom and bear fruit again. In our case the period of incubation would seem to be a cycle of five years.

I do not know the conditions which really determine the presence or absence of a separate Section for the Diseases of Children at these meetings, but I think this intermittent recognition may be partly due perhaps to the existence, in the minds of many, of a feeling of doubt as to the expediency of separating the diseases of children from the general study of medicine and surgery—a reluctance—which I must confess I largely share—to constitute permanently anything like a distinct and separate department of this branch of medical knowledge. My distinguished predecessor in this chair declared that art was not yet so vast nor human wit so narrow that children's diseases need be made a specialty; and that he felt that his knowledge of children's diseases would be much poorer and meaner were it not for the larger experience gained at a great general hospital. I likewise, as physician to a large general hospital, as well as one for children, can confirm this experience, and heartily endorse the judgment.

At the Children's Hospital in Great Ormond Street, with which I have the honour to be connected, it so falls out that every member of the staff, with hardly an exception, is likewise attached to some general hospital and school. I believe this system is right and wise. It insures against a too narrow concentration of view upon a limited field of pathology and practice. It is a great safeguard against the worst developments of specialism.

Possibly another reason why this Section has not become permanently established hitherto is that the vast importance of the subject with which it deals is imperfectly realised.

I have said that I do not advocate the establishment of children's diseases as a distinct speciality. But, on the other hand, I would insist with all earnestness that, although a speciality may be unnecessary, a special study of children's diseases is essential to the student. No one will, I think, venture to question the high importance of the subject in any scheme of medical education. To general practitioners especially, who form the great bulk of the profession, an ample practical acquaintance with the diseases of children, and especially with the disorders of early infancy, is of vital consequence. Children form the majority of their patients, and the fragile and growing bodies of young infants are singularly susceptible of being influenced by treatment for either good or evil. They require a nicety of discrimination, a delicacy of skill in management beyond the common.

Moreover, the medical man is compelled to deal with most cases himself. Many disorders of early life are sudden of onset and acute. He cannot hold his hand and wait to consult some expert, as he can with so many of the so-called specialities. If a patient is going blind, or deaf, or has a skin eruption, or a throat trouble, there is usually ample time to confer with the oculist, or the aurist, or the dermatologist, or the throat doctor. Not so with choleraic diarrhœa, or croup, or convulsions, or intussusception. And then look at the terrible mortality amongst children—a measure of the enormous difficulty and responsibility of dealing with illness in these patients. The death-rate is eight or ten times as great as with adults; and yet to fight against this we are content to send out our students unpracticed, inexperienced, and untaught. We provide him with ample instruction in diseases of the eye, the ear, the skin, the throat, which will be of comparatively small use to him, and teach him little or nothing about the diseases of children, which would be of enormous value to him. For, notwithstanding the extreme practical importance of a knowledge of the diseases of children, but scant attention is paid to the teaching of it, and I am glad to have this opportunity of directing attention to what appears to me to be a serious blot upon our system of medical education.

It is now nearly forty years since Dr. Latham, Sir Thomas Watson and other leaders of medicine of that day pointed out the extremely defective condition of knowledge with regard to diseases of children in the profession generally, and insisted upon the urgent necessity of more adequate provision for instruction in the subject.

I am afraid the situation to-day is very much what it was then. This question is one upon which I may claim to speak with some confidence. As whilom dean of a medical school, as physician to a general hospital as well as one for children, and as an examiner in medicine almost continuously for the last ten years, I have enjoyed unusual opportunities for forming a correct judgment in the matter. When examining, I have always made a point of setting questions upon diseases of children. My uniform experience, accumulating through this long term, is that the candidates are, as a rule, lamentably ignorant of the subject. At the last examination in which I took part exactly fifty candidates passed through my hands; although many of these passed excellent examinations in the main, I cannot honestly affirm that a single individual of them all possessed a satisfactory working knowledge of the diseases of children. Most of them, indeed, knew little or nothing of this part of medicine. It was obvious that they were destitute of any clinical experience of the common disorders of infancy. Some, indeed, had never seen a case of infantile convulsions, or of thrush, or choleraic diarrhœa, or heard the sound of laryngismus. Whooping-cough and measles were outside their experience. And yet these men may be confronted by some grave crisis, a laryngitis, or a convulsion, or an intussusception, or a case of choleraic diarrhœa, and have to deal with it, on their own responsibility, immediately on entering practice. I have more than once been told by medical men that they dreaded to be called into a case of illness in an infant, on account of the extreme difficulty which they found in making any clear diagnosis; and one even went so far as to confess that he never attempted to decide precisely what was the matter, but treated all little children on "general principles." Numbers of practitioners, no doubt, learn to treat children with accuracy and skill; but this knowledge is acquired after their student days are over, by the experience of actual practice.

It may be thought perhaps that the means of instruction have largely increased since the days of Latham and Watson. It is true that many children's hospitals have been founded, and have done good service in developing our knowledge of children's diseases; and special wards for children have also been opened in many general hospitals. Yet, on closer examination, much of this advance will be found to be illusory, and its value lessened by several drawbacks. In the first place, in all children's hospitals, in every part of the kingdom as far as I know, with the single bright exception of the East London Hospital, at Shadwell, children under 2 years of age are not admitted except in very limited numbers. The reason of this lies in the fact that they require more nursing, are more costly therefore, and they raise objectionably the death-rate of the hospital. They are accordingly practically excluded, except in special and urgent cases.

Now, it is this period of the first two years of life which is so fruitful in the diseases distinctive of infancy and childhood. It is the *representative* period. It is the period when the congenital faults of structure and of inherited disease betray themselves. It is the period when all the troubles of feeding and dentition occur, with the consequences which they involve. It is the period of congenital syphilis, of rickets, of scurvy; of diarrhœa, of atrophy, of convulsions, of intussusception. The ordinary disorders of childhood are excluded, and even more severe and rarer diseases are usually delayed until the symptoms become urgent, and the time for early diagnosis is past and gone. It is true that the out-patient departments of these hospitals, to which the smallest infants are admitted and treated by skilled and able men, afford a wide field for observation and practice in the complaints of early infancy. But out-patient practice labours under this serious defect, that the patients do not remain under continuous observation and control, and thus fail to afford an accurate presentation of the quickly varying phases of disease in infancy, or the influence of remedies upon them. There exists, however, a far more serious difficulty still.

The special hospitals for children prove after all, in existing circumstances, practically of little use to men during their student's course. They are indeed largely attended in many cases; at the hospital in Great Ormond Street, for example, there have been upwards of 2,000 attendances during the past year; but the men who thus flock to the wards and out-patient rooms consist chiefly of qualified practitioners. They come from nearly every country under the sun; but the ordinary English medical student is as a rule conspicuous by his absence; he is sparsely represented by a

few meritorious enthusiasts only. The fact that these special hospitals are situated at a distance from most of the medical schools is a serious drawback. The time of the student is already fully occupied by lectures and practice at his own hospital; attendance at the special hospital is not compulsory, the subject is not prominent in examinations, and so the man whose chief object is to get through these examinations does not find it worth while to attend. As Dr. Latham remarks on this very point, "any class of diseases not falling within the common range of professional education, and having no ready opportunities provided for its study, has a good chance of never being studied at all"

In a few instances, when the special hospital stands near, as the Evelina Hospital to Guy's, and the one at Great Ormond Street to University College Hospital, a certain number of earnest students attend with some regularity. This, however, is exceptional; as a general rule the statement is true that to the great mass of students at the medical schools these special hospitals are quite useless. If the ordinary student gains any knowledge of the subject he must obtain it in his own hospital and school. What means then exist for the clinical study of children's diseases at the general hospitals? What instruction is given there by competent teachers?

I have obtained returns from every school in London, and from nearly every other in the United Kingdom, and the information I give is based upon these official data. I find that with one or two honourable exceptions the provision at present existing for the instruction of students in this subject is utterly inadequate and unsatisfactory. In the first place, it appears that only about half the general hospitals possess children's wards, although some children are received into the general wards; in very few is any special instruction given in the subject; and in this case also there comes in the same paralysing regulation as at the special hospitals, namely, the exclusion of infants under two years of age except in urgent cases. Secondly, the infants admitted to the out-patient department are seen by the assistant-physicians together with adult patients, or, as in many instances, relegated to the obstetric department.

Now in those cases where the infants come under the care of the assistant-physicians, they are merged in the crowd of out-patients who throng the department in such overwhelming numbers, that the patients have to be seen with extreme rapidity. I can testify, from long personal experience of this work, to the extreme difficulty, or, indeed, impossibility of finding time to make use of them for clinical instruction. This can only be done by classing the children apart, and making special arrangements for the purpose. This plan has, I believe, been carried out in one or two schools with conspicuous success.

Where, on the other hand, infants are relegated to the obstetric department, the case is still worse. Occasionally, these patients are seen by the assistant obstetric physician, if he chance to take an interest in the subject. More often, however, his heart is elsewhere; he is wholly absorbed in the more attractive pursuit of what is termed gynæcology, and cares nothing for the ailments of children; so that, in the majority of cases, these infant patients, with all their representative maladies, pass to the resident obstetric officer, who deals with them as best he may; but "Quis custodiet ipsos custodes?" What means has the obstetric assistant enjoyed for obtaining a knowledge of the subject? He has only just gained a qualification, and has been left as untaught in this subject as all other students. He has had little or no opportunity at his own hospital, at any rate, of learning this branch of practice under skilled teachers, and he has probably never sought it elsewhere. He cannot impart to others knowledge which he does not himself possess. He has to learn his work after appointment, more or less efficiently, by his own observations. The system of allotting children under two years old to the obstetric department is a vicious one throughout, unfair to the patients, unfair to the medical officer, disadvantageous to the students.

The picture I have drawn of the present state of education with regard to the diseases of children must be allowed to be unsatisfactory. It is, to the best of my belief, a true representation of the position of this question in the great majority of the medical schools in the United Kingdom. There are a few, however, which have already instituted a better order of things, and to these I would give all credit for their initiation of reform. At the Universities of Edinburgh and Aberdeen systematic instruction is given, both clinically and by course of lecture. At Owens College and at Charing Cross, in London, a similar improvement has been carried out with good results. Changes in this direction, on a more limited scale, have been made at one or two other schools. But these are the exceptions: in most of them nothing has been done; the old order remains, and the result appears in the striking deficiency of knowledge shown by the candidates in the examinations. A branch of medical art, in the highest degree necessary to the practitioner, is deplorably neglected.

As I have pointed out the fault I may be expected, perhaps, to suggest the remedy. I shall not presume to lay down any detailed scheme, but the points of main importance in any reform should, I think, be these—

1. Let the examining bodies make it clear, by insertion in their regulations and schedules, that a competent knowledge of the diseases of children will be required of candidates in the final examinations.

2. Let them also require, as a part of hospital practice, an attendance of three months on a course of clinical instruction in diseases of children, which shall include those of early infancy, at either a general or special hospital.

3. Let children under two years of age be admitted freely to the children's wards of the general hospitals and to the special hospitals.

4. Let an organised system of instruction, both practical clinical instruction and lectures, be introduced at each medical school.

FIFTY-SIXTH ANNUAL MEETING
OF THE
BRITISH MEDICAL ASSOCIATION.

Held in GLASGOW, August 7th, 8th, 9th, and 10th, 1888.

THIRD GENERAL MEETING OF MEMBERS: THURSDAY, AUGUST 9TH, 1888.

THE PRESIDENT, Dr. Gairdner, took the chair at 9.30 A.M.

Address in Surgery.—Dr. W. MACEWEN delivered an address on his Recent Investigations in Surgery, which was published in the JOURNAL of August 11th, p. 302.

The PRESIDENT said that the demonstration of applause which had greeted the address almost obviated the necessity for a formal vote of thanks. He had been so greatly impressed with the splendid results obtained by Dr. Macewen, that he wanted in the original arrangements to take the whole Association to the Royal Infirmary, in order that Dr. Macewen might have given an address on his own ground; but that had been found to be impracticable, hence the arrangement for the delivery of the address in the Bute Hall.

Mr. JESSOP, in proposing a vote of thanks to Dr. Macewen, said that there was not an operation-room in the land, or even in the civilised world, where his name was not a household word. Not many years ago the sight of the deformed and maimed legs that were so common in large towns, the outcome of the industry of the country and the many homes without light and air, was really distressing to the surgeon, who could only after a few attendances hand over the cases to the surgical mechanician. Dr. Macewen had changed all that, and now when a deformed lad presented himself, the surgeon was actually pleased, inasmuch as surgeons were never so happy as when they could see something very bad which they could rectify. He was rejoiced to remember that Dr. Macewen was still a young man, and had a great deal of excellent work before him in the future. His address showed that they had in him one of the most brilliant surgeons of the day; and he was sure that the members would think that the Council had acted wisely in asking him to give them the result of his investigations. Dr. Macewen had also accomplished useful work in other directions. Those who had attended the Royal Infirmary would have seen cases of hernia in which he had performed some brilliant operations attended by a radical cure. They had all expected great things from Dr. Macewen, and they had not been disappointed, and he was quite sure that they would adopt the resolution which he proposed with the utmost enthusiasm.

Dr. WARD COUSINS said that they had listened to a most characteristic and important address. He had a great admiration for Scotland, from which they had received some of the most

startling improvements in modern surgery. When the history of the evolution of surgery in modern times should be written, the names of Scotch surgeons would assuredly adorn its pages, and among them none would be more illustrious than the name of Macewen of Glasgow. They all wished him a long life, that he might continue to cultivate those splendid, noble sciences which were so priceless a blessing to mankind.

The motion was carried by acclamation, the members standing and cheering repeatedly.

The PRESIDENT said that Dr. Macewen had stated that the phenomena to which he had referred had long been before the minds of men. The fact was that they probably existed as long as man had existed upon the earth, but the true practical inferences had not been drawn from them until the present day. He could, perhaps, carry his research into the subject further back than Dr. Macewen—not only to the medical ages, but to the ancient and splendid time of Hippocrates, when, as he had stated in his opening address, there was something like a real impulse towards Nature-searching. The interpretation then placed upon the phenomena was that the devil had entered into the man, or at least that something supernatural had got hold of him, and that it was in vain to try any surgery or medicine upon him. It was curious to find that Hippocrates, in one of his books, fought against that monstrous conclusion of early physiology. That conclusion led to a kind of surgery; but what did they do with the people who were afflicted? They hanged them and burned them as witches and wizards. When they had got it into their minds that the devil was inside these people what else could they do? Their belief was for centuries that those poor wretches were fit for nothing but to be made away with, and with the certainty that they were going to hell. Modern surgery had taken a far more beneficent view; and how was it arrived at? By genuine Nature-teaching in physiology, carefully pursued by every possible method; by clinical observation; by work in the laboratory; by the study of the physiology of brain and nerve; and, last but not least, by vivisection. Dr. Macewen was the last man to say that his unaided genius could have led him to such splendid results. He knew well that they were founded upon a long line of investigations by physiologists and others, and he would not dream of claiming more than was his due. He only wished to point out that it was to that line of investigation that the medicine and surgery of the future must owe whatever progress they might make.

Dr. MACEWEN briefly acknowledged the vote of thanks.

THURSDAY AFTERNOON, AUGUST 9TH.

THE PRESIDENT, Dr. Gairdner, took the chair at 3 P.M.

Sir GEORGE H. B. MACLEOD, M.D., delivered the Address in Surgery, which was published at p. 293.

Sir SPENCER WELLS, in moving a vote of thanks to Sir George Macleod for his able and interesting Address in Surgery, said he had the greatest pleasure in doing so, as Sir George was one of his oldest professional friends. It was thirty-five years since he first met him, in Smyrna, during the Crimean war, when he was a very young man, but he had then earned an important position for work already well done—done in such a manner as to earn the profound respect of all his colleagues. On returning to Scotland he had continued in the same line of work, and their ever-increasing friendship would explain the great pleasure with which he (Sir Spencer Wells) moved the vote of thanks to him. The address had been, indeed, "able and interesting." It showed the wide range of view taken over the whole progress of surgery during the last few years, and the profound and critical judgment in distinguishing between things that were good and doubtful. He desired to assure Sir George Macleod that the social distinction conferred upon him by the Crown was fully endorsed by his professional brethren.

Mr. TEALE, in seconding the vote of thanks, said he was sure the members were indebted to Sir George Macleod for his very interesting and useful review of surgery during the last fifty years. It was well for seniors to be reminded of the state of affairs thirty or forty years ago, and that juniors, who knew nothing about it, should have the subject brought before them. He (Mr. Teale) was in the habit of telling his students that they knew very little of what used to happen even when he was a student in reference to septicæmia and pyæmia. He had often asked a student who had recently gone through his education: "Have you ever seen a case of pyæmia?" and the answer would be "Perhaps only one or two."

The motion was unanimously adopted.

The PRESIDENT said that he also claimed the old friendship of Sir George Macleod, and there was nothing in his professional life which gave him more pleasure than that of being associated with him, not only in the University but in various spheres of professional duty, and especially in the service of Her Majesty.

Sir GEORGE MACLEOD, in acknowledging the vote of thanks, said that the kind appreciation of the members had removed from his mind a great burden, for he had not been at all sure that his address would have been worthy of the occasion. He felt like his predecessor, Dr. Allbutt, who had stated that his duty had weighed heavily upon his mind for many months. Perhaps the explanation in his (Sir George Macleod's) case might be found in the statement of Dr. Allbutt that the Celtic race was subject to despondency. He was a pure Celt, and perhaps, therefore, had been despondent. If there was anything that added to the satisfaction which he felt in having performed the duty assigned to him, it was that it had devolved upon him during the presidency of his dear old friend Dr. Gairdner. He had only further to say that it was particularly agreeable to him to find old students coming to him during the present meeting, though it was sometimes difficult to recognise them, leaving, as they did, with smooth faces, and coming back as they did with long beards. He wished to take that public opportunity of saying how very glad he was to see them, and how much interested he was in their welfare.

Presentation of Gold Medal of Merit.—The PRESIDENT said that he had had placed in his hands a diploma of the Association with a gold medal awarded by the Council for distinguished merit to Dr. Ormrod, of Workington, for his gallant services in rescuing work at the recent colliery accident. It appeared from the letter of Dr. Barnes claiming the medal for Dr. Ormrod, that the medal had been previously given by the Association on four occasions only since 1877, when it was founded. On the first occasion it was given to Mr. J. M. Davis and nine others; on the second to Surgeon-Major J. H. Reynolds, V.C.; on the third, in 1880, to Dr. William Farr; and on the fourth, in 1886, to Dr. Edward Waters. It was his privilege to have been the friend of the two last mentioned gentleman for a great many years, and he was present at the presentation of the medal to Dr. Waters: so that no one was in a better position than himself to say that the medal had been given by the Association, not only very sparingly, but with the greatest possible attention to the character, the status, and the services of those on whom it had been conferred. Unhappily it was not always possible to secure that distinctions should be conferred upon a proper principle; but in the present instance, a distinction which was held in hand, as it were, and conferred with so great reserve by the Council of a great Association like their own, upon proper recommendation and after careful consideration, on a member of the profession represented in the Association, could hardly by any possibility go wrong. Dr. Ormrod, therefore, in receiving the medal, might truly feel that he had earned what was really a very great distinction, perhaps among the greatest that could be conferred on a member of the medical profession; and that he had earned it not through any flashy or any superficial quality, not through patronage or representation of an indefensible kind, not by any sort of duty or canvassing, for there had been no such thing, and no possibility of it; but simply and solely by the conspicuous character of his merit, which was such that the moment it was pointed out by Dr. Barnes, the clearness of the case became manifest and irresistible. The facts were these. On the morning of April 19th, a fire broke out in William pit, No. 3, belonging to the St. Helen's Colliery Company. That pit had generally been considered a safe one, and it employed 400 hands. As soon as the fire occurred, a great proportion of the hands were withdrawn; but about thirty-five picked workmen were selected to wall up the workings where the fire was raging. While the work was in progress, a terrific explosion occurred. It took place about 8.15 P.M. The first rescue party descended at 8.30 P.M. Immediately after the explosion occurred, word was sent to the pit doctor, Dr. Ormrod, who at once secured the services of his colleague, Dr. Dudgeon, and, after obtaining appliances and restoratives, they at once proceeded to the scene of the disaster. The engine-house was converted into a temporary hospital, which was placed under the care of Dr. Dudgeon. Dr. Ormrod proceeded to the pit mouth; he made several descents, and proceeded with rescue parties to the furthest part of the workings, and ascended to the surface several times in charge of the injured. Nearly six hours were spent in

the work of rescue. All parts of the pit were visited, but at length the atmosphere became so foul from the presence of choke-damp, that operations had to be suspended. As it was quite certain that there were no living human beings in the pit, it was flooded in order to extinguish the fire. Several of the rescue party, including the colliery manager and his brother, suffered severely from the effects of the choke-damp. That simple statement conveyed the impression which he (the President) wished to convey to the members. Fortunately, physical courage was not a quality that was totally wanting in a large portion of the human race. Place a man under fire in a regiment, and he would find himself possessed of the necessary physical courage. But to go into a pit with a risk of another explosion occurring—an unknown risk—with no kind of banners and trumpets to urge him on, was an act of the highest possible physical courage. It resembled in its quality, though not precisely in its nature and circumstances, one which he recalled—for it could not be recalled too often—as occurring in the case of a dear friend of his own, the late Dr. Richard Mackenzie. He was with the troops at the battle of the Alma. He was present simply owing to his surgical enthusiasm, for he was not a member of the military profession. After the battle he was left in charge of the sick and wounded on the battlefield, left all night with the prospect—not by any means a small one—of being picked up by the Russians or by some predatory party. He was not caught by the Russians or by a predatory party; he was caught by that terrible foe, the cholera; and, waiting on the battlefield by day and night, doing the service of the medical man to the sick indiscriminately to the two parties, the British and the Russians, he met his death through that disease. Happily Dr. Ormrod survived. In an equally true exhibition of moral courage he had not fallen; and, as he was present to receive the medal of the Association, he had only to say that he quite agreed with the Council of the Association that no possible better disposition could be made of it. (Loud cheers.)

Dr. ORMROD, having received the medal from the President, said the members might judge of his feelings in meeting with such an enthusiastic reception from so distinguished an audience. He felt thoroughly unworthy of the high eulogium which Dr. Gairdner had bestowed upon him. The President had claimed the credit of being the friend of two of the former medallists: he might also claim the credit of being—though perhaps unknown to himself—one of his (Dr. Ormrod's) teachers. It was a peculiar honour to him to come back to the ancient city of Glasgow, where he was taught, and to receive at their hands that very high commendation. Had he imagined that such an honour was in store for him, and that he should have had to run the gauntlet of such an audience, his courage would not have been equal to the occasion, and he should have been tempted to ask to have it conferred by proxy, or if he had been a member of the Council he would not have had it conferred upon him at all. The quality of courage, he was proud to say, was not rare amongst the profession. Their life was a continued life of courage and self-denial. All who were every day engaged in arduous and laborious practice were often strained to the utmost, and required not only physical but moral courage to live down the suspicion which often attached even to those who were trying to do their best for humanity. He looked upon the present occasion as a testimony to the noble spirit which actuated the profession generally. The spirit of charity, he believed, still undoubtedly existed amongst them. There was still a tender heart even amongst those whose hands were often obliged to do what was sometimes called cruel work; and their profession still retained a character which entitled it to the claim of being amongst the most noble and charitable.

FOURTH GENERAL MEETING: FRIDAY, AUGUST 10TH.

THE PRESIDENT, Dr. Gairdner, took the chair at 2.30 P.M.

The fourth general meeting of the Association was held in the Natural Philosophy Class-room, when Professor MCKENDRICK delivered an address on "Problems of Respiration," which is published at page 331.

Professor RUTHERFORD, in moving a vote of thanks to Professor McKendrick for his interesting and able address, said he remembered the extreme zeal and assiduity with which that gentleman had applied himself to experimental physiology nineteen years ago in Edinburgh, and no one knew better than himself (Professor Rutherford) the great credit he was to the physiological department of the University of Glasgow.

Professor ROY seconded the motion. Professor McKendrick, he said, had given an exceedingly lucid account of what was an especially difficult department of human physiology, and it had been illustrated by brilliant experiments, well fitted to impress upon their minds the facts that he had brought before them. He was personally indebted to Professor McKendrick, who had been the first to impress upon his mind the importance of science in medicine. He had received his first training in medicine from Dr. McKendrick, and, since he had sat at his feet, he had worked with many other physiologists—Burdon Sanderson, Michael Foster, Ludwig, and others—but he could honestly say that from none of them had he gained so much as he had done from Professor McKendrick. (Applause.)

The PRESIDENT said that Professor McKendrick had given them an example of the way in which they must insist that physics should be taught to medical men. If it were the case, as he had no doubt it was, that some of those present had experienced a difficulty in following the address at points, the fault was not Dr. McKendrick's. It was due to want of preliminary education, and that must be put a stop to by the only method of doing it—namely, giving the preliminary education; and it must begin, not in the university, but in the school. It was for the primary school to take up the A B C of this matter, and bring people into a condition that they enter the university and understand these things at once. It was more than a mere matter of cramming and scientific dodges; it was a matter of a clear conception of things that were life and death to them all. The loose language one heard in regard to diseases and ailments of humanity was owing entirely to a want of that sort of preliminary scientific training. (Hear, hear.) Only the other day a distinguished physician, who was to have dined with him, told him that he could not bring his wife because she was suffering from a bilious attack. What was a bilious attack? He did not know himself, and what was more, the distinguished physician did not know. (Laughter.) That sort of thing must be put a stop to. The language and the ideas dominating medicine should be made as far as possible plain, clear, and exact as the language that dominated the physical conception. They were trying to work medicine out of the realm of vagueness and mystery into the realm of scientific clearness, and they must do it by the same process by which Joseph Black worked the phenomena of latent heat out of the realm of mystery. (Applause.)

Professor MCKENDRICK, in appropriate terms, acknowledged the vote of thanks, and expressed his gratitude for the assistance he had received from Sir William Thompson. It was not, he said, in many class rooms that one could find such excellent appliances, and from his point of view he regarded that class room as one of the most distinguished spots in the British Isles. (Applause.)

Sir WILLIAM THOMSON said he had been highly honoured in the use that the Natural Philosophy Class-room had been put to that day. It was a great gratification to him that Dr. McKendrick had found the room convenient, and that some of the appliances had been useful in connection with his admirable address, and the most brilliant and splendid set of experiments he had put before them. He was sure that since the Natural Philosophy Class-room had come into existence it had never had in it an assemblage which could at all be compared with the one on that occasion. (Applause.)

Vote of Thanks to the Lord Provost and Magistrates.—Dr. BRIDGWATER proposed:

"That the warm thanks of the Association be given to the Lord Provost and Magistrates of Glasgow, for the marked courtesy which they have shown to the members of the British Medical Association during their visit to Glasgow, and for the brilliant reception in the art galleries of the International Exhibition given on Friday, August 10th."

Vote of Thanks to the Ecclesiastical Authorities.—The PRESIDENT OF COUNCIL proposed:

"That the warmest thanks of the Association be given to the Rev. the Presiding Minister, Dr. Stewart Burns, for organising the Cathedral Service; and to the Very Rev. the Principal, Dr. John Caird, for the eloquent sermon preached on the occasion, and that he be requested to sanction its publication."

Vote of Thanks to the Principal and Professors of the University.—Dr. CUMING proposed:

"That the Principal and Professors of the University, Glasgow, be warmly thanked for the use of the buildings of their University, for their hospitable reception on Wednesday, August 8th, and

also for the recognition of the Association by the honour conferred on their President of Council."

Vote of Thanks to the President and Fellows of the Faculty of Physicians.—Dr. McKENDRICK proposed:

"That the warm thanks of the Association be given to the President and Fellows of the Faculty of Physicians and Surgeons, Glasgow, for the very enjoyable garden party given in the Botanic Gardens, Kelvinside, and for the interest they have taken in assisting the arrangements of the meeting by granting the use of their rooms for committee meetings."

Dr. KEALY proposed:

"That the very cordial thanks of the Association be given to Dr. Yellowlees (Chairman of the Executive Committee), to the members of the various sub-committees, and to Professor McKendrick, Dr. Christie, and Dr. John Glaister, Honorary Secretaries, for their arduous and successful labours in connection with the arrangements of the meeting, and to Dr. Thomson and Dr. Maylard and the Museum Committee for their admirable work in connection with the museum."

"That the members of the British Medical Association desire to tender their grateful thanks to the Glasgow Branch of the Association, and to those members of the medical profession of Glasgow who have joined in the movement for a very successful meeting."

Dr. YELLOWLEES proposed:

"That the best thanks of the Association be given to the Western Club, the Conservative Club, the New Club, the West of Scotland Imperial Union Club, and Glasgow Chess Club, for their kind hospitality in allowing members of the Association the privileges of membership during the meeting, to the Art Club for a pleasurable smoking concert, and to the Arlington Swimming Club and the Managers of the Western Baths for their kindness in granting the use of their establishments to the members of the Association."

Dr. McKENDRICK proposed:

"That the hearty thanks of the British Medical Association be given to the Executive Committee of the International Exhibition for their kindness in presenting a free ticket to the members for Friday, and for otherwise assisting in carrying out the arrangements for the meeting."

Whereupon the President left the chair.

The PRESIDENT-ELECT proposed:

"That Professor Gairdner be warmly thanked for so ably and courteously presiding over this, the fifty-sixth, annual meeting of the British Medical Association."

THE ANNUAL DINNER.

The annual dinner of the members of the Association took place on Thursday evening, in St. Andrew's Hall. While the members were assembling, the band of the Seaforth Highlanders played several selections, and, during the evening, instrumental music was supplied at intervals by the band and pipers of the regiment, and vocal music by the Glasgow Select Choir, under the conductorship of Mr. J. Millar Craig. A large number of ladies were present in the gallery. About 500 gentlemen sat down to dinner, which was provided by Messrs. Fergusson and Forrester. The chair was occupied by Professor GAIRDNER, President.

After the customary loyal toasts, the PRESIDENT proposed "The Navy, Army, and Reserve Forces," which was briefly acknowledged by Captain BOYLE, R.N., Colonel KELSEY, and Colonel Sir DONALD MATHESON.

The Rev. Dr. DONALD MACLEOD said he considered it a very high honour indeed that he should have been called upon to propose the important toast which had been committed to him. He confessed that he rose with a feeling of awe in the presence of such an audience, which represented the highest science, the most cultured thought, and perhaps the greatest moral worth of our country and our age. He did not think it was very inappropriate that a clergyman should be asked to propose this toast, for the two professions should be closely linked together. Every profession was apt to slide into its own groove, and forget the elements of truth which might be taught by its sister professions. He confessed that the clergy had been guilty of that fault. They had been too apt to think that they could put everything right by sermons and by dogmas, forgetting how greatly the people were influenced by physical environment, and by that tremendous law of heredity which was growing every day into greater and greater importance. The two professions had in many respects run parallel. They had both been afflicted by quackery, by that class of practitioner who professed to be able to cure every form of malady, bodily or physical, by processes that gave no pain and inflicted no trouble. They had also both of them, perhaps, been guilty of the same sins. He was afraid they had been most dogmatic when they had been least informed. They had also fallen too much into that spirit which in the clerical profession went by the name of *odium theologicum*, and, while nameless in the profession, was often just as acute. But he believed that the clerical profession had surpassed the medical in the higher sense of being able to deal with opponents. The medical profession had not yet had a Torquemada; it had not yet burned its Servetus. In all its dealings as between the antiphlogistic and the phlogistic treatment, between allopathy and homœopathy, it had not yet discovered that excellent method of converting an opponent by vivisection—(laughter)—nay, more, although the ambition of the medical profession had soared highly in the past, it had never managed to produce a European war, and involve nations in bloodshed upon the merits of a pill or the efficacy of a blister. In all those respects he thought that they might learn a lesson from the history of the Church. (Laughter.) At the same time, medical men had some advantages over them. He remembered an interesting conversation with Sir William Jenner, in which that distinguished physician, speaking of what was called fashionable society in London, said to him: "What are you clergymen doing? We medical men, when an epidemic breaks forth, devote ourselves to discover its causes, and to find out a cure. It is your duty to do some of these things; why do you not do it?" And that was a very just criticism. Sir William Jenner, however, forgot the disabilities under which they laboured. Medical men could always get their patients to take their prescriptions, but clergymen found some difficulty in securing the same attention to theirs. If the doctor fancied that a man would be better for having his limb off, it was simply a question of chloroform, and the "case," as he was called, was delivered of his leg or arm before he knew that he was asleep. On the other hand, however correct the clergyman's diagnosis might be, if he thought it necessary for a man to pluck out his eye, or to cut off his right arm, there was no chloroform or any other instrumentality at hand, nothing but persuasion. But he thought that in one respect the two professions were united. Their one aim was the good of humanity, and he trusted that in the spirit in which they conducted their work they were all united in their intense loyalty to truth, in an intense desire for intellectual liberty, in an intense desire to get at realities, and he trusted also in their pursuit of such things that they sought to cultivate the spirit of wisdom, the spirit of reverence, as well as of keenness of research. It was not for him to speak of the triumphs of the medical profession. The whole country, the whole population, the whole world was interested in every victory that they won. That Association during the fifty-six years of its existence had year after year had to record some triumph won by men of genius, who had to so great an extent changed the complexion of their art. Every triumph they had won had been a triumph in which the world had been interested. The medical profession had not only been famous for its enthusiasm, but it was as famous for its generosity and self-sacrifice. There was not one man too poor, not a squalid den too miserable into which the physician did not enter and devote the highest skill for the good of every sufferer. These were great and magnificent merits belonging to the medical profession. Their success was every day becoming greater. If they went on with sanitation and preservatives against the beginnings of disease, they would overset entirely the law of the survival of the fittest, and they would bring about the survival of everybody. (Laughter and applause.) By-and-bye the world would get too small for us. In a few centuries after this it would be pushing one another into the ocean. Both professions had still a great work to do. It would be a long time also before Presbytery or Episcopacy realised peace upon earth. It would be a long time, also, before the medical profession were able to realise Dr. Richardson's dream, when every city would be a Hygeia into which no pestiferous microbe would be allowed to enter, and in which no foul bacillus would be allowed to work. As long as man was mortal, he was afraid that there would be room for both their professions. He rose to propose "Prosperity to the British Medical Association." The city of Glasgow had felt itself honoured by the visit. With the exception of the exhibition, and the visit of the Prince of Wales and of Her Majesty, the great feature of the present *annus mirabilis* had been the coming of the British Medical Association to Glasgow. What the effect of the visit of the 2,000 members of the Association

would be on the future health of the city remained to be seen. In the meantime they recognised it as an honour that they had received in this ancient city the representatives of so much of what was brilliant in thought, what was so celebrated in the history of a profession that was so precious to them all. (Applause.) When he asked them to add to the toast the health of the honoured President, he knew that he would command their approval. They were proud of the President's inaugural address, so full of fresh thought, of splendid spirit, of wide culture. It had been inspiring, perhaps, as much to the clergy as to the medical men. They were proud in every respect of Professor Gairdner. He was a man of such straightforward honesty, of such perfect simplicity, and wide culture, and in all his relationships such a thorough Christian gentleman, that he had won the affection as well as the esteem of all. He desired them to drink prosperity to the British Medical Association, and to its honoured President, Professor Gairdner. (Cheers.)

The PRESIDENT, in reply, said he supposed he ought to feel very humble. In a certain sense he did feel very humble. He felt inexpressibly the terms in which the toast had been proposed and the inadequacy of his own power to respond to it from the personal point of view. But then, on the other hand, he was not there entirely as a person, but as the representative of the British Medical Association. (Hear, hear.) Speaking from that point of view, he felt it impossible to be so entirely humiliated as otherwise he should have felt. He felt that the British Medical Association had a right to stand up in the face of Glasgow and in the face of the world as a great and glorious association. He felt that, with its from twelve to thirteen thousand members, with its Branches ramified over the whole empire, with its widespread influence through a great variety of channels, it in every respect resembled the dew and the sun, which, without any noise, produced the most marvellous effects. He felt that the British Medical Association was emphatically one of the greatest and grandest of British institutions. (Applause.) In fact, he thought he might go beyond that statement. If there was any other such institution in the world he did not know what it was. (Hear, hear.) What was the British Medical Association? It was an institution which, without a charter, without State support, without anything whatever except the voluntary concurrence of individuals, had managed to assert itself as a very great power, both in this State and in a great many other States, had managed, through the marvellous influence of its fellowship all over the world, through the genial power of association, through the marvellous skill and intrepidity with which its JOURNAL had been conducted, to assert itself as a power throughout the British Empire, the colonies, and, to a great extent, a power throughout the world at large. (Cheers.) The President of such an association, even although he was President only for one year—and perhaps it was happy for him that he filled that office for only one year—could not afford to be humble. (Hear, hear.) If he was not supposed to be exalted he must keep himself erect. (Hear, hear.) He could not help thinking that Dr. Macleod must have had a touch of irony in that part of his speech in which he represented the medical profession as endowed with despotic power, compared with the unfortunate clergy, who were entirely dependent on moral suasion. If the history of the world had shown anything, it was rather opposed to that. (Hear, hear.) There was a considerable record at Smithfield—(hear, hear)—about faggots, about stakes, and about executions; about wars and rumours of wars, nations rising against nations and State against State—and that, somehow or other, went down to their account. (Hear, hear.) He was not aware of any such record on behalf of the medical profession. For good or for evil, they had stopped short of that. The Pope himself was *servus servorum Dei*, according to his own profession, having no power whatever himself; he never pretended to wield the physical power of the State or to turn it to bad account; but somehow or other the clergy gave the nod and the wink to the powers that be, and the headsman and the stake were ready, and it so happened that heretics were burned and the enemies of the Church beheaded. Happily, the medical profession had no such record as that to show, and he believed that in the main they stood free from the blood of all men, at all events in regard to intention. At the same time, he was bound to confess that they had erred enormously through ignorance, through slavishness, through scholastic dogmatism, and in the past, beyond all doubt, had sacrificed the lives of millions of people. Take the case of insanity—he had alluded to it that morning. What a horrible idea it was that the devil had entered into the body of a man, that hundreds and thousands of people had been consigned to a frightful death, and that the medical profession should never have uplifted its voice until comparatively recent times against it. No doubt they did uplift their voices in the end, but it was a long time before they did so. It was true that, in the remote ages, Hippocrates lifted his voice against that sort of thing; and, if they had all followed in his footsteps, the medical profession would have been pure from the blood of men. The lesson they all had to learn from that was the lesson of charity, the lesson which was substantially the lesson of duty: to lord it over no man's conscience, to believe that the truth would prevail, that God was capable of maintaining His own without the intervention of man, and that they had no occasion to call in councils, and churches, and States, the faggot and the stake, in order to cause God's truth to prevail; but if they humbly and reverently followed it and worked it out for themselves in detail, the truth was of itself strong enough to stand. (Cheers.)

Sir SPENCER WELLS, Bart., in proposing "The Universities and Colleges," said that the toast seemed to him a very vague one. He was doubtful at first whether it simply included the Universities and Colleges of Scotland, of England, or of the United Kingdom, or of the colonies, or of the whole of the world, or whether it was simply the toast of education. But he was informed, on inquiry, that the toast represented the Universities and Colleges of the United Kingdom. Now that, he thought, represented in other words the toast of the British Medical Association, because, in his opinion, the Association included graduates of all Universities and Fellows and Members of all the Colleges in the United Kingdom. It received them all on terms of equality, it received them all as brothers, and represented in that way the "liberty, equality, and fraternity" of their neighbours. It was unnecessary to say more of the Universities and Colleges than to encourage them to advance in the study of scientific truth and the perfecting of all the arts which tended to the benefit of mankind. (Cheers.)

The Very Rev. Principal CAIRD, in replying, said he could not pretend, in the few minutes allotted to him, to represent so wide a constituency as the Universities and Colleges of Great Britain; but speaking for those institutions with which he was especially connected—the Scotch Universities—he thought that the value of a compliment depended on the quarter from which it came, and though neither his colleagues nor himself were indifferent to the good opinion of the general public, they could not but receive with peculiar pleasure any tribute paid to them on such an occasion as the present by such a body of men as he had now the honour to address. A university was, or ought to be, a home of the higher learning and culture, and who so capable of appreciating its worth or of pronouncing whether it lived up to its ideal as an assembly of learned and cultured men? Its professors were teachers of science and the liberal arts, and amongst those who heard him there were men not a few whose lives were devoted to the same noble vocation, and some who had won for themselves in it not merely national but European fame. To fulfil that vocation efficiently it was required of their professors that they be not merely retailers of stock knowledge, but men imbued with the spirit of inquiry, keeping abreast with the most advanced ideas and discoveries of the time, and by their own researches seeking to extend the ever-widening boundaries of knowledge; and in an especial manner was this required of the teachers of that aggregate of sciences embraced under the general name of medicine, which in our day had made and were making such rapid and restless progress. (Cheers.) And here, too, it would be impossible to appeal to an assembly more qualified to judge whether in this respect they had been faithless or faithful to their trust. Nor would it detract from what he had said, but the reverse, if he added that generous rivalry sharpened the critical faculty. The learned professions were not strangers to emulation, nor were they remarkable for the tenderness and tolerance with which they treated each other's defects. Even clergymen and churches were not invariably blind to each other's failings; and in the noble profession to which most of them belonged, sharp criticism, whether of individuals or institutions, was not a thing altogether unknown. At any rate, speaking for the institution to which he belonged, he might say that if ever there was a time when the Scottish Universities were apt to become somnolent for the lack of lynx-eyed censorship, it was not so now. During the past few years they had been passing through a furnace of criticism heated seven times, and if they

ever came forth out of it he feared that none of them would be able to say with the Scripture heroes that "not a hair of our head was singed, nor that even the smell of fire clung to our garments." They would understand, therefore, that in the midst of this painful experience, if anything good could be said of them, their commendation must fall with a consoling sweetness and gratefulness on their ears. (Cheers.) And since there was no vanity in accepting commendations of an institution in which one's own individuality was merged, he would venture to add that he thought after all that in some respects their praises were not undeserved. (Cheers.) With all their faults and imperfection there was, he believed, much in the constitution, the history and traditions, and the actual present condition of the Scottish universities of which they might be justly proud. Antiquity was in itself in one sense a title to fame. The institution that had stood the test of time, that had not only grown with the growth of the nation, but had age after age adapted itself to the nation's ever-varying wants, could not be a weak or worthless one. Their records do not carry them so far back as those of the great English universities or of the University of Bologna, which had just been celebrating the eighth centenary of its history. But, to speak only of his own university, it could date its origin from a time ere the nations of Europe had yet awaked from the long intellectual slumber of the Middle Ages, and when the first signs of that great outburst of scientific discovery, which had had such a marvellous influence on the progress of human knowledge, were only beginning to appear on the horizon. It kept alive the flickering light of learning and science through the civil and ecclesiastical strifes of the sixteenth and seventeenth centuries; and, coming down to our own day, he thought he might add that whether they considered the great and increasing numbers of students who crowded their halls, or the name and fame of many of their teachers, or the contributions to human knowledge which not a few of them had made, the University of Glasgow—and the same might be said of the sister universities—constituted no unimportant factor in the intellectual life of the nation. (Cheers.) No doubt there was much in our university system that admitted of improvement, and, as everyone knew, they were on the eve of great, of organic changes, the results of which only time could disclose. But though in this, as in all similar cases, the reforming and conservative tendencies of the human mind ranged men in opposite phalanxes, and though in the heat of controversy acrimonious feelings and bitter words were perhaps inevitable, yet he believed that the majority of those who on this subject differed most from each other were actuated only by a desire for the increased efficiency of their great national institutions; and he was sure there was no one there who would not join him in the fervent wish that, under whatever changes of form and administration, each of their universities might continue to be in the future what he believed it had been in the past—a well-spring of knowledge, a fountain of purest light and life, to the community around it and to the nation at large. (Cheers.)

Dr. FITZGIBBON (President of the Royal College of Surgeons of Ireland), in responding to the toast, referred at some length to the grievances of the Army Medical Department, and expressed his regret that the medical profession was not better represented in Parliament. The grievances in question had been laid before the public through the instrumentality of the Association and its JOURNAL, and he hoped every member of the profession would use whatever influence he possessed to obtain their removal.

Mr. ERNEST HART, in proposing "The Lord Provost, Magistrates, and Town of Glasgow," said that in the tales which a well-known Scotch traveller brought to them in their youth he had stated that in Abyssinia it was the custom that those to whom it was desired to pay particular attention were put out in the sun, with a quantity of butter on the head of each of them, so that, as the butter melted and their faces shone before the people, everyone knew that the shining and distinguished figures were persons whom the king delighted to honour. It appeared that that physical and intellectual lubrication gave considerable pleasure to those on whom it was inflicted. As boys they used to think it very strange; but in maturer years, and after a long course of public dinners, they came to see that they were not altogether without analogous sentiments, and that with the adorned graces of civilisation they still retained the habit, not, indeed, of feeding to repletion, but of banqueting and toasting those to whom they felt gratitude and whom they desired to honour. It now came to his turn to hand round the oratorical pat of butter—(laughter)—to a great and distinguished body whom they particularly desired to honour; and who not only deserved well of the citizens of Glasgow, but merited the esteem and admiration of the British Medical Association. When it was conveyed to him that that agreeable duty was to be performed by him, he happened to be reading the autobiography of a distinguished Scotchman, who was half way between a doctor and a layman, George Combe, the craniologist; and in the chapter that he was reading, there were two passages to which he desired to refer, instead of making a speech. In one of them the author stated that, in the year 1799, a new means of communication was established between Edinburgh and Glasgow; and he went on with pride to say that the necessities of communication between these two great cities were to be satisfied by the Glasgow fly, which started from the market with a back seat holding two, and with a front seat which, when let down, would hold two more, and two on the box. (Laughter.) Those who now came to Scotland on the wings of the wind, dining in Glasgow and going back to sleep in Edinburgh, could see some proof in the enterprise of the Corporation and the citizens of Glasgow in extending the capacities of their great city. Then Combe told another story, a childish one, but one which might well be applied to the work of the Corporation. He was very fond of keeping rabbits, and he used always to treat them well, and give them new straw, but forgot to clean out the habitations properly, and take away the old straw. To his horror the rabbits got into bad habits, and exhibited bad moral qualities. The mother committed infanticide, and the father became savage. "I held up," he said, "the young to the mother, and beat her, in order to signify my horror of the conduct; but I soon discovered that if I cleaned out her habitation, gave her clean straw, and attended to her necessities, she very quickly became a changed creature, and attended to all her duties." The Glasgow Corporation had learned the lesson which Combe drew from that circumstance. "That taught me," he said, "that you must attend to the physical and physiological needs of the people; that by giving them the physical surroundings which are needful for human happiness, by attending to their sanitary condition, you raise at once their physical and moral qualities." It was the pride of the Corporation that within the last few years it had spent upwards of a million of money in improving the sanitary condition and rebuilding the habitations of the people of Glasgow, so that whereas the mortality in certain districts was once at the rate of 50 per 1,000 per annum, it had now fallen to 20 per 1,000. That constituted one of the highest claims of the Corporation upon their admiration and esteem. He had been told that in the arms of the city there were four emblems which no one could understand—a tree, a bird, a bell, and a fish, and the old rhyme said:—

> Here's the bell that never rang,
> Here's the fish that never swam,
> Here's the tree that never grew,
> Here's the bird that never flew.

(Laughter.) He believed that the fish was connected with the miracle of Kentigern. He taught a great lady how to catch a salmon which had in its mouth a certain wedding-ring; and the tree was the tree of commerce. He could not help feeling that that emblem which belonged to the past might also, in the hands of the present Corporation, typify the future. When, by abating the smoke nuisance, by removing the pollution of the chemical vapours of factories, by multiplying open spaces like the beautiful Kelvin Grove, by furnishing means of healthy recreation for the people, by cleansing the soil, and purifying the river, they had attained results which were easily within their reach, then the sun would shine upon those trees, which would bloom and grow more beautiful than ever, then the birds would luxuriate in the fresh heavens, then the Clyde would flow as a clear unpolluted river, and salmon be caught at the very quays at Glasgow. (Cheers.)

Sir JAMES KING, the Hon. the Lord Provost, replied. Referring to the growth of Glasgow, he remarked that he was afraid his friend Dr. Carpenter would not admit that its beauty had increased in proportion to its bigness. But with the increase of size and the number of its industries a certain amount must be conceded in respect of the want of purity in the river and in the atmosphere. Speaking of the work of Dr. Gairdner, who was first medical officer of the city, and of his successor, Dr. Russell, his lordship said that the reduction in the mortality of the city was a cause for gratitude on the part of all, and he might say that those members of the Association who were able to visit the hospital at Belvidere would find that the most complete appliances of modern science had not been grudged for the treatment

of epidemic disease there—(hear, hear)—and those who were able to visit the reservoir at Mugdock in connection with the Loch Katrine works would see also that in supplying water to the city everything had been done that was possible to make the supply constant, abundant, and pure. (Applause.) Alluding to the discrimination which the Town Council had shown in the appointment of its officials, he said he had only to mention to them that Dr. Macewen, who was received with such honour that day—(great applause)—was only a few years ago the police surgeon in the central district of the city. (Hear, hear.) With an officer of health such as Dr. Gairdner, and a successor such as Dr. Russell, and with a police surgeon such as Dr. Macewen, he thought the Town Council might hold up their heads. (Cheers.)

Dr. YELLOWLEES proposed the toast of "Our Guests," coupling with it the names of the Rev. Professor Story, D.D., Professor Benedikt, of Vienna, and Dr. Davis, of Chicago. Professor Story, he said, was a man of that wide culture that knew no field of science foreign to him; and Professor Benedikt was one of their most distinguished European fellow-workers. He had the equal pleasure of associating with the toast the name of Dr. Davis, especially remembering the splendid reception given to English medical men on the occasion of the International Medical Congress in America.

The Rev. Dr STORY, in reply, said their excellent President, in the address which he delivered the other night, spoke of the relations of medicine and religion, and spoke also—and he thoroughly sympathised with him in what he said—of the fatal and repressive effect of deference to orthodox standards. Well, one of the most orthodox standards in the Church for many a long day was this, that there was no unpardonable crime except the crime of diverging from the opinion of the majority. That was the one sin for which men were persecuted and were burnt at the stake, and the medical profession more than any other had helped them, he thought, to alter and adjust the standard by which they judged of religion—to alter it more in conformity with the ideas of the primitive church, which was not a dogmatic but a beneficent association. It was to the medical profession that they owed the idea that the man who poisoned the stream, who polluted the air, who overcrowded the workshop, who drew rents from one room or from one cellar, who exposed those under him to those pernicious physical conditions in which healthy morals and intellectual life were altogether impossible, that that man was the heretic and anti-Christian—(hear, hear)—though he might be an elder of the Church—(hear, hear)—and though he might occupy the highest place among the Scribes and Pharisees of his denomination. (Cheers.) In establishing that idea they owed a great deal more—he was ashamed to confess it—to the Doctors of Medicine than to the Doctors of Divinity. (Cheers.) There was still another point which established a claim to respect and regard on behalf of the medical profession, namely, that in an age in which it was said that the days of chivalry were over, it, more than any other profession, maintained the standard of chivalrous self-devotion. He knew no example of chivalry in recent days equal to that of Florence Nightingale, and he might also mention that of the young doctor who, after making an incision in the throat of his patient and finding it still clogged with a poisonous excrescence, sucked it out with his own mouth, caught the infection and died of the disease. Such deeds, he maintained, glorified the profession to which that man belonged.

Professor BENEDIKT said that his experiences in Glasgow were inscribed on his memory and heart. On one occasion he was nearly drowned, and in a moment all the evidence of his life came before him, agreeable and disagreeable. He now knew how a man died, and he was sure that in the last moment of his life he should think of the days spent in Glasgow. He heartily thanked the Association for its kind reception of the foreign guests, and for all that they owed to the British scientific world and the medical profession for many years past. The British world was a model for them, and they admired too the British psychological constitution. They knew no other nation where the sentiments were so governed by convictions, and the convictions so governed by knowledge, and knowledge so intimately connected with general use. The great feature in an Englishman's character was, that when he was convinced that a thing should be done he did it. It was not an accidental thing that the great tragedian was a British poet. Englishmen called him the "Swan of Avon," Germans called him the "Eagle of modern poetry." It was not accidental that the great master of the art of reasoning was of Scotch offspring; that the science of national wealth and welfare was originated by Adam Smith; that the great masters of natural philosophy, Bacon, Newton, Faraday, Darwin, were the prophets of modern religion; and his conviction was that they would be still greater prophets as time went on. He was especially happy to make the acquaintance of the ladies connected with the British Medical Association. As a boy he was angry that all the good qualities had a feminine symbol, but as he became older and was long married he had become contented, and discovered that the fancies of artists were not wrong—(laughter and cheers)—that in truth the ladies were the true representatives of the great qualities of manhood. The question had been asked: What is a lady? A lady was a biological point—(laughter)—made by the great poet of the world, by Nature herself; and the ladies of the British Medical Association constituted a splendid edition of selected points. (Laughter.) In Germany they had a definition of a learned man, a man who was always of other opinions: but he was quite sure that they were all of one opinion that the ladies of the members of the British Medical Association were worthy symbols of their science and art, and he cordially drank their health. (Cheers.)

The toast was briefly responded to by Dr. DAVIS, of Chicago.

THE UNIVERSITY DEGREES.

THE Senatus of the University of Glasgow having resolved to confer the honorary degree of Doctor of Laws (LL.D.) on several gentlemen in connection with the meeting of the British Medical Association, the ceremony of capping was performed on Friday afternoon, in the Bute Hall. There was a large attendance of ladies and gentlemen. The chair was occupied by the Very Rev. Principal CAIRD, Vice-Chancellor of the University.

Principal CAIRD having offered up prayer in Latin,

Professor ROBERTSON said: Mr. Vice-Chancellor, by the authority of the Senate of this University, and in the name of the Faculty of Law, I am now, as Dean of that Faculty, to present to you several gentlemen, each of whom the Senate deems eminently worthy of receiving the highest honour which it has in its power to confer, the degree, namely, of Doctor of Laws.

In the first place, I present to you, Sir William Aitken, M.D. Sir William is an alumnus of the University of Edinburgh, and on the occasion of his graduating there, after the completion of his medical studies, he won the gold medal, thus giving early and marked promise of the professional fame which he was destined ultimately to acquire. He is a Fellow of the Royal Society, is Professor of Pathology in the Army Medical School, Netley, and an Examiner in Medicine for all the three branches of the service. Moreover, he is the author of a large work on medicine, which has run through no fewer than seven editions, and which still continues to be highly appreciated by his professional brethren, besides having published other works of a highly scientific and practical character in pathology and hygiene. (Applause.)

Next, I have to present Thomas Clifford Allbutt, of Leeds. This gentleman is a Master of Arts and Doctor of Medicine of the University of Cambridge, a Fellow of the Royal College of Physicians, and a Fellow of the Royal Society. He is a Consulting Physician to the Leeds Infirmary, a member of Court of Victoria University, and was formerly Professor of Medicine in the Leeds School of Medicine, which is now affiliated to Victoria University. Dr. Allbutt has attained, by his ability and his learning, to the high and enviable position of being one of the most distinguished investigators and physicians in England. (Applause.)

Next, I have to present Benjamin Ball, Doctor of Medicine, Paris. Dr. Ball is Clinical Professor of Mental and Cerebral Diseases in the Paris Faculty of Medicine. He is author of numerous works relating to mental disease, works published, some of them in English, some in French, and others both in English and in French, and all characterised by singular depth of research and great clearness both of view and of expression. Among these may be instanced lectures in English on mental diseases, a work of upwards of 900 pages, which truly forms a complete treatise on mental pathology; a treatise, in French, on the Partial Responsibility of the Insane; a treatise, in French, on Morphinomania; a treatise, in French, on Erotic Insanity, viewed chiefly from a medico-legal point of view; and a treatise, both in French and in English, on Insanity in Paralysis Agitans. By his eminence as a professor, and by the works which he has published, Dr. Ball has acquired for himself, and also for his chair—which, indeed, was expressly created for him—a reputation that extends far beyond the limits of Europe. (Applause.)

Next, I present John Thomas Banks, M.D., Dublin. This gentle-

man is a graduate of the University of Dublin. He became a Fellow of the College of Physicians in that city in 1844; in 1869 he served the office of President, and, after officiating for some time as sole lecturer on medicine in Richmond Medical School, he succeeded a distinguished gentleman, Dr. John Criery Ferguson, as King's Professor of Medicine in the School of Physic, Trinity College, and Physician to Sir Patrick Dun's Hospital. The appointments held by Dr. Banks are both numerous and highly important. He is a Senator of the Royal University of Ireland, Physician in Ordinary to the Queen in Ireland, Regius Professor of Physic in the University of Dublin, and a member of the principal medical societies of the United Kingdom. He was the first President and is also late President of the Academy of Medicine in Ireland; and when he retired from office it was said of him by his successor, Dr. Robert M'Donnell, "There is not one who has done more to maintain the high social position of the profession in Ireland." Dr. Banks is author of numerous contributions to practical medicine, clinical reports, and observations on medical cases, published in the *Dublin Quarterly Journal of Medical Science* and *Medical Gazette*, and in the *Proceedings of the Pathological Society*. I should also mention that in 1883 Dr. Banks declined the honour of knighthood, which was offered to him by Her Majesty "in recognition of the high position which he occupied in the profession." He filled with much distinction the office of President of the British Medical Association in 1887-88. (Applause.)

Next, I present Fordyce Barker, M.D., and a Doctor of Laws both of the University of New York and of our sister University of Edinburgh. Dr. Barker is Professor of Clinical Midwifery in the Bellevue Hospital of the Medical College, New York; was lately President of New York Academy of Medicine, and was first President of the American Gynæcological Society; is author of a valuable treatise on Puerperal Diseases, and of many other medical writings; and is, moreover, a successful and highly distinguished practitioner in the city of New York—his reputation, moreover, extending over the whole of the great Republic of the West. (Applause.)

Next, I present Dr. Moritz Benedikt, of Vienna. Dr. Benedikt has devoted himself for many years, with extraordinary energy and singular success, to the study of anthropology, more especially of the convolutions of the brain, and the form of the cranium in criminals, and also in the case of epileptics. He is the inventor of some very accurate instruments for the measurement of the human skull, and has exhibited them at several European congresses of medicine, at every one of which they have attracted both great attention and great admiration. As an author he has won a world-wide reputation by his great work on therapeutics. This work possesses the distinction of being the first opening effected in Germany, on a sound and scientific basis, into a line and method of the treatment of the diseases of the nervous system, a method of treatment which has since become familiar to all. (Applause.)

Next, I present Thomas Bridgwater, of Harrow-on-the-Hill. Mr. Bridgwater is a Bachelor of Medicine of London University, chairman of the sanitary authority for Hendon Rural District, and has been in general practice for thirty-five years, during the greater part of which he has been the medical officer of Harrow School. He is also President of the Council of the British Medical Association, with universal acceptance, and the entire confidence of the 12,000 members of which that great Association is composed. (Applause.)

Next, I present John McIntyre, M.D., of Odiham, Hampshire, an alumnus of this university, which he entered nearly fifty years ago. After a most honourable and successful career as a medical practitioner in England, Dr. McIntyre has recently shown the deep interest which he has in this his *Alma Mater*, and in the welfare of her students, by erecting the Students' Union, a building in which the students will find suitable accommodation for their various societies. All future generations of students of this university will gratefully remember the liberality and the beneficence of Dr. McIntyre. (Applause.)

Next, I present William Campbell Maclean, M.D. The career of this gentleman has been a singularly eventful and distinguished one. He entered the medical service of the army as far back as 1838, served in the war with China from 1840 to 1843, and was present in every battle throughout that war. Dr. Maclean's services in the war having been brought to the notice of the Governor-General of India, he was appointed by him to the Residency of Hyderabad. While there he established the first vernacular school of medicine in India—a school which, under his successors, flourishes to this day—and he became a member of the Senate of the University of Madras. In 1860 Lord Herbert called him home to take the appointment of Military Medicine in the Army Medical School, whereupon he retired from the army of India, was recommissioned in the British army, was honoured with the rank of Surgeon-General, was made a Companion of the Bath, and finally retired from the army after a distinguished service of nearly half a century. Dr. Maclean is the author of a standard work on tropical diseases, and has largely contributed to the medical press on medical and sanitary subjects, particularly as regards the health of the army of India. In presenting to you, Mr. Vice-Chancellor, this distinguished countryman of ours for the Degree of Doctor of Laws, I cannot omit to state, and this with an emphasis appropriate to the fact, that, in common with the late lamented Professor Edmund Parkes, he has been a most eminent advocate of reform in the soldiers' dress, equipments, and habits of life, and that he has, by his philosophical and practical studies, effected such changes in administration as have greatly added to the life and increased the efficiency of the British private soldier. It is well, Mr. Vice-Chancellor, that the University of Glasgow should now recognise the profound and valuable studies, and the manifold labours and achievements of one who is so great an ornament to the medical service of our army. (Applause.)

Next, I present James Morton, M.D., President of the Faculty of Physicians and Surgeons, Glasgow, for many years Professor of Materia Medica in the Andersonian School of Medicine, and one of the surgeons to the Royal Infirmary. Dr. Morton has made many important contributions to surgery, and occupies a prominent position in the profession in Glasgow. The Senate desires, by conferring the degree on Dr. Morton, not only to recognise his own merits, but also to show its warm and abiding interest in the welfare of the Faculty of Physicians and Surgeons of Glasgow, over which he presides, and which is now one of the oldest corporations in the kingdom. (Applause.)

Next, I present William Munro, M.D. Dr. Munro is a graduate of this University, a Licentiate of the Royal College of Surgeons, Edinburgh, a Companion of the Bath, and a member of the Order of Medjidie. He served with a distinguished Scottish regiment—the 91st, or Argyllshire Highlanders—in the Kaffir war of 1846, and as surgeon in another distinguished regiment—the 93rd, or Sutherland Highlanders—throughout both the Crimean war and the Indian Mutiny, during which campaigns he was present in no fewer than nineteen different engagements. He was principal medical officer in the Umbeylah campaign in the north of India. For all these campaigns he wears medals. Latterly he rose to the rank of Surgeon-General. While serving as Surgeon-General, an office from which he has since retired, Dr. Munro performed an important and signal service in compiling new codes of regulations for the Medical Department of the Army. He is also the author of several works of great interest, not only to military men, but also to the general public, including *Records of Service and Campaign in Many Lands*, and *Reminiscences of Military Life in the 93rd*—a work in which he has narrated with a pen, equally graceful and truthful, the achievements of that portion of his countrymen on Crimean and Indian fields of fame. (Applause.)

Next, I present Frederick William Pavy, M.D., London, Fellow of the Royal College of Physicians of London, Fellow of the Royal Society, a distinguished physician and physiologist, and one who has added largely to our knowledge of dietetics, more especially to the physiology of nutrition, his name in connection with which is well known, not only throughout Europe, but also throughout the whole of the great continent of America, and in all the colonies of our own wide empire. (Applause.)

Next, I present Sir George Hornridge Porter, M.D., Dublin. Sir George, who is a graduate of the University of Dublin, commenced his medical career with strong hereditary claims to distinction, for his father was a celebrated anatomist and physiologist, and also famous as an operator. His medical appointments are singularly numerous, all bearing marked testimony to his merits and worth, and the high estimation in which he is held both by the profession and by his fellow-citizens. He is a member of many of the medical societies of the United Kingdom, and he has published in the medical press most valuable lectures on clinical surgery, besides contributing numerous articles to the *Dublin Journal of Medical Science*. In 1869, Sir George was appointed Surgeon-in-Ordinary to the Queen in Ireland; in 1873, his own university hastened to confer on him the degree of Master in Surgery

(*honoris causâ*); and, in 1883, Her Majesty conferred on him at Windsor the honour of knighthood "expressly to mark his high position among the surgeons of the United Kingdom." (Applause.)

Next, I present David Yellowlees, M.D., the well-known physician superintendent of the Royal Asylum at Gartnavel, Glasgow, and the lecturer in this University on the subject of insanity. By his contributions to medical journals, and by his ability as an administrator, Dr. Yellowlees has taken a leading position among the members of the profession devoted to the treatment of the insane. He has also, as chairman of the Executive Committee, contributed largely to the success of this great meeting of the British Medical Association. (Applause.)

Conversaziones.

The *conversazione* given at the University by the Principal and Professors on Wednesday, August 8th, was numerously attended by members of the Association and their friends. Invitations had also been issued to members of public bodies in the city and suburbs, and the result was a large gathering of ladies and gentlemen, and the usually sedate heights of Gilmorehill were for the nonce made the scene of festive meeting. The guests, who arrived by the main entrance under the tower, were received by the Principal and several of the Professors. The Bute Hall was the principal attraction, and here the Exhibition band and a company of ladies and gentlemen went through a well arranged musical programme. The company broke up about 11 o'clock.

The *conversazione* given by the Corporation of Glasgow on Friday, August 10th, in the Glasgow Exhibition, was crowded to overflowing. The executive kindly placed the entire picture and sculpture galleries, as well as the Grand Hall, at the disposal of the Corporation for the purpose, and it is calculated that no fewer than 3,000 ladies and gentlemen were present, and the accommodation, spacious as it was, was tasked to the utmost. On entering, the guests were ushered into picture gallery No. 1, where they were received by the Lord Provost, Lady King, and the magistrates, his lordship and the magistrates wearing their robes and chains of office. The evening from 7 to 10 o'clock was pleasantly spent in the examination of the fine collection of pictures and sculpture, and in listening to the music in the Grand Hall. The band of the Belgian Guides was in attendance, and played some fine selections, which were varied by organ and pianoforte solos, given at intervals by Mr. A. Hollins. In the corridors of the Grand Hall were buffets at which refreshments were largely in demand. The *conversazione* closed at 10 o'clock, but many remained on the grounds to witness a fine display of fireworks.

A Medical Man's Will.—By his will, dated August 20th, 1887, Isaac Harrison, F.R.C.S.Eng., a well-known surgeon in Reading, bequeathed to the Corporation of the Sons of the Clergy, £1,000, the Society for the Propagation of the Gospel in Foreign Parts, £1,000; Additional Curates Society, £1,000; the vicar and churchwardens of the parish of St. Mary, Reading, towards providing a stipend for the curates for the time being of the church of St. Mary, Reading, £1,000; the British Medical Benevolent Fund, £500; the Royal Berkshire Hospital, £500; the Reading Dispensary, £500; the Reading Green Girls' School, £500; the Reading Blue Coat School, £500; to his coachman, £500. Bequests are made to his cousins, and to his deceased wife's nephews and nieces, and he devises his real estate, and bequeaths the residue of his personal estate, in equal shares, to Dr. James Dodd Swallow, 313, Clapham Road, London, and Miss Charlotte Elizabeth Greenhow, Bardsey, Bath Road, Reading, whom he appoints executor and executrix of his will, and by whom the value of the personalty has been declared for probate at £43,700 6s. 1d.

Successful Vaccination.—Mr. Beaven Rake, M.R.C.S., L.S.A., of Fordingbridge, Salisbury, has received the Government grant for successful vaccination for the eighth time.—Mr. J. R. Nunn, of Feckenham, has received it for the second time.

Yellow Fever.—Yellow fever having been declared epidemic at Jacksonville, Florida, strict quarantine has been ordered at other ports, and arrangements have been made to fumigate the mails and luggage conveyed by the railways from Florida.

The total of the street collection of the Hospital Saturday Fund was, at the end of last week, £500 in excess of any former collection.

PROCEEDINGS OF SECTIONS.

The work of this, the fifty-sixth, annual meeting of the British Medical Association has been conducted in general meetings reported elsewhere, and in twelve Sections. The papers read in these Sections and the discussions thereon will be published in full or in abstract in the Journal with all convenient despatch, but the following summary will afford a general view of the scientific business got through, and will indicate the subjects which have been debated in the various sections.

Section A.—Medicine.

President, T. McCall Anderson, M.D., Professor of Clinical Medicine in the University of Glasgow. *Vice-Presidents*, R. L. Bowles, M.D., Folkestone; George F. Duffey, M.D., Dublin. *Honorary Secretaries*, J. McGregor Robertson, M.A., M.B., Glasgow; Robert M. Simon, M.D., Birmingham.

Wednesday, August 8th.

The President, in place of a formal address, opened the proceedings of this Section by reading a valuable paper on the Diagnosis and Treatment of Syphilitic Disease of the Nervous System. The subject was discussed by Dr. David Drummond, Professor Grainger Stewart, who exhibited a remarkable case, Dr. Ross, Dr. Clouston, Dr. Alexander Robertson, Dr. Drysdale, Dr. Sinclair Coghill, Dr. Oswald Ziemssen (Wiesbaden), Dr. Byrom Bramwell, and Dr. Stretch Dowse. A contribution to the discussion forwarded by Dr. William Moore, of Dublin, was taken as read.

A paper on Some Forms of Undescribed Respiratory Neuroses; their Clinical and Physiological Aspects, was read by Dr. Andrew Smart, and discussed by Dr. McGregor-Robertson and Dr. R. L. Bowles, who, in a paper read immediately after, reported the results of an investigation into the Cause of Stertor in Certain Animals.

The whole of the first session of the Section having been thus occupied, papers by Dr. Francis Warner on Syphilitic Meningitis causing Imbecility; by Dr. T. Gerald Garry on Massage: When and How to Use it; and by Dr. A. S. Myrtle on Neurasthenia, True and False: its Diagnosis and Management, were taken as read.

Thursday, August 9th.

A demonstration was given by Drs. Byrom Bramwell and Milne Murray of their method of Graphically Recording the Exact Time Relations of Cardiac Sounds and Murmurs; and a short conversation took place, in which Drs. Coupland, Drummond, Theodore Williams, Oliver, Macfie, McGregor Robertson, and the President took part.

Dr. W. A. Machlan read a paper on A Case of Addison's Disease, upon which Dr. Wardrop Griffith and the President made some remarks.

A Case of Pernicious Anæmia successfully treated by Arsenic was related by Dr. John Strachan, and Dr. Affleck, Dr. Boyd, and the President made some remarks.

Dr. J. O. Affleck read a paper on Two Cases of Raynaud's Disease (Symmetrical Gangrene), illustrated by paintings of the affected parts, and by microscopical sections of affected nerves; the paper was discussed by Dr. Levick, Dr. Bowles, Dr. Long Fox, and Dr. Warnock.

A. Harrison, M.B., reported some Further Researches on the Treatment of Tinea Tonsurans, and exhibited some photographs; Dr. Drinkwater made some remarks.

Dr. Thomas Oliver read a paper on the Clinical and Pathological Bearings of Malformation of the Heart, as seen in (*a*) Patent Foramen Ovale; (*b*) Imperfect Ventricular Septum. This was discussed by Dr. Stawell and Dr. Warnock.

A paper was read by Dr. Orlando Jones on A New Remedy (Cactus Grandiflorus) for some Forms of Heart Disease.

Dr. David W. Finlay related A Case of Bronchiectasis treated by Incision and Drainage, upon which Dr. Theodore Williams made some comments.

A Case of Subphrenic Abscess was reported by Dr. Sidney Coupland.

A paper on The Influence of Position on Cardiac Murmurs and the Condition of the Heart in Anæmia (Chlorosis), by Dr. H. Handford, was, in his absence, taken as read.

Friday, August 10th.

A discussion on The Value of Inhalations in the Treatment of Lung Disease was introduced by Dr. C. THEODORE WILLIAMS, and continued by Dr. J. A. Lindsay, Dr. A. Smart (who showed various forms of respirators), Dr. W. W. Ireland, Dr. J. Sinclair Coghill, Professor D. Boyes Smith, Dr. Denison (Denver, Colorado), Dr. Charles Gulson, and Dr. Alfred T. Brett.

Dr. T. F. S. CAVERHILL showed a patient exhibiting remarkable symptoms connected with Disease in the Motor Area of the Cortex Cerebri. This case was recorded in the JOURNAL, November 20th, 1886, by Dr. Hughlings Jackson, F.R.S. Dr. Dunsmure, Dr. Ross, and Dr. Simon made some remarks on the case.

A paper on Neuritic Symptoms in association with Diabetes was read by Dr. F. W. PAVY, F.R.S.; Professor Jacobi advocated the use of Salicylate of Sodium; the discussion was continued by Dr. A. Smart, Dr. Harrison, Dr. Ross, and Dr. Tennant.

Dr. STACEY WILSON read a paper on The Methods of Diluting the Blood, and their Clinical Uses.

Dr. J. KAY TOMORY read a paper on East African Fever, with special reference to climatic conditions.

Papers by Dr. L. G. S. COGHILL (Ventnor) on The Treatment of Phthisical Pyrexia: by Dr. ARTHUR P. LUFF on The Ptomaines or Animal Alkaloids, and their Relation to Disease; by Dr. C. W. SUCKLING on Peripheral Neuritis and on its occurrence in Brass-workers; by Dr. W. FREW (Kilmarnock) on The Prevalence of Cerebro-spinal Fever in Scotland; and by Dr. THOMAS LAFFAN on Our Exaggerated Estimate of the Value of Beef-tea, were taken as read.

SECTION B.—SURGERY.

President, George Buchanan, M.D., Professor of Clinical Surgery in the University of Glasgow. *Vice-Presidents*, James Dunlop, M.D., Glasgow; Charles Robert Bell Keetley, F.R.C.S., London. *Honorary Secretaries*, David Neilson Knox, M.B., Glasgow; Walter Pye, F.R.C.S., London.

Wednesday, August 8th.

The PRESIDENT opened the proceedings by reading an address, which is published on p. 342.

A discussion on the Surgical Treatment of Abscess of the Lung and Empyema was opened by Mr. T. PRIDGIN TEALE, F.R.S. (Leeds), and continued by Sir Spencer Wells, Bart., Dr. Ward Cousins, Mr. Jessop (Leeds), Dr. John Duncan (Edinburgh), Dr. Webb (Wirksworth), Mr. Winkfield (Oxford), Mr. Edmund Owen, and Mr. Jordan Lloyd (Birmingham). The discussion was closed by a reply from the opener.

A paper was then read by Dr. TH. DE VALCOURT (Cannes), on Winter Sea Baths at Cannes in cases of Scrofulous Disease.

Dr. JAMES MURPHY (Sunderland) exhibited a patient eleven months after the operation of Gastrostomy had been performed, and related the History of the Case. Dr. ARCHIBALD CARMICHAEL (Barrow-in-Furness) also reported a case of Gastrostomy.

Mr. BENTON (London) read a paper on the Treatment of Stricture of the Rectum by Electrolysis.

Dr. JOHN DUNCAN (Edinburgh) read a paper on the Value of Electrolysis in Angioma and Goitre.

A case of Intracranial (Subdural) Hæmorrhage in which the Site of the Lesion was Localised, and in which recovery followed Trephining, was related by Mr. EDMUND OWEN.

Dr. BEAVEN RAKE (Trinidad) discussed the Value of Nerve Stretching in Leprosy, basing his conclusions on the observations of one hundred cases.

Thursday, August 9th.

Sir ANDREW CLARK, Bart., F.R.S., related the History of a case of Catheter Fever, and, on the motion of the PRESIDENT, a hearty vote of thanks to him was passed.

Mrs. E. GARRETT ANDERSON, M.D. (London) described a case of Incontinence of Urine due to a supernumerary or accessory urinary passage. A hearty vote of thanks to her, also, was, on the motion of the CHAIRMAN, passed.

Mr. JORDAN LLOYD (Birmingham) read a paper on Inflammatory Disease of the Seminal Vesicles.

Mr. MAYO ROBSON (Leeds) read a paper on Prostatectomy: a Sequel of the Operation of Suprapubic Lithotomy in Cases of Prostatic Enlargement.

Dr. J. WARD COUSINS (Portsmouth) described and exhibited a New Evacuator for Litholapaxy and other Bladder Operations.

Dr. J. CRAWFORD RENTON described a case of Severe Deformity of the Lower Lip restored by Mr. Teale's operation six years ago.

Dr. HUGO MARCUS (Paris) read a paper on the Causes of Suppuration.

Mr. MAYO ROBSON reported a case of Macewen's Operation for Genu Valgum.

Friday, August 10th.

A discussion on the Operative Treatment of Clubfoot was introduced by papers read by Mr. E. LUND and Mr. R. W. PARKER; and continued by Dr. Alexander Ogston (Aberdeen), Dr. Whitson (Glasgow), The President, Mr. Noble Smith, and Mr. Symonds.

A paper on Scoliosiometry was read by Mr. BERNARD ROTH.

Mr. C. B. KEETLEY read a paper on Plastic Amputation of the Foot.

Mr. R. H. B. NICHOLSON (Hull) related a case of Double Pyosalpinx cured by Aspiration.

Dr. W. H. MYERS (Indiana) read a paper on the Treatment of Peritonitis after Laparotomy.

SECTION C.—OBSTETRIC MEDICINE.

President, Thomas More Madden, M.D., Dublin. *Vice-Presidents*, William Leishman, M.D., Glasgow; J. Halliday Croom, M.D., Edinburgh. *Honorary Secretaries*, William Walter, M.D., Manchester; W. L. Reid, M.D., Glasgow.

Wednesday, August 8th.

The proceedings were opened by an address from the PRESIDENT, which is published in the JOURNAL on p. 343.

A discussion on Intra-uterine Death, its Pathology and Preventive Treatment, was then introduced by Professor SIMPSON (Edinburgh), and continued by Dr. Robert Barnes, Dr. Byers, Dr. Fordyce Barker, Dr. Parvin, Dr. Wilson (Baltimore), Dr. Aust Lawrence, Dr. Edis, Dr. Amand Routh, and the President.

Dr. SAMUEL SLOAN exhibited his Antero-Posterior Compression Forceps, and explained their use in flat pelves; observations on the subject thus raised were made by Dr. Aveling, Professor Stephenson, Dr. Reid, Professor Dill, Dr. Harvey, Dr. Heywood Smith, Dr. Cameron, the President, and Dr. Duke.

Professor STEPHENSON exhibited his Tractor Forceps.

A paper on Headaches of Pelvic Origin was read by Dr. AMAND ROUTH, and discussed by Dr. Braithwaite and Dr. A. Lawrence.

Professor STEPHENSON read a paper on the Influence of Permanganate of Potass on Menstruation.

Thursday, August 9th.

A discussion on Obstructive Dysmenorrhœa and Sterility was opened by Dr. HALLIDAY CROOM, and continued by Dr. Robert Barnes, Dr. Duke, Professor Stephenson, Drs. Byers, Lawrence, Braithwaite, Walter, Reid, Heywood Smith, A. Routh, and the President; Dr. Croom replied.

Dr. WILLIAM L. REID showed and described an Instrument for the Rapid Dilatation of the Cervix Uteri; and Dr. DUKE (Dublin) made some observations on (1) the Rapid Expansion of the Cervical Canal by a New Method, and (2) Tractors and Belt, for additional power in Forceps Cases, as an alternative to Craniotomy. Remarks upon these papers were made by Dr. Heywood Smith, Dr. Lawrence, Dr. Barnes, Mrs. Garrett Anderson, Professor Stephenson, Dr. Cameron, and Dr. Parvin.

Dr. W. WALTER (Manchester) exhibited his Instruments for securing the Broad Ligaments during Extirpation of the Uterus per Vaginam, and Drs. Routh and Braithwaite made some remarks thereon.

Dr. ROBERT BARNES read a paper on the Analogies between Menstruation and Gestation and Puerpery, in their Physiological and Pathological Relations, which was discussed by Drs. Braithwaite and Warren.

The PRESIDENT read a paper on the Rapid Curative Treatment of Cystitis in a Woman, which led to a discussion in which Dr. Jessop, Dr. Boyd, Dr. Byers, Dr. Heywood Smith, Dr. Sloan, Dr. Barnes, Dr. Harrison, Dr. Smith took part. Dr. Madden replied.

Dr. J. WALLACE (Liverpool) read a note on Three Forms of Fallopian Disease: (1) Subinvolution (open tube); (2) Hypertrophy (open tube); (3) Complete Stenosis (inflammatory).

Friday, August 10th.

Dr. APOSTOLI (Paris) read a paper on Some Novelties in the Electro-Therapeutics of Gynæcology. Dr. AVELING followed with

a paper on the Treatment of Uterine Tumours by Electricity; and Dr. LAWRENCE (Bristol) read Notes of Cases Treated by the Apostoli Method. The subject was then discussed by Sir Spencer Wells, Bart., Drs. Braithwaite, Imlach, Oliver (Newcastle), Heywood Smith, and Amand Routh, Mrs. Garrett Anderson, Drs. Edis, Bell (Glasgow), Hugo Marcus (Paris), Harvey (Calcutta), and the President.

Dr. BERRY HART (Edinburgh) reported a Successful Case of Cæsarean Section (Porro's Modification), and Dr. M. CAMERON read notes on (1) a Cæsarean Section, with Notes of a Successful Case; (2) the Thermostatic Nurse, with Cases. The subject was then discussed by Dr. R. Barnes, Dr. Imlach, and Dr. Heywood Smith.

SECTION D.—PUBLIC MEDICINE.

President, Henry Duncan Littlejohn, M.D., Medical Officer of Health for Edinburgh. *Vice-Presidents*, James Christie, M.D., Glasgow; David Page, M.D., Medical Inspector, Local Government Board. *Honorary Secretaries*, Eben. Duncan, M.D., Glasgow; John C. McVail, M.D., Kilmarnock.

The PRESIDENT commenced the business of the Section by reading an address on Sanitary Legislation, which led to a discussion, in which Mr. Sheriff Spens, Dr. Glaister (Glasgow), Dr. Hardesty (Galashiels), Dr. Alfred Carpenter (Croydon), Dr. Eben. Duncan, Dr. Nasmyth (Cowdenbeath), Dr. J. C. McVail, Dr. Corner (Poplar), Dr. Fitzpatrick (Dublin), and Dr. Graham (Middleton) took part.

The following resolution, moved by Dr. ALFRED CARPENTER, and seconded by Dr. EBEN. DUNCAN, was adopted:

"That the Public Medicine Section of the British Medical Association desires to express its opinion that an amended Public Health Act for Scotland is urgently required, the provisions of which shall apply alike to urban and rural districts."

Mr. BRINDLEY JAMES urged the desirability of appointing a Minister of Public Health. Dr. WILLIAM BRUCE made a Proposal for the Joint Publication of the Different Annual Hospital Reports from Scotland; and Dr. CHURTON (Leeds) reported Some Researches in the Homes of Hospital Patients and of Holiday Children. Dr. F. Sutherland (Glasgow) and Dr. Walker (St. Leonard's-on-Sea) made some remarks on these papers.

Surgeon-Major PRINGLE then read his paper on Small-pox in Leicester and Sheffield, and the subject thus raised was discussed by Dr. J. C. McVail, Dr. Brett (Watford), Dr. Parker (Liverpool), Dr. Norman Kerr (London), Dr. Cameron (Huddersfield), Dr. Fowler (Grangemouth), and Dr. Nasmyth (Cowdenbeath).

Dr. NORMAN KERR drew attention to some risks from attention to health and sanitation, and Dr. Bower (Bedford) commented thereon.

Thursday, August 9th.

A discussion on the Communicable Diseases Common to Men and Animals, and their Relationships was opened by Principal WALLEY, of the Royal Veterinary College, Edinburgh, in which Dr. Farquharson, M.P., Professor Crookshank, Dr. J. B. Buist, Dr. Edward Seaton, Dr. A. Edington, Dr. Henry Tomkins, Dr. Alfred Carpenter, Professor McFadyean, of the Royal Veterinary College, Edinburgh; Dr. McVail (Kilmarnock), and Principal McCall, of the Royal Veterinary College, Glasgow, took part. Principal Walley replied.

The following resolution, moved by Principal WALLEY, and seconded by Dr. FARQUHARSON, M.P., was adopted:

"That the Public Medicine Section of the British Medical Association approves of the action of the Government in inquiring by Commission into the relationship of bovine and human tuberculosis, and urges that as soon as possible such measures be taken as the report of the Commission might show to be advisable, and that copies of the resolution be transmitted to the Prime Minister, the Secretary for Scotland, and the Lord Advocate."

A report by Mr. WILLIAM BROWN, F.R.C.S. (Carlisle), on an Outbreak of Typhoid Fever, Associated with an Infective Fever among Cows, and a paper by Dr. T. W. HIME on Milk Scarlet Fever, were also read.

A paper by Dr. SIMPSON, Medical Officer of Health for Calcutta, on Cholera and its Fostering Conditions in the Endemic Area, was read in his absence by Dr. JAMES CHRISTIE (Glasgow). It was discussed by Dr. Farquharson, M.P., and Surgeons-Major Harvey and Pringle.

On the motion of Dr. CARPENTER, and in consequence of the postponement of the Burgh Police Bill, a resolution was adopted reaffirming the resolution passed on the previous day, and expressing the opinion that a Local Government Bill, containing provisions for the protection of the public health, should be introduced as a Government measure during next session of Parliament, and that the Council be requested to transmit a representation to this effect to the Lord Advocate and the Secretary for Scotland.

Dr. TATHAM read a paper on Preventive Measures at Salford, with special regard to Compulsory Notification of Diseases.

A discussion on the Disposal of Sewage *(a)* in Large Towns; *(b)* in Small Towns and Country Districts, was opened by Dr. JAMES B. RUSSELL, Medical Officer of Health, Glasgow. Dr. ALFRED CARPENTER read a paper on the same subject. Dr. DRYSDALE read a note on the Berlin and Paris Sewage Farms. A paper by Dr. J. DYKE, on the Disposal of Sewage at Merthyr Tydfil, was read in his absence by Dr. EBEN. DUNCAN. Dr. MURRAY described the mode adopted in Forfar, and Dr. WHITELAW that adopted in Kirkintilloch for the Disposal of Sewage. The PRESIDENT also read a paper on the Disposal of Sewage, and the discussion was then continued by Dr. J. Davis (Chicago), Lieut.-Col. Alfred S. Jones, C.E., Dr. W. R. W. Smith, and Dr. Bateman (Norwich).

Dr. EDWARD SEATON read a paper on Epidemic Ephemeral Fever.

SECTION E.—PSYCHOLOGY.

President, James C. Howden, M.D., Montrose. *Vice-Presidents*, James Rutherford, M.D., Dumfries; Julius Mickle, M.D., London. *Honorary Secretaries*, A. R. Urquhart, M.D., Perth; Alexander Newington, M.D., Ticehurst.

The PRESIDENT delivered an opening address on the Nature and Treatment of Insanity.

Dr. A. K. TURNBULL (Fife and Kinross Asylum) made some remarks on Boarding-out as a Provision for Pauper Insane, and the subject was further discussed by Dr. Yellowlees, Dr. Hack Tuke, Dr. Stern, Dr. Mould, Dr. Richardson, Dr. Clouston, Mr. Whitcombe, Dr. Watson, and Dr. Rogers.

A paper was read by Dr. WIGLESWORTH on the Pathology of Delusional Insanity (Monomania). It was discussed by Dr. Savage, Dr. W. J. Mickle, Dr. Conolly Norman, and Dr. Yellowlees.

Thursday, August 9th.

A discussion on the following subject was commenced by Dr. CAMPBELL CLARK: The Sexual and Reproductive Functions—Normal and Perverted—in Relation to Insanity. 1, Menstruation: its Commencement, Irregularities, and Cessation; 2, the Sexual Instinct and its Abuse; 3, Pregnancy, Parturition, the Puerperal Period, and Lactation. The discussion was continued by Dr. Clouston, Dr. Wiglesworth, Dr. Campbell, Dr. Savage, Dr. Aplin, Dr. Turnbull, and the President. Dr. Campbell Clark replied.

Dr. GEORGE SAVAGE read a paper on Mental Disorders associated with Engagements and Marriage. It was discussed by Dr. Clouston, Dr. Wiglesworth, Dr. Campbell, Dr. Aplin, Dr. Turnbull, and the President. Dr. Savage replied.

Dr. CLOUSTON initiated a discussion on the Principles of Construction and Arrangement of an Asylum for Private Patients of the Richer Classes, in which Dr. Urquhart, Dr. Campbell, Dr. Needham, Dr. Ward, Dr. Mould, Dr. Lane, and the President took part. Dr. Clouston replied.

Dr. FRANCIS WARNER read a paper on Methods of Examining Children in Schools as to the Development and Condition of Brain, upon which Dr. Shuttleworth made some remarks. The discussion was then adjourned.

Friday, August 10th.

The discussion on Dr. WARNER'S paper was resumed by Dr. Ireland, and continued by Dr. Hack Tuke, Dr. Yellowlees, and Dr. Fletcher Beach.

The following resolution was moved by Dr. FRANCIS WARNER:

"That a committee be appointed to conduct an investigation as to the average development and condition of brain function among the children in primary schools, and that their report be sent to the editor of the JOURNAL; and, further, that the committee should have power to add to its number, and to apply to the Council for a money grant."

This was unanimously agreed to, and the following gentlemen appointed to act on the committee: Dr. Warner, Dr. Hack Tuke, Dr. George Savage, Dr. Yellowlees, Dr. Fletcher Beach, Dr. Shuttleworth, Dr. Clouston, Dr. Conolly Norman, Dr. Ireland, Dr. Brodie.

Dr. FLETCHER BEACH read a paper on Cases of Disease of the Brain in Imbeciles.

Professor BENEDIKT read a paper on the Clinical Results of Craniometry and Cephaloscopy in Diseases of the Mind and Brain, upon which the President of the Association, Dr. Hack Tuke, Dr. Batty Tuke, and Dr. Bateman made some remarks.

A paper on Hallucinations was read by Dr. HACK TUKE, and discussed by Professor Ball, Drs. A. Robertson, Ireland, Mickle, Batty Tuke, Yellowlees, and Savage.

Dr. OSCAR WOODS read Notes on a Case of Folie à Deux in five members of the same family, upon which Drs. Savage and Yellowlees made some remarks.

Dr. MICKLE read a Note on Antifebrin.

SECTION F.—ANATOMY AND PHYSIOLOGY.

President, John Cleland, M.D., F.R.S., Professor of Anatomy in the University of Glasgow. *Vice-Presidents*, R. J. Anderson, M.D. (Galway); Henry Edward Clark, F.F.P.S.G. (Glasgow).

The proceedings of this Section were opened by an address from the PRESIDENT, which will be found at p. 346. A vote of thanks was proposed by Professor STRUTHERS (Aberdeen), and seconded by Professor PETTIGREW (St. Andrews).

Mr. C. B. LOCKWOOD demonstrated a series of Microscopical Preparations illustrating the Development of the Organs of Circulation and Respiration. Mr. A. M. Paterson and the President made some remarks.

A paper by Mr. W. ARBUTHNOT LANE on the Results Produced upon the Muscles, Bones, and Ligaments by the Habitual Exercise of Excessive Strain, was read.

Dr. A. M. PATERSON read a paper on the Position of the Vertebrate Limb, considered in the light of its Innervation and Development; upon which Dr. J. Y. Mackay and the President made some observations.

Professor BENEDIKT (Vienna) explained and demonstrated his Craniometric and Cephalometric Systems.

Dr. J. MACDONALD BROWN read a paper on the Construction of the Cardiac Ventricles in the Mammalia, upon which Professor Struthers made some remarks.

Thursday, August 9th.

Mr. MAYO COLLIER read a paper on the Mechanism of the Heart and Pulse.

The PRESIDENT read a paper on the Nature of Certain Forms of Double Monstrosity.

Dr. MACDONALD BROWN made some remarks on Arrested Twin Development, and exhibited "Laloo."

Some original observations in Physiological Therapeutics made on the Fresh-water Jelly-fish were reported by Dr. B. WARD RICHARDSON, F.R.S.

Dr. J. BERRY HAYCRAFT reported some recent investigations in the Production of Taste and Smell.

Dr. ST. JOHN BROOKS read a paper on the Morphology of the Epitrochleo-anconeus, upon which the President, Mr. C. B. Lockwood, and Mr. J. Y. Mackay made some observations.

Drs. J. BERRY HAYCRAFT and E. W. CARLIER read a paper on the Morphological Changes which occur in the Blood during its Coagulation, and gave a Demonstration of Human Blood retained in a Fluid Condition when Suspended in Castor Oil; upon this, Dr. John Barlow, Professor Charly, and the President made some observations.

A paper on Pelvic Epiphyses was read by Dr. R. J. Anderson.

The Hyoid Bone and Its Relations was the subject of a paper by Dr. BENJAMIN HOWARD; it was discussed by Dr. Macdonald Brown, Dr. Snodgrass, and the President.

Friday, August 10th.

A paper on Congenital Diaphragmatic Hernia in an Infant was read by Dr. MELVILLE PATERSON, and discussed by Mr. Lockwood and the President.

Dr. GREVILLE MACDONALD read a paper on the Mechanics of the Nose as regards Respiration, Taste, and Smell; upon this, Professor Rutherford, F.R.S., made some remarks.

Dr. A. SYMONS ECCLES read a paper on Internal and External Temperature of the Human Body, as Modified by Muscle-kneading, with Sphygmographic and Sphygmomanometric Records.

Professor RUTHERFORD, F.R.S., read for Mr. E. H. EZARD, M.B., B.Sc., a Note on a New Appearance in Medullated Nerve Fibre.

Professor RUTHERFORD, F.R.S., read a paper on the Structure and Contraction of the Striped Muscular Fibre of the Crab, which was discussed by Professors McKendrick and McCall and the President.

A discussion on the Teaching of Anatomy was introduced by Mr. C. B. LOCKWOOD, and continued by Messrs. Struthers and Rutherford, Drs. St. John Brooks and Mackay, Professor Anderson, Dr. Griffith, and the President. Mr. Lockwood replied.

SECTION G.—PATHOLOGY.

President, Sir William Aitken, M.D., LL.D., F.R.S. *Vice-Presidents*, Alexander Davidson, M.D., Liverpool; Joseph Coats, M.D., Glasgow; Charles Roy, M.D., F.R.S., Cambridge. *Honorary Secretaries*, G. Sims Woodhead, M.D., Edinburgh; J. Lindsay Steven, M.D., Glasgow.

The PRESIDENT opened the proceedings by delivering an address, the full text of which is published in the JOURNAL on p. 348. A vote of thanks was passed on the motion of Sir ANDREW CLARK.

Professor EDWARD CROOKSHANK read a paper on Tuberculosis in Cattle, which was discussed by Professor Roy, F.R.S., Dr. Joseph Coats, Mr. Maylard, Mr. Logan, and Dr. Edington.

Professor CROOKSHANK also read a paper on Tuberculosis in Swine, and another on Human and Bovine Actinomycosis; upon the last Dr. Edington made some remarks.

Professor CROOKSHANK also read a paper on Anthrax in Swine, which was discussed by Professor Roy, F.R.S., Dr. Clifford Allbutt, F.R.S., and Professor McFadyean.

Thursday, August 9th.

Professor C. S. ROY, F.R.S., read a paper by himself and Mr. J. A. ADAMI on a Research on the Failure of the Heart from Overstrain, conducted in the Pathological Laboratory of the University of Cambridge. The subject was discussed by Sir William Aitken, F.R.S.; Dr. Clifford Allbutt, F.R.S.; Surgeon-General Maclean, C.B.; Dr. Wm. Hunter (Cambridge); Professor Boyes Smith (Army Medical School, Netley); the President of the Association; Dr. Gordon Hardie; Dr. James Finlayson; Dr. Joseph Coats; Dr. William Russell; and Dr. J. Lindsay Steven.

A paper on Malignant Fibrosis was read by Dr. WM. RUSSELL (Edinburgh), and discussed by Professor Greenfield and Dr. Joseph Coats: the paper was illustrated by microscopic sections, shown in the Pathological Section of the museum.

Papers by Dr. E. HYLA GREVES (Bournemouth) on the Pathology of a Case of Pseudo-Hypertrophic Paralysis, and by Mr. SHERIDAN DELÉPINE on a Few Uncommon Forms of Sarcoma (specimens to be shown) were taken as read.

Dr. CHARLES KENNEDY read Notes of a Case of Cystic Disease of the Liver and Kidney, in which Professor Greenfield, Professor Roy, and Dr. James W. Martin (Edinburgh) took part.

Friday, August 10th.

Dr. JOSEPH COATS read a paper on Two Cases of Lipæmia in Diabetes, which was discussed by the President, Professor Roy, and Dr. Logan.

A paper on the Pathology of Pernicious Anæmia was read by Dr. W. RUSSELL (Edinburgh). It was discussed by the President, Dr. J. Lindsay Steven, and Dr. Joseph Coats.

A paper on the same subject was read by Dr. WM. HUNTER (Cambridge), and discussed by Professor Roy, Dr. J. Lindsay Steven, Professor McFadyean, Dr. Beaven Rake, and Dr. Joseph Coats.

Dr. BEAVEN RAKE (Trinidad) read a paper on the Percentage of Fibrin in the Blood of Lepers, upon which Dr. Abraham, Professor Boyes Smith, and Dr. Kynsey (Ceylon) made some remarks.

A paper on an Anomalous Form of Eczema was read by Dr. MAPOTHER.

Brigade-Surgeon SIBTHORPE read a note on the Filaria Sanguinis Hominis, which was discussed by Dr. Joseph Coats, Dr. Beaven Rake, and Professor Boyes Smith.

Dr. ROBERT WILSON read notes of a case in which a large number of Foreign Bodies were removed from the Duodenum of a Lunatic. (The specimens were exhibited in the museum.)

SECTION H.—OPHTHALMOLOGY.

President, Thomas Reid, M.D., Lecturer in Ophthalmic Medicine in the University of Glasgow. *Vice-Presidents*, J. R. Wolfe, M.D., Glasgow; C. E. Glascott, M.D., Manchester. *Honorary Secre-*

taries, H. Bendelack Hewetson, M.R.C.S., Leeds; A. Freeland Fergus, M.B., Glasgow.

Wednesday, August 8th.

On taking the chair, the PRESIDENT made the observations which are published at page 359.

The Treatment of Senile Cataract was then introduced for discussion by Mr. BRUDENELL CARTER, and continued throughout the day's session. In this discussion Dr. Meighan, Mr. Lloyd Owen, Mr. C. H. Lee, Mr. H. B. Hewetson, Dr. Karl Grossmann, Mr. J. H. Bell, Mr. Simeon Snell, Dr. J. R. Wolfe, Mr. Henry Power, Mr. T. P. Teale, Mr. M. McHardy, and the President of the Section took part. Mr. Carter replied.

Thursday, August 9th.

Dr. GEORGE MACKAY made a contribution to the study of Hemianopsia of Central Origin, with Special Reference to Acquired Colour-Blindness. The subject was discussed by Dr. Reid, Mr. Hewetson, Mr. Benson, and Dr. Grossmann, and Dr. Mackay replied.

A paper was read by Mr. H. B. HEWETSON on General Neuroses having an Ophthalmic Origin, and discussed by Mr. Brudenell Carter, Mr. Bickerton, and the President. Mr. Hewetson replied.

Mr. T. H. BICKERTON showed a Case of Unusual Corneal Opacity in Process of Recovery, and gave the history of the case, upon which Dr. Grossmann made some remarks.

Mr. T. H. BICKERTON also read a paper on Our Sailors and their Eyesight.

Dr. KARL GROSSMANN read a paper on Colour-Blindness, and demonstrated New Practical Tests. The President and Dr. George Mackay made some remarks on the subject.

Mr. BRUDENELL CARTER described an operation for Opening the Optic Nerve Sheath for the Relief of Pressure. Dr. Wolfe, Mr. Bickerton, and Mr. McHardy made some remarks thereon, and Mr. Carter replied.

A paper on the Value of Cautery in the Treatment of Ulceration of the Cornea was read by Dr. Renton, and discussed by Dr. Wolfe, Dr. Meighan, Mr. Simeon Snell, Mr. C. Lee, and Dr. Nelson (Belfast).

Three Cases of Conical Cornea Treated by the Actual Cautery were described by Mr. RICHARD WILLIAMS, and Dr. Wolfe made some comments.

Mr. J. G. MACKINLAY read a note on Cocaine, and Dr. Wolfe and Mr. Simeon Snell made some remarks on that subject.

Friday, August 10th.

A paper on the Treatment of Entropion and Trichiasis by the Transplantation of Buccal Mucous Membrane was read by Mr. A. H. BENSON; and a paper on the Treatment of Symblepharon by Transplantation of Mucous Membrane from the Lip, by Dr. J. S. MEIGHAN. These papers were discussed by Mr. Richard Williams, Mr. Hewetson, and Mr. Fergus.

A paper on Hyalitis Punctata was read by Mr. A. H. BENSON.

Mr. P. W. MAXWELL read a paper on Chronic Nasal Catarrh as a Reflex Cause of Accommodative Asthenopia.

Dr. KARL GROSSMANN showed microscopical preparations of Argyria of the Conjunctiva, and of Cavernous Sarcoma of the Choroid.

Dr. W. A. BRAILEY proposed a vote of thanks to the President and other officers of the Section, and Dr. REID returned thanks.

SECTION I.—OTOLOGY.

President, Thomas Barr, M.D., Lecturer on Aural Surgery, Anderson's College, Glasgow. *Vice-Presidents*, John Astley Bloxam, F.R.C.S., London; J. J. K. Duncanson, M.D., Edinburgh. *Honorary Secretaries*, Johnstone Macfie, M.D., Glasgow; James Black, F.R.C.S., London.

Wednesday, August 8th.

The proceedings in this Section were opened by the delivery of an address by the PRESIDENT, who exhibited two patients who had been successfully operated on for abscess of the brain due to ear disease. The address will be published in the JOURNAL.

Dr. MCBRIDE (Edinburgh) discussed the Conditions calling for Perforation of the Mastoid Portion of the Temporal Bone, and the best Methods of Operating; Dr. William Macewen and Dr. D Stewart (Nottingham) made some remarks on the subject.

Dr. CHARLES WARDEN (Birmingham) related a case of Congenital Ear Disease producing Mastoid Abscess and Facial Paralysis. The discussion was continued by Dr. Lawrence Turnbull (Philadelphia), Dr. C. Lewis (Birmingham), Dr. W. Brown (Belfast), Dr. Walford (Pollockshaws), Dr. Farquhar Matheson, Mr. James Black, Dr. J. Macfie; Dr. Warden and Dr. McBride replied.

Thursday, August 9th.

A discussion on Adenoid Growths in the Naso-pharynx; their Influence on the Middle Ear and their Treatment, was opened by Mr. LENNOX BROWNE.

Dr. WILLIAM HILL (London) then read a paper on The *Rôle* of the Pharyngeal Tonsil in Health and Disease.

Dr. J. MACFIE read for Dr. A. BRONNER (Bradford) a few notes on Cases of Adenoid Growths removed by the Finger-nail and Hartmann's Curette, with specimens.

Dr. FARQUHAR MATHESON (London) made a brief communication on the Symptomatic Relation between Stammering and Stuttering and Disease of the Nose and Naso-pharynx. The discussion was then continued by Dr. Mackenzie Johnston (Edinburgh), Dr. Laurence Turnbull (Philadelphia), Dr. Dennison (Denver, Colorado), Dr. Marshal (Chicago), Mr. Stone (Liverpool), Mr. James Black, Dr. Matheson, Dr. Wolston (Edinburgh), Dr. Howard, and the President. Mr. Lennox Browne replied.

Friday, August 10th.

Dr. C. LEWIS (Birmingham) and Dr. MAXWELL (Dublin) made communications on Chloride of Ammonium Inhalers.

Dr. C. LEWIS (Birmingham) related a Case of Severe Cellulitis of the Neck, with Partial Paralysis of the Right Arm, following Acute Otitis Media caused by a Blow.

Dr. JAMES ERSKINE (Glasgow) showed (1) A Cochlea and other Sequestra removed in a Case of Chronic Otitis Purulenta; (2) an unusually large Auricular Appendage.

Dr. J. MACFIE read a paper by Dr. W. LAIDLAW PURVES introducing a discussion on the True Value of those Aids to Hearing usually termed "Artificial Tympanic Membranes."

Dr. LAURENCE TURNBULL (Philadelphia) followed with a paper on the same subject, with its history.

Dr. ELLIS having read a paper on the Fraudulent Treatment of the Deaf by Impostors, the discussion was resumed by Dr. Matheson, and continued by Dr. Stuart (Nottingham), Dr. Warden (Birmingham), Dr. Ellis, Dr. Walker Downie, Dr. James Erskine, and the President. Dr. Turnbull and Dr. Macfie replied.

The proceedings were closed by a vote of thanks to the President and Secretaries.

SECTION J.—DISEASES OF CHILDREN.

President, Walter Butler Cheadle, M.D., London. *Vice-Presidents*, James Finlayson, M.D., Glasgow; Henry Ashby, M.D., Manchester. *Honorary Secretaries*, G. S. Middleton, M.D., Glasgow; W. Arbuthnot Lane, M.S., London.

The PRESIDENT delivered an address, which is published on p. 361. A vote of thanks to the President was adopted on the motion of Mr. R. W. PARKER, seconded by Dr. SIDNEY COUPLAND.

A discussion on Diphtheria was introduced by Dr. A. JACOBI (New York), who was followed by Mr. R. W. Parker, who dealt with the surgical aspects of the question: the debate was continued by Professor von Ranke (Munich), The President of the Association, Dr. Waxham (Chicago), who exhibited the tubes designed by Dr. O'Dwyer for intubation, Dr. William Macewen, Dr. Cameron (Huddersfield), Mr. Lennox Browne, Dr. Alexander Robertson, and Dr. Renfrew (Glasgow). Dr. Jacobi and Mr. Parker having replied, the session of the day terminated.

Thursday, August 9th.

The whole session was occupied by a discussion on Rickets, considered under the following heads: (*a*) Etiology and Prevention. (*b*) Its connection with Syphilis and Scurvy. Is Enlargement of the Liver and the Spleen always present, more or less, in Rickets; or only in Cases of Syphilitic Origin? (*c*) Medical Treatment. (*d*) Surgical Treatment; at what Stage, and in what Way? The medical and general aspects of the subject were introduced by the President, Dr. CHEADLE, and the surgical aspect by Professor A. OGSTON. The discussion was continued by Professor von Ranke, Dr. Jacobi, Dr. Carmichael (Edinburgh), Dr. Ashby (Manchester), Mr. Edmund Owen, Dr. Finlayson (Glasgow), Dr. R. W. Pughe (Liverpool), Mr. E. L. Freer (Birmingham), and Mr. R. W. Parker. Dr. Cheadle replied.

Friday, August 10th.

Dr. WAYLAND C. CHAFFEY read a paper on Statistics of various Diseases of Children, with reference to Measles and Whooping-Cough, and to Family Predisposition to Consumption.

The following papers were taken as read: On Deformities of Rickets, by Mr. W. ARBUTHNOT LANE; on Gastric Diphtheria, by Dr. TALFOURD JONES; on so-called Idiopathic or Simple Ascites in Children, by Dr. JAMES CARMICHAEL; and on the Effects of Sunlight on Rickets in Children and in the Lower Animals, by Mr. ROBERT HAGYARD.

SECTION K.—PHARMACOLOGY AND THERAPEUTICS.

President, James Morton, M.D., lately Professor of Materia Medica, Anderson's College, Glasgow. *Vice-Presidents*, John Dougall, M.D., Glasgow; Theodore Cash, M.D., F.R.S., Aberdeen. *Honorary Secretaries*, Alexander Napier, M.D., Glasgow; Sidney Martin, M.D., London.

The PRESIDENT, in opening the proceedings, expressed his approval of the name of the Section, Pharmacology and Therapeutics, as implying such a relation as to defeat the attempts that had been made to separate the pharmaceutical from the domain of therapeutics. Some of the defects of the *British Pharmacopœia* were pointed out, particularly the doses of remedies there given, which, in many instances, were so low as to be quite inefficient. Reference was made to the rapidly increasing tendency of the present day to allow pharmacy to pass into the hands of pharmaceutical chemists and druggists, and that our progress in this department was due largely to the enterprise and competition of such firms, and that, for the purity of the remedies we employed, we must rely upon the *pharmaciens* of such firms. This pointed to the necessity of some Governmental control over such *pharmaciens*, either under the General Medical Council, or some more efficient body. It was suggested that all medical students should undergo six months' training under a recognised pharmaceutical chemist previous to entering upon their medical curriculum at the schools, and that a pharmaceutical chemist should be one of the examiners. The lecturers on materia medica would then devote their energies chiefly to the physiological and therapeutical actions of remedies. The necessity for research in regard to actions of remedies, and the endowment of that research was insisted upon, in order to arrive at more definite knowledge as to the effects of such agents. In no other department of medicine was such research more required, and in none could it possibly be more useful. Reference was made to the recent great influx of new remedies.

A discussion on Carbolic Acid, Antipyrin, Antifebrin, and their Allies, especially as regards their Antipyretic, Analgesic, and Antiseptic Actions, was then opened by Professor CASH, F.R.S. (Aberdeen), and continued by Professor Leech (Manchester), Dr. A. D. Macdonald, Dr. C. R. Illingworth, Dr. Wilberforce Smith, Dr. Robert Kirk, and Dr. Sidney Martin.

Some observations on Phenacetin were made by Dr. DUJARDIN-BEAUMETZ (Paris).

Dr. RALPH STOCKMAN (Edinburgh) read a paper on Coca Alkaloids, upon which Professor Cash made some remarks.

The Rev. D. T. MASSON, M.D., described an old Highland form of Chest Massage for the Prevention of Consumption.

Dr. C. R. ILLINGWORTH read a paper on the Treatment of Acute Diseases of the Organs of Respiration, upon which Dr. Wilberforce Smith made some remarks.

Thursday, August 9th.

Dr. ALLAN JAMIESON showed Two Cases of Xeroderma Pigmentosum, and remarks were made upon them by Mr. Malcolm Morris, Mr. Brooke, and Dr. Drysdale.

A paper by Dr. J. V. SHOEMAKER (Philadelphia) on the Action of Naphthol β was taken as read.

Dr. C. R. DRYSDALE read papers on the so-called Abortive Treatment of Syphilis, and on Alcohol as a Therapeutic Agent. Upon the last Mr. Brindley James made some remarks.

A paper on Scabies and its Treatment was read by Mr. BRINDLEY JAMES, and discussed by Dr. Drysdale, Professor Fraser, and Dr. Macdonald.

Professor FRASER (Edinburgh) read a paper on the Relative Value of Morphine, Codeine, and Atropine in the Treatment of Diabetes. Drs. Liddell and Wilberforce Smith made some remarks on this paper.

Dr. A. D. MACDONALD related Three Cases of Poisoning.

Dr. DOUGLAS KERR read a paper on the Thermal Treatment after Acute Rheumatism, with a short outline of the system pursued at Bath, upon which Drs. Russell and Wilberforce Smith made some remarks.

Dr. R. B. MACPHERSON commented on the Want of Uniformity in Strength of Medicinal Substances, and Professor Cash, Dr. R. Stockman, and Dr. Wilberforce Smith made some observations on the same subject.

Dr. COLDSTREAM read a paper on Florence as a Health-Resort.

Friday, August 10th.

A Demonstration of Massage was given by Dr. STRETCH DOWSE.

SECTION L.—LARYNGOLOGY AND RHINOLOGY.

President, Felix Semon, M.D., London. *Vice-Presidents*, G. Hunter Mackenzie, M.D., Edinburgh; Peter McBride, M.D., Edinburgh. *Honorary Secretaries*, D. Newman, M.D., Glasgow; A. E. Garrod, M.D., London.

The PRESIDENT opened the proceedings of this Section by reading an address, which is published on p. 359.

A discussion upon the Use and Abuse of Local Treatment in Diseases of the Upper Air-Passages was introduced by Dr. DE HAVILLAND HALL and Mr. GEORGE STOKER. It was continued by Dr. Dundas Grant, Dr. Hodgkinson (Manchester), Dr. Scanes Spicer, Dr. McKenzie Johnston (Edinburgh), Dr. Macintyre, Dr. Jacob (Leeds), Dr. Nelson (Belfast), and the President. Dr. de H. Hall and Mr. Stoker replied.

Dr. MACINTYRE (Glasgow) gave an anatomical demonstration of some of the Muscles of the Larynx.

Two cases of Complete Laryngeal Stenosis, produced by wounds of the larynx in attempted suicide, were related by Dr. NEWMAN (Glasgow), and remarks thereon made by Dr. Hodgkinson and the President. Dr. Newman replied.

Thursday, August 9th.

A discussion on the Causes, Effects, and Treatment of Nasal Stenosis was opened by Dr. MACINTYRE (Glasgow) and Mr. CRESSWELL BABER (Brighton). Dr. DUNDAS GRANT also read a paper on Nasal Stenosis, and the discussion was continued by Mr. Stoker, Dr. Scanes Spicer, Dr. de Havilland Hall, Dr. McBride, Dr. Roe (New York), Dr. Hunt (Liverpool), Dr. Hodgkinson (Manchester), Dr. Newman (Glasgow), and Dr. Hunter. Dr. Macintyre and Mr. Baber replied.

Dr. GREVILLE MACDONALD made remarks on the Pathology of Enchondrosis of the Triangular Cartilage, and described a New Operation. Dr. Scanes Spicer made some observations, and Dr. Macdonald replied.

Dr. P. MCBRIDE (Edinburgh) read a paper on Hay Fever and Allied Conditions, which was discussed by Dr. Roe and Mr. Cresswell Baber. Dr. McBride replied.

Dr. MACKENZIE JOHNSTON gave an account of a case of Tumour of the Naso-pharynx.

Dr. CHRISTOPHER LEWIS made some remarks on the Removal of Naso-pharyngeal Polypus, and exhibited specimens.

Dr. WARDEN related a case of Fibro-mucous Polypus of the Naso-pharynx, and Dr. Hill made some remarks.

Friday, August 10th.

A discussion on Hæmorrhages from the Pharynx and Larynx, and other Hæmorrhages which simulate these, was opened by Dr. PERCY KIDD (London) and Dr. HODGKINSON (Manchester). It was continued by Drs. Scanes Spicer, Hill, McBride, Walker Downie, Cartaz (Paris), Hunt, Garrod, Wolston, Mackenzie Johnston, and Newman.

Dr. ERNEST H. JACOB read a paper on Some Unusual Forms of Laryngeal Neurosis.

Dr. R. H. SCANES SPICER related a case of Lupus Vulgaris of the Upper Respiratory Tract, with Polypus (Lupous) of the Larynx.

The following papers were also submitted to the Section:

By Dr. SCANES SPICER. Clinical and Pathological Observations on Affections of the Tonsils (Faucial, Lingual, and Pharyngeal) in the Light of Recent Views as to their Functions.

By Dr. CHRISTOPHER LEWIS. Notes on Tonsillitis and Tonsillotomy.

By Dr. HILL. The *Rôle* of the Various Tonsils.

By Dr. T. MIDDLEMISS HUNT. Acute Epiglottitis: a Question of Nomenclature.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, AUGUST 18TH, 1888.

THE ADDRESS IN PHYSIOLOGY.

As was to have been expected, the Address in Physiology by Professor McKendrick was one replete with interest and instruction, and put in the clearest possible language. Those members of the Association who had the pleasure of hearing it in Sir William Thompson's class-room must have felt themselves carried back to pleasant memories of their student days; although we hardly think their ears were then charmed by such a splendid physiological lecture as that delivered on the present occasion by Dr. McKendrick. The subject chosen was a consideration of the gaseous constituents of the blood in relation to some of the problems of respiration. Inasmuch as it dealt with the province of physiology, in which, as the lecturer stated, there are many profound problems connected with the molecular phenomena of life; and also because it afforded him an opportunity of illustrating some of the methods of physiological research, we think Dr. McKendrick was justified in his choice. The subject was treated chiefly from the physical stand-point, and, instead of being presented in the shape of an encyclopædic account of recent researches, it took the form of a masterly summary of the chemical physiology of respiration from the earliest times to the present. Those only who heard or read Dr. McKendrick's charming lectures at the Royal Institution some years ago, on the history of physiological progress, could have realised the delightful manner in which he brought out and marshalled his facts, so as to give so comprehensive an account of the building up of our present knowledge of the chemistry of respiration. Having, in the first place, shortly defined respiration as the function or group of functions by which an interchange occurs between the gases formed in the tissues of a living being and the gases of the medium in which it lives, a brief survey was then taken of the investigations which laid the foundation of our knowledge regarding it. Not, indeed, till the middle of the seventeenth century did any really clear notions prevail, either as to the need for it, or as to its mode of operation; for the necessity of a continual supply of fresh air was recognised as being essential to life only as the result of the work of Boyle, Borelli, and Hooke, and it was further surmised that the air imparted something to the blood, and received something in return. Mayow's researches, following upon those of Boyle and Hooke, prepared the way for the identification of the gaseous elements concerned in respiration. Next came the chemical researches of Black and Priestley, showing that, in respiration, oxygen was consumed and carbonic acid generated; closely followed by Lavoisier's beautiful quantitative researches in the same direction. According to this last observer, respiration was really a slow combustion of carbon and hydrogen, the air supplying the oxygen and the blood the combustible materials. It is also most interesting to note here that Lavoisier did not limit this combustion to the lungs alone, but assumed that it likewise occurred elsewhere in the body.

At the beginning of the present century it was recognised that the respired air had lost oxygen, gained carbonic acid, and had become hotter. Since then researches have been carried on to make these determinations quantitative, the investigators of note being Andral and Gavarret, Vierordt, Regnault and Reiset, von Pettenkofer, and Angus Smith. Two theories of respiration were before physiologists: the one, that combustion occurred in the lungs or venous blood, furnishing carbonic acid and aqueous vapour, which were exhaled by the lungs; the other, that there was no such combustion, but that oxygen was absorbed by the lungs and carried to the tissues, in which carbonic acid was secreted, absorbed by the blood, carried to the lungs, and there exhaled.

Our knowledge regarding the gases of the blood has been of very gradual development, for not till the publication of the researches of Magnus in 1836 can it be said that the evidence in favour of the existence of gases in the blood was certain and conclusive. His researches, however, by throwing a new light on the function of respiration, and by demonstrating the presence of these gases in the blood, mark an epoch in physiological discovery. To enable the method followed by Magnus to be understood, the lecturer next briefly discussed the laws regulating the diffusion of gases, as also the laws regulating the absorption of gases by fluids. The next important observations were those of Fernet, who concluded that the greater portion of the oxygen was in a state of combustion, and the same also with regard to the carbonic acid. By Pflüger and others the average composition of the blood-gases was accurately determined; and then came the discovery of the important part played in respiration by the hæmoglobin of the red corpuscles. The absorption spectrum of this body was first noted by Hoppe-Seyler, and then carefully invetigated by Stokes, to whom we owe our present knowledge as to the two states of oxidation in which it exists. The great function of the red corpuscles as carriers of oxygen to the tissues was thus explained. Our knowledge as to the state of the carbonic acid in the blood is, unfortunately, not so precise; but we may regard it as proved that the blood is a respiratory medium, having gases in solution: and that the living body is an aggregate of living particles, each of which breathes in the respiratory medium passing from the blood; and we may further assume that as the carbonic acid is set free in the tissues it is absorbed by the blood, forming a loose combination with the carbonates and phosphates of that fluid, and being thus converted from an arterial into a venous condition.

Having referred to the very interesting question of the respiratory quotient in different animals, and to the greater intensity of respiration in the smaller as contrasted with the larger animals, Dr. McKendrick proceeded to discuss, in what we consider the most interesting part of his valuable address,

some of the difficulties still in the way of a full and satisfactory explanation of the chemistry of respiration. Is the union of hæmoglobin with oxygen a chemical or a physical process? he asked; and he then showed that the weight of evidence is in favour of the union being of a chemical character. Some important practical remarks were here made by the lecturer, which we shall quote: "To avoid difficulties in respiration when one is obliged to breathe an air deficient in oxygen, we ought to increase the pressure at which the air is breathed; and, on the other hand, to avoid danger in breathing air under a low pressure, we ought theoretically to increase the richness of the air in oxygen." A series of facts were next referred to which indicated that when all the hæmoglobin has been satisfied with oxygen, it becomes indifferent, within limits, to any additional oxygen that may be forced into it under pressure; from which it follows "that it is of no use in the treatment of disease to cause patients to breathe an atmosphere richer in oxygen than ordinary air, because at ordinary atmospheric pressure, no more oxygen can thus be caused to enter the blood; and if it be desirable to hyper-oxygenate the blood, this can only be done by breathing oxygen under a pressure of three or four atmospheres in a chamber in which the body of the patient is subjected to the same pressure." In this connection it is interesting to note the instructive way in which the lecturer offered a tangible conception of the enormous absorptive surface for oxygen presented by the red corpuscles of man. A man of average size possesses about twenty-two and a half trillions of these corpuscles, giving a superficial area of 3,151 square yards, equal to a square having each side about fifty-six yards in length. Of hæmoglobin there would be present in this 1 1-5th lb., containing nearly thirty-nine grains of iron. Seeing that twenty-five minims of the tincture of iron of the *Pharmacopœia* contain about one grain of pure iron, it will easily be seen that not very many doses would be required to introduce into the body as much iron as is contained in the total blood. And we therefore take the opportunity here of directing the attention of some of our medical brethren to this important fact, in the hope that they will exercise some slight constraint upon themselves in the enormous doses of iron they are accustomed to inflict on some of their unfortunate patients.

The absorption of oxygen by the blood, and its subsequent absorption by the tissues was next carefully considered, and the remarkable fact referred to that in certain circumstances tissues, and even organs, may continue their functions with little or no oxygen, the heart of the frog, for example, pulsating just as powerfully with blood deprived of its gases as with that containing oxygen, while its action is soon stopped by the blood of asphyxia, or blood containing reduced hæmoglobin. Dogs also, it has been shown, bear the substitution of two-thirds to three-fourths of their blood by 0.6 per cent. solution of common salt; and 14-15ths of their blood has been replaced by serum from the horse, free from corpuscles, without any symptoms save weakness and somnolency showing themselves.

Although the gaseous exchanges in the lungs and tissues are usually explained as due to an equalisation of the tensions of the gases concerned, yet this is very far from explaining all; and, accordingly, Professor McKendrick tries to complete his account of the gaseous exchanges of the blood by a reference to the ingenious theory recently advanced by Professor Fleischl v. Marxow, of Vienna. If hæmoglobin, as that observer puts it, is of all animal substances the one possessing the greatest affinity for oxygen, how is it that this gas is taken up by the tissues? Or if, on the other hand, the tissues have a greater affinity for oxygen than hæmoglobin has, how is it that in the blood of animals that have died of asphyxia there is a considerable quantity, in some cases as much as 5 per cent., of oxygen? To reconcile this contradiction, which shows that our present accepted theories as to the ultimate chemical changes of respiration are not valid, Fleischl v. Marxow conceives that in the stroke of the heart he has discovered such an action or agency as is strong enough to dissociate the oxygen from the oxyhæmoglobin, thus presenting the oxygen to the tissues in a form in which they can readily take it up. For some of the ingenious experiments on which he founds his interesting and brilliant theory, as well as for a discussion of the theory itself, together with some of its striking applications, we must refer the reader to Dr. McKendrick's address: suffice it to state here, that he finds that when a fluid containing gas is shaken, particularly by a sudden sharp stroke, the connection between the gaseous and fluid molecules is rent asunder, the shock converting a real solution into a solution in which the fluid and gaseous molecules are in juxtaposition. The sudden and violent stroke of the heart, Fleischl v. Marxow maintains, serves for the separation of the gases, a short hard stroke being given to the blood before it enters the lungs, and immediately after it has left them. By these strokes the gases are liberated, and become mixed with the fluid in a state of fine dispersion, a condition favourable for the elimination of the carbonic acid by the lungs, and for the using up of oxygen by the tissues.

We hope that what we have given of Dr. McKendrick's most able address will induce our readers to study it in detail, as we can assure them they cannot fail to profit thereby. His narrative illustrates most strikingly the relation of modern physiology to the physiology of our forefathers; but even the results of modern research are far from final, for "although," as the lecturer concluded, "we see a little further and more clearly than those who went before, there is still uncertainty as to fact and obscurity as to explanation in most departments of physiological science, and not least as regards the function of respiration."

THE ADDRESS IN THE SECTION OF OBSTETRIC MEDICINE.

Dr. More Madden's comprehensive summary of the progress of obstetrics and gynæcology should be carefully read and considered by members of the medical profession who still look upon those departments of the healing art as wholly empirical and devoid of that ennobling admixture with science with characterises modern medicine and surgery. The passages on the forceps especially deserve attention. For long it has been customary to ridicule the obstetrician's ample armoury. The manifold varieties of pessary may excite the contempt of others besides those who lay little stress on uterine displacements as primary sources of pain or discomfort. With the forceps the

case is different, for even though obstetricians may be charged with a desire to be recognised as the eponymous heroes of well accepted varieties of that instrument, the forceps absolutely demands a practical knowledge of mechanics and a scientific acquaintance with pelvic anatomy. There is no operation where brain and hand are bound to work so evenly together as in the application of the forceps, nor in the practice of either of the other main departments of medicine can any finer mental discipline be found than that which is afforded in any lying-in chamber. Care, experience, the amount of trust to be awarded to nurses, fertility of resource, handiness in the face of absence of appliances far from hospitals and medical schools, are all required there; and the second condition must needs be wanting in many cases, for the obstetrician may be young, and, therefore, void of experience. The extreme uncertainty which attends any labour enforces vigilance on the part of the practitioner. Lastly, it is no small matter to guide a new human being into the world, and to save its mother; and thus the essential object of obstetrics is sufficient to determine the high importance of that science. As for the details of the advance of obstetrics, they are ably summed up in Dr. More Madden's interesting address.

Gynæcology is a much-talked-about science; its triumphs speak for themselves; and it has many able champions who continually sing its praises. Its detractors are largely made up of gentlemen imperfectly acquainted with its principles. Dr. Madden could not avoid certain thrice-told tales of topics very familiar to our readers; but he may be congratulated for having kept free of any expression calculated to stir up rivalry and needless discussion. Passing over what he could not well omit, namely, the advance of abdominal surgery, electricity in the treatment of uterine fibroids, prejudice and fashion in gynæcology, and woman's place in the practice of that science, we may dwell upon what was perhaps the most important passage in his address. The frequency of chronic inflammatory changes in the Fallopian tube and ovary has been proved by that truly scientific study of pathology which has prevailed for the last twenty years, and done so much to raise gynæcology in the eyes of the profession. These changes entail the complete disorganisation of the parts concerned, a disorganisation which many, perhaps too many, authorities hold to be permanent. The patient is liable to constant discomfort of a most distressing kind, and there is fair evidence that chronic tubal inflammation exposes her, at certain stages, to the risks of extra-uterine pregnancy, an accident of grave import in the eyes of the medical attendant, and peculiarly appalling to herself and friends. Able authorities have repeatedly counselled and practised the removal of the appendages as the sole remedy for the effects of chronic inflammation. Yet there are some who for years past have foreseen that efforts would be made to save the patient from mutilation, and to cure the diseased tubes and ovaries, instead of amputating them. Most satisfactory to these hopeful individuals will be certain observations in the address. Dr. Madden allowed that in some cases of pyosalpinx and hydrosalpinx the removal of the diseased appendages afforded the only available means of treatment, but was confirmed, by increasing experience, in the belief that in some instances these tubal diseases might terminate favourably without any surgical treatment. He advocated aspiration of the distended tube, and claimed good results, though he did not bring forward a long series of cases. That aspiration and other relatively palliative measures have been practised in similar cases, we are well aware; still it is satisfactory to hear from the lips of so accomplished an authority as Dr. Madden a direct advocacy of the conservative treatment of the uterine appendages. With increased experience, that line of treatment will doubtless be perfected, and many tubes and ovaries saved and cured, which, according to our present knowledge, would be condemned to amputation, under the alternative of years of suffering to unfortunate patients.

THE ADDRESS IN THE SECTION OF PATHOLOGY.

The address recently delivered by Sir William Aitken to the Pathological Section of the British Medical Association assembled at Glasgow was an earnest attempt to bring under the notice of his audience the important fact, that the science of pathology is a branch of biology in the widest acceptation of the term, and he rightly observed that all distinctions between physiology and pathology are unreal. In order to show this, Sir William briefly sketched the history of cellular pathology, and pointed out the manner in which the purely physiological researches in cell-life paved the way to the epoch-making work of Virchow in the domain of pathology.

Sir William Aitken also strongly advocated the study of "elemental" pathology—that is, the phases of cell-life exhibited by plants in health and disease—as a new and attractive field of research. Although the bulk of the address was largely composed of somewhat lengthy quotations from the writings of living authors, such as Huxley, Paget, Michael Foster, and excerpts from the works of Payne, Parkes, Creighton, and others, as well as numerous selections from his own pamphlets, Sir William interested his audience not only by the varied aspects in which he surveyed pathology, but also by the judicious way in which he treated many apparently recondite and abstruse subjects dealt with in the address, which, on the whole, contained much good and suggestive matter.

There are a few points, however, which may be criticised in this interesting address. For instance, it will perhaps be regarded somewhat as an exaggeration to look upon pathology as an essentially experimental science. That a large and important part of pathology demands, and imperatively demands, experiment for its proper investigation, is perfectly true: but there are many equally interesting problems in this science which can only be discovered by close observation. Indeed, the careful observations of the non-experimental pathologist control the results of the enthusiastic experimenter, who, without this control, would soon plunge pathology into hopeless confusion. There is one important group of diseases requiring careful inquiry and experiment for its proper elucidation, which Sir William Aitken but lightly touched upon, namely, the diseases which, originating in the lower animals, are communicated to man. To study such conditions as tubercle, actinomycosis, typhoid, dysentery, etc., as they occur in animals, to compare them with the corresponding diseases in man, and then demonstrate the identity experimentally, is the

highest class of work in pathology, as well as of greatest utility to mankind at large.

The profession ought to feel thankful when such a veteran as Sir William Aitken undertakes to survey the present field of action, reviews the past, attempts to discern the future, suggests the modes of attaining new conquests, and encourages new workers to vigorously undertake the task of unravelling many of the yet profound tangles of pathology.

THE STUDY OF CHILDREN'S DISEASES.

For the second time in the history of the Association has the subject of the diseases of children been deemed worthy the honour of a special Section. We need not stop to inquire what may be the causes which led to its reintroduction into the list of Sections after a lapse of five years; nor need we expend our energies in wondering why, after such a successful inauguration under the presidency of Dr. Gee at Liverpool, the Section of Children's Diseases did not at once take a permanent place at our annual gathering.

Children's diseases are not a speciality in the same sense that diseases of the eye or those peculiar to women are, and we hope the day may never come when they will be so regarded. We are quite certain that such an idea will be opposed by none more vigorously than by those who have made a special study of them. It has been well said that children are but men and women in miniature, and it is quite as true of them in regard to diseases as to the ordinary affairs of every-day life. With the exception of the preliminary troubles in reference to feeding and the disorders connected with, and perhaps arising out of, the developmental processes of the first two years of life, there is no material difference between the diseases of children and those of adults, save that the former are less liable to be complicated by the previous habits of the patient, and are therefore so much the easier to recognise and also the more amenable to treatment.

We entirely endorse Dr. Cheadle's earnest plea for a much more special study of children's diseases than is at present the custom in our medical schools, because if it is not made the object of special study, experience shows that there is the gravest risk of the subject being entirely ignored. It is an every-day occurrence in the out-patient rooms of our large hospitals that the students fight shy of the babies; they find, or they think they find, something much more tangible in the case of the adult hard by, and the child is passed over with at most a mere glance and a passing question of the mother. It may be said that the teacher is in fault, but we are not sure that it is so. It is, as a rule, much easier to give a satisfactory demonstration on an adult than on a child, even for one who has made a special study of children's diseases; and the teacher always has to bear in mind that the students are not seeking to study their profession so much as to learn what will "pay" in the approaching examination. The baby therefore is ordered a carminative and some lime water, and is labelled "marasmus," and has to make way for the interesting case of amyotrophic lateral sclerosis, to which a good half-hour will be devoted, but of which the student will neither see nor hear anything when once his examination is successfully passed. This is not an overdrawn picture, but a mere statement of fact that can be verified any day; and it is, therefore, not surprising to find Dr. Cheadle saying, after many years' experience as an examiner, that he finds "candidates as a rule lamentably ignorant....destitute of any clinical experience of the common diseases of infancy." And this state of things, we fear, will continue until the powers that be insist on a good knowledge of the common diseases of childhood before a qualification to practise is granted. Children form a large portion of the patients in every practice, the major portion in many; it is therefore most expedient that their ailments should be made the object of some degree of special training. We have heard a good deal lately in the General Medical Council about the importance of a special study of fevers, but it is really much more important that the practitioner should be taught how to deal with summer diarrhœa or colic in infants, that he should be familiar with the early manifestations of congenital syphilis, and that he should have thoroughly mastered the principles on which to act in hand-feeding an infant during the first year of its life.

We trust that Dr. Cheadle's outspoken address, which we publish elsewhere, will be read and taken to heart by those who have the control of the examinations, and that it will bear good fruit at no very distant date.

GREAT NORTHERN CENTRAL HOSPITAL.

H. R. H. Prince Albert Victor has consented to act as President of this institution, the new buildings of which were lately opened by their Royal Highnesses the Prince and Princess of Wales. Sir Andrew Clark, President of the Royal College of Physicians, has accepted the office of Consulting Physician, and Mr. Savory, President of the Royal College of Surgeons, that of Consulting Surgeon.

AN UNQUALIFIED PRACTITIONER FINED.

Francis Reid Walsh, of Holland Road Dispensary, Notting Hill, lately appeared to answer a summons at the instance of the Medical Alliance Association, taken out under the 40th section of the Medical Act, for falsely assuming a title implying that he was registered as a medical practitioner. Several persons who had been treated by the defendant gave evidence to the fact that Walsh had represented himself to be a medical man. The defendant contended that he opened the dispensary on the understanding that a medical man would join him. He did not join him, and as he incurred debts he worked the dispensary to pay them. He was fined £20, and £3 3s. costs.

DWELLINGS OF THE PEOPLE IN BROMLEY.

The Mansion House Council on the Dwellings of the People has recently caused an inspection to be made of that portion of the parish of Bromley which is in the neighbourhood of the High Street. Seventy-six houses were visited, and the reports of the inspector showed that defective sanitary conditions of one kind or another existed in most of the houses. The inspection also revealed the fact that eighteen cases of typhoid fever had recently occurred in these premises. At a recent meeting of the Bromley Vestry, the clerk read a letter from the district surveyor complaining of the insanitary state of certain houses in High Street, Bromley. The clerk explained that this was the usual periodical report, of which nobody seemed to take any notice, though by the Act of Parliament the surveyor was bound to furnish it to the vestry, to the District Board, and to the Metropolitan Board of Works. Discussion followed, and on the motion of a vestryman, it was resolved that "no action be taken." It may be added that

the outbreak of enteric fever has been attributed to the milk supplied by a certain retailer who has been compelled for a time to relinquish his business. There may have been good ground for this action, but it is astonishing that this vestry should still allow to exist in this fever-haunted district such defects as water-closets without any water-supply in immediate connection with living rooms, defects which probably have had considerable influence in spreading the disease during the recent outbreak.

DALRYMPLE HOME FOR HABITUAL DRUNKARDS.

THE fourth annual report of the Dalrymple Home for Habitual Drunkards at Rickmansworth is a satisfactory record of well-directed efforts for the reclamation of persons suffering from dipsomania. Of 115 patients who had passed through the home, the subsequent history of a certain number was known. Of these 52 were doing well, 4 were improved, 4 had died, and 1 had become insane. The average duration of the disease before treatment was, in these cases, eight years and a half, and it is stated in the report that had treatment been begun before the disease was so far advanced the success would have been still greater. Of the 33 patients admitted during the past year, 14 were admitted under the Act of Parliament, and 19 as private patients.

NEW HORSE AMBULANCE AT BRADFORD.

A HORSE ambulance, subscribed for by the working men of Bradford, for the removal of persons suffering from accidents occurring in works or in the streets, will soon be in working order. The advantage of this mode of conveyance over that by cab in cases of fracture, especially of the leg and thigh, are sufficiently obvious. Another use of the ambulance is the removal of persons suffering from severe non-infectious illness. The ambulance carriage is to be kept at the Central Fire Station. The Town Council have promised the use of a horse and driver to accompany the waggon, the Infirmary and Fire Station being connected by telephone. Dr. William Horrocks, the house-surgeon of the Bradford Infirmary, who is interesting himself in this matter, suggests that the police officers on the different beats should be instructed to use the ambulance in case of street accidents.

IMPASSIVE CHINAMEN.

MAKING allowance for some exaggeration, there is probably an undercurrent of truth in what a writer in the *North China Herald* of Shanghai says as to the absence of "nerves" in the Chinese. To the average Celestial it is a matter of indifference how long he remains in one position. He will write all day like an automaton, he will work from morn to eve without any variation, and apparently without any consciousness of the monotony. The Chinese school children will undergo an amount of confinement unrelieved by recesses or changes of work which would drive a western pupil to the verge of insanity. Even Chinese infants are said to remain as impassive as "mud gods." To the Chinese exercise appears to be superfluous, and they can sleep anywhere. With a brick for a pillow the "heathen Chinee" can lie down on his bed of stalks, or mud bricks, or rattan, and sleep the sleep of the just, with no reference to the rest of creation. He does not want a darkened room, nor does he require others to be still. The "infant crying in the night" may continue to cry for all he cares; it does not disturb him. In the case of most working people, and also in that of many others, position in sleep is of no sort of consequence. "It would be easy to raise in China an army of a million men—nay, of ten millions—tested by competitive examination as to their capacity to go asleep across three wheelbarrows, head downwards like a spider, their mouths wide open, and a fly inside."

A NEW MEDICAL SOCIETY IN ITALY.

STEPS have been taken to establish a Società Italiana di Medicina Interna on the model of the German Society of similar name. A meeting will be held every year at Rome, the first being fixed for the middle of next October. The organising committee includes the names of Professors Baccelli, Cantani, Galassi, Maragliano, and Rossoni. Among the subjects down for discussion are the following: Diabetes and its Cure (to be introduced by Professor Cantani); Etiology and Treatment of Pneumonia (Drs. Bozzolo and Maragliano); Cure of Tuberculosis (Drs. De Renzi and Riva); Fever and Antipyresis (Drs. Murri and Rossoni); Treatment of Heart Disease, with special reference to Cardiac Gymnastics (Drs. De Giovanni and Rummo). The rules appear to us to be excellent. Discussions on any subject are not to occupy, as a rule, more than one sitting; the introducers are allowed half an hour, and subsequent speakers a quarter of an hour for their speeches. At the end of the discussion, each introducer is allowed ten minutes for reply. Papers must not occupy more than twenty minutes in reading, and, if they are followed by a discussion, not more than ten minutes is allowed to each speaker. No person will be permitted to speak more than once. These regulations will be strictly enforced, except under extraordinary circumstances, when the President may in his discretion allow a little more latitude.

THE DEATH OF DONOVAN.

IT would be difficult to find a more remarkable illustration of the absurdities which too frequently distinguish the results of "crowner's 'quest" than the verdict returned in the case of Donovan, the American diver. Donovan, who came to this country some months ago, found his professional prospects considerably restricted by the vigilance of the police, and appears to have been living of late in very straitened circumstances. At 2 o'clock on the morning of August 7th, accompanied by about twenty persons, he went on to Hungerford Bridge, and, after taking off his coat and hat, climbed over the parapet, and jumped into the river. He is said to have been sober; it was high water at the time, and in a few seconds he rose to the surface, and struck out for the embankment. After swimming for about thirty yards, however, he suddenly sank without cry or struggle. When his body was recovered four days afterwards, the knees of both trousers were missing, and there was an abrasion over the right patella. No necropsy was made; no medical evidence, apparently, was taken at the inquest, and the deliberations of coroner and jury resulted in a solemn declaration to the effect that the unfortunate man was killed "by jumping into the Thames." So far as it goes, the verdict is probably accurate, since it is not likely, though of course not impossible, that Donovan swallowed poison or received mortal injury previously to his immersion. But if the law demands no more precise determination than this of the cause of death, the coroner's inquest is surely a ridiculous farce and a sheer waste of time and money.

AN INDUSTRIAL INEBRIATE FARM.

IT is a distressing fact that, while there are a number of homes for female inebriates in England, some of which receive patients without means, there has been practically no provision for destitute male inebriates, or even for those of limited resources. But one attempt at providing for such men has been made, the history of which is before us. Lieutenant-Colonel Whale took a farm at Crowboro about sixteen months ago, and received in all some eleven inmates; six of these were destitute and paid nothing, the others paid ten shillings per week. Unfortunately, the financial support was not sufficient to sustain the undertaking, and the founder has been compelled to close the house, after having expended £300 beyond the donations, subscriptions, and payments

for board received by him. He is now appealing for £500 to enable him to discharge his liabilities and open the farm afresh. There is a great demand for an establishment of this nature for impecunious drunkards, but we fear that few philanthropists really understand the responsibility involved in such a venture. It is essential to success to recognise the diseased condition of the inebriate, and to treat him therapeutically with a view to cure. Provided that the bodily and mental affection be attended to, no better adjunct than an industrial farm can be employed. Healthful exercise in the open is an excellent plan to divert into a proper channel that exuberance of spirits and energy which a period of abstinence soon develops in the abstaining inebriate.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

THE first triennial session of the Congress of American Physicians and Surgeons will be held at Washington, U.S., on September 18th, 19th, and 20th. A number of distinguished members of the profession have accepted invitations to attend, among whom may be named Sir Spencer Wells, Sir Andrew Clark, Sir William Mac Cormac; Drs. W. O. Priestley, W. M. Ord, Grainger Stewart, and D. Ferrier; Messrs. Victor Horsley, Lawson Tait, T. Bryant, and T. Annandale; Professors Esmarch, of Kiel, and Gerhardt, of Berlin; Dr. Rafael Lavista, of Mexico; J. L. Reverdin, of Geneva; O. W. Holmes and H. J. Bowditch, of Boston, U.S.; Joseph Leidy, of Philadelphia; W. Kingston and Eccles, of Canada. The following societies will take part in the Congress: the Association of American Physicians, the Association of American Surgeons, the American Association of Genito-urinary Surgeons, the American Orthopædic Association, the American Climatological Association, the American Physiological Society, and the American Neurological, Laryngological, Dermatological, Ophthalmological, and Otological Associations. On Monday, September 17th, a dinner will be given by members of the Congress to the guests of the participating societies. The following is the programme of the proceedings as at present arranged:—Tuesday evening, September 18th: Intestinal Obstruction in its Medical and Surgical Relations. Papers will be read by Dr. Reginald H. Fitz, of Boston, Professor of Pathological Anatomy in Harvard University; and Dr. Nicholas Senn, of Milwaukee, Professor of Surgery in the College of Physicians and Surgeons of Chicago, Ill.; to be followed by a discussion. Wednesday evening, September 19th: Cerebral Localisation in its Practical Relations. Papers will be read by Dr. Charles K. Mills, of Philadelphia, Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic and College for Graduates in Medicine; and Dr. Roswell Park, Professor of Surgery in the Buffalo Medical College; to be followed by a discussion. Thursday evening, September 20th: Address by the President, John S. Billings, M.D., U.S. Army; to be followed by a General Reception in the United States Army Museum Building. In the sectional programmes we notice, among many others, the following subjects down for discussion: In Surgery, excision in articular disease; relations of micro-organisms to injuries and surgical diseases; cerebral localisation; surgical management of typhlitis and perityphlitis; choice of operation for vesical calculus; radical cure of hernia; nephrectomy for gunshot wounds of the kidney. In Medicine, relations between trophic lesions and diseases of the nervous system; absolute and relative value of the presence of albumen and casts and of renal inadequacy in the diagnosis and prognosis of diseases of the kidney; relations of albuminuria to life assurance. In the Laryngological Section, cancer of the larynx is (*mirabile dictu*) conspicuous by its absence from the programme. Obstetrics and gynæcology do not figure in the list of Sections, so far as we can see. All communications should be addressed to the Chairman of the Committee of Arrangements, Samuel C. Busey, M.D., 1545 I St. N.W., Washington City.

STRONGYLUS PARADOXUS.

M. J. CHATIN recently exhibited before the Paris Académie de Médecine a specimen of this intestinal worm, passed by a butcher, at Oloron, in the department of the Basses-Pyrénées. The patient had been subject for some time to gastro-intestinal disturbance, and had already passed another specimen of the same parasite. *Strongylus paradoxus* is a small round worm: the exhibited specimen measured a little over half an inch. The species was discovered in the lung of a wild boar, by Ebel, at the end of the last century, shortly after Modeer and Bremser discovered in Sweden and Vienna that this *Strongylus* infected the bronchial tubes of domesticated swine. Rayer found the parasites, in the same anatomical situation, in a pig in the Paris market in 1844; two years later Bellingham discovered the parasite in Ireland. For long, experts have admitted that *Strongylus paradoxus* infests the lungs of swine, causing an affection which was rare till recently. Dr. Cobbold, in 1879, and M. Chatin, in 1881, both showed that swine were becoming more subject to this worm. The former pointed out its danger when a large number of worms collected in the bronchi. In 1850 the wild boars preserved for the Royal hunt, near Berlin, were decimated by this *Strongylus*. M. Chatin notes that no report of the existence of this species in man can be found in medical literature, but the alleged new species, *Strongylus longevaginatus*, found infesting the lungs of a child, aged 6, at Klausenburg, Transylvania, in 1845, is evidently, in M. Chatin's opinion, identical with *Strongylus paradoxus*. Hence, in reality, the latter species has twice been found in man, and on the first occasion it infected the lung and caused death. The worm is very tenacious of life, and its embryo may remain in water, or completely dried up for a year without undergoing any change; yet, if then swallowed by a pig in fodder or drink will rapidly develop and propagate. M. Chatin believes that in the case of Oloron the parasite was probably swallowed in drinking-water. Since swine are becoming more and more subject to *Strongylus paradoxus*, he thinks that sanitarians must be watchful, lest man should become frequently subject to the ravages of a worm liable, from its favourite habitat, to cause more mischief than can be wrought by *Tænia*, *Oxyuris*, *Lumbricus*, or even the leech-like *Dochmius duodenalis*, which caused anæmia amongst the men employed in the St. Gothard Tunnel.

INFLUENCE OF OCCUPATION ON THE BODY.

THE Anthropometric Committee of the British Association, whose labours extended over the eight years 1875-83, collected an immense mass of statistics, and issued several reports (the final one drawn up by Mr. C. Roberts and Sir Rawson Rawson in 1883) on the general physical characters of the inhabitants of the British Isles, especially those relating to race, age, sex, social condition, and sanitary surroundings, and indicated several lines of inquiry which required and would repay more detailed investigation. One of the most important and interesting of these subordinate inquiries is the influence of occupation on the physical development and conformation of the body, and a committee was appointed at the last meeting of the British Association to follow it up. This Committee (which comprises many of the active members of the first Committee) has now prepared its schedules, cards, and instructions, and is about to begin work in Manchester, which town has been selected for its first essay, because its racial elements are probably pretty uniform, and a great variety of industries exist which are well defined, and followed by a great number of persons under similar sanitary and social conditions. An active local subcommittee, consisting of Dr. A. Ransome, Dr. A. M. Paterson, members of the Statistical Society, and many others, are willing to take up the inquiry, and we hope that they will receive assistance from the members of the medical profession, especially the members of our Association, who have learnt by

recent experience to appreciate the value of collective investigation. The circular issued by the Committee thus defines the sphere of the inquiry: "Statistics of the chief diseases of certain trades and occupations indicate that there are men who are more or less physically adapted to the conditions of those trades and occupations; and it will be the aim of the Committee to ascertain exactly in what that adaptability consists. Further, the constant use of certain parts of the body in these different trades and occupations must tend to develop or modify those parts in certain directions, while the associated disuse of other parts must also have a corresponding effect upon them. The extent of this modification will be ascertained by a series of measurements, and the causes that have produced it by questions that will be asked as to the conditions under which this has taken place." It is obvious that an investigation of so extensive a character as this can only be successfully carried out by the active co-operation of many, and especially of medical men whose technical knowledge is required to answer such questions as "the position of the body at work," "the parts chiefly used," "the condition of the light," etc., all of which are essential to the faithful prosecution of the inquiry. The anthropometric work can be easily mastered by any fairly intelligent person after a little practice, the most difficult procedure being the measurement of the expansibility of the chest.

ST. JOHN AMBULANCE ASSOCIATION.

HER Royal Highness Princess Frederica of Hanover, Baroness von Pawel Rammingen, presented, on Thursday, August 2nd, 246 medallions and certificates to the Polytechnic classes of the St. John Ambulance Association. Mr. John Furley, Director of the Ambulance Department of the Order of St. John, presided, and was supported by Lady Giffard and Colonel Du Plat Taylor (in attendance on Her Royal Highness), Sir Herbert Perrott, Bart.; Lady Lechmere, Major-General and Mrs. Whitworth Porter, Mr. R. M. Maclean, General Lowry, Mr. G. Stoker, Mr. J. E. K. Studd, Dr. Braxton Hicks, Lady Mac Cormac, Mrs. and Miss Ambrose, Mr. E. Walford, Mr. Ernest Flower, and many others. The chairman, in his opening remarks, alluded to the fact that the Queen has now granted the Order of St. John of Jerusalem in England a Royal Charter, Her Majesty becoming the Sovereign Head and Patron, the Prince of Wales "Grand Prior," and Prince Albert Victor "Sub-Prior." The Prince of Wales has also become President of the St. John Ambulance Association, which has now awarded over 132,000 certificates of proficiency and 9,700 medallions. A vote of thanks to the Princess was proposed by Major-General Whitworth Porter, seconded by Mr. E. Walford, and acknowledged on the part of Her Royal Highness by Sir Herbert Perrott.

OPERATION FOR TUBAL PREGNANCY AT THE THIRD WEEK.

ON Friday, February 17th, Dr. Zucker, of Berlin, was called in to an indigent woman, aged 32. Her previous history was imperfect, as she could not speak German with fluency. She certainly had borne children, and had missed at least one period. Severe abdominal pains had set in on February 12th, and passed off in two hours, after the action of a purgative. The patient resumed work, but the pains returned on the morning of the 17th. The uterus was pushed to the right, and an indistinctly circumscribed soft mass could be felt to the left of the cervix. The parts were very tender. All the symptoms of intra-peritoneal hæmorrhage set in, and time was unavoidably lost in transferring the patient from her miserable lodgings to Dr. Veit's wards. On February 18th, at 2 o'clock in the afternoon, Dr. Veit operated. A full description of the case and the operation will be found in the *Centralblatt für Gynäkologie*, April 14th. Even under chloroform no distinct swelling could be felt on bimanual examination. On opening the abdominal cavity of the now pulseless patient, active hæmorrhage was detected, and nearly four litres of fluid blood had to be rapidly cleared away. Strange to say, the left appendages were found to be healthy. On prolonged search, the bleeding was at length traced to a rent two inches long, at the junction of the inner and middle third of the right tube. In clearing away the clots, a minute ovum, in perfect preservation and free from any sign of decomposition, was discovered. The tube was ligatured on each side of the wound, and the pedicle surrounded by sutures. It is not distinctly stated whether the appendages were cut away or left; anyhow, the operation was speedily brought to a close. About a litre of bloody fluid was left in the abdominal cavity, the operator hoping that it might be reabsorbed. A compress was applied to the abdomen, and the patient rallied a little after the operation, but died rather suddenly. Dr. Veit has operated in ten cases of tubal pregnancy. All the seven cases uncomplicated by rupture recovered, but two out of the three where rupture had taken place died after the operation.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION AND DR. HIME.

THE following resolution was passed at a meeting of Council, held at the rooms of the Association on July 29th, Dr. Macnaughton Jones in the chair: "That this Council of the Irish Medical Schools' and Graduates' Association unanimously desire to express their warm sympathy with Dr. Thomas Whiteside Hime, the distinguished sanitarian, and lately medical officer of health in Bradford, in the circumstances attending on the recent loss of that position; and in conveying their expressions of sympathy to Dr. Hime, they wish to record their appreciation of the able and independent manner in which he has discharged his duties as a public official, as proved by the evidence arising out of his recent deprivation of office."

SCOTLAND.

UNIVERSITY OF GLASGOW LOCAL EXAMINATIONS.

THE report of the local examinations was issued on August 10th. The examinations began on May 15th, and were held simultaneously at thirteen centres, extending from Whitehaven to Thurso. The number of candidates entered exceeded that of any former year, especially in the higher subjects; but the success of the candidates has been lower than last year. Candidates are therefore reminded by the Examining Board that more accurate knowledge is demanded in all the subjects, and that inaccuracy and slipshod preparation in even one are fatal. A very noticeable feature in the case of certificates awarded is the excellence of the results in senior certificates, where the proportion of first to second-class certificates is four to one. Hitherto the numbers have been more nearly equal. The same excellence is exhibited in the number of senior candidates who obtain "distinguished" rank by gaining 75 per cent. of the marks available in two or more subjects.

SCOTCH EDUCATION DEPARTMENT CERTIFICATES.

THE Royal College of Surgeons of Edinburgh, the Pharmaceutical Society of Great Britain, and the Council of the Society of the Solicitors before the Supreme Courts have expressed their willingness to accept the leaving certificate of the Scotch Education Department for so much of the preliminary examinations imposed by these societies as is covered by the certificates possessed by intending candidates.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE summer general meeting of the above Association, as briefly noticed in the JOURNAL of August 11th, was held on Wednesday, August 8th, in the Mathematical Class-room of Glasgow University. In the absence of the President, Professor Alexander Macalister, F.R.S., the chair was occupied by the President-elect, Dr. Richard FEGAN, who stated that since the annual meeting on St. Patrick's Day in London, they had had a most successful *réunion* at Cambridge, where they had been privileged to dine in the hall of the College (Gonville and Caius), in which the immortal Harvey had studied. They were much indebted to their hospitable President for the generous provision he had made for their comfort during their visit to the historic town.

Dr. HENRY FITZGIBBON (President R.C.S.I.) then, on behalf of the Council, proposed some alterations in the rules, which, with some verbal amendments, were finally adopted, after a discussion of some length in which several members, including Dr. JACOB (Dublin), Dr. R. HEATH (St. Leonard's), Dr. FRAYER (Bournemouth), and Dr. BAMPTON (Plymouth) took part. One of these provided that no matter how many non-official members of Council there might be at the end of each year, only nine of them should in future be eligible for re-election.

Dr. JAMES STEWART (Clifton) said that, as honorary provincial secretary, it gave him great pleasure to report that since the annual general meeting a marked proof of the usefulness of their Association had been afforded by what had taken place at the Bristol Royal Infirmary. A proposal was made there—similar to one adopted last year at Liverpool—to restrict all future appointments on the honorary medical staff to those holding certain London diplomas, thus excluding the Members and Fellows of the K.Q.C.P.I. and the Fellows of the R.C.S.I., as well as those holding similar diplomas obtained from Scotch colleges. This attempt to increase the number of English public hospitals in which certain London colleges had a monopoly was happily thwarted through the means put at his (Dr. Stewart's) disposal by the Council for enlightening public opinion in Bristol on the subject. A similar opposition would be shown by them if occasion should arise again. But the Council were not going to be content with this policy of watchfulness; they had drawn up a more complete exposition of their views on this question, and had published as an appendix thereto the regulations, in parallel columns, of the four colleges, namely, the two Colleges of Physicians (Irish and London) and the two Colleges of Surgeons. Of this pamphlet nearly 2,000 copies had already been distributed, and they had started a special fund to enable them to circulate it still more widely. To this fund the Council hoped that numerous contributions would be sent in; and he (Dr. Stewart) felt that he had only to mention this requirement in order to secure a liberal response. He did so with the greater confidence owing to his personal knowledge of the effect produced by the circulation last spring of even a small leaflet on the subject among the lay governors of the Bristol Royal Infirmary.

Dr. A. H. JACOB (Dublin) referred to the action which had been taken by the Royal College of Surgeons in Ireland in the matter referred to by the last speaker. The Council of his College recognised that, whether intended or not, the rule cast a slur on the value of their Fellowship diplomas as a guarantee of exceptional attainments. They felt convinced, however, that if the English public could be supplied with an official guarantee as to the examination for the F.R.C.S.I., being one of the highest class, lay governors of hospitals would no longer sanction the continuance in force of such a rule as had been referred to. The Council of his College had accordingly approached the great tribunal in medical educational matters—the General Medical Council—and had asked them to send inspectors to report on the Fellowship examination of the Irish College of Surgeons. That august body, however, gave in effect the reply *non possumus*. It was for this Association, in his opinion, to use all its influence to prevent such an excuse from being any longer available. He was glad to learn that an ex-President of the Association had followed up the victory obtained last year at Dublin, and had the previous day succeeded in inducing the British Medical Association in public meeting assembled to make a further declaration of its wishes in this matter. The General Medical Council could not well afford to treat as a "dead letter" a formal resolution passed by an Association numbering upwards of 13,000 members. He concluded by moving: "That the hearty thanks of the Association are due, and are hereby tendered, to Dr. Edward Waters (ex-President) for his successful efforts to advance the policy of this Association in opposition to the restrictive rules in force in many English hospitals, excluding Irish and Scotch diplomates from honorary appointments on the staff of the said institutions."

The CHAIRMAN, in seconding the resolution, which was passed with acclamation, said that few were aware of the great trouble that had been taken by Dr. Waters to secure the triumph he had gained at the public meeting of the previous evening, a success which was all the more difficult to attain inasmuch as he had arrayed against him a large proportion of the Council itself of the British Medical Association.

The CHAIRMAN having announced that the Council had passed a resolution of sympathy with one of their foundation members, Dr. T. Whiteside Hime, ex-medical officer of health in Bradford, on account of the way in which he had been treated by the sanitary authority of that town, the meeting terminated.

ANNUAL MEETING OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE annual meeting of the Medico-Psychological Association was held in Edinburgh, within the Hall of the Royal College of Physicians, on Monday, August 6th, under the presidency of Dr. T. S. CLOUSTON, of the Royal Edinburgh Asylum. There was a good attendance of members and other medical men. Amongst those present were Sir Arthur Mitchell, K.C.B.; The President of the Royal College of Physicians; Professor Benedikt, of Vienna; Dr. Stearns, U.S.A.; Drs. Affleck, Byrom Bramwell, McIvor Campbell, Campbell Clark, Rooke Ley, Miller, Mould, Needham, Conolly Norman, Rayner, Rogers, Rutherford, Savage, Sibbald, Hack Tuke, Turnbull, Urquhart, Watson, and Yellowlees.

The PRESIDENT, having taken the chair, thanked the Association for the honour they had done him, and welcomed it to Edinburgh. The officers and Council for 1889 having been elected, the President being H. Hayes Newington, M.R.C.P.E., amongst other resolutions, one was carried agreeing to approach the General Medical Council in regard to the recognition and registration of the certificate of efficiency in psychological medicine, now given on examination by the Association. It was reported by Dr. HACK TUKE that forty-six candidates had received this certificate within the past two years in Great Britain and Ireland. The hope was strongly expressed that this certificate will come to be the accepted and recognised test that a medical man holding it is qualified for any lunacy appointment, and that in any future Lunacy Act he will be considered qualified for the performance of any medico-legal statutory duty.

At the afternoon meeting, Dr. CLOUSTON read an address on Secondary Dementia, from the clinical, hereditary, and evolutional points of view. The following were the chief conditions he arrived at.

1. Normal brain cortex differs enormously in different individuals in its inherent qualities and potentialities, these differences being in the most important points necessarily "functional."

2. The strongest common clinical and psychological tendency of every form of mental disease is the tendency to end in dementia.

3. Dementia being a virtual death of the higher mental powers, all insanities, therefore, mean mind-death and social death.

4. Dements constitute two-thirds of our insane population.

5. Forty out of every hundred of all new cases of insanity soon pass into secondary dementia pure and simple, or mixed up with maniacal or delusional conditions.

6. The functional change that takes place in the brain cortex in secondary dementia is primarily and chiefly confined to the mind tissues, and is, in fact, a unique disease in nature with no pathological analogies whatever.

7. The problem of what secondary dementia means and how it can be averted is the cardinal problem of psychiatry.

8. Mental disease may be defined as "a tendency to dementia."

9. The constant association with dements alone tends to lower the mental tone of the staffs of asylums by the well-known law of the action of mind on mind.

10. Secondary dementia has as yet no sufficient pathological explanation.

11. It may be looked on as a reversion of type, as a failure of Nature's power to complete her most organised and highest pro-

duct, as a premature functional death of the mind tissue, or as a most beneficial result of the laws that bring a bad stock to an end.

12. Real secondary dementia may be so closely imitated by secondary stupor that only time and the effects of treatment can distinguish them. We may look on the primary maniacal attack as threatened dementia, and the secondary stupor as being a further stage towards it.

13. We have no reason to think that a brain which has a perfectly sound heredity can by any series of bad conditions known to us be made to exhibit typical secondary dementia.

14. The impressions through the senses from the outer world do not stimulate normally the cortex of a dement, though if the stimulant is very strong a certain response is obtained, but such a brain is incapable of providing such a stimulus by its own inherent working.

15. Dementia cannot be looked on as caused by the damage done to the mind tissue through the primary acute disturbance, for it often occurs without an acute primary stage, and its occurrence bears no definite relationship to the intensity or the duration of the primary attacks.

16. Most of the cases of chronic and delusional mania have also dementia superadded.

17. The pathological appearances, naked eye and microscopic, found in the brain cortex in long-continued cases of dementia, are capable of explanation on the theory of the degeneration and atrophy of long disused tissue; or they may be the advanced stage of the pathological condition, which is the real cause of the dementia, but which in its early stage we cannot as yet recognise.

18. No merely vascular theory of dementia is tenable.

19. Typical secondary dementia is always hereditary, and its genesis can be traced through the stages of hyper-activity, hyperæsthesia, diminished inhibition, instability, melancholia, mania, and alternation in different generations, or in members of the same generation affected in different degrees.

20. Pure and uncomplicated secondary dementia does not readily supervene on the insanities that occur after full development and before the period of decadence, such as puerperal and lactational insanities, or those resulting from overwork or emotional causes at that age.

21. Melancholic and alternating insanities, delusional and inhibitory insanities, are not the preliminary stages of secondary dementia nearly so frequently as maniacal attacks.

22. Almost all pure cases of secondary dementia will be found to have originated in the developmental (pubescent and adolescent) insanities.

23. Masturbation may be an element in the production of secondary dementia in some cases, but is not a necessary or a constant cause.

24. Idiocy and congenital imbecility represent Nature's failures during brain growth, while secondary dementia is the typical failure during brain development.

25. Pure secondary dementia means that the organism has failed in its most highly organised structure and in its most important function just at the point before full reproductive perfection should have naturally been reached.

26. Undue and unphysiological means through a forcing-house mode of education during adolescence, without regard to the hereditary capacity and weaknesses of the organism tend towards dementia.

27. The constant changes in each generation of modern civilised life in the adaptation of the human organism to its environments and the special efforts thus rendered necessary by the struggle for existence tend towards dementia through the strain they put on the most delicate of all organised tissues.

28. Adolescent insanity ending in secondary dementia may be regarded as the typical form of mental disease.

29. Dementia would have seemed a more natural sequence of the insanities of decadence (climacteric and senile) than of any others, for in them it would be a mere anticipation of the reproductive and mental death that has physiologically begun.

30. The lower animals, while subject to attacks analogous to melancholia and mania, are not subject to any state corresponding to secondary dementia before the senile period.

31. By prophylaxis in some cases, and by right treatment of the primary attack in others, dementia may be averted, but in many cases it is inevitable through the bad heredity of the individual.

An animated discussion, invited by the President, followed, in which Drs. Hack Tuke, Savage, Yellowlees, Conolly Norman, Stearns, Ireland, Wiglesworth, Fletcher Beach, Rogers, Rayner, and Urquhart took part. The President's views were, in many respects, concurred in, but were also criticised and differed from. The proceedings were brought to a close by the President of the College of Physicians expressing, on behalf of the College, the pleasure it had given the College to see the Association within its walls, and by a vote of thanks to the President for his Address, moved by Sir Arthur Mitchell, K.C.B., and seconded by Dr. Needham.

GLASGOW ROYAL INFIRMARY.

In connection with the demonstrations arranged to be given by the physicians and surgeons of the Royal Infirmary the managers most kindly arranged to give breakfast to 100 members of the Association. This was laid in the new covered way connecting the nurses' home with the hospital. After breakfast the visitors distributed themselves about the various centres of attraction. Dr. Macewen's theatre was packed to suffocation by surgeons eager to see his osteotomy work, of which he gave a large and amply-illustrated demonstration. Dr. Fleming, in his theatre, showed his new apparatus for spinal disease, his urethrotome, and his operation for perineal fistula.

Mr. H. E. Clark showed a case of congenital dislocation of both hips, a collar for disease of cervical vertebræ, and cases of double and triple amputations. In the large surgical theatre Dr. Knox performed Andrew Buchanan's operation of lithotomy with the rectangular staff. Dr. James Morton showed a long series of cases of spina bifida cured by his operation; and Dr. James Dunlop showed a case of innominate aneurysm cured by Wardrop's operation. In the medical hospital Dr. Alexander Robertson gave a demonstration on percussion of the brain, and on other important medical subjects.

FOOD AND DRUGS SECTION.

Presentation to Dr. R. S. Thomson.

A pleasing incident in connection with the meeting, and one which gave expression to the great feeling of satisfaction felt by the exhibitors at the way in which the whole of the arrangements in connection with the annual museum had been carried out, was the presentation by the exhibitors to Dr. R. S. Thomson, the Honorary Secretary of the Section for Food and Drugs, of an address together with a complete set of von Ziemssen's *Encyclopædia of Medicine*. The presentation was made at a meeting of the gentlemen representing the firms exhibiting, held on Friday, August 10th, in the Committee-room at the University. The chair was taken by Mr. J. D. Allman, of C. J. Hewlett and Son, London; Mr. Burroughs, of Messrs. Burroughs, Wellcome, and Co., occupying the vice-chair.

The following is a copy of the address:—

The exhibitors of drugs and foods in Section A at the British Medical Association, Glasgow, beg to tender their very grateful thanks to Dr. Thomson for the great courtesy and kindness he has shown to all exhibitors, and respectfully wish to compliment him on the very able manner in which he has carried out his most arduous undertaking in allotting the space to each firm exhibiting. In tendering this acknowledgment we shall, sir, deem it a favour if you will accept the accompanying gift; wishing you every sentiment of esteem and regard.

Dr. Thomson, in thanking the donors for their generous gift and their warm appreciation of his efforts, spoke of the exhibition of pharmaceutical preparations as being one of the great features of the meeting. He looked upon pharmacy and pharmaceutical chemists as a very important branch of the meeting, and should be glad when the time came to have all pharmacists enrolled as members of the British Medical Association meeting, so that they might enjoy the full privileges of the meetings.

Mr. Burroughs said he looked upon Dr. Thomson's remarks with respect to the enrolling of pharmacists as members of the British Medical Association as a great compliment and one that would be highly appreciated and would be a further incentive for pharmacists to go on making progress in their profession.

TEMPERANCE CONFERENCE IN GLASGOW.

On August 13th a temperance conference, under the auspices of the Scottish Temperance League, was held in Glasgow, when among other papers read, Dr. Neil Carmichael read a paper on "Alcohol in the Light of Recent Medical Science." In the course of his remarks he referred to an investigation by a Committee of

the British Medical Association, to discover, among other things, the influence of temperance on the death-rate. Only 168 returns were obtained, and these included 4,234 deaths. These returns were classified as follows: Average age of total abstainers, 51.22 years; of habitual drinkers, 62.13; of careless drinkers, 59.67; of free drinkers, 57.79; of the decidedly intemperate, 52.62. They were asked to accept that as a scientific conclusion—that not only careless, free, and real drinkers had a better chance of life than total abstainers, but that total abstinence made a man's chance of life less possible. He believed the true answer to these statistics was to be found in those which were given by temperance societies. If they adopted the figures for twenty-two years of the United Kingdom Temperance Institution, and it divided its members into two sections, those who were total abstainers and those who were not, it was found that in the ordinary section, in which it was calculated by the actuary that 6,144 deaths were expected, that 5,998 deaths did actually occur; and that in the temperance section the deaths calculated were 3,937, and that the actual deaths were 2,798, or a very great difference in favour of the total abstainers.

Surgeon-Major PRINGLE had come to the conclusion that some brains when acted on by alcohol developed suicidal or homicidal manias.

Dr. DAVIS (Chicago) concurred with the statements of Dr. Carmichael. He pointed out that alcohol was simply an anæsthetic, and justly belonged to a class of agents known as ethers.

Dr. CARMICHAEL, in answer to a question whether alcohol was in any case useful as a medicine, said that it was capable of producing a definite effect on the system, and there were some circumstances in which medical men wished to have effects somewhat of the nature produced; but he knew of no circumstances in which they had not agents better suited to produce that effect without the particular danger to which the use of alcohol led.

TEMPERANCE BREAKFAST.

ON Wednesday morning, at 8 o'clock, at the invitation of the Scottish Temperance League, and the Committee of the Scottish Branch of the British Medical Association, about 200 members partook of breakfast in the Queen's Rooms, Clifton Street, Glasgow. Sir WILLIAM COLLINS, President of the Temperance League, presided, and amongst those present were: Professor McKendrick, Dr. Norman Kerr, Dr. Alfred Carpenter, Professor Geikie (Toronto), Dr. A. W. Russell, Dr. Moffat (Dublin), Dr. Hugo Marcus (Paris), Surgeon-Major Pringle, Dr. Apostoli (Paris), Dr. Papillon (Paris), Dr. Coldstream (Florence), Dr. Kerr (New York), Rev. Canon Barker, Rev. Joseph Brown, and others.

The CHAIRMAN having spoken,

Professor MCKENDRICK appealed to the large numbers of medical men throughout the country who were abstainers to join the Branch. He was gratified to believe that the cause of temperance was spreading amongst their students of medicine. They had temperance associations in connection with the Glasgow and the Edinburgh Universities, and these associations were also doing a good work by bringing together those who were interested in the temperance question. He advised the simplification of prescriptions in which alcohol was an ingredient, in order to ascertain the precise effect on the system.

Dr. ALFRED CARPENTER also dwelt upon the necessity for medical men suggesting and prescribing a substitute for alcohol.

Dr. NORMAN KERR said that if the President of the British Medical Association and all its members were to join the movement there would be a wonderful physical and moral revolution.

Surgeon-Major PRINGLE remarked that if there was a profession in the world which ought to boast of total abstainers it was the medical profession.

The proceedings were brought to a close with votes of thanks.

SCOTTISH CREMATION SOCIETY.

A PUBLIC meeting of those favourable to the formation of a Scottish Burial Reform and Cremation Society was held on August 10th, in Glasgow. Dr. CAMERON, M.P., presided, and among others present were Dr. Farquharson, M.P., Sir Spencer Wells, Sheriff Spens, Dr. J. B. Russell, Dr. J. D. Littlejohn, Dr. Eben. Duncan, Mr. Ernest Hart, Dr. Christie, and Dr. A Carpenter.

The CHAIRMAN said the object of the meeting was to advocate reform in the methods of disposing of the dead, and especially to bring before the public the advantages of cremation. Whatever differences of opinion there might be as to the adoption of cremation or any other substitute for the present arrangement, there could be no doubt whatever that the present burial system, in the interest alike of the living, and, he might almost say, of the dead, stood most urgently in need of reform. He was certain the public had not the smallest idea of the horrors of our present burial system, or of the prevalence of what was called "pit-burial," so prejudicial to the health and so repugnant to the feelings of every intelligent and right-minded man. As to getting rid of this injurious and disgraceful state of things, cremation was the only satisfactory method yet proposed. Dr. Cameron then spoke of its success at Gotha, where 600 cremations had already taken place, and at Woking, where 20 cremations took place last year, and 40 had taken place in the first half of the present year. He then referred to the objections commonly raised to the method: the religious was answered by Lord Shaftesbury's query about the martyrs; the sentimental by the fact that sentiment was entirely against the present system; and as regards the legal objection, he said there was not under the present laws the smallest guarantee against foul play, and there would be introduced along with cremation the strictest possible precautions against foul play.

Dr. RUSSELL then moved: "That this meeting disapproves of the present methods of burial in Scotland, both as regards the expense involved and as regards their dangerous effects on the public health."

This was seconded by Dr. LITTLEJOHN, Edinburgh.

Sheriff SPENS moved: "That this meeting desires to substitute less expensive and more sanitary methods of disposal of the dead, and approves in particular of the method known as cremation."

This was supported by Sir SPENCER WELLS, Dr. FARQUHARSON, M.P., Mr. ERNEST HART, and Dr. CARPENTER.

Dr. EBEN. DUNCAN moved: "That this meeting resolves that a Society be formed to carry out the objects aimed at in the foregoing resolutions, under the style and title of the Scottish Burial Reform and Cremation Society."

This was seconded by Dr. CHRISTIE.

A Committee was then appointed to initiate the Society.

BOWER AND KEATES INDEMNITY FUND.

THE case of Messrs. Bower and Keates was brought to the notice of the profession by a circular sent out in December 1883 to all medical practitioners in Great Britain and Ireland whose names appeared in Messrs. Churchill's *Directory* for that year. The circular stated that on August 31st, 1882, a child was suffering from sporadic laryngitis, and suffocation was impending. With the consent of the parents the operation of tracheotomy was performed by Dr. Bower, assisted by Mr. Keates. The operation was performed skilfully and successfully, the child surviving twenty-four hours, and subsequently dying of the further effects of the disease.

A civil action was afterwards brought against these gentlemen by the father of the child for allowing him to clear the tracheotomy tube by suction in order to avert the impending death of the child. The jury disagreed on this trial, and it is in evidence on this occasion that the parents expressed their satisfaction with the treatment which the child had received.

Failing in this action, the parents brought a criminal prosecution against Dr. Bower and Mr. Keates, and the mother of the child, on September 11th, 1883, swore an information before the sitting magistrate at the Lambeth Police Court, charging them with the manslaughter of her child. When Dr. Bower and Mr. Keates appeared to answer this charge, they found, to their astonishment, that it was adopted and pressed against them by the Public Prosecutor.

Amongst the grave consequences of the intervention of the Public Prosecutor, these two should be especially noticed—namely, that these gentlemen, though charged as criminals, could not bring an action for malicious prosecution; and, secondly, that they were debarred the usual right of claiming payment of their expenses from those who had so unjustly prosecuted them.

It was felt that a mere verbal expression of sympathy with these gentlemen would not under the circumstances be sufficient, seeing that they had incurred legal expenses which were estimated at nearly £1,000; and it was in view of the propriety of aiding Dr. Bower and Mr. Keates in this matter that the following resolution was passed at a meeting held at Sir William Jenner's residence on Monday, December 10th, 1883:

"That a Committee be formed for the purpose of collecting subscriptions to defray the legal expenses incurred by Dr. Bower and Mr. Keates in their defence from the charges recently brought against them, and of preparing a statement by which the subscribers may express their sympathy with those gentlemen and their conviction that their treatment of the case for which they were prosecuted was right."

The circular was signed by William Jenner (Chairman); James Paget (Vice-Chairman); Richard Quain (Treasurer); John M. Bright, John Marshall, Thomas Bryant, Wilson Fox, James Grey Glover, Jonathan Hutchinson, John T. Jackson, Walter Moxon, Sidney Turner (Committee of the Bower and Keates Indemity Fund); F. A. Mahomed, R. W. Burnet (Honorary Secretaries.

So hearty was the response to this appeal that, within a week, the required sum was received, and, before the list could be closed, £1,726 had been received from 1,954 subscribers.

The Committee hoped to have wound up the business with which they were entrusted at a much earlier date; but great delay was entailed by the fact that a new trial was threatened, and that difficulties were put in the way of having the costs taxed. The mere legal costs, for which certificate was given by the Taxing Master, amounted to £931 10s. 11d., apart altogether from incidental expenses. Some months since the Committee, having paid all costs and other expenses of the fund, found that they had a balance in hand of about £500. They issued a circular to all the subscribers, stating that it was proposed to give part of this sum to assist several similar deserving cases, on behalf of which application had been made, and to divide the surplus amongst medical charities; but that, if any subscriber objected to these proposals, he could receive back the proportion of his subscription on applying to the Honorary Secretary. The majority of the replies received were in favour of the distribution suggested by the Committee, and they have acted accordingly, giving £150 to Mr. Ralph Hodgson, late of Lewisham, who successfully defended himself against a charge of indecent assault at a cost of about £500; and £50 towards the expenses of the defendant in the case of Gibson and Wife *v.* Jeffries and Hills; £50 to Dr. Brown, in the cases of Lennard *v.* Brown and others; and £50 to Dr. West Symes, in the case of Moss *v.* West Symes. The balance the Committee have distributed between the British Medical Benevolent Fund, the Royal Medical Benevolent Society of Ireland, the Medical Benevolent College, Epsom, and the Society for the Relief of the Widows and Orphans of Medical Men.

The Committee cannot close this statement without a brief reference to the lamented deaths of Dr. Wilson Fox, Dr. Moxon, and Dr. Mahomed, who took a large share in initiating the movement which they did not live to see carried out, but to which they zealously contributed by their exertions so long as their valuable lives were spared.

(Signed) WILLIAM JENNER, M.D., Chairman.
RICHARD QUAIN, M.D., Honorary Treasurer.
R. W. BURNET, M.D., Honorary Secretary.

THE ACTION OF PEPPER AND MUSTARD ON DIGESTION.—According to a very interesting paper by M. Burginski, the ingestion of mustard, in doses of from two or four drachms daily, is without effect on the assimilation of nitrogenous substances. Pepper, in doses of from eight to sixteen grains, delays digestion from 0.4 to 2.3 per cent. In doses of from one to three drachms daily, mustard delays the assimilation of fatty matters 2.2 per cent. It stimulates the appetite, whereas pepper diminishes it. Mustard has no effect on the secretion of urine, but pepper augments it from 3 to 14 per cent. Both, however, act as irritants on the stomach and intestines.

BEQUESTS.—The Dental Hospital of London has become entitled to £2,000 under the will of Mr. Capel Carter.—Mr. John Kidd, of Nightingale Hall, Wood Green, bequeathed £1,000 to the London Hospital.—Mr. Henry Brace, of Mayfield, Walsall, bequeathed £500 to the local Cottage Hospital.—The British Home for Incurables has received £500 under the will of Mrs. Maingay.—Charing Cross Hospital has received £100 under the will of Mr. Benjamin Lancaster.

THE first Council Meeting of the new Laryngological Society was held on Wednesday, August 15th; Sir Morell Mackenzie, the President, being in the chair. Sixteen applications for membership were received.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING FOR 1888. ELECTION OF MEMBERS.

ANY qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

A meeting of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

PROCEEDINGS OF COUNCIL.

AT a meeting of the Council, held in the Randolph Hall, University Buildings, Glasgow, on Tuesday, August 7th, 1888; present:

Dr. T. BRIDGWATER, President of the Council, in the chair,

Professor W. T. Gairdner, M.D., Glasgow (President-Elect)	Dr. Bruce Goff, Bothwell
Dr. Holman, Reigate (Treasurer)	Mr. W. D. Husband, Bristol
Dr. H. Barnes, Carlisle	Mr. A. Jackson, Sheffield
Dr. G. B. Barron, Southport	Mr. T. R. Jessop, Leeds
Dr. J. Mackenzie Booth, Aberdeen	Mr. Evan Jones, Aberdare
Dr. J. W. Byers, Belfast	Dr. John M'Intyre, Oldiham
Dr. A. Carpenter, Croydon	Mr. W. Jones-Morris, Portmadoc
Dr. J. Ward Cousins, Portsmouth	Dr. C. Parson, Dover
Dr. J. Cuming, Belfast	Dr. R. Saundby, Birmingham
Dr. A. Dempsey, Belfast	Mr. S. W. Sibley, London
Dr. D. Drummond, Newcastle-on-Tyne	Mr. T. Sympson, Lincoln
Dr. G. F. Duffey, Dublin	Mr. J. Taylor, Chester
Dr. J. H. Galton, Upper Norwood	Mr. F. Wallace, London
Dr. C. E. Glascott, Manchester	Dr. Edward Waters, Chester
	Mr. C. G. Wheelhouse, Leeds
	Mr. Alfred Winkfield, Oxford

The minutes of the last meeting were read and found correct.

It was moved and seconded: "That a sum of £200 be granted to the Therapeutic Committee for its expenses for the ensuing year."

Whereupon an amendment was moved and seconded:

"That a sum of £50 be provisionally granted to the Therapeutic Committee for its expenses for the ensuing year."

The amendment was accepted, and put as a substantive motion and agreed to.

Letters of apology for non-attendance were read from Dr. Bristowe, Dr. Bartolomé, Dr. Trend, Dr. Strange, Dr. Grimshaw, Mr. Mason, Mr. Vincent Jackson, Mr. Hugh Ker, and Dr. Langdon Down.

Letters were read from Dr. Middleton and Dr. Moyes, with reference to the admission of students.

Resolved: "That medical students be admitted to the addresses and sectional meetings of the Association at the annual meeting in Glasgow, on such regulations as may be adopted by the Reception Committee."

Resolved: "That the 133 gentlemen whose names appear on the

circular convening the meeting, together with the 26 on the supplementary list, be, and they are hereby, elected members of the British Medical Association."

List of Attendances of Council and Committees were reported, of which the following are the particulars:

(The letter R. means Representative of a Branch.)

Name and Address.	Number of Council Meetings held (7). Attended.	Number of Times Summoned, Inclusive of Committees, etc.	Number of Total Attendances.
Dr. T. Bridgwater, Harrow-on-the-Hill, President of Council	7	32	32
Surgeon-General W. R. Cornish, London, R.	6	15	13
Dr. J. W. Cousins, Portsmouth, R.	7	21	19
Mr. George Eastes, London, R.	6	10	9
Dr. W. C. Grigg, London, R.	6	19	17
Mr. T. R. Jessop, Leeds, R.	7	7	7
Mr. F. Mason, Bath, R.	6	16	14
Dr. C. Parsons, Dover, R.	7	19	19
Mr. T. Sympson, Lincoln, R.	7	7	7
Dr. T. W. Trend, Southampton, R.	6	14	10
Dr. E. Waters, Chester, R.	7	18	15
Mr. H. T. Butlin, London, R.	5	9	7
Sir B. Walter Foster, M.D., M.P., Birmingham, Vice-President	5	32	16
Dr. C. E. Glascott, Manchester, R.	6	8	7
Dr. B. Goff, Bothwell, R.	6	14	10
Dr. C. Holman, Reigate, Treasurer	6	32	23
Mr. Evan Jones, Aberdare, R.	6	7	6
Mr. S. W. Sibley, London, R.	6	22	21
Mr. C. G. Wheelhouse, Leeds, Vice-President	6	24	16
Dr. J. S. Bristowe, F.R.S., London, R.	4	7	4
Dr. A. Carpenter, Croydon, Vice-President	5	15	11
Dr. G. W. Crowe, Worcester, R.	4	7	4
Dr. J. L. H. Down, London, R.	4	9	5
Dr. J. H. Galton, Upper Norwood, R.	4	7	4
Dr. T. W. Grimshaw, Carrickmines, R.	4	8	4
Mr. H. R. Ker, Halesowen, R.	4	13	9
Dr. W. G. V. Lush, Weymouth, R.	4	7	4
Mr. W. J. Morris, Portmadoc, R.	5	7	5
Dr. E. M. Skerritt, Bristol, R.	4	7	4
Dr. W. Strange, Worcester, Vice-President	4	14	7
Mr. Alfred Winkfield, Oxford, R.	5	7	5
Dr. A. Davidson, Liverpool, R.	3	15	3
Dr. P. M. Deas, Exeter, R.	3	7	3
Dr. G. F. Duffey, Dublin, R.	4	10	5
Dr. W. A. Elliston, Ipswich, R.	3	7	3
Dr. James Hardie, Manchester, R.	3	7	3
Professor G. M. Humphry, F.R.S., Cambridge, Vice-President	3	9	3
Mr. T. V. Jackson, Wolverhampton, R.	3	11	3
Dr. J. McIntyre, Odiham, R.	4	7	4
Dr. W. Withers Moore, Brighton, Vice-President	3	11	5
Dr. R. Saundby, Birmingham, R.	4	7	4
Dr. A. Sheen, Cardiff, R.	3	7	3
Mr. F. Wallace, London, R.	4	8	3
Dr. B. Anningson, Cambridge, R.	2	7	2
Mr. J. W. Baker, Southport, R.	2	7	2
Dr. H. Barnes, Carlisle, R.	3	7	3
Dr. G. B. Baron, Southport, R.	3	7	3
Dr. J. W. Byers, Belfast, R.	3	7	3
Dr. J. Cuming, Belfast, Vice-President	3	7	3
Dr. A. Dempsey, Belfast, R.	3	7	3
Dr. D. Drummond, Newcastle-on-Tyne, R.	3	7	3
Mr. G. F. Hodgson, Brighton, R.	2	6	2
Mr. C. Macnamara, London, Vice-President	2	19	4
Dr. F. Needham, Gloucester, R.	2	7	2
Dr. W. Russell, Edinburgh, R.	2	7	2
Mr. T. W. Crosse, Norwich, R.	1	7	1
Mr. J. Dix, Hull, R.	1	7	1
Professor W. T. Gairdner, Glasgow, President-Elect	2	16	2
Dr. Ogilvie Grant, Inverness, R.	1	7	1
Mr. W. D. Husband, Bournemouth, Vice-President	2	7	2
Mr. A. Jackson, Sheffield, R.	2	11	2
Mr. J. Taylor, Chester, R.	2	7	2
Dr. J. T. Banks, 45, Merrion Square, Dublin, President	0	19	0
Sir H. W. Acland, K.C.B., M.D., Oxford, Vice-President	0	7	0
Mr. A. Baker, Birmingham, Vice-President	0	10	0
Mr. B. Barrow, Ryde, Vice-President	0	7	0
Dr. M. M. De Bartolomé, Sheffield, Vice-President	0	7	0
Dr. J. M. Booth, Aberdeen, R.	1	7	1
Dr. Bryan, Northampton, R.	0	7	0
Dr. W. T. Edwards, Cardiff, R.	0	7	0
Dr. W. M. Kelly, Taunton, R.	0	7	0
Dr. A. Lochée, Canterbury, Vice-President	0	7	0
The Hon. C. B. Mosse, C.B., Sandgate, R.	0	7	0
Professor D. C. O'Connor, Cork, Vice-President	0	7	0
Professor G. E. Paget, F.R.S., Cambridge, Vice-President	0	7	0
Dr. W. F. Wade, Birmingham, Vice-President	0	7	0
Dr. A. T. H. Waters, Liverpool, Vice-President	0	7	0
Dr. G. E. Williamson, Newcastle-on-Tyne, R.	0	7	0

At a meeting of the Council, 1888-89, held in the Randolph Hall, University Buildings, Glasgow, on Wednesday, August 8th, 1888; present:—

Dr. T. BRIDGWATER, President of the Council, in the Chair,

Professor W. T. Gairdner, M.D., Glasgow (President)	Dr. J. H. Galton, London
Dr. Holman, Reigate (Treasurer)	Dr. C. E. Glascott, Manchester
Mr. A. H. Bampton, Plymouth	Dr. Bruce Goff, Bothwell
Dr. Henry Barnes, Carlisle	Dr. W. B. Gowans, Perth
Dr. G. B. Barron, Southport	Dr. James Hardie, Manchester
Dr. J. Mackenzie Booth, Aberdeen	Mr. J. H. Hemming, Kimbolton
Dr. J. W. Byers, Belfast	Mr. W. D. Husband, Bristol
Dr. Alfred Carpenter, Croydon	Mr. A. Jackson, Sheffield
Dr. J. Ward Cousins, Portsmouth	Mr. T. R. Jessop, Leeds
Dr. J. Cuming, Belfast	Mr. Evan Jones, Aberdare
Dr. W. H. Cutts, Melbourne	Mr. W. Jones-Morris, Portmadoc
Mr. John Dix, Hull	Dr. F. Needham, Gloucester
Dr. J. Langdon H. Down, London	Mr. S. W. Sibley, London
Dr. D. Drummond, Newcastle-on-Tyne	Mr. J. Taylor, Chester
Dr. G. F. Duffey, Dublin	Mr. F. Wallace, London
Mr. George Eastes, M.B., London	Dr. Edward Waters, Chester
	Mr. W. Webb, Wirksworth
	Mr. C. G. Wheelhouse, Leeds
	Mr. Alfred Winkfield, Oxford

The minutes of the last meeting were read and found correct.

Letters of apology were read from Dr. Ogilvie Grant, Dr. Alfred Sheen, and Dr. Alexander Davidson.

The new members of Council present—Dr. Gowans, Dr. Webb, and Mr. Hemming—were introduced.

The following return was received of the election of representatives of Branches on the Council:—

Aberdeen, Banff, and Kincardine Branch.—J. Mackenzie Booth, M.D., 231, Union Street, Aberdeen. *Adelaide and South Australia Branch.*—(No return). *Bath and Bristol Branch.*—F. Mason, Esq.,20, Belmont, Bath; E. M. Skerritt, M.D., Thornton House, Richmond Hill, Clifton, Bristol. *Bermuda Branch.*—Dep. Surg.-Genl. C. Graves-Irwin, M.S., Ardwick Green, Manchester. *Birmingham and Midland Counties Branch.*—Hugh R. Ker, Esq., Halesowen; Robert Saundby, M.D., 83a, Edmund Street, Birmingham. *Border Counties Branch.*—Henry Barnes, M.D., 6, Portland Square, Carlisle. *British Guiana Branch.*—(No return.) *Cambridge and Huntingdon Branch.*—Bushell Anningson, M.D., Barton Road, Cambridge. *Colombo, Ceylon Branch.*—W. R. Kynsey, M.D., 57, West Cromwell Road, S.W. *Dorset and West Hants Branch.*—W. G. Vawdrey Lush, M.D., 12, Frederick Place, Weymouth. *Dublin Branch.*—George F. Duffey, M.D., 30, Fitzwilliam Place, Dublin; T. W. Grimshaw, M.D., Priorsland, Carrickmines, Co. Dublin. *East Anglian Branch.*—T. W. Crosse, Esq., F.R.C.S., Norwich; W. A. Elliston, M.D., Ipswich. *East York and North Lincoln Branch.*—J. Dix, Esq., 25, Albion Street, Hull. *Edinburgh Branch.*—William Russell, M.D., 46, Albany Street, Edinburgh. *Glasgow and West of Scotland Branch.*—Bruce Goff, M.D., The Lindens, Bothwell, Lanarkshire. *Gloucestershire Branch.*—F. Needham, M.D., Barnwood House, Gloucester. *Halifax, Nova Scotia Branch.*—J. F. Black, M.D., 13, Craven Street, Strand, W.C. *Jamaica Branch.*—The Hon. C. B. Mosse, C.B., 3, Knoll Terrace, Sandgate. *Lancashire and Cheshire Branch.*—G. B. Barron, M.D., Summerseat, Southport; A. Davidson, M.D., 2, Gambier Terrace, Liverpool; C. E. Glascott, M.D., 23, St. John's Street, Manchester; James Hardie, M.D., 1, St. Ann's Place, Manchester; James Taylor, Esq., Newgate Street, Chester. *Melbourne and Victoria Branch.*—W. Cutts, M.D., 2, Malcolm Villas, Malcolm Street, Derby. *Metropolitan Counties Branch.*—J. S. Bristowe, M.D., 13, Old Burlington Street, W.; H. T. Butlin, Esq., 82, Harley Street, W.; George Eastes, M.B., 69, Connaught Street, Hyde Park Square, W.; W. Chapman Grigg, M.D., 27, Curzon Street, W.; Septimus W. Sibley, Esq., 7, Harley Street, W.; Frederick Wallace, Esq., 96, Cazenove Road, Upper Clapton, E. *Midland Branch.*—T. Sympson, Esq., 2, James Street, Lincoln; W. Webb, Esq., Wirksworth, Derbyshire. *Northern Counties of Scotland Branch.*—Ogilvie Grant, M.B., Queen Mary's House, Inverness. *North of England Branch.*—David Drummond, M.D., 7, Saville Place, Newcastle-on-Tyne; G. E. Williamson, M.D., 22, Eldon Square, Newcastle-on-Tyne. *North of Ireland Branch.*—J. W. Byers, M.D., Lower Crescent, Belfast; Professor R. F. Dill, M.D., 3, Fisherwick Place, Belfast. *North Wales Branch.*—W. Jones-Morris, Esq., Portmadoc. *Oxford and District Branch.*—Alfred Winkfield, Esq., 26, Beaumont Street, Oxford. *Perthshire Branch.*—W. Gowans M.D., Perth. *Reading and Upper Thames Branch.*—John McIntyre, M.D., Odiham, *Shropshire and Mid-Wales Branch.*—John Davies Harries, Esq., 5, Belmont, Shrewsbury. *Southern Branch.*—J. Ward Cousins, M.D., Riversdale, Kent Road, Portsmouth; Theophilus W. Trend, M.D., Raeberry Lodge, Southampton. *South of Ireland Branch.*—(No return.) *South-Eastern Branch.*—J. H. Galton, M.D., "Chunam," Sylvan Road, Upper Norwood, S.E.; G. F. Hodgson, Esq., 52, Montpellier Road, Brighton; C. Parsons, M.D., 2, St. James Street, Dover. *South Indian and Madras Branch.*—Surg.-Gen. W. R. Cornish, M.D., 8, Cresswell Gardens, S.W. *South Midland Branch.*—J. H. Hemming, Esq., Kimbolton. *South Wales and Monmouthshire Branch.*—Evan Jones, Esq., Aberdare; A. Sheen, M.D., Halswell House, Cardiff. *South-Western Branch.*—A. H. Bampton, Esq., Plymouth; P. M. Deas, M.B., Wonford House, Exeter. *Staffordshire Branch.*—T. Vincent Jackson, Esq., Waterloo Road South, Wolverhampton. *Sydney and New South Wales.*—(No return.) *Thames Valley Branch.*—J. Langdon H. Down, M.D., 81, Harley Street, W. *West of Ireland Branch.*—(No return.) *West Somerset Branch.*—W. M. Kelly, M.D., Crescent, Taunton. *Worcestershire and Herefordshire Branch.*—G. W. Crowe, M.D., 43, Foregate Street, Worcester. *Yorkshire Branch.*—A. Jackson, Esq., 17, Wilkinson Street, Sheffield; T. R. Jessop, Esq., Park Square, Leeds.

A deputation attended from Leeds with reference to the annual meeting of 1889.

Mr. WHEELHOUSE introduced the deputation, and invited the Association to hold its annual meeting in Leeds in the year 1889.

Resolved: "That it be recommended to the general meeting of to-day that the invitation from the members of the Association and the profession at Leeds be accepted, and that Mr. Wheelhouse be appointed President-Elect."

Resolved: "That the President of the Council, the Treasurer, and Mr. Dix be a Committee to consider the respective powers of the Council and of the General Meeting with regard to questions of finance, and to report at the October meeting."

AT a meeting of the Council 1888-89, held in the Randolph Hall, University Buildings, Glasgow, on Thursday, August 9th, 1888; present:—

Dr. T. BRIDGWATER, President of the Council, in the chair.

Dr. Holman, Reigate (Treasurer)	Mr. J. H. Hemming, Kimbolton
Dr. A. H. Bampton, Plymouth	Mr. W. D. Husband, Bournemouth
Dr. J. T. Banks, Dublin	
Dr. H. Barnes, Carlisle	Mr. A. Jackson, Sheffield
Dr. G. B. Barron, Southport	Mr. T. R. Jessop, Leeds
Dr. J. Mackenzie Booth, Aberdeen	Mr. Evan Jones, Aberdare
	Dr. W. R. Kynsey, Colombo
Dr. A. Carpenter, Croydon	Dr. John McIntyre, Odiham
Dr. J. Ward Cousins, Portsmouth	Mr. W. Jones-Morris, Portmadoc
Dr. W. H. Cutts, Melbourne	Dr. F. Needham, Gloucester
Dr. J. L. H. Down, London	Dr. C. Parsons, Dover
Dr. G. F. Duffey, Dublin	Mr. S. W. Sibley, London
Mr. George Eastes, London	Mr. T. Sympson, Lincoln
Dr. J. H. Galton, Upper Norwood	Mr. J. Taylor, Chester
	Mr. F. Wallace, London
Dr. C. E. Glascott, Manchester	Dr. E. Waters, Chester
Dr. Bruce Goff, Bothwell	Dr. W. Webb, Derby
Dr. W. B. Gowans, Perth	Mr. C. G. Wheelhouse, Leeds
Dr. J. Hardie, Manchester	Mr. A. Winkfield, Oxford

The minutes of the last meeting were read and found correct.

Dr. Kynsey was introduced as the representative of the Ceylon Branch.

Resolved: "That the gentlemen whose names are printed in the Daily Journal, pp. 21-2, be elected as members of the British Medical Association subject to confirmation at the next meeting of the Council in October.

The PRESIDENT of the COUNCIL reported that the gentleman on the Journal and Finance Committee who retired and were ineligible for re-election this year in accordance with By-law 29 were Dr. Ward Cousins, Dr. Bruce Goff, and Dr. Grigg; there was also a vacancy caused by Mr. Wheelhouse being appointed President-elect. There were seven gentlemen nominated to fill the vacancies. A ballot was thereupon taken; Dr. Galton and Dr. Kynsey were appointed scrutineers, and they reported that Mr. Jessop, Mr. Husband, Dr. Saundby, and Dr. Needham had received the greatest number of votes.

Resolved: "That the Journal and Finance Committee, with the omission of the names of Dr. Goff, Dr. Ward Cousins, Dr. Grigg, and Mr. Wheelhouse, and with the substitution of the four members elected this day, be re-appointed."

Resolved: That in accordance with By-law 29 the following fifteen gentlemen, with the President, President-elect, President of Council, and the Treasurer, be appointed the Journal and Finance Committee for the ensuing twelve months: Dr. A. Davidson, Sir B. W. Foster, M.D., M.P., Mr. Husband, Mr. T. V. Jackson, Mr. Jessop, Mr. H. R. Ker, Mr. C. Macnamara, Mr. F. Mason, Dr. Withers Moore, Dr. Needham, Dr. C. Parsons, Dr. Saundby, Mr. S. W. Sibley, Dr. W. Strange, and Dr. E. Waters.

Resolved: "That the gentlemen whose names are as follows be appointed the Parliamentary Bills Committee: The President and the President-elect *ex officio*, Dr. T. Bridgwater, President of Council; C. Holman, M.D., Treasurer; Mr. S. H. Agar; Mr. D. B. Balding; H. Barnes, M.D.; Mr. J. Wickham Barnes; Robert Barnes, M.D.; G. B. Barron, M.D.; J. W. Browne, M.D.; A. Carpenter, M.D.; W. Carter, M.D.; Surgeon-General W. R. Cornish; G. W. Crowe, M.D.; P. M. Deas, M.B.; Walter Dickson, M.D.; J. Langdon H. Down, M.D.; G. F. Duffey, M.D.; George Eastes, M.B.; Alfred Eddowes, M.D.; R. Esler, M.D.; Sir B. W. Foster, M.D., M.P.; Mr. E. H. Galton; C. E. Glascott, M.D.; Bruce Goff, M.D.; Ogilvie Grant, M.D.; W. C. Grigg, M.D.; A. J. Harrison, M.D.; Mr. C. H. Rogers Harrison; Mr. Ernest Hart; Mr. W. R. Heath; Mr. J. H. Hemming; Mr. J. R. Humphreys; Mr. A. Jackson; Mr. G. E. Jeaffreson; Mr. A. Emrys Jones; Mr. C. Macnamara; W. J. Mickle, M.D.; F. Needham, M.D.; Mr. R. H. B. Nicholson; D. Nicolson, M.D.; W. Ord, M.D.; C. Orton, M.D.; Mr. O. E. Owen; Mr. C. H. W. Parkinson; G. H. Philipson, M.D.; H. H. Phillips, M.D.; Mr. J. Prankerd; James Ritchie, M.D.; Joseph Rogers, M.D.; Mr. S. W. Sibley; Mr. Noble Smith; Mr. W. D. Spanton; W. Strange, M.D.; James Stuart, M.D.; Mr. F. Wallace; Mr. A. Winkfield."

Resolved: "That the gentlemen whose names are as follows be appointed the Scientific Grants Committee: The President and the President-elect *ex officio*; Dr. T. Bridgwater, President of Council; C. Holman, M.D., Treasurer; Sir Joseph Lister, Bart., F.R.S.; Mr. Alfred Baker; Mr. H. T. Butlin; A. Davidson, M.D.; D. Ferrier, M.D., F.R.S.; Sir B. W. Foster, M.D., M.P.; A. Gamgee, M.D., F.R.S.; Professor G. M. Humphry, F.R.S.; Mr. A. Jackson; E. Klein, M.D., F.R.S.; Mr. C. Macnamara; C. Parsons, M.D.; Professor Burdon Sanderson, F.R.S.; Professor E. A. Schäfer, F.R.S.; Mr. S. W. Sibley; S. Wilks, M.D., F.R.S.; Mr. Ernest Hart, Honorary Secretary."

Resolved: "That the gentlemen whose names are as follows be appointed the Committee on Legislation for Inebriates: The President and President-elect *ex officio*; Dr. T. Bridgwater, President of Council; Mr. D. B. Balding; Mr. H. Branthwaite; C. Cameron, M.D., M.P.; Alfred Carpenter, M.D.; G. B. Clark, M.D., M.P.; C. R. Drysdale, M.D.; J. W. Eastwood, M.D.; R. Farquharson, M.D., M.P.; Sir B. W. Foster, M.D., M.P.; Mr. W. C. Garman; J. Hill Gibson, M.D.; Alexander Grant, M.D.; C. J. Hare, M.D.; Mr. H. R. Ker; Norman S. Kerr, M.D.; Mr. R. H. B. Nicholson; Surgeon-Major G. K. Poole, M.D.; Mr. J. Prankerd; Surgeon-Major R. Pringle, M.D.; Fleet-Surgeon G. Robertson, R.N.; G. D. P. Thomas, M.D.; E. H. Vinen, M.D.; H. W. Williams, M.D."

Resolved: "That the gentlemen whose names are as follows be appointed the Committee on Branch Organisation: Surgeon-General W. R. Cornish; J. Ward Cousins, M.D.; J. Cuming, M.D.; J. Langdon H. Down, M.D.; Sir B. W. Foster, M.D., M.P.; W. C. Grigg, M.D.; Mr. A. Jackson; D. C. McVail, M.D.; C. Parsons, M.D.; T. W. Trend, M.D."

Resolved: "That the gentlemen whose names are as follows be appointed the Collective Investigation Committee: The President and the President-elect *ex officio*; Dr. T Bridgwater, President of Council; C. Holman, M.D., Treasurer; Professor G. M. Humphry, F.R.S.; H. G. Barling, M.D.; R. L. Bowles, M.D.; Mr. H. T. Butlin; A. Carpenter, M.D.; J. Ward Cousins, M.D.; Sir Dyce Duckworth, M.D.; G. F. Duffey, M.D.; J. E. Eddison, M.D.; W. P. Herringham, M.D.; Jonathan Hutchinson, F.R.S.; Mr. A. Jackson; D. J. Leech, M.D.; J. A. Lindsay, M.D.; Mr. C. Macnamara; A. Sheen, M.D."

Resolved: "That the gentlemen whose names are as follows be appointed the Premises and Library Committee: Dr. T. Bridgwater, President of Council; C. Holman, M.D., Treasurer; Alfred Carpenter, M.D.; J. Ward Cousins, M.D.; Sir B. W. Foster, M.D., M.P.; W. C. Grigg, M.D.; Mr. C. Macnamara; Mr. S. W. Sibley; Mr. C. G. Wheelhouse."

Resolved: "That the gentlemen whose names are as follows be appointed the Trust Funds Committee: The President and the President-elect *ex officio*; Dr. T. Bridgwater, President of Council; C. Holman, M.D., Treasurer; Sir B. W. Foster, M.D., M.P.; Mr. W. D. Husband; Mr. C. Macnamara; E. Waters, M.D.; Mr. C. G. Wheelhouse."

Resolved: "That the gentlemen whose names are as follows be appointed the Committee on Payment of Fees to Medical Witnesses: Dr. T. Bridgwater, President of Council; C. Holman, M.D., Treasurer; Sir B. W. Foster, M.D., M.P.; Bruce Goff, M.D.; Mr. S. W. Sibley; E. Waters, M.D."

Resolved: "That the gentlemen whose names are as follows be appointed the Therapeutic Committee: Lauder Brunton, M.D.; Cranstoun Charles, M.D.; M. Charteris, M.D.; Sir Andrew Clark, Bart.; G. F. Duffey, M.D.; Sir B. W. Foster, M.D., M.P.; Professor W. T. Gairdner; D. J. Leech, M.D.; James Little, M.D.; Sidney Martin, M.D.; M. McHugh, M.D.; W. Murrell, M.D.; C. Y. Pearson, M.D.; Sydney Ringer, M.D.; Sir William Roberts; R. Saundby, M.D.; Mr. C. G. Wheelhouse; W. Whitla, M.D."

Resolved: "That the congratulations of the Council be tendered to the President in consideration of the honour to be bestowed upon him and the Association by the Glasgow University in conferring upon him the title of LL.D."

Resolved: "That the members whose names are as follows be appointed the Arrangement Committee for considering the arrangements of the annual meeting at Leeds in 1889—namely, the President, the President of Council, the Treasurer, Dr. Skerritt, Mr. Eastes, Mr. Sibley, Dr. Saundby, Dr. Grigg, Dr. Parsons, Dr.

Drummond, and Dr. Glascott, together with eleven other members, to be added by the Local Reception Committee."

CORRESPONDENCE.

SCOTCH AND IRISH DIPLOMAS AND PUBLIC APPOINTMENTS.

SIR,—If Dr. E. Waters is correctly reported as stating at the Glasgow meeting of the Association (JOURNAL, August 11th, 1888, p. 315) "that he would base his resolution upon the single fact that their late President (Dr. Banks) and the present President (Dr. Gairdner) would not now be qualified to stand as candidates for the post of physician to the Liverpool Infirmary," he must be labouring under some misapprehension. The law of the Infirmary relative to the qualifications of physicians is "That no physician shall be eligible who is not a Fellow or a Member by examination of the Royal College of Physicians, London, or who has not graduated at one of the following universities—namely, Oxford, Cambridge, Dublin, Edinburgh, Glasgow, or London."

On turning to the *Medical Directory* I see that Dr. Banks is an M.D.Dublin and Dr. Gairdner an M.D.Edinburgh, both of which degrees are included in the law referred to.—I am, etc.,

Liverpool, August 11th. REGINALD HARRISON.

P.S.—Two of our physicians are Doctors of Medicine of the University of Edinburgh.

THE INEBRIATES' LEGISLATION COMMITTEE.

SIR,—Having, to my deep regret, been prevented from reaching Glasgow in time to speak on the report of the Inebriates' Legislation Committee, I crave a brief space to acknowledge the services conspicuously rendered by several gentlemen to the work of the Committee, which has just been rewarded by the enactment (though in an imperfect measure) of permanent legislation for the inebriate. The most notable of these friends have been Sir Robert Christison, Dr. Alexander Peddie, Dr. Donald Dalrymple, Mr. Stephen Alford, and Dr. Alfred Carpenter, the latter of whom ably acted as Chairman of the Committee for the first eight years, and secured the co-operation of the Social Science Association.

In Parliament, Dr. Cameron (one of the members for Glasgow) has borne the greatest share of the labour, and to his energy and tact we mainly owed the passage of the original Act. Earl Shaftesbury, the Earl of Aberdeen, Sir Walter Foster, Sir Trevor Lawrence, Sir Lyon Playfair, Dr. G. B. Clark, Dr. Farquharson, the Home Secretary (Mr. Matthews), Viscount Cross, and the Government, also, have done much to secure this legislation.

To the Editor of the BRITISH MEDICAL JOURNAL, Mr. Ernest Hart, the Committee are also greatly indebted, as from the first he has lent the powerful aid of the official organ, and has manifested his sympathy in various ways. The true work of this Committee is now about to commence in earnest. The existence of the Act and Amending Act is established, and it is imperative that the whole influence of the Association should be brought to bear upon the Legislature, to the end that these measures may be made more efficient by compulsory admission to the licensed home in obstinate cases of inebriety, by the inclusion of all forms of inebriety, by accommodation for the poor, and by such provisions as may be needed to facilitate reception into a retreat and strengthen the discipline thereof.—I am, etc. NORMAN KERR, M.D.

Grove Road, N.W., August 11th.

MODERATE DRINKING.

SIR,—I should like, with your permission, to point out one important fact derived from the statistics which Dr. Owen's Committee has collected—one, too, which I cannot but think will cause many members of the profession to feel that the protest of the Medical Temperance Association is urgently needed, and may induce them to join in the protest. I refer to the extraordinary prevalence of intemperance among the adult males of this country, as shown by the tables. It will be remembered that Class E includes only the "decidedly intemperate." No less than 603 out of 4,234 were returned as belonging to that class—that is, 14.2 per cent. of the deceased males over 25 years of age. To discover what number this would represent in the United Kingdom (and it is supposed to be tolerably representative), I reckon the adult males as one in every family of, on the average, five persons. Out of 35,000,000, this would give 7,000,000. To avoid exaggeration, let us consider that there are only 6,000,000. Now 14.2 per cent. of these gives the astounding and terrible number of 852,000 "drinking men," "hard drinkers," and "drunkards." Women are not included in these returns, and therefore it may safely be said that, including both sexes, there are considerably over a million drunkards in the United Kingdom.

But I regret that I cannot stop there. Class D includes the "free drinkers," who take large quantities of liquor, but "cannot be called drunkards." Between this class and E there is the Subclass DE, respecting whom decision was unusually difficult. For the purpose of the investigation, the 100 persons in DE have been in one table divided between D and E. This would add another 70,000 to the total of the drunkards, making 922,000 drunken adult males!

But what are we to conclude as to the justice of the excessively charitable statement that those in Class D "cannot be called drunkards," when we find that even in Class C, "the careless drinkers," men are included who drink "even to the extent of intoxication occasionally?" If that is not to be "drunkards," what is it? Eternal Justice will not gloze over the sin of intemperance in this way, and it is "to be a partaker of other men's sins" if we fail to denounce this departure from sobriety, and to call it by its right name. How many of these "careless drinkers" are occasionally intoxicated there is no indication, nor do I wish to tar the whole of them with the same brush. But, if some of Class C are so bad, what of Subclass CD, and of Class D itself? Surely these ought in common fairness to be classed with E in like condemnation. They are the men whom any non-abstainer even would advise to abstain for their own sakes. But Subclass CD, Class D, Subclass DE, and Class E include just 32 per cent., or, in round numbers, one-third, of the whole. This would indicate that 2,000,000 of the adult males of this country are more or less addicted to intemperance. How many women besides, God only knows! The figures are already so awful, one shrinks from piling them up on were guesswork.

And it must not be forgotten that the information sent in by the various medical men respecting the habits of these men must have been largely supplied by their surviving relatives, and it goes without saying that they are more likely to have erred on the side of charity than of severity. Hence I cannot but fear that the conclusion I have arrived at is below rather than above the mark.

But, if we take Class E alone, I do not think it will be disputed that we are face to face with an awful state of thinge. It has never been shown on such certain data that the plague of intemperance is so prevalent, though some thirty years ago the late Mr. C. Buxton estimated that there were 500,000 houses cursed by drink. It is now 1,000,000, if not 2,000,000!

Are we not right in saying that this is not by chance, but due to the brain-and-nerve-bewitching power of the narcotic alcohol in intoxicating liquors; and that while the medical profession and others recommend the moderate use of such a narcotic, there will be more or less of these inevitable consequences? The principles we affirm are, that the habitual use of narcotics is bad; that the self-administration of them is full of danger, and certain to be fatal in a percentage of cases. The only practical course is to teach men to abstain from the use of all narcotics, and especially of that most common and destructive one, alcohol, in all its mixtures; if alcohol is required as a medicine, to give it (for what it is worth) in definite doses in the medicine, without the patient's knowledge if possible, and for a definite time.

I would like to add that I consider Sir W. Roberts's reference to the Jews to be misleading, as it is well known that their religion requires the observance of many sanitary regulations, both personal and as regards the quality of their meat, etc., which have an important influence in conducing to their longevity. No conclusion could be arrived at unless it could be shown that there is a difference, one way or the other, between teetotal Jews and the rest. It is a fact that the longevity of "Quakers" has considerably increased of late years, which is fairly attributable almost entirely to the well-nigh unanimous adoption of total abstinence by the members of that society. The same advantage on the side of total abstinence has been found in certain Wesleyan clubs, where the non-abstainers are also religious men, and just as careful of their health as abstainers. Indeed, it must not be forgotten that many people take alcohol, under (mistaken) doctor's advice, with the very object of preserving their health (!), and may be considered more careful and nervous about it than those reckless abstainers who defy the doctor, and yet won't die *secundum artem* as they ought to do!—I am, etc.,

Enfield, July 28th. J. J. RIDGE.

SIR,—The term "moderate drinking" is objectionable not only for the reason given by Dr. C. R. Drysdale in the JOURNAL of July 28th, but for a far more important one. It implies that those to whom it refers drink alcohol moderately merely for the sake of drinking, which is wholly untrue. There are many persons of both sexes perfectly sober and temperate, who are also periodically total abstainers, or, as Sir Andrew Clark terms it, have an alcoholic fast; but these same persons find that as a general rule a moderate quantity of alcohol taken with one or more meals suits their health better than water or other non-intoxicants. They do not therefore drink for the sake of drinking, but because they find it healthier.

Besides the clergymen, Quakers, and Jews mentioned in Sir William Roberts's letter, there have always been a certain proportion of laymen, undistinguished by any particular title, who have quietly and without ostentation set an example of perfect sobriety to all around them, though they have not been total abstainers, but have used alcohol without abusing it. Total abstainers would label all these as "drinkers," with the qualifying phrase "moderate," and have us believe that they have shortened their lives by indulging, however moderately, in alcoholic liquors. But when so many who cannot be called "moderate drinkers" live to a good age, we shall require very strong proof that the moderate use of wine, malt liquor, or diluted spirits at meals tends to shorten life. The ages 68, 69, and 70 are what may be termed fatal ages, a very large proportion of persons dying then. Will total abstainers assert that the majority of these are of persons who have been drinkers, moderate and immoderate?

Without wishing in the least to disparage the excellent work done by teetotallers, I think that the efforts and examples of those who, though not total abstainers, have encouraged sobriety by their example, which is so much better than precept, ought not to be ignored. The term "moderate drinker" may be intended as a compliment, but I do not take it as such, and I am sure that many will agree with me.—I am, etc.,

Liverpool, July 28th. FREDERICK W. LOWNDES.

SIR,—It is satisfactory to find that Sir William Roberts holds that total abstainers from alcohol should "come out well as subjects for life insurance." But his reasons for thinking so are, it seems to me, although very flattering to the variety of total abstainers, not quite definite enough. Mr. King, using an hypothesis which is not in consonance with the experience of the United Kingdom Office, assumed that the six or seven years of greater longevity among the total abstainers assured in that company, as compared with the non-abstainers, was vitiated, because many of the former when sick took alcohol, and entered the non-abstaining side. This has been publicly stated, at the annual meeting of the Assurance Society, to be an erroneous supposition; but Mr. King forgets that, putting aside the United Kingdom Office, which has two classes, there are the Rechabite Societies, the Sons of Temperance, and Sons of the Phœnix, all total abstaining benefit societies, which have no two sections, and which yet present, in comparison with the Foresters and other non-abstaining friendly societies, a most wonderfully less amount of annual sickness, and a much lower death-rate. Besides which, the old age of total abstainers is, according to the statistics of these friendly societies, far more free from days of sickness than that of the non-abstaining working classes, who insure themselves in the Manchester Oddfellows, or Foresters Societies.

Sir William Roberts has an hypothesis that, seeing that the most of the civilised countries in the world use alcohol, it must be one of the causes of their superiority. But most of the same countries use tobacco; and yet no medical authority has contended that this is a mark of civilisation. And, indeed, the whole of civilisation is a perpetual warfare against the inroad of useless and injurious habits. If alcohol be well known to produce much disease of the stomach, of the liver, of the heart, of the brain, the lungs, the kidneys, and bladder, besides causing gout, and being according to Lancereaux and other authorities (The Harveian Society) the *vera causa* of about one-twentieth of the deaths occurring in adults in such civilised States as England and France, it seems to me too hypothetical to base the advances of civilisation upon such a dangerous article of consumption. In my view of the matter, there is a confusion in many people's mind as to what alcohol is. Ever since Liebig pronounced it to be an excellent food, medical authorities, from Dr. Todd onwards, have admitted this as a truth. But surely a substance which is intoxicating, and which lessens the excretion of carbonic acid, cannot be classed with substances like bread, meat, or milk. The lower animals require no alcohol, and the only two centenarians I have been personally acquainted with were total abstainers from this supposed adjunct of civilisation. Hence it is not clear why alcohol should be used by the healthy, and I believe it will be less and less used as civilisation becomes more real.—I am, etc.,

London, July 30th. C. R. DRYSDALE.

SIR,—Mr. Hardy seems to have misunderstood me when I said that the temperance and general sections of the United Kingdom Office are not kept rigidly distinct. I simply meant, what he himself admits, that transfers take place, without medical examination, from one department to the other.

Your columns are scarcely the place to discuss the affairs of a particular insurance company. Nevertheless, as the question is one of national importance, I may perhaps be allowed to say that the figures as regards total abstinence of the United Kingdom Office are very tantalising to the statistical inquirer. So far as I know, the only fact published is that, from year to year, the proportion between actual and expected deaths is more favourable in the temperance than in the general section. Now this fact taken alone is practically useless, and may be misleading. We require to know something about the average ages of the lives, the duration of the assurances, etc., before we can build up any solid argument. Although the funds are kept, I believe, absolutely separate in the books, yet there is never more than one revenue account and balance-sheet published; and, in the quinquennial returns, the policies of the two sections are inextricably mingled. Thus the investigator is baffled at every turn. The directors of the institution would be doing a public service were they to allow full details of the mortality experience to be published.—I am, etc.,

GEORGE KING.

92, Cheapside, August 7th.

THE ST. JOHN AMBULANCE ASSOCIATION AND THE MEDICAL PROFESSION.

SIR,—Will you permit another F.R.C.S. to say that the difficulty which "F.R.C.S.," in your issue of August 4th, mentions stood in the way of a representative of the medical profession being present at the important meeting at St. John's Gate, when H.R.H. the Prince of Wales was made Head of the Order of St. John, could have been easily overcome if either the thought or desire to do so had been forthcoming. Your correspondent writes: "The chapter was a private meeting" (it was publicly reported in the newspapers next day) "of a committee or council, and no one under the rank of Knight of Justice could possibly attend it."

As the Order of St. John is a self-elected body, it would have been easy for so conspicuous an occasion to have selected one or two of its medical members to be so-called "Knights of Justice" in the Order. The names of several medical gentlemen are printed in the list of members, and among the members styled "Knights of Grace," who seem by the rules specially eligible to be made "Knights of Justice," is one distinguished member of the medical profession, with letters after his name showing he is a holder of the Victoria Cross, and who, moreover, liberally presented the Order with a donation of £100. Would this member of the Order not have been worthy of a place in the August meeting at which the Prince of Wales was present? Members of the medical profession are too often the steps of the ladder by which others mount upwards to receive the honours and plaudits of unthinking spectators.—I am, etc.,

August 6th. F.R.C.S.

NAVAL AND MILITARY MEDICAL SERVICES.

DATE OF COMMISSION IN THE ARMY MEDICAL SERVICE.

THE following is a copy of a memorial addressed by the Royal College of Surgeons in Ireland to the Secretary of State for War:—

To the Right Honourable EDWARD STANHOPE,
Secretary for War.

The Memorial of the President and Council of the Royal College of Surgeons in Ireland

Sheweth:—

That your memorialists are concerned to represent, on behalf of

the Fellows and Licentiates of the College who hold commissions in the Medical Department of Her Majesty's Army, the injustice which they suffer by reason of the dating of their commissions at a later period than those of the medical officers of the Indian and Naval Medical Service of equal standing.

That on the 8th of August, 1876, a competitive examination was held for 32 places in the Medical Service of the Army, 20 places for the Indian Service, and 20 for the Naval Service, and the 70 candidates then selected for commissions went together to study at Netley Hospital.

That all the candidates for the Indian and Naval Medical Services received their commissions on the 30th of September of the same year, while the commissions of the Army Medical officers were not issued until the 4th of February, 1877.

That in consequence of this antedating of the commissions the officers of the Indian and Naval Medical Services who received their commissions in September will be promoted on the 30th of September next, above the Army Medical officers who studied with them, passed the competitive examination at the same time, and pursued their special training in the same hospital and at the same period, and will thus enjoy superior precedence and privileges to which the Army Medical officers are equally entitled.

Your memorialists therefore respectfully represent that the distinction as created between officers of the same status and period of service is unjust and inconsistent with the interests of the Army Medical Service, and they therefore respectfully ask that the promotion of the Army Medical officers, which would otherwise take place on the 4th of February next, may be granted at the same date as that of the Indian and Naval Medical officers, *i.e.*, the 30th of September.

Signed on behalf of the
PRESIDENT, VICE-PRESIDENT, and COUNCIL
of the Royal College of Surgeons in Ireland.
[Seal of College.]

THE NAVY.

THE following appointments have been made at the Admiralty:—GEORGE W. BELL, Surgeon, to the *Wye*; BOWEN S. MENDS, Surgeon, to the *Vernon*, temporarily; JOHN S. LAMBERT, Surgeon, to Haslar Hospital; C. W. HAMILTON, Surgeon, to the *Boscawen*; E. E. BRAY, Surgeon, to the Royal Marine Artillery, Eastney; EDWARD J. BIDEN, Surgeon, to the *Defiance*; WILLIAM HAYES, Surgeon, to Plymouth Hospital; F. A. JEANS, Surgeon, to the Royal Marine Artillery, Eastney; H. S. JACKSON, Surgeon, to the *Monarch*; JOHN A. AHERNE, Surgeon, to the Royal Marine Depot, Walmer; A. W. E. B. BARRETT, Surgeon, to the *Ajax*; GEORGE WELCH, Surgeon, to Haslar Hospital; EDWARD H. WILLIAMS, Surgeon, to the *Duke of Wellington*; ALEXANDER M. FRENCH, Surgeon, to the Royal Marines, Plymouth; C. JAMES, Surgeon, to the *Agincourt*.

THE MEDICAL STAFF.

SURGEON HERMAN THIELE, M.B., who was serving in Bengal, died at Murree, North West India, on the 7th ultimo, not having quite completed his thirtieth year. He joined the service January 30th, 1886.

THE INDIAN MEDICAL SERVICE.

SURGEON W. G. THOROLD, Bengal Establishment, is appointed to the officiating medical charge of the 31st Punjab Infantry, *vice* Surgeon-Major A. McM. Paterson, granted leave out of India.

Surgeon H. C. BANERJI, Bengal Establishment, is appointed to the officiating medical charge of the 2nd Battalion of the 2nd Goorkhas.

THE VOLUNTEERS.

THE undermentioned gentlemen have been appointed Acting-Surgeons to the regiments specified:—ARCHIBALD HOOD, M.B., 1st Glamorgan Artillery; DONALD MACPHAIL, M.D., and JOHN BLAIR, M.D., 5th Volunteer Battalion Scottish Rifles (late the 7th Lanarkshire); N. E. ROBERTS, M.B., 2nd Volunteer Battalion Liverpool Regiment (late the 5th Lancashire); J. B. ROBERTSON, M.B., 4th Volunteer Battalion Argyle and Sutherland Highlanders (late the 1st Stirlingshire).

Surgeon C. STIRLING, of the 3rd Volunteer Battalion West Surrey Regiment (late the 6th Surrey), has resigned his commission, which was dated December 18th, 1878.

Surgeon A. HALLAM, of the 1st Volunteer Battalion York and Lancaster Regiment (late the 2nd West Riding of Yorkshire), has been granted the honorary rank of Surgeon-Major.

THE LATE SURGEON NUNAN, R.N.

MRS. NUNAN writes: As the mother of the surgeon in medical charge of the *Wasp* when it sank last September (1887), I would ask to be afforded an opportunity of bringing my treatment by the Lords of the Admiralty under the notice of the medical profession. I had expended the savings of years in giving my son his profession, in the firm belief that he would recompense me by contributing to the support of my old age. He had been only five years in the navy, but the bulk of his earnings as *locum tenens* before he entered the Government service he always gave to me. His income since then has gone towards paying for his outfit, etc., and until these preliminary expenses were defrayed I had told him not to think of giving me anything; but once these were paid I confidently looked forward to his substantially contributing to my future support. I am a widow, advanced in years, feeble in health, and now almost completely blind; and the answer given by Lord G. Hamilton to an inquiry made on my behalf by Dr. Kenny, M.P., was that the conditions of my case do not bring me within the scope of the regulations that would authorise the Admiralty to assist me. The excuse is that at the moment when he was drowned my son was not actually supporting me. The reasons why this was so I have pointed out, and now that the provision I had made for my old age has been swallowed up by the loss of my son on active service I am cast aside to starve for all the Lords of Her Majesty's Admiralty care.

I really think that the way in which I have been treated is worthy the serious attention of the medical profession, as I think medical officers in the navy are circumstanced very differently from other officers. They have been educated at very great expense by their friends; and assuredly when, as in my case, the means of a widowed mother have been expended in giving her son a profession, and that son is lost, as it is reasonable to suppose, through somebody's mismanagement (certainly not his own), the mother whose hopes of sustainment have sunk with her son is entitled to assistance from the Government.

SURGEON AYLMER HAYES, M.S., Commandant Medical Corps E. A., has passed the higher examination in Arabic with "honours," and has thereby gained the Government award of £100.

H. H.—See JOURNAL, June 4th, 1887, p. 1,244.

MEDICO-LEGAL AND MEDICO-ETHICAL.

THE PATIENT'S RIGHT OF CHOICE.

A. C. C.—In reference to the point specially alluded to by our correspondent, we may note that B., on being solicited to attend the lady in her next confinement, should, under the particular circumstances related, have courteously declined, and referred her to her usual medical attendant; and further that, in accepting the engagement, and omitting moreover to communicate the fact to this friend and colleague "A." for whom he had acted in the case, he committed, in our opinion, a grave breach of professional etiquette.

A QUESTION OF FEE.

JUSTITIA.—The inquest fee referred to must, as our correspondent assumes, be regarded as entirely independent of that to which he is justly entitled from the friends of the deceased. The suggested charge, however, to the latter would, in our opinion, be excessive; one-half would be a fair and legitimate fee.

MEDICAL TITLES.

MR. W. A. H. BARRETT (Littleport) writes: Would you inform me whether a registered medical man, L.K.Q.C.P.I., and L.R.C.S.I., could be prosecuted for having "Dr. So-and-so, Surgeon," on his doorplate?

*** The 40th Section of the Medical Act, 1858, only imposes a penalty on a person who falsely assumes a title implying that he is registered or that "he is recognised by law as a physician or surgeon or licentiate in medicine and surgery." If a man has the qualifications stated in the query, he would not by calling himself surgeon, commit any offence, as far as we can see.

MEDICAL PRACTITIONERS AND THE LOCAL PRESS.

DUBITANS writes: 1. Is it unprofessional to have a card in the local newspaper on changing residence? 2. Would it be unprofessional for a young practitioner just commencing practice to have a card in the local paper?

*** Our opinion on the subject of the special queries submitted by "Dubitans" is in full accord with the principle laid down in the *Code of Medical Ethics*, which is to the following effect: that "to solicit practice by advertisement, card, or printed circular, or therewith to notify change of residence, is derogatory to the practitioner and incompatible with the dignity of the profession."

FEES TO MEDICAL WITNESSES.

A MEMBER writes: In the JOURNAL for August 4th, in reply to "Practitioner," you say that the fees allowed by the Probate Division of the High Court to medical witnesses are £3 3s. per diem, *plus* travelling expenses, if resident more than five miles from the Court. May I ask if the same fees are allowed in the other Divisions of the High Court, and are they recoverable; and, if so, how? My reason for asking is that a short time since I was subpœnaed to attend. I was kept up in town for two days, and the solicitor sent me a postal order for £2 1s., which, with the guinea I received on the subpœna, was all I got. I have refused to accept it in settlement.

*** The scale of fees in the Queen's Bench Division for professional witnesses is two to three guineas per diem if resident at a distance from, and one guinea if resident in, the town where the case is tried. The amount due may be recovered by action in the county court.

THE L.S.A. QUALIFICATION.

L.S. writes: I shall be glad of your opinion and answer to the following query. In the statutes of a certain provincial infirmary the conditions of the office of house-surgeon are as follows: "Every candidate for the office of house-surgeon must be duly registered, and must possess at least one medical and one surgical qualification." If a candidate possess only the L.S.A. does he comply with these conditions; and in the event of his not complying with the conditions, would that necessarily disqualify a candidate?

*** We are of opinion that a Licentiate of the Society of Apothecaries registered under the Medical Act in respect only of the qualification of "L.S.A.," and so registered prior to the day in June, 1887, on which certain provisions of the Medical Act, 1886, took effect, would not satisfy the require-

ment of the statutes of the provincial infirmary which our correspondent quotes. We are of opinion that the words quoted are imperative, and consequently that a candidate to be eligible must satisfy them.

THE L.R.C.P.(LOND.) AND REGISTRATION.

M.D.(EDIN.) writes: There appears in the JOURNAL of August 4th a list of gentlemen who have passed the necessary examination for the L.R.C.P. (Lond.). A great many of these have an asterisk prefixed to their names, which signifies that "they have not presented themselves under the regulations of the Examining Board." The question I would ask is, Can these gentlemen legally register under the new Medical Act of 1886? If they can register, I presume it is under Section III, Subsect. 1 *(a)* of this Act. In that case I would ask, Under what Medical Act or Charter (if any) has the Royal College of Physicians the power to grant the L.R.C.P. as a double qualification? Now, Section III, Subsect. 1 *(b)* provides for the Royal College of Surgeons; and Section V, Subsect. 1 provides for the Society of Apothecaries, rendering both a double qualification and registrable under the Act. The Society of Apothecaries had already, before the passing of the Act of 1886, a surgical examination with three surgical examiners, but nevertheless they were compelled to comply with Section V, Subsect. 1, to render theirs a double qualification and registrable; but I do not find that the Royal College of Physicians had to, or did, comply with the Act in that particular. Instead of that, however, they were already under Section III, Subsect. 1 *(b)*. The Royal College of Surgeons and the Society of Apothecaries were compelled, under the Act of 1886, to alter their mode of examination in order that they could legally register. Why was not the Royal College of Physicians also so compelled? An explanation of, and a discussion on, the foregoing questions would be very beneficial to many besides myself.

*** By Section III of the 32 Henry VIII, cap. 40, the Royal College of Physicians is entitled to confer a licence to practise physic on all its members. Preceding words of the clause declare that physic includes surgery. This privilege is preserved by the clause of the Act of 1886 to which "M.D.(Edin.) refers. The regulations of the College of Physicians under which an independent licence is given only refer to those who commenced their studies prior to the union of the Colleges of Physicians and Surgeons for the purpose of examination.

OPEN SHOP.

A MEMBER asks whether it is legal for a medical man, holding diplomas of physician and surgeon, Edinburgh, and registered under the Medical Act, to keep an open shop for the sale of drugs and other articles usually sold by chemists.

*** There is a special reservation in Section 1 of the Pharmacy Act of 1868 of the rights of legally qualified medical practitioners registered before the passing of that Act, or registered thereafter, if in the latter case before obtaining their diploma for registration they have passed an examination in pharmacy. To all such the provisions of the Pharmacy Act, 1868, requiring the registration, etc., of chemists and druggists do not apply.

ADVERTISING PRACTITIONERS.

INDIVIDUALLY degrading to the practitioner in question, and professionally injurious to the profession at large as is the public advertisement in the local papers relative to the "Lichfield Road Dispensary, Aston," with the intimation that the charges for "medicine and advice," and "visit (within one mile) and medicine" are respectively 1s. and 1s. 6d., and the "midwifery fee, 10s.," we can merely renew the advice which we have repeatedly given in the JOURNAL—namely, that inasmuch as practitioners who have recourse to such exceptional proceedings are alike insensible to personal self-respect and professional condemnation, the only effective mode of checking the evil which our correspondent very justly complains of will be to address a letter to the Council of the Colleges of which the offending practitioner is a member, concisely setting forth the facts of the case, and, at the same time, to forward therewith a copy of the local papers containing the advertisement. Such an appeal, especially if supported by the signatures of two or three practitioners resident in the neighbourhood, will probably not be in vain.

A QUESTION OF ETIQUETTE.

DR. MCC.—A careful examination of the points involved in the correspondence which has passed between Dr. McC. and Dr. G. leaves no doubt upon our mind that the conduct of the former in the case in question was in strict accord with the true principles of medical ethics, while that of the latter was in contravention thereof; and we are further of opinion that no exception can be justly taken to the views of the case laid down by Dr. McC. in his courteously expressed notes to Dr. G.

MEDICO-PARLIAMENTARY.

HOUSE OF COMMONS.—Saturday, August 4th.

Army and Navy Estimates.—The House being in Committee of Supply on the Army Estimates, on the vote of £2,509,000 for the commissariat, Dr. FARQUHARSON referred to the opinion recently expressed by Lord Wolseley as to the way in which our soldiers were now fed. The rations now given to the soldier were not only insufficient in themselves but badly arranged as to the hours at which they were given. This was especially hard on recruits, who were at a growing age and were undergoing hard work. Various suggestions had been made for remedying the present state of things, and, among others, Colonel Onslow had put forward the view that the cost of giving extra food to the soldier might be recouped to the nation out of his deferred pay. Then it had been proposed that the hours of the meals should be altered, that a meal of bread and cheese should be given at 12 o'clock, and that the principal meat meal of the day should be at 5 o'clock, which would carry the soldier well on till breakfast the next morning. This was a most important subject, as there could be no doubt that a great deal of crime in the Army now arose from the soldiers taking drink on an empty stomach in the evening. What he would suggest to the Government was that they should appoint a committee—a departmental committee would do well enough—to go into the whole question of soldiers' rations. In view of the opinion of the Adjutant-General to the Forces on this question, it was really time that the consideration of the Government should assume some practical shape.—Sir GUYER HUNTER expressed his belief that much disease in the Army resulted from inadequate food.—Mr. HANBURY said he had reason to doubt whether the soldier got all the food which the War Office allowed him.—Colonel NOLAN thought that the supply of provisions to the Army could not be subjected to too close an amount of supervision.—Mr. STANHOPE thought it was his duty, especially after the opinion which had been expressed by the Commander-in-Chief, to go thoroughly into the question of soldiers' rations, and he proposed to appoint a committee which would inquire into the subject before the presentation of next year's estimates.—General GOLDSWORTHY said that in his experience the meat served out to the men was of inferior quality, as well as being insufficient in quantity.—The vote was then agreed to.—On the vote of £643,300 for works, buildings, and repairs, including barracks, Sir W. BARTTELOT called attention to the unsatisfactory and insanitary condition of the Royal Barracks at Dublin, and hoped that some assurance would be given that the condition of barracks generally would be carefully looked into.—Colonel NOLAN having called attention to the deplorable state of the barracks at Galway, expressed a hope that a general improvement in the barracks would be effected, and that, where possible, contracts for repairs and for buildings and stores should be put up to open competition.—Mr. STANHOPE admitted that the question of barrack accommodation in this country, and in some cases abroad, required early attention, and he proposed during the next two months to devote his attention to the matter with a view to effecting some improvement. Everything would be done with the aid of sanitary science to prevent outbreaks of illness in barracks. To remedy insanitary conditions a sum of £13,000 had been already asked for. He was strongly in favour of the principle of open competition for all contracts, but he pointed out that in some cases this was not practicable.

Tuesday, August 7th.

Milk of Diseased Cows.—Mr. RITCHIE, in reply to Dr. FARQUHARSON, said that an investigation of the question whether consumption may be communicated to the human subject from the milk of cows suffering from tuberculosis of the udder would occupy much time and labour, and could not be undertaken by the present medical staff of the Local Government Board. The department had, however, for some time past been, and would continue to be, on the watch for any evidence on the subject. Little or no evidence of this transmission had reached the Board from English sanitary observers.

Thursday, August 9th.

Private Lunatic Asylums.—Mr. MATTHEWS, in answer to Mr. W. CORBET, said he was informed by the Lunacy Commissioners that they had no knowledge of the actions for libel brought by Dr. Eastwood beyond that contained in the newspapers. The asylum was visited twice a year by two Commissioners, four times a year by the visiting justices and medical visitor appointed by quarter sessions, and twice by the medical visitor alone. Defects had from time to time been detected and pointed out, but no such grave abuses as those specified in the libel. As far as the Commissioners were aware, the allegations were unfounded; and, having regard to the result of the litigation, they did not consider any inquiry on their part to be necessary. It would be observed that no attempt was made to justify the libel. The Government hoped to be able to reintroduce the Lunacy Bill next session, but could not undertake to insert such a clause as was suggested.

Small-pox at Manchester.—In reply to Mr. CHANNING, Mr. RITCHIE said that the Mayor of Manchester had furnished him with information as to the outbreak. It was the case that three sisters, five attendants, and fifty-eight children had been attacked by small-pox, or by symptoms as being premonitory of small-pox.

All the cases, including some who had no eruption, had been removed from the school to the Monsall Hospital. The lady superintendent of the school stated that the rule was that every girl was vaccinated before she entered the school, and that a certificate of having had cow-pox or small-pox was sent with her. It was also the rule that every sister was vaccinated before entering on her duties. No certificates were required with the attendants. Dr. Oldham, of Monsall Hospital, had reported as regards the vaccination of sixty-seven of the number removed to the hospital. Of this number he returned seven as not vaccinated and sixty as vaccinated. On August 5th he informed the Board that seven of the cases were in unvaccinated persons, of whom one had died; that nine cases of various degrees of severity were in vaccinated persons, and that the remaining fifty-one (vaccinated) cases—that was to say, four-fifths of the entire number—had either not had small-pox, as in some few instances, or else had suffered from nothing more than subjective symptoms followed by the appearance of from one to twelve spots. Two revaccinated persons, and only two, were sent to Monsall Hospital, but neither of these had any small-pox eruption. The facts of the outbreak, especially as to its origin, were in many respects obscure. The disease was supposed to have been introduced by a girl admitted on July 9th, but this girl was certified on July 3rd to be free from cutaneous disorder, and did not appear to have been kept in bed after her admission, or, indeed, to have been regarded as in any way out of health. The number of children who had not been attacked by small-pox was eighty-eight. These were certified to have been vaccinated. The Board had directed a fuller inquiry by one of their medical inspectors.

Pollution of Regent's Canal.—Mr. RITCHIE, in reply to Mr. PICTON, said no complaint had been made to the Local Government Board that the Regent's Canal was polluted by the sewage from the Zoological Gardens, or that the sewage as discharged was conducted through a series of locks into the Thames at Limehouse. He understood from the medical officer of health for the parish of St. Pancras that no complaints had been received this year from any source of a nuisance caused by the canal. The medical officer had repeatedly examined the effluent water from the Zoological Gardens, and had always found it brighter and clearer than the water of the canal. The Local Government Board were not empowered to take proceedings under the Rivers Pollution Prevention Act in respect of pollutions caused by sewage, but such proceedings might be instituted by any person aggrieved by the commission of the offence.

The Contagious Diseases Acts in India.—Sir J. GORST, in reply to Mr. J. STUART, said the Government had given such executive directions to the Government of India as would prevent the revival of the regimental system, which had already been wholly abolished; and the cantonment regulations hitherto in force were to be so revised as to put a stop to the objectionable incidents in their administration.

Medical Instruction in India.—Dr. TANNER asked the Under-Secretary of State for India whether the course of special instruction and ultimate examination which was proposed "to be given better and at less expense" in India would be afforded in each or in a selected presidency; what existing hospital or hospitals in India would be selected; what would be the estimated cost of providing such selected teaching centre, or centres with a teaching staff, teaching plant, hygiene laboratory, and museum, etc., such as has been supplied at Netley; whether at present India paid only her share of the cost of the Army Medical School, according to the number of men under tuition, the War Office being charged with the remainder; whether the advice of Sir Joseph Fayrer, Physician to the Council of India, had been asked on the proposed change; whether future entrance examinations for the service in question would be conducted by the same staff and in the same place as heretofore; whether the intended hypothetical economy would entail an immediate and continued increase of expenditure; and whether any corresponding advantage would be attained; and whether such expenditure was proposed to be imposed on the already overburdened taxpayers of India.—Sir J. GORST replied that the questions, with two exceptions, related to matters upon which he informed the House on July 26th. No decision had yet been arrived at.

Friday, August 10th.

Modes of Capital Punishment.—Sir T. ROBERTSON asked the Home Secretary whether his attention had been directed to a recent report addressed to the Governor of the State of New York, as to the best mode of conducting the execution of criminals in that State; and whether he was prepared to recommend the adoption of either of the methods recommended in that report, namely, execution by electricity, or by the injection of morphine, or by the lethal chamber invented for the painless killing of the lower animals by Dr. B. W. Richardson, or of any other system of executing criminals more in accordance with the humane feelings of the present day than the barbarous and unscientific method now practised in this country.—Mr. MATTHEWS said his attention had not been called to the report, but he had seen a copy of an Act recently passed in the State of New York, providing for the infliction of the death penalty by electricity. The Government were not prepared to introduce legislation with the view of altering the method of carrying out executions. He would, however, undertake to give careful consideration to the suggestion.

UNIVERSITY INTELLIGENCE.

LONDON.

Intermediate Examination in Medicine, July, 1888. Pass-List.

Entire Examination.

First Division.—Ellen M. Tinné Berthon, London School of Medicine for Women; J. H. Bryant, Guy's Hospital; A. T. Collum, Charing Cross Hospital; D. Drew, University College; B. W. Hogarth, Guy's Hospital; Y. H. Mills, London Hospital; R. W. Richards, St. Bartholomew's Hospital; S. H. Snell, University College; W. H. Sturge, London Hospital; H. Tilley, University College; L. Williams, University College.

Second Division.—H. W. C. Austen, St. Bartholomew's Hospital; F. G. Bushnell, University College; J. N. Collins, London Hospital; J. Dickinson, Westminster Hospital; Emily Louisa Dove, London School of Medicine for Women; H. A. Eccles, St. Bartholomew's Hospital; J. Grimshaw, London Hospital; W. J. Hancock, B.Sc., Owens College; H. Hodgson, Guy's Hospital; W. W. Kennedy, St. Bartholomew's Hospital; R. E. S. Krohn, University College; W. B. Morton, University College; C. C. Moxon, St. Thomas's Hospital; J. E. Paul, University College; W. Penberthy, London Hospital; A. E. Price, St. Thomas's Hospital; E. L. Pritchard, King's College; R. H. Read, Owens College; F. A. Roberts, The Yorkshire College; L. G. Scudamore, St. Thomas's Hospital; A. Thomas, Guy's Hospital; Ethel Newton Tribe, London School of Medicine for Women; W. Twyford, Owens College; H. W. Webber, Guy's Hospital; A. S. Wohlmann, Guy's Hospital; T. J. Wood, University College; J. Young, Guy's Hospital.

Honours Candidates Recommended for a Pass.—J. A. Codd, B.Sc., The Yorkshire College; R. Hamilton, Owens College; F. Johnson, St. Bartholomew's Hospital; W. J. Potts, Owens College.

Excluding Physiology.

First Division.—W. B. Bale, Owens College; R. S. Pearson, Owens College; Mildred E. K. Staley, London School of Medicine for Women; S. G. Toller, St. Thomas's Hospital.

Second Division.—E. M. Brockbank, Owens College; T. H. Ionides, University College; C. E. Lansdown, St. Mary's Hospital; Elizabeth Margaret Pace, London School of Medicine for Women; J. G. Wilson, London Hospital; J. Yeomans, University College.

Physiology only.

Second Division.—J. R. A. Clark, University College; W. A. Clark, St. Bartholomew's Hospital; H. A. Kidd, St. Mary's Hospital; H. L. Lack, King's College; E. Roberts, Guy's Hospital; J. A. Waring, University College.

(The names of candidates who have obtained honours do not appear in this list.)

Intermediate Examination in Medicine, July, 1888. Examination for Honours.

Anatomy

First Class.—G. F. Blacker (Exhibition and Gold Medal), University College; H. Horrocks, B.Sc. (Gold Medal), Owens College; *Florence G. Longbottom, London School of Medicine for Women.

Second Class.—J. J. Whitaker, B.A., University College; Mary Darby Sturge, London School of Medicine for Women.

Third Class.—Annette Matilda Benson, London School of Medicine and Mason College.

Physiology and Histology.

Second Class.—Annette Matilda Benson, London School of Medicine for Women, and A. Griffith, University College (equal); G. F. Blacker, University College.

Third Class.—Alice McLaren, London School of Medicine for Women; Minnie L. C. Madgshon, London School of Medicine for Women; Ethel Mary N. Williams, London School of Medicine for Women.

Organic Chemistry.

First Class.—S. B. Mitra (Exhibition and Gold Medal), University College; T. G. Brodie, King's College.

Materia Medica and Pharmaceutical Chemistry.

First Class.—G. F. Blacker (Exhibition and Gold Medal), University College; Annette Matilda Benson, London School of Medicine for Women, and W. McA. Eccles, St. Bartholomew's Hospital (equal).

Second Class.—Ellen Margaret Farrer, London School of Medicine for Women.

Third Class.—A. Griffith, University College, and Alice McLaren, London School of Medicine for Women (equal); W. Griffiths, B.Sc., Melbourne University and Middlesex Hospital.

* Obtained the number of marks qualifying for a Gold Medal.

EDINBURGH.

The following gentlemen received the Degree of Doctor of Medicine, on Wednesday, August 1st, 1888. The title of the thesis is appended to each name.

C. Aitken, India, M.B., C.M., 1883: Rachitis. *J. A. Armitage, England (B.A.), M.B., C.M. (with Second Class Honours), 1886: Some Colouring Matters of Urine and their Pathological Significance. E. K. Bourne, England, M.B., C.M., 1885: The Pathology and Treatment of Hæmorrhoids. H. Bramwell, England, M.B., C.M., 1884: Fractures of the Base of the Skull. G. Crichton, Scotland (M.A.), M.B., 1875: Anorexia: a Clinical Study. A. H. Croucher, England, M.B., C.M., 1884: Inhalation of Atomised Fluids, and its Application to Diseases of the Respiratory System. *T. W. Dewar, Scotland, M.B., C.M., 1884: Some Functional Heart Murmurs; their probable Causation and Value as Diagnostic Signs. *A. J. Elliot, Scotland, M.B., C.M., 1873: Remittent Fever as observed in Assam. D. G. Evans, Anglesey, M.B., C.M., 1883: Some Clinical Observations with Strophanthus Hispidus. R. H. J. Fetherston, Australia, M.B., C.M., 1886: Laceration of the Cervix Uteri. *O. H. Garland, Scotland, M.B., C.M., 1868: Rheumatic Hyperpyrexia. H. J. Gilbert, England, M.B., C.M., 1882: Some Points in Dietetics. ***J. Graham, Scotland (M.A.), M.B., C.M., 1882: A Clinical Study of Hydatid Disease. *W. B. T. Gubbin, England, M.B., C.M., 1885: Biliousness and Lithæmia. C. H. Gwynn, England, M.B., C.M., 1878: A Recent Medico-Legal Case, with Notes and Experiments—Regina *v.* Forester. G. Hall, England, M.B., C.M., 1886: Idiopathic Anæmia as occurring in Young Girls: its Causes, Pathology, Symptoms, and Treatment. ***J. B. Haycraft, England (B.Sc.), M.B., C.M., 1878: The History, Development, and Function of the Carapace of the Chelonia. **G. V. Hewland, England, M.B., C.M., 1885: Cocaine Toxæmia. *R. S. Hubbersty, England, M.B., C.M., 1884: The Operative Treatment of Malignant Disease. *J. Hutcheson, Scotland, M.B., C.M., 1886: Extra-Uterine Gestation. *F. M. Johnson, Australia, M.B., C.M., 1886: Necrosis of the Cornea. F. W. B. Jones, England, M.B., C.M., 1883: Syphilis; its Course and Treatment. C. A. S. Leggatt, England, M.B., C.M., 1885: Psoriasis. C. J. Lewis, England, M.B., C.M. (with First-Class Honours), 1885: Diabetes Mellitus. W. M. Little, Singapore, M.B., C.M., 1885: Anæmia in Relation to Insanity. ***G. Mackay, Madras, M.B., C.M. (with Second-Class Honours), 1883: Hemianopsia and Hemiachromatopsia. J. M'Lachlan, Scotland, B.Sc., M.B., C.M., 1883: The Abortive Treatment of Specific (Idiopathic) Fevers. M. MacLaren, New Brunswick (B.A.), M.B., C.M., 1884: Leprosy in New Brunswick. **J. Maitland, India, M.B., C.M., 1874: Elephantoid Disease. **D. J. Mason, Scotland, M.B., C.M., 1885: The Excretion of Urea in Phthisis in its Relation to the Temperature and Blood. A. Matheson, Scotland, M.B., C.M., 1884: Nasal Obstruction; its Etiology, Symptoms, and Treatment. *P. W. Maxwell, Scotland, M.B., C.M., 1880: The Effect of Treatment on Strabismus. *T. C. Meggison, England, M.B., C.M., 1882: The Methods of Diagnosis Employed in Diseases of the Thoracic Organs. W. F. Menzies, Canada, M.B., C.M., 1885: Body-Temperature of the Insane. **A. C. Miller, Scotland, M.B., C.M., 1883: Insanity and the Neuroses. *W. H. Miller, Canary Islands, M.B., C.M., 1883: Obstetrical Statistics. E. Morton, England, M.B., C.M., 1885: Electricity in the Treatment of Disease. **J. Musgrove, England, M.B., C.M., 1886: Observations in Surgical Bacteriology. J. B. Nash, Australia, M.B., C.M., 1882: Stone in the Bladder. D. T. Playfair, Scotland, M.B., C.M., 1877: Some Difficulties in the Diagnosis of Chronic Rheumatism. T. H. Pope, India, M.B., C.M., 1877: Tropical Abscesses of the Liver. J. B. Richardson, England, M.B., C.M., 1874: The Tubercular Form of Phthisis. D. M'K. Ross, England, M.B., 1874: Five Years' Experience of Poor-Law Medical and Surgical Practice. G. F. Shiels, California, M.B., C.M., 1884: The Effects of Tobacco on those Using it as a Luxury. G. Thomson, Scotland, M.B., C.M. (with Second-Class Honours), 1884: Tubercular Disease of Bones and Joints; Clinical and Pathological Studies. E. Vaudrey, England, M.B., C.M., 1882: Fractures of the Femur. N. P. Walker, Scotland, M.B., C.M., 1884: Pleurisy: Clinical Notes and Remarks. **T. B. Watson, Scotland, M.B., C.M., 1872: Carcinoma of the Mucous Surfaces, with Special Reference to the Œsophagus, Stomach, and Bladder.

(*** Those who have obtained Gold Medals for their Dissertations. ** Deemed worthy of Competing for the Dissertation Gold Medals. * Commended for their Dissertations.)

The following received the Degrees of Bachelor of Medicine and Master in Surgery on the same date.

R. Abernethy, Scotland; J. A. Adamson, Scotland; R. Andrew, Scotland; E. F. Armour (M.A.), Scotland; R. Arthur (M.A.), Scotland; A. Asher, Scotland; L. E. Barnett, New Zealand (First-Class Honours); J. H. Battersby, England; J. A. B. Bayly, Cape Colony; L. A. W. Beck, Cape Colony; H. A. Becker, Orange Free State (received the Degrees on November 26th, 1887); W. A. Betts, England (Second-Class Honours); A. J. S. Beveridge, England; J. R. Bird (B.A.), Canada; R. D. Booth, England; R. L. Booth, India; J. T. Borthwick, Australia; N. L. Boxill (B.A.), Barbados; F. D. Boyd, Scotland; J. W. Bridges (B.A.), Canada; R. Broadbent, England; G. M'M. Brown, Scotland; J. K. Brown, England; A. W. T. Buist-Sparks, Scotland; A. E. Bullock, England; A. C. Burnell, Calcutta; T. W. Butcher, England (received the Degrees on April 18th, 1888); G. C. Cameron, Scotland; T. V. Campbell (M.A.), Ireland; F. H. Carlyon, England; D. B. Carse, Scotland; W. J. Cattan (B.A.), New Zealand; C. H. T. Chevallier, England; J. Cockton, England; M. W. W. Cowan, England; J. M. Crawford, Scotland; E. C. Cridland, England; A. J. W. Dalziel, England; J. H. Deamer, England; R. J. Drummond, India; C. W. Duggan, Scotland (received the Degrees on November 26th, 1887); H. A. Eaton, England; T. W. Eden, England (First-Class Honours); R. Edie, Scotland (Second-Class Honours); F. A. Elkins, England; A. Elliot (M.A.), Scotland; W. E. L. Elliott, Wales; R. C. Elsworth, England; J. A. Ewan (M.A.), Scotland; C. S. Facey, England; C. C. Fleming, Scotland; R. A. Fleming (M.A.), Scotland (First-Class Honours); C. M. Flide, Australia; W. Fordyce (M.A.), Scotland (First-Class Honours); J. A. Forrest, Australia; F. C. J. Fulss, Cape of Good Hope; J. H. R. Garson, Scotland; R. J. George, England; A. L. Gillespie, Scotland; A. Gray (M.A.), Scotland; C. Grobbelaar (B.A.), South Africa; A. C. Hall, England; A. C. Hartley, Scotland; C. E. Harvey, Jamaica; T. D. H. Holmes, England (received the Degrees on November 26th, 1887); W. Hume, Scotland; T. A. Hynes, South Australia; J. C. Jameson, Scotland; S. Jamieson (B.A.), Australia (Second-Class Honours); C. A. Johnston, India; D. J. Jones, Wales; W. W. Jones, Wales; G. Kelman, Scotland; P. J. Kenna (B.A.), Australia; T. L. Kennish, England; E. J. Keogh, Australia; A. L. Kerr, Australia; W. Kinnear (M.A.), Scotland; O. Kloster, Norway; G. Knowles, England; J. E. Kuhne, Switzerland; D. J. Kuys (B.A.), Cape of Good Hope; H. C. Lamport, Natal; J. M. Laughton, Scotland; S. M. Laurence, West Indies (Second-Class Honours); S. F. Lautré (B.A.), South Africa; A. S. Lawrence, South Africa; W. G. Laws, England (Second-Class Honours); J. Liddell (M.A.), Scotland; W. Lockwood, England; J. A. Lowson, Scotland; W. Lundie (M.A., B.Sc.), Scotland; F. J. M'Cann, Scotland (Second-Class Honours); A. Macdonald, Scotland; J. M'Donald, Wales; A. J. MacGregor, Scotland; G. S. MacGregor, Scotland; T. MacGregor, Scotland; J. R. M'Intosh (B.A.), Canada; Æ. D. M. Macintyre, Scotland; A. M. Mackay, Scotland; D. J. Mackay, Scotland; D. MacLeod, Scotland (received the Degrees on April 18th, 1888); W. G. Macpherson, Scotland; C. Martin, England (received the Degrees on November 26th, 1887), (First-Class Honours); K. Maxwell, Tasmania; T. C. Meikle (M.A.), Scotland; J. Middlemass (M.A., B.Sc.), Scotland (Second-Class Honours); A. Miles, Scotland; G. V. Miller, England; V. Milner, England; J. G. Moffat, Scotland; J. Montgomery, Scotland (First-Class Honours); F. W. G. Morgan, Ceylon; T. H. Morgan, Wales; R. H. Morrison, Australia; C. F. A. Moss, England; R. Muir (M.A.), Scotland (First-Class Honours); N. G. Munro, Scotland; P. Murison, Scotland; C. D. Musgrove, England; J. v. Niekerk, Cape Colony; J. Nightingale, England; A. B. Northcote, England; C. H. L. Palk, England (received the Degrees on November 26th, 1887); J. C. Palmer, Australia; T. C. Paterson, Scotland; B. L. Paton (B.A.), India; J. Petersen, South Africa; J. Phillips, England; K. Prasad, India (received the Degrees on November 26th, 1887); T. J. Pritchard, England (*in absentiâ*); J. Randle, Sierra Leone; J. R. Ratcliffe, England; J. C. Rattray, Scotland; E. W. Rayment, England; A. G. Reid (B.Sc.), Canada; C. Reid, Scotland; R. Renton, Scotland; W. J. Richardson, Scotland; R. Richmond, England; J. Ritchie (M.A.), Scotland (Second-Class Honours); A. Robertson (M.A.), England; C. Robertson, India; R. Robertson, Scotland; J. W. Rodgers, England; D. M. M. Ross, Scotland; R. R. Ross, Nova Scotia; J. Russell (M.A.), Scotland; R. A. St. Leger, Cape Colony; G. S. Samuelson, England; M. B. Saunders, England; C. B. B. Savory, England; J. F. Scott (B.A.), U.S. America; W. A. Scott (M.A.), Scotland; R. B. Shaw, Scotland; G. Shields, Scotland; J. H. Slayter, Canada; C. A. C. Smelt, England; E. M. Smith, England; J. Smith, Scotland; J. H. Smith, Scotland; J. Smuts, Cape Colony (Second-Class Honours); W. Smyth, Ireland; J. Somerville, New Zealand (Second-Class Honours); G. H. Steyn, Cape Colony (received the Degrees on November 26th, 1887); H. V. Steyn, Cape Colony (received the Degrees on November 26th, 1887); W. D. Sutherland, India; G. T. Tate, England; G. H. Temple, England; C. T. Te Water, South Africa; I. G. Thomas, Wales; I. Thompson, England (Second-Class Honours); A. Thomson, Canada; A. E. Thomson (B.A.), Canada; J. C. Thomson (M.A.), Scotland (Second-Class Honours); W. T. Thomson, Scotland; J. Townsley, Scotland; D. Traill (M.A., B.Sc.), Scotland; J. H. Traquair, Scotland (*in absentiâ*), (Second-Class Honours); N. G. Trotter, New Zealand (Second-Class Honours); D. F. D. Turner (B.A.), England (Second-Class Honours); H. Vine, England; F. Watson, Scotland; W. M. C. Watson, Scotland; J. W. Watterson, England; J. C. Webster (B.A.), Canada (Second-Class Honours); W. Weir (B.Sc.), Scotland; E. N. K. Wells, England; A. Westwood, Scotland; T. B. White, Scotland; H. T. Wickham, England; J. D. Williams, Wales (Second-Class Honours); A. M. Williamson, Scotland; J. H. Wilson, Brazil (received the Degrees on November 26th, 1887); R. A. Wilson, England; R. Wise, Scotland; D. J. Wood, Scotland; H. S. Wood, India; E. A. Woodward, New South Wales; W. Wynne, Wales; R. E. B. Yelf, England; T. MacC. Young, Scotland.

The Ettles Scholarship has been awarded to T. W. Eden, M.B., C.M.; the Stark Scholarship in Clinical Medicine to J. B. Bird; the Beaney Prize to J. C. Webster, B.A., M.B., C.M.; the Buchanan Scholarship has been awarded to W. Fordyce, M.A., M.B., C.M.; the James Scott Scholarship to T. W. Eden, M.B., C.M.; the Freeland Barbour Fellowship to J. D. Williams, M.B., C.M.; the Gunning Victoria Jubilee Bell Prize in Physiology to G. N. Stewart, M.A., D.Sc.; the Gunning Victoria Jubilee Lister Prize in Surgery to E. F. Neve, M.D.; the Wightman Prize to A. J. Whiting.

ABERDEEN.

The following candidates have received Degrees in Medicine and Surgery:

The Degree of M.D.:—F. A. Bennett, M.A., M.B., C.M., Victoria, Australia; J. Glaister, M.B., C.M., Putney, London; J. Gordon, M.B., C.M., Aberdeen; T. W. Griffith, M.B., C.M., Leeds; A. C. Hutchinson, M.B., C.M., West Brighton; J. Jenkyns, M.B., C.M., Belize, British Honduras; A. W. Knox, M.B., C.M., Great Yarmouth; W. Lawson, M.B., C.M., West Bromwich, Staffordshire; J. Russell, M.B., C.M., Arbroath; J. Savege, M.B., C.M., Swanscombe, Kent; J. Struthers, jun., M.B., C.M., Aberdeen; W. R. Tough, M.A., M.B., C.M., Crook, co. Durham; A. Wilson, M.A., M.B., C.M., Midcalder.

The theses of J. Gordon, T. W. Griffith, and J. Struthers were considered deserving of highest honours.

The Degrees of M.B. and C.M.:—G. Allan, Fife-Keith; A. Barber, Harrogate, Yorkshire; J. Barclay, Dunecht; J. U. Black, London; G. J. Buchanan, Punjab, India; R. H. Cook, Aberdeen; R. Cumming, Duthil, Strathspey; W. Diack, Aberdeen; A. Dingwall, M.A., Aberdeen; J. Don, Cults; A. L. Duke, Arbroath; S. S. Dunn, Adelaide, S. Australia; J. G. Durran, Caithness; R. Eatough, Brindle, Lancashire; R. A. S. Eden, Aberdeen; A. D. Ellis, Aberdeen; G. S. P. Ferdinands, Colombo, Ceylon; J. G. A. Forsyth, Abernethy; A. R. Galloway, M.A., Inverurie; G. Gibb, M.A., Aberdeen; R. J. Gladstone, Old Aberdeen; G. Gordon, Huntly; C. Grant, Caithness; R. Grant, Tomintoul; A. B. M. Gunn, Caithness; B. A. Heathcote, Ilfracombe, Devon; T. W. Illingworth, Scarborough; J. Joss, M.A., Huntly; A. Keith, Turriff; F. T. Keyt, Colombo, Ceylon; D. A. F. Kydd, Pollokshields, Glasgow; A. Leach, London; T. Macallan, Midmar; G. Macdonald, Forres; A. F. Mackenzie, Nairn; W. L. Mackenzie,

M.A., Alness; W. Mackie, M.A., Chapel of Garioch; J. C. Mackintosh, Inverness; R. G. M'Kerron, M.A., Aberdeen; W. Masson, Aberdeen; G. Michie, M.A., Aberdeen; W. R. C. Middleton, M.A., Aberdeen; G. C. Milligan, M.A., Guthrie; J. Milne, Botriphnie; D. D. Monro, Brechin; J. Packer, Thirsk, Yorkshire; T. M. Rae, M.A., Udny; J. S. Riddell, M.A., Aberdeen; A. Robertson, Stonehaven; P. A. Roden, Droitwich, Worcestershire; G. R. C. Russell, Orkney; A. M. Saunders, M.A., Woodside; W. St. J. Skeen, Aberdeen; R. M. Townsend, Cape Colony; A. M. Will, Aberdeen; A. S. Williamson, M.A., Banff; R. G. Wyllie, Newhills.

The following gentlemen graduated with honours:

Highest Academical Honours:—A. Keith.

Honourable Distinction:—C. Grant; T. W. Illingworth; W. L. M'Kenzie, M.A.; R. G. M'Kerron, M.A.

The John Murray Medal and Scholarship given to the most distinguished graduate of his year has been awarded to Arthur Keith.

The Diploma in Public Health has been conferred on the following candidates:

A. C. Ferguson, M.A., M.B., C.M.; R. J. Gladstone, M.B., C.M.; Surgeon-Major W. G. King, M.B.V. (with credit); A. F. Mackenzie, M.B., C.M.; G. Rose, M.B., C.M.; A. M. Saunders, M.A., M.B., C.M.; F. A. van der Smagt, M.D.

OBITUARY.

NATHANIEL CRISP, M.R.C.S., L.S.A.

THIS gentleman, who died suddenly of heart disease at his residence, Chandos House, Keynsham, on July 17th, was born at Bristol in 1827, and was educated in the medical school of that city. Having served the office of house-surgeon to the Bristol Royal Infirmary, Mr. Crisp entered into practice at Swallowfield, in Berkshire, whence after several years he removed to Keynsham, Somersetshire, where he was appointed medical officer to the 1st District, and to the workhouse of the Keynsham Union. He was interred in Chew Magna, the funeral being attended by a large number of friends, including his medical brethren, and many members of the St. Keyna Lodge of Freemasons, of which he was one of the founders and past-master, and P.P.T.G.D. of the Province of Somerset. The Foresters were also represented by a numerous deputation.

JOHN ALFRED LUSH, M.D.

DR. JOHN ALFRED LUSH, formerly M.P. for Salisbury, died suddenly at St. Leonard's on Saturday, August 4th, from heart disease. He was born in 1815, was a Fellow of the Royal College of Physicians, and J.P. for Wilts, and represented the city of Salisbury as a Liberal from 1868 to 1880, when he retired at the general election owing to ill-health. Although his health did not permit him to take any active part in politics of late years, he continued to take a keen interest in all political matters as a Liberal. He married in 1853 Sarah Martha, daughter of the late Dr. Finch, of Salisbury, who survives him.

DR. KOLOMAN BALOGH, Buda-Pesth.

DR. KOLOMAN BALOGH, ordinary professor of pharmacology, and Dean of the Medical Faculty of Buda-Pesth, died last month from an incurable disease. Dr. Balogh was born in 1835, at Szalnok, in Hungary, and took his M.D. degree in 1859 at the University of Pesth. He was assistant to the well-known physiologist, Professor Czermak, and in 1863 he became Privat-Docent of pathological physiology. In the same year he was appointed ordinary professor of physiology and general pathology in the Surgical Institution of Klausenburg. In 1867 he was called in the same capacity to Pesth, where he became ordinary professor of pharmacology in 1872. From 1882 he was Dean of the Medical Faculty of Buda-Pesth. Koloman Balogh was one of the most diligent medical authors in Hungary. In 1864 he published his work on physiology, and soon afterwards his book on general pathology and therapy. In 1879 he published a commentary on the Hungarian *Pharmacopœia*. Among his investigations on the brain may be mentioned a treatise on the functions of the cerebral hemispheres and the cerebellum. Dr. Balogh was, moreover, joint editor of the *Orvosi Hetilap*, the Hungarian medical journal, which is published by Dr. L. Markusovszky. He was also vice-president of the Royal Society of Physicians of Buda-Pesth, and the Hungarian Society for Natural Sciences, and a corresponding member of the Hungarian Academy of Sciences, of which he became an ordinary member in 1877. Dr. Balogh was, moreover, an ordinary member of the Hungarian Landessanitätsrath, and did much good work in connection with the drawing up of the first Hungarian *Pharmacopœia*. The King of Hungary bestowed on him the "Ritterkreuz," Third Class of the Iron Crown Order.

EDMUND JOHN BARKER, M.D., M.R.C.S., L.S.A.

DR. BARKER, whose death was recently announced in the JOURNAL, was one of the best-known and busiest practitioners in North Hants. He had been in practice forty-two years, the earlier part of that time having been passed in Staffordshire. In 1863 he came to Aldershot, where he obtained the largest and most fashionable practice in the neighbourhood. He was a man of wonderful energy and activity. Dr. Barker took great interest in everything connected with the British Medical Association. He was chairman of the South-Eastern Branch last year, and his geniality and hospitality contributed largely to the success which attended the meeting of the Branch at Aldershot. A few weeks ago he attended the meeting at Rochester, and on his return, being belated, he remained in London all night and caught cold. Thinking it was only slight catarrh he continued his practice, when suddenly symptoms of broncho-pneumonia set in, and he died after an illness of only three days. He leaves a widow, two daughters, and one son to mourn his loss. The son, who was married only two days before his father's death, is a member of the Army Medical Staff. His eldest daughter is an M.D. of Paris. The remains were interred in the Aldershot Cemetery on the 31st of July and the large attendance of all sorts and conditions of people on that occasion testified to the universal respect in which the deceased was held.

IRVINE KEMPE MILNE, M.D. ABERD.

WE regret to have to record the death of Dr. Milne, which took place at Shipdham, Norfolk, on July 17th, from abscess of the brain, at the early age of 35. The deceased gentleman was born at Pitmedden, Aberdeenshire, and educated at the Grammar School and University of Aberdeen. Having passed all his medical examinations before he was 21, and consequently too young to graduate, he entered the service of the White Star Line as assistant-surgeon on board the steamships *Republic* and *Adriatic*. In 1874 he graduated as B.M. and C.M., and rejoined the *Adriatic* as surgeon. He also served on the Holt China Line, and made several voyages to China in the *Glaucus*. As surgeon to the *Congo* he visited the West Coast of Africa, after which he entered the service of the Allan Line, serving on board the steamships *Nova Scotian*, *Circassian*, and *Sardinian*. In 1877 he took his M.D. degree, and settled at Shipdham, Norfolk, where he succeeded to the extensive practice of the late Mr. Clouting. He held the appointments of Medical Officer and Public Vaccinator to the Nutford and Launditch and Swaffham Unions, Surgeon to the Foresters and Oddfellows, and Acting Surgeon to the 3rd Norfolk R.V. His funeral was attended by almost the entire village and neighbourhood.

MEDICAL NEWS.

CONJOINT EXAMINATIONS OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following students have passed the respective Sessional Professional Examinations, held in July, 1888.

First Professional Examination.—L. A. Jameson, R. W. E. Roe, R. Shaw, L. Woods, R. P. Connell, T. F. M'Donnell, W. S. Kane, W. H. Hornebrook, E. F. Frazer, E. O. Stokes, E. H. Beaman, P. J. Quinlan, T. C. Harte, W. M. M'Cormack, J. O'Donoghue, R. A. Potterton, D. A. M'Curdy, J. J. Cullen, F. P. Smith, J. H. Elmes, W. Hall, T. F. Dillon, V. Doyle, A. W. Power, H. K. Bentley, W. Russell, W. H. Langley, P. G. Garland, W. B. Felton, H. P. Jones, F. W. Condon, J. S. Proctor, A. R. Moore, C. S. Langley, M. Ferguson, T. Smith, P. Barragry, M. Keay, A. R. Dillon-Carbery, Miss E. W. Dickson, G. H. Russell, J. Armstrong, F. W. Perry, A. J. Arthur, J. H. Farmer, V. de L. Cooke, W. W. Scarlett, J. G. Boon, J. Y. Corcoran, J. J. Curran, P. Peacocke, H. H. Hayes, A. W. Tabuteau. Twenty were stopped.

Second Professional Examination.—T. L. Lynch, T. J. Conolly, S. Keogh, R. Dalton, G. Moorhead, T. K. Mulcahy, C. M. O'Brien, J. P. O. D. Quinn, E. W. M'Quaid, L. T. Whelan, R. S. Young, N. I. Cookman, E. Cosgrove, N. W. Devlin, T. G. Dillon, B. G. Elliott, E. G. Fenton, A. N. Herron, G. W. Joyce, A. E. C. Keeble, A. J. M'Munn, W. M. Meeke, G. N. D. Oakes, J. C. Ryan, G. F. Woodroffe, R. B. Wright, G. W. Dawson, W. E. Moore. Thirty were stopped.

Third Professional Examination.—J. A. Burland, G. O. K. Wilson, H. Ross, T. Gilcriest, M. Callanan, F. W. S. Stone, S. A. D'Arcy, E. Kennedy, W. S. Dodd, J. Churchill, R. H. Draper, D. D. Shanahan, J. Tute, J. Kearney, A. F. Kenny, C. O. C. Hodgins, F. Smith, R. Stoney, S. Moore, D. Turnar, T. G. Stevens. Thirty-four were stopped.

Fourth, or Final, Professional Examination.—W. H. C. Clarke, Glenmaguir Raphoe, Co. Donegal; C. D'Alton, Ballygriffin, Golden, Cashel; T. Gallivan, Listowel, Co. Kerry; C. E. R. Gardiner, Greyfort, Castlebaldwin, Co. Sligo; E. F. Hayes, 1, Moyne Road, Rathmines; C. W. R. Healey Simla Lodge, Clontarf; H. J. Hildige, 10, Raglan Road; J. Jamison

Ballinode, Co. Monaghan; J. W. Jennings, 34, Marlborough Road, Dublin; G. A. Johnston, Gale House, Ambleside, England; C. D. Jones, 60, Rathgar Road, Dublin; R. C. Lewis, The Rampart, Kinsale, Co. Cork; C. D. MacCarthy, Gladstone Street, Clonmel; J. R. M'Munn, Gurteen, Co. Sligo; R. J. W. Mawhinny, 32, Sandycove Road, Kingstown; J. Mulqueen; P. O'Dwyer, Kilshanny, Ennistymon; M. C. O'Gorman, 14, Lower Mallow Street, Limerick; W. C. Palmer, 69, Mountjoy Square, Dublin; G. R. Penrose, Ulladmore, Dalkey; J. F. Ronayne, Ardsallagh House, Youghal; G. A. Waring, Castle Street, Lisburn; C. Warren, Warrenpoint, Clontarf; R. L. Whitby, Hilcot, Whitechurch, Rathfarnham; W. C. P. Wynne, Rectory, Shoeburyness, Essex. Twenty were stopped.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the July sittings of the Conjoint Board, held in Glasgow, the following candidates passed the respective examinations:—

First Examination.—T. B. Kelly, Galway; W. Gerrard, Edinburgh; Lilian V. Cooper, Luton, Kent; A. Carswell, Manchester; E. Edwards, Llangefni; Elizabeth M. Harris, Calne, Wilts; R. M. Connolly, Templemore, Co. Tipperary; Charlotte M. Wheeler, Crewe; T. L. Pennington, Liverpool; H. R. Strange, Madras; J. P. Lyons, Clare; H. R. Williams, Anglesea; G. H. Rowlands, Liverpool; S. Martyn, Bombay; P. S. L. MacDougall, Herefordshire; W. Thomas, Anglesea; H. F. Knyvett, Windsor; F. L. Taylor, Cape of Good Hope; H. B. Ord, Darlington; E. F. W. Moon, Co. Tyrone; G. Sidley, Perth; A. H. Cheales, Lincolnshire; J. Hodgson, Lancashire; T. E. Hughes, Rhyl; D. M'Crorie, Ayrshire; S. J. Bolton, Kilrea; A. Ross, Edinburgh; T. P. Shearer, Glasgow; C. V. Chisholm, Aberdare; G. J. Napthine, Victoria; H. C. Darby, Worcestershire; J. Wardrop, Glasgow; J. Hamilton, Lanark.

Second Examination.—J. B. Henderson, Bo'ness; R. Steel, Stewartton; Agatha Porter, Glasgow; Lucie Whitby, Warwickshire; G. Maingot, Trinidad; R. R. R. Morrison, Cork; G. Robertson, Leslie; Louisa R. Cooke, Yorkshire; Mary L. Gordon, Liverpool; F. W. Marshall, Staffordshire; Catherine M. Wickham, Dublin; Lilian V. Cooper, Luton, Kent; Lilias Hamilton, Australia; S. Hishmeh, Jerusalem; A. M'Cune, Kilwinning; J. S. B. M'Murray, Waringstown; L. S. Wells, Victoria; W. Mackenzie, Banffshire; J. B. Munro, Coatbridge; J. Stevenson, Dundee; W. Mussen, Co. Down; A. M. Gray, Isle of Man; C. H. Murray, Donegal; G. H. Rowlands, Liverpool; D. O'Sullivan, Cork; J. W. Harbinson, Belfast; E. R. P. Watkins, Abergavenny; A. B. Gass, Belfast.

Final Examination, and admitted L.R.C.P.Ed., L.R.C.S.Ed., and L.F.P.S.Glas.—W. H. Large, Llandudno; P. O'Callaghan, Camdonagh, Co. Donegal; C. L. Strangman, Carriganore, Co. Waterford; T. Burns, Edinburgh; C. B. Humphreys, Glasgow; E. D. Duffett, Glasgow; A. E. Huband, Tamworth, Staffordshire; C. H. Jackman, London; W. V. Griffith, Tremadoc; C. B. Richards, London; J. Buck, Whitby; Janet Hunter, Ayr; J. Westwood, Edgbaston, Birmingham; Sarah Gray, London; J. M'Cartney, Partick; J. W. Chapman, Belfast; B. B. Hoggan, Brighton; C. Morrison, Edinburgh; J. Steele, Cumberland; M. W. S. Gunning, Partick; P. Bowan, Dublin; J. C. Thomas, M.D., Whiteabby, Co. Antrim; H. Stedman, England.

MEDICAL VACANCIES.

The following Vacancies are announced:

BELGRAVE HOSPITAL FOR CHILDREN.—Resident House-Surgeon and Assistant Secretary. Appointment for six months. Salary at the rate of £30 per annum, with board and residence. Applications by September 15th to the Honorary Secretary, 79, Gloucester Street, S.W.

BOROUGH OF SHEFFIELD LODGE MOOR HOSPITAL FOR THE TREATMENT OF INFECTIOUS DISEASE.—Resident Medical Officer. Salary, £150 per annum, with board, lodging, and attendance. Applications by August 28th to J. W. Pye-Smith, Esq., Town Clerk.

BOROUGH OF SHEFFIELD WINTER STREET HOSPITAL FOR THE TREATMENT OF INFECTIOUS DISEASE.—Resident Medical Officer. Salary, £200 per annum, with board, lodging, and attendance. Applications by August 28th to J. W. Pye-Smith, Esq., Town Clerk.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITAL, Grafton Street.—Resident Medical Officer. Salary, £100 per annum, with board and residence. Applications by August 27th to the Town Clerk, Municipal Buildings, Liverpool.

GENERAL HOSPITAL, Birmingham.—Assistant House-Surgeon. Board, residence, etc. Applications by September 1st to the House Governor.

GENERAL HOSPITAL, Nottingham.—Junior Resident Medical Officer. Salary, £100 per annum, with increase, board, residence, etc. Applications by August 29th to the Chairman of the Weekly Board.

KING'S COUNTY INFIRMARY, Tullamore.—Surgeon. Salary, £94 per annum. Personal attendance on August 27th at 12 noon.

LIVERPOOL DISPENSARIES.—Assistant-Surgeon. Salary, £80, with board, apartments, etc. Applications by August 24th to R. R. Greene, Esq., Secretary, Leith Offices, Moorfields, Liverpool.

LIVERPOOL NORTHERN HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum, with board and residence. Applications by August 27th to the Chairman of the Committee.

PARISH OF OCHILTREE.—Medical Officer. Salary, £20 per annum. Applications by August 27th to Mr. Andrew Smith, Inspector of the Poor, Ochiltree, Ayrshire, N.B.

ROYAL BERKS HOSPITAL, Reading.—Assistant House-Surgeon. Board and lodging. Applications by August 28th to the Secretary.

ROYAL HOSPITAL OF BETHLEM.—Assistant Medical Officer. Salary, £300 per annum, with furnished residence. Applications by September 4th to J. Baggallay, Esq., Bridewell Hospital, 14, New Bridge Street, E.C.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Physician (out-department). Applications by August 20th to G. Scudamore, Secretary, Lower Seymour Street, Portman Square, W.

ST. MARK'S HOSPITAL FOR FISTULA, ETC., City Road, E.C.—House-Surgeon. Salary, £50 per annum, with board and residence. Applications by August 27th to the Secretary.

SWINFORD UNION, Low Park Dispensary.—Medical Officer. Salary, £120 per annum, and fees. Applications to Mr. James C. Brady, Honorary Secretary, Hagfield, Charlestown. Election on August 31st.

MEDICAL APPOINTMENTS.

BURTON, S. H., M.B., B.S., F.R.C.S., appointed Assistant Surgeon to the Norfolk and Norwich Hospital, *vice* M. Beverley, M.D., resigned.

COLLINS, E. Treacher, M.R.C.S., L.R.C.P., L.S.A., appointed Curator and Librarian to the Royal London Ophthalmic Hospital, Moorfields.

DAVIDSON, J. F., M.B., C.M.Glasgow, appointed Medical Officer to the Parish of Kirkmichael, N.B., *vice* Angus Macauley, M.B., C.M., resigned.

HILL, Hedley, M.R.C.S., L.R.C.P., appointed Physician's Assistant to the Bristol General Hospital, *vice* W. M. Barclay, appointed Assistant Surgeon.

HUTCHINSON, Procter, late Resident Medical Officer, appointed Assistant Surgeon to the Hospital for Diseases of the Throat, Golden Square.

KINGDON, E. C., M.B., C.M., appointed Senior Resident Medical Officer to the General Hospital, Nottingham, *vice* A. R. Anderson, F.R.C.S., resigned.

MCLEAN, Charles A., M.D., M.C., appointed Medical Officer to the Hospital de Caridad, Monte Video.

MILLIGAN, W., M.B.Aberd., C.M., appointed House-Physician to the Northern Hospital, Liverpool.

PATON, D. M., appointed Assistant House-Surgeon to the Glasgow Hospital for Sick Children.

ROBERTSON, A., M.A., M.B., C.M.Edin., appointed Assistant House-Surgeon to the Halifax Infirmary and Dispensary, *vice* C. M. Hill, M.R.C.S., etc., resigned.

ROXBURGH, David, M.B., C.M.Glas., appointed House-Surgeon to the Glasgow Hospital for Sick Children, *vice* R. H. Parry, L.R.C.P., L.R.C.S.Edin., resigned.

SCOTT, Kenneth M., M.B., C.M.Edin., M.R.C.S.Eng., appointed House-Surgeon to the Central London Ophthalmic Hospital, *vice* L. S. Manning, M.B., C.M.Aberd., resigned.

WHISHAW, Reginald R., B.A., M.B., B.C.Cantab., L.R.C.P., F.R.C.S., appointed Demonstrator of Anatomy in the Bristol Medical School.

WILDE, Leonard, M.B.Durh., M.R.C.S.Eng., L.R.C.P., L.S.A.Lond., appointed Senior House-Surgeon to the London Temperance Hospital.

WINTER, H. E., M.R.C.S., L.R.C.P.Lond., appointed Resident Assistant House-Surgeon to the Derbyshire General Infirmary, *vice* John Crisp, M.R.C.S., L.R.C.P.Lond., resigned.

AN APPEAL FOR AN AGED POET.—We are asked to state that a fund is being raised, under the auspices of an influential committee, of which Lord Tennyson is president, for Dr. Charles Mackay, the well-known journalist and song-writer—the British Béranger, as Douglas Jerrold called him—who is now in his 73rd year, and in broken health. Many of his songs, such as "There's a Good Time Coming, "Cheer Boys, Cheer!" "To the West, to the West!" "Tubal Cain," "Baby Mine," "Vanity Let it Be!" etc., must be well known to such of our readers as cultivate both music and medicine, which may be called sister arts inasmuch as both are daughters of Apollo. Subscriptions will be received by the following bankers: the Bank of Scotland, Lothbury, E.C.; Messrs. Robarts, Lubbock, and Co., Lombard Street, E.C.; Messrs. Drummond, Charing Cross, W.C.; or by the Honorary Secretary, L. C. Alexander, LL.D., Putney, S.W.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

CHETHAM-STRODE.—August 4th, at 104, Bethune Road, Stamford Hill, London, N., the wife of Reginald Chetham-Strode, M.B., of a daughter.

HAYCRAFT.—August 10th, at 20, Ann Street, Edinburgh, Lillie, the wife of John Berry Haycraft, M.D., D.Sc., of a son.

MYLES.—At Cliffden, Murree, Punjaub, E. India, on July 18th, 1888, the wife of Surgeon E. H. Myles, M.B., Medical Staff, of a son.

MARRIAGES.

DOWSING—TOMALIN.—August 7th, at All Saints' Church, Hull, by the Rev. D. S. Cowley, M.A., Vicar of Christ Church, Wakefield, Herbert Leopold Dowsing, M.R.C.S.Eng., L.R.C.P.Lond., and L.S.A.Lond., youngest son of the late Alderman Dowsing, to Mary Elizabeth (Sissy), eldest daughter of Edmund J. Tomalin, of Hull.

GIMLETTE—NICHOLS.—On the 7th instant, at the British Legation, Lisbon, by the Rev. Canon Rope, Thomas Desmond, second son of the late Hart Gimlette, M.D., R.N., to Mary Ann, youngest daughter of the late George Nichols, of Sheffield, and sister-in-law of William Medlicott, of Cabo Ruivo, Lisbon.

DEATHS.

DRUITT.—On August 9th, at Dunstable, Beds., Helen Anne (Nellie), the beloved wife of A. B. Druitt, M.R.C.S.Eng., L.S.A., aged 24 years.

PROTHERO.—August 4th, at Llanerchymedd, aged 33 years, Richard Prothero, M.R.C.S., L.S.A., late of Brynhyfryd, Amlwch, Anglesey.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL, are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications, should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

CLIMATE OF TEXAS IN PHTHISIS.

M.K.Q.C.P.I. asks if the climate of North-West Texas (Concho County) would be unsuitable for a phthisical patient who has an old cavity in the apex of his right lung. The patient has friends living there, and would receive every attention and comfort.

NITROBENZOLE FUMES.

DR. R. PROSSER WHITE (Wigan) would feel greatly obliged if any gentleman connected with works using nitrobenzole would give him some practical hints either as to the use of respirators or other methods to prevent or mitigate the evil consequences of the work upon the men employed in its manufacture.

CHLORAL HYDRATE IN MIDWIFERY.

DR. D. J. LAWSON (Portland) would be glad to learn if any cases of harm resulting from the employment of chloral hydrate in midwifery have been reported or have occurred in the practice of any readers of the JOURNAL.

TYPHOID FEVER AND GENERAL HOSPITALS.

DR. HERBERT SIEVEKING (Manchester Square) writes: I should very much like to obtain a knowledge of the experience of some of your readers with regard to the admission of typhoid patients at hospitals, which are supposed to exist for the reception of general cases and supported by voluntary contributions. Recently I made an application at a provincial hospital with eighteen beds, in a town of over 5,000 inhabitants, for the admission of a patient (a friendless man in a strange place, lying at a much frequented temperance tavern, where the noise for fourteen hours out of the twenty-four was distracting) whose case and circumstances in every respect demanded skilled hospital nursing and treatment. At the hospital there were vacant beds, good nursing, and quiet. The man had a temperature of 104.5°. The case was refused on the ground that it might be typhoid fever; there was no question or suspicion of its being anything else, unless it were a severe simple fever, which latter alternative was not unfavoured by the hospital medical authority.

I was told that typhoid fever, actual or possible, was invariably refused at the institution referred to. Surely this must be an unusual rule, and, as far as my experience goes, founded on no reason-appealing ground.

ANSWERS.

MEDICAL FEES.

BARTS.—Full information on the subject is contained in *Medico-Chirurgical Tariffs*, by Jukes de Styrap, M.K.Q.C.P., 4th ed., London, 1888 (H. K. Lewis).

DIET IN GALL-STONES.

DR. LEONARD G. PETERS (Gobowen) writes: In reply to M. B., M. A., I beg to suggest that a simple plain diet is the most suitable generally for his patient, with plenty of diluent drinks. Milk, cream, and butter may be taken freely both during the attacks and between them. He should also frequently take a cholagogue purge during the intervals. For the attacks pil. hydrarg., followed by large doses of olive oil, has been very highly recommended of late.

NOTES, LETTERS, ETC.

POLYPHARMACY.

X. Y. Z. sends us the following examples, which prove that the evil of polypharmacy, to which Professor Gairdner pointed in his presidential address, has not yet died out. They show also that the vice of polypharmacy is not confined to L.S.A.'s, for the perpetrator of the following is not only L.S.A. but M.D.

℞ Amyli nitrit. mij; acid. nit. hyd. dil., acid. sulph. arom., aa 3j; tr. jumbul. 3iss; tr. quinæ ammon., 3iss; tr. chlorof. co., 3ij; tr. card. co., 3ij; bism. subnit., gr. 48, ess. anisi et menth. p., aa mx; mist. creta, 3j; aq. laurocerasi, 3ij; aq. anethi ad 3viij; C. 3iv tertiâ q.h. ex. aq. ℞ Vin. antimonialis, 3j; vin. ipecacuanhæ, 3iss; tr. senegæ, 3iij; sodæ bicarb., 3iv; liq. am. cit., 3ij; ess. anisi, mxx; dec. senegæ, 3iij; am. carb., am. chlor., aa 3j; syr. tolutani, 3iv; aq. camph. q.s., 3viij. One dessertspoonful in twice amount of water every hour. ℞ Ess. anisi, m20; hyd. c cretâ, 3j, gr. iv; pot. bicarb., 3iiss; mist. rhei co. q.s., 3viij; 3ss t. d. s. ex aquâ. ℞ Pot. cit., 3ij; conf. sulphuris, 3j; aq. ad. q.s. F.m., 3viij; C. 3j p. r.n.

COMMUNICATIONS, LETTERS, etc., have been received from:

Dr. Norman Kerr, London; Mrs. Nunan, Kanturk; Dr. P. Hunt, Southend; Mr. Adams Frost, London; Dr. J. A. da Gama, Bombay; Mr. J. Black, London; Dr. Arthur Thompson, Edinburgh; Mr. Reginald Harrison, Liverpool; Mr. W. T. Grant, London; Messrs. Holder and Hollingworth, Hull; Our Egyptian Correspondent; Dr. G. Reddie, Hardoi, Oudh, India; Dr. James C. Howden, Montrose; Dr. A. V. Macan, Dublin; Dr. D. Drummond, Newcastle-on-Tyne; Mr. G. Smith, London; Mr. J. J. de Z. Marshall, Hastings; Mr. F. G. Carrington, Exeter; Dr. Fly Smith, London; Mr. F. Boehm, London; Lieut.-Colonel T. M. White, London; Mr. A. Dalton, London; Bertha Körner, London; Dr. E. West Symes, Halifax; Mr. Duncan, Glasgow; Mr. E. Bellamy, London; Mr. J. R. Purdy, Oulton; Dr. C. Lewis, Birmingham; Mr. O. E. Prothero, Anglesey; The Clerk of the Plumbers' Company, London; Mr. C. J. Henderson, Waltham Cross; Mr. E. L. Robinson, Guernsey; Dr. J. B. Mathison, Brooklyn; Mrs. Mary Krause, London; Dr. D. A. Fraser, Totnes; Dr. Barnardo, London; Mr. F. N. Brown, Baskerville; Mr. H. Wood, London; Dr. Tatham, Salford; Dr. de Maurans, Paris; A Local Practitioner; Senior; Mr. T. Sympson, Lincoln; Mr. J. Mathias, Kimberley; Mr. A. J. Dalton, London; Mr. B. W. Thomas, Welwyn; Mr. P. G. Gilmour, Chew Magna; Mr. H. M. Champneys, London; Mr. E. T. Collins, London; Dr. S. Sloan, Glasgow; Mr. R. C. Morris, Welshpool; Mr. A. C. Clark, Bothwell; Dr. A. Routh, Crosslet; Mr. J. D. Moir, Bodmin; Dr. Brailey, London; Dr. T. R. Fraser, Edinburgh; Dr. J. McGregor Robertson, Glasgow; Messrs. Allen and Hanbury, London; Mr. L. P. Peters, Gobowen; Dr. A. J. Hubbard, Hemel Hempstead; Mr. H. Rake, Fordingbridge; Mr. E. G. Archer, Lowestoft; Mr. R. H. Job, Llandudno; D. J. Lawson, M.B., Portland; Lieut.-Col. S. Nicholl, Ventnor; Dr. A. Edington, Edinburgh; Mr. G. Thomson, Retford; Dr. Thomson, Glasgow; Mr. J. R. Nunn, Feckenham; Dr. H. Sieveking, London; Messrs. W. B. Hilliard and Son, Glasgow; Dr. E. G. Wake, Tramore; Dr. Teevan, Ballarat; The Australian Wine Importers Company, London; Surgeon-Major P. J. Freyer, Mainital, N.W.P.; Dr. R. W. Burnet, London; Mr. G. Lysaght, Glenbrook; Dr. F. Fergus, Glasgow; The Honorary Manager of the National Pension Fund for Nurses, London; Mr. A. Ford, Waterford; Dr. Robertson, Glasgow; Dr. G. S. Middleton, Glasgow; Dr. A. Bruce, Aberdeen; Dr. J. Macfie, Glasgow; Mr. E. C. Baber, Brighton; The Secretary of the Royal College of Surgeons of Edinburgh; Mr. W. Milligan, Liverpool; Mr. F. Haswell, Liverpool; Dr. C. A. McLean, Montevideo; Dr. Louis Parkes, London; Mr. W. G. Blight, Walthamstow; Dr. J. Macintyre, Glasgow; Dr. J. Hamilton, Glasgow; Mr. E. Johnson, West Ham; The Secretary of the Anglo-Danish Exhibition, London; Mr. C. Strode, London; Mr. G. Ashmead, Brierley Hill; Mr. E. M. Kelly, Nottingham; Messrs. Burgoyne, Burbidges, and Co., London; Mr. K. M. Scott, London; Mr. W. A. Lane, London; The Editor of the *Sunday Times*, London; Mr. R. Carter, Bath; Dr. Ramsay, Glasgow; Mr. D. W. Finley, Barr, near Girvan; Mr. Marshall, London; Our Vienna Correspondent; etc.

BOOKS, ETC., RECEIVED.

Curve Pictures of London. By A. B. McDowell. London: Sampson Low and Co.

Another World; or, the Fourth Dimension. By A. T. Schofield, M.D. London: Swan Sonnenschein and Co. 1888.

Hydrocele and its Treatment. By J. S. M'Ardle. Dublin: Fannin and Co. 1888.

The Bacon Shakespere Question. By C. Stopes. London: J. G. Johnson. 1888.

Mackenzie, Sir Morell. La Higiene de los Organos Vocales. Traducido de la Quinta Edicion. Por Ramon de la Sota y Lastra, M.D. Madrid. 1888.

Landmarks, Medical and Surgical. By Luther Holden. Fourth Edition. London: J. and A. Churchill.

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NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-Offices letters addressed to initials only.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PUBLIC MEDICINE.

At the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By HENRY DUNCAN LITTLEJOHN, M.D.,
Medical Officer of Health for Edinburgh.

ON SANITARY LEGISLATION.

In taking the chair on the present occasion I have to intimate that my colleagues determined to devote the three days of our meeting to the discussion of three distinct and important subjects, namely, Sanitary Legislation, the Disposal of Sewage, and the Dangers resulting from the Use of the Flesh of Infected Animals, leaving other topics which members may choose to bring before us to be taken up as opportunity offers at the end of each day's discussion. We trust that this arrangement will approve itself to the judgment of the Section.

I am privileged to open the consideration of the important subject of Sanitary Legislation. *In limine*, I may observe that I have always regarded the Public Health Section of this Association as affording the best available platform for the profitable discussion of questions relating to preventive medicine. The well-known Social Science Association (now in abeyance) supplied too popular an audience and too one-sided a jury, the medical professional element being either absent or in a marked minority; while, in my opinion, the various strictly sanitary institutions and associations of England and Scotland, doing much excellent work in the discussion of technical subjects connected with sanitation, and especially as supplying valuable entrance examinations for sanitary inspectors, are mainly composed of experts, who are too apt to indulge in technicalities, which rather tend to repel those who are not actually engaged in the work of sanitation. In this Section, however, we have the great advantage of bringing two classes of inquirers face to face—both the practised sanitarian, applying his scientific principles to the daily routine of sanitary duties, and also his medical *confrères*, trained by their professional studies to habits of observation and fully competent to judge and estimate aright the value of the experiments detailed, of the effects of sanitation, and the proposals submitted for the better discharge of sanitary work.

Indeed I have always held that practical sanitation must be mainly governed by common sense. Without this essential the most scientific observer, driving his hobbies *à outrance*, finds himself misapprehended and possibly misrepresented; collision with the local authority and the ratepayers ensues, and while he personally suffers, the great cause of preventive medicine, for which at the time he may be sacrificing in many cases his all, is discredited in the eyes of the public, and its progress in consequence retarded.

It is equally important that the health officer should carry with him the intelligent portion of his own profession. Within the last few years the knowledge of hygiene has become widely spread among medical men, and the addition of public health to the list of subjects of examination at our universities and colleges must powerfully contribute to the greater diffusion of this knowledge. The best results must follow this extension. Without the aid of our medical brethren it is impossible to carry out the requirements of our Public Health Acts in a satisfactory manner. The health officer is single-handed, and fights generally at a disadvantage; but with the concurrence and assistance of his medical brethren the opposition of the ratepaying public is gradually disarmed, and the expenditure for improvements demanded—the great bugbear rendered necessary by his suggestions—allowed. While this is more especially true of great centres of population where the muster of the profession is strong and its voice influential, it is also true of country districts, and I am officially cognisant of many instances where the profession have generously supported the health officer in the discharge of his often difficult duties.

Here in this Section, I again remark, the two classes are brought face to face, and health officers have an opportunity, in connection with some of the most important sanitary questions of the day, of detailing their proposals, of relating their grievances, and stating wherein they ask the support of the profession and of the public. Our jury is composed of health officers and our professional brethren, and we have behind us this great Association, which can place the result of our deliberations before the Government, support our suggestions, and powerfully urge the redress of our many grievances.

Both countries—England and Scotland—occupy interesting positions at present, so far as sanitary legislation is concerned. It is difficult to say which of them is to be most congratulated. England is just having accorded to her a most important measure of local self-government, from which it is certain that sanitary reform will receive a greater impetus—its administration being based on a wider area of government and on a more intelligent basis. We in Scotland, on the other hand, have had our hopes deferred. Our Local Government Bill is only promised us, and our new police and sanitary Act, the Burgh Police and Health Bill, after running successfully the gauntlet of a Special Committee, is now reported to the House of Commons, and may this year be expected (should fortune favour it at this late stage of the session) to be sent to the Lords and become law.

Looking at this important measure, one cannot fail to remark on the very questionable procedure involved in including health clauses in a police Bill. No doubt the word "police" is common to both departments, civil and ordinary police, "medical police" representing the two great divisions of this important subject. It must surely, however, be regarded as unfortunate that in an Act of Parliament mainly intended to regulate the police of town and country districts there should be included so many important sanitary provisions. This commingling existing alongside our Public Health (Scotland) Act, 1867, must inevitably lead to confusion and uncertainty.

I cannot but agree with Dr. Clark, M.P., who has consistently, throughout the discussion of this Bill in Committee, opposed the inclusion of the health clauses, and has advised (what commends itself to every sensible mind) the introduction of an amended version of our Public Health Act, which, although introduced so long ago as 1867, is still an admirable Act, and is only deficient in the permissive character of many of its most important requirements. For this we can hardly blame its authors when we remember that more than twenty years have elapsed since its introduction, and that even now the education of the general public has advanced so slowly, that I have again and again heard it urged as an argument for not opposing the present Burgh Police and Health Bill that the clauses it contains are, in many cases, of such a stringent character, that if they were fully discussed in connection with an amended health Act, they would never have a chance of being passed, and that it is, therefore, wise policy to accept the present Bill as an instalment while waiting for an amended public health Act.

The chapter in the Burgh Police and Health Bill relating to the mitigation and prevention of disease contains some novel and important provisions, to which I shall allude.

It is a matter of satisfaction that a great blot in the Bill has been removed in Committee, through the agency of Dr. Clark, M.P.; and it is to be hoped that the change will be adopted by the House. I refer to the objectionable proposal that the election of the medical officer should take place annually. It is disheartening to think that this proviso was introduced at all, and vigorously supported by the promoters of the Bill, and that the members of the Government allowed it, in the first instance, to pass. No reasons were forthcoming for this high-handed act. It was in vain that representations were made by this Association and others that the proviso in question was a serious discouragement to the health officers, that the gentleman holding the office would be compelled to devote half the year in canvassing for a renewal of the confidence of the electing body, and that this in too many cases would not be secured without a loss of independence, and without the dread that if he continued fearlessly to discharge the duties of his office his hopes of re-election would be reduced to a minimum. It was monstrous to keep a professional gentleman in such a state of insecurity, and at the mercy of any faction in the Board or of any designing newcomer into the town or parish. The circumstance certainly throws a disheartening light on the previous conduct of this Bill, its promoters being personally connected with small

burghs and country districts, and having most imperfect notions of the requirements of the present day so far as sanitary science was concerned. The obnoxious clause found, I am happy to say, no supporters in Committee, and Dr. Clark had but to state his objection, when the clause came under review, to have the appointment of the health officers placed on the same footing as the other officials, a new clause being added, stating that the medical officer of health "shall hold office during the pleasure of the Commissioners." Even with this addition, I cannot hold that the position of the medical officer is even yet placed on a satisfactory basis. This important official should only be removable with consent of our Scottish Local Government Board—the Board of Supervision. Without some such safeguard it is impossible for the health officer in small burghs and country districts chiefly affected by this Bill, where petty personal feeling too frequently runs high, to be independent in the discharge of his duties. Otherwise he is liable to be swayed by powerful ratepayers, and he finds himself unable to discharge the duties of his office in a conscientious manner. To this additional safeguard there cannot be pled any reasonable objection. At present, under our Public Health (Scotland) Act, 1867, two important officers are only removable with consent of the Board of Supervision. I refer to the inspector of poor and the sanitary inspector; thus enabling these officials to maintain an independent course in the discharge of their duties. For the last twenty years this regulation has worked well and given satisfaction, and I cannot see why a more important official, namely, the medical officer, should not be similarly treated. I would propose that the clause in question should be altered as follows: "The burgh surveyor and the inspector of cleansing shall hold office during the pleasure of the Commissioners, but the medical officer of health and the sanitary inspector shall only be removable with consent of the Board of Supervision." The appointment of medical officer is now, as in England, imperative in all towns, villages, places, or localities containing a population of 700 inhabitants or upwards, and, for the purposes of the Act, two or more contiguous towns, villages, places, or localities (not being burghs already), may be held to be a populous place. Look at the present state of affairs. Of the 1,041 local authorities in Scotland, 867 are rural and 174 urban; of these 597 are provided with health officers, and 444 have none.

What can be expected with such a state of matters? Nothing is said as to the remuneration of the health officer in the new Bill. In the Public Health Act, 1867, the words were the local authority shall allow to every local medical officer on account of his employment "a proper salary." I go farther, and I hold that the salary proposed to be given should be submitted to the Board of Supervision for their approval. I am confident, however, that this question of salary will never be satisfactorily settled unless the sanitary duties are enlarged.

In the new Bill there is an important paragraph relating to the chief constable which I shall take the liberty of reading. "It shall be lawful to appoint the same person to be chief constable for two or more adjoining burghs, whether situated in one or more counties, and the chief constable of a burgh may be appointed chief constable of the county in which such burgh is wholly or partly situated, or of any county closely adjacent, etc.;" now, were a similar permission granted in the case of the health officer, it would enable that official to have an increased area of jurisdiction, which implies an increase to his salary, and to such an extent as would justify his exclusion from private practice, and the demand that he be possessed of some licence or guarantee that he had devoted special study to public health, and was fully qualified to discharge the duties of his office. Were such a combination of districts allowed, it would then become possible to insist on the amendment of Sir Lyon Playfair, that no health officer should be appointed who did not possess a qualification in public health. Of course, with small salaries, it is out of the question to expect that any medical man would undergo the trouble and expense of taking such a qualification. The outlying and poorer districts, such as the Hebrides, sadly in need of energetic and wise action with regard to sanitation, are just those which demand such a combination.

Again, in the Bill it is provided that the whole responsibility of removing cases of infectious disease to a hospital rests entirely with the health officer, whose decision is final in the matter. There being no magisterial intervention of any kind, the importance of such a clause in preventing delay in the isolation of infectious cases, and enabling the medical officer of health to deal promptly with an outbreak need not be insisted on.

For the first time in sanitary legislation the establishment of a hospital is made compulsory, Clause No. 337, stating that the Commissioners shall provide within or near the burgh (the definition of which is wide enough, and I have already given it) a hospital for the treatment of persons suffering from infectious diseases, and a reception house, and permission is given for contracting with an adjacent hospital, and also for contiguous burghs combining in maintaining a common hospital and reception house and also disinfecting houses. The importance of this compulsory clause can hardly be overestimated. No doubt it is gratifying to observe the general movement throughout the country of late in the way of looking this subject of hospital accommodation fairly in the face. Much of this, on the eastern side of Scotland, was due to the action of the Royal Infirmary of Edinburgh plainly advertising its intention, after a certain date, of shutting its door on all infectious cases. This action at once led to a series of conferences of the various local authorities in the east, but, as often happens in similar circumstances, the subject of hospital accommodation was deputed to committees to look out for sites, etc.; and, the special emergency being forgotten, the matter has in too many instances been allowed to go to sleep, and, as the clause in the Public Health (Scotland) Act is only permissive, the Central Authority is powerless. There have been, I am glad to say, several notable exceptions, where hospitals have been erected at the instance of several adjacent local authorities combining for this common object.

While populous rural districts are now thus efficiently provided for in the new Bill so far as hospital provision is concerned, there remain the strictly country parishes or dairy districts with scattered homesteads, any one of which may become a centre of infection and lead to outbreaks of disease wherever the milk and other dairy products are circulated. To meet such a case, special legislation is still required, and a clause such as follows is, in my opinion, demanded and should be added to the Bill: "When the local authority of any town, burgh, or village containing at the last census not less than 700 inhabitants shall have reason to believe that one or more of the parishes from which the milk-supply of such town or village is derived is without accommodation under the Public Health Act for the isolation of cases of infectious disease, it shall be the duty of such local authority to intimate the same to the Board of Supervision; and the Board, on receiving the intimation, shall inquire into the facts, and, if satisfied that no such accommodation exists, shall make an order, etc.," and giving at the same time power to the local authority to appeal to the Secretary for Scotland, who shall be empowered and required to confirm, modify, or rescind such order as to him may seem expedient.

Lastly, this Bill gives no uncertain sound as to the notification of infectious diseases—a most important subject, which, as we all know, has anxiously engaged the attention of this Association. It is not necessary, at this time of the day, I am happy to say, to insist on the importance of notification. All are unanimous, or nearly so, on the subject. It is as to the carrying out of this important provision that difference of opinion exists, and it is somewhat remarkable that north of the Tweed the profession appears to be quiescent on the matter, while in England the controversy has been animated, and, so far as the result is concerned, indecisive. Into this controversy I am not going to enter, but, so far, I entirely sympathise, and have always done so, with my English brethren, and have never hesitated to express my opinion that all notification clauses are comparatively unworkable so long as medical officers of health are allowed to engage in private practice, and therefore assume, however unconsciously, a position of rivalry to their medical brethren. Let us first insist on the status of this officer being that of an official only removable by the Central Board, on his sphere of action being so extended as to secure a competent salary and freedom from private practice, and I am confident that our differences as to the vexed question of notification would admit of easy solution.

With all its imperfections, and I am bound to say that by no body have these been more clearly criticised than by the Parliamentary Bills Committee of this Association, I am clearly of opinion that this Bill should receive our support, not as a full and complete measure, but as an instalment of a larger Act, and as embodying some very important sanitary provisions, which, if we lose now, may be lost to us for ever—relating to milk-supply, slaughter-houses, small dwellings, etc.

As I said in the beginning of these somewhat desultory remarks, Scotland must have a Local Government Act such as our sister country has just already, I hope, received. The proposed Burgh Police and Health Bill, *inter alia*, satisfactorily provides for the effectual removal of that great scandal in our great mining industries, namely, the deplorable sanitary state of our mining villages and townships. The drainage, the water-supply, the sewer construction, the hospital accommodation of these scattered and, at the same time, too often overcrowded populations, are for the first time made the subject of legal provision. But the Bill does not go far enough. We cannot allow the sanitary state of our strictly country parishes to be dependent on the action of parochial boards; and as Dr. Russell, of this city, forcibly puts it, the time is fully ripe for the enfranchisement of our rural population. A new Local Government Act, dealing with the kingdom as a whole, must grapple with the whole subject of Scottish sanitary organisation. We have made a great step in advance by the appointment of a Secretary of State for Scotland, who, of course, must be the head of the great central authority. The composition of this authority must be such as fully to represent the requirements of the present day. There must be the infusion into the Central Board of strictly professional and scientific elements. The staff of inspectors must be increased so as to allow of more active and extensive inspection of given areas at regular intervals.[1] I unhesitatingly accept the programme laid down by Sheriff Spens in his very suggestive treatise on the *Sanitary System of Scotland*, published in 1876, and I beg to express my agreement with him in the view that instead of the present defective local authorities the Commissioners of Supply would form an effective District Council which would at once secure the confidence of the public and, at the same time, ensure that the public health of their various districts was properly supervised.

Mr. SHERIFF SPENS said it was difficult in the space of ten minutes to touch on the many important points dealt with in the Chairman's able address; and, though he would have liked to have discussed them all, he would confine himself to one or two. He dissented from the Chairman's view that it was desirable that the sanitary clauses of the Burgh Police and Health Bill should pass, not because he did not recognise their substantive value, but because it would retard that Imperial legislation which was urgently required. It was urgently required more especially with reference to the rural authorities, which were wholly inefficient. He referred to the importance of the dairy-infection question, and to the fact that no control could be expected of the rural authorities. *Quis custodiet ipsos custodes?* He then referred to the constitution of the Board of Supervision, which, he thought, afforded no guarantee for effectiveness as a central authority, while not denying that it had done good work. What he would like to see was a Minister of Public Health and Under-Secretary of Health in Scotland, or Sanitary Inspector-General. If the Board of Supervision were retained, a medical gentleman of eminence, such as Dr. Littlejohn, should be added to the Board. He then advocated the widening of public health areas, and the appointment of medical officers of health over large areas, debarred from private practice and paid adequate salaries, irremovable except by the Central Board. —Dr. GLAISTER referred to the excellent address just delivered by the President, and he specially referred to some of the anomalies that threaten to intrude themselves into sanitary legislation in the impending Burgh Police and Health Bill. The minimum population basis in that Bill was fixed at 700. The medical profession had insisted, and did insist, that a medical officer of health should devote himself exclusively to the duties of his office, and that he should be provided with a sufficient salary. Besides, that unit area should provide adequate hospital accommodation and reception room. Now it was extremely difficult to see how, with the small rateable income of such a unit area, such a sufficient salary could be paid and the other measures effected. It seemed to him that no such unit area should be fixed, but that a larger area should be determined by contiguity or otherwise, so that a fair field of work might be provided for the medical officer of health; that the salary of that officer should bear a certain ratio to the rateable income of the district; and that his appointment should not be altogether in the hands of local busybodies, who sometimes were themselves grave offenders against the Act, but be under the control and confirmation of a central authority—call it what they pleased. It seemed to him that, *quâ* sanitary legislation generally, the time had passed when it was spoken as a reproach to a Government that its policy was "Sanitas, omnia sanitas," to a time when sanitary legislation was to be squeezed into law in a general police Bill, instead of having a distinct Act, as formerly it had, and as it certainly should still have. He deplored such an unhappy union as was exemplified in the Burgh Police and Health Bill, and hoped that the meeting would declare no indistinct opinion upon it. Regarding notification of disease, he felt strongly that notification must be effected, but his opinion was that general notification clauses applying to the whole of Scotland should be passed. —Dr. HARDESTY (Galashiels) said he was satisfied that sanitary affairs would not be improved much, in provincial districts at any rate, until Imperial legislation was brought to bear on them, and the provisions of the Acts for their administration were not so permissive as at present. Unless made compulsory, many local authorities would not enforce them. In reference to public health hospitals, he knew of cases in which these, although provided, were utterly useless for the purpose for which they were intended, no one being sent there who could be kept out on the score of expense, seldom anyone being sent to them for treatment except from common lodging-houses or from private lodgings, when the landlady insisted on their removal.—Dr. EBEN DUNCAN said that some of the reasons given by the promoters of the Burgh Police and Health Bill for pushing these sanitary clauses were vicious and immoral. He objected to stringent clauses on any subject being smuggled through without adequate public discussion. Although these stringent clauses were passed, they would not be carried into effect unless the public mind was educated to see the necessity for them, and the best education the public could get would be in the conflict of opinion which always occurred before important sanitary questions, which were subjected to full and free public discussion, were settled. He further said that all the provisions required by urban districts were also required in rural districts, and no distinction should be made between town and country in a health measure. He pointed out the very extraordinary fact that all the members of the central health authority of Scotland have always been appointed on account of legal or other qualifications connected with the administration of pauper affairs, and that not a single sanitary or medical expert had ever been added to the Board. Even when serious and widespread epidemic conditions alarmed the people of Scotland, the law endeavoured to meet the enemy by adding another lawyer to the Board of Supervision. They required a strong Central Health Board, the members of which would be appointed for their knowledge of sanitary science, men who would not be afraid to enforce just health laws in urban and rural districts alike without fear or favour.—Dr. NASMYTH (Fife) spoke in favour of the resolution which had been proposed and unanimously agreed to. He stated that a year ago he read a paper before the Fifeshire Medical Association, urging the formation of a Board of Health for Scotland, presided over by a Minister of Health, and the suggestion was adopted unanimously, and a petition was forwarded to the Secretary of State for Scotland urging on this suggestion. He, therefore, now suggested that copies of the resolution should be sent to the Secretary for Scotland and the Lord Advocate.—Dr. MCVAIL (Kilmarnock) said that in regard to the advantages or otherwise of the sanitary clauses of the Burgh Police and Health Bill, the main question was, how would these clauses affect the prospects of sanitary legislation which would be national in character? He referred to rural as well as to urban districts. Dr. Clark, M.P., had urged on the Select Committee of the House of Commons that these clauses should be dropped *in toto*, as being hindrances to thorough legislation. The Lord Advocate replied that they would not be hindrances, but probably, even with the best personal intentions, he was wrong. At the same time, a burgh health officer, under the existing law, was continually having brought before him the urgent need for some alteration of the law of 1867. Recently the Board of Supervision had sent out a circular to local authorities, urging the erection of small-pox hospitals, owing to the danger of the disease spreading from the north of England. The local authority of Kilmarnock took the matter up, and in view of the well-known dangers of such hospitals when situated in populous districts (as exemplified in the case of the metropolitan small-pox hospitals), looked out for a

[1] This is specially required in country districts. Our large centres of population can be trusted to the intelligence of their responsible officials, and also to vigilance committees of the citizens, which, I am happy to say, exist in many of our large towns, and which have effected much good by the dissemination of instruction in the rudiments of hygiene among the poor, and by stimulating and encouraging the officials in the discharge of their duties.

site at a distance from the town, got permission to prepare plans, and took other initial steps. But, on communicating with the Board of Supervision, it was pointed out that under the present law the local authority had no power to send patients to any hospital outside the burgh. Thus, unless a hospital be erected where it will be a great danger to the public health, it need not be erected at all, as infectious cases cannot be compulsorily removed to it. So, too, when a medical officer saw continually around outbreaks of infectious disease, that could easily be prevented by compulsory notification, he longed for even an instalment of reform. But, in view of the prolongation of limited sanitary areas, of want of power to prevent the introduction of milk-conveyed diseases from rural to town districts, and of the delay that would likely ensue in the passing of a general Public Health Act, it seemed, to the speaker, that the sanitary clauses of the new Police Bill would do far more harm than good.—Dr. CORNER (Poplar, London), said, as illustrating the great necessity of giving to rural populations the same protection as the urban, he would give an illustration of importance to Scotland as a great health resort. Three years ago, in the centre of Sutherlandshire, in a wayside fishing inn, his son sickened with typhoid. Professor Church, of Oxford, another inmate, also was infected and nearly lost his life. The proprietor and other members of his family were similarly affected; and, worse still, he believed they were the means of taking the infection to the next hotel—leading to the death of one of the inmates. On inquiry he ascertained that the origin of this local epidemic was from some labourers who slept in an outhouse belonging to the inn, one of whom had fever and delirium for a day or two. And he knew, from the circumstances of these parts, that, given the importation of a case of typhoid, there was great probability of its spread, both through the water-supply and the character of the drainage.—Dr. FITZPATRICK (Liverpool) said that the permissive clauses should be struck out of the Public Health Act. Dual or single notification was useless, unless accommodation existed for isolation. Medical officers of health should be appointed permanently, and should not be engaged in private practice, as otherwise friction must always occur. The State took more care of the health of cattle than of human beings; in the former case they compelled isolation, in the latter they were allowed at pleasure to mix with their fellows.—Dr. GRAHAM (Middleton), speaking in support of the resolution, objected to piecemeal legislation and division into urban and rural districts. He was informed that 90 per cent. of cases of infectious diseases were notified round Manchester, where there was no compulsory provision; and he thought even that was satisfactory evidence to make what worked fairly well in some districts compulsory in all. Combinations of districts ought to provide hospitals for infectious diseases as they had done, contributing in proportion to population. The improvement in the law in Scotland, it was hoped, would be followed by the same in England.

It was proposed by Dr. ALFRED CARPENTER, and seconded by Dr. EBEN DUNCAN:

"That this Section reaffirm the resolution passed already in this Section, and are of opinion that a Local Government Bill, containing provision for the protection of the public health, should be introduced as a Government measure during the next session of Parliament, and that the Council be requested to transmit a representation to that effect to the Lord Advocate and to the Secretary of State for Scotland."

This was carried unanimously.

BEQUESTS AND DONATIONS.—Dame Laura Buchan, widow of Lieutenant-General Sir John Buchan, K.C.B., bequeathed £1,000 each to the Isle of Man General Hospital, the Middlesex Hospital, and the Hospital for Sick Children, and £500 each to the Hospital for Consumption and Diseases of the Chest, and the Royal National Hospital for Consumption and Diseases of the Chest.—The Hospital for Diseases of the Throat and Chest and St. Peter's Hospital for Stone have have each received £100 under the will of Lord Northwick.—Mr. John Turner bequeathed £100 to the Huddersfield Infirmary.—Thomas S——, Esq., has given £200 to the Metropolitan Hospital, Kingsland Road.—The Hon. H. E. Butler, of Eagle Hall, Pateley Bridge, has given 100 guineas to the building fund of the Harrogate Bath Hospital.—The Mercers' Company have given 100 guineas additional, each to the Royal Free Hospital and the Royal National Hospital for Consumption and Diseases of the Chest.—Mrs. Dowling has given £50 additional to the Charing Cross Hospital.

ON EXTENSION OF THE SYSTEM OF NOTIFICATION OF INFECTIOUS DISEASE, WITH ESPECIAL REFERENCE TO A PROPOSED NATIONAL SYSTEM OF DISEASE REGISTRATION.

Read in the Section of Public Medicine at the Annual Meeting of the British Medical Association, in Glasgow, August, 1888.

BY JOHN TATHAM, B.A., M.D.UNIV.DUBL.,
Medical Officer of Health, Salford Borough.

THE general subject of compulsory notification of infectious disease has now been before the medical profession for a considerable period, and the advocates and opponents of the several "systems" have certainly had a fair opportunity of airing their opinions in the medical press.

It is not my object to-day to elicit further controversy on the so-called "burning question," which has been so warmly discussed of late in our leading periodicals. I am content to record and to gratefully realise the fact that, having had experience in my own borough of the concurrent advantages of disease notification and hospital isolation, for a period of nearly six years, I find that these systems have been productive of substantial benefit to the health of the people, and that the advantages which we derive from notification accumulate steadily as time goes on. The public are gradually becoming more accustomed to the visits of the sanitary inspectors, and increasingly appreciative of the advantages of hospital isolation. During the period which has elapsed since the Salford Notification Act was first put into operation, more than eight thousand cases of dangerous infectious disease have been reported to the Health Department; and of this total, not less than 43 per cent. have been removed to hospital. The proportion of cases isolated has steadily increased year by year, for, whereas in 1883, the first year of work under the the Notification Act, only 26 per cent. of the notified cases were removed to hospital, this proportion during the last two years has approached 50 per cent. But the removal of even this large proportion of the reported cases, and the consequent disinfection of places and things, is not the only expedient which notification furnishes for the suppression of infectious disease. If it were, there would be considerable force in the objection that the mischief done by the residue of patients who are treated at home would counteract the good effect of removal, and would to a great extent perpetuate the spread of infection amongst the remainder of the population.

In the first place, we are able to control the attendance at school of infective children, by promptly communicating the fact of the existence of infection, in a house containing school children, to the master or mistress of the school attended. On an average, about one thousand letters annually, having this object, are despatched by our health department. We also encourage the school authorities to report to the health office, on stamped forms gratuitously supplied, any cases of suspected concealment of infectious disease in houses containing children of school age, and thus we frequently obtain information of unrecognised or of slight cases, which might otherwise have led to serious diffusion of infection. A vast amount of inspection of premises, together with the adoption of necessary sanitary measures, has been carried out as a consequence of notification, which, without it, could scarcely have been effected; and the operations consequently carried out have, in numerous instances, led to the removal of causes of disease and of ill-health.

Again, the inspectors, in the course of their inquiry, frequently encounter timely evidence of other conditions which in themselves are likely to lead to disseminate infection. Thus, for instance, it is not uncommon to find in a room in which the business of a tailoress or that of a laundress is in active operation, a child suffering from scarlet fever, and being nursed by the parent, who devotes her intervals of leisure to her ordinary handicraft. Again, the inspectors frequently discover infective patients in dangerous proximity to milk-supplies, exposed for public sale in premises probably too small, under the most favourable circumstances, for the safe storage of milk. In these and other instances,

the list of which might be extended almost indefinitely, we are able to give advice or to take steps which are certain to be of service in protecting the public against many sorts of infection. It is needless to say that these useful functions would be impracticable, in default of the essential information which notification supplies.

But the advantage which Salford and other protected towns derive from compulsory notification is seriously diminished by the merely local application of the Act, which should obviously be a general measure and should apply to all parts of the country. Again and again have we had to complain of the importation of infection into Salford from non-notification outside districts immediately contiguous to our boundaries. Only recently we had to make serious complaints of the conduct of a neighbouring sanitary authority, for allowing scarlet fever to run riot on the confines of one of our poorer and very populous districts without making the slightest effort to check its spread, or even to keep the convalescents within doors. Against this same authority we were, not long since, obliged to prefer a serious charge before the Local Government Board, for sending into our midst a caravan of typhus-stricken gipsies, which might, and probably would, have spread that pestilence in Salford had we been unprovided with complete arrangements for their isolation.

Compulsory notification of infectious disease ought to form part of the statute law of the land. And the difficulty and expense attendant on private Bill legislation, which at present hinders sanitary authorities desirous of obtaining compulsory powers for this object, should forthwith be done away with.

The Local Government Board have frequently been approached on this subject, and, if I mistake not, by the Parliamentary Bills Committee of this Association. And such has been the pressure which has been brought to bear on the Board that, in the autumn of last year, they issued circulars to the authorities of the forty-eight existing notification towns, asking for particulars and opinions, as to the working of the several Acts. The reply which was sent from Salford has been printed, and, as it shows the scope and general character of the questions proposed, I have brought copies of it with me for distribution.

The proposition that the sanitary authorities of the country, as the responsible guardians of the public health, ought to be kept constantly informed as to the presence of infectious disease in their several districts, is one upon which there is now, amongst medical men, a practical unanimity. At the annual meeting of our Association, which was held in Brighton in 1886, the Public Medicine Section unanimously passed a resolution affirming the opinion of the Section that, even then, the time had fully arrived when the protection afforded to certain urban communities by local Acts for the compulsory notification of infectious disease should be extended to the population generally; and they therefore recommended the Council of the Association, at an early date, to consider the advisability of endeavouring to promote general legislation with this object in view.

Since the passing of this resolution, two years ago, the education of public opinion, municipal as well as general, has progressed apace. The subject can no longer be said to be an exclusively medical one, and for this consummation I for one am profoundly thankful. It gives me pleasure to record that at a meeting of that powerful representative body, the Association of Municipal Corporations, held in London on the 8th of March last, the Mayor of Salford, Mr. Alderman Dickins, introduced the subject of compulsory notification, with a view of bringing pressure to bear upon the Government to introduce a measure for the extension of that system to the country generally. The Mayor was successful in obtaining the unanimous assent of that powerful Association to the following important resolution:

"That a memorial be presented by this Association to the Local Government Board, praying them to introduce, or to give active support to, a Bill for the compulsory notification of infectious disease throughout the country generally."

Very shortly after the passing of this resolution a Bill with the above object in view was introduced into the House of Commons by Mr. Hastings, Dr. Farquharson, Mr. Francis Powell, and others; and the Bill advanced, I believe, as far as the second reading. It was, however, withdrawn as the session drew towards a close, for some unexplained reason, notwithstanding that the Bill had the cordial support of the Government. Whilst the above Bill was still before the House, awaiting its second reading, the following memorial, which was signed by about thirty medical officers of health of the existing notification towns, was forwarded to Mr. Ritchie through Mr. F. S. Powell, M.P.

To the Right Honourable Charles Thomson Ritchie, M.P., President of the Local Government Board.

The memorial of the undersigned respectfully sheweth:—

1. That your memorialists are medical officers of health holding appointments in towns already furnished with powers for the compulsory notification of infectious disease.

2. That, after considerable experience, your memorialists are convinced (*a*) that the system of compulsory notification, when administered with faithfulness and tact, enables a sanitary authority effectually to protect itself against incursions of infectious disease; and (*b*) that infectious disease, as it occurs in dense and poor populations, cannot be properly controlled, unless the local sanitary authorities are legally empowered to acquire prompt information of the earliest attacks of those diseases, for in no other way is it possible to secure either isolation or the proper treatment of the sick poor.

3. That your memorialists are pleased to find that a Bill which has for its object the extension to the country generally of powers for the compulsory notification of infectious disease has recently been submitted to the House of Commons by Mr. Hastings, Mr. Powell, and others. Your memorialists are also glad to notice that, at the instance of the Mayor of Salford, the Association of Municipal Corporations have unanimously agreed to memorialise the Local Government Board either to give active support to this Bill, or to introduce a Government measure with a similar object in view.

Your memorialists desire very cordially to support the prayer of the important Association referred to, and they respectfully ask you to lend the weight of your powerful influence to secure the general extension of compulsory notification throughout the country, and to facilitate the acquisition of compulsory powers by any sanitary authority, as provided for in Mr. Hastings's Bill, and without the trouble and expense of promoting a private Bill in Parliament.

And your memorialists will ever pray.

Signed on behalf of the memorialists—

JOHN TATHAM, B.A., M.D., Medical Officer of Health.

Town Hall, Salford, May 14th, 1888.

Mr. Ritchie has also been requested by the majority of the signatories to the above memorial to receive a deputation of medical officers of health, with the object of expressing to him their views personally. We are still awaiting Mr. Ritchie's reply to this request.

National Registration of Infectious Disease.—And now I come to a subject which is certainly complementary to that of compulsory notification, and which I believe to be of almost equal importance to the public health and to scientific medicine. I refer to the great need which exists for the establishment of a national system of disease registration, limited in the first instance to that of dangerous infectious disease. I am, of course, aware that the present is no novel proposal, but I think that the present time is peculiarly opportune for a revival of the scheme. Many years ago, Dr. Richardson, F.R.S., carried on for some time, and at his private expense, a voluntary system of sickness registration, which he was eventually obliged to relinquish, as, at that time, impracticable; and Dr. Ransome, F.R.S., of Manchester, carried on for twenty-five years a similar but more successful system in connection with the Manchester and Salford Sanitary Association. This latter project was discontinued only on the establishment of a compulsory system of notification in Manchester and Salford, and the record is now kept up by the health department of these towns. Although powers for the compulsory notification of infectious disease exist in fifty-two important British towns, nevertheless no machinery at present exists by which the information locally collected may be published and rendered generally available. As an instance, however, of what is practicable in this direction, I may briefly relate the history of a private arrangement, which, with the co-operation of thirty-two of my colleagues in other notification towns, and with the approval of my own sanitary authority, I have been carrying out since the beginning of the present year, to secure the end in view. This arrangement has for its object the circulation confidentially, amongst the contributing medical officers of health, of weekly returns of infectious sickness reported in the several areas. It was brought about as follows: Early in January last I wrote to the medical officers of health of all the towns which at that time possessed notification powers to the following effect:—

"Urban Sanitary Authority,

"Town Hall, Salford, January 5th, 1888.

"MY DEAR SIR,—At their meeting this morning the Health Committee of this borough had under their anxious consideration the rumours now current with respect to the alarming spread of small-pox, scarcely a day passing on which we do not hear of the invasion of some previously uninfected town by this disease.

"My Committee view with great concern the fact that, even between towns which possess powers for the compulsory notification of infectious disease, there exists at present no organisation by which one sanitary authority may receive timely warning of the existence of infectious disease in the district of a neighbouring authority. My Committee are of opinion that the collection and publication of this information at short (say weekly) intervals is a duty which ought to be undertaken by the central authority

But, failing this, they direct me, on their behalf, to suggest to the sanitary authorities of other protected towns in this neighbourhood that an arrangement should be previously adopted by which, to some extent, the object alluded to may be attained. I shall, therefore, be happy to forward you, at the termination of each successive week, a list of the cases of infectious disease reported to me under the Notification Act, and shall be obliged if you will kindly favour me with similar weekly information respecting your own district. I have the pleasure of forwarding you herewith my return for last week, and beg to remain, my dear Sir, yours very faithfully, JOHN TATHAM."

To this appeal I received favourable replies from thirty-two health officers; and, thus powerfully supported, I set to work forthwith. With a view of rendering the circulation of local returns as little irksome as possible to my fellow contributors, I at once made arrangements for the tabulation in my own office of the weekly returns from the several towns, and the construction of a table which, by the aid of a copying-press, I was able to circulate early in each week to my several colleagues.

The object which I had in view in undertaking the collection and circulation of returns, as here described, was that of testing the practicability of establishing a register of infectious disease. This practicability having been established, I at once took steps to introduce the matter to the notice of the Local Government Board, with the suggestion that they, as the central authority, should take the matter in hand as a "going concern," and relieve me of a duty which appeared to belong more fitly to a State department.

In order to enlist the support of my colleagues in this appeal to headquarters, I addressed a communication to each of my colleagues, asking their co-operation, as follows:

"Urban Sanitary Authority,
"Town Hall, Salford, March 19th, 1888.

"MY DEAR SIR,—The project of collecting and circulating returns of infectious sickness, which, with the co-operation of my colleagues of the Public Health Service, I have been privileged to carry out since the beginning of the year, has been very successful; and I hear from many correspondents that the timely information—especially as to small-pox incidence—which I have been the humble means of distributing, has proved of great assistance to the authorities concerned.

"The returns from the several towns have been regularly sent in, and I have been able to present a copy to each of my contributors on the Thursday in each week.

"Situated, however, as I am—with a small and an over-worked clerical staff—you will easily understand that I should like to be relieved of my self-imposed duty, if only I could secure that it would be faithfully discharged by others. Whilst, therefore, I have no immediate intention of discontinuing the circulation of these returns, I think you will agree with me that the proper authority to publish them is the Local Government Board; and the object of the present letter is to ask you to help me to induce that Board to take upon themselves this important function.

"If, therefore, you would obtain from your Health Committee an expression of opinion (in the form of a resolution to be forwarded to the President) affirming the desirability of the weekly publication by the Local Government Board of sickness returns for the several notification towns, I think that the object would eventually be attained. I have myself obtained the concurrence of my own Health Committee in this view, and I have little doubt that if the Local Government Board found that a similar desire obtained amongst a considerable number of the notification authorities, the Board would accede to the request.

"Kindly send me a reply, saying whether or not you will help me in this way; and, in the event of your consenting to do so, be good enough to obtain the resolution and have it forwarded to the Board on the earliest practical occasion.—I remain, my dear Sir, yours very faithfully and obliged, JOHN TATHAM."

I also obtained from the Salford Health Committee the following resolution, which was duly forwarded to the President of the Local Government Board:

"The Health Committee of this borough having had under their consideration the representations of their medical officer of health on the subject of disease registration, are of opinion that a system of central registration of infectious disease is desirable (similar to that of the Registrar General in respect of deaths), whereby sanitary authorities of one 'notification town' may be warned in time of the approach of any infectious disease from other towns of the country. And this Committee therefore respectfully urges the Local Government Board to undertake the collection and publication of weekly returns of infectious sickness for all the towns which are provided with legal powers for the compulsory notification of infectious disease."

On the receipt of this resolution, together with a large number of similar communications from other notification towns, the Local Government Board addressed a circular of inquiry, not to the medical officers of health, but to the sanitary authorities themselves, of all the towns possessing notification powers, asking whether, in the event of the Board's undertaking the publication of weekly returns of sickness, the authorities individually would agree to furnish the Board with the requisite local returns. I do not know the exact number of favourable replies which the Board received to their circular, but I have received information from my colleagues that the Board's proposal has met with general approval.

Why the Board should still hesitate to perform what would appear to outsiders a peculiarly appropriate function, it is a little difficult to understand. The suggestion, however, has been offered to the Board as a practical one, and I hope shortly to see it carried into effect.

THE SEWAGE QUESTION IN GLASGOW.

Read in the Section of Public Medicine at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY J. B. RUSSELL, M.D.,
Medical Officer of Health, Glasgow.

THE disposal of sewage is a subject which has a very present interest to the community of Glasgow; and I am sure no part of the proceedings of the British Medical Association will attract more public attention or raise greater hopes of local advantage than the discussion now to be begun. In this view I think the most useful contribution I can make to the proceedings is to give a very condensed statement of the history and present position of the question of sewage disposal as it affects Glasgow. The Association could not do a greater service to the community which is now honoured with its entertainment than by giving the discussion special reference to the difficulties of their sewage question. The practical utility of the advice of experts depends upon the extent to which their individual theories are adapted to the circumstances of the case upon which they are consulted. Within the drainage area of the Clyde there are "large towns," "small towns," and "country districts" presenting such variety of circumstances, that nothing which can be said on sewage disposal can be entirely destitute of application to some item in the vast problem of its purification. The question which most interests the great community of which Glasgow is the centre is what method is on the whole best suited to their circumstances.

The history of the Glasgow "sewage question" is the same as of every other sewage question which exercises, or has exercised, the minds of the inhabitants of cities. The successive steps are sewers, water-supply, water-closets, polluted tributaries, then pollution of the main stream. The first common sewers were formed in 1790. The first common water-supply was taken from the Clyde above the town in 1806, and supplemented from the same source in 1808. In 1831, we are told that "Till the formation of the Glasgow Water Works in 1806, there were very few water-closets in the city, but they are now to be found, not only in the first, but in the second and third rate houses." At this date there were five miles of sewers laid down in forty-five streets. They had been extended to forty-one miles by 1848, and to sixty miles in 1860. Just as sewers extended, complaints of the foulness of the numerous local tributaries of the Clyde arose; beginning with the Molendinar, on whose banks the city was first planted. The visitations of cholera in 1832, 1848, and 1853, increasingly virulent within the area of the river water-supply, showed that even two miles and a half above Glasgow Bridge the Clyde had, from pollution of its upper reaches, ceased to be fit for dietetic use.

The Gorbals gravitation water, introduced to the south side of the river in 1846, shielded that portion of the city from the cholera in 1853; and Loch Katrine water, introduced in 1859, com-

pleted our safeguard, so that we have had no epidemic of cholera since. By 1849 the pollution of the Clyde had thoroughly attracted public attention. It is remarkable that the references to its condition in the *Glasgow Herald* of that date were couched in language quite as emphatic and strong as any ever applied to the Clyde at the present time. Take the following, for example, in October, 1849: "The effect of some thousands of water-closets pouring their contents into the Clyde cannot but be odious in the extreme, and everyone may have felt that in summer days, after a long drought, the river from this cause literally sweats abomination, and we have more than once seen people sickened from it on board the steamers." If this was the state of things nearly forty years ago, what ought it to be now? The population in and about Glasgow has doubled. A water-supply for all purposes averaging 40,000,000 gallons, or equal to four-fifths of the volume of the Clyde in time of drought, is distributed and flows polluted to the river. Whereas in 1864 there were only 28,000 water-closets within the area of the water-supply, there are now 118,000. The tributaries which distressed our forefathers have gradually been dealt with, either by running culverts down their beds and making them sewers, or by intercepting the city portion of the sewage and conveying it direct to the Clyde. Public urinals abound. Water is applied freely with the hose in our back courts and closes, flushing their surface filth to the drains. In short, there are few cities in which more has been done to remove filth from the environment of the dwelling; but, excepting the diminishing proportion systematically removed by privy-pail and ash-cart, it has all been transferred to the river. Nothing in the sanitary operations of late years has ultimately advantaged the river except the improvement of our streets. Since the abolition of Road Trusts and the development of the tramway system, macadamised roads have been almost entirely displaced by granite run in with bitumen. The system of scavenging has also been greatly improved, so that the rain-washings must be much less foul.

The interesting question remains, how is it that the offensiveness of the Clyde has not proportionately increased? The probable answer is that the operations of the Clyde Trust have tended to dilute the sewage with a steadily increasing amount of impounded tidal water, and have also facilitated its removal seawards. Since 1849 the extent of quayage and the water area of the harbour have been tripled; the former, at this date, extends to over six miles, the latter to 154 acres. The channel below the harbour has been straightened and deepened. The result is that the spring tidal range has been increased from 2 feet 5 inches in 1755 to 11 feet 2 inches in 1888, of which 2 feet 8 inches has been gained since 1853. There is actually 14 inches more range between high and low water in the harbour than at Port Glasgow. In 1800 the time of high water was three hours behind Port Glasgow, now it is only one hour. The effect of those changes in expediting the removal of sewage down the river has been shown by careful experiments with floats. In 1858 a float took 43½ tides, or 537 hours, to reach Port Glasgow, a distance of about 19½ miles. In 1879 it took only 10 tides, or 120 hours 40 minutes, to reach Gourock, a distance of fully 24 miles. Roughly speaking, the sewage was removed seawards at more than five times the speed, or in less than a fifth of the time. In 1879 there was a weir above Albert Bridge, which was removed, and after its removal in 1881 these float experiments were repeated. It was found that the rate of movement was somewhat less. I shall not trouble you with the precise figures, but this statement will seem more important to Glasgow citizens than to strangers, as the removal of the weir was expected to put still further off the evil day of the sewage question. Another fact which helps to explain why the public expression of Glasgow opinion has not exceeded in recent years the intensity to which it had attained in 1849 is that by the extension of railway communications on both banks of the river down to points in the open firth passenger traffic has been almost wholly withdrawn from the upper Clyde. Greenock was connected by rail with Glasgow in 1841, and all the other exits by rail to the coast have been provided since 1849. The odours of the Clyde below the harbour are therefore less familiar to Glasgow people than they were forty years ago. But the sewage question is not to be solved in this way. In fact you will recognise the natural sequence of events, when I state that it has been transferred as a burning question to the lower reaches of the river. As we have seen, it began in the Molendinar. It was pushed into the Clyde, and now it has been partially removed to the Tail of the Bank and Loch Long. The 154 acres over which Glasgow harbour and docks extend form a huge settling pond, from which last year 610,000 cubic yards of more or less foul deposit was dredged and transferred to Loch Long at a cost to the Clyde Trustees of about 6d. per cubic yard, exclusive of interest on plant, which Mr. Deas informs me may amount to 3d. additional.

No prophet is required to tell us that in the circumstances described our sewage question will not keep much longer. It is not surprising, in view of public opinion in 1849, that it was found necessary to consult Mr. Bateman in 1853. In conjunction with the late Professor Anderson he made a provisional report in July, 1858, in which, as the result of local experiments, precipitation was condemned because, though effectual in deodorizing, the precipitate could not be sold at a price which would cover the cost. Reference was made to the 1858 float observations as proof that the sewage must be conveyed "to a very great distance." This was an introduction to a positive opinion a few months later in favour of engineering works similar to those then projected for London. The Town Council, with Scotch caution, resolved to wait until London had shown the way. Meanwhile they were beset with all sorts of schemes, and, in 1867, remitted them all to Messrs. Bateman and Bazalgette in a minute, which gives vivid expression to the bewilderment caused by a multitude of counsellors. They reported, in 1868, in favour of a scheme by which the whole sewage would be conveyed to the Ayrshire coast, one-fifth by gravitation alone and the remainder after an average lift of 32 feet. The area dealt with was Glasgow and suburbs, estimated at a population of 500,000, and providing for an increase in twenty years to 750,000. The actual sewage was 35,000,000 gallons per day, independent of rainfall, or 70 gallons per head, of which 54 was water-supply. The works were calculated to take a maximum flow of 110,000,000. The cost was estimated to be upwards of £1,250,000, entailing an annual charge of £55,000, which was equal to a rate of 5½d. per pound on the assessable rental of the area included. At an additional cost, not estimated, for pumping works, land, etc., a system of irrigation was suggested. As to available land they made the important statement, subsequently confirmed by Sir John Hawkshaw, that "the total area of land within the valley of the Clyde, under a contour of 50 feet above ordnance datum, suitable for the reception of the sewage, is about 9,500 acres, of which 1,500 acres are upon the north and the remainder upon the south bank of the river below the city." They point out that the land on the north side lay close to residences and in the way of the westward growth of the city; while in view of the claims of neighbouring towns, only 7,000 acres could safely be taken on the south side. They therefore advised recourse to the sandy land on the Ayrshire coast.

The next step was the Royal Commission to Sir John Hawkshaw, who reported in 1876 on the entire drainage area of the Clyde. The scheme applicable to Glasgow and suburbs included also Coatbridge, Airdrie, and the towns along the course of the outfall sewer, which discharged at Fairland Head, opposite the Little Cumbrae Island. The population thus served was estimated at 800,000. The actual sewage, including rainfall, was 120,000,000 gallons per day, and the maximum flow, to receive which the sewers were constructed, was 50 per cent. more. The estimated cost was £2,500,000. The annual charge for pumping, maintenance, and interest was £108,000, which meant a rate of 6½d. per pound on the assessable rental of the area dealt with. It is important to note that Glasgow and suburbs alone, Sir John Hawkshaw calculated, produced 48,000,000 gallons per day, without rainfall, the proportion per head being 70 gallons, of which 53 was water-supply.

Preliminary to the adoption of this scheme, Sir John recommended the appointment of a Board of Sanitary Commissioners of the Clyde. An endeavour to carry out this suggestion by private Bill was unsuccessful, and Government has hitherto failed to implement a promise of general legislation for this purpose.

In 1877, the Town Council, by a deputation of their number, applied their own minds to the question, and came to the conclusion that the sewage of Glasgow might, "after being rendered clear by precipitation and filtration, be passed into the Clyde." Mr. Bateman was asked to supply an engineering scheme for this purpose and suggested three, all of which ended in bringing the sewage to one or more points on the river above Dumbarton. A sentence thrown in at the end of his report raised doubts as to whether the clarified effluent would, after reaching the river, in the circumstances of tidal retardation previously described, be dispersed before again becoming offensive. This was a revival of

the float experiment of 1838, but, as already stated, their repetition now showed that the circumstances were entirely altered. Besides, numerous laboratory experiments were immediately instituted by Dr. Wallace, at the request of the Council, with this result—"that Glasgow sewage, properly defæcated and introduced into the Clyde at a point below the city, will not, under any circumstances, give rise to a nuisance." The deputation in 1880 again made a tour of the various towns in England where sewage processes were in operation, and also investigated the Lierneda system in Amsterdam. In the light of all the information thus obtained, they reaffirmed the conclusion arrived at three years previously. In 1881, the Sewage Committee adopted Bateman's scheme No. 3, by which the sewage of the north side was to be treated at Dalmuir, and of the south at a point in the parish of Govan. The area dealt with extended to 14,900 acres, with an existing population of 710,000 persons, yielding 36½ million gallons of sewage per day, exclusive of rainfall. This is 51 gallons per head, of which 45½ is water-supply. The works provided for 1,350,000 persons, yielding 62,500,000 gallons. Exclusive of cost of land and interference with property, this scheme was, according to a revised estimate, to involve an expenditure of £800,000 on works alone. The annual charge for pumping was £3,400. The cost of treatment and disposing of the sludge was roughly estimated at £40,000 to £45,000 a year. An idea was somehow suggested that the removal of the weir would for a time make the sewage question less urgent. Partly under the influence of that idea, and partly from the existence of so many administrative authorities among the sewage-producing communities, this scheme was not further considered. I have already pointed out that the removal of the weir has certainly had no such effect, though other circumstances have gradually tended in some degree to mitigate the nuisance at our own doors. There is now some prospect of the extension of the municipality, so as to include the whole populous area; and I have no doubt that, as the Lord Provost stated last night, one of the first questions which will engage the consolidated Council will be the purification of the Clyde.

ON SEWAGE DISPOSAL FOR WATER-CLOSET TOWNS.

Read in the Section of Public Medicine at the Annual Meeting of the British Medical Association in Glasgow, August, 1888.

By ALFRED CARPENTER, M.D.

It having been determined that "The Disposal of Sewage" be one of the subjects for consideration at this meeting, I think it right not to allow the most correct way of dealing with sewage to be put out of sight, because of its simplicity. It is twenty-two years since I introduced a method of treating town sewage to the notice of an assembly of men of science, specially called to consider the subject of town drainage. That was at the congress assembled at Leamington in 1865. I have repeatedly followed up the same subject at various meetings of scientific, medical, and sanitary bodies, always dwelling upon the points connected with the utilisation of sewage on land by so-called "broad irrigation." At the International Congress assembled in London in 1881, I submitted in general terms a series of propositions for the consideration of the congress, and I now venture to re-state them for the consideration of this meeting in terms more explicit and detailed.

1. That the application of the sewage of a water-closet town to land in close proximity to dwelling-houses is not injurious to the health of the inhabitants of those houses, provided the sewage be fresh; that it be applied in an intermittent manner, and the effluent be capable of rapid removal from the irrigated fields.

2. The judicious application of sewage to soil of almost any kind, if it be mainly inorganic, will satisfactorily cleanse the effluent water, and fit it for discharge into any ordinary stream, provided the area treated is not less than an acre for each 250 persons.

3. That vegetable products grown upon fields irrigated by sewage are satisfactory and safe as articles of food, for both animals and man.

4. That sewage farms if properly managed do not set up either parasitic or epidemic disease among those working on the farm or among the cattle fed upon its produce.

5. That this immunity exists because the conditions necessary for the propagation and continuance of those disease germs which affect man and animals are absent, the microbic life on sewage farms being antagonistic to the life of disease germs, the latter, therefore, soon cease as such to exist.

6. That sewage farms may be carried on in perfect safety close to populations. It is not, however, argued that the effluent water is safe to use for dietetic purposes.

7. That there is an aspect in sewage farming which shows that it is a wise policy for the nation to encourage that form of utilisation from a political economy point of view.

8. That to be financially successful such farms require that the rainfall be separated from the sewage; the area large enough for alternate cropping, and the capital employed sufficient to insure a continuous and rapid consumption of the crops produced.

9. That if practicable sewage utilisation by surface irrigation should be, for financial reasons, within the area of its own watershed, and close to the populations producing the sewage, but it is not a necessity that it should be so, provided it be applied to the land within a few hours, not more than twelve, of its discharge, and that there is no arrest of movement for more than very short periods before it is so utilised.

Several years have passed away since the matter contained in those propositions were put forth to the medical profession. I now intend to carry on the evidence as to their soundness by reference to the experience which has been gained in various parts of the kingdom, since the last report to a medical body, namely, 1881, but more especially by the results which have followed its continued application to the same land in my own neighbourhood since that time.

There are two facts which no amount of argument derived from the use of chemicals, or the bungling of local authority officials can controvert or deprive of their significance:—

1. The utilisation of sewage has been carried out on the same land consecutively for thirty years, frequently in a bungling manner, the area, however, being increased as the increase of population required it. Commencing with thirty-six acres only in 1851, it was all but abandoned as an incorrect proceeding, because the quantity of sewage applied was in excess of the power of the soil to deal with it. Three hundred acres were then obtained about the time that I first became connected with the farm. These have been increased by new purchases as the quantity of sewage to be applied from increasing population rendered it absolutely necessary to enlarge the area of application, but the land irrigated for the first time thirty years ago still continues in use, and effects its object as perfectly as on the first application. The subsoil of the farm two feet below the surface shows very little alteration, and three feet below is not in any way contaminated by the continued application of sewage. The various crops grown upon the land take out the manurial properties of the sewage, and allow the soil to continue its purifying power even better than at first. To effect this, however, it is necessary that the cropping be incessant and that the land have occasional rest for a year from sewage application. The tendency of the repeated application of sewage to land is to silt up the lower portion of the subsoil and prevent it acting as a filter below the plough level, except for a short time. It follows, therefore, that the sewage must pass over the land rather than through it, and although intermittent downwards filtration may purify the water, it will be temporary only, unless the soil is turned over frequently, so as to allow of its aëration. A sewage farm will bear deep ploughing better than other land, and grow larger crops in consequence.

2. The second great fact is that notwithstanding the very large price paid for the land at Beddington and Norwood, namely, sometimes as much as £300 an acre, or more for some of it, and a total cost of nearly £250,000, it has seldom been necessary to make more than a 2d. rate upon the parish to meet all the charges required to be met. The capital raised is now being paid off, but not lost, and in forty years from the last loan, the whole farm will be the freehold of the borough, without any liability at all upon it, paying a fair sum towards the reduction of the rates, and retaining a large open space with abundance of vegetation, in the midst of a large population, and providing a considerable amount of out-of-door work. The capital raised is an investment for the future, and not a scattering of immense sums of money in works which may become useless, like to those now being carried out by the Metropolitan Board of Works at the Thames outfall, by Crossness and Barking.

Let me take the propositions in turn 1. As to the effect upon health.

I showed that in 1881 the average death-rate for ten years for the Beddington and Wallington district was 14.3. I reproduce the table with additions up to the present time. The deaths have not exceeded in number those in 1881, although the population has risen very considerably, and the births are twenty more than in that year. The rateable value of the district in 1861 was £11,700, in 1871 was £20,671, in 1881 was £41,616, and this year it is returned in the report to Surrey County Quarter Sessions as £47,424, a tangible evidence of the increase of wealth and population around the sewage farm, whilst the zymotic death-rate last year is 0.5 only, and the average on the last seven years is only 1.2.

As regards its effect upon the health of the borough of Croydon, I showed in 1881 that the average death-rate for the borough was 17.9, and the zymotic death-rate 2.79. In 1886 it was 14.5. and the zymotic death-rate 1.53. In 1887 it was 14.7 and 2.2 respectively, the dry summer increasing the diarrhœa among infants.

I need not follow this head any further except to remark that in February, 1887, I submitted a report upon the subject to the Society of Arts in London, in which I conclusively proved that in no single instance out of nearly 100 cases in which sewage has been utilised by broad irrigation had any fact been proved to establish the allegations of "insanitariness" which are sometimes raised against them.

2. As to the character of the effluent, it continues to be perfectly satisfactory. The analyses which are occasionally made by the local authority establish its maintenance of standard, which is very similar to that given by me to the International Congress, whilst no questions have been raised upon this point except whilst the Norwood Farm was overtaxed by excess of sewage. Dr. Angus Smith's report to the Local Government Board in 1879 was to the effect that as regards this form of treatment of sewage, it maintains its position, namely, "that in every respect the best results have been obtained by irrigation."

3 and 4. The third and fourth propositions need not be further discussed, for no proof has been even tendered to the contrary except by Dr. Tidy in his communications to the Society of Arts, which were based upon suppositions made twenty years ago, not upon any solid foundations whatever, a point I was able to prove conclusively in my reply to his paper before the Society of Arts, and to which I have already referred; and even Dr. Cobbold withdrew his antagonism before his death because it was proved to his satisfaction that it was based upon idea only.

5. The fifth proposition is an important one. It is difficult to prove a negative. I assert that disease germs are of two kinds, corresponding with active germs and resting spores, eggs hatched and growing, and eggs unhatched. The hatched eggs are rapidly destroyed by the physical conditions under which they arrive at the farm; exposure to air, a lower temperature than that necessary for warm-blooded creatures, absence of pabulum, and presence of injurious gases soon destroy their life, but the resting spores (unhatched eggs) are more persistent. They certainly arrive on the farm, and it might be expected that they would do mischief, and so they do (and would) if the sewage is not immediately applied to the land. But then, if arrested, Nature comes to our rescue and destroys them by the sulphuretted hydrogen which is engendered as soon as putrefaction is rampant; but putrefaction destroys the chance of a satisfactory financial return from the use of the sewage, and it is not to be encouraged. As soon as the resting spores come in contact with the spongioles of plant life they are taken up with avidity, and taken in as food most energetically, much as human beings take in oysters when they get the opportunity. Some classes of plants, which I have presumed to name "carnivorous,"[1] among which I place rye grass, do assimilate these germs in the most rapid and satisfactory manner, so that no particle escapes their devouring power, and the effluent, as far as my observation goes, is absolutely free from their presence.

7. The seventh proposition is also a most important one. A local authority buys a site and spends a large sum in erecting tanks and machinery for chemically treating sewage. If they give up the process the whole sum so expended is utterly lost. Not so the sums invested in the purchase of land. The capital is there, and every farthing taken from the rates is either left in the land and raises its capital value by increasing its agricultural power, or sends into the country an additional supply of meat, milk, and vegetables, which make an actual addition to the wealth of the nation, although the locality itself may not apparently benefit by a reduction of taxation. The Corporation of Croydon have at this moment an estate of more than 700 acres, purchased for sewage-farm purposes. Its agricultural value has been raised five times over since it has been so utilised, its power to employ labour correspondingly multiplied, to the advantage of the tradesmen and owners of cottage property in the borough, whilst the housewife has the choice of so much more milk and meat than would have been the case if no farm had existed. Let these conditions be established in five hundred other districts in the kingdom, including London, and pauperism will be correspondingly lessened, because so much more labour will be provided, at least 40,000 agriculturists kept on the land, who are not now employed, the price of milk kept down, whilst thousands will have it who cannot have it now, and a mass of wealth added to that belonging to the country, which ought to recommend sewage farming to all political economists, who study production and its effect upon population.

8. The financial question contained in the eighth proposition is not medically interesting, but it affects us as ratepayers. I will only remark upon it that the greater the cost the greater the necessity of employing capital upon the land, and the greater the amount of produce raised, the greater the necessity for capital to be utilised in consuming it. The Croydon Corporation blindly allow their committee to waste the produce of the farm by preventing the consumption of produce on the farm, and thus play into the hands of cowkeepers and others, who are able to get it at a cheap rate. This is a monstrous perversion of common sense, which is bearing fruit in the fact that the receipts for produce on the farm, under its increased area, are less in amount than they were before the new land was added to the farm; but such is one of the penalties a town has to pay for electing representatives unable to deal with these questions from a broader view than that of self-interest for the moment.

9. The last proposition has reference to situation. The sooner the sewage is on the land the better chance for a good result on every point of view. If, however, the sewage has to be pumped, it increases the financial cost, and arrangements must be made for its rapid and continuous removal. If sewage is kept moving it may travel any distance. The farm may be forty miles from the town producing it, but if so removed the town must expect to pay a larger sum for cost of transit. This may be counterbalanced by cheaper cost of land. The expense of pumping can be calculated to within a few pounds, and if the rainfall is kept out of the sewers, and proper allowance made for yard, street, and roof drainage, there need be no difficulty whatever on this head.

I earnestly recommend sewage farming as applicable to all water-closet towns without exception, and feel sure that it will be far more satisfactory for the kingdom at large, when it is so utilised, than for it to be sent into the Thames, the Mersey, or the Clyde, to the gradual destruction of our waterways, and the removal from our midst of that which will give sinew, muscle, bone, and marrow to a people languishing for such material, and in consequence of its scarcity at home at this moment we have to import the material required for its production from the other side of the globe.

[1] *Vide Sanitary Record*, 1875; "Power of Soils, Air, and Vegetation to Purify Sewage."

SECTION OF PUBLIC MEDICINE.

WEDNESDAY, THURSDAY, AND FRIDAY, AUGUST 8TH, 9TH, AND 10TH.

The Berlin and Parisian Sewage Farms.—Dr. C. R. DRYSDALE, in this paper, contended that the only rational and satisfactory way of treating the sewage of cities and restoring the rivers to their original purity was by the method now used in Berlin, Paris, Croydon, Birmingham, Nottingham, and elsewhere, that is, agricultural utilisation on suitable areas and soils. This was the only scientific way, and moreover the only method compatible with economy of food supplies. The Metropolitan Board of Works was a glaring instance of want of all plan in this question. For years past that Board, against the advice of Lord Bramwell's Commission, had gone on tormenting the dwellers on the banks of the Thames by pouring daily 150,000,000 gallons of sewage in dry 200,000,000 gallons in wet weather into the river, and were now adding a greater absurdity, namely, the erection of two enormous tanks at Barking and Crossness, where a useless experiment with chemicals was to be made. The tanks were to cost one million sterling, and the chemicals, etc., perhaps £100,000 a year. Dublin, Glasgow, and even Edinburgh were all nearly as bad. Dublin and Glasgow

had rivers which were made a disgrace to civilisation by the present municipal authorities and a horror to citizens and visitors to those cities. The sewage farm at Paris at the plain of Gennevilliers had gradually become a most important experiment since the late engineer, M. Durand Claye, after studying sewage farms in England, abandoned the chemical plans as hopeless, and commenced to experiment with some acres with the fluid sewage. At present 600 hectares, or 1,500 acres, were irrigated with the sewage of Paris, and 20 millions of cubic metres of the sewage were annually used. The prosperity of the plain of Gennevilliers, which was cultivated by small proprietors, and also its salubrity, had been greatly increased; for, in the five years ending 1886, the population of the plain had increased 34 per cent, and the annual rental of the land increased from 90 to 450 francs per hectare. The Parisian authorities had been so convinced of the success of this experiment that the remaining portion of the Parisian sewage was soon to be utilised on about 3,000 acres at Achères, and there was also to be a further irrigation by the sewage at the east end of Paris. The amount of market-produce obtained on the farms at Gennevilliers was quite remarkable, such as 40,000 heads of cabbages per hectare (16,000 per acre) and 100,000 kilos of beet per hectare (40 tons per acre). The peasants raised a gross value of from £120 to £400 per hectare from the land annually. Vegetables of all kinds were grown for the Parisian markets, and in dry seasons a great portion of the supply was obtained on the carefully cultivated market-gardens. The contents of a cubic mètre (220 gallons) of the sewage supplied to the farms in 1883 amounted to 0.581 kilos of volatile and combustible matters, and to 1.355 kilos of minerals; together 1.936 kilos per cubic mètre. The effluent, which was potable, contained 0.156 kilos volatile and combustible and 0.506 kilos mineral matter per cubic mètre. The irrigation and purification of the sewage went on in witer as in summer. In January, 1883, 182,973 cubic mètres were filtered; in May, 2,155,628, and so on in summer. The sewage-water seldom froze. The chief requisite of sewage irigation was that the sewage should reach the irrigated fields as quickly as possible in a fresh state and that the fields should be levelled, so that the water entered not more than 18 inches, and the land should be dry six hours subsequent to each irrigation. Chalk and marly soils were excellent. Each acre of suitable land could utilise 5,000 tons annually; produce 40 tons of mangolds and five or six crops of rye grass each season, eight tons to each cutting. The milk of the cows fed on the Paris farms was excellent. The death-rate at the Beddington (Croydon) sewage farm was only 16 per 1,000 per annum, and no parasitic disease was recognised to attack cattle fed on its produce. The Berlin sewage farms employed 2,056 persons and were a great success. The cities of Berlin, Danzig, and Breslau, with an aggregate of about two million inhabitants, had had excellent sewage farms for the last fifteen years. Berlin had now under sewage irrigation 16,657 acres on the north, north-east, and south of the city. The lengths of the conduit-pipes used to convey the sewage to these farms from the various districts of Berlin varied from 964 mètres to 18,628 mètres. So perfectly healthy were the farms that convalescent homes had been erected on them. The persons employed on the farms consisted of 40 officials, 45 gardeners, smiths, and dairymen, 480 male and 125 female labourers, 966 workhouse hands, continually employed, and 360 men, women, and children, employed from April to October. In one week in October, 1887, 30,000 cwt. of cabbages were sent by rail to Berlin from only one of the farms at Osdorf. In 1885 there were about 275 hectares under root crops, 91 under hemp, 1,625 under wheat and other cereals, 44 of peas and beans, 148 under fodder, 696 under potatoes, cabbages, and the like, 76 in nursery gardens, 1,267 under meadow-land and pasture. On March 31st, 1886, the capital borrowed by the sewage irrigation authorities of Berlin appeared to have been £3,211,138, whilst Sir R. Rawlinson had said, at the Society of Arts in 1887, that the sewage experiment at London would cost ten millions sterling for no purpose and no benefit to agriculture. The Thames sewage was to be treated with 3.7 grains of lime, 1 of sulphate of iron, and a little permanganate of potash per gallon, whereas towns which had used chemicals had found that nothing short of one ton per million of gallons was of any use. In 1887 Dr. Collingridge, the Medical Officer of the Port of London, said that the condition of the Thames was as bad as ever in spite of the chemicals; and calculating the value of London sewage with a population of about four and a quarter millions, it had been said it should be worth a £1,000,000 a year, and that it might raise fodder enough to feed 200,000 cows annually, and thus give milk to the London children. Mr. Bailey Denton, an engineer of great experience, and Colonel Jones, of Wrexham, a sewage farmer himself, had a project to convey the London sewage to an island, Canvey Island, 20 miles beyond Barking, where it might be partly utilised on 415,000 acres of land, and the pipe might be tapped on the way and irrigate thousands of suitable acres in Essex, etc. Canvey Island was about 35 miles from London Bridge, and it was calculated that, with a current of three miles an hour, the sewage would reach it in 12 hours. It was to be hoped that Dublin, Glasgow, and Edinburgh—for even in the last-named city sewage farming was rudely and only partially carried out—might begin to emulate Berlin, Paris and other Continental cities, and to purify their rivers and utilise their sewage in the interests of human food supplies and health.

On the Disposal of Sewage.—Dr. T. J. Dyke, Medical Officer of Health, Urban and Rural, Merthyr Tydfil, said that in 1871 the Local Board of Health of Merthyr Tydfil entrusted to Mr. J. Bailey Denton, C.E., the employment of the best known method of disposing of the sewage from the residences in Merthyr, Dowlais, etc. Mr. Denton advised the adoption of the process of Dr. Edward Frankland, known as the Downward Intermittent Filtration process. A site was chosen at Troedyrhiw, three miles below Merthyr, on the west bank of the Taff River; there on a gravelly soil Mr. Denton formed filtration areas on sections of land, by deep drainage, levelling of surface, and provision of an efficient outlet for the effluent water. Each area or section was flooded with strained sewage for six hours, and allowed to rest, to drain, and to be aërated for eighteen hours. The work was completed in the spring of 1881, and from thenceforth from one to three hundred thousand gallons of the strained liquid has daily been passed over and through the soil of the twenty acres of land so prepared. The surveyor, Mr. Harpur, and the superintendent, Mr. Baltram, concur in stating that the work has been carried on without any injury to health; that the land continues to act as perfectly as at the commencement in clarifying the sewage liquid, that the effluent water is perfectly clear and odourless, that there has been no "clogging" of the soil, no bogginess of the surface, and that during the years 1886 and 1887, the work of the farm has been carried on at a profit. The Board had, previously to the adoption of Mr. Denton's plan, obtained powers to take land situate nine miles from Merthyr for the disposal of sewage by wide irrigation. In 1872 and following years, the surveyor to the Board laid out 262 acres of land, and adapted the surface for this method of disposing of the sewage. The land was regularly drained, by drains cut three feet deep, the sewage allowed to flow along contour lines over the whole surface. The amount during the last four years, which was daily so disposed of, amounted to a million and a quarter gallons. The quantity was the outcome of the excess of sewage not utilised at Troedyrhiw, and the sewage from Merthyr Vale and Treharris, in the valley of the Taff, from Aberdare, Mountain Ash, and Penrhiwceiber in the valley of the Cynon, west of Merthyr. Both the surveyor and superintendant of the farms state that this process is carried on without any detriment to health; and, with regard to returns for labour and *matériel*, that a fair profit has resulted. The total population of the several towns and villages connected with these sewage farms would be not less than 100,000. The total estimated dry weather sewage, 1,350,000 gallons daily, was disposed of on 282 acres of land, prepared by either the filtration or the irrigation method. The crops grown on the lands were, ordinary grass, Italian rye grass, potatoes, cabbages, mangolds, swedes, etc. These vegetable growths were perfectly healthy and sound.

The Disposal of Sewage by Downward Intermittent Filtration.—Dr. William Whitelaw, Medical Officer of Health, Burgh of Kirkintilloch, said: After several years of procrastination, and some litigation in the Court of Session, Edinburgh, and before a Committee of the House of Commons, the Kirkintilloch Sewage Works are drawing near completion. In establishing their case, the Local Health Authority had the able assistance and evidence of Mr. Bailey Denton, and Dr. Littlejohn, Medical Officer of Health, Edinburgh. On May 27th, 1886, the first sod of the new works was cut, and the work has steadily progressed under the supervision of Mr. W. R. Copland, the engineer of the burgh, who has also been the adviser of the Local Authority in the improvement of the burgh water supply. The scheme of sewage purification which is being carried out is that which he recommended in 1876, but the land acquired is at a greater distance. Lenzie and the townhead of Kirkintilloch being situated on a height, it has been found advisable, in order to minimise the cost of pump-

ing, to construct two main outfall sewers, one for the higher parts of the burgh, and another for intercepting the sewage of the low-lying portions. Both reach from different points the filtration beds at Dryfield. The works at Dryfield consist of a storage tank, a distributing and screening tank, and the various channels and conduits connected therewith, and several filtration beds, covering at present an area of nine acres. The storage tank referred to is situated at the end of the low-level sewer, and holds 107,000 gallons. The principal object of the tank is to store the sewage passing down the low-level sewer during night, and in this way to restrict the operation of pumping to the ordinary working hours. With sufficient machinery, the pumping can be limited to two or three hours in the morning and two or three hours in the afternoon, leaving the tank empty to receive the night flow. The machinery at present being provided consists of a nine-horse power "Otto" gas engine, and one of Messrs. Gwynne's No. 5 centrifugal pumps, these being guaranteed to raise 900 gallons per minute to the required elevation. The sewage pumped from the low-level sewer will discharge along with that from the high level or gravitation sewer, into the distributing tank situated at the upper corner of the filtration area. After passing through the screening tank, the sewage will be directed by a number of sluices into the various distributing channels, and by them carried to the filtering beds. These consist of twelve plots of ground, averaging three-fourths of an acre of area in each, there being four plots in the length, and three in the breadth of the ground occupied. Each plot has had its surface brought to a perfect level, and as the ground originally sloped slightly to the river Kelvin, the plots in each division rise in terraces one above the other. The main sewage-carrier is laid along the upper edge of the filtration area, and branch carriers are laid down between each set of plots, provided with valves opposite the end of each, so that the sewage may be run on to the surface of any one or more as required. The whole ground, when finally prepared by spade-work, forms a series of ridges and furrows. The sewage flows along the furrows, which retain solid matter; and a drain laid at a depth of fully six feet is laid along the top of each terrace, to intercept and carry off the effluent. Here the effluent is small and unobjectionable. These subsoil drains lead to a main outfall discharging into the Kelvin. The system of treating sewage by downward filtration has been adopted by several towns in England, but in Scotland Forfar is the only town which has it in operation. The size of the farm at Kirkintilloch is 24 acres, and the population of the burgh is 8,000; but meantime only 9 acres of the land have been laid out for cultivation. A large portion of the remaining 15 acres can be used for purposes of irrigation, and ultimately, as the town increases, will be laid out in the same way as the 9 acres. The main outfall sewers are partly of 18 inches diameter circular fireclay pipes jointed with cement, and partly of 24 inches by 16 inches egg-shaped pipes; while the branch drains are principally of 9-inch pipes, portions being 12 inches and 15 inches in diameter. The main outfall sewers are 6½ miles in length, and the branch sewers 11 miles, the whole being ventilated by vertical shafts and open gratings to the number of 170. It is expected that the whole system of works will be in full operation in the course of six months, and that then another practical test will be made of this method of dealing with town sewage, the disposal of which is one of the most serious problems of the day.

Dr. LITTLEJOHN gave a description of the disposal of the Edinburgh sewage, and he pointed out both the northern and southern watersheds had been drained into iron pipes and the sewage carried out to sea, while the old town had for the last two hundred years disposed of its slop water, and ultimately of its sewage, on a sandy waste now well known to sanitarians as the Craigentinny Meadows. This sewage farm was so well managed financially, as frequently to have a revenue of £40 per acre, but at the same time was laid out in a most imperfect manner, and in the hot months became a source of nuisance from the bad odours. Such complaints could easily be removed by a little attention to the manner of disposal of the sewage. These meadows had no injurious effect on the health of the sparse population living amid the meadows, or of the nearest population of Edinburgh. He could not but regret that so much valuable manurial matter was cast into the sea when the evidence as given by previous speakers was so strong of the advantages to be gained from the direct application of the sewage to the land.—Dr. N. S. DAVIS (Chicago, U.S.A.) said Chicago had made investigations to carry the sewage of 750,000 inhabitants through canals into the Illinois River and thence into the Mississippi River. Several years since the city spent 3,000,000 dollars to deepen the Illinois and Michigan Canal to carry the sewage into Illinois River; but it was found to accomplish the work very imperfectly, while it so contaminated the river water that fish perished, and the inhabitants complained more or less for 100 to 150 miles distant in the central part of the State. Yet at times much of the sewage was washed into the lake, and contaminated the water which forms the drinking supply of the city. In order to get over the difficulty the city had tunnelled for three miles under the lake to take the water from a part of the lake still uncontaminated. All the inquiries were still being directed to methods of disposal into the rivers and watercourses which Dr. Davis did not believe safe. The only reliable method, in his opinion, was to return the manurial matters back to the soil. One suburban town called Pullman, owned by Mr. Pullman, of sleeping-car fame, disposed of its sewage by irrigation. It was carried out three miles before being applied to the soil. This experiment of Mr. Pullman had been quite successful. Dr. Davis advocated that all the sewage of the large American cities should be disposed of on the available lands to be found within from ten to forty miles of their borders.—Lieutenant-Colonel ALFRED S. JONES, C.E., expressed his pleasure in hearing the President's paper regarding Edinburgh, as he (Colonel Jones) had been appealing to the Craigentinny Meadows for the last twenty years as the parent of sewage farming. He quoted the case of Wrexham, a town of 12,000 population, which had utilised its sewage, for the last sixteen years within half a mile of town. He had been tenant of the farm with obligation of purifying the sewage and gained the £100 prize offered by the Royal Agricultural Society of England for the best managed sewage farm in 1879. All his accounts for seven years were published in the Journal of that Society. Wrexham was now so satisfied with the sanitary results of sixteen years' irrigation at its gates, that it was not afraid to purchase 200 acres two miles lower down the brook which led the effluent into the River Dee, from which the city of Chester takes its water-supply. He stated the rent, rates, and taxes over his farm as £5 per acre, whereas without the sewage the land ought not to be charged with more than £2 10s. or £3 at most, which would give a satisfactory result on the sixteen years' working.—Mr. W. R. W. SMITH (Glasgow) said that the disposal of sewage was quite possible, and that that disposal must be arranged by the various local authorities either in precipitation or irrigation, and, such being so, that all local authorities, who had power to bring in clean water, should be compelled to take away the water after being dirtied.—Dr. BATEMAN (Norwich) said that of all the questions discussed in that congress, none were more important than the disposal of sewage, and that it was a lamentable fact that in the broad daylight of the nineteenth century, we were still in the dark as to the best means of meeting the difficulty. He then proceeded to give a brief account of the sewage arrangement at Norwich, carried on at an enormous expense, and which had proved a gigantic failure, owing, in a great measure, to hydraulic difficulties. He considered irrigation as the best system, but emphasised the importance of avoiding any possibility of a mistake as to the choice of a site.

A Minister of Public Health.—Under this head Mr. BRINDLEY JAMES raised a question of not only medical but political importance. Enlarging on a subject he had already expounded on a previous occasion—the admirable hospital organisation under State auspices which for generations had worked so well in France, and also on a no less praiseworthy system of affording practical immediate relief in surgical casualties which the ingenuity of our transatlantic cousins had devised—he proceeded to show how a combination of these two excellent systems, supplemented by later suggestions and practical additions, which the no less inventive genius of our own countrymen could fully supply, might be adopted in the United Kingdom on a scale important enough to lead Government and public alike to view the appointment of a Minister of Public Health as of no less advantage than that of other time-honoured seats in the Cabinet.

On the Advantages of a Joint Annual Report by the different Hospitals in Scotland. By WILLIAM BRUCE, M.D.—1. Individual hospital reports are at present very little studied. Joint reports might command more attention from medical men and the public generally. 2. The opportunity of comparing the statistics of various operations; the prevalence of endemic diseases of a slighter kind; peculiarities of local disease, etc. 3. Comparison

of cost of beds occupied, sources of revenue, etc. 4. Involves no additional expense if one or two hospital superintendents take the matter up. All really required for co-operation are: similar periods, say, from January 1st to December 31st, similar tables, and then each report printed in similar style for uniform binding.

On some Researches in the Homes of Hospital Patients and of Holiday Children. By T. CHURTON, M.D., Physician to the Leeds General Infirmary; Lecturer on Medicine in the Yorkshire College.—The author suggested that the houses in which hospital patients dwelt should be reported to, and inspected by, the sanitary officers in all cases in which any doubt existed, from the nature of the diseases which had occurred in them or otherwise, as to their proper and perfect sanitary state. The proposition was a practicable one, and was, in fact, already being partially carried into effect as an experiment at Leeds; a list of cases being sent weekly to the sanitary officials of the borough, who had kindly given ready assistance. It was clearly absurd to send people back after they were cured to the very same conditions which had first made them ill. The author had recently examined the houses of twenty-six delicate children who had been sent into the country by the Leeds Children's Holiday Society; there were defective internal drains in seven of these; in six cases the ill health was attributed, and as it seemed justly, to offensive ash-pits or external gullies; in the remaining thirteen children, hereditary constitutional defects or accidental circumstances were the causes. In one of the first class of cases, a child who had been very weak and pallid was restored in an extraordinary degree by three weeks in the country, but in ten days after her return was again listless and pale; the sink-drain of the house was found to be entirely destitute of a trap of any kind, the main sewer being "ventilated" into the room. Hence the holiday was practically useless; the money was thrown away; the child's life was again threatened, and another addition was made to the already excessive number of hospital patients. On the other hand, out of a carefully noted series of twenty-nine cottage-houses examined by him five years ago, in which typhoid fever, empyema, etc., had occurred, and revisited recently, it was found that there had since been no illness whatever in twenty-one, which had then been perfectly drained. In one of the remaining eight houses there had been a case of diarrhœa, which persisted for several weeks, but ceased upon the discovery and repair of a new fault in the drain; in two houses the drainage had been improved, but not made perfect, and in one of these houses there were cases of anæmia; in the other, of bronchitis; in four the faults had remained or recurred, causing anæmia and listlessness (especially marked in children, who showed no vivacity nor curiosity); one house was empty and no information could be got about it. Dr. George Johnson had clinically shown that nephritis was often due to drain-poisons, a conclusion for which we had been prepared by the chemical and micro-pathological researches of many observers. The author had almost always found defective drains in houses where children had empyema, also in many where lighter diseases existed—dyspepsia, chlorosis, etc. It had formerly been useless to rely upon the answers of hospital patients with respect to their drainage, but lately knowledge had spread among them. The author had somewhat closely investigated this subject during ten years, and he thought it probable that in many towns defects in or about their houses—remediable defects—still caused, or had a share in causing, a considerable proportion (one-fourth to one-third) of the diseases of hospital medical patients; and if this were so we could diminish the existing strain upon the medical departments by methodically calling in the aid of the sanitary inspectors.—Dr. SUTHERLAND said the value of Dr. Bruce's paper could not be overestimated. He understood that it was his desire that all hospital reports should contain information that would be of value and interest to the profession and the public. He quite agreed with the conclusions of the paper, as he had recently waded through more than a hundred hospital reports, to find that many of them contained little information that was of the least value. The main object of them seemed to be to give the names of subscribers, and as little information regarding the medical work done as possible. The public wished to know something about the number admitted, delayed, or rejected. There was no reason he could think of why hospital reports should not, like our Blue Books, be published at the same time every year, giving information of some interest to the general public and the profession. Regarding such public institutions, there should be the fullest information, and, with that in view, he thought Dr. Bruce, who now held a representative position on the General Medical Council, might be able to do something to get the views he had expressed carried into effect. Hospital Committees would, he thought, appreciate any suggestions made by such a body of men, not to speak of this Association itself, which might also take action in the matter.—Dr. WALKER (St. Leonard's-on-Sea) said the importance of the systematic collection of hospital statistics could not be exaggerated. As an illustration, on having to edit for some years the annual report on the health of the Wandsworth district, near London, he found that the reports of the other parishes were so varied and complicated that they were useless as a means of comparison. Taking the Registrar-General's Report as a basis, he constructed a series of tables which could be compared with any report founded on the same basis. These were adopted afterwards by some other parishes. If some standard report were thus selected of hospital statistics, all other reports might be founded upon it, so that the information would be available for comparative purposes. In reference to the question of sanitary inspection of all houses from which infectious diseases had been removed, it was obviously a neglect of sanitary duty not to do so. Disinfection was not a satisfactory process without remedying the cause of the evil, namely, sanitary defects. In only one disease—diphtheria—did they find an absence of sanitary defects in some cases. In an epidemic of that disease he found many cases occurred in the best houses of the district, but in these cases he traced the disease to the milk supply.

Communicable Diseases of Men and Animals and their Relationships.—Principal WALLEY (Edinburgh) said he thought all present would agree with him that it was always a great disadvantage to be called upon to open the discussion on an important subject; but, looking at the position in which the meeting was placed, he had great pleasure in complying with the request of the President, though he must claim their indulgence if, under the circumstances, he failed to perform the duty so suddenly imposed upon him in a satisfactory manner. The subject under consideration was, he held, one of the most important that at the present time claimed the attention of sanitarians, whether medical or veterinary, and it was one which ought to be considered conjointly by both branches of the profession of medicine. It might not be known to many present that, up to within a very few years, the only diseases that were scheduled as contagious diseases were pleuro-pneumonia, cattle plague, foot and mouth disease, and glanders. He, Professor Walley, had on several occasions urged that not only should swine fever and sheep scab be added to the list, but that those diseases known to be transmissible to man, namely, anthrax, rabies, and tuberculosis should be scheduled also, and he had succeeded in obtaining the passing of a resolution to that effect several years ago at a large meeting of veterinary surgeons. Of the three diseases mentioned he might place anthrax, in some respects at least, in the fore-front in point of virulence. Anthrax had been scheduled as a contagious disease, and so had ceased to occupy debateable ground, and the same might be said of rabies, though, unfortunately, the regulations applicable to this malady were to some extent nugatory, by virtue of their being of a partially permissive character, and not uniformly carried out throughout the whole of the kingdom. In 1881, a terrible outbreak of this disease occurred in Edinburgh, and he might observe that this was the first time he had seen rabies in Scotland, though he had had to deal with it in Lancashire, Cheshire, and Derbyshire. During the outbreak alluded to, seventy cases in dogs and two in horses had come under his personal observation, and at the commencement of the epidemic he advised the magistrates to take immediate steps for its suppression; but, for reasons which he need not enter into, the advice was not followed until the disease had gained a firm footing, and not until two human lives had been sacrificed. In three months afterwards regulations were put in force. The outbreak was stamped out of existence, and he ventured to assert that if the same vigorous measures were adopted universally, the country would be clear of the malady in from six to twelve months. In reference to tuberculosis, it would be as well that he should explain his position in the matter. In 1872, he read a paper on the subject in that very city. In 1879, he wrote on the disease in a book entitled the *Four Bovine Scourges*. Since that time he had, with other members of his profession, frequently drawn attention to the dangerous nature of the disease, and had urged that it should be dealt with as a contagious malady. He might say that up to the discovery of the tubercle bacilli by Koch the relative position of tuberculosis was not defined; but, person-

ally, he had never, at least since he gave his attention to the subject, entertained the slightest doubt as to the nature of the malady, and before 1872 he had considered it as a specific disease. There was, in his opinion, no disease that claimed more earnest attention than this, as it was greatly on the increase, both in cattle and in poultry, and thousands upon thousands of the latter were yearly sacrificed to this fell malady, and what was rather remarkable was the rapidity with which, in view of their high temperature, it ran its course in birds. A few weeks ago he had occasion to superintend the slaughter of nine cows from a byre in Edinburgh, in which pleuro-pneumonia had broken out, and out of the nine there were five affected with tuberculosis, two of them being as bad cases as he had ever seen; on a more recent occasion he had to slaughter another lot of dairy cows, and the result was, he said, proportionally the same. The disease was propagated in a variety of ways—by ingestion, by inhalation, and by inoculation—and there were good grounds for believing that it might be propagated by the medium of the eggs of poultry. Several years ago he had publicly directed attention to a case in which the malady made its appearance in a poultry yard near Edinburgh, under such conditions as to point undoubtedly to its origin through the medium of eggs. Only a few weeks ago—and he might say, indeed, at the time he read a paper on the subject at a meeting of the Sanitary Association in that city—several chickens were sent to him by Mr. B. Freer, M.R.C.V.S., of Uppingham; these chickens were about three weeks old, and everyone of them presented the macroscopical characters of hepatic tuberculosis; but, in order to render his opinion more certain, he asked his colleague, Professor MacFadyean, to make a microscopical examination of the organs, and the result was confirmatory of his own conclusions.[1] In reference to the communicability of the disease from animals to man, while they did not possess such positive or direct proof as they would like, there was a vast amount of indirect proof available on the point. In 1871, when he (Professor Walley) first went to Edinburgh, he lost a child from mesenteric tuberculosis, under such conditions as to point to the milk as the source of contamination; within the past few years, one of the officials of the Veterinary Department of the Privy Council had lost a child, also in a similar manner, and, had Dr. Fleming been present, he would doubtless have related several similar instances to them. Probably they were all acquainted with the disease from which numbers of surgeons had suffered, and from which he himself suffered, known as pathologist's wart, and that the disease was generally thought to be due to an irritant introduced into the tissues by accident in making *post-mortem* examinations. It was now generally understood that this disease was of a tuberculous nature, and in his own case the originating wound was produced while in the act of dissecting the tuberculous mediastinal glands of a heifer; he supposed that a microscopical examination of the tissues would settle the matter one way or the other. The practical question which in his view should be considered by this and similar bodies was its legislative aspect; and he thought that before that meeting came to a close, some expression of opinion should be forthcoming on this point. As matters were at present, they were in this position, that neither veterinary or any other inspectors were empowered to deal with live animals manifestly suffering from the disease either in byres, fairs, or markets. There was absolutely no legislative power given to them; they were helpless in the matter. Some time ago, Dr. Littlejohn urged upon the magistrates of Edinburgh the advisability of applying for an extension of the Nuisances Removal (England) Act Amendment to Scotland, by which, he said, medical officers of health and inspectors of nuisances were empowered to seize diseased animals when exposed for sale. He (Professor Walley) ventured at the time to express a doubt in reference to the working of this clause; and he had found, by subsequent inquiry, that in some of the more important cities and towns of England the Act was never taken advantage of; and he would ask the gentlemen present if they considered that medical officers of health and inspectors of nuisances were the proper persons to exercise such a function? (An emphatic No! from the President and nearly all those present). Again, their President had also stated that the Greenock authorities possessed the power, under a clause in a local Bill, to seize tuberculous animals. This assertion, he (Professor Walley) also ventured to dispute, on the ground that it was not likely that the Legislature would give such a power to a local body, when the Privy Council itself did not exercise such a right, and seeing, also, that the disease was not scheduled as a contagious disease; he found, on inquiry, that he was justified in the position he had taken up, and that the Greenock authorities were as powerless as any other local body in reference to the matter. Tuberculosis, he thought, was one of the greatest pests of man, as it was of animals, and he had no hesitation in saying that more animals died from this malady than from all the other zymotic diseases put together, and, looking at the great danger that existed of its transmission to man, he thought that this and kindred bodies should do all in their power to strengthen the hands of the Legislature in initiating suppressive legislation. In the paper read by him at a meeting of the Medico-Chirurgical Society in Edinburgh, in February last, he urged upon the meeting the advisability of providing for a more thorough and scientific system of inspection at our slaughter-houses, of memorialising the Government to include the disease amongst the contagious diseases of animals, thus giving veterinary inspectors the power of seizing all tuberculous cows, or even suspected animals exposed in markets or fairs, or kept in byres for milking purposes; and also the consideration of the advisability or otherwise of condemning the flesh of animals affected with tuberculosis. It was a matter of satisfaction to him to find that the Department Committee in their recent report had arrived at conclusions on these varying points identical with his expressed opinions, though he was not personally asked to give his views before the Commission. The President had just asked him to propose, if he approved of its terms, a resolution. He did approve of its terms, and had great pleasure in proposing it, and in doing so he would just observe that the magistrates of Edinburgh were acting on his advice, probably the first public body to take charge of tuberculous cows exposed in open market, or kept in byres for milking purposes, of having them slaughtered and of granting compensation.—Dr. FARQUHARSON, M.P., had much pleasure in seconding the resolution. After the recent lectures by Dr. Sims Woodhead and the able speech of Principal Walley, it seemed certain that the bacillus of bovine and human tuberculosis were identical, that it could be transmitted through the milk from tuberculous udders, and that evidence went far to show the probability of its communicability to man. Under these alarming circumstances, he held that it was the duty of the Government to deal seriously with the subject, with a view of including tuberculosis among the diseases scheduled under the Contagious Diseases (Animals) Act. Mr. Ritchie had recently assured him, in reply to a question, that this was now under the consideration of his Department, and the expression of opinion from such a representative meeting could not fail to strengthen the hands of the Local Government Board.—Professor EDGAR CROOKSHANK pointed out that it had been known from the earliest times that certain diseases of the lower animals were communicable to man. In later years it had been shown that certain diseases, such as tuberculosis, were communicable to the lower animals; but, with the exception of hydrophobia, insufficient attention had been paid to the diseases common to man and animals. Jenner was the first to draw attention to the diseases of the cow's udder. In his inquiry on cow-pox, Jenner led the way to the study of these diseases. Professor Crookshank remarked that the diseases under discussion might be divided, in the present state of our knowledge, into three classes. In the first might be placed such diseases as cow-pox, foot-and-mouth disease, anthrax, and glanders, which never occurred in man independently of the disease in the lower animal. In the next class might be placed tuberculosis and actinomycosis, which possibly were communicated from the cow. The discussion on these diseases was fully entered into, and Professor Crookshank referred to his papers read the day before in the Pathological Section. The third class included those cases—small-pox, scarlet fever, diphtheria—alleged to arise from the lower animal; but the evidence at present amounted almost to disproof. Professor Crookshank said he had heard it stated that the origin of the specific poison of human infectious fevers which had been brought forward in the now famous Hendon inquiry was a new and startling theory. It was startling, but by no means new. The Arabians believed that small-pox originated from a disease of the camel, while Jenner had advocated the theory that it arose from the grease; while his pupil, Henry Jenner, maintained that the cow-pox was the small-pox in its original unadulterated state.

[1] On looking over the report of the Departmental Committee (only that very morning) he found a statement quoted there which was strongly confirmatory of the views he had expressed; the statement was to the effect that Baumgarten had found the bacilli in the ovum of a rabbit, and that other observers had frequently seen the bacilli mingled with active spermatozoa.

These theories were abandoned for a time, until the theory arose of the origin of scarlatina from the horse. This had been shown to be erroneous, but recently the origin of scarlatina from the lower animals had been revived in the Reports of the Local Government Board. Professor Crookshank undertook to say that, if the facts which had been brought to light by the investigation of other observers, which would shortly be published, had been known to Mr. Power and Dr. Klein, the theory of scarlatina in the cow would not have been brought forward. Professor Crookshank insisted on the necessity for these investigations being approached in an impartial spirit. The conflicting opinions as to the relation of cow-pox to small-pox were also referred to, and the necessity for further research to settle the disputed points.—Dr. J. B. Buist (Edinburgh) said that Professor Crookshank had referred to the relation between cow-pox and small-pox. Dr. Fleming, who should have opened this discussion, had devoted great attention to the relations existing between human and animal variolæ in a series of papers published in the *Lancet* in 1880, and he thought that they were specifically different, because small-pox virus could not communicate cow-pox to either the cow or the horse. He thought that the decision of this question of identity would be best settled by the study of the natural infective materials and their effects. If this was difficult in such cases as small-pox and cow-pox, where the infective materials have definite effects, it was much more difficult in cases such as scarlatina, where both the nature of the infective material and its effects were indefinite. Infective materials in any disease were of two kinds—natural and cultivated, and the effects of these were very different. While in cow-pox and variola the natural materials produced local as well as constitutional effects, cultivated materials produced no local effects but eruptions. This was seen in calves and monkeys, cultivated variola producing an eruption in the latter on the fifth day, or in half the time required by the natural material. The true bacteric form of the infective material in vaccinia and variola was, in his opinion, embryonic. Where the infective materials were composed of bacilli, as in anthrax and tubercle, it was comparatively easy to trace disease from animal to man; but, where their form was very minute and indefinite, it was much more difficult. In illustration of this, he referred to the opposing views of Dr. Klein and Professor Crookshank with regard to the Hendon cow disease and the Wiltshire cow-disease. He did not think that in either case was the source of the material used for pure cultivation free from objection, because the material was derived from the discharge and tissue of the ulcers, instead of from the early crusts, in which the infective material of both cow diseases would most certainly have been found. No definite conclusions could, therefore, be come to as to the specific nature of the cultivated infective materials in either.—Dr. Edward Seaton (St. Thomas's Hospital) said the previous speakers had been authorities on the pathological evidence respecting the connection of the diseases mentioned with the existence of disease of animals, but he would confine himself to the question of the direct evidence of the communicability of tuberculosis and scarlet fever by means of the milk of diseased animals. He agreed with Professor Crookshank that very little evidence was as yet forthcoming to connect the occurrence of tubercular disease among human beings with its presence in the system of the cow, though he believed there were some cases which showed that persons had been infected by milk of cows when udders were diseased. But though he agreed with Professor Crookshank thus far, he disagreed strongly with what fell from him with reference to scarlet fever. He (the speaker) considered that there was a very important and increasing body of evidence which connected the presence of scarlet fever with the existence of a disease of the udder of the cow. In the famous case of the North London epidemic in 1885, the evidence showed most conclusively the absence of any source of human contamination of the milk-supply. This was the essential point. Mr. Power's evidence was most clear and reliable upon this point. Dr. James Cameron, the medical officer of health for the Hendon District, had furnished independent testimony to the same effect. The criticism of these reports had been of a flippant kind. Professor Axe had alleged, in a report published last year, that there were possible sources of infection which had been overlooked. He gave the case of some men who came to the farm from a distance, and who, he supposed, might have infected the milk, though there was no evidence of their being in an infectious state, beyond the fact that they came from a village where scarlet fever existed. But it would be remembered that in order to explain the occurrence of the epidemic in this way, it was necessary to assume not only that these men were in an infectious state, but also that they infected only a particular section of the milk-supply, namely, that of the diseased cows, and that continuously. Since Mr. Power's report, there had been several scarlet fever milk epidemics which had been investigated by medical officers of health. These epidemics could be arranged in three groups. 1. Cases in which, as at Newcastle, there was, in the opinion of the medical officers of health, a possible source of human infection. 2. Cases in which a reliable and skilful medical officer of health was wholly unable to find any source of human infection, and in which no inquiry was made into the condition of the cows. 3. Cases in which there was no discoverable source of human infection, but in which an inquiry was made into the health of the cows, and in which an affection of the udder was found. Dr. Russell, the eminent medical officer of health for that city, had, a short while ago, a case of this latter kind under his notice, and his independent testimony would be regarded by all as of the greatest value.—Mr. Edington (Edinburgh) said he would like to allude to a matter to which reference was made by Dr. Farquharson. He made mention of the fact that scarlet fever had been shown to be due to infection derived from animals. He (Mr. Edington) did not believe that there was evidence, either pathological or from the public health point of view, sufficient to prove this. He himself some time ago made a pretty wide research into the nature of the contagium of scarlet fever, and he therein brought forward certain evidence to show that there was another organism to be found other than Dr. Klein's in connection with the disease in question. The Medico-Chirurgical Society of Edinburgh did him the honour to appoint a committee to inquire into his statements, and they showed that in their opinion another and casual organism described by him was identical with that described by Dr. Klein, and he would simply say that if this were true, then he had found the same organism in variolous and vaccinious lymph; not that he meant to assert that this organism had anything specifically to do with the latter disease, but probably occurring only as skin organisms growing in a condition suited for their growth. So much for evidence antagonistic to Dr. Klein's organism, but he had also to show evidence in favour of his own. He might just refer them to a letter, previously published, from Professor Roshwell Park, of Buffalo, N.Y., and he would add to this corroborative evidence that of a letter from Dr. Stickler, New Jersey, who had not only found his bacilli in scarlatina blood before the third day but had inoculated animals with the same result as himself. With regard to tuberculous material he did not feel inclined to make any allusion, as he considered the evidence brought forward by his friend and co-lecturer, Dr. Woodhead, to be almost conclusive.—Dr. Henry Tomkins (Leicester) alluded to an outbreak of anthrax occurring near Leicester, from which several persons were infected—one fatally by handling the flesh, which had been prepared for meat for use as human food. From representations made to the Privy Council on this outbreak the disease was placed amongst the contagious diseases of animals, to be reported, etc. He pointed out that the two most important diseases which at the present time were supposed to be transmissible from animals to man (important so far as prevalence in the human subject was concerned) were scarlatina and tuberculosis, but that on both these, strong as the presumptive evidence was, absolute proof was wanting and direct experimental investigation urgently required to settle the question. He expressed the opinion that the time had arrived when work of that character, affecting the health of the community at large, should be undertaken under the supreme health authority of the country, not left to individual and voluntary workers only.—Dr. Alfred Carpenter, with reference to communicable diseases, wished to make two observations. First, as to the tuberculosis, it had been his duty to hear evidence brought before him when an application was made for the condemnation of certain tuberculous carcasses, that if such meat was prohibited it would be impossible to feed such populations as London. This evidence was given by one of the principal inspectors of the largest meat market in London. This evidence was very staggering, for the inspector stated that sometimes as much as 80 per cent of the meat exhibited for sale was so affected. The second point he wished to draw attention to was the difficulty of getting upon the real causes which led to the spread of scarlatina. Dr. Carpenter then detailed the particulars of an outbreak which he had investigated, in which those children only who attended a particular school became affected, although the school had been

closed for several weeks. The disease did not spread to other children though living in the same house, unless those children had been to the school in question. This immunity was proved to have arisen from the fact that no house in that district had any direct connection with the sewer except the school-house, and those children only who had inhaled the air of the school-room were liable to take on the disease.—Professor McFadyean (Edinburgh) said that the diseases of animals communicable to man might be roughly but conveniently divided into two groups; namely, (1) those caused by macro-parasites or animal parasites, and (2) those due to micro or vegetable organisms. The former class had in the discussion been put aside. Their knowledge of the life-history of the chief parasites that might in different stages be harboured in the bodies of men and animals was tolerably full, but he feared that neither medical men nor veterinary surgeons (not to speak of the general public) in all cases acted up to that knowledge. Passing to the second class, he said that while he agreed with Professor Walley that in one sense anthrax occupied the first place in the group, it was strange that cases of its transmission to man as a result of the infection of anthrax flesh appeared to be very rare. He had not himself been able to learn of such a case, notwithstanding that very commonly animals dying from the disease were used for food before the cause of death was ascertained. He had recently ascertained the particulars of two outbreaks, in one of which a cow, and in the other a cow and a number of sheep, had been sold for food, and yet, as far as could be ascertained, no bad results followed. With reference to the scarlatina controversy, he strongly demurred to the statement of a previous speaker, that it must be taken as established that there was a disease of the cow capable of exciting scarlatina in human beings. They were not bound to admit that there could not have been a human source of contagion because a medical officer of admitted ability and integrity had failed to find it. For example, in the case of a recent epidemic in Newcastle, Dr. Armstrong (whose ability and integrity no one would deny) was unable to trace a connection between the milk and a source of human contamination, and he found that the cows themselves were above suspicion. Now, if in this case there was not a source of human contamination of the milk (which Dr. Armstrong could not trace), they were forced to conclude either that there was a spontaneous generation of scarlatina, or that cows could suffer from scarlatina and yet exhibit no trace of disturbed health. With reference to tubercle, he considered it had been proved that the human and the bovine diseases were caused by the same bacillus. His own experience enabled him to affirm that bovine tuberculosis was very common, though he did not believe that the proportion was anything approaching 50 per cent., as some of the previous speakers had said. But, admitting these points, it still remained to inquire whether human tuberculosis was often excited by the ingestion of tubercular flesh. He thought that only a very small proportion of cases had that origin, for he believed that abdominal tuberculosis was comparatively rare in human adults, and yet in feeding experiments on the lower animals, the abdominal viscera were almost invariably affected in some degree.—Dr. McVail wished to refer to one point regarding the criticisms to which the report of Drs. Power and Klein had been subjected. It had been insisted on, over and over again, that at Hendon there might have been a human source of infection of the milk. But in adopting this view, it was necessary to assume that this human infection had been a continuous infection, extending over four or five weeks. Now it was difficult to suppose that an infective cause, acting over so long a period, should not have been discovered. The report by Professors Brown and Axe had its value very much interfered with by the fact that Professor Axe's observations of the Hendon disease must have been made several months after the vesicular stage of the disease, when only scars, or possibly some remnant of crusts, could remain for examination. Looking to the various eruptions to which the teats and udders of cows were admittedly subject, and to the difficulty there was in differentiating some of these eruptions even in their most distinctive stages, it seemed that, so far as the report in question depended on these observations, it was unsafe to attach great importance to it.—In winding up the discussion, Principal Walley claimed the privilege of making one or two observations. He said it appeared to him that a wrong conclusion had been drawn from the statements he had made as to the number of cases of tuberculosis occurring in two lots of slaughtered cattle. The animals to which he had referred were mostly old cows, and had been in the byres for some time; he could take them to the abattoir at any time and show them hundreds of carcasses in which no traces of tubercle could be found, and on the contrary, he might take them there to-morrow and show them four or five tuberculous carcasses in one booth—he protested against the statements that so high a percentage as 80 or even 50 per cent. was ever met with. He further said that, in his opinion there should be no question as to the compulsory notification of disease existing in cows in a byre—the duty of so reporting should be laid on every owner of cows. As to the transmissibility of scarlet fever from animals to man, he asked those present if they had ever succeeded in transmitting it from man to the cow; if they had not it was little less than nonsense to argue the other way, and so far as he was personally concerned, he had only to say that in all his experience he had met with no disease in the cow which was at all analogous to the scarlet fever of man.

It was proposed by Principal Walley (Edinburgh), seconded by Dr. Farquharson, M.P., and carried unanimously:

"That the Public Health Section of the British Medical Association approves of the action of the Government in inquiry by Commission into the relationships of bovine and human tuberculosis, and urges that, as soon as possible, such measures be taken as the Report of the Commission may show to be advisable. That copies of this resolution be forwarded to the Prime Minister and the President of the Local Government Board, the Secretary for Scotland, and the Lord Advocate."

The Association of Typhoid Fever with an Infective Fever among Cows.—Mr. William Brown, F.R.C.S., Medical Officer of Health, Carlisle, described an outbreak which took place in Carlisle towards the close of the year 1886, and the first five months and a half of 1887. He said: From the fact that no outbreak of typhoid fever in Carlisle, where milk was ascertained to be the vehicle of infection, has ever been recorded, and as the mode of entrance of the specific poison into the milk in the Carlisle outbreak was, in his opinion, different from that described as having taken place in the well-known milk epidemic in England, and, moreover, as the circumstances under which the disease originated at the dairy were peculiar and important, he was induced to bring before the Public Medicine Section of the British Medical Association the details of an outbreak which, happily, as regards its extent and fatality, was insignificant. The locality of Carlisle where the outbreak occurred is situated in a part of the Caldew Valley, which crosses the city from south to north. The geological formation of this portion of the Caldew Valley consists of a considerable depth of alluvial gravel, with drift gravel upon the adjoining rising ground. The underlying rock of the district is the new red sandstone. The district is naturally well drained. The house property, streets, and sewerage were in excellent condition. The excreta disposal of this part of the city is almost exclusively by water-closets, there being only three privies in the whole invaded area, of 56½ acres in extent. The inhabitants are supplied with water on the constant system from the River Eden, which has furnished a pure and abundant supply for many years. The typhoid prevalence of the area had been, for many years previous to the outbreak, small in amount. From March 2nd of last year, the date on which a death from typhoid fever took place at a dairy and milk shop in the district, to May 15th, a period of nearly ten weeks, altogether twenty cases of typhoid fever were brought under notice, and through careful inquiry it was ascertained that, with one doubtful exception, all the affected individuals had derived their milk-supply from the infected dairy, and had partaken of the milk in such manner and at such times as were consistent with the theory of their having derived their infection from polluted milk. There were at least three cases of typhoid fever at the dairy, two of which died, and two doubtful cases of that disease. Apart from the typical cases of typhoid fever in the area, there were about a dozen cases of illness, all in women and children, who had been partaking of the infected milk, presenting symptoms like those of typhoid fever during the first week of that disease; these cases recovered from the febrile symptoms in about a week, but in some of them pallor and great bodily feebleness followed the termination of the febrile symptoms. The water-supply of the dairy was carefully examined in the middle of June, and the conditions were such as to preclude all possibility of the water being contaminated with typhoid poison. As soon as it was known that the infection from this dairy was being carried by the milk, the last case of typhoid fever at the dairy was removed to the Carlisle Fever Hospital, the dairyman and his family made to vacate the house,

which he and his family occupied, and remove into a neighbouring street, and the cows were moved into another byre some little distance away. In the case of the Islington milk epidemic, and the Armley milk epidemic, near Leeds, both of which were investigated by Dr. Ballard, and also in the case of the extensive milk epidemic at St. Marylebone, inquired into by Mr. Netten Radcliffe and Mr. Power, water contaminated by the typhoid poison, and used either for the purpose of diluting the milk or washing the milk utensils, was regarded as the source from which the milk derived its specific infection. The water in use at the Carlisle dairy being free from typhoid poison, the infection must have been conveyed to the milk in a different manner from that which was supposed to have occurred in the milk epidemics above mentioned. Presupposing the typhoid poison with which the milk became contaminated had its source in the sick inmates, several modes through which milk infection may have taken place at this dairy present themselves as highly probable. Thus, for example, the milk may have received its infection from the air of the small house where the cases were nursed, and the milk practically stored; or from the hands or clothes of the milkers, who performed the double duty of nursing the patients and milking the cows. With regard to the source of typhoid fever at the dairy, there was no history of imported infection, and no antecedent case of typhoid in the immediate neighbourhood could be traced. It was ascertained, however, that a febrile disorder, having a very striking resemblance in its symptoms to human typhoid, had existed among the cows at the dairy on several occasions during the four years preceding the outbreak of typhoid fever among the inmates; and the last case of febrile disorder among the cows was present about the beginning of March, 1887. A few years ago, Mr. Henry Lawrence, in a paper on the Genesis of Typhoid Fever, gave his experience of typhoid fever in South Africa during a period of thirty years, and went far to prove there was an intimate connection between typhoid fever and the presence of the manure of horned cattle. Dr. F. Allen, medical adviser to the Corporation of Pietermaritzburg, has recently endeavoured to establish a connection between the incidence of typhoid fever among the inhabitants of farms and a specific enteritis among young calves, and has demonstrated by *post-mortem* examination of the diseased calves that the diseased appearances are almost identical with those shown in cases of typhoid fever in the human subject. Mr. Brown found that in Carlisle typhoid fever was very fatal, and persistently lingered in the immediate vicinity of slaughter-houses, cowsheds, and places where tripe and entrails were dressed. During a period of three and a half years, forty cases of typhoid fever occurred in such places, ten of which died, or about four times the ordinary rate of fatality from typhoid fever. The assumption that the disease from which the cows suffered was typhoid fever in the cow, communicable to man, would serve to explain the mode of origin of many of those cases of typhoid fever in the human subject, which some eminent medical authorities consider to be *de novo* cases of the disease.

Sheffield and Leicester Compared in their Relation to Vaccination and Consequent Small-pox Prevalence.—Surgeon-Major PRINGLE drew attention to the fact that the two towns afforded an instance of the value of a generally-admitted very great discovery, boldly challenged, by the results witnessed among a community who pride themselves on their persistent and systematic rejection of it, and who complacently point to another community whose cordial acceptance of the discovery has been followed by consequences which apparently only tend to strengthen and confirm the opposition of the objectors. The remarkable exemption of Leicester from small-pox prevalence was stated to be due mainly to isolation of a character perfectly unique, the late cases of small-pox being imported ones; it was not a question of sanitation, but pure isolation. It was shown that this unique system of isolation was strictly confined to small-pox, with the view undoubtedly of keeping out the vaccinator, but as it was never properly practised in the case of scarlet fever this municipality was often placed in the most critical situations, owing to the spread of this disease. The rigid isolation practised in small-pox was purely of a moral and voluntary, not a legal and compulsory, character, on the principle that small-pox was "a dirt disease," and the only way to keep it out was to practise sanitation and isolation and utterly to reject vaccination. Dr. Pringle, in combating this, stated that no amount of insanitation, unless it harboured the virus of small-pox, could possibly produce small-pox, and instanced from his personal observation and experience two cases—one in which insanitation of the most repulsive kind produced the true bubonic plaque with great fatality, but where small-pox was then practically unknown, and the other, the district of Meerut in the North-West Provinces of India, with its population of over 1,300,000, which enjoyed a most remarkable immunity from small-pox during a period of appalling small-pox prevalence, and was yet, owing to a system of unscientific inundation, falsely called irrigation, the most insanitary, and had been made one of the most unhealthy, districts in India. It was further pointed out that this rejection of vaccination in Leicester seriously handicapped all those who went into the world from this town in search of labour, for they must pass through and reside in districts where the unique system of isolation, under which they had been reared as a substitute for vaccination, was unknown, and they could not, in their unprotected state as regards small-pox, be allowed to risk the health of others. Dr. Pringle remarked that Leicester seemed indifferent to warnings, but he hoped the lessons gathered from the scarlet fever outbreaks would be laid to heart, especially those connected with their trade (woollen), as was clearly demonstrated during the last outbreak of scarlet fever, since, in the case of small-pox virus, this very trade was specially suited for storing and conveying it, and in this it differed very remarkably from that of Sheffield, the trade of which was, perhaps, the trade least liable to store and convey small-pox virus. Dr. Pringle held that the success of the Leicester system of isolation was mainly due to the vaccination of the past limiting the number of cases of small-pox attacking the town, but year by year, as vaccination was abandoned, these numbers would increase, till the time came when an attack would be delivered which no conceivable system of isolation could make head against. Dr. Pringle had seen in India a village which showed a positive gap in the population, owing to small-pox sweeping off the young children, making the gap visible some years after, by the absence of children between 8 and 12 years of age. Though no one questions the possibility of successfully isolating a few cases of small-pox, yet there was a limit to this, and when that was passed, who would be to blame for the consequences. As regards the outbreak of small-pox at Sheffield, Surgeon-Major Pringle urged that, in the absence of any evidence to prove that the 95 per cent. of the birth-rate which were vaccinated were the outcome of false returns, the only other conclusion available was that a vast system of spurious vaccination had been practised. The explanation advanced by the authorities, that this outbreak was due to the neglect of revaccination, Dr. Pringle denied, it being based on the incidence of small-pox among the supposed vaccinated at various ages, as exhibited by statistics, when there was no evidence available to show the character of the vaccination thus tested. "Revaccination," he said, "is a useful but unscientific expedient to remedy the defects of careless and bad work, and is unsupported by the physiology or pathology of the eruptive fevers, as a class, while it is in direct opposition to analogy, as met with in inoculated cases, among whom (as I can state most positively, from having seen the practice of inoculation, and its results for twenty years in one large district) reinoculation has never been thought of, much less practised." In further support of this definition, Dr. Pringle alluded to his sanitary circle in the North-West Provinces of India, with a population of ten millions, crowded together to the extent of 500 to the square mile, among whom he introduced a system of voluntary vaccination on the arm-to-arm principle in 1864, and carried on for twenty years, his staff performing during that time some one-and-a-half million operations without one single case of revaccination, which was forbidden, and yet this vaccination had stood successfully the test of small-pox being an annual visitor, no attempt at isolation being practised, but the very reverse, namely, crowds of vaccinated and unvaccinated children, many of the latter covered with small-pox in every stage of the disease, being collected for the worship of the goddess of small-pox. Vaccination for India to be of any practical value must be able to stand any test of protection, the severest of which might be summed up in the term, "the small-pox hospital nurse test," and this must be attained without revaccination. Dr. Pringle gave the following as a test of good protection: in one of his lymph nurseries in the Himalayas, where the children under a certain age were kept unvaccinated, for the purpose of collecting lymph for the annual commencement of operations in the plains, an outbreak of small-pox appeared, apparently unaccountably, but on a careful examination being made, a number of small-pox crusts were found among some sugar brought from the plains, which had been swept up from the drying sheds. Not one of the cases vaccinated during the previous fifteen

years suffered from small-pox, which was confined to a few unvaccinated children, and prompt vaccination of the remainder soon stopped the outbreak. With facts such as these, supported by the compulsory evidence of those opposed to the practice of vaccination in every way, as the result of an inquiry ordered by the Government into the remarkable exemption of the Meerut District from small-pox prevalence, Dr. Pringle felt his position was absolutely impregnable. He believed that the true cause of this spurious vaccination and apparent failure of the prophylactics was the almost universal practice of using stored lymph, and chiefly that from the calf. The fullest details of the extraction of this fluid were entered into, and it was pointed out that it was obtained by clamps fixed at the base of the eruption, a practice strictly forbidden by the supposed best, as it is the latest, authority (the German Vaccination Commission) in the case of human, but ominously not alluded to in that of calf, lymph. With reference to this source of calf lymph, it was noticed that by far the most active and pure lymph available, namely, that in the first move from the calf, was lost by the practice of not taking it from the vesicle for further operations, and that to this fact, and not to any supposed preference for the calf lymph, was mainly due the circumstance of the number of those who came for vaccination direct from the calf. The Army Sanitary Commission, in their report on Bombay, dated August, 1885, had said: "We thus learn that in 1883 the successful vaccinations under one year nearly covered the births, and, nevertheless, the deaths from small-pox at ages under one year were 567, or nearly 39 per cent.....Unless we knew the number of deaths among the vaccinated, we could not state positively that vaccination had failed to this extent, and yet Bombay has an effective vaccination service, with the use of calf lymph." Dr. Pringle held that "any system of vaccination which was unable without the expedient of revaccination to protect a community from epidemic small-pox, even of the mildest type, when the birth-rate had been approximately reached, was either false in returns or spurious in practice, or both combined." Statistics, it was remarked, have to be accepted at all times with caution, but vaccination statistics more so than any other, for if the results of good, bad, and indifferent vaccination are mixed together, as they had been in the North-West Provinces and Oudh in India, and this for the twenty years from 1864 in the case of a population of forty millions, they were far worse than useless. The remedy for the spurious and thus useless vaccination at Sheffield was to be found in the use of arm-to-arm vaccination with fresh vaccine lymph, and Dr. Pringle added that the great objection urged against this system of vaccination was that there was a risk of imparting other diseases, such as syphilis, with the insertion of the vaccine virus. In meeting this Dr. Pringle stated that this objection had never once been brought by any native against his system of vaccination; and, further, that he never saw any instances of it, though with the native children, mostly naked, he had good opportunities for judging, and had no reason to suppose that the part of India to which he alluded enjoyed any exemption from the normal prevalence of the disease in question. Another remedy against this spurious vaccination was the proper instruction of vaccinators in the various stages of the vaccinal eruption. A few visits paid at random among the vaccinated cases at various stages of the vaccinal eruption would soon detect the quality of the lymph in circulation, and in the case of thoroughly qualified inspectors would soon put a stop to spurious vaccination.—Dr. McVAIL (Kilmarnock) had been much interested in Surgeon-Major Pringle's paper. Dr. Pringle had good reason to be proud of his success in warding off small-pox from his Indian population of ten million persons when the disease was raging all around. In view of the strong opinions which the reader of the paper had expressed regarding the unsuspected prevalence of spurious vaccination, he would be doing good service by publishing a full and detailed account of his own method of vaccination. Dr. McVail understood Dr. Pringle to attach very special importance to arm-to-arm vaccination. Probably all present would agree with him on that point, but if the chief cause of spurious vaccination was the use of stored lymph, then before deciding that the Sheffield outbreak was due to spurious vaccination, it would be necessary to wait for the promised report by Dr. Barry of the Local Government Board, in order to learn whether stored lymph had been very largely used in Sheffield. In fact, before coming to any very decided conclusions about Sheffield, it would be necessary to have Dr. Barry's report. In the meantime, however, it might be noted that, taking vaccinated and unvaccinated together, the case mortality in Sheffield had been only 10 per cent., while in Montreal, where vaccination had been very much neglected, the case mortality had been over 30 per cent. Now, the opponents of vaccination pointed alike to Sheffield and Montreal as examples of bad sanitation, and attributed the small-pox to this supposed cause. If, then, we granted that the two populations were alike in regard to the absence of municipal cleanliness, what sufficient explanation could there be of the tremendous difference in the death-rate of their small-pox cases, excepting this other great difference in the proportions of the vaccinated and unvaccinated in the two towns? The low case mortality in Sheffield was another reason for doubting whether the vaccination, even of those who were attacked by the disease, had been entirely spurious, as Dr. Pringle supposed.—Dr. BRETT said he had been public vaccinator thirty-eight years, also poor-law medical officer, and therefore had had considerable experience. He had the greatest faith in the power of vaccination, properly performed, to prevent small-pox. Lately three women were working at a mill sorting rags—one not vaccinated, one had had small-pox, the third had been vaccinated in infancy. No. 1, not vaccinated, died of small-pox on the ninth day; her husband, unvaccinated, took the disease of her and died. The vaccinated woman had the disease in a mild form, and three of her children, one a child at the breast unvaccinated. Dr. Brett always vaccinated at least five, arm to arm, and mostly double. He had had the vaccination grant.—Dr. ROGER PARKER considered that the great neglect in carrying out the Act was the neglect in the Government not compelling the surgeon to put four vesicles on the arm. He believed that a great deal of the mortality from small-pox arose from spurious lymph being used, and also one vesicle only placed upon the arm, which he considered not sufficient to protect the subject.—Dr. NORMAN KERR said that racial reasons would largely account for the greater mortality in Montreal. So firmly did he believe in revaccination that he had been himself re-vaccinated eleven times, on the occasion of being brought into contact with various serious epidemics of variola, and each time his arm had taken vigorously.—Dr. SPOTTISWOODE CAMERON (Huddersfield) regarded an inefficient vaccination with genuine lymph as a more probable cause of the Sheffield outbreak than the propuction of a spurious cow-pox. During the scare caused by the spread of small-pox from the neighbouring towns of Sheffield he had taken to measuring the vaccination marks on the arms of scarlet fever and other patients leaving the Huddersfield Fever Hospital, and had been struck by the large number of inefficiently vaccinated persons he found. He knew one medical man who persisted in evading the law by making only one mark. Amongst 68 patients convalescent from scarlet or typhoid fever there were only 154 marks, or 2.3 each; eighteen had only one mark, and two had no mark at all. Yet the Huddersfield vaccination officer accounted, in some years he believed, for 98 per cent. of the children registered; but much of the vaccination, judged by the marks, afforded only a small proportion of the protection against small-pox that efficient vaccination should.—Dr. PRINGLE, in reply, said that in drawing conclusions regarding mortality from small-pox we must be sure to account for the effects of ages, circumstances, and treatment; but we must also always see that it was vaccination not irritation we were drawing conclusions regarding.

Some Risks of Attention to Health and Sanitation.—Dr. NORMAN KERR, F.L.S., said that as there was no rose without a thorn, and as suffering and death were the appanage of humanity, we could not expect that attention to health and sanitation would be absolutely free from risk. As to health, there was risk in the very attention to it. He had patients who had killed themselves by attempting too earnestly to live on scientific principles. Such worried themselves and sometimes their wives into an untimely grave, by the absorption of their whole being in the worship of hygæia. Infinitely better for themselves and for their offspring if they had "thrown health to the dogs." Infinitely better it would have been for their offspring if these had been brought up regardless of hygiene, turned out on the highland hills, and fed on oatmeal porridge or peasebrose, or anything that came along. Only the fittest would have survived, but the survivors would have been more numerous and a trifle happier. Tables of digestion were all very well in their way, but regard must be paid to the idiosyncracies of the individual stomach. One man's meat was another's poison. In a word, food must be prepared "with brain sauce." The science of dietetics must be applied with common sense. So must attempts at sanitary excellence. Dr. Kerr gave cases illus-

trative of blood poisoning from the contamination of drinking-water by uncleaned filters, and from water in a cistern being allowed to remain stagnant during the absence of a household by a caretaker, who had been employed to keep everything in good going healthy order. In these and other similar cases, the very precautions to preserve health had been the means of losing it. In some cases the attempt to live longer and healthier had been the cause of suffering and premature death. Among other risks, were fraudulent or defective workmanship, and reliance on a good drainage installation without regular subsequent inspection. It was therefore desirable that plumbers should be registered, and that householders should either themselves see, or take satisfactory measures to secure, the proper carrying out of all sanitary works and processes.

Cholera and its Fostering Conditions in the Endemic Area. A paper by W. J. SIMPSON, M.D., Medical Officer of Health, Calcutta, was read by Dr. CHRISTIE, Medical Officer of Health, Hillhead, Glasgow.—Dr. Simpson gave a full description of Calcutta, Howrah and the suburbs, dwelling specially on the water-supply, the tanks, the drainage, the construction of the streets and houses, native and European; and the sanitary system generally. Calcutta, to the south of the native town, he stated, is well built, the streets are wide and straight, the houses are large and have gardens attached; there is a liberal supply of excellent water, the drainage and cleansing are good, and that portion of the city compares favourably with the better parts of London. With a few exceptions, northern and native Calcutta is densely crowded, the streets are narrow and irregular, the drainage is bad, only the better and middle class have a fair supply of water; the poorer class have a very scanty water-supply, and depend upon the water in the tanks. The native town is studded with wells and tanks. Neither Howrah, with its 100,000 inhabitants, nor the suburbs of Calcutta with its 250,000, have any public water-supply, with the exception of the wells and tanks. The insanitary condition of Howrah, without a public water-supply, and without building regulations, is surpassed by the suburbs, which have no public water-supply, no drainage, no building regulations, nor any effective conservancy arrangements. As a general rule, Europeans residents in Howrah get their water from Calcutta by carriers, and they avoid the well and tank water. The personal habits of the natives are cleanly. As a religious duty they bathe at least once a day, the women more frequently, and this is done, when convenient, in the river Hooghly, but generally in the tanks near their houses or huts. The tanks are thus defiled by the excretions of the body, by the washing of dirty clothes, frequently of clothes soiled by excretions of the sick, by human ordure due to the practice of children and others defæcating on the banks of the tanks, and by the drainage and soakage from the surrounding huts and houses. Thus, the water in the tanks, except during the rainy season, varies in quality from moderately polluted up to concentrated sewage, and this is the only water supply practically available for large numbers of the native population. Dr. Simpson traces out the connection between local outbreaks of cholera and a deficient and contaminated water-supply, showing that those who have an abundant and pure water-supply, namely, the Europeans and better class of natives, escape cholera epidemics, except in isolated instances, which can generally be accounted for; while the natives, who necessarily depend on the tank water, suffer severely when the tank becomes polluted by the excreta from a cholera patient. He says: "I would particularly direct attention to this scarcity of water in the parts affected. Go almost where one may, in the northern part of the town, and especially in the riparian wards, there is the same complaint of the want of water, and a very valid one it is. It is a common occurrence to see the people grouped round one of the standposts, waiting their turn to fill their chatties, many of them to be disappointed, for the water from the standposts often comes in mere driblets, and the supply is exhausted or turned off before half the people are supplied. Scarcity of water brings in its train a great deal of sickness, apart from cholera. The districts which have suffered most from scarcity of water have suffered also from a large amount of sickness of a dysenteric character." The natives bathe, wash their utensils and clothes in the tanks, because it is the only available place for doing so; and they use the water of the tanks, contaminated in addition by soakage and sewage, for cooking and drinking, because it is the only available water-supply for domestic purposes. The remedies for the condition of affairs described are simple enough, but they need time, and must involve considerable expense. The first requisite is a liberal water-supply for Howrah and the suburbs, and a more liberal supply for Calcutta. Few will drink polluted water if they can obtain pure water. By specially constructed tanks, even the habits of the people can be so directed as to permit them to enjoy the luxury of the bath, and to perform their ablutions without danger. The second requisite is well planned streets with free ventilation, good building arrangements, a system of drainage to pass through these streets, systematic clearing, levelling, paving and filling up of ponds, draining, scavenging, removal of nuisances, and a well-organised sanitary department. The carrying out of these measures will ultimately convert Calcutta, Howrah, and the suburbs, containing nearly 800,000 inhabitants, into as healthy a locality as any in the world, in so far as the prevalence of diseases not due directly to a subtropical climate is concerned, and these measures of sanitation will change one of the most important centres in the endemic area of cholera into an area no longer marked by endemicity. Before any real progress in scientific medicine can be expected in India, the scientific branch of the medical service must be distinct from the administrative, for when administrative functions preponderate, scientific research is relegated to such a subordinate position as to render it impossible to be carried out satisfactorily. A central institute is necessary, well-equipped, and having attached to it a body of men well trained in chemical, physiological and biological methods, whose whole time should be devoted to scientific research.

Breakdown of the Hospital System.—Dr. J. FRANCIS SUTHERLAND read a paper urging the necessity for changes in the mode of administration. The following is a summary.—1. Hospital accommodation provided by voluntary effort utterly inadequate for the wants of the community, markedly so in some localities. The provision thus made not increasing with the growth and necessity of the population, there is great pressure upon the existing hospitals in the large provincial towns, with the inevitable result that many applicants for admission are either delayed or rejected. To provide adequate accommodation, the proposal is now made that voluntary effort should be assisted and encouraged by parliamentary grants. 2. The financial state of our large hospitals is most unsatisfactory, and this after superhuman efforts have been made with the laudable object of making both ends meet. In spite of such effort, with few exceptions, the balance is greatly on the wrong side. The financial position of the London hospitals is critical to a degree, and cannot fail to attract the attention of Parliament, as the metropolitan hospitals are, in a sense, even more national in their utility than those of the large provincial towns, which minister to the sufferings of communities other than their own, and often far removed. 3. Hospitals should be *free* in the full and true meaning of the word. Subscribers lines and recommendations should cease to have a place in our hospital system, disease being looked upon as the sole passport of admission. It is most desirable that a clear definition should be given of those diseases that are considered suitable for hospital treatment, as hardships are undoubtedly incurred by the present arbitrary and unsatisfactory method of settling suitability. 4. The existence of so many small hospitals is a mistake. These, in the interests of economy should, as far as possible, form part of our larger hospitals. And with the view of diminishing the large expenditure incidental to the existence of a separate staff of officials for any hospital, large or small, it is desirable that an administrative bureau should be established in every hospital town, composed of urban and rural representatives from among the subscribers, and from public bodies, and Crown representatives. This bureau would settle, after searching inquiry and consultation, what the hospital accommodation of a community should be. Connected with the bureau, would be a staff such as the Charity Organisation Society, whose duty it would be to investigate the circumstances, house accommodation, etc., of all who, after medical examination, have been found suitable subjects for hospital treatment. 5. Hospitals, or workhouses, or poorhouses, should have no connection; the former should be divorced from the latter, and thus the objectionable and degrading system of compelling people suffering from grave diseases to obtain their *entrée* to a hospital by pauper registration would be put an end to. 6. The absence of convalescent homes and sanitoria in connection with our large hospitals is a felt want. It prolongs the stay in hospital of patients whose restoration to health would more rapidly take place in institutions of the kind indicated. 7. Necessity for an inquiry into the present system by a Royal Commission.

Indigence as a Cause of High Death-rates.—Dr. C. R. DRYSDALE

said: "It is not enough to stamp out zymotic diseases, or to insure good ventilation and sewerage to a given population. Unless indigence is lessened the death-rate must be high in any country, because the diseases caused by insufficient food, want of sufficient clothing, and shelter remain. Where a vigorous race is well supplied with food the death-rate tends to become very low indeed. As an instance of this it may be mentioned that New Zealand in 1886 had a death-rate of only 10.54, probably nearly the lowest death-rate which a population of 631,000 persons has afforded. In 1884 its death-rate was still lower, namely, 10.39. The death-rate under five years was 28.52; between five and sixty, 5.75; and over sixty it was 48.2. The meaning of the low death-rate in New Zealand is that indigence does not exist as yet in that country: that is, food is so easily obtained and work so plentiful that the people are better fed than Europeans. The 631,000 people have 16.500,000 sheep, besides large quantities of cattle and cereals close to them, which is not the case in Europe. The poor in European countries suffer from chronic indigence. Hence Villermé found in Paris, between 1817 and 1836, a mortality of 1 in 15 in the poor arrondissement, the 12th; against 1 in 65 among the rich in the 2nd arrondissement. In 1843 the death-rate of London being 24, it was found that in Bethnal Green the mean age at death among the gentry and professional classes was 44: that of the shopkeepers and families, 23; and that of the wage classes and their families, 22. Clearly then, in future, it will be useless to talk of the death-rate of the whole of a city. We must rather find out what is the death-rate in the slums, and try to lower that if we can. In 1874 Mr. Charles Ansell, of the National Assurance Company of London, obtained information about 48,000 children of the richer classes in England and Wales; and at that date found that the average age at death among the well-to-do was 55; whereas, according to an inquiry made a few years ago in Lambeth by Mr. Edwin Chadwick and Dr. B. W. Richardson, the average at death among the wage class in that district was 29½ years. To emphasize this point, Mr. Charles Ansell calculated that in 1873 there died in England and Wales 386,179 persons under the age of 60. Had these persons been all in as good circumstances, he added, as the gentry in the tables (or as the 631,000 persons in New Zealand we may now add) only 226,000 would have died, so that in one year, 1873, he argued indigence killed no less than 142,139 persons in England and Wales alone. All thoughtful hospital physicians will, if they reflect, perceive how much more frequently the poor are attacked with fatal diseases than the rich. A French statistician, M. Thoudenin, showed that the mortality of the so-called unhealthy occupations is due chiefly to the indigence of the operatives. With the exception of cotton beating, the dividing of cocoons, white-lead, and grinding, there are scarcely any trades which are necessarily dangerous to life. Yet tubercular disease causes 65 per 1,000 deaths among the rich in France and 250 per 1,000 among the poor. Dr. Edward Smith found that the consumptive patients at Brompton Hospital came of poor families, the average of the number of children in which was 7.5 and Dr. Drysdale had found nearly the same figures true at the North London Consumptive Hospital. At the Metropolitan Free Hospital some years ago he found that of 100 women over 50 had produced 720 children, of whom 360 had died in early youth. The wealthy parishes of Kensington (189,000 inhabitants), Saint George's, Hanover Square (88,176), Hampstead (53,758), and St. James, Westminster (28,178), had, in 1886, 7,779 births and 5,614 deaths in all, or a rate of 21.8 for births, and 16 per 1,000 for deaths; whilst the poor districts in the East End of London, Shoreditch (125,508), Bethnal Green (129,895), Whitechapel (68,345), St. George's in the East (46,403), with populations nearly equal to the West End districts above cited, had a collective birth-rate of 38.3 and a death-rate of 24.4 per 1,000 in the same year. Some poor districts, such as Fulham, had very high birth-rates (45 per 1,000), against Kensington (20 per 1,000). Dr. Lovett, Medical Officer of Health, lately mentioned that in the southern portion of St. Giles's parish, including Seven Dials, there was a birth-rate of 42.8 and a death-rate of 34.5. This shows what indigence does in raising the death-rate. Dr. Grimshaw showed that in Dublin the death-rate of the independent and professional classes in 1886 was 13.4, and the death-rate of the "service class" or poor was 33.7. His tables show that children under five constitute 5 per cent. of the numbers of the professional classes and 15 per cent. of the "general service class." In Paris, according to the *Annuaire Statistique*, in the poor arrondissement of Villette there were 990 children under five in 10,000 inhabitants, and only 397 per 10,000 inhabitants in the Champs Elysées district in 1881. M. Haussonville, in the *Revue des Deux Mondes*, mentions that families among the indigent in Paris are three times as large as among the rich on an average. Dr. Drysdale found in Paris in 1879, at the International Congress on Hygiene, that 100 members of the Académie de Médecine had had 174 children; and afterwards ascertained that 100 married women in Whitechapel, patients of the Metropolitan Free Hospital had had 720 children. In short, wherever there are large families terrible indigence abounds, because there are more persons born than can be well-enough fed. It follows from that fact that, in the near future, persons who wish to see a lower death-rate must insist upon the poorest classes having a lower birth-rate: that is, smaller families. After long consideration he had come to the conclusion that all the civilised governments in Europe should endeavour to teach this danger of over-population to their subjects by discountenancing the production of larger families than the capital of the country could easily furnish food for. It was suggested that this might be accomplished by putting a small fine (not exceeding forty shillings) on any one, rich or poor, who in an old country produced more than a maximum of four children. This would give a sufficient surplus of births over deaths for purposes of colonisation, and would cause a rapid fall in the death-rate, which eventually might be as low in old countries as it now is in well-fed new colonies.

More Recent Phases in the Decline of the Liverpool Death-rate.—Dr. HOPE'S paper dealt with the death-rate of Liverpool during the past ten years, and deduced evidence that the decline in the death-rate is a real one, and not an apparent one depending upon overestimated population or diminished birth-rate. The decrease in deaths was shown to be largely in that class of disease most amenable to prevention, and which were commonly associated with insanitary conditions, namely, zymotics, and, secondarily, phthisis and other pulmonary diseases. The extensive sanitary operations of the city, both structural or systematic or inspectorial, were referred to, with a view to show the direct influences which these have had upon the public health; and, lastly, the ages at which the saving of life appears chiefly to have been effected were commented upon. The tables on which the paper was based were appended.

Bacteriological Researches in connection with Summer Diarrhœa.—Dr. HENRY TOMKINS (Leicester) said that an enormous mortality, extensive prevalence, and apparent tendency to increase in the country at large, served to give importance to the subject of summer diarrhœa. In approaching the subject two facts were to be borne in mind—(1) that all diarrhœas, not some diarrhœa, were often only a symptom of varied morbid conditions, as pointed out at the Cardiff meeting of the British Medical Association by Dr. Vacher; but, after all due allowance made, there undoubtedly remained a large residue of cases of a specific or special nature constituting a disease *per se*, as much so as true Asiatic cholera; (2) that that disease was not a disease of infancy or early childhood only or even for the greater part. Exact observations showed that the bulk of sufferers from it where it prevailed were of more mature years, though, owing to the mortality occurring almost exclusively amongst young children, this fact had often been overlooked. Of all English towns Leicester was, *par excellence*, the home of this disease, if its mortality was to be taken as a true criterion of its prevalence. During the past three years, since holding the office of Medical Officer of Heath there, Dr. Tomkins had paid special attention to the subject. It was easy to disprove that many of the reputed cases gave no satisfactory explanation of the production of the disease. Many of these affect only the infantile population, and affect these more or less throughout the whole town, whereas the prevalence of the disease was confined to certain well-defined low-lying districts of the town and affected all ages and occupations, etc., within those districts. The cause must be something common to every resident within those districts, which something was apparently absent in other parts of the borough. The only things or conditions common to all were food supplies, water, and air. The two former were the same throughout the whole town. There remained, therefore, only the air. During the past three years Dr. Tomkins had undertaken a large series of observations on the air, with special reference to the microbic forms of life contained therein. The general result showed that the air of the diarrhœa district of the town contained three to six times as many micro-organisms or their germs as the air of the non-affected districts. These microbes (or certain of them) grew in a distinctive manner when artificially cultivated, and were capable of producing diarrhœa, or perhaps, more correctly speaking, the products of their

artificial cultivation were capable of producing diarrhœa in the human subject. At present Dr. Tomkins was endeavouring to isolate and single out the particular form or forms which were most concerned in this. The organisms and growths obtained from various tissues, organs, and intestines in fatal cases of diarrhœa give like results. A very probable explanation of the undue prevalence of diarrhœa in Leicester, or rather in certain parts of that town, was found in this excess of aërial microbes and germs, and this excess might be satisfactorily accounted for in the following way. Since 1850 (from which date the prevalence of diarrhœa appeared to have commenced and increased) the whole of the area of the "diarrhœa district of the town had been subjected to a pollution with organic filth, more or less of an excremental character. This, acted upon by the heat of the summer sun, amply sufficed for an enormous production of bacteria. Imperfect and filthy sewers, containing much deposit, in the same way contributed to like results. Meteorological observations during the summer months of 1885, 1886, 1887, showed that as soon as the earth at a depth of one foot reached about 62° F. the disease broke out. At the time of writing (July 23rd, 1888) this subsoil temperature had not yet been reached and the outbreak had not yet commenced for this year. In addition to the need for more exact isolation and identification of the "diarrhœa microbe" it was of equal importance to study how this and other bacteria acted in producing disease, whether it was probable by the production of some poisonous material of an alkaloidal character, such as ptomaines or leucomaines. These inquiries were of supreme importance to physician and clinical observer as well as hygienist, but could hardly be expected to be carried on by an ordinary health officer, with multifarious routine duties to attend to. Such questions as these required the whole time and attention of specialists. Work of this and of a similar character would be carried on with a great benefit to the country at large in a properly organised department controlled by a Minister of Public Health.

The Condition of the Water Supply for the Public Use for Man and Beast.—Surgeon-Major ROBERT PRINGLE, M.D., late Sanitary Department H.M.'s Bengal Army, drew attention to this most important subject. He remarked that few charitable institutions had effected a greater physical and moral improvement than those the object of which was the gratuitous supply of drinking water for man and beast; but, like every other sanitary measure, it required careful looking after, so that the very benefits it was intended to confer might not be converted—as in India, for instance—not only into sources of disease, but actually into means for its propagation. The present system of drinking fountains in this country was as near perfection as it could be, supposing, of course, the water to be pure in the first instance; and, if Dr. Pringle would suggest any improvement, it would take the shape of extra precaution, rather than improvement, to guard against the risk of any infectious matter drying on the edges of the cups when suspended in the air. To avoid this danger, it was suggested that arrangements might be made to admit of the cups being covered in the water which collects below the taps when they are being filled. These drinking fountains had exercised a remarkable influence in promoting habits of temperance among all classes of the community; and the cry of the prophet of old, so well illustrated in the gratuitous distribution of water by the roadside by the Brahmin with his split bamboo under the grass thatch, or the chain of five hundred wells, costing 200 rupees each, on a thousand miles of the Grand Trunk Road of India, when possible on alternate sides at two miles apart, the gift of a philanthropic, total-abstaining Hindoo—this cry of "water free" had at last its counterpart in this country; and to those who give water or supply the means for its gratuitous distribution to the thirsty passer-by Dr. Pringle pointed out the saying common in India, "While water flows the giver will be gratefully remembered." While the West has thus gathered lessons from the East on the point of gratuitous water for all, and almost perfected the distribution of it in the public drinking fountains, Dr. Pringle felt compelled to allude with regret to the inexplicable neglect under this head in the public drinking water supply in India, and his remarks call for the most serious attention of the authorities, for any system of sanitation among any nation, but how much more a practically total abstaining one, like that in India, which fails in devoting its first care and attention to the perfection, as far as possible, of the water supply where this is practicable, utterly fails in its main design, which is, or should be, the prevention, not the cure, of disease. Here we must use Dr. Pringle's own words, so that no errors may arise: "After a very considerable experience of the subject during my thirty years' Indian service, I am bound to say that the water supply for the traveller in India, be he European or native, is a standing disgrace to our sanitary administration in that country. Not only is little or nothing done to procure and secure a good water supply for the water-drinking nationalities of India, but I must say that the most ordinary precautions are neglected, and the only wonder is that, with the increased facilities for travel in India, there is not a greater amount of sickness than there is. Nor is this state of things confined to the water supply or the native population; the truth must be told, the neglect under this head in military cantonments and civil stations is simply inexplicable. I do not allude in connection with these remarks, to the failures in some places in the North West Provinces, and Oudh, and the Punjaub in sinking artesian wells, or the water supply of cities like Calcutta, but to the utter absence of all attempts *to improve the present water supply, or even to protect it from further pollution.*" Dr. Pringle remarked that statements such as these might seem to border on the impossible with a sanitary department so profuse in literature; but, he added, it was only another instance of how possible it was to *write much and do little.* The charges which Dr. Pringle brought against the Sanitary Department consisted in their continued neglect of the most ordinary precautions, and taking his old sanitary circle in the North West Provinces of India, namely the upper portions of the Doab or Mesopotamia of the Ganges and Jumnah, with a large hill station like Chuckrata, a convalescent depôt like Landvur, military cantonments like Roorkee, Meerut, Muttra, Agra, and Futtehghur, he boldly challenged the Sanitary Department to show where it had done anything to improve the water supply, either in these cantonments or the large native cities attached to them. Dr. Pringle drew marked attention to the condition of the water supply at the railway stations, notwithstanding all that the foresight of Lord Dalhousie had done to secure an ample supply of water gratuitously at every railway station in India for Hindu and Mahomedan, and he instanced those of Saharanpur and Gazeeabad as two peculiarly faulty under this head, and added, "No one could stand by and watch these wells, into which the natives dipped *lotahs* (brass drinking vessels) foul with unmentionable impurities and then be surprised at cholera or any other disease of insanitation being rapidly disseminated by means of this much used and increasing railway communication." True the government has a supply of filters in the barracks and at some railway stations, but, as he knew from observation and experience, filters in India, unless carefully inspected, soon became aquaria, and not harmless ones. In exculpating himself from any blame for these deficiencies as sanitary officer of the circle, Dr. Pringle added that in 1869 he brought a simple and inexpensive system to the notice of the Sanitary Department, by which the water in the roadside wells and encamping grounds might be kept pure; but the indifference with which his suggestions were treated amounted almost to a snub. Nevertheless he persevered, and mentioned that his annual reports would show that, if nothing was done during the twenty years he was in charge of the circle from 1864, he challenged the Government to say that it was due to the true state of matters not having been brought to their notice. With perhaps excusable self-laudation Dr. Pringle pointed to the water supply of Mussooree, in the Himalayas, of the municipality of which he was an *elected* member, to show what can be done, and added, when he convinced the municipality of the practicability of his scheme and the benefits that would result to the Sanatorium, the money—30,000 rupees in all—was soon forthcoming, and Mussooree in 1883 could point to a water supply, without a penny of additional taxation, unequalled by any station either in the plains or the hills. But no sanitary department had to be consulted about this necessary and valuable preventive of disease. "Compare with this," said Dr. Pringle, "the water supply of Chuckrata, a military hill station close to Mussooree, which had the capabilities of a far more simple and in many respects better water supply than Mussooree, as it was 1,000 feet above the station, and yet before he left India little else than hillside drainage beneath some large barracks, falling on rocky strata converging to an apex, was the source of the drinking-water supply. Little wonder that typhoid fever and cholera visited Chuckrata." Dr. Pringle entered fully into the measures he suggested for procuring and securing a good and pure supply of water at railway stations, cantonments, roadside and encampment wells, etc., and con-

cluded his paper with pointing out the risks attending any defective arrangements in the supply of pure water to the cattle-drinking troughs, by permitting infectious matters to remain floating on the surface. Dr. Pringle's remarks under this head were the results of practical experience and observation, and as he had presented the public—in consideration of the encouragement given to temperate habits by the public cattle-drinking troughs now scattered over the country, which removed the temptation "the merciful man" incurred by quenching his horse's thirst at the trough before "The Good Intent"—with his patent for automatically purifying and maintaining the purity of the water in these troughs, he hoped that this might be the means of reducing the risk of spreading glanders among horses, and foot-and-mouth disease among cattle, and trusted that all railway companies, and the authorities at the ports where cattle are landed, would avail themselves of its advantages, which could be done for a few shillings, as it was capable of adaptation to any kind of trough at present in use. The principle received the highest award at the International Health Exhibition of 1884, namely, a silver medal, and a certificate from the Sanitary Institute at its meeting at Leicester in 1885. The model of the trough was exhibited in the museum in working order, and fine sawdust and soap bubbles thrown on the surface of the water, and automatically removed by the incoming water, represented the two sources of impurity which float on these troughs, namely, the dust, chiefly horse-dung, and influenza or glanders, saliva, or froth.

On Epidemics of Ephemeral Fever.—Dr. EDWARD SEATON said: During the last three years there have been reported five remarkable epidemics, occurring at public institutions, of a fever the character of which had not before been clearly defined. The symptoms and course of the disease, also the circumstances attending the outbreaks of epidemics, have been fully recorded in four out of the five; but in the remaining one the account is so meagre as to be worthless. All four recorded epidemics occurred in Roman Catholic Industrial Schools. Two of them occurred in Glasgow; one came under the notice of Dr. Scott, of Tollcross, who in March last addressed a letter thereon to Dr. Gairdner, and another occurred this spring and has been reported on fully by the eminent Medical Officer of Health for this city, who incorporated in his report a note on the clinical aspects of the disease by Dr. Samson Gemmell. Of the others one occurred at Southport early this year under the notice of Dr. Newsham, and the other at North Hyde, near London, in the summer of 1885. The account of the last-mentioned epidemic was given by myself at the Clinical Society in October of the same year. Dr. Russell has published a pamphlet, not only giving a very full account of the outbreak or epidemic at St. Mary's School, but giving summaries or extracts of the accounts given of the other epidemics above referred to. A perusal of this pamphlet would make it clear to any medical reader that the different observers are describing epidemics of the same disease. It is very remarkable that they should all have occurred at Roman Catholic Institutions. It may be that at these institutions the inmates are chiefly Irish, and that Irish people may be specially liable to this kind of fever, just as they are said to be more liable to typhus fever than English or Scotch people. Dr. Russell has done me the honour to quote from my paper to the Clinical Society, a summary of the symptoms of the disease. It is as follows: "The group of symptoms which characterises this epidemic clinically is as follows: Suddenness of attack without any premonitory symptoms. Attack commencing with rigors and severe frontal headache, followed in a few hours by pyrexia, vomiting (often severe) without diarrhœa, the acute stage being further marked by scantiness of urine and almost complete absence of chlorides. Rapid development of the crisis, the fatal cases terminating in twenty-four hours, and (in the uncomplicated cases) defervescence commencing in two or three days in the slight cases, and in four or five days in severe cases. The fall of temperature being generally simultaneous with the appearance of a herpetic eruption on the upper lip, and perspiration, but no marked sweating. Earache frequently occurring towards the end of the fever, and sometimes being followed by otorrhœa. Absence of any other local pains except those due to the straining of the muscles in vomiting. The duration of illness generally short, and not exceeding four or five days, unless complicated with pneumonia. Surely a disease accompanied by so well defined a group and train of symptoms requires a distinctive name as much as typhus fever or ague." He adds that the clinical history of individual cases which I gave, one ending in recovery and another in death, might be those of two of the cases which have come under his own observation. The name to be given to this disease is important. My friend Dr. Sweeting, Physician Superintendent to the Fulham Hospital, wrote to me after I had given my paper, and pointed out that my description of the disease at North Hyde almost exactly resembled that of the disease called by Davasse "synoque." This note led me to study the essay of Davasse, and I found that a disease with the same symptoms, occurring generally in a sporadic fashion, but occasionally as an epidemic, was described under various names, "ephemeral fever" and "herpetic fever" having both been used to designate it. Professor Gairdner saw some of the St. Mary's boys at Belvidere, and he was inclined to regard them as cases of "influenza of a malignant type." Dr. Finlayson had no doubt that they were examples of what has been called "epidemic or infectious pneumonia." Dr. Gemmell, on the other hand, thinks "that the clinical features of the pneumonia cases do not strengthen the idea of the disease being 'epidemic,' pneumonia arising from insanitary surroundings. There was no prodromal stage; the local lesion revealed itself early; the disease was unassociated with phenomena; terminated in crisis, in every instance, within a week; the convalescence being rapid and the restoration of the lung speedy and complete. In no instance did death occur. Such are not the characters of the infectious type of pneumonia, and, indeed, apart from their epidemic association, any of the cases might have been selected as exhibiting most of the typical characters of acute pneumonia as it occurs sporadically." Dr. Gemmell also remarks, with regard to the nature or genesis of the disease, that "the question as to whether it might not be an anomalous manifestation of enteric or typhus fever was suggested, but nothing transpired to encourage such an idea." I myself think that ephemeral fever is the best name that has been suggested, because it denotes the transient character of the illness, the chief characteristic of which, in the great majority of cases, is its sudden onset and termination. "Nothing was more striking," says Dr. Russell, "with regard to these mild cases than the suddenness with which the patient plunged from perfect health into the disease, and emerged with equal suddenness into health again. The uncomplicated cases in hospital presented the same characteristic. A boy would take a hearty meal, become sick within an hour thereafter, his temperature taken at once might be up to 103°, and his aspect one of utter prostration; within the next twenty-four hours it might reach 105°; within a few hours more return to normal; and forty-eight or sixty hours from seizure he might be at the dinner table again." Of the 157 cases which constituted the epidemic which I investigated three years ago, 40 per cent. lasted only two or three days, and 49 per cent. lasted four or five days, so that 90 per cent. were cases of short illness. With regard to the cause of the disease, Dr. Russell attributes the epidemic at St. Mary's to general insanitary conditions, and especially to the proximity of a confined, very overcrowded graveyard, which was in "a state of rank disorder," and which was used as an exercise ground for the children. At North Hyde the general sanitary conditions were different. There, the school, instead of being situate in a densely-built neighbourhood, was placed in the open country, there was no overcrowding, the dormitories were well-ventilated, and the place was superficially clean. But in one most important respect the sanitary conditions resembled those found at the Glasgow institution, the site was unhealthy. The ground on which the buildings were placed and that which surrounded them had become filth-sodden. The liquid drainage was conducted under the buildings in old brick drains to cesspools constructed at points abutting on the buildings. The drains and the cesspools must have been saturating the ground from the time of their construction. There was another, and perhaps more dangerous source of pollution of the ground around the school. The earth-closet system had been in operation there for more than ten years. The area of land belonging to the schools was very small, about two or three acres. The earth (which supplied the closets) must have been used over and over again, for there were about 700 persons at the institution, and the contents of the closets were carelessly distributed over the ground. Dr. Bridges of the Local Government Board, to whom I was indebted for the opportunity of investigating this disease, attributed it to "exhalations from the sewage-charged soil." I compared the disease in its genesis to ague. I believe that its cause is to be found in the unhealthy condition of the ground on which the buildings are placed, or by which they are surrounded. If this be so, we have additional

reasons for exercising care in the selection of sites for buildings. The sites, both at St. Mary's and Westhorn, were organically polluted from the proximity of overcrowded cemeteries, while that at North Hyde was fouled in another way. If the careless distribution of the contents of earth-closets over the ground attached to dwellings constitutes a source of danger, it is a strong argument against their use, except under special circumstances.

CLINICAL MEMORANDA.

CASE OF PHTHISIS PULMONALIS VERY GREATLY BENEFITED BY A YEAR'S RESIDENCE IN DAVOS.

On April 29th, 1887, I saw a young gentleman, aged 20, who had the following history. He had had hæmoptysis in October, 1886, and brought up a quarter of a pint of fluid blood. He had mucopurulent expectoration, and had lost a stone in weight, having some time before weighed 10 stone, and then weighing only 8 stone 13 pounds. He mentioned that he attributed his illness to a succession of colds which he had caught, but said that his mother had been suspected to have had phthisis, although she had died of dropsy caused by some cardiac affection. His temperature was, he said, 100°. He did not sweat; his pulse was quick usually of late, and hence he could only walk a mile or two, although formerly when well he could walk 25 miles a day. A brother of his had died of phthisis a year before. His two other brothers were strong and well. On examining him I found his temperature 100°; pulse 120. There was increased vocal resonance under the right clavicle, with much muco-crepitant *râles* and bronchial breathing. There was also some dulness below the right clavicle.

This young gentleman went to Davos, and was there, under the care of Dr. Ruedi, from June, 1887, until June, 1888. In July, 1888, he again called on me, and his aspect was truly most satisfactory. He looked fat and well, and said that in the month of May he had walked to the top of the Strela Pass, a most fatiguing walk, as I know, having gone over that pass on foot in 1886. At that date (May) Dr. Ruedi had pronounced that all suspicious symptoms were absent. He could "eat like a horse and sleep like a marmot," and had in May had no expectoration; whilst the bacilli had all but disappeared from his sputum. In May he had caught cold, and had had a little expectoration since then. When I examined him on July 13th, 1888, I could not detect any dulness whatever under the right clavicle. The pulse was 76. The patient had gained a stone in weight. There were, however, a few muco-crepitant *râles* under the right clavicle. The patient, a most intelligent scientific man, was quite able for work, and in excellent general health and spirits. He talked of again seeking Davos in autumn, which I much approved of.

This being the last case I have seen healed in this way, I think its publication may be of some interest.

C. R. Drysdale, M.D., late Physician to the North London Consumption Hospital, Senior Physician to the Metropolitan Hospital of London.

TOXICOLOGICAL MEMORANDA.

SUICIDE BY SWALLOWING BICHROMATE OF POTASSIUM.

The recorded cases of acute poisoning by bichromate of potassium are remarkably few. In the literature at my command there are only two cases taken notice of. Under these circumstances the following case seems to be of some interest. H. McC., aged 46, a notorious drunkard, during a drinking bout, obtained one ounce of the salt "for a French polisher." She took the packet to her home, emptied its contents into a basin, filled up the basin with boiling water, allowed the crystals to dissolve, and drank off the contents of the basin. She was proceeding to refill the basin so as to dissolve some remaining crystals when her movements excited suspicion in those around her, and the basin was taken from her. Within five minutes she became unconscious. When first seen by us twenty minutes after swallowing the liquid she was still unconscious, and there was evidence on the furniture around her that she had suffered vomiting and purging. There was extreme pallor, with perspiration; pulse small, thready, and irregular; respiration slow, irregular, and gasping. It is not common to say that the corrosive poisons have a specific action on any organ. It would seem that this salt has a specific action, and that on the respiratory centres. From the very first the respiratory movements were markedly affected, sometimes a quarter of a minute intervening between the gasping respiratory acts, and respiration ceased fully a minute and three quarters before the cardiac movements.

An interesting point is the rapid action of the poison, in this case the patient being dead within forty minutes after taking the draught. Unfortunately a *post-mortem* examination was not obtainable.

J. Stewart, M.B., C.M.
Preston.

FORENSIC MEMORANDA.

SUICIDAL CASE OF CUT-THROAT.

On the morning of July 29th a message was received to the effect that Mrs. A. had cut her throat. On entering the room she was found in a kneeling position, bleeding copiously from a severe wound in the throat, holding a razor in her right hand, and resting the left on the edge of a bed. Immediately beneath her was a chamber utensil half full of blood. She was laid on her side, and the principal vessel secured. No further difficulty was experienced from hæmorrhage, the collapsed condition in which she was no doubt materially contributing to this much to be desired end. In half an hour's time she had rallied sufficiently to be lifted on to a bed, and a more thorough examination made, when it was found that the wound (about four inches in length) extended from a little beneath and in front of the angle of the jaw on the left side to a similar point on the right, separating the muscles attaching the tongue to the hyoid bone, and passing backwards into the pharynx, which was punctured in two places just above the epiglottis. Breathing and articulation were but slightly interfered with. As slight oozing was taking place, a couple more ligatures were now applied. The head, neck, and shoulders were placed in a mould constructed of Bavarian flannel and plaster-of-Paris, thus effectually preventing any movement of the parts, and the wound was dressed with lint saturated with carbolised water, and covered with salicylic wool. For the first two days enemata of brandy and beef-tea were administered every four hours, but at the end of that time were discontinued, and food was given by the mouth. The wound granulated up without a bad symptom, and by July 13th was quite healed.

St. John Kemm, L.R.C.S., L.R.C.P.
Weston-super-Mare. Edward F. Martin, M.B., M.R.C.S.

SURGICAL MEMORANDA.

CARCINOMA OF THE BREAST.

I write as a provincial hospital surgeon who has had plenty of experience in the operative treatment of cancer of the breast, and my desire is to emphasise the advice given by Mr. N. C. Macnamara in the admirable "Abstract of Clinical Lectures on Carcinomas of the Breast which Require an Operation," on the desirability of early treatment of these sad cases. It very seldom happens that cases of mammary malignant disease come to a hospital for treatment before the growth has assumed a very pronounced type, with axillary glandular mischief, and so unavailing is the result of treatment by the knife at that stage, that I really do not see what good there is to be obtained in then operating. Time after time I have removed such breasts, and have thoroughly emptied the axilla and its neighbourhood of enlarged lymphatic glands, and there has been speedy recurrence of the disease; and this in spite of quick and uninterrupted recovery from the operation. In several of the cases there has been an overwhelming outburst of malignant disease in deeper-seated parts, such as in the mediastinal, cervical, and abdominal glands. Indeed, I do not see how we can expect to be eradicating the disease when we only remove the primarily affected breast and the nearest chain of lymphatic glands which have shown themselves to have become secondarily affected. It is not reasonable to think that the mischief has ended in this second spot. If these axillary glands are affected, depend upon it other glands further on in the lymphatic system have also participated in the mischief. It has seemed to me, from the consideration of several of my cases, that the operation of removal of the breast and affected axillary glands has given a filip to the mischief out of sight, for the apparent recovery of the patient from the operation itself has been speedily followed by an

overwhelming outbreak elsewhere. And hence, in my own practice, I have discountenanced operating on cases where there is such a condition, for I have never known one such case to have been cured.

The matter is evidently one to be dealt with by the general practitioners, who see these cases in their earlier stages. They so constantly originate in some local disturbance of nutrition or irritation, as pointed out so admirably by Mr. Macnamara in his second lecture, that one cannot help believing, as he does, that the knife would be a true cure for them if employed when the disease is localised and before the glands have been affected. More and more strongly the belief is coming home to me that cancer is local first and constitutional afterwards, and that in early treatment of its manifestations lies the only hope of cure.

H. A. LATIMER, Surgeon to the Swansea Hospital, etc.

INCISED WOUND IN THE THYRO-HYOID SPACE.

ON April 18th, 1888, we were called to a man who with a razor had attempted to commit suicide. He had made in the thyro-hyoid space a severe wound, two inches and a half in length, dividing the air-passages to one half their extent, and into which three fingers could be inserted. There were no important vessels injured; the bleeding having almost ceased before we got there. On consultation we decided not to sew up or close the wound in any way, but fixed the chin as low down on the chest as we could by means of a nightcap, with strings attached to a broad bandage round the waist, and applied a simple water dressing.

As we found that nearly everything he tried to swallow came out of the wound we fed him with a pint of new milk, a raw egg, and an ounce and a half of brandy night and morning, using a large gum-elastic catheter, attached to a funnel by means of a piece of india-rubber tubing.

For the first six days the patient had an enormous discharge of mucus, tinged with blood, from the wound, and he also had a sharp attack of bronchitis.

The discharge of mucus decreasing in quantity on April 26th (seven days from the date of injury) we proceeded to put in two silver wire sutures, one on either side of the wound, leaving a fairly large opening in the centre and still keeping the chin down on the chest by means of the strings above mentioned. On April 29th we put in a central suture, closing up the opening completely. The wound united well, and on May 3rd we found that he could swallow perfectly, and therefore gave up feeding him.

On May 9th he was well enough to go before the magistrates, and so passed out of our hands just three weeks from the date of the wound being inflicted.

REMARKS.—This case appears to us to be instructive with regard to the treatment of wounds of the throat seriously involving the air-passages. The natural impulse would be to sew up the wound; but we feel assured that such treatment must have killed our patient, from closing the aperture for the exit of the enormous discharge of mucus that there was for the first seven or eight days. There was no possibility of removing him to the hospital owing to the distance and to the very cold weather, consequently the feeding had to be done by ourselves, and though he was very debilitated from drink he kept up well, and made a good recovery in three weeks on the above-mentioned diet.

W. E. LUSCOMBE, M.R.C.S., L.R.C.P.
Collingham, Notts. FRANK BROADBENT, M.R.C.S., L.R.C.P.

THERAPEUTIC MEMORANDA.

HYOSCINE AS A HYPNOTIC.

IN the JOURNAL of July 14th is a most interesting article on the above, by Dr. Pitcairn, giving several successful cases, but as he does not enter very fully into the action of the drug, more especially as to bad effects which may be produced, I shall quote a case which occurred in my practice this season. A fashionable lady in middle life, healthy but over-active, suffering from insomnia and occasional prostrating attacks of neuralgia in the head, for which bromide and brandy have been generally employed, asked me to give her some hypnotic that would not disagree next day, fearing a restless night. I prescribed one of Burroughs's hyoscyamine tabloids, 1-80th grain, to be taken dissolved in half a wineglassful of water at bedtime. She had a quiet and most comfortable night, and felt refreshed next day.

This was so satisfactory that I prescribed 1-10th of a grain (Burroughs's strongest tablets) to be taken if an attack of neuralgia threatened. A fortnight after writing my prescription I was sent for in haste at two in the morning: found my patient in bed, pupils fully dilated, speech muddled. She told me that fearing an attack of neuralgia she had taken a tabloid on going to bed at 11 o'clock; two hours after she awoke with a start, a feeling of fear, great thirst, and burning sensation in the throat; on trying to get out of bed for a drink of water she staggered and fell; her legs felt paralysed. Her husband assisted her back to bed, gave her a drink of water, but was so alarmed by her saying she was sure she had a paralytic seizure he sent for me. She insisted on her diagnosis, as the left arm and side were numb. There was no neuralgia or pain. Knowing that hyoscyamine is identical with hyoscine, light atropine, and light daturine, I at once determined that the symptoms were due to an over-dose of the remedy: accordingly I proceeded to allay fears of anything more than a temporary alarm caused, so that after partaking freely of strong black coffee my patient was able to be down to breakfast that morning; the dryness in the throat and the numbness in the limbs lasted for three days.

I send these remarks as they may prevent others too readily believing that hyoscyamine has no idiosyncrasy. Where it suits I believe it to be a most desirable hypnotic.

Ladbroke Grove, W. W. SINCLAIR-THOMSON, M.D.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

WEST LONDON HOSPITAL.

A CASE OF "TREPHINING" THE SPINE FOR FRACTURE OF THE FOURTH CERVICAL VERTEBRA, WITH PARALYSIS.

(Under the care of C. B. KEETLEY, F.R.C.S., Surgeon to the Hospital.)

A YOUNG man, aged 22, dived into water 5 feet deep from a height of 30 feet, and was taken out with motor and sensory paralysis of both arms and legs, priapism, etc., and a slight cut on the forehead. There was, however, sensation over both deltoids and contracture of the flexors of the right arm. This was taken to indicate irritation of, probably, the fourth and fifth cervical nerves near their roots. The neck was very thick and muscular, and the only physical signs discoverable were an appearance of transverse folding of the integument and fat, suggesting that the neck had been shortened by the crushing in of one or more vertebræ. Mr. Keetley, three hours after the accident, cut down on the lower cervical vertebræ, and found the spine of the fifth very movable laterally, and that of the fourth sunk forward half an inch below the level of its neighbours. He removed the laminæ and spine of the fifth, when the lower edge of the arch of the fourth was plainly seen compressing the membranes of the cord. These were quite free from tension from within, in fact felt unusually soft and non-resistant. The laminæ and spine of the fourth vertebra were now removed, when the vertical canal appeared quite free from anything likely to interfere with the cord. The wound was closed, drained, and dressed. The patient next morning was better and stronger, and could move both his arms in flexion, but could not extend them. He could also feel down to the elbows. The next day he was stronger still and could feel down to the wrists. His voice was much stronger. He was troubled with pain and hyperæsthesia about the shoulders, and with the desire to cough. The third day he was in much the same condition, but his chest troublesome with phlegm, of which he could not rid himself. Steady and strong extension and counter-extension were applied to the head and feet respectively for a quarter of an hour with no visible result for either good or evil. Late in the afternoon he was turned on his side, and brought up quantities of thick mucopurulent phlegm, apparently from the throat and trachea. Suddenly he ceased to breathe. He was turned on his back, and artificial respiration kept up for five minutes. The pulse continued, and breathing eventually returned. A sacral bedsore was beginning. At 9 P.M. (7½ hours after the accident) he died.

The *post-mortem* examination showed that the cord had been

completely severed at the level of the fifth cervical vertebra, and that the body of the fourth vertebra was fractured; a perpendicular fissure ran through it and a minute spiculum projected backwards. But the vertebral canal was free and open, and when the head was bent well back the segments of the cord came together; with the head bent forward they separated half an inch or more. The wound had healed by the first intention, except where the drainage-tube lay *in situ*. The operation removed what would have been a permanent source of compression had the patient's injuries been of such a nature as to permit him to live. It is well known, however, that few of these cases survive the third day after the injury. But a case of Mr. Keetley's being alive, though helpless, now, in spite of injuries to the cervical spine some years ago, he resolved to give the patient whose case is related above a chance of complete recovery.

RADCLIFFE INFIRMARY, OXFORD.

RUPTURE OF THE SMALL INTESTINE, DEATH THREE WEEKS LATER.

(Under the care of WM. COLLIER, M.D., M.R.C.P.Lond.)

[From Notes taken by E. RICE, M.D.Lond.]

A. B., aged 39, was admitted to the Radcliffe Infirmary September 14th, 1887. His illness commenced eight weeks previously with severe griping pains in the abdomen, a few hours after drinking a large quantity of cold water while working in a hot July sun.

Since the commencement of his illness he had daily suffered, at irregular intervals, with severe attacks of abdominal pain, unattended with vomiting, and not, he thought, influenced by food. His bowels had acted regularly, and he had walked about and taken his usual food. His previous health had been extremely good, and his family history was satisfactory.

Condition on Admission.—He was a strong, well-built, healthy looking man, with clean tongue and regular pulse; urine normal; lungs and heart healthy. His stomach and intestines were distended with flatus, and slight tenderness was discovered in the right iliac region. Patient was ordered a draught containing sal volatile and ol. cajuputi. Two days later, on September 16th, about half-past six in the afternoon, he was suddenly seized with severe pain in the abdomen, accompanied by vomiting. Intense collapse followed, the temperature falling to 95°, and the skin becoming covered with a cold clammy sweat. The abdominal muscles became hard and rigid, and forcible peristaltic action was observed. Hot fomentations were ordered, and he was brought under the influence of morphine. The next morning his condition was as follows: his features were sunken and he wore an anxious, pinched expression; his pulse was very small and thready almost imperceptible; temperature, 98.4; extremities cold, lay with his knees drawn up; breathing chiefly thoracic; the abdomen was hard and somewhat distended and distinctly tender to the touch, particularly in the right iliac region; had retched at intervals through the night; bowels had not acted and had passed no flatus *per rectum* since the afternoon of the previous day. Ordered half an ounce of brandy every hour for a few hours, with half a grain of opium every two hours for a time. Only the smallest quantity of well diluted milk given by the mouth. By the following morning his condition had greatly improved, the vomiting had almost subsided, he was free from abdominal pain, the abdomen itself was tender to the touch, his pulse and general appearance had improved very much. From this time onwards he gradually got better. On the 20th his bowels were slightly opened for the first time since the attack. The opium pills, which had from time to time been reduced in numbers, were now discontinued. During the next week he was troubled with a good deal of tenderness, with occasional attacks of griping pain. These symptoms were found to be largely due to fæcal collection in the lower part of the colon and were relieved by small enemas and small doses (two drachms) of castor oil, the last dose of which was given on the morning of October 3rd. On the afternoon of October 6th he was again suddenly seized with intense abdominal pain, accompanied by vomiting, his temperature fell to 95°, and all the symptoms of intense collapse followed, from which he never rallied, but died eighteen hours later. Throughout the illness the temperature, except on two occasions, never rose above 99⅘.

Necropsy.—On opening the abdomen it was at once evident that a rupture of some portion of the alimentary canal had occurred, as *débris* of food was seen lying on the upper surface of the large omentum; it was also clear that there had been extensive general peritonitis. The omentum was adherent to the subjacent intestines and much thickened, the intestinal coils were covered with purulent lymph and adherent to each other. Everywhere thick creamy pus oozed from between the coils: deep down in the right iliac region near the ileo-cæcal valve, a small quantity of fæcal matter from time to time oozed forth as the intestines were pressed; on careful examination it was found to be escaping from a rupture in a coil of small intestine, which was adherent to the brim of the pelvis and bent sharply upon itself, so as to cause considerable obstruction to the intestinal contents at that point. The rupture was situated two or three inches above the point of adhesion and in the small intestine just 6½ feet above the ileo-cæcal valve. After careful examination of the mucous surface of the intestines no trace of ulceration could be discovered, nor was any foreign body likely to cause local irritation found. The rupture had the appearance of a clean tear, with no excess of inflammatory action in its neighbourhood.

REMARKS BY DR. COLLIER.—There can be little doubt that a rupture of the intestine occurred on September 16th, permitting at the time a small escape of the intestinal contents into the abdominal cavity, which set up general peritonitis. The peritonitis, by producing inflammatory adhesions between the adjacent coils of intestine, more or less closed the opening and prevented further escape; that as the peritonitis subsided the patient partook of larger quantities of food, which caused increased peristaltic action and increased pressure on the intestinal wall, leading to a fresh escape of the intestinal contents on October 6th. The cause of the rupture is more doubtful. The patient's symptoms dated from the time of his drinking a large quantity of cold water while hot; it would seem that the cold water excited powerful contractions of the small intestine, and so produced the acute bend which was found immediately below the seat of rupture and which caused considerable obstruction at that point; that as a result of this obstruction local inflammatory changes were set up, producing an adhesion of that portion of the intestine to the brim of the pelvis; later on the increased peristaltic contractions necessary to force the intestinal contents through the narrowed gut were sufficient to cause a rupture of the intestine wall already weakened by inflammatory changes.

LEPER ASYLUM, TRINIDAD.

TUBERCULATED LEPROSY: ANKYLOSTOMIASIS: TUBERCULOSIS: NECROPSY.

(Under the care of Dr. BEAVEN RAKE.)

B., aged 40, Hindu, was admitted to the Trinidad Leper Asylum on June 14th, 1887, with tuberculated leprosy of three years' duration. On admission, the face and ears were chiefly affected. He complained of severe pain and tinnitus of the left ear. Maggots were found in the nose, for which calomel injections were ordered. These, however, produced salivation very quickly. He was intensely anæmic; on incising the finger, only a very little pale blood escaped. No abnormal signs in chest. Ordered potassium iodide and cinchona.

As no satisfactory marks were found, he was vaccinated on June 27th, and there were four successful insertions on July 4th.

July 9th. Temperature 103°. Swelling of right leg, also large reddish swelling over left wrist. Ordered mist. alba.

July 11th. Temperature 103.6°. Several large blebs on right foot, and superficial ulceration of leg; face thin; tongue dry; delirious at times. Ordered quinine.

July 14th. Temperature 104.4°. Superficial excoriations on front of right leg and on both feet. Margins sharp; floors formed by thick yellow slough. Tongue dry and glazed. No fresh tubercles. Ordered castor-oil and santonin.

July 15th. Temperature 99.4°. Sitting up. Ulcers offensive. Ordered carbolic dressing.

July 18th. Fever gone. Ulcers clean, but edges still sharp. Eats better.

August 22nd. Fever again. Hands very œdematous. Urine pale, clear; no albumen. Ulcers on legs have nearly healed under iodoform and vaseline.

September 6th. Œdema and anæmia the same. No albumen. Ordered iron and quassia.

October 14th. Very wasted. Bad cough, especially at night. Skin hot and dry. Harsh breathing at apices. Ordered cod liver-oil and squill, and ipecacuanha, in addition to the iron.

October 21st. Quantities of maggots escaped from nose after calomel injections.

November 7th. Has wasted much during the last few days, but says he feels better.

After this he sank gradually, and died on November 16th. More maggots escaped before death.

Necropsy, four hours after death; Most of tubercles of face had disappeared. Some of the fasciculi of the median nerves were thickened and gelatinous-looking. Right pleura full of fluid; lung compressed. Left pleura adherent, and containing some fluid. Generally diffused miliary tubercles in both lungs. Liver 31 oz.; spleen 6 oz. Both contained numerous miliary tubercles. Kidneys 5 oz., fatty and anæmic. In the upper half of the jejunum the mucous membrane was covered with small hæmorrhages, and quantities of worms, about half an inch long, were found adherent. These were identified, under the microscope, as ankylostomum duodenale. Stomach, duodenum, ileum, and large intestine were free. Much dark disintegrated blood in ileum. A good deal of clear fluid in abdominal cavity. Heart, brain, and testes healthy. Magenta showed numerous bacilli in median nerve and femoral gland; few in testes.

Remarks by Dr. Beaven Rake.—I am not aware that ankylostomiasis has been described in Trinidad before. Doubtless, a careful search in anæmia necropsies in future will bring more cases to light. Mr. Strachan described it in Jamaica two years ago (British Medical Journal, June 27th, 1885, p. 1291). The intense anæmia and rapid œdema, without albumen in the urine, led me to think of beri-beri during life; and, by a strange coincidence, two days after the necropsy I received the *Lancet* of October 22nd, in which it is stated (p. 821) that Dr. Kynsey finds that what is called beri-beri in Ceylon is identical with ankylostomiasis, the former probably including several conditions.

There are other points of interest in the case. The acute leprosis on July 9th appears to have been started by the vaccination. This result I have noticed in other lepers whom I have vaccinated. That the ankylostomum had probably something to do with the general febrile disturbance would seem to be indicated by the fall of the temperature from 104.4° to 99.4° after santonin. This was given on the chance of round-worms being present; the ankylostomum was not suspected. I have lately had two other obscure cases at the asylum in which marked relief has followed santonin, but without the discovery of round-worms. Possibly these may have been similar cases. I do not find in any book a direct reference to santonin for this parasite, but it would seem worthy of further trial.

Lastly, there is the miliary tuberculosis of the viscera. This would appear to have come on late in the case, for there were no lung signs on admission. Perhaps there may have been infection from the lesions in the bowel. A specimen has been sent to the Pathological Society of London.

REPORTS OF SOCIETIES.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Last Ordinary Meeting of Session 1887-88.

T. W. Hime, B.A., M.B., President, in the Chair.

Alcoholic Paralysis.—Mr. J. C. Vaughan read a paper on Alcoholic Paralysis, which he said was first described in 1822. Since then numerous authors had written on the subject, and more recently Dreschfeld, of Manchester, who divided the affection into "Alcoholic Ataxia," more frequent in males, and "Alcoholic Paralysis," more frequent in females. The following case was related: A woman, aged 36, was admitted June 13th, 1887. For some time past she had complained in a vague way of pains in her legs and of not being well. She was rather confused in mind; showed a mild delirium at times, but was very docile; walked with some difficulty, the grasp was weak; tongue tremulous, and the appearance alcoholic. She complained during the first two days of pain in the legs, and then suddenly became paraplegic, and the pain in the legs increased and was occasionally sharp and shooting; usually dull and aching in the hands and forearms, feet, legs, and thighs, and slightly in the back. There was a sensation of cold also in the extremities, with tenderness in the muscles of the lower limbs and along the course of both great sciatic nerves. There was complete paraplegia with slight wrist-drop and "pointing" of toes of both feet. The mouth was half open. The knee-jerk was abolished, ankle clonus absent, and the superficial reflexes lowered. The organic reflexes were normal; electric reactions to faradic current almost *nil*. The skin was dry and thin, not typically "glossy," and there was occasional sweating. There was marked hebitude of expression, alternating with lively, pleasant talking of a most irrational character; sleeplessness and restlessness; refusal of food, with suspicion that it was poisoned. The pulse was 120, very irregular. Later on an abscess developed in the left broad ligament, and the patient died on July 11th. On *post-mortem* examination, nothing definite was noticed in the brain and cord, but the sciatic nerves showed well-marked interstitial neuritis, with breaking up of myelin of the nerve-tubes.—The paper was discussed by the President, Dr. Godfrey Carter, of Ilkley, Dr. Woods, Dr. Major, and others.

External Anthrax.—Dr. S. Lodge related the following cases: I. J. W. M., aged 26, an overlooker in the washing department for camel's hair, consulted him on August 2nd, 1887, for supposed barber's itch. On examining his right cheek, a black eschar about the size of a shilling was seen, surrounded by a raised red border, with a purplish, œdematous, and indurated areola. The base was thickened and indurated, and could be felt through the mouth to be considerably larger in extent than the black eschar. There was no fœtor. Slight glandular enlargement. He had an anxious expression; skin rather dry; temperature 100.5°; tongue clean and moist; pulse 90; respirations 23. On July 29th, a barber, whilst shaving him, had cut the top of an ordinary acne pustule. On his way next morning to work amongst the camel's hair, he once more pulled the top off the spot on his cheek. He remembered touching it several times during the morning whilst at work, as it was irritable; the same evening he felt aguish, and suffered from marked febrility. The sore had a dark red base, was angry looking, itched, and burned. The pustule was dressed with vegetable silk, impregnated with boracic acid, and occasionally washed with corrosive sublimate solution, 1 in 1,000. Microscopically, the bacillus anthracis was detected in the serum from the wound. Dr. Hime, who, as medical officer of health was asked to see the patient, successfully cultivated the bacilli. On October 3rd there was no trace of the original lesion in the cheek, except a healthy cicatrix.—II. S. G., aged 21, mohair sorter. One Friday night, a papule about the size of a pin's head appeared on the right upper eyelid. The same evening, the papule became vesicular, and had a bluish areola. On Saturday morning the patient could hardly see, on account of œdema. The next morning the pustule was larger, and had a characteristic black eschar. There was cervical glandular enlargement. The general symptoms were much worse, the head, neck, mouth, and chest on the same side being swollen. On the following days pustules appeared on the buccal mucous membrane, and saliva dribbled from the mouth. Incisions into the inflamed tissue gave some relief, but rigors set in, with incessant vomiting, delirium, diarrhœa. Death took place on the seventh day.—III. Pustule commenced on eyebrow, similar in character to Case II, and ended fatally.—IV and V. The pustule was situated on the arm in both cases; one ended fatally. The necropsy revealed nothing of importance beyond characteristic blueness of extremities.—VI. In this case, a young woman who had her forearm severely wounded, developed a typical malignant pustule on the edge of the wound, which spread over the skin, but did not involve the raw surface. The spreading on the skin agreed with other observed cases, and accounted for the frequency with which the diagnosis of erysipelas was at first made.—VII. Three pustules made their appearance in this case; one was situated on the top of the right shoulder, another over the angle of the left scapula, the remaining one midway between the other two. This case proved rapidly fatal, the symptoms resembling those of snake poisoning.—The President, Dr. Bell, Dr. Goyder, and others took part in the discussion.

Pasteur's Treatment.—During the month of May, 161 persons were treated at the Pasteur Institute. Out of this number 45 were bitten by animals in which the existence of rabies was proved experimentally; 97 were bitten by animals certified to be rabid by veterinary surgeons, and 14 were bitten by animals suspected to be suffering from rabies. Out of this number two died. In both the fatal cases the bites involved the face, and were very severe. They came under treatment the second and fifth day respectively.

Charles Henry Bedford, M.B., C.M.Edin., M.R.C.S.Eng., Surgeon to the Gesto Hospital, Edinbane, Skye, has been presented with a very handsome testimonial, showing universal popularity and appreciation, on the expiry of his term of office at the hospital.

REVIEWS AND NOTICES.

A Practical Textbook of the Diseases of Women. By Arthur H. N. Lewers, M.D.Lond., M.R.C.P.Lond, Assistant Obstetric Physician to the London Hospital, Examiner in Midwifery and Diseases of Women to the Society of Apothecaries of London, &c. With Illustrations. London: H. K. Lewis.

Once it was the fashion for authors to apologise in prefaces for having written their books; now it is rather the critic who has to apologise for explaining, at more or less length, the general necessity, or the reverse, for the publication of the kind of work which he reviews. Speaking generally, in the present case, there can be no doubt that far too many textbooks on diseases of women are current. Yet, in this particular instance, there can be little if any objection to the work now submitted to our notice. The author is a teacher at a large medical school. He must, therefore, know more or less how to teach an art which many more experienced specialists have never acquired through want of opportunity. Gynæcology is the science above all others which has been most advanced (and, alas, most damaged) by pure specialists; but medical men of that class teach by admitting qualified visitors to their operations and by publishing results in language only to be thoroughly understood by persons who have borne the responsibilities of practice. Education in groundworks of knowledge and the control of what is often termed exclusive direction are best undertaken by men accustomed to teach medical students.

The author dedicates his work to Dr. John Williams, and traces of the direct teaching of that authority abound in almost every chapter. It is true that one chapter is entitled "Bleeding," and thus, through its title, recalls the style of Dr. Matthews Duncan; but in substance, being extremely analytical in character, and swarming with tabular classifications, it widely departs from the well-known method of that obstetrician. Again, although hysterectomy for fibroid disease is dismissed with small notice and strong condemnation, quite after the manner of the great apostle of expectant gynæcology, supravaginal amputation of the cervix and even the perilous total extirpation of the uterus through the vagina are treated with a favour which marks the influence of the Professor of Midwifery at University College. Turning to Dr. Lewers's work, as inspected in detail, chapter by chapter, we must admit that it is well suited to the needs of the student. Examinations being a necessary social evil, it follows that a textbook must contain more or less of these tabular classifications, which are a sad eyesore to the true lover of literature; for causes and symptoms must be "got up," and tabulation, although it spoils the look of the text and damages an author's power of literary composition, is necessary for "getting up" these matters. In the shortness of his paragraphs Dr. Lewers has shown that he understands the instincts and prejudices of the student.

Altogether praiseworthy are the opening chapters on the proper methods for investigating cases where disease of the female genitals is suspected to exist, and on normal and abnormal physiological phenomena in women. Turning to the departments where we may expect to find some account of major operations we naturally look up ovariotomy first, for so many students are likely, in these days, to take upon themselves the responsibility of performing that operation. Dr. Lewers describes ovariotomy well; we do not find fault with him for a somewhat dogmatic style in laying down directions, since it favours a strict adherence to method, a kind of discipline in fact absolutely necessary for the tyro. The Staffordshire knot is not safe for beginners; at least, it cannot be safely taught through letterpress, and the blunt-pointed pedicle-needle, figured at page 320, is very dangerous in inexperienced hands, on account of its powerful leverage, so that if clumsily handled the pedicle may be badly split, an accident all the more likely, since the needle is so unnecessarily broad near its point. We have already noted the author's dislike to hysterectomy and contrasted it with the relative favour which he awards to vaginal extirpation of the cancerous uterus. How far either of these operations ought to be taught to students is a matter of opinion very hard to decide.

The author's chapter on "Diseases of the Fallopian Tubes" will be read with interest by those who know that Dr. Lewers is a good scientific authority on the subject; his pathology is very sound and based on ripe experience, recently summed up in a monograph read before a London society. His doctrines on flexions and versions are entirely after the new school. There are some good clinical histories in the textbook, but of such matters the student is no judge. A fair display of instruments is to be seen in this work. This is right, for the student must learn the appearance and the use of what he will some day have to employ, and the author has shown judgment in selection, so that needless appliances have been rejected. Consistently with his principles, Dr. Lewers ought to have said more on the anatomy of the female organs, a subject imperfectly taught in most dissecting-rooms. We shall look for a whole chapter at least on the vulva, vagina, uterus, and appendages in the next edition, free from exotic lumber about axes, subtle arrangements of fasciæ, and the precise nature of the perineal body, and from anatomical luxuries in the frozen section line, excellent science no doubt, but far above the student. Dr. Lewers, it must be allowed, has taken care not to go beyond that limit; his work is suited to its professed object, and that is why we have scrutinised it at some length.

The Electric Illumination of the Bladder and Urethra as a Means of Diagnosis of Obscure Vesico-urethral Diseases. By E. Hurry Fenwick, F.R.C.S., Surgeon (Out-Patient) to St. Peter's Hospital for Stone and other Urinary Diseases; Assistant Surgeon to the London Hospital, etc. With Thirty Illustrations. London: J. and A. Churchill.

Mr. Fenwick is well-known to readers of current medical literature, and to members of the London societies, as a surgeon and pathologist who has devoted much time to the study of diseases of the urinary organs. The work which he has prepared will prove of high value to experts. To explore the bladder by the aid of the electric light needs special experience of a kind which the author has acquired, and is therefore competent to teach. Yet it is clear that his readers cannot possibly benefit from his instruction without a previous knowledge of the anatomy and pathology of the urinary organs.

The use of electric illumination must be manifest as soon as its mechanical application is understood, precautions against damage from evolved heat being carefully indicated. Surgeons are yet sceptical about the possibility of directing electrolytic action to the disintegration of new growths; they may also prefer other caustics to the galvano-cautery. When the advisability of lighting up internal recesses is in question, the case is quite different, for the electric light is the only possible agent to effect what is desired, at least wherever the surgeon cannot, for any reason, lay the recess open with his knife.

As in all works on electricity as applied to surgery, a large portion of Mr. Fenwick's book is taken up with descriptions of different instruments. He gives the preference to Leiter's incandescent lamp cystoscope. It is cheap and easy to keep in order, and does not require any water-cooling apparatus, nor a cumbersome Bunsen's battery. There is no danger of burning the vesical mucous membrane as long as the bladder contains about five or six ounces of urine or water. Nor, according to our author, is there any fear of the lamp breaking within the bladder, through the heat of its light or through striking smartly against a calculus.

The cystoscope cannot be used in cases of undilated stricture of the urethra; in enlarged prostate, where the prostatic part of the canal is very tortuous, so that blood is smeared over the parts of the apparatus that should be transparent, and afterwards mixed up with the urine in the bladder, and it is difficult to work in contracted bladders. When the bladder contains blood or pus, the light becomes fogged, so that the organ must be washed out and water injected to replace the more opaque fluid. Mr. Fenwick supplies some important rules for conducting an examination; but they cannot be understood without a previous demonstration of the mechanism and construction of the apparatus, for which we must refer the reader to the work itself.

The clinical application of the cystoscope, described as demonstrated in a large number of cases, is ably detailed by the author; it constitutes that part of the work which will prove of most interest to the general reader. Foreign bodies, calculi, and new growths may be discovered or satisfactorily explored with a view of ascertaining the chances of successful operative measures. The orifices of the ureters may be inspected for the diagnosis of renal from vesical hæmaturia. Mr. Fenwick believes that the cystoscope will never become so popular nor so generally employed as the ophthalmoscope and laryngoscope, but will be reserved for

those cases of obscure vesical disease which other methods of examination have failed to elucidate. It allows a visual examination of the bladder without a cutting operation, and will therefore, the author thinks, rank immediately before and in some cases supersede the *boutonnière* operation, or Sir H. Thompson's digital exploration of the bladder.

The final chapters treat of the incandescent lamp urethroscope. Leiter's instrument has superseded previous patterns. Mr. Fenwick makes use of cocaine before introducing the apparatus, and has never seen dangerous results following its use upon the urethra, although he has used the drug as routine practice in a large out-patient department since January, 1885. He does not hesitate to slit the meatus downwards prior to urethroscopy if it be at all narrow, and finds that not only does that practice facilitate the passage of the instrument, but it also cures several well-known morbid conditions. In exploring certain affections of the urethra which cause obstinate neuralgic pains, the urethroscope may prove of high service. Mr. Fenwick does not consider that the instrument is likely to prove of great value in the treatment of stricture, but he thinks that it will prevent false diagnoses and consequent mischievous operative interference.

The Electric Illumination of the Bladder and Urethra describes a series of diagnostic manœuvres which, owing to the dexterity and precautions they demand, are in reality surgical operations. From certain passages to which we have referred, it may be judged that Mr. Fenwick has not been injudiciously enthusiastic about electric endoscopy. His advocacy of the system is temperate, and he displays considerable ability in the description of necessary manipulations.

VORLESUNGEN ÜBER AKIURGIE. Von Dr. BERNHARD VON LANGENBECK, Weiland Wirkl. Geh. Rath, und Professor. Mit Benutzung Hinterlassener Manuscripte, Herausgegeben. Von Dr. TH. GLUCK, Professor der Chirurgie in Berlin. Berlin: Verlag von August Hirschwald. 1888.

IN the publication of this bulky volume Professor GLUCK has brought to completion a work that was planned by von Langenbeck late in life, but not carried on by this eminent surgeon to any great extent. The book, which forms a full and comprehensive treatise of operative surgery, has been made up for the most part from an extensive mass of manuscript notes and excerpts collected by von Langenbeck from 1834 to the time of his death, and from full notes of his lectures written by Dr. Georges Meyer when a student in the University of Berlin. The editor states that his object in preparing this book has been "to offer to all admirers and old pupils and friends of von Langenbeck a written memorial by the perusal of which they may be reminded of the person, the views, the individual peculiarities of diction, and the scientific standpoint of this great, genial, and erudite academical teacher." The result of Dr. Gluck's very laborious and conscientious efforts to attain this object will no doubt be regarded by German surgeons as thoroughly successful, as they now possess, what did not exist during von Langenbeck's lifetime, a work that may really be considered a full and complete treatise from his hand.

Notwithstanding the value of the book as a record of the matured views of a very experienced and enlightened surgeon, we doubt whether it will find a large circulation in this country, or serve as more than a work of reference for hospital surgeons and teachers of operative surgery. Though of considerable bulk, running over more than six hundred closely-printed pages, it is intended to deal only with the subject of surgical operations, "Akiurgie" being defined as the teaching of the use of surgical instruments, and of the treatment of morbid conditions and solutions of continuity by blood-shedding procedures. For instruction on surgical manipulations, so far as this can be gained by reading, the student and inexperienced operator in this country will, we doubt not, be disposed to trust to one or more of the many excellent though less elaborate works by English and French authors. Moreover, the work edited by Dr. Gluck, considered as a textbook of operative surgery, is marked by a defect which many will regard as fatal to a work of this kind—namely, a total absence of illustrations and diagrams. These lectures, however, have a much wider scope than the contents of the ordinary manuals on this subject, as they do not deal simply with the anatomical and technical details of each operation, but refer constantly to associated questions of pathological and clinical interest, and are thus analogous in their method of treating the subject to the classical *System of Practical Surgery* so much valued by the old pupils of Sir Wm. Fergusson. Though written in retirement by a veteran teacher whose work as professor of surgery was begun in 1842, these lectures of von Langenbeck are marked by an admirable freshness, and indicate on almost every page a full appreciation and acceptance on the part of the eminent author of the latest developments of surgical treatment.

In an introduction to this collection of lectures Dr. Gluck has given an interesting biographical sketch of von Langenbeck, and the interest of the work is enhanced by a very good portrait of his late master.

NOTES ON BOOKS.

Practical Physics: for Schools and the Junior Students of Colleges. By BALFOUR STEWART, M.A., LL.D., F.R.S., and W. W. HALDANE GEE, B.Sc. Vol. i, Electricity and Magnetism. (Macmillan and Co.)—This little work will be welcomed by teachers of physics in schools. Each chapter is subdivided into lessons of suitable length for school instruction, whilst the lessons contain exercises, and laws are illustrated by examples. All apparatus required in experiments is fully described, and even the mode of its manufacture is carefully detailed, so that the student may first make his apparatus and then apply it to experimental purposes. In the opinion of the authors, the greater part of the work should be easily within the range of schoolboys. The eminently practical nature of the treatise is maintained to the end, for in the Appendix we find a list of prices of materials employed in the course: a section on the requirements of a physical laboratory for schools; and even two or three plans of school laboratories at present in use.

Handbook of Diseases of the Eye. By H. R. SWANZY, M.B. Second edition. (London: H. K. Lewis. 1888.)—This edition is in many respects a considerable improvement on the original edition, much new matter has been added, and many important amendments have been made in the original matter; these, however, have, we think, rendered our original criticism even more true than it was, namely, that a large amount of matter has been introduced which is of great interest to the physician and the specialist, but that subjects which are of much more importance to the student and ordinary practitioner have been thereby crowded out. If the book was to be kept within its present limits this was inevitable, but it is, we believe, fatal to its success as a student's manual. Our complaint as to the meagreness of the ophthalmological portion of the book does not hold good with regard to the chapters devoted to a description of the operation of cataract extraction, and to affections of the ocular muscles; it is a thousand pities that a most lucid explanation of a difficult subject has been spoiled by the printer transposing the numbers of Figs. 135 and 136, so that the descriptions do not coincide with the figures. By far the most important feature in the present edition is the chapter on amblyopia and hemianopsia, which is very complete; in the first edition only nine lines were devoted to the subject of homonymous hemianopsia, now we have seven pages. In the chapter on muscles also we notice a valuable paragraph on conjugate deviation. These parts alone would render the book very valuable to the physician. Mr. Swanzy's nomenclature and orthography are sometimes peculiar; lachrymation is "tearing," and he speaks of dacr*w*o-cystitis; if this is correct, why not also of m*w*opia and pres*b*yopia?

Tarasp-Schuls. By J. PERNISCH, M.D. 12mo, pp. 80. 2nd edit. (Chur: 1887.)—This reissue of an excellent guide to Tarasp calls for little comment. The table at the end is interesting, as giving a graphic representation of the amounts of the various salts present in the chief alkaline saline waters of Europe. But why Kissingen, which has no carbonate of soda, should be included in the table, we are not aware. From recent information we are inclined to believe that the hotel accommodation at Tarasp-Schuls scarcely comes up to English ideas of comfort. Of the value of the waters there is no question.

The Royat Guide Book. 16mo, pp. 168. (Clermont-Ferrand: 1888.)—This very neat little work is amply supplied with woodcuts and sketch maps, and gives all the general information that can be required by the numerous English visitors to what the French have constituted their rival of Ems.

THE ANNUAL MUSEUM.

THE annual museum, which for the last twenty years has been a recognised part of the attractions of the annual gatherings of the Association, has of late, owing, no doubt, in a great measure, to the great strides made in pharmacy, the high excellence of its exhibits, their varied character and increasing numbers, been generally regarded as one of the most interesting features of these meetings. The twenty-first of the kind, held at the University, Glasgow, was markedly successful, and its organisation and management reflect the highest credit upon those honorary officers to whom those duties were entrusted. So numerous were the exhibits that it was found impossible, even within the spacious walls of the University, to find an available room large enough to house them. Food and Drugs (Section A), of which the Honorary Secretary was Dr. R. S. Thomson, B.Sc., M.B., C.M., occupied a particularly favourable position in the Examination Hall and a marquee in the grounds; Pathology (Section B), Hon. Sec., Dr. J. Lindsay Steven; Anatomy (Section C), Hon. Sec., Dr. J. Yule Mackay; Physiology (Section D), Hon. Sec., Dr. J. M'Gregor Robertson, M.A.; Instruments and Books (Section E), Hon. Sec., Dr. J. Macintyre, had alloted to them the Lower Hall of the Hunterian Museum; and Sanitation (Section F), Hon. Secs., Dr. Robert Pollock and Dr. A. W. Russell, occupied space in the marquee above-mentioned. The Museum Committee included, besides, the following: Mr. H. E. Clark, M.R.C.S. (Chairman), Dr. Thomas Reid (Vice-Chairman), the other members of Committee being: Drs. A. M. Buchanan, Johnston Macfie, David Newman, James Finlayson, and William Macewen. The Honorary General Secretaries were Dr. A. Ernest Maylard and Dr. R. S. Thomson.

SECTION A.—FOODS, DRUGS, MINERAL WATERS, ETC.

England stands first in order, both to the number of exhibitors and the importance of the exhibits shown. Outside the Examination Hall, in which the Section was housed, a magnificent stand showed to advantage the exhibits of Richardson and Co., of Leicester, prominent among which was a Dispensing Cabinet, intended mainly for the use of country practitioners and others dispensing their own medicines. Just inside the door Mr. John McMillan's (Glasgow) stand, tastefully draped, with Milne's Antiseptic Dressings, looked well. Within the Hall, Messrs. Savory and Moore's stand filled the whole middle of the Hall. This firm showed their already well-known preparations, and especially their various combinations of Drugs with gelatine. Messrs. Corbyn and Stacey showed a large collection of new and rare Drugs, and especially their Coca Champagne, which seemed to be in great demand among the visitors, and which was liberally distributed to all who wished to "sample." Messrs. Armbrecht, Nelson, and Co. also exhibited their Coca Wines, which seemed to be well received by visitors. As usual, Messrs. Burroughs, Wellcome and Co. and Messrs. Ferris and Co., of Bristol, showed a large collection of Drugs. The former firm occupied an advantageous position in the centre of the Hall, and it goes without saying that the firm, in the selection of its exhibits, maintained its reputation as one of the first drug firms of the world. The latter showed in association with their drugs a large collection of Instruments; this stand was one of the prettiest in the Museum, and was photographed at the close of the meeting, as was also that of the Sanitary Wood Wool Company. Messrs. Allen and Hanbury, Warne and Co., Charles Green and Co., C. J. Hewlett and Sons, and Schacht and Co., all showed samples of their well-known preparations. Messrs. G. and G. Stern's presence was made evident by the pleasant odour of pumiline essence which pervaded the Museum. Mr. W. E. Sacker exhibited his own and Schieffelin's Coated Pills, etc. Invalid Wines were well represented by the exhibits of Messrs. Burgoyne and Co., Max Greger, and William Farmer, of Hillhead, at whose artistically arranged stand samples of Collyns's Australian Wines and Farmer's "Nourishing Stout" were liberally dispensed. Mineral Waters were exhibited by the Apollinaris and Taunus Mineral Water Companies, and the Glasgow Apothecaries Company showed a collection of Mineral Waters on behalf of Messrs. Ingram and Royle, of London. The Salutaris Company had also a small exhibit. Invalid Foods were well represented by Messrs. Brand and Co., the Viking Food and Essence Company, Messrs. George Mason and Co., Limited; and Messrs. Dickson and Renwick. Friedr. Bayer, of Elberfeld, on a neat stand, showed their new preparations, "Phenacetine" and "Sulfonal." Invalid Foods, in the shape of cereal preparations, were represented by Messrs. Gillman and Spencer's Rizine, Messrs. Scott and Gibson's Oat and Flour Preparations for diabetic patients were shown by Messrs. John Walker and Co., Glasgow, Gray, Dunn, and Co., Glasgow, and Simon Henderson, of Edinburgh. The exhibit which attracted a good deal of attention was that of the Chemical Carbon Company, whose energetic representative had his time fully occupied in explaining the principle of his carbon cones.

The following were among the principal exhibits:—

ALLEN AND HANBURYS'.—This firm showed an interesting collection of new remedies and improved preparations. Among them are their old standards, the Perfected Cod Liver Oil and Tasteless Castor Oil, now generally known and appreciated. Also their preparations of malt. Of these, Bynin, a fluid extract, deserves notice. It is claimed that it is more active, convenient, and palatable than the ordinary extract, and very excellent results have, we believe, been obtained by its use in practice. Byno-pepsin and Byno-pancreatin are solutions in Bynin of Pepsin and of Pancreatin respectively. They are efficient preparations, the activity of Byno-pancreatin, as shown by the conversion of starch, being remarkable. It is stated that these preparations, besides being palatable, have the advantage of keeping well. Cascada is the name applied to an elegant preparation of Cascara Sagrada, in light wine free from bitterness, and in fact of agreeable flavour. Half a glass to a glass in the evening will produce the characteristic action of this useful laxative. Cascada Lozenges present similar advantages, in a form that may be preferred by some people. They are likely to be useful for administration to children. Samples of Fluid Extract and Elixir, both free from bitterness, are also shown. We note Syrup of Hydriodic and Syrup of Hydrobromic Acid, for which special purity and permanence are claimed. Also a considerable number of Fluid Extracts of American and other plants; amongst them those of Collinsonia Canadensis, said to be highly esteemed in cases of gravel and inflammatory affections of the urino-genital mucous membrane, and of the sexual sedative Salix Nigra. Oleum Pini Pumilionis, lately brought into prominence, was introduced by this firm more than twenty years ago. Among numerous new remedies are Antipyrin, Antifebrin, and granular effervescent preparations of them. Also Phenacetin, Salol, Sulphonal and granular effervescent preparations of them; also Hyoscine, Hydrobromate, a valuable cerebro-spinal sedative. Amongst convenient forms for the application of remedies, we may note a valuable series of Hypodermic injections, claimed to be uniform, active, and permanent; glass capsules containing Amyl Nitrite and Ethyl Iodide; a large series of Pills in Transparent Coating, of beautiful appearance and ready solubility; a series of Medicated Pastilles, particularly designed for affections of the throat; soluble Saccharin—this is in the form of a coarse or slightly granular powder. It contains 90 per cent. of saccharin, is readily soluble and is an economical and convenient form for the use of the new sweetening agent. Saccharin Tabellæ, containing one-half a grain of saccharin in each, are popular, but they do not admit of so easy adjustment of the quantity required as the powder.

Messrs. ANDERSON AND ADAMS (62, Grafton Street, Dublin) showed a Chloride of Ammonium Inhaler, of which the following is a description:—A glass tube supported on a portable stand, has a fine nozzle to which an india-rubber tube and mouthpiece are attached. A small quantity of sal ammoniac in crystal is introduced into the tube; a lighted spirit lamp is placed below, and kept there until the salt begins to volatilise, when the fumes may be inhaled as desired. The novel feature of this inhaler is the use of sal ammoniac in crystal instead of the strong hydrochloric acid and liquor of ammonia acid in other apparatus. The use of these, together with more or less complicated apparatus, has, they say, to their knowledge largely interfered with the inhalation of ammonium chloride, ladies and others objecting to handle such corrosive fluids. In this apparatus the forms are said to be uniformly neutral, and while they are perfectly anhydrous (when inhaled direct), can be rendered moist by drawing them through a wash bottle containing warm water, as shown in the illustration. The price (3s. 6d.) brings this inhaler within reach of many who could not afford the more expensive apparatus hitherto in use

THE APOLLINARIS COMPANY, LIMITED.—One stand was devoted to exhibits from this firm. Apollinaris. The annual consumption of this favourite beverage, which, it is stated, now exceeds twelve million bottles, affords a striking proof of the widespread demand which exists for table water of absolute purity, and it is satisfactory to know that wherever one travels, in either hemisphere, it is to be met with; it is ubiquitous, and should now be known as the cosmopolitan table water—"Quod ab omnibus quod, ubique." Friedrichshall is daily acquiring more extended use and general popularity, and will no doubt continue to do so so long as physicians appreciate the necessity of employing an aperient for habitual purposes which is not only without debilitating effect, but which also acts as a tonic to the system. Hunyadi János is a well-known representative of the numerous Hungarian aperient waters obtained from the neighbourhood of Buda-Pesth, the consumption of which, under various names, appears to be steadily on the increase.

Messrs. ARMBRECHT, NELSON, and Co. (2, Duke Street, Grosvenor Square) exhibited their Coca Wines, of which each visitor was invited to partake. To suit the variations of palate, the coca (Erythroxylon Coca) is combined with Burgundy, champagne, Malaga, port, and sherry wines, the result being that this popular remedy for mental and bodily fatigue may be taken in the form of a most pleasing and agreeable beverage. As a nerve tonic and as a remedy for sleeplessness it is said to be highly beneficial, and becoming to be largely used.

AUSTRALIAN WINE IMPORTERS, Limited (2, East India Avenue, E.C.).—This firm, through their agent, Mr. William Farmer, of Glasgow, showed and sampled some very pleasing and palatable Australian Wines of various kinds, for which they claim special tonic and invigorating properties in virtue of their being grown on ferruginous soil. Mr. Farmer's Nourishing Stout was said to contain an exceptionally large percentage of malt extract.

FRIEDR. BAYER and Co. (Elberfeld, Germany) showed samples of their Phenacetin-Bayer

$$C_6H_4\begin{cases} NH.\,CH_3CO\ (1) \\ OC_2H_5\qquad (4) \end{cases}$$

said to be a powerful antipyretic and antineuralgic, distinguished from other products of the same class by being absolutely tasteless and odourless, and especially its entire freedom from any injurious after effects. The purity of Phenacetin-Bayer is said to be guaranteed by its fixed melting point of 134½ C. The exclusive sale of Phenacetin-Bayer for the United Kingdom of Great Britain and Ireland, and the British possessions, has been placed in the hands of Messrs. May and Baker, Garden Wharf, Battersea.

The same firm also exhibited Sulfonal-Bayer

$$\left.\begin{matrix} CH_3 \\ CH_3 \end{matrix}\right\} C \begin{cases} SO_2.C_2H_5 \\ SO_2.C_2H_5 \end{cases}$$

a new hypnotic, for which it is claimed that it does not act narcotically, but merely assists natural sleep, and, where such is not present, induces it. It is said that it does not in any way affect the action of the heart, and, on account of its being absolutely tasteless and odourless, is essentially and inestimably advantageous for treatment of insanity. Sulfonal-Bayer is quite colourless and crystalline, and melts at 125-126° C. They guarantee its purity.

Messrs. BRAND and Co.'s exhibit, without which this section could hardly be considered to be complete, consisted of a goodly display of their world-famed Dietetic Specialities for Invalids, including their Meat Essences, Concentrated Preparations, Albuminous Extract of Beef, Savoury Meat Lozenges (affording to travellers and others substantial support in a simple and convenient form), Soups, and Beef-tea Jelly; and especially should be mentioned their Beef Bouillon, a recent introduction of this firm supplied in an available and cheap form.

The BRITISH and FOREIGN MINERAL WATER COMPANY (Glasgow) had a fine display of Aërated Beverages and Artificial Mineral Waters, in bottles and siphons, including Carbonated Loch Katrine Water, Soda Water, Soda Water *B. Ph.*, Potass Water, Potass Water *B. Ph.*, Aromatic Tonic Bitters, Lime Water, Lithia Water, Fluid Magnesia, Salicylate of Soda Water, Pyrophosphate of Iron Water, Selters, Carlsbad, Kissingen, Eger, Pyrmont, Heilbrunn, Homburg, and Hunyadi János. Also chemicals (solid and liquid) and other materials used in the manufacture of their aërated beverages.

Messrs. BURGOYNE AND CO. (London) showed and sampled their Australian Wines, which appeared to meet with great favour. Among those shown were the Red Wines—Singleton Hermitage, Tintara, and Kaludah; the White Wines—Highercombe, Tokay Imperatrice, Muscat of Alexandria, Singleton Riesting.

Messrs. BURROUGHS, WELLCOME, and Co.—The exhibit of this enterprising and well-known firm comprised a large and varied assortment of new and improved forms of medicines and dietetic preparations. First among these may be mentioned the Tabloids of Triturated Drugs, which differ from pills in that the drug in them is incorporated with sugar of milk instead of an excipient, and is always sure to disintegrate in any fluid at once. Each Tabloid Triturate is made by compression, in lenticular form, and contains only a small dose, so that one may be given often. This form of medication is specially adapted for infants and fastidious patients. The plain Tabloids themselves contain only the pure drug in compressed form, those for use in the mouth, like the Voice Tabloids, being very hard, while those for internal administration are more crumbly. In prescribing drugs in the form of tabloids, of course, nothing more than what is desired is given. This certainly constitutes a striking advance. Among the new drugs prepared in tabloids were to be noticed Sulphonal, the new hypnotic; Salol, the new anti-rheumatic, febrifuge, and antiseptic; and Antipyrin, which has so well established itself as a febrifuge, anti-rheumatic, and remedy for headache. These agents, it may be noted, were exhibited in the form of powder as well. Among the complete list of hypodermic tabloids, the new alkaloid of ergot, Cornutin, was to be observed. A new preparation which received favourable comment from those who had tried it in piles was Hazeline Ointment, made with Lanoline and Hazeline. Specimens of Lanoline Soap were widely distributed, as, indeed, were samples of nearly everything pharmaceutical. Lanoline Toilet Soap is a milled soap, lathers freely, is elegantly perfumed, and prepared in beautiful tablets of pleasing colour. It was praised by those who had used it. Several of the Burroughs Chloride of Ammonium Inhalers were to be seen working, and yielding neutral fumes, charged in one case with Pure Terebene (Burroughs), in another with Eucalyptia, and in another with Pinol. The Eucalyptia used is a pure essence distilled from the leaves only of the true species, Eucalyptus globules. The Pinol is a pure essence also, distilled from the small twigs of the Pinus Pumilio found just below the snow-line of the Alps, and which has been stunted by the cold. Pinol possesses a rich and rare pine fragrance. The fragrance of pinol is so exquisite, that a Pinol Perfume is now manufactured, and finds a useful function in the sick room. The Extract of Pumilio Pine (Burroughs) may be used by those who need pine baths, but cannot go to Germany for them. A very useful nutritive preparation is the Zyminised Suppositories, for rectal feeding in those cases where food cannot be given by the stomach. They are of two kinds, one containing meat, the other milk. It is stated that life has been sustained with them for six weeks. Some bottles of Pure Trypsin (Fairchild), sometimes used to dissolve away diphtheritic membrane, bespoke the activity of this firm in the direction of providing pure digestive ferments. In this connection it may be noted that the ferments and dietetic preparations in question have recently been awarded the prize medal of the Sanitary Institute of Great Britain. The Fairchild Pepsin in scales (twenty times the *B.P.* strength), Zymine for preparing peptonised meat-teas, gruels, etc., and Zymine Peptonising Powders for peptonising milk for invalids and infants were shown; also the Kepler Extract of Malt, and Kepler Solution of Cod-liver Oil in Malt. Duplicate prescription books, a monograph on "Hypodermic Medication," an "A. B. C. Materia Medica," and literature of special drugs and ferments generally, as also samples, were freely distributed. Space forbids more than a mere mention of medicine cases and chests, and countless pharmaceutical innovations besides those above referred to.

Messrs. T. CHRISTY and Co. (25, Lime Street, E.C.) had a good collection of the newer remedies, in the form of fluid extracts, tinctures, infusions, and oils. This year they inaugurated a fresh departure by exhibiting their novelties in the prepared state instead of in their crude form, resulting in some 250 preparations being presented. Amongst these were such well-established drugs as Coca, Hydrastis, Cascara Sagrada, Kola, Strophanthus Kombe, Salix Nigra, Viburnum, etc. Of the drugs not so well known for their therapeutical action may be mentioned fluid extract of Manaca, which, it is stated, has been successfully used in rheumatism; Tinct. of Lachnanthes, recommended in phthisical cough and in hysteria; Liquor Ulex Diureticus, an extract from the common furze, the therapeutical use of which is suggested by its name; Fl. Extract of Collinsonia Canadensis, referred to by Dr. Shoemaker, of New York, as a reliable uterine

anti-spasmodic; Tinct. of Simulo, for epilepsy; Fl. Extract of Pichi, said to be a promising agent for the treatment of renal colic, catarrhal inflammation of the bladder, cystitis, etc.; Kola chocolate, spoken of as a sustaining and strengthening agent, in a very palatable form; Eucalyptus Honey, produced by the Australian black bee feeding upon the eucalyptus, and containing its antiseptic qualities, is stated to have yielded excellent results in phthisis, bronchitis, asthma, coughs, and typhoids; Tinctures of Strophanthus Minor and S. Hispidus, said by Professor Hüsemann, of Gottingen, to possess properties identical with those of S. Kombe, and to be, as regards their action, as powerful as the latter; the S. Minor yields 10 per cent. and the S. Hispidus 12½ per cent. of extractive matter, and both are said to be largely used on the Continent and in this country. Tinct. of Holarrhena, for renal pain, and as a bitter tonic, under the name of Kurchi, it is in the East Indies reputed to be a cure for diarrhœa and dysentery; Tincture of Bonduc, used in cases of stricture with relief; Fluid Ext. Comocladia, spoken of as a hypnotic, but it is still awaiting a trial at the hands of the profession; Fluid Extract of Picao, a diuretic and tonic in fevers, and a popular remedy in Brazil for gonorrhœa; Fluid Extract of Exæcaria Agollacha, a deobstruent, stimulant, and tonic, stated to relieve pain in gout and to check vomiting; Fluid Extract of Plumbago Zeylanica, for promoting digestion and increasing the appetite, also credited with the property of procuring abortion; Kola Cordial, a palatable composition, and said to be a powerful pick-me-up tonic; Fluid Extract Stigmata Maidis, for catarrh of the bladder. Euphorbia Cordial, for asthma, bronchitis, etc., and Salix Cordial, are two preparations that have already secured many friends. A new composition of Chaulmugra Oil and Agnine Wool Fat was shown; in this form it is ready for use without previous heating, besides being in a few minutes entirely absorbed through the skin. Papaine and Cocaine Lozenges, for ulcerated, irritated, or sore throat, syphilitic patches, and diphtheritic conditions, are said to be in favour with the profession. Jambul Perles, for diabetes, which, it is said, undoubtedly arrests the transformation of starch into saccharine matter. Coated Spring Bougies or Antrophors, for the cure of old cases of gleet, made with thallin sulphate, iodoform, zinc, tannic acid, nitrate of silver, etc., are reported to have given good results. It would fill too much of our space to speak in detail of Messrs. Christy's many other preparations, and it only remains for us to add that this firm distributed a plentiful supply of literature on the subject of the various products exhibited.

Messrs. Corbyn, Stacey and Co., as in former years, had a neat and varied show of new drugs and chemicals, as well as a large number of very elegant Pharmaceutical Preparations, from which physicians and prescribers might glean valuable hints, and to which we would draw special attention. Among these we note some excellent Emulsions of Cod-liver Oil in combination with other remedies, such as Emuls. Ol. Morrhuæ c. Also Elixir Antipyrin, and a number of similar Elixirs commendable for their pleasant and aromatic taste; Liquor Cinchon. Rub. Corbyn, the advantages of which are that, in addition to being miscible with water, it is not an alcoholic solution and does not contain free acid, on which account it may be dispensed with such drugs as Potass. Iodid. without objection; Compound Sulphur Lozenges; Troch. Pulo. Glycyrrhizæ Co., an excellent method of administration of Prussian Powder; Iodoform Pencils, as used at the Lying-in Hospital, Lambeth; Mistura Cascara Co., an improved form of this disagreeable drug; Liquor Euonym. Co., and Liquor Cerii Citratis and its combinations, which are intended to take the place of the insoluble oxalate. "Champagne Coca" is also a new introduction of Messrs. Corbyn's. It combines the advantages of Coca with a very high class Champagne, the taste of the drug being thus completely masked. We have already expressed our high opinion of this preparation and its value in nervous exhaustion. Liebreich's Pepsin Essence, for which Messrs. Corbyn, Stacey and Co. are sole agents, was also shown. This preparation is, however, now scarcely new, and has, we believe, attained an established reputation of excellence.

Dahl's Agency (41, Eastcheap, London) showed samples of their Dyspepsia Cakes and Bread.

Denaeyer's Peptones Company (Bishopsgate Street Within, E.C.), exhibited samples of Liquid Peptonate of Iron Sterilised, said to be easily assimilated, and recommended by the manufacturers for all cases where the stomach cannot tolerate iron in any form; and Colourless Liquid Peptone of Meat Sterilised, the sterilisation ensuring its perfect preservation.

Messrs. Dickson and Renwick (55, Gloucester Street, Queen's Square, Bloomsbury) exhibited samples of Dickson's Concentrated Beef Tea made from the lean of prime beef; prepared instantaneously by the simple addition of hot water. In patent stoppered bottles, which, it is stated, will keep in any climate. Mahoney's Seaweed Salt, prepared from the great laminarian seaweeds, and containing in large proportion iodine, bromine, and other curative elements of the ocean, for sea baths at home; also Mahoney's Seaweed Soap, containing same curative elements as the salt, for bath, nursery, and toilet uses.

Messrs. Evans, Sons and Co. (56, Hanover Street, Liverpool) had their customary good display of Fluid Extracts of well-known and rare drugs; their Concentrated Liquors for the extemporaneous preparation of medicated syrups; Concentrated Waters and Liquor Cascara Sagrada Dulcis, which claims to be absolutely free from bitterness; and other preparations with which their names have long been identified, such as their Coated Tasteless Pills, Fossiline, Oleates of the Metals and Alkaloids, and a complete assortment of their well-known and esteemed Montserrat Lime Fruit Juice and Cordials. Their Montserrat Lime Juice Sauce has an agreeable piquant flavour.

Messrs. Feltoe and Sons (27, Albemarle Street, W.) were to the fore with the "Specialité" Lime Juice, which all who accepted the invitation to taste pronounced excellent. There is no musty flavour; it requires no sugar, and is as clear as it is pure.

Messrs. Ferris and Co. (Bristol) had a very interesting exhibit of all the new pharmaceutical preparations, including their Antiseptic Healing Powder; Transparent Chlorodyne; Distilled Extract of Witch Hazel; Emplastrum Belladonna Fluidum; Glycerine and Codeia Jelly. One of their special preparations is that of the Tasteless Cascara Chocolate Bon-bons, which are so agreeable to the taste that they may be taken by the most delicate stomach, and are not refused by children. Mist. Bismuth Co. Aromat., an agreeable formula for the administration of bismuth, in combination with Spirit of Chloroform, Hydrocyanic Acid, Morphine, and Aromatics; Peppermint or Piperated Gauze; Syr. Hypophosph. Comp.; Tasteless Fluid Extract of Cascara Sagrada, and Granular Effervescent Antipyrin. It only remains to add that this exhibit, which was prominently one of the best in the section, was such as one might expect from their long established position and recognised reputation for the reliability and purity of their preparations.

Messrs. James Gibson and Sons (Brunstane Mills, Musselburgh, Midlothian) have, with the view of meeting the want for a lighter form of oatmeal, prepared by a special process an Oat Flour from the finest quality of Midlothian oats, which are said to be unequalled for sweetness and flavour.

Messrs. Gilman and Spencer (St. George's Road, Southwark) exhibited a new and interesting preparation—Rizine. Rizine, we are informed, is made by soaking and steaming rice, and afterwards rolling out the semi-dried product into thin flakes. The action of the steam seems partly to peptonise the rice, and to make a considerable alteration in the chemical composition. Dextrine and soluble starch are produced, and a considerable amount of maltose or sugar; whilst the albuminoids are also rendered to a certain extent soluble. When rizine is put into water at a temperature of 150° F. there is a distinct malt action. The starch is absolutely converted into sugar. It will, therefore, be at once seen that rizine is far more digestible than ordinary rice, and therefore should be especially suited for invalids and those of weak digestion. For high-class cookery rizine is extremely valuable, whilst the ease with which it is prepared makes it a most useful adjunct to the cook. Thus, for porridge, by simply pouring boiling milk or milk and water on to the flake rizine on a dish and stirring for a few minutes, the most appetising porridge is produced. This is only one of the many inviting dishes in which rizine may be usefully made to play the chief part. Its cheapness and excellence should ensure it an extended popularity.

The Glasgow Apothecaries Company (32 and 34, Virginia Street) showed a large and interesting collection of drugs, chemicals, and pharmaceutical products of recent introduction. Though the first time this old-established house has exhibited before the British Medical Association, the exhibit did credit to the local pharmacists, and showed that the firm are keeping up with the times. We noticed a beautiful sample of Strophanthus pods and seeds, and a well-assorted collection of Fluid Extracts and many of the drugs from which these fluid extracts are prepared; also Surgical Dressings, Pessaries, Suppositories, etc. Their "Notes on New Remedies," explaining their exhibit, is a concise reference to

the uses, doses, and preparations of over 200 of the latest introductions.

Messrs. GRAY, DUNN, and Co. (Kinning Park, Glasgow) displayed and freely distributed samples of their Oaten Meal Biscuits, Whole Wheaten Meal Biscuits, or "Digestive Biscuits," and Whitehead's Cream Biscuits for infants and invalids.

Messrs. CHARLES GREEN and Co. (Tower Chambers, Moorgate, London, E.C.), whose exhibit came in for a great deal of attention, showed several of their new liquors, including Liquor Ergotæ, an active and reliable preparation, which we are told has given the greatest satisfaction to those who have used it in practice; Liquor Cascaræ, is a pleasant solution of the active principles of the drug, and from which this firm have entirely eliminated the nauseous and bitter taste. Both these liquors are prepared by a process of fractional percolation at normal temperatures, thus avoiding heat, which is so destructive (especially with ergot) to delicate chemical matter. Their Liquor Copaibæ proved perfectly soluble in water, with an alkaline reaction; while Liquor Pepsin (Green's) is one of the most palatable pepsins, and which Messrs. Green and Co. tell us that one fluid drachm will convert one ounce of finely-divided egg albumen into peptones in half an hour at a temperature of 54° C. A special exhibit was a large assortment of their well-known Hypodermic Solutions. These are excellently clear neutral solutions, of which we spoke favourably but a short time ago. The collection consisted of some forty various medicaments, including Ergotin, Morphine, Pilocarpine, Spartein, Curare, Codeine, Apomorphine, Hyoscyamine, and many of the rare and fine chemicals; while the Hypodermic Syringe and nickel-plated screw-capped bottles, into which the syringe exactly fits, made expressly for their solutions, proved one of this firm's chief attractions. We also noticed their Rectal and Vaginal Pine Medicants, which contain Atropine, Belladonna, Coniine, Iodoform, Ergotin, Morphine, etc. All these are made with cocoa butter combined with an antiseptic (Pinus Pumilio) base, and are well-prepared pharmaceutical products. As agents for Messrs. Rocke, Tomsitt and Co., of Melbourne, a place was found to exhibit their antiseptic poultice Eucalinum, a combination of crushed eucalyptus with linseed.

Mr. GRIFFIN (4, Saville Row, Bath) exhibited on the stall of Mr. W. E. Sacker his Nutritive Suppositories, each of which, consisting of a cone weighing about 2 drachms, is said to be equal to three ounces of peptonised beef-tea, or more than 4 ounces of the ordinary kind.

Messrs. HENDERSON, SIMON, and SONS (Edinburgh) showed samples of Henderson's Perfect Food, Patent Biscuits, Wheatena Biscuits, etc.; also their Gluten Flour, containing 60 and 80 per cent. of gluten respectively.

Messrs. C. J. HEWLETT and SON (London) had an attractive exhibit of their well-known specialities, such as Liquor Quinæ Sulph. Amorph., Ext. Cinchonæ Liq. (Miscible), Tinct. of Strophanthus, Syrup of Croton Chloral, Sol. Opii. Purif., Liq. Ergotæ Purif., Syr. of the Hypophosphites, Liq. Santal. Flav. c. Buchu et Cubebâ (said to be the original inventors of this article), Mist. Pepsinæ c. Bismutho, Easton's Syrup, Lin. Algæ, Ungt. Hæmatoxyli Co., Pure Terebene, Mist. Tussi. Rub. Cone. The preparations, which were exhibited in handsome cut bottles, looked most attractive and received much attention from the numerous visitors. A pamphlet of twenty-eight pages, containing useful therapeutical notes on each preparation, was given away with samples of the preparations themselves.

Messrs. HOCKIN, WILSON, and Co. (London) had their well-known preparations on view, consisting of Ex. Liq. Podophyllin, Ex. Liq. Podophyllin c. Belladonnâ et Strychnine, Ex. Liq. Podophyllin et Pepsin, Ex. Collinsoniæ Canadensis, Ex. Salic Nigra, Ex. Capselæ Bursæ Pastoris (Shepherd's Purse), Ex. Cascaræ Sagradæ Aquedin Insipidum, Ex. Cascaræ Sagradæ et Belladonnæ. This firm also showed some Electric Batteries and Instruments.

M. HOFF'S Malt Extract, supplied from the London office, 29, New Bridge Street, Ludgate Hill, E.C., is too well known and too extensively used to need any commendation from us other than that we have already bestowed on it.

Messrs. INGRAM AND ROYLE (52, Farringdon Street) were represented on the stall of the Glasgow Apothecaries Company, by samples of their various waters and salts, including Æsculap, Carlsbad water and salts, Contrexéville, St. Galmier, Kronenquelle, Vichy, etc.

LIEBIG'S WINE COMPANY (12, St. Helen's Place, London, and Liverpool) showed samples of Pearson's Liebig's Beef Wine, the chief ingredients of which are said to be choice port wine, extract of beef, quinine, and extract of malt in equal proportions. An analysis states that each quart contains in absolute solution the essence of 5 lbs. of beef. Of the many liquid foods submitted to the profession and the public this is, to our mind, by far one of the most agreeable to the taste, and should constitute what it claims to be, a most strengthening, invigorating, and stimulating liquid food, capable of rapid assimilation, and useful as a tonic in cases of debility and wasting illness. It is put up in the following varieties: (*a*) Essence of beef, choice port wine, extract of malt. (*b*) Essence of beef, choice port wine, extract of malt, quinine, and iron. (*c*) Essence of beef, choice port wine, extract of malt, and pepsine. If preferred, the Beef Wine can be made, in each case, with sherry instead of port, or without quinine.

Messrs. LOEFLUND and Co. (148½, Fenchurch Street, London, E.C.) again exhibited their well known "Pure Hordeum Malt Extract," as well as the combinations with pepsin, lime, iron, quinine, hops, etc. Their Milk and Malt preparations, of which we have before spoken favourably, attracted much attention. A special feature of their exhibit was their Alpine Milk Biscuits (powdered), a new food for children, which contains milk solids to the extent of 25 per cent. including the milk-fat, combined with about 75 per cent. of a powdered cooked malted wheaten flour; this food should be most nutritious, an important factor in connection with it is that the carbo-hydrates are predigested. One great advantage is that the food is ready for use by simply adding water. Their other preparations, which included the palatable fat emulsion, Cremor Hordeatus (Condensed Cream Emulsion) and Kindermilch, were also shown by their representative; these are too well known to need a description in this notice.

Messrs. LORIMER and Co. (London) exhibited Iodined Oil (Ol. Iodi.), prepared under letters patent, and having the advantages over some other forms of iodine for external use, that it does not stain or harden the skin, it is rapidly absorbed and does not cause pain or irritation. Its use is indicated in glandular swellings, chronic rheumatism, pleurisy, etc. Lorimer's Hypophosphites; one distinct advantage of these preparations is, that the formula is distinctly stated on the label: it is said to contain no free acid, and that it never deposits its active ingredients or requires shaking to distribute the dose. Parrish's Chemical Food; the certificate of the Calcutta jurors was exhibited, showing that Messrs. Lorimer were awarded a specific gold medal for this preparation. In the exhibits were included Coca Wine, "Distilled Extract of Witch Hazel," "Liquor Cascaræ Dulcis," Flexible Gelatin Capsules, Tasteless Pills, and an assortment of high class pharmaceutical preparations, mostly shown in the most suitable and attractive form for distribution to the profession.

Messrs. MAX GREGER and Co. had a fine display at the top of the room of their Hungarian Wines, of which it is not necessary to say more than that they continue to maintain their high position in popular estimation.

Messrs. G. MASON and Co. (King's Road, Chelsea) had a large display of their various known Dietetic Products and Invalid Specialities, including Essence of Beef, Concentrated Beef-Tea, Beef-Tea Bouillon, Meat Lozenges, "O.K." Sauce.

Mr. JOHN MCMILLAN (17, Great Western Road, Glasgow) had a very neat and extensive exhibit of Drugs and Pharmaceutical Preparations, comprising a very full display of all the newer remedies which are at present on their trial. We observed beautiful specimens of Phenacetin, Antipyrin, Antifebrin, Sulphonal, etc., all of which were put up in attractive show jars. There was also a very complete assortment of Granular Preparations, showing the combinations in this form of Iron, Quinine, Strychnine, Lithia, Caffein, Sulphate and Phosphate of Soda, Antipyrin, etc. These preparations were well and evenly granulated, and the combinations were useful and attractive. There were also shown beautiful transparent samples of Syrup. Hypophosph. Co., Liquor Copaibæ Co., Liquor Santal. Co., Glycerinum Pancreaticum, and Glycerinum Pepticum, the therapeutic values of which are assured, and their appearance certainly denotes careful manipulation and attention to detail. We also observed well-made samples of the inexpensive Respirators for dry inhalation as recommended by Dr. Burney Yeo, and also four very large tins containing "Asthma Powder," a combination which we understand is as efficacious as the more expensive American preparations. A leading feature also at this exhibit was a case containing Suppositories, Bougies, Pessaries, and Sponge Tents. These were all beautifully made, and were artistically arranged in different colours. Mr. McMillan also showed, and is the sole maker of, Dr. Gray's Obstetric

Bandage, which attracted considerable attention. The form and materials combine antiseptic action with support to the emptied womb. As an adjunct to this bandage, there was shown an Obstetric Cream, put up in collapsible tubes, and possessing powerful antiseptic properties. Mr. McMillan also exhibited for the Health Food Company, of New York, specimens of their Crude Gluten, Gluten Suppositories, Gluten Soap, etc. The crude gluten is a most useful food for diabetic cases, and can be made into different forms to vary the diet of the patient, a point which they say has not hitherto been attained by diabetic bakers.

At this stand were also arranged Antiseptic Dressings, Bandages, Cottons, Lints, Jute, Jaconnette, etc., from the well-known manufacturer, Mr. JOHN MILNE, Ladywell, London. The Alembroth and Carbolic Gauzes were used to form a canopy over the whole exhibit. This showed the dressings to great advantage, and added to the pleasing appearance of the stand. Mr. Milne's specialities sustain their high standard of excellence, are economical in price, and are now used very extensively in almost all the large hospitals and infirmaries.

Mr. MEABY (14, York Buildings, Adelphi, W.C.) showed samples of a bread to which the name of "Triticumina" has been given. The wheat is said to have undergone a patent malting process before grinding, whereby the greater portion of the insoluble starch of the grain is converted into the more assimilable and more easily digested form of dextrine. Also was shown a patent malted Wheat Food for invalids and infants, and a patent prepared entire Wheat Meal for porridge and other culinary purposes.

NESTLÉ'S Food for Infants, Children, and Invalids, of which the basis is said to be choice milk from Swiss cows, with the addition of a little sugar and some specially prepared wheat flour, was exhibited.

Mr. D. NITHSDALE (Perth) exhibited samples of his Cod-liver Oil Chocolates. They are said to be made of the finest quality of oil and cocoa, with sugar made more easily assimilable by the addition of maltine. Each of the cakes contains a large teaspoonful of the oil, the taste of which is said to be made almost imperceptible by the presence of a flavouring essence. They are specially prepared for delicate children, who, we are told, eat them with great avidity (*sic*). That the taste of the oil was not entirely disguised was very evident from a sample tried, and we should pronounce the taste of the oil to be very far from imperceptible.

Messrs. JOHN RICHARDSON and Co. (Leicester) had, at the head of the staircase, an elaborate and attractive exhibit, containing a large assortment of the various specialities for which this firm are well known. Pearl-coated Pills and Granules were as usual shown in great variety, as were also Compressed Tablets of Pure Drugs, Hypodermic Wafers, and Ophthalmic Discs, Fluid Extracts of the *U. S. P.*, Antiseptic Wools, etc., together with Medicine and Colonists' Chests, Emergency Cases, Medicated Pessaries, Suppositories, and Bougies, and many specialities interesting to the profession. Immediately adjoining this stand was a handsome Pitch Pine Dispensing Cabinet, designed by Messrs. Richardson and Co., as a *multum in parvo* for the busy practitioner. This cabinet, which attracted a good deal of attention, when closed occupies only 4 feet 2 inches of space, with a height of 7 feet 3 inches, and forms an elegant article of furniture. When opened it is found to contain 112 bottles of medicine (varying in size from 16 to 4 ounces), 18 bottles of pills, 13 jars of ointment, besides scales, measures, test tubes, etc., and numerous drawers for instruments, plasters, labels, powders, etc. The workmanship throughout is of the best, and the whole case is highly finished. It is supplied, fully fitted with medicines, for fifty guineas. On the opposite side of the landing was exhibited a handsome work in two volumes, entitled *Contemporary Medical Men*, being the biographies of fifty eminent members of the profession, accompanied by excellent portraits, reprinted for the most part from the *Provincial Medical Journal*.

Messrs. JAMES ROBERTSON, and Co. (35, George Street, Edinburgh), in conjunction with Mr. MCMILLAN (Glasgow) exhibited two neat little cases containing their specialities. One was entirely devoted to showing their Flexible Gelatine Capsules, a manufacture which they have evidently entered into with zest. Among the novelties in capsules shown were those of Phenacetin and Sulphonal; but a great portion of this case was filled with their capsules of Blaud's Ferruginous Pill Mass, of different sizes, and combined with various powerful drugs, such as arsenious acid and digitalin. The practice of introducing ferruginous compounds into capsules, they say, originated with them; and their special process, consists in so admixing the constituents of Blaud's pill mass, as to prevent decomposition until the capsules are dissolved by the gastric contents of the stomach. The oxidation of the iron being prevented, they also exhibited capsules of Cascara Sagrada Extract, and combined with Euonymin, Euonymin and Nux Vomica, and Podophyllin and Belladonna. Various others in commoner use, such as Castor Oil, Male Fern Extract, Sandal Wood Oil, and Cod-liver Oil with Phosphorus, made up a most interesting collection. Their larger case contained samples, in an excellent state of preservation, and all that could be desired in regard to brightness and elegance, of various syrups, those of haloid compounds being evidently a specialty, Syr. Ferr. Protochlor., Syr. Acid. Hydriodic., Syr. Quinin. Hydriodat., and Syr. Hydriodat. Co. being particularly noticeable. The latter syrup is a combination of ferrous iodide with the hydriodates of quinine and strychnine, and the sample showed that the many difficulties which would be encountered in combining these materials had been entirely overcome. A sample of Tasteless Fluid Extract of Cascara was shown alongside the ordinary; but whether the term "tasteless" is absolutely accurate will no doubt be a matter of opinion. A capital concentration of the bark of Quillaya Saponaria was shown, and should be of interest to dermatologists. Among the granular preparations those of Guaiacate of Lithia and Antipyrin were noticed. A sample of Dry Granular Malt Extract (not effervescent) was also shown. A full line of Gelatine Coated Pills were also exhibited. The case contained Compressions of Antipyrin, Compound Cocaine, Phenacetin, and Strophanthus; but perhaps the best of these were the Acidified Perchloride of Mercury Pellets. These are for forming an antiseptic solution of mercuric chloride, were shown of two strengths, and their special convenience to practitioners with a large obstetric practice will probably be readily appreciated. The acid present prevents the formation of albuminate of mercury when applied to the tissues. They are well compressed, and evidently very convenient for the purpose they are intended for, namely, to prepare at a moment's notice an acidified solution of perchloride of mercury of definite strength.

Mr. W. E. SACKER (79, Fenchurch Street) had a representative collection of the excellent Soluble Pills and Granules of Messrs. Schieffelin and Co., of New York, for which he is the sole agent, among which we noticed the new Pil. Strophanthi Tinct., 1-20 gr. and 1-4 gr.; Pil. Salol., $2\frac{1}{2}$ grs. and 5 grs.; Pil. Terpen. Hydrat., 2 grs.; Pil. Hydrargyrum Tannicum Oxydulatum, 1 gr. Another special feature of this exhibit was Mr. Sacker's Convenient Compressed Cocaine, Cascara Sag. and other Pellets, the Cascara Sagrada Fruit Lozenges (in which the disagreeable taste of the drug has been most successfully disguised), Syrup Hypophosph. Comp., and a most useful series of Pocket Vial and Satchel Cases, Obstetrical Satchels, and Family Medicine Cases.

The SANITARY WOOD WOOL COMPANY (11, Hatton Garden, E.C.) had an extensive display of Hartmann's Preparations, consisting of Wood Wool and Wood Wool Wadding, the latter preparation consisting of wood wool 85 per cent. and cotton wool 15 per cent., which makes a most pliable, absorbent, and antiseptic material for use in surgical dressings. We believe Professor Macewen, in his lecture, spoke highly of the wood wool wadding. Out of this material are made many useful preparations, such as Hartmann's hygienic wood wool diapers for accouchement and general use, sold at 2s. and 1s. per dozen (cost of washing); also accouchement sheets, in three sizes—32 inches, 26 inches, and 6 inches square—sold at 2s. 6d., 1s. 6d., and 1s. respectively. These, we were told, had come largely into favour. The latest article to which the wood wool has been adapted is the Sanitary Wood Wool Bapkin (absorbent and antiseptic pads), of which we have already favourably spoken. Another exhibit of this firm was their Sublimate Lotiforms, for injection and surgeon's use, enabling this fluid to be carried in a most portable form. It consists of a cotton tampon, in which the sublimate is condensed, and on each label is a register of the different strengths and quantity of water required.

The "SANITAS" COMPANY, Limited (London), had as usual an exhaustive display of their numerous and admirable preparations, the value of which, it is satisfactory to learn, is yearly receiving increased public recognition. The following are a few, and of each of them we have many times had occasion to speak in terms of approbation:—Sanitas Disinfecting Fluid (active principles Peroxide of Hydrogen, Soluble Camphor C_{10} H_{16} O_2, and Thymol), which they recommend for washing wounds, spraying, disinfecting linen, gargling sore throats, etc. It is non-poisonous, colour-

less, and does not stain. Sea Water Sanitas, identical with the above save that it is made from salt water; useful for isolating sick-rooms, because it is deliquescent; Sanitas Disinfecting Oil (for fumigating sick-rooms and hospital wards, and a variety of other purposes); Disinfecting Jelly, a dressing for wounds, burns, and skin affections; Antiseptic Gauze (Sir Joseph Lister's formula); Absorbent Antiseptic Wool, used in the Cancer Hospital, their Air Purifier for rooms and closets. Nor must we omit to mention the Sanitas Lozenges and Kingzett's Bactericides, a series of preparations, containing on the one hand five volumes of Peroxide of Hydrogen and on the other definite percentages of well-recognised antiseptics and germicides. The Mercuric Bactericide contains 5 per cent. of corrosive sublimate, and is germicidal to all micro-organic life, germs, and spores. One advantage of these is that their antiseptic character is not impaired when placed in contact with mucous membranes and other tissues. There are also the well-known toilet requisites—soaps, toilet fluid, tooth powder, etc.

Messrs. Savory and Moore had a most interesting exhibition, which attracted considerable attention. They had a very complete show of new remedies, as well as of the Dietetic and Peptic and Pancreatic Preparations with which their name has been so long identified. There was Parkes's Chemical Cabinet for analysis of air, water, etc., and a very comprehensive set of Volumetric and Test Solutions, and Chemicals and Instruments for Urine Analysis. What attracted most attention, however, was the very complete collection of Medicine Chests, including a very complete one for the Khedive of Egypt; tin chests to be carried on the head, especially devised for the Government of the Congo Free States; and the Army Field Equipments, as supplied to H.M. Army and the Volunteer Services. These have been designed and supplied by the firm for the army since the Crimean war, and have also been adopted and largely used in India, as well as in many other parts of the world. The pannier in use for medical purposes when the Crimean war broke out was simply an ordinary basket, in which the contents were packed as if for transmission only, so that you might have to take out nearly all the contents to find any single article required. In the new panniers every article can be seen and reached directly the lid is lifted and the front of the pannier let down, the importance of which on a field of battle, when all is hurry and turmoil, cannot be exaggerated. The firm have received medals both in London and Paris for these panniers and other improvements and aids to military surgery, such as the Medical Field Companion, containing all necessary dressings and restoratives for the wounded in small parties of troops; also the Surgical Haversack, now used in connection with the new regulations for bearer companies. The exhibit generally was of great interest to the profession, and will serve to emphasise the fact that our chemists are well to the front and keeping pace with the onward progress of pharmacy and the requirements of the medical profession.

Messrs. W. Schacht and Co. exhibited a new Cistern or Reservoir for family or hospital use; Ergotinum Dialysatum for subcutaneous injection; Liq. Ferri Albuminate, a composition of iron with albumen, non-styptic, and palatable; Liq. Ferri Peptonatis, peptonate of iron in a very palatable form; also the Kronenquelle Water.

Messrs. Schutte and Co. (Bromley, Kent) showed their Quinine and Cinchona Alkaloids, and the following Specialites for chronic skin diseases: Naphthaline Tincture, Dermato-Napthaline Sedative and Dermato-Therapeutic Quinine Lotion; Quinine Hair Wash, of which we have already spoken very highly; Quinine Wine, Antipruritic Salve, etc.

The Scotch and Irish Oxygen Company, Limited (Brin's process), Polmadie, Glasgow, exhibited Oxygen Gas for inhalation, phthisis, and anæmia; Stationary Inhaling Apparatus for use in hospitals, etc.; Portable Inhaling Apparatus for private houses, and Cylinders of various sizes; Brin's Oxy-aërated Water for dyspepsia, diabetes, etc, in siphons, tasteless, lemon flavour, angostura flavour, and carbonated, etc.

Messrs. A. and R. Scott, Limited (Kingston, Glasgow), were present with their Oat Flour, Midlothian Biscuits, Oat Cakes, Oatmeal, etc.

Mr. A. de St. Dalmas (Leicester) showed samples of the Leicester Emp. Belladonna on porous scarlet felt; the Leicester Improved Adhesive Plaster; St. Dalmas Ribbon Plaster, on fine flesh-coloured Cambric and Surgeons' Isinglass; Antiseptic Ribbon Plaster; the Leicester Rubber Adhesive Plaster, Antiseptic Adhesive Bandages, Patent Ointment Covers, Vaccination Protectors, and Wound Pads.

Messrs. G. and G. Stern (11, Billiter Square) exhibited samples of Pumiline or Pumilio pine products in various forms. The Pumiline Essence for inhalations, embrocations, disinfection, etc. Pumiline Extract, for baths, and plasters, and poultice. Pumiline Jujubes (each containing one minim of pumiline), put forward as a tonic and astringent to the mucous membrane of the throat and air passages; and Pumiline Soap, of fragrant and agreeable odour. We have already noticed these products approvingly.

The Swiss Milk Company, of which Carl Lawinski (50, Mark Lane) is the London agent, showed and distributed samples of their Swiss Milk, in soluble powder, and their Pure Compressed Milk Extract, which analysis shows to be more nourishing than fresh milk, and a useful substitute for it.

The Taunus Spring Natural Mineral Water Company (London) exhibited samples of the Taunus Water.

The Universal Digestive Tea Company showed and distributed, in the marquee, samples of their Digestive Tea, of which they say the tannin is entirely neutralised, and the injurious oil to a great extent extracted by a patent process, at the same time that the fine delicate flavours are retained, and can be taken by dyspeptics and invalids. We have not yet had an opportunity of testing this tea.

The Viking Food and Essence Company (22, Hearn Street, E.C.) had a good supply of their Invalid Foods of the usual kinds, including beef-tea, beef-tea jelly, essence of beef, V. R. Relish, etc. A particular feature of this exhibit was the Viking Nutrient Suppositories, for which it is claimed that they are non-greasy, easily administered by the nurse, thoroughly peptonised, and exclusively of nutrient elements, that they dissolve in about fifteen minutes, and that they render the operation of syringing quite unnecessary. Each suppository is said to be equal to about 3 ounces of peptonised beef-tea. They are conveniently put up in boxes of 6 and 12 respectively.

Messrs. John Walker and Co., biscuit manufacturers to the Queen, Glasgow, excelled in their exhibit of Biscuits, Rusks, and Bread for diabetes and anti-corpulency; Gluten Flour, Digestive Biscuits, Plain Oat-cakes, etc.

Messrs. Warner and Co. (Philadelphia and London), whose stall occupied a prominent position on entering the hall, had a very attractive exhibit, including a particularly fine collection of handsome Sugar-coated Pills, the solubility of which was demonstrated by being placed in cold water. Another leading exhibit of this firm was the new effervescing salt, Bromo-Soda, which as a nerve tonic has met with considerable favour, the sodium salt, it is claimed by some specialists, being more acceptable to the stomach than bromide of potassium. Samples were also shown and distributed of Ingluvin, said to be of great value in the vomiting of pregnancy. There was also a goodly display of Parvules, designed for the frequent repetition of minute doses, but without a culminative effect.

Section B.—Pathology.

The Pathological Section of the Annual Museum occupied fully one-fourth of the space which had been allotted to the Sections of Anatomy, Physiology, and Books and Instruments in the Zoological Laboratory. There was a large number of exhibits of great interest and importance, and on all the days of the meeting it was noted that many of the members spent a considerable time in examining the different specimens. The exhibits included wet preparations, macerated bones illustrating various diseases and injuries, casts, cultivations of micro-organisms, microscopic sections, and a very large number of drawings.

Professors Sir George H. B. Macleod and George Buchanan showed interesting collections of Urinary Calculi, which had been removed by operation, and the latter gentleman exhibited a Cast (before and after operation) of a case in which the nose had been very perfectly restored by operation. Some unusual varieties of Calculi and other specimens of surgical interest were shown by Dr. H. C. Cameron. Mr. C. A. Cathcart's, of Edinburgh, exhibit of a suggested Museum Series was important, and demonstrated how a very useful and instructive series of specimens of the same morbid condition might be preserved. Dr. Joseph Coats had a very large exhibit, which included specimens of Embolism and Aneurysm of the Cerebral Vessels; specimens of Tumours of the Brain, etc.; and specimens of Myomata of the Uterus. Mr. A. E. Maylard and Mr. Alex. Edington, of the Surgical Department, University of Edinburgh, presented very characteristic and beauti-

ful specimens of Bacteriological Cultivations. The latter gentleman gave two demonstrations in the Physiology Class-room, on Bacteriological Methods, which were much appreciated by the members. A series of specimens illustrative of the Surgical Diseases of the Kidney, were exhibited by Dr. DAVID NEWMAN; and the Lesions and Deformities caused by Leprosy were exceedingly well demonstrated by the interesting collection which was contributed to the museum by Dr. BEAVEN RAKE, of the Leper Hospital, Trinidad. Dr. J. LINDSAY STEVEN presented a series of Preparations illustrative of Diseases of the Heart, which included specimens of Diseases of the Pericardium, and of the Endocardium and Valves; of the Formation of Thrombi in the Heart; and of Fibroid Degeneration and Rupture of the Heart.

Mr. JONATHAN HUTCHINSON sent for exhibition a very beautiful series of water-colour drawings, showing the Effects of Arsenic on the Skin, and illustrating various forms of Lupus and diseases allied to it. Professor GAIRDNER also exhibited a very beautiful series of Water-colour Drawings of general pathological and clinical interest, and he also contributed a number of interesting specimens from his private museum. Drawings were also exhibited by Dr. G. SIMS WOODHEAD and Mr. T. W. MUNN, and the latter gentlemen also presented a series of Microscopic Specimens of Cancer in its various forms. Specimens were also contributed by Professor STRUTHERS; Dr. FRASER, Paisley; Dr. J. MACKIE WHYTE, Dundee; Dr. ROBERT M. WILSON, Old Deer; Dr. J. C. RENTON; Dr. SAMUEL MOORE; Dr. NORRIS WOLFENDEN; Dr. SIDNEY MARTIN; and Mr. STUART NAIRNE.

Dr. ALEXANDER BRUCE, of Edinburgh, gave a magic lantern demonstration in the Physiology Class-room, of the Tracts and System Diseases of the Spinal Cord. The demonstration was very instructive, and was attended by a large number of the members.

SECTION C.—ANATOMY.

A number of specimens of much interest were exhibited in this Section, which was accommodated at the west end of the hall devoted to Sections B, C, D, and E.

Mr. ARBUTHNOT LANE showed six specimens of Bones, Clavicle and Scapula, demonstrating alterations depending on labour. These specimens illustrate a paper contributed to Section F, and also a paper upon the "Anatomy and Physiology of the Shoemaker," which appeared in the July number of the *Journal of Anatomy*.

Dr. JOHN MCINTYRE, of the Royal Infirmary Medical School, Glasgow, exhibited a series of dissections of a Set of Muscles which act upon the Epiglottis. In all there are five dissections of the parts in the calf, deer, horse, dog, and man. In the lower mammals they are large and easily recognisable; but it is especially interesting to notice their presence in the human subject.

By Dr. ST. JOHN BROOKS, of Trinity College, Dublin, a dissection showing the Posterior Pulmonary Plexuses and the Plexus Gulæ was exhibited. The pericardium, lungs, and œsophagus are viewed from behind. The pericardium was distended with plaster in order to show its reflections on the great vessels. A portion of the œsophagus was removed to display the anterior part of the plexus gulæ, and the recurrent laryngeal nerve was also seen. The dissection was exceedingly complete, and fully exhibited the nerves of the plexus.

Dr. THOMAS REID, Senior Surgeon to the Eye Infirmary, Glasgow, showed a series of microscopic specimens, eleven in number, illustrating the development of the Cochlea. The specimens demonstrated the manner in which the nerve fibres reach the cells of the organ of Corti, and display the various changes which take place in the development of the organ.

By Dr. A. M. PATERSON, Demonstrator of Anatomy in the Owens College, Manchester, a series of microscopic specimens dealing with the Early Development of the Limbs in the Mammalian Embryo was exhibited. The specimens illustrate a paper upon "The Position of the Mammalian Limbs," read before Section F. Taken together they gave a very complete demonstration of the method in which the nerves passed to the limbs, and they also exhibited the relation of the developing limbs to the muscle plates. By the kindness of Mr. Hume, of Edinburgh, those specimens were shown in his stand under his microscopes. Dr. Paterson also exhibited a case of Diaphragmatic Hernia in a Child.

A large and interesting collection of microscopic specimens was shown by Professor C. B. LOCKWOOD, of London. They illustrated the Development of the Pericardial, Pleural, and Peritoneal Cavities in the Mammal, and demonstrated the method in which they become separated from one another. The earlier stages in the development of the diaphragm were also shown. Unfortunately, from want of space, it was found impossible to accommodate Professor Lockwood's specimens in the hall specially devoted to the Museum; they were exhibited in the Anatomical Lecture theatre.

A set of models of dissections of Normal and Pathological Structures was shown by Professor CHIENE, of Edinburgh. They were made of Dr. Cathcart's material, and were the work of Drs. Wallace, Stiles, and Dewar.

It is to be regretted that a series of specimens, expected from Professor HAMILTON, of Aberdeen, illustrating the Anatomy of the Brain, was not forthcoming. Professor Hamilton made every effort to implement his promise, but the specimens had been already on loan, and he had not been able to recover them in time.

Messrs. W. B. HILLIARD and SONS, of Glasgow, showed a number of Anatomical Models.

SECTION D.—PHYSIOLOGY.

In this Section of the Museum exhibits were confined to microscopes and accessories for microscopical work, and microscopical preparations of Normal Tissues and Organs. Our space forbids more than a brief notice of this section. A few pieces of recent physiological apparatus were also shown. Edinburgh University was represented by a most admirable and interesting demonstration, arranged by Mr. CARLIER, the Demonstrator in Physiology, of Normal Tissues and Organs. The demonstration included singularly beautiful preparations illustrating the intimate structure of striated muscular fibre, of nervous structure, and of the sense organs. Dr. THOMAS REID showed some very fine specimens of the Microscopical Anatomy of the Ear. The display of Microscopes was very good, Ross, Crouch, Beck, Zeiss, Reichert, Hartnack, etc., being represented either directly or by their local agents. The exhibits of Beck (London) and Hume and Frazer (Edinburgh) were particularly good. A very large and complete Micro-photographic Apparatus was shown by a private gentleman. There was also included a set of Apparatus for Bacteriological Work.

SECTION E.—INSTRUMENTS AND BOOKS.

The instruments and books were shown in the lower hall of the Museum. The ample space provided and the careful distribution of it made it a pleasure for visitors to walk round the various stands. A very good effect was produced in the surgical instrument hall by by the uniform colouring of the tables, which was heightened by the maroon-tinted cloth hung around the walls. The display of instruments was exceptionally striking, and the representation of the best houses in the trade was very large. The local Glasgow and Edinburgh firms showed Drs. Macewen and Macleod's specialities, and they were of exceptional interest. Among so many beautiful appliances it is difficult to particularise, but Schall's electrical exhibit deserves special mention. Hilliard's display of Macewen's and other celebrated Scotch surgeons' patterns, Mayer and Meltzer's Throat Instruments, and the ingenious Allen Pump were especially worthy of note. The London firms were well represented, and every novelty was exhibited. Particular mention may be made of Messrs. Arnold and Son and Messrs. J. Weiss and Son. Dr. Reid, of Glasgow, had an excellent exhibit of Ophthalmic Instruments.

The part of the hall used for books was laid out with great taste. Mr. Stenhouse (Glasgow) had an unusually large exhibit, and his charts, diagrams, etc., on the wall enhanced the general effect greatly. Messrs Maclehose (Glasgow), Cassell and Co., Lewis, Macmillan (London), showed great taste in their exhibits, and excellent discretion in the choice of books sent.

The following are details of the principal exhibits:—

THE ANGLO-AMERICAN ARTIFICIAL LIMB COMPANY (341, Strand) had a large display of Artificial Legs with sub-astragalus lateral movements; Arms and Hands with finger, wrist, and elbow movement; Extensions for Shortened Limbs. The mechanical contrivances struck us as being unusually good, the points particularly noticeable being the simplicity and adjustment at the points of friction, which can be readily tightened by the patient, thus preventing the rattle so annoying to wearers of artificial limbs; also their apparent great strength and durability. With care they are said to last from fifteen to twenty years. The illustrated catalogue is well worth perusal.

The Argyle Rubber Company's specialities are Waterproof and Rubber Goods for Surgical purposes—that is, Sheeting, Water Beds, Cushions, Pillows, Bolsters, etc.; Gutta Percha Tissue and Splints, Gum-elastic Catheters, Vulcanite Pessaries, and, in fact, every Instrument connected with India-rubber or Gum, of which they had a large display. They also do a large trade in Trusses, Artificial Limbs, and Steel Instruments of every kind, supplying the leading hospitals in the west of Scotland as well as in Ireland, and also in some of the English towns.

Messrs. Arnold and Sons (West Smithfield, London) displayed a varied and handsome collection of the most modern Instruments for Gynæcology. Lithotomy, Ovariotomy. 1. Most noticeable was a splendid collection of Eye Instruments, arranged in drawers fitting into a Cabinet, so arranged as to close into a small compass for portability. 2. A new Six-bladed Knife, containing Finger Knife, Finger Saw, Syme's Abscess Knife, Gum Lancet, Tenotomy Knife, and a sharp curved Needle. There was also a Probe and Director let into a groove in the handle. 3. Mr. Cripps's Antiseptic Fluid Tight Ligature Box, adapted for carrying silk, catgut, etc. 4. Levis's Metallic Splints, made of copper nickel plated, conformable to the limb, roughened outside to prevent the bandage slipping. Glycerine Padded Pessaries for Prolapse and Retroversion; being filled with glycerine, they will not become collapsed, as is the case with those filled with other material. The "Lawson Tait" Hypodermic Syringe, containing tabloids for injection. It has no leather plunge to get out of order. The whole of it fits into a nickel-plated case, and is the most portable and cheapest syringe extant. Duke's Galvanic Stem. Duke's Rapid Internal Dilator for Stenosis. Duke's Rectal Speculum. Duke's Spinal Stems and Introducer. Ward Cousins's Colotomy Dilator and Emphysema Tube combined. Ward Cousins's Rectal Alimentation Tube. Ward Cousins's Splint for Fractured Jaw. Palmer's Glycerine Syringe for Constipation. Pearse's Tracheal Aspirator for removing diphtheritic membrane from the tracheotomy tube. Molony's Aural Reservoir. Arnold and Son's Improved Air Tight Pocket Cases.

Mr. T. H. Churton (35, Park Square, Leeds) exhibited his Mechanical Telephone for Hospital Purposes. This instrument, to which the not inappropriate name of "Simplex" has been given, has, we believe, been found to answer admirably in hospitals and other large institutions where speedy communication is desired between distant parts of the same building. Dr. Macintyre writes that the one erected in the Glasgow Royal Infirmary has given every satisfaction, and proved of great use between the operating theatre and electric room—a distance of about 120 yards. Another medical man writes that he has fitted up one between his house and that of his assistant—a distance of over 350 yards. These are but a few indications of the use to which this simple instrument is capable of being put.

Mr. H. E. Clark showed a Bandage Roller, the invention of Mr. Baikie, of Glasgow.

Mr. D. E. Corcoran (124, Stephen's Green W., Dublin) exhibited Dr. More Madden's Midwifery Forceps, or Compression Forceps, with new Axis Traction; Uterine Dressing Forceps; Rapid Cervical Dilator; and Antiseptic Ligature Holder, unbreakable and non-spillable (Corcoran's improved); also Dr. Duke's Uterine Dilators.

Messrs. Coxeter and Son (4 and 6, Grafton Street, Gower Street, London) showed Electrical Apparatus for the Treatment of Uterine Fibroids, according to Dr. Apostoli's method.

Messrs. Darton and Co.'s (London) exhibit included Thermometers from two to six inches, Oculist Trial Cases, Constant Current Batteries from nine to twenty cells, Student's Histological Microscope, Miniature Marine Glass convenient for the pocket, and a large selection of Faradic Batteries.

Mr. James Dick (45, Renfield, Glasgow) had a fine collection of Surgical, Obstetric, and other Instruments, which were much admired, including the Midwifery Forceps of Milne Murray, Simpson, W. L. Reid, Leishman, and others, Sir Morell Mackenzie's Laryngoscope, Aspirators, Pessaries, Catheters, Minor Operating and Pocket Cases, French Trusses, Stomach Pumps, etc.

Messrs. Down Brothers' exhibit consisted of the Short Œsophageal Tubes introduced by Mr. Charters Symonds for permanent wear in cases of stricture and obstructive growths; these tubes are about six inches long, made of flexible silk, but with an enlarged or funnel end, which rests on the seat of obstruction; they are introduced by means of a curved whalebone stilette, and have attached to them a piece of strong plaited silk, by which they can be withdrawn. The advantage claimed is that the food can be taken in the natural way without discomfort. Also some India-rubber Tubes, with thin walls and large lumen extremely useful in the later stages of similar cases. A set of interesting Instruments, made for Mr. Clement Lucas, for operations on the kidney, Stilettos for detection of impacted calculi, Blunted Scraper and Dilator for making and enlarging opening into the kidney substance, and Forceps for the extraction of the stone; also Knife and Scissors for removal of the kidney, and Needle for ligaturing the pedicle. Various types of Lithotrites, including small fenestrated patterns for the operation in young children, and a new form of Double-Lock instrument, made for Dr. Manley, of Rudham, to lock at every point, and thus avoid the possibility of losing grip of the stone in the process of locking; improved forms of Evacuators by Mr. Golding-Bird, and a modification of the same made for Mr. Cadge, of Norwich. A new and ingenious form of Endless Clamp, made for Dr. Elder, of Nottingham, for ligaturing the pedicle in ovariotomy, etc. Enterectomy Clamps, made at the suggestion of Mr. Makins, and useful also in the operation of gastrostomy. Apostoli's Apparatus for treatment of uterine tumours, with improved electrodes, by Dr. Inglis Parsons. Ether Mixtures Inhaler and also a modification of Junker's Apparatus, with a washable celluloid facepiece, made for Mr. Tom Bird. A Binaural Stethoscope, extremely portable, with continuous metallic conduction, invented by Mr. Campbell Gowan. A very neat and workmanlike Pocket Ophthalmoscope, made at the suggestion of Mr. Oldham, of Brighton. A Lamp for ophthalmic, laryngoscopic, and rhinoscopic examination, suggested by Dr. Carpenter; with this lamp a powerful, condensed light is obtained for laryngoscopic work, and by closing a shutter over the bull's-eye and reversing the chimney, a pure white light for use with ophthalmoscope.

Messrs. Ferris and Co. (of Bristol) were well represented by a large and interesting display of new and other instruments and appliances, including those used by Dr. J. Greig Smith in abdominal surgery, Keith's Clamp for Hysterectomy, Electrical Apparatus for Dr. Apostoli's treatment of fibroid tumours, namely, Battery, twenty-four cell sulphate of mercury, with double switch and levers, rheophores, connecting cords, and drawer for appliances, in polished mahogany; Galvanometer, graduated in milliampères; Water Rheostat; Hysterotome, in platinum, with handle and three steel trocar points and cannula. Also Ear Forceps, Osteotomy Instruments, Syringes for Rectal Injection of Glycerine (Roué's pattern), Tracheotomy instruments; Dr. O'Dwyer's instruments for Intubation of the Larynx; Bougies—Rectal, Conical, Silk-elastic; Clinical Pocket Charts for the bedside; Silver Hypodermic Syringe for injecting cocaine, etc.; also an Electric Lamp with head-band attachment.

Mr. J. Gardner (32, Forrest Road, Edinburgh) had a large assortment of instruments, many of them bearing the names of esteemed medical men, a sufficient guarantee of their excellence. We find Chiene's Œsophageal graduated Bougies ten in case, Cotterill's Tongue Depressors and improved Mouth Gag, Annandale's Catheter with siphon action, Woakes's Forceps for Post-Nasal Growths, Chiene's Siphon Urethral Catheter, Sir J. Y. Simpson's Midwifery Forceps, Cranioclast, Cephalotrite, Perforator, Beehag's improved Tonsillotome, McBride's Improved Snare, Whyte's Antiseptic Hypodermic Syringe, Menthol Syringe, Nasopharyngeal Curette, etc., Chiene's Graduated Throat Bougies, and Annandale's Siphon Catheters were, we were informed, in great demand.

Messrs. Godfrey and Cooke exhibit a very compact and simple Chloride of Ammonium Inhaler for generating nascent chloride of ammonium. This remedy has acquired a marked reputation in the treatment of catarrhal affections of the mucous surfaces of the ear, throat, and nose, and has been used with much success in bronchial asthma and hay fever. The inhaler consists of a bottle closed by means of an india-rubber stopper, into which is inserted two inlet tubes to contain porous cylindrical dippers, which are charged by being dipped into hydrochloric acid and solution of ammonia respectively; the outlet tube contains a piece of moist sponge, and to this tube is affixed the rubber tube with mouthpiece. When air is drawn through the instrument it becomes charged with the vapour of hydrochloric acid and ammonia, which combines in the body of the inhaler, forming chloride of ammonium in a dense white cloud of smoke. After this has been passed through the sponge, it issues in a state of perfect purity, and is quite neutral. When this mist comes into contact with a mucous surface, the chloride of ammonium is absorbed without the least irritation. The inhaler is cheap and very portable.

Messrs. W. B. Hilliard and Sons showed a large and varied assortment of Instruments and Appliances of special interest, as they comprise the instruments now used by our Scottish representative surgeons of the most advanced school—Sir G. H. B. Macleod, Dr. Macewen, Dr. W. L. Reid, Dr. McIntyre, Dr. Sloan, Dr. Yellowlees, etc., are names attached to various specimens of instruments used by these gentlemen. Dr. Macewen's well-known Osteotomes, of which Messrs. Hilliard are the only authorised makers, are worthy of attention for their fine quality and careful simplicity of design. These "bone-cutters," we were told, have been sent to every country in Europe, and many hundreds are now in use over the globe, each one of which has been tested by Dr. Macewen's own hands. A distinct novelty, and which has been proved, in the hands of Dr. Fleming, to be a valuable method of treatment, is Hilliard's patent Resilient Traction for curing spinal curvature. Particulars are given in Dr. Fleming's paper of many cases very quickly relieved by this appliance, and it seems for its very simplicity and cheapness an idea worthy of medical attention. Allen's Surgical Pump, the latest "sensation" in the surgical armament, is shown at this stand, Messrs. Hilliard being the inventor's agents, and it aroused great interest from its truly American ingenuity.

Mr. J. Lizars (260, Sauchiehall Street and 16, Glassford Street, Glasgow, agent for Carl Zeiss in Jena) exhibited a large collection of Microscopical and other Optical Apparatus, consisting of a number of Zeiss's Microscopic Stands, from the simplest to the largest model, as well as a good stand of his own manufacture which is said to be taking very well, and which, including two object glasses, costs only £6 6s. A set of the famous Apochromatic Micro-objectives and Compensating Eyepieces of Carl Zeiss were also shown, as well as various microscopical accessories, such as Professor Abbe's new Drawing Camera Lucida, and also Zeiss's; Abbe's Apertometer for measuring the angles of micro-objectives; Thomas's Apparatus for Counting Blood-corpuscles; and a collection of Microscopical Dissecting Instruments, Mounting and Staining Materials, and Turntables. Mr. Lizars showed also a new, cheap, and improved Dissecting Microscope of his own manufacture, at the low figure of 10s. 6d.; this little instrument has two different powers set in a revolving arm, and has a reversible circular stage-plate, one side of which is of white and the other of black glass. A very handsome large Microtome; a large case of Oculists' Trial Set of Lenses; a number of cheap but excellent Aplanatic Pocket Lenses, Field and Opera-glasses, and correct Clinical Thermometers at the low price of 2s. 6d. each, completed this interesting exhibit.

Messrs. Lynch and Co., Aldersgate Street, London, exhibited a very large and extensive display of their goods. Amongst the many articles shown we noticed some very portable Silk Air Pillows, for which it is claimed that they do not become hard by wear, and can be folded up into a small compass for the pocket. Small Midwifery Hand-bags, made of stout morocco leather, hand-sewn, lined with chamois, and containing four stoppered two-ounce bottles, price 15s. Clinical Thermometers, with indestructible indexes, which could not be shaken into the bulb, guaranteed within 1-8th of a degree of accuracy, in neat metal cases for the pocket, for 2s. 6d., together with a Hypodermic Syringe, with two needles, in neat case, and a Vulcanite Spray-producer, with double continuous bellows, are supplied by this firm at the moderate figure of 2s. 6d. Sir Spencer Wells's Ovariotomy Instruments. Junker's Inhalers, as used at the Samaritan Free Hospital for Women, were to be seen, alongside of a large assortment of various forms of Midwifery Instruments, consisting of Simpson's Forceps (various patterns), Uterine Sounds, Probes, and Sponge-holders. A new form of Binaural Stethoscope, the ends folding over, thus making a very compact instrument for the pocket, and, being fitted with a hollow joint, increases its benefit to those who use this class of instrument. Catheters and Bougies, made of silk web, with improved eyes in various shapes, together with Lister's Sets of Steel Sounds and Thompson's Urethrotomes, showed that this branch of their business had not been overlooked. Allingham's Ointment Introducers and Rectal Sponges; Pessaries in vulcanite of every conceivable pattern; Stethoscopes in celluloid, ebony, cedar, and walnut wood; Siegle's Steam Sprays; Pure Rubber Bandages for Varicose Veins, warranted free from acid; Portable Batteries, which do not readily get out of order; Sponges in every variety, were among a few of the exhibits of this firm; also their Improved Aneroid Barometers in ebony and walnut wood frames, at a very low price. Sets of improved Trial Glasses. Clinical Thermometers, with magnified indexes, easily read at a distance. There was also a good display of Laryngoscopic Lamps, both for the table and wall, together with Laryngoscopes of varied patterns, from 15s. upwards; and a handsome show of fitted Dressing Bags, suitable for travelling, formed a very miscellaneous but attractive exhibit.

Messrs. Mayer and Meltzer (71, Portland Street) exhibited a large collection of Laryngeal and Nasal Instruments, amongst others being Dr. Wolfenden's Laryngeal Forceps, Dr. Hovell's Post-Nasal Forceps, and Dr. Woakes's Nasal *Ecraseur*; also several Curettes of various shapes for removal of adenoid vegetation in the pharynx. A Spray which can be used with one hand, so that the other is free to hold the tongue spatula. Dr. Burton's Diphtheria Aspirator, a new instrument which entirely does away with any danger when sucking the tracheotomy tube; and a small Battery, which gives an excellent light for laryngeal examinations. Among the Gynæcological Instruments were Dr. Heywood Smith's Portable Candle Stick Reflector, which can be carried in the bag, and, when unfolded, gives an excellent light; it is especially useful for gynæcological work, because the size of its base precludes the possibility of its falling over when placed upon the bed. Dr. Aveling's Abdominal Electrode is preferable to the clay of Apostoli, on account of its cleanliness, and, by reason of its flexibility, it adapts itself to any inequalities of the abdominal wall. Dr. Aveling's Flexible Uterine Calipers and Uterine Dilators; also a Speculum Drainer, which can be attached to any size of Ferguson's Speculum. Among other instruments may be mentioned Mr. Bernard Roth's Scoliosiometer, Parker's Tenotomy Knives, McKeown's Intra-capsular Irrigateur; a Clover's Inhaler, specially made for use in hot climates, and Mayer's Patent Papier-Maché Splints. Dr. Greville MacDonald exhibited on Messrs. Mayer and Meltzer's stand a new pair of Uvula Scissors, and instruments for cauterising the Pharyngeal and Lingual Tonsils.

Messrs. Pickard and Curry (195, Great Portland Street) exhibited Couper's Optometer, M'Hardy's Refraction Perimeter, Morton's Ophthalmoscope, Doyne's new Stereoscope for Squint, and other important instruments of which this firm are the makers.

Mr. K. Schall (55, Wigmore Street, W.) exhibited a large and beautiful collection of Electric Instruments, Batteries and Instruments for Galvanic Cautery, Illuminating Instruments for the Ear, Nose, Larynx, Œsophagus, Stomach, Rectum, Vagina, Urethra, and Bladder; a new and very interesting Ophthalmoscope; several Batteries and Electrodes for Dr. Apostoli's treatment of Fibroids; a very complete Office Battery, Testing Instruments, Faradic Batteries, etc.

Mr. Adolf Schulze, F.R.S.E., F.R.M.S., exhibited his Photomicrographic Apparatus, which he employs for taking photographs of microscopical objects. It consists of a long, strong table or bench, about 6 feet 6 inches long, and 1 foot 6 inches broad, having on one end a long raised platform for the support of a long extension bellows camera, and at the other end revolving table of 2 feet 3 inches in diameter. The whole is supported by four legs with stretchers, but can also be used without them on any steady table. The round platform carries a large Ross's microscope stand with crane arm, whose binocular body was screwed off and replaced by a wide monocular one. To the front of the camera a square box, 6 inches long, is attached, which contains an internal shutter. The end of the microscope body enters this box, and the light-tight connection between camera and microscope is effected by a wooden tube, with a flange lined with velvet. The revolving table supported a large Dallinger lamp, with separate motions for lamp and bull's eye lens, G. Trouvé's photophore, an adjustable electric lamp, as well as a number of amplifiers, Zeiss's new projection eyepieces, various diaphragms, and a rectangular prism. A brass rod, having a small grooved pulley at the end over the round table, serves for focussing with the fine adjustment. Mr. Schulze also exhibited Trouvé's Portable Battery and Ross's small Pyramidal Camera. Specimens of Mr. Schulze's photomicrographs were exhibited on J. Lizars's table, who had charge of this exhibit.

Messrs. Weiss and Son (287, Oxford Street, W.) showed an interesting and varied collection of instruments, including several novelties, conspicuous among which was a Spirograph, by Dr. Mortimer Granville. This instrument is held a short distance from the mouth of the patient, in such a position that the breath falls upon a delicately balanced mica disc; to this is attached a needle, which registers the movements of the disc on a piece of smoked paper, running for exactly the same time as the paper in a sphygmograph; this instrument, if used in conjunction with the sphygmograph, will show exactly the relations between the respira-

tions and the pulse. Dr. Granville has also introduced some important alterations in the Dudgeon Sphygmograph, whereby this instrument is made considerably more sensitive, and gives a more correct tracing of the pulse than any other instrument of the kind. We also noticed an Electric Light Laryngoscope, by means of which the larynx and surrounding parts can be examined with the greatest facility, far easier, in fact, than by other means; by removing the laryngeal reflector, the instrument can be used for illuminating any of the cavities, but, for use with the speculum, this firm has introduced a modification of this instrument, which consists simply of a small lamp mounted on a flexible stem, which can be bent in any way to suit the convenience of the operator, and is attached to any speculum by means of a spring clip; this instrument appears to us especially useful in making vaginal examinations, as it enables the surgeon to do so without the necessity of bringing the patient to the window, or else using a candle, thereby obviating all risk of fire, and reducing the exposure of the patient to a minimum. Some exceedingly flexible Bougies by Mr. Goodsall, for use in dilating stricture of the rectum, are also worthy of notice. The bougies possess the following characteristics. Starting with a minimum thickness of a quarter of an inch in diameter, they increase gradually until the maximum thickness is reached, six inches from the point, and is then continued to the end; they are exceedingly flexible, and almost completely incompressible; as a proof of this, the smaller sizes may be tied into a reef-knot, without either compression of the calibre or cracking of the surface. It can be retained with very little, if any, discomfort to the patient; and it would be difficult, if not impossible, with the pressure usually employed in introducing the bougie, to make a false passage. Some of the latest improvements in Lithotrites and Aspirators for the bladder were also shown; among the latter being those of Sir H. Thompson, Bigelow, Keegan, and others; also Sir H. Thompson's instruments for performing Lithotomy by the suprapubic method; and amongst the smaller things was a very convenient portable Stethoscope, so made that the stem unscrewed from the chest-piece, and again in its centre, and the two halves were then passed through a small projecting piece in the chest-piece, thus making the stethoscope so small that it can be easily carried in the waistcoat pocket; the instrument, also, from the manner of its construction, is so strong that it is practically unbreakable. Several very complete sets of instruments, conveniently arranged in handsome cases, amongst which was a Cabinet for Eye Instruments, suitable for a large hospital, made in the well-known high-class manner for which this firm is so justly celebrated, went to make up a few of the leading features of a very interesting exhibit.

The other exhibitors in this Section included the names of Dr. Illingworth, Plaster Casts; Drs. Macdonald and Macintyre, Instruments; Mrs. Marian Marshall (London), Remington Type Writer; Mr. Stuart Nairne, Instruments; Mr. Prescott (Edinburgh and Dublin), New Modification of Perimeter and Haines's Retinoscope; Dr. Thomas Reid (Glasgow), a collection of Instruments for Testing Vision and Colour Sense; Dr. Andrew Smart, the Dermatic Punctator, Triplex Respirator, etc.; and Sir William Thomson, who showed an Optical Apparatus. There was also a good display of new and standard medical works in this Section, including those published by Cassell and Co. (shown by Holmes, of Glasgow), Churchill and Co., H. K. Lewis, Maclehose (Glasgow), Macmillan and Co., Young J. Pentland, and Co. (Edinburgh), Redway (London), Richardson and Co. (Leicester), Stenhouse (Glasgow), Wright (Bristol), etc.

Section F.—Sanitation.

This Section of the Museum, from the variety and extent of the exhibits, had to be accommodated in a specially erected marquee, the space originally assigned proving far too inadequate.

The Asylum for the Blind (96 and 108, Castle Street, Glasgow) showed Improved Hospital Spring Mattress; Improved Hospital Spring Mattress and Bedstead combined; Mattress and Bedding, filled with crin-coir (a new stuffing material superior to hair), for hospital bedding and mattresses; Bed Rests, as supplied to the Royal and Western Infirmaries; Wicker Guards; Sanitary Soiled Linen Baskets; Baskets for Ambulance Appliances; and Invalid Chairs.

Mr. Wm. Barlow had an attractive display of his Hygienic Boots. These boots are elastic, durable, and most comfortable, and have gained for Mr. Barlow the blessings of many "sore-footed" practitioners.

Mr. J. G. Bellord (70, Great Portland Street, London) exhibited Dr. Heywood Smith's Hospital Bed, 28½ inches high, exclusive of mattresses, etc., obviating the necessity of nurses, etc., having to stoop over the patients. It is fitted with easy running india-rubber castors.

There is a large and varied assortment of bedsteads. Messrs. Billington Bros. (Liverpool) being well represented by their Adjustable Bedsteads, Invalid and Lounge Couches, and their Patent Mattress, which seems to meet every requirement.

Messrs. H. Boakes, Roberts, and Co., Manufacturing Chemists, Stratford, London, exhibit their Dynamic Germicide. This firm have discovered that Carbolic Acid, Camphor, Menthol, Thymol, are soluble in any proportion in Anhydrous Sulphurous Acid, when condensed in the liquid state under pressure. Advantage is taken of this discovery to dissolve carbolic acid in sulphurous anhydride in about equal parts, for the purpose of projecting the mixed disinfectants in the form of vapour. This is accomplished by a specially arranged "Calorifier," composed of a coil of copper tubing connected with a "syphon" or reservoir containing the liquid. The heat is supplied by a "Salamander," which has been heated to bright redness in the fire, and placed in the midst of the coil. About one minute is allowed for the heat to permeate the apparatus, after the salamander has been inserted, then a tap is turned, and the fluid is projected for a distance of from eight to ten feet. It is well adapted for the thorough disinfection of hospitals, sick rooms, dissecting rooms, workhouses, etc. The same firm also exhibits the Dynamic Deodoriser, an apparatus which, it is stated, is adopted by the Metropolitan Board for the deodorisation of the emanations from main sewers, through the suggestion of Sir Henry Roscoe.

Messrs. Boyd and Co. (Belfast) had as usual their "Doctor's Ulster," which is so well adapted for country practitioners, having pockets specially made for forceps and emergency cases. The ulster is light, comfortable, and can be thoroughly recommended.

Messrs. R. Boyle and Sons (London and Glasgow) had a large display of models and samples of their Ventilators of all kinds. This, it is well known, is Messrs. Boyle's specialty, and it is unnecessary, perhaps, to say that they have everywhere received the highest commendations and awards.

The British Sanitary Company (Glasgow) exhibited Earth Closets of various forms.

Mr. W. P. Buchan exhibited various specimens of his Sanitary and Ventilating Appliances, amongst which mention may first be made of his well-known Disconnecting and Ventilating Trap for drains, the introduction of which about a dozen years ago inaugurated a great reformation in drainage. Specimens of the No. 2 style in various sizes were shown. Buchan's patent Access Pipes, with longitudinal openings on top, closed by movable strong cast-iron lids, were also shown. These are now largely used for inspecting the interior of drain pipes when being laid, and ready for access afterwards when wished. Buchan's patent Ribbed Drain Pipe, for extra strength; the space between the two ribs to be filled when desired with Portland cement. For sizes above six inches diameter the cross-section of the pipe may be egg-shaped for extra cleanliness. Also the patent improved Grease Trap for drains, now in use for some years back at Balmoral Castle, and at many hotels, mansions, and private residences, etc., throughout the kingdom. The grease collects in an oval central compartment, whence it is easily removed as needful, and the drains beyond thereby kept clear. Plain and ornamental specimens were also exhibited of Buchan's patent Induced Current Fixed Ventilators for soil pipes, drains, and sewers, also for churches, halls, schools, houses, and buildings generally. This ventilator excelled all the other principal makers in an elaborate series of tests carried out in London by Mr. S. S. Hellyer by about 93,000 feet of greater exhaust in twenty-one hours. The latest improvement in connection with the outlet ventilation of buildings, and especially of churches, schools, and halls, etc., where people have to sit in one place for a considerable time, is a very important and practical one, and is styled Buchan's patent Anti-down Draught and Inspection Valve Box. As its name implies, this apparatus is a very simple way not only to prevent the disagreeable and dangerous down-draughts of cold air so often felt in many buildings, but also to provide for easily seeing with the eye how the ventilation is going on. We understand they have been applied during the last three years by many architects with the best results, as they give confidence to keep the outlet ventilators open in all weathers, instead of, as has been so often the case, having the outlet ventilation closed for fear of down-draught when it should be open.

Caldwell's Patent Water Economiser, 23, Bothwell Street, Glasgow, was exhibited. This is an ingenious contrivance for regulating the water-supply for any given time. It obviates the use of cisterns for other than water-closet purposes, and effectually prevents waste of water either through undue use or carelessness. In case of a burst occurring in the pipes, the damage and inconvenience, by the use of this invention, is reduced to a minimum, since the loss of water will be confined to the time allowed for drawing water, or be limited to the amount of water in the cistern or storage for hot water.

The Carbon Chemical Company, Limited (62, Holborn Viaduct, London), exhibited their novel Carbon Cones for the production of vapours from medicinal matter, and chemico-medicinal products for the purpose of inhalation, for disinfecting, and antiseptic uses, for the diffusion of perfumes, etc. This cone system of disinfection and diffusion consists in having the disinfectant contained in a small flask, surrounded by a hollow cone of pure carbon, combined with an oxidising agent, and the whole is mounted on an incombustible base of a few lines in thickness. The cone is lighted at the top, and the carbonised casing smoulders, diffusing the contents of the flask in the form of a vapour. The flask may be filled with any remedy desired by the medical attendant, such as Terebene, Thymol, Pinus Sylvestris, Stramonium, Carbolic Acid, Lavender, Bichloride of Mercury, etc. For general disinfecting and inhaling purposes their use is simple and economical. We have previously spoken highly of these cones, for which we anticipate extended use.

Messrs. Isaac Chorlton and Co. (Manchester) exhibited their Patent Steel Spring, and Chain, and Woven Wire Mattresses, Bedsteads, and Invalid Beds, etc. Their patent Steel Spring and Web Mattresses offer every facility for sound and refreshing sleep, being elastic and comfortable to the sleeper in every position; they also permit of perfect ventilation, allowing the escape of the exhalations from the body.

The City of Glasgow Fever Hospital, Belvidere (Dr. Allan) showed a new Brougham Fever Ambulance. This ambulance, designed by Dr. Wilkinson, of Sydenham, and made by T. S. Norton, the Grange Road, Bermondsey, is an elegant and convenient carriage, having the appearance of an ordinary brougham. It opens at the back, and is fitted with sliding stretcher, cushions, etc., complete. The windows are of cobalt glass. It is sufficient recommendation to mention that these vehicles have been adopted by the London Fever Hospital, where two are in use; that they have also been supplied for Hornsey, Highgate, Romford, Bournemouth, Salford, and Glasgow.

Messrs. Doulton and Co. exhibited selections of their varied Sanitary Appliances, which are of their usual excellence, and comprise an illustration of a simple Trough Closet, as used by the London School Board and other large institutions, fitted with an automatic tank: also an Improved Valve-Closet, which appears to be the perfection of a closet of this class, every part being well finished, the friction usually caused by heavy weights being reduced to a minimum, and the greatest simplicity being secured both in the regulating valve and in the outlet valve. They further exhibit one of their Combination Closets of good style and finish; and in conjunction with this, also show their latest improvement in Waste Preventors, which, in its working, is quite silent and certain. One other form of Closet is shown which combines the wash-down principle and the pedestal form, and being in one piece it seems to be a simple and most effective closet. The superiority of these makers' goods is also apparent in the illustrations of Lavatories and Urinals and various styles of Valves, all of which are finished in perfect style and good workmanship. The Bath-Heater exhibited is of copper throughout, and has been specially designed to prevent accident of any kind, and the fact that no fumes are emitted more than from an ordinary gasalier, and the water being kept distinct from the gas fumes, renders it safe, clean, and wholesome. The Filters exhibited have the merit of being easily cleaned or renewed, and have the great recommendation of being also cheap. We would call special attention to a Joint for drain pipes, which showed a long-felt want. The pipes are sent out from the works ready for fixing, and simply require to be smeared with a little grease; the socket being a perfect cylinder, and the spigot a perfect sphere, allows to the joint a large measure of play, without the slightest leakage; it is specially adapted for wet ground and sandy soil, and can be laid by inexperienced workmen.

Mr. John Dove (1, St. Andrew Square, Glasgow), who has been commissioned to make a Bath chair for the use of Her Majesty the Queen, had a most creditable representation of these Invalid Carriages, Bed Rests, Leg Rests, and Movable Couches. Their adjustable Bed Tables and Reading Tables with Lamp attached are most ingenious, and meet a great want.

The Garnkirk Fire-clay Company showed specimens of their Ornamental Sanitary Ware and the dry Ground Clay from which they are manufactured.

Messrs. James Henderson and Co. (North Street, Glasgow) exhibited an elegantly-constructed Medical Brougham, admirably adapted to meet the wants of medical men, which attracted a good deal of attention. We purpose giving full particulars in a future number.

Messrs. Heywood and M'Gee (Manchester) showed an interesting model of a Hoist, with their patent life-protecting platforms.

Messrs. W. B. Hilliard and Sons (Glasgow), in the spacious marquees erected in the west quadrangle for the display of Sanitary Ambulance and Hospital Appliances and Furniture, showed an Operating Table, intended for the New Victoria Hospital at present being erected in Glasgow, which possessed many evident improvements. Its simplicity of construction and stability are a marked contrast to the old-fashioned tables supplied by this firm to Guy's Hospital, London, Singapore Hospital, Royal and Western Infirmaries, Glasgow, etc. The levers which raise the patient's lower extremities and trunk in cases of anæsthetic sinking are used by most of our advanced surgeons on the Continent and here; but in this table they are made to form two handles, by which the table may be wheeled about on the two rubber-tyred wheels on the front feet, thus dispensing with the necessity for a separate running couch for the conveyance of patients to and from a ward. The rubber feet of this table provide a firm and noiseless hold, even on a polished floor, which will be appreciated by surgeons who have used the old table only. An Isolating Curtain shown by this firm is also interesting, from its ingenious simplicity. This device gained a certificate of excellence at the International Sanitary Exhibition. Briefly described, it is a woollen curtain which automatically saturates with antiseptic fluid; and thus isolates cases of fever or other infectious disease, by being placed over the door of a room or round a hospital bed. The arrangement of rubber—the lower hem—provides a runlet for any excess of fluid, and prevents wetting of floors or carpet. This patent may also be adapted for cooling or sanitary purposes in soldiers' tents and passenger trains in tropical countries, etc. The Ambulance Stretchers, Wound Boxes and Baskets shown by this firm are now well known, hundreds of them being now in use in the railways, collieries, works, mills, and shipyards of this country. They are notable for their sensible simplicity, strength of construction, and moderate price. The Wicker and other Bed Rests here shown will also be appreciated by surgeons; especially for poor patients who cannot afford the complicated and expensive articles offered.

Mr. John Honeyman (140, Bath Street, Glasgow) exhibited his Patent Ventilators, adapted for open timber roofs and for ceiled apartments. The special merit claimed for these ventilators, in connection with the ventilation of hospitals, is that they provide a very large area of exit, without the possibility of cold draught, the slightest inward current from either side at once closing the valves, so that they may at all times be allowed to act with perfect safety. They are also cheap in proportion to their capacity. He also showed a model of a Twin Pipe to facilitate the ventilation of house drains.

Mr. George Jennings (Palace Wharf, Stangate, London) exhibited the following: Patent Valve Closet, trapped in one piece, with supply valve; Pedestal Vase Closet, trapped with balanced hinged seat and waste-preventing siphon cistern; Chair Commode for invalid's rooms, etc.; Portable Water-Closet, with pump and sitz arrangement, invaluable in cases of fistula, piles, etc.; Concealed Self-flushing Urinal Arrangement; Improved Fold-up Lavatory, with sink for surgeries, etc.; Improved Combination Lavatory and Urinal; Patent Slop Sink with flushing arrangement, in enamelled slate; Patent Warming and Ventilation Arrangement; Dissecting Table with head-rest, as supplied to military hospitals for the War Department; Patent "Tip-up" and Lift-out Lavatory with Shampooing and Spray arrangement, and patent ball-trap to waste pipes.

The Longford Wire, Iron, and Steel Company, Limited (Warrington), showed Wood's Patent Invalid Bedstead for Paralytic and Bed-ridden Patients. In the wire mattress there are nine holes, the selvages of which are bound with metallic eyelets; on this wire mattress is placed a hair or wool mattress, in which

are holes corresponding with those on the wire mattress, and upon the hair mattress is a pure rubber sheet with nine holes and pipes attached to them. These pipes lead through the wool or hair mattress and the wire one into a common iron frame under the bed, which carries a self-levelling chamber utensil. The bedstead is cheap, cleanly, elastic, and comfortable, easily disinfected, and altogether the most serviceable we have seen. The same firm also showed a Patient Couch for Invalids, made with galvanised spring steel wire. These specimens are mounted upon Wood's Improved Rubber Roller Castors, which enables the bedstead or couch to be moved about noiselessly and without wearing carpets, etc. The castors may be had separately and fixed to any bedstead.

Messrs. MANLOVE, ALLIOTT, FRYER and Co.'s exhibits illustrated systems for the treatment of towns' refuse, sanitary steam laundry machinery, etc., and consisted of photographs of Alliott and Paton's Sewage Filter Press, and other similar apparatus; samples of Sludge Cake pressed in the above presses; photographs, etc., of Washington and Lyon's Patent Steam Disinfector for purifying wearing apparel, bedding, furniture, etc.; model of Fryer's Patent Furnace for burning towns' refuse, known as "The Destructor;" model of "The Carbonizer," for converting vegetable refuse into charcoal for disinfecting and deodorising purposes, etc.; the Interior Part or Revolving Cage of Manlove, Alliott, Fryer and Co.'s Improved Rotary Washing Machine, as used in infirmaries, hospitals, and in the public laundries throughout the country; model of Johnson's Patent Drier and Firman's Patent Drier, for dealing with all kinds of fish, offal, blood, waste animal matter, excreta, etc.; also Relative Drawings, Photographs, etc., explanatory of the above and other special machines and Apparatus.

The MILTON CHEMICAL Co., 49, Bath Street, Glasgow, had a stall well furnished with their Medical and Toilet Soaps. Their First Pale Soap they especially recommend for the washing of children.

Mr. JOHN ROBERTSON (412 to 424, St. Vincent Street, Glasgow) exhibited one of his Æsthetic Broughams fitted up for medical gentlemen, with portable physician's case, electric bell, and timepiece; it is hung on Collinge's patent axles, and elliptic and compination C-springs behind; lined inside with very fine olive silk plush and lace to match, with side pockets and side mirrors; doors and frames fitted with rubber insulators, steps covered with rubber, and ventilated on Toppen's principle, adapted by builder; rubber insulators to lamps and ends of springs and drag, to make it silent and comfortable; painted olive to match the lining. It can also be fitted with his new spring sanitary cushion. This brougham, elegant in appearance and of good workmanship, was much admired.

The "SANITAS" COMPANY, Limited (London) exhibit specimens of their products, such as their elegant and pleasant disinfecting powders and fluids, so well known and extensively used by public health bodies and in most households. A more extended notice of these preparations appears in Section A.

Messrs. SHANKS and Co. (Barrhead, near Glasgow) had a display of Shanks's Patent "Independent" Bath, "Imperial" Bath, "Imperial" and "Citizen" Lavatories, "Imperial" and "Tubal" Closets fitted in the most approved style, also a Patent Folding Urinal.

The ST. ANDREW AMBULANCE ASSOCIATION had a variety of their appliances for use in case of emergency, such as a Hinged Pit Stretcher with cover, a Stretcher for Police use, and a new Stretcher with awning.

Messrs. S. B WHITFIELD and Co. (Birmingham) showed the Lawson Tait Hospital Bedstead, which is a model of economy, cleanliness, and handiness.

MR. CHARLES F. COOMBE, L.R.C.P.Edin., M.R.C.S.Eng., on the the termination of his engagement as house surgeon to the Sheffield General Infirmary, has been presented with a handsome salad bowl of polished oak and silver mounted, bearing the following inscription:—"Presented to C. F. Coombe, Esq., on his leaving the Sheffield General Infirmary, August 10th, 1888. With best wishes from the nurses, servants, and patients."

EPIDEMIC OF TYPHOID.—Loughborough, in Leicestershire, is suffering from an epidemic of typhoid fever, over thirty persons having been attacked in one street. The cause is attributed to the use of impure surface water, and the local authorities have ordered the houses to be connected with the town supply.

DEMONSTRATIONS AT THE ANNUAL MEETING.

IN the Physiology Class-room a demonstration on the Methods of Bacteriology was given by Mr. Alexander Edington, M.B., Edinburgh, on Wednesday, August 8th, under the immediate auspices of the President of the Pathological Section, Sir W. Aitken, and other office bearers. Mr. Edington had a complete bacteriological laboratory fitted up in the Physiology Class-room, and upwards of sixty cultivations of almost all the most commonly known pathogenic organisms, and also a considerable number of others, which were then for the first time seen by the profession. He limited his demonstrations so far as to be of practical utility to the general practitioner and officers of public health. By the latter it was well attended, and they in many cases signified their appreciation of it. Mr. Edington entered into the various methods made use of for the recognition of micro-organisms in solids and fluids, and gave practical hints as to how such methods should be best carried out, laying special stress upon the method of staining supposed tubercular sputum, and showing how it was that so many failed in this procedure. Subsequent to this, he detailed the methods of cultivating bacteria in solid and fluid media, giving the nine useful formulæ for their preparation. The methods of making plate cultures were next demonstrated, and the characteristics of various growth-types pointed out. He then showed how the apparatus of Koch, Hesse, and others were used for the examination of air, also how water and soil should be examined. After each demonstration, which lasted for three quarters of an hour, the members present were invited to examine the cultivations and apparatus personally, and Mr. Edington placed a series of microscopic specimens under microscopes, so that they were able to see the forms of the elements of several of the cultivations they had been examining. The various pieces of requisite apparatus were supplied by the courtesy of Mr. A. Frazer, optician, Edinburgh, and the microscopes, suited for bacteriological purposes, designed by Professor Crookshank, London (Swift and Son), and by Mr. Edington, Edinburgh (Watson and Sons) were shown in use.

Dr. Benjamin Howard gave a demonstration on August 9th, in the Anatomical Section, of a very interesting and important character on The Hyoid Bone and its connections. Dr. Howard showed how this bone is the central link of a chain by which alone the objective elevation of the epiglottis can be effected. The upper link of this chain consists of the genio-hyo-glossi and mylo-hyoidei muscles; the lower of the hyo-epiglottic ligament, this linking the inferior maxilla with the epiglottis. The upward motion of the former produces simultaneous elevation of the latter. Dr. Cleland, Professor of Anatomy, Glasgow University; Dr. Macdonald Brown, Professor of Anatomy, Edinburgh, and others, spoke highly of the originality and value of the discovery, the anatomical points of which Dr. Howard had briefly pointed out.

Dr. William Macewen gave a series of demonstrations in his operating theatre in the Royal Infirmary, Glasgow, before a large audience, on Wednesday and Friday, August 8th and 10th, at 9 A.M. On Wednesday he first demonstrated the steps of the operation for radical cure of hernia by internal peritoneal pad and the restoration of the valved formed of the inguinal canal. He particularly alluded to the importance of including only the conjoint tendon in the first stitch, the rectus muscle being carefully excluded; secondly, to the primary importance of closing the internal ring, leaving the external to heal by cicatrisation of the subcutaneous tissues, and thirdly to see that the cord was free before finally closing the canal. A specimen was then shown of the parts involved in the left inguinal hernia, which was removed *post mortem* from a man upon whom the above operation was performed four years previously, and who, until his death by rupture of thoracic aneurysm, was able to follow his vocation as a carter without truss or any external support applied to the inguinal region. On ocular inspection of the external aspect of the inguinal region there was no undue bulging or laxity observable on the left, both sides seeming identical in this respect. The linear cicatrix at the site of the operation was scarcely discernible. The finger introduced into the left inguinal ring, through an invaginated scrotum could not be passed further than the outer pillar of the external oblique aponeurosis, but on the

sound side the canal could be entered more freely and the internal ring felt. The skin and subcutaneous tissues were removed, and subsequently the deep layer of the subcutaneous fascia so as to expose the external oblique muscle and its aponeurosis. The cicatrix in the superficial structures was firmly adherent to the outer portion of the decussating fibres of the external oblique aponeurosis, and also in part to the conjoint tendon. The pillars of the external ring were dissected and freely exposed; the outer was found to be firmly attached to the conjoint tendon, thus obliterating the canal, with the exception of the passage of the cord. The testicle was fully developed, and neither in it nor the cord was there any sign of atrophy. The internal aspect of the abdominal wall showed that both inguinal regions were nearly the same, the difference being that of an increased thickness on the left side opposite the internal ring, which became all the more pronounced when the parts were submitted to digital examination. The left inguinal region presented to the outside of the epigastric artery a duplication and multiple folding of the peritoneum, overlying and completely obscuring the internal abdominal ring, and terminating above and to the outside of it in a cicatrical band, marking the place where the folded sac had been sutured to the abdominal wall. On pressing the tips of the finger on the structure opposite the site of the internal ring, a firm though elastic pad was discerned sliding over a somewhat aponeurotic layer—part of the conjoint tendon. The peritoneal duplication enclosing the remains of the folded sac formed a gentle undulation, its convexity presenting backwards towards the abdomen, the edges of which shaded off without abrupt projections with the peritoneum lining the abdominal wall. This specimen, therefore, demonstrated that the conjoint tendon had been pulled outward so as to restore the valved form of the inguinal canal; secondly, that the canal had been occluded by adhesions to the conjoint tendon to the outer pillar of the external oblique, leaving space below for the passage of the cord; thirdly, that the obliterated sac had so admirably performed its purpose of a pad on the abdominal aspect of the internal ring, that while it overlay and formed a thickening of the abdominal wall of that part, its edge sloped so gently into the peritoneal covering as to prevent anything like objectionable irregularities. It was thus a source of great strength to the abdominal parietes. From the examination of this specimen four years and a half after operation it may be concluded that the hernia had indeed been radically cured. (The specimen was examined by those present). A series of sixteen cases were then presented to the meeting, on which the operation as above described had been performed at periods ranging from eight years to six weeks previously. In none of these had a truss been worn, the patients being allowed to perform all the duties incumbent on labouring men. One man, upon whom the operation had been performed two years and a half previously, and who had had a large hernia with a very wide ring, which permitted the descent of the bowel into the scrotum, notwithstanding the application of a strong belt, was now presented with a ring absolutely closed, and an abdomen perfectly tight and firm. He carries on his work as a blacksmith, swinging an eighteen-pound hammer and performing all the tasks of his laborious occupation without a truss. (These cases were passed round so that any of the audience who were particularly interested had an opportunity of examining them). Dr. Macewen then showed a series of cases of excision of joints, making running comments on the methods of performing the various operations, the cases suitable for operation, and the after-treatment. There were first shown about a dozen cases of excision of the elbow, which had been performed from ten years to eight months previously. All the adults and children could touch the tips of the shoulder on the same side as the excision, extend the arm fully, and, when there, pronate and supinate perfectly. The movements could not have been more complete, and that also with a firm joint. Most of those were regularly at work. Next came about a dozen hip-joint excisions, in which there was very little shortening, some scarcely perceptible, and in all of whom the movements were excellent, the patient being able to touch the breast with the flexed thigh, to go up and downstairs with ease, and to walk freely about since with very little halt. The next series included about a dozen cases of knee-joint resections, with firm useful, straight, though ankylosed limbs with hardly any shortening in the majority of cases. The patients walked very well. Then followed cases of excision of the shoulder and ankle. In most cases the wounds heal under a single dressing, and with little or no pus production, specially prepared chromic gut and decalcified chicken bone drainage-tubes being used. On Friday, August 10th, the following subjects were demonstrated. First, Dr. Macewen operated on two cases of double genu valgum by the supra-condyloid method. The various steps of the operation were pointed out, the procedure being shown to be a bloodless one, only a few drops of blood staining the sponge removed from over the wound. A specimen of the lower third of the femur was afterwards shown removed from a man on whom Dr. Macewen had performed his operation ten years previously for genu valgum. A series of casts were also laid out for view, illustrating bow legs, knock knees, tibial curves, and various other surgical affections, The next series included ten cases upon which osteotomy had been performed from eight to one year previously; the results were permanent, the joints not being stiffened in any way. Three cases of fractured patellæ were next shown which were treated by elevation of the aponeurosis intervening between the bone, and suturing of the fragments. In the two simple cases there was free movement at the knee-joint; in the other case, which was a compound comminuted fracture, the joint was stiff. Two cases were then exhibited illustrating the growth of bone without periosteum. One of these patients had received a severe compound comminuted fracture of the upper arm; the soft tissues were extensively bruised, and four longitudinal gashes exposed the bone. Two and a half inches of the proximal extremity of the lower fragment was denuded of its cortical layer and its periosteum, the upper fragment being also stripped of its periosteum at its extremity. Extensive sloughing of the soft tissues ensued, with the exception of a strip surrounding the brachial vessels. The bones were spliced together, leaving, between the individual whorls of the catgut, spaces through which the bone could be observed. The healing process was carefully watched, and in a few days the bone was found to have increased in vascularity, granulations ultimately sprouting from its interior, and rapidly surrounding the entire surface of the fractured pieces. Subsequently the granulations from the soft tissues united with those of the bone, cicatrisation being accomplished in twelve weeks, when the fracture was found firmly united, there having been no osseous necrosis. The cicatrix is now firmly adherent to the bone, and at this spot the muscular bundles have become separated, part being attached above and part below the cicatrix. A year after dismissal the patient was engaged as a stoker, throwing seven tons of coal daily into a furnace. The case, therefore, illustrates the fact that two inches and a half of the shaft of a long bone, bereft of its outer cortical layer, along with its periosteum, and freed for some days from all contact with living soft tissues, except a narrow strip surrounding the main vessels and nerves, can not only retain its vitality, but throw out sufficient ossific material to enable the fractured extremities to unite firmly together and to add to its circumferential thickness, to restore its density, and to clothe itself with a new fibrous tissue layer, or periosteum. The whole of its nutrition must have been supplied for a considerable period entirely from the interior of the shaft. The second case used as an illustration was that of a child who had had suppurative periostitis of the whole diaphysis of the tibia, the periosteum being completely stripped, except a portion posteriorly where the nutrient artery entered. The bone was bare, and presented the appearance of white porcelain. Between the periosteum and the bone a series of layers of sublimated gauze were packed, thus separating the bone from its periosteum. This separation was kept up for four weeks, the parts being dressed every forty-eight hours, when they were observed. Two days after operation, the bone presented a pinkish blush, except a small portion three quarters of an inch in length, and half an inch broad; this ultimately exfoliated. On the sixteenth day the bone was covered with granulations, as also the periosteum. Four weeks after the operation the bone was completely enveloped by firm cartilaginous granulations, those of the periosteum being soft and pulpy. The two layers were for the first time allowed to come together, and they soon coalesced. This case shows that bone is capable of living and growing, independently of its periosteum, if the nutrient vessels are still intact. The next case presented was that of a forward dislocation of the wrist; after which, two cases of disarticulation of the hip-joint were shown, one for traumatism, the other for disease. A case of urethrectomy was next shown, from which half an inch of the scrotal portion of the urethra was excised for a traumatic stricture measuring half an inch in length, which had resisted all forms of treatment. The stricture was exposed and excised, the two cut ends of the urethra being carefully sutured together with

fine chromicised gut. The boy is now free from any urinary troubles. Dr. Macewen then went on to explain his method of preparing chromicised catgut and chicken-bone drainage-tubes, and the various dressings used by him.

Dr. Wolfe demonstrated his method of operating for cataract upon a large number of cases. Ten cases were males, and one was a woman. In eight of these a preliminary iridectomy had been performed about a week or a fortnight previously. Two cases were traumatic, and in them no iridectomy had been practised. Dr. Wolfe's practice may be thus described. A spring speculum is introduced to separate the lids. The conjunctiva is seized with a pair of fixing forceps, and a rather small section of the cornea is made with a Graefe's knife downwards, a bridge being left. A cystotome is then introduced, and the capsule divided by one or two strokes. The lens immediately advances to the cornea, the speculum is withdrawn, and the patient is allowed to rest for a few seconds. A blunt-pointed Graefe's knife is then entered and made to pass through the puncture and counter-puncture made by the sharp-pointed knife; and the bridge of cornea is divided, the section being completed through the corneal tissue. The lens is now pressed out through the corneal wound by a little manipulation with the thumb and forefinger. Great care is taken to remove all cortical substance by pressure from above, but no curette is introduced. The edges of the wound being adjusted, any small portion of iris which may project snipped off or returned, the lids are closed and kept in that position by means of three or four narrow strips of court plaster. A light pad and bandage is placed over all. The immediate results were highly satisfactory in all the cases exhibited this day, the pupil being clear, and the patient being able to see and count fingers at once. Dr. Wolfe uses neither chloroform nor cocaine. The advantage of this method of operating is clearly that there is very little risk of escape of the vitreous, and, indeed, there was none in any of the cases operated on. Moreover, the antecedent iridectomy prevents the occurrence of prolapse of the iris, and at the same time enables the operator to see that the pupil is freed from all cortical substance. The prospect seemed in every case to be good.

At the close of the meeting of the Ophthalmological Section, on August 10th, Dr. Wolfe gave a second demonstration of Ophthalmic Surgery, at the Ophthalmic Institution, which was well attended, particularly by London and foreign oculists. The subject was symblepharon; one operation was performed, and a patient, operated on five days previously was shown. In the case operated on, the lower lid was adherent to the eyeball for the greater part of its extent, the angles only being free. The adhesions were cut through, the cornea being shaved as clean as possible, and perfect freedom of movement was restored. The raw surface of the lower lid was then made as smooth as possible, by aid of the scissors, and was then left alone for a little to allow bleeding to cease. Meanwhile the conjunctiva from the eyelid of the rabbit was prepared. It is taken by preference from the tissue of the inner angle, and Dr. Wolfe insisted on the necessity of passing a thread through the part to be separated, before its removal, to enable the upper to be distinguished from the lower surface. The dissected portion Dr. Wolfe carefully stretched out on the back of his hand, where it was allowed to remain till it became quite dry. It was afterwards stripped off by means of a spatula, and in this form was very easily adjusted with accuracy to the raw surface, where it was secured by fine stitches of black silk thread, waxed. The operation being successfully completed, the patient previously operated on by the same method was shown. An accident had completely destroyed the right eye; the left was also very extensively damaged, only a small part of the cornea towards the lower and inner angle being transparent. An iridectomy had been performed there, but the extensive adhesions of both upper and lower lids rendered it nearly valueless. When the adhesions had been cut through, very extensive raw surfaces were found on both lids, on both of which the rabbit's conjunctiva had been implanted, and when the patient was shown, no doubt remained of the success of the operation. The eyeball was comparatively free, and sight was good. In showing the patient, Dr. Wolfe commented on the fact that it was nearly fifteen years since he introduced this operation, and in spite of the fact that the rabbit's conjunctiva gave perfect results, efforts to transplant mucous membrane from the human subject, from the mouth and even vagina were being made. At the close of this demonstration, the cases operated on for cataract three days previously were examined before those present, and were all found in perfect condition.

On August 10th Dr. Alexander Robertson gave the following demonstrations in the Royal Infirmary:—1. Position of motor and sensory strands in the internal capsule. Dr. Robertson first showed a patient whose symptoms he stated were illustrative of the position of the motor and sensory strands in the internal capsule. There was complete anæsthesia and impairment of muscular sense on the left side of the body—face, arm, and leg being involved. At first there had been almost entire loss of power of the leg, but now, after some months, he could walk a few steps. The arm was somewhat weakened, but from the first, as well as at present, he could open and shut the hand, so as to pick up a small object. Neither the face nor the movements of the tongue, nor distinctness of articulation had ever been affected. The patient was an intelligent man about 70 years of age, and consciousness had been in no way impaired at the time of the seizure. Dr. Robertson was of opinion that the lesion consisted in a small hæmorrhage, due to rupture of a branch of the optico-striate artery, and that it specially involved the back part of the internal capsule, which had extended a little way forward, but not so far as the knee of the capsule. This, it was stated, strongly corroborated the views entertained regarding the position of the motor and sensory strands on this part of the brain, which anatomical investigations and also descending degenerations from disease of the cortex had indicated, namely, that the motor fibres for the lower extremity are nearest the sensory; that those for the face are furthest removed—at the bend of the capsule; and that those for the arm hold a middle position. A small lesion, chiefly affecting the sensory fibres, would be likely to involve the strands for the leg to a much greater extent than those for the arm, and it was not unlikely that the facial strands might escape altogether. There had been no hemiopia, which was regarded as a matter of surprise. 2. Thermal regulators. These are apparatus of india-rubber for regulating the application of heat and cold to different parts of the body by the circulation of water at different degrees of temperature, from ice-cold to as warm as can be borne. They had been designed by Dr. Robertson in 1870, and he had found them of much use in practice. The apparatus shown were a water-cap, and others respectively for the chest, or abdomen and spine. One striking case of catalepsy was mentioned, in which the circulation of water at from 110° to 120° F. for two or three hours daily was apparently efficacious in rousing the patient from his lethargy and leading on to recovery. 3. Percussion of the skull. Dr. Robertson also gave a demonstration of the method of percussing the skull. He mentioned that he had brought the subject before the London meeting of the International Congress, and had then learned that Dr. Ferrier had incidentally referred to the practicability of eliciting pain at a diseased part of the surface of the brain, by tapping over the part with the finger, about two years previously. Dr. Robertson said that no reliance whatever could be placed on the results of percussing at one point. He invariably percussed the whole head immediately with the finger, and told the patient to say nothing till the percussion was completed. He was then asked if one part was more painful than another; if so a second percussion was carried out, and only if that distinctly corroborated the patient's first impression was any reliance placed on the indication. Further, the audience were cautioned against being misled by hysterical patients. In some cases this method of examination had proved of much value as an aid to the diagnosis of the seat of lesion when it occupied a limited part of the surface of the brain or of the membranes.

Dr. Alexander Bruce gave a demonstration of sections from the human embryo at the fifth, and seventh, and ninth month, stained with hæmatoxylin, to show the various strands or systems of the cord, their distribution and mode of termination, as well as the order of development. Sections of the medulla were also exhibited to show the relation of the posterior columns to their nuclei. Then (1) sections of locomotor ataxia, showing the affection in the posterior columns in the lumbar region, and the ascending degeneration limited to Goll's column in the cervical, and ending in the nucleus of this column in the medulla. (2). Sections from transverse myelitis, showing ascending degeneration in column of Goll, direct cerebellar tract, and Gowers's tract. (3). Section from hemiplegia, showing descending degeneration. (4). Section from multiple sclerosis, showing the non-systemic nature of the degeneration.

On August 10th, at the Obstetrical Section, a demonstration of the uses of the Allen Surgical Pump was given by Mr. Charles Truax, of 75 and 77, Wabash Avenue, Chicago, who briefly but clearly showed how, by the use of his improved attachments, this simple instrument could be used successfully for a great many

different purposes. He first attached glass cuppers to it, showing how it acted as a cupping pump. Then, by a universal connector, he converted it into an aspirator with a reversible current, thus admitting of its being changed to an injector without either disconnecting any of its fittings or withdrawing the needle. Easily made changes converted the same pump into a stomach pump, bladder washer, dilator, syringe, blood transfuser, feeder for insane patients, etc. Many of his demonstrations elicited considerable applause.

Dr. Fleming demonstrated: 1. New apparatus for treatment of spinal disease. 2. His operation for perineal fistula. Dr. Fleming also performed internal urethrotomy with his urethrotome.

Mr. Henry E. Clark showed: 1. Case of congenital dislocation of both hips. 2. Case of sarcoma of kidney. 3. Collar for treating high cervical disease. 4. Cases of double and triple amputation.

Dr. Knox performed Buchanan's operation with the rectangular staff in surgical theatre.

Dr. James Morton gave a demonstration in Wards XXVII and XXVIII, of cases of spina bifida.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

THE WIESBADEN KOCHBRUNNEN.

Messrs. Ingram and Royle have sent us samples of Wiesbaden Kochbrunnen water, carefully bottled, and of various products of the water. These consist of the total salts, procured by evaporation, chiefly of chloride of sodium, and of pastilles made of the salt, and of a soap impregnated with the salt. The salt can be dissolved in warm water, and forms a solution resembling the natural water. The pastilles are pleasant to the taste, and are used chiefly for chronic bronchial and gastric irritation; and two of them dissolved in water are equivalent to a glassful of Kochbrunnen. As for the soap, it seems pleasant enough, but in what way it is to "supply the body with the curative constituents of the water" is not apparent to us.

BROMO-SODA.

Messrs. Francis Newbery and Sons (1, King Edward Street, Newgate Street, E.C.) write: Our attention has been drawn to your notice of bromo-soda on page 23 of the Journal of July 7th, wherein it is stated that "the formula is not published." Although in some advertisements relating to the preparation the formula is not stated, yet on each bottle the practitioner will find the information that to each thirty grains of sodium bromide there is one grain of caffeine. The bromo-soda was never intended to be, and is not, a "secret" preparation.

*** We have examined the specimen bottle of bromo-soda sent to us by Messrs. Newbery and Sons, and we find that the formula is not stated on the label attached to that particular bottle.

An Excellent Example.—The Tribunal of Correctional Police of Agen (France) has just sentenced to fifteen days' imprisonment the architect and contractor of a stand which gave way, on the occasion of the visit of the President of the Republic to Agen in April last, killing one person and severely injuring many others. They were punished on the ground that they were responsible for faulty construction involving danger to life.

The municipality of Agram (Croatia) has determined to devote the sum of 50,000 florins to the creation of a Medical Faculty in that town on the occasion of the jubilee of the reign of the Austrian Emperor.

The Tobacco Monopoly in Spain.—The long-suffering Spanish public has at length been goaded into open protest against the quality of the tobacco supplied to them by a too paternal Government. The *Independencia Medica* says that, unless some less poisonous stuff is provided, the official preparation sold as "tobacco" will soon have to be included among the causes of death in the bills of mortality.

Last week twenty-one pupils of the Criccieth Board School received "first-aid" certificates from the St. John Ambulance Association, after which the lord-lieutenant of the county, Mr. J. E. Greaves, on behalf of the pupils, presented Dr. H. G. Hughes with a case of instruments in acknowledgment of his kindness.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

Subscriptions to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, AUGUST 25th, 1888.

THE ADDRESSES IN PUBLIC MEDICINE.

The attention given to the study and practice of preventive medicine has greatly increased during recent years. It is, therefore, not surprising, whilst it is a matter for congratulation, that in the Section of Public Medicine at the recent meeting of the British Medical Association, at Glasgow, there was no lack of experienced sanitarians ready to relate their personal observations for the benefit of their fellow-workers, and to discuss the multitudinous problems that at no very remote period perplexed the deepest thinkers in the medical profession. Unfortunately the discussion of many of these very important and interesting problems had to be curtailed for want of time. But those members who had the privilege of attending the meetings of this Section cannot have failed to take away with them much food for reflection, and many a hint which they will find useful in their own work.

The opening address by Dr. H. D. Littlejohn, the President of the Section, was devoted to the consideration of the important subject of Sanitary Legislation, especially as regards Scotland, and it went far to show that although Scotland already possesses, in its Public Health Act of 1867, an excellent code of sanitary provisions, yet a revision of her local government system, and an extension and improvement of her Public Health Act, are urgently required. England has just been granted a Local Government Act, which it is hoped will give an impetus to sanitary progress; but Scotland's Local Government Bill has only been "promised." In the meantime there is some chance of the early passage of the somewhat cumbrous Burgh Police and Health Bill, which contains important sanitary provisions, and which, although it has successfully run the gauntlet of a Special Committee, has not yet become law. Its fate on the resumption of Parliament in November next cannot, of course, be conjectured.

Dr. Littlejohn took the opportunity of commenting on the shortcomings of the Bill. He very justly questions the expediency of including clauses relating to the public health in a Police Bill, and advocates a separate Act amending the Public Health Act. But half a loaf is better than no bread, and it will be better to obtain the useful, though not perfect, powers embodied in the Bill that is now before Parliament than wait for an indefinite period for a measure dealing exclusively with sanitary matters.

The unsatisfactory position of medical officers of health in

Scotland is, of course, a matter for serious criticism. Dr. Littlejohn observes that of the 1,041 local authorities in Scotland, 867 are rural, and 174 urban, and of these 597 are provided with health officers and 444 have none, whilst 96 are paid by fees, receiving less than £1. As regards the officers' position, it is much the same in Scotland as in England. Officers are, in a large proportion of cases, appointed for small areas, and with merely nominal remuneration; their whole time is not secured for their public health duties, and they have no reasonable permanency of tenure of office. The Bill originally proposed that the election of the medical officers of health should be an annual one, but fortunately Dr. Clark, M.P., whilst the Bill was in Committee, was able to secure the modification of this proposal, and the substitution of a provision that the officers shall hold office during the pleasure of the Commissioners. But even this falls short of what is needed, and, as Dr. Littlejohn very properly points out, the independence of the health officer should be sought for by providing that he and the sanitary inspector should only be removable with the consent of the Board of Supervision as the Central Authority. Larger areas to supervise, better pay, exclusion from private practice, and reasonably secure tenure of office are the conditions of appointment which Dr. Littlejohn recommends to health officers in Scotland.

Another important paper read in this Section was that by Dr. Alfred Carpenter, on Sewage Disposal for Water-Closet Towns. Here Dr. Carpenter is dealing with a question that he has intimately studied for a lengthened period, and his views, which are the result of his close observation of the actual working of a large sewage farm, deserve careful attention He earnestly recommends sewage farming as applicable to all water-closet towns without exception, and deprecates the discharge of sewage, as at present, into the Thames, Mersey, Clyde, and such like rivers. He considers, amongst other things, that the application of the sewage of a water-closet town to land in close proximity to dwelling-houses is not injurious to the health of the inhabitants of those houses, provided the sewage be fresh, that it be applied in an intermittent manner, and the effluent be capable of rapid removal from the irrigated fields; that the vegetable products grown upon fields irrigated by sewage are satisfactory and safe as articles of food for both animala and man; that from the point of view of the political economist and the financier the system of sewage farming is to be strongly recommended; and that to be financially successful, such farms require that the rainfall be separated from the sewage, that the area be large enough for alternate cropping, and that the capital employed be sufficient to insure a continuous and rapid consumption.

It is to be feared that, in spite of Dr. Carpenter's convincing array of arguments and facts, each of the rival systems of sewage disposal will for some time longer find ardent supporters.

NORTHERN AFRICA,

In a recent number of the *Contemporary Review* Mr. Grant Allen discoursed pleasantly upon the ethnic, antiquarian, and biological aspects of Northern Africa. He points out that in many essential characteristics the country deserves to be regarded as an outlying fragment of Europe, rather than an integral part of Africa, which properly begins beyond the Great Desert, and expresses a fervent wish that France may pursue her colonising career by consolidating her position in Algeria and Tunis, and, by adding Morocco to her dominions, win back the entire northern seaboard to civilisation. The question is one which has a practical interest for the medical world, as the region in question is rich in health-resorts of growing popularity, which stretch from Mogador on the Atlantic to Algiers and Tunis upon the Mediterranean. There can be no doubt that France has rendered an inestimable service to Europe by stamping out the piracy and chronic strife which so long desolated the Barbary coast, and that it will be difficult to set any justifiable limit to the extension of her energies in that portion of the world. Mr. Grant Allen protests against the common idea that the French are bad colonisers. It is true, he says, that they do not emigrate in large numbers; but he maintains that they do the practical work of colonisation excellently, and that "for energy, thoroughness, and organising ability nothing like Algeria is to be seen in any British colony." Algiers is like a suburb of Paris or Marseilles; and the neighbouring country, with its roads, vineyards, bridges, and railways, might easily be mistaken for Languedoc or Provence. The railway system has been developed with a rapidity and a statesmanlike unity of design highly creditable to our French neighbours. A grand trunk line now runs from the borders of Morocco on the West to Goletta on the East; while northwards branch lines run to Oran, Algiers, Bone, and Philippeville; and on the south the iron road touches the Desert at Biskra. Swamps have been drained, and malaria driven out by extensive planting of the Australian gum-tree. Periodical risings of the Arabs have been crushed with vigour, and perfect tranquillity now reigns throughout the African dominions of the Republic.

There can be no doubt that this picture is in the main correct, and that a fair prospect seems now before that region which was once the granary of Italy, and one of the richest provinces of Imperial Rome. Much yet remains to be done, however, before the country shall have utilised to the full its resources as a winter sanatorium for Europe. Our French neighbours have, naturally perhaps, developed the country on military lines; all other interests have been subordinated to those of the *haute politique*. The dead weight of Eastern ignorance and barbarism has hindered the development of hygiene; and not only are such essential matters as sanitation and water-supply imperfectly attended to, but all the towns contain a considerable Arab quarter, where the conditions of life are more akin to Bagdad or Damascus than to Paris or Bordeaux. Little has hitherto been done to develop the splendid climatic resources of the interior, although the slopes of the Atlas mountains, both on their Mediterranean and Saharan aspect, offer an unlimited choice of sites, presenting every variety of altitude, temperature, and humidity. Hamman R'Ihra is the one notable exception, and is, no doubt, destined to be more heard of in the future than it has been in the past.

There is one aspect of Northern Africa to which little heed has hitherto been taken. It forms an admirable playground for that large class of cases of incipient phthisis in which "camping out" offers one of the best modes of climatic treat-

ment. During the winter months there are many parts of Algeria and Tunis which could be leisurely traversed by caravan by those in search of health, and ample sport would not be wanting to afford the necessary amusement. At the other end of the great Dark Continent, the value of "treking" for consumptives is well understood, but Algeria and Tunis are much more accessible than Cape Colony or the Transvaal, and their advantages are hardly inferior. As far as we are aware, this mode of treatment is still undeveloped; but it does not seem any great stretch of the imagination to look forward to the time when it will be possible to find at Algiers and Oran the same facilities for a prolonged sojourn in the desert which are now to be found at Beyrout and Jaffa. The dragoman, who has already done so much for promoting the comfort of travel in uncivilised regions, might thus find a new and promising field for his activities.

The acquisition of Morocco by France, which Mr. Allen so warmly approves, is a political question into which it is not our province to enter. There can be no doubt that the rule of the present monarch is thoroughly corrupt, and that his power is tottering to its fall. When Mulai Hassan or his successor is compelled to make way for some civilised ruler, we may hope that his inheritance will fall to some power capable of developing the country in the interests of peace, progress, and civilisation.

According to Mr. Allen, Morocco is the finest province in North Africa. "It stands nearest to the Atlantic, and catches first the fertilising rainfall. Its mountains are highest, its rivers largest, its harvests richest. It has a warmer winter and a less arid summer than Algeria and Tunis." Already this region has established itself in professional favour. Tangier has made considerable progress of late years, and Mogador is claiming attention. No doubt a more settled government would promote the flow of capital, and hence the development of a region which is still a dark spot upon the very verge of western civilisation.

HYDATIDS OF THE BRAIN.

In this country the occurrence of parasitic cysts in the brain is so rare that such cases are looked upon as pathological curiosities. In other parts of the world, and especially in our Australasian colonies, where parasitic disease is so common, the condition may be of clinical importance. The operative treatment of hydatids and cysticerci, occurring in other parts of the body, is now well understood, and treatment follows as a matter of course upon diagnosis. The recent progress of brain surgery renders it probable that cysts of the nervous centres may not be altogether incurable, and lends additional interest to their pathological and clinical study. The wealth of material at the disposal of our Australian *confrères*, and the scientific spirit which has of late years been shown in their midst, lead us to expect from them important contributions to our knowledge of cestode disease. Already, several able papers have appeared in the Australian medical journals, and we are pleased to note a recent communication upon this subject by Dr. Davies Thomas, of Adelaide, which, although purely literary in character, will doubtless prove of great value to future workers. In a paper, published in the *Transactions* of the Intercolonial Medical Congress of 1887, Dr. Thomas has collected and tabulated ninety-seven cases of so-called hydatids of the brain, reported by different observers, and has critically arranged their most striking points.

Chiefly two parasites, the tænia echinococcus and the tænia solium, are found in the human brain in the cystic condition, and it is of some importance to distinguish between them more definitely than has hitherto been done. Where dogs are admitted freely to human dwellings and have access to sources of drinking water, the echinococcus will be the more common, as, for instance, in Iceland. In Prussia and Saxony the cysticercus cellulosæ is the more common parasite, and Dressel has shown that it has a special tendency to affect the brain in man. Out of eighty-seven patients in Berlin who were affected with this parasite, it was found that in no less than seventy-two the cyst was situated in the brain. Two cases have been reported where the cysticercus acanthotrias and the cœnurus respectively were discovered in the brain, but these were isolated instances. It is not surprising, seeing that the male sex is more liable than the female to cerebral tumour, to find that a much larger proportion of men than of women are attacked by hydatids of the brain. The proportion is greater than that of their general tendency to hydatid disease; and it may be here noted that the special liability of women to be affected by hydatids observed in Iceland is not found to obtain in other parts of the world, and must be due to local customs.

The echinococcus forms in the brain a much larger tumour than does the cysticercus cellulosæ. Professor Morgan, of Manchester, has recorded one which weighed 18½ ounces, and contained 18 ounces of clear fluid. In regard to the anatomy of these cysts, it is curious that in a large number of the cases collected by Dr. Thomas the tumours had consisted of the parasite pure and simple. In other organs, as, for instance, the liver, the echinococcus cyst has around it a fibrous capsule, derived from the tissues among which it lies. In most cases the brain cysts appear to be devoid of this coating. A consideration of the seat of the parasite brings forth some facts which may become of some practical importance. In more than half of Dr. Thomas's cases the cyst was in one or other hemisphere of the brain, and more commonly in the right than in the left side. Again, in only four out of the ninety-seven cases collected was the cyst situated in the cerebellum, or "the ratio of cerebral to cerebellar echinococci was about fourteen to one."

A similar result has been obtained by others. Rosenthal, in 156 cases of cysticercus attacking the brain, found eighteen in which the cerebellum was the seat of the disease; Professor Morgan found eight cases in which the cerebellum contained the cyst, out of forty of brain "hydatids" which he collected. In these two records the proportion of cerebral to cerebellar affection is not so great as in Dr. Thomas's statistics; but, nevertheless, they agree in showing that a localisation of tumour in the cerebellum would be against a diagnosis of hydatid disease.

One naturally turns to the symptomatology, hoping for further practical guides, but the signs have been so various in different cases as to give no very definite clue. Headache, blindness, and convulsions seem to be the symptoms which

have been common to the greatest number of these cases. The association of these symptoms may possibly assist the physician, but it will, of course be remembered that they are the most frequent symptoms of cerebral tumours other than those under consideration.

Sir William Mac Cormac's Oration on Abdominal Section for the Treatment of Intraperitoneal Injury, delivered before the Medical Society on May 2nd, 1887, and printed in the Journal (1887, vol. i, pp. 975 and 1031), has been translated into German by Dr. Oscar Thamhayn, and is published in Volkmann's *Klinische Vorträge*, No. 316 (Chirurgie 99).

THE BOWER AND KEATES INDEMNITY FUND.

Last week we published an interesting statement by the Committee of the Bower and Keates Indemnity Fund. The statement gave a summary of the remarkable work done by the Committee, and mentions the manner in which they have disposed of the surplus of which they found themselves possessed. The taxed costs alone were heavy, and, but for the very liberal way in which the profession responded to the appeal, the Committee would have been unable to meet them. As it was, however, they found themselves in the gratifying position of having a considerable balance in hand, when all expenses had been paid. After taking the sense of the subscribers in the matter, they applied part of this surplus in aiding four members of the profession who had, in different ways, been placed in circumstances similar to those in which Messrs. Bower and Keates were placed, and the rest they distributed amongst some of the best known and most deserving medical charities. The Committee are to be congratulated on the conclusion of their labours, and only those who have taken part in such work can fully realise the amount of time and trouble involved. The chief part of the work in such a matter, of course, falls upon the chairman, treasurer, and secretary. Sir William Jenner has taken throughout a warm interest in the movement, presiding at nearly all the meetings of the Committee. On Dr. Quain, who acted as treasurer, a large portion of the labour devolved, and he did not hesitate to devote a considerable portion of his valuable time to the promotion of the success of an object involving, not only the interests of his persecuted professional brethren, but of the profession generally. The Committee, at the close of their statement, refer feelingly to the deaths of Dr. Wilson Fox, Dr. Moxon, and Dr. Mahomed, all of whom took a deep interest in the work at its beginning. Dr. Mahomed and Dr. R.W. Burnet were originally joint-secretaries, and, since the death of the former, Dr. Burnet has conducted all the often laborious secretarial work in such a manner as to have gained the warmest thanks of the Committee.

SMALL-POX AT MANCHESTER.

We recently reported an outbreak of small-pox in St. Joseph's Industrial School, Manchester. The Local Government Board instructed Dr. Page to make a thorough investigation of the outbreak. Three deaths have occurred up to the present, and all three have been those of unvaccinated persons.

SHEFFIELD GUARDIANS AND MIDWIFERY FEES.

A return has been presented to the Sheffield Board of Guardians, at the request of the Inspector to the Local Government Board, as to the midwifery fees paid to the several medical officers in the three years 1886-7-8, ending March. The guardians paid 10s. for ordinary and £2 for extraordinary midwifery cases; and the difference in the number of ordinary compared with extraordinary cases, charged for by the different medical officers, was, a member of the board said, "something astonishing." The medical officers numbered nine, and the proportion of ordinary to extraordinary varied considerably among them. One, for instance, had 5 ordinary to 17 extraordinary cases, whilst others had 98 to 22, 97 to 28, and 35 to 11; the percentage varying from as low as $18\frac{1}{3}$ (there were six before 30) to as high as 55, 58, and 77. Taking all the cases, there were 329 ordinary and 124 extraordinary cases. The guardians decided to call the attention of the Local Government Board to the percentage of extraordinary cases; and there the matter for the present would seem to rest.

BURIAL REFORM.

At a meeting of the Council of the Burial, Funeral, and Mourning Reform Association held on Monday at York—the Rev. H. Vyvyan in the chair—it was resolved to submit to burial boards that, if the exigencies of society require the burial of many bodies near large populations, it is extremely desirable, in the interests of public health, that improvements be introduced into the mode of burial by which a more speedy dissolution may be effected, and that earth-to-earth burial fulfils these conditions. The Archbishop of York will preside at the conference on burial reform on Friday, October 5th, in the Mansion House, York.

THE MATRIMONIAL QUESTION.

The discussion on marriage which has for the present, to the relief of most readers, taken the place of the Irish question in some of the daily papers, is of particular interest to us, as the question of the happiness or misery of married life is often, perhaps generally, a medical one. Every family practitioner knows in how large a proportion of cases the wretchedness of ill-assorted unions depends on physical causes rather than on "incompatibility of temper," want of intellectual sympathy, or other decorous veils for unsatisfied Nature. The victims themselves are often quite unconscious of the real cause of their suffering, and invoke the aid of priests and legislators, instead of that of the physician, who alone can help them. The evil is one which neither law nor social usage can either cause or cure; the yoke galls only those who are unfit to bear it. The remedy seems to us to lie not in weakening the stringency of the bond, but in providing that it shall be entered into with an adequate knowledge of all the conditions attached to it and willingness to submit to them. For this some amount of physiological teaching is indispensable, and there need be no difficulty in imparting it without the slightest danger to innocent minds. We are firmly convinced that, if unions were arranged in accordance with well-understood scientific principles more often than they now are, we should hear less of the unhappiness or "failure" of marriage.

HÆMOGLOBIN.

Dr. McKendrick asks us to direct the attention of our readers to a statement in his address which he wishes to correct. He stated: "If the union of oxygen with the colouring matter is an example of oxidation, it must be attended with the evolution of heat; but, so far as I know, this has not been measured." He then refers to a method by which Mr. J. T. Bottomley and he had been able to observe the heat produced. Dr. McKendrick was not then aware of an important research on this subject, conducted in 1871, by Dr. Arthur Gamgee, and contained in a Report to the British Association for the Advancement of Science in 1871. Dr. Gamgee, both by the use of thermometers and by thermo-electric arrangements, demonstrated the important fact that an evolution of heat accompanies the union of oxygen with hæmoglobin, and, in the report referred to, there is ample evidence that the research was conducted with great skill, and with an appreciation of the difficulties to be surmounted. Dr. Gamgee arrived at the conclusion: "That the mean rise of temperature during the absorption of oxygen amounted to 0.0976° C. The maximum heating was 0.111° C., and the minimum 0.083° C."

DEATH OF MR. W. EASSIE.

By the death of Mr. William Eassie, C.E., F.L.S., F.G.S., etc., at his residence, South Hampstead, on August 16th, the cause of sanitation has lost a pioneer worker, and sanitary science one of its most devoted exponents. Mr. Eassie's career was a varied and a useful one. Born at Lochee, Forfar, in 1832, his early life was chiefly devoted to engineering pursuits, when he became a favourite assistant to the late Sir I. K. Brunel, and, along with the late Dr. E. A. Parkes, he superintended the sanitary arrangements of Renkioi Hospital during the Crimean war. At the conclusion of hostilities he took a band of navvies and made the first excavations on the site of old Troy, a long time before Dr. Schliemann conducted similar operations. In 1858 he published a little volume of Eastern experiences, entitled *Romaic Beauties and Trojan Humbugs*, by "Rattlebrain." In 1872 he published *Healthy Houses*, a work which gave a great impetus to the cause of sanitary reform, and subsequently a maturer work on *Sanitary Arrangements for Dwellings*. He was the honorary secretary of the Cremation Society, of which, in conjunction with Sir Henry Thompson, Sir Thomas Spencer Wells, Mr. Ernest Hart, and others, he was one of the founders in 1874. In 1874 he published the standard work *Cremation of the Dead*, and since the foundation of the Cremation Society he has been the editor of its periodically published *Transactions*, and one of the principal contributors to its pages. The establishment of the Sanitary Institute of Great Britain was greatly due to him; he was a prominent member of its council and of its examination board until his decease, and was an honorary member or Fellow of various learned societies on the Continent—especially of those dealing with matters of hygiene. He was an indefatigable worker in many fields, and exceedingly popular among members of learned societies and others with whom he was brought into contact. For many years he was an occasional and valued contributor to these columns, and his opinion as an expert on all questions relating to sanitary science, of which he had a varied and practical knowledge, made his dicta of unfailing value. By the untimely death of Mr. Eassie the Editor of this JOURNAL loses at once a valued and trusty friend and a *collaborateur* whose loss will not be easily replaced.

CIGARETTE-SMOKING AND MALIGNANT DISEASE OF THE THROAT.

THE note of alarm which has been sounded in the lay press as to the supposed baneful effects of cigarette-smoking on the throat would hardly, we imagine, have found any echo except in the "silly season." The only new feature in the question as now raised is the suggestion that certain foreign cigarettes contain a poisonous material which is apt to cause malignant disease in the tissues to which it is applied. There is no doubt whatever that much of the tobacco sold in this country, especially of the more expensive kinds, is "doctored" to a degree which is dangerous to health, but the evil wrought thereby shows itself more in functional disorder (indigestion, palpitation of the heart, giddiness, etc.) than in organic disease. Such local mischief as is caused by smoking depends on the irritation which the heat and the more or less acrid fumes of the tobacco exert on the delicate parts with which they are brought in contact. If cigarettes are more hurtful in this way than cigars or pipes, we are disposed to think that the cause is to be found, not in any "unclassified alkaloid" which they may contain, but in the greater number of them which can be smoked, and in the free manner in which the smoke is inhaled. It is not so much the strength of the irritant as its continuous application which is likely to produce chronic changes in the lips, tongue, or throat, which may eventually become cancerous. Moreover, the really artistic performer with the cigarette is not satisfied unless he brings the smoke habitually into contact with parts—such as the larynx, trachea, and the upper part of the pharynx—which the grosser fumes of the pipe or cigar are very seldom allowed to reach, and then, as a rule, by accident. Again, cigarettes are largely indulged in by many who are intolerant of tobacco in any other form, and who are therefore, it may be presumed, more liable to any ill effect which the "herb nicotian" can produce. Much more convincing evidence than is forthcoming seems to be required to justify the condemnation of Egyptian or Turkish cigarettes as causes of cancer. On the whole, the hygienic alarmist is, perhaps, "too much with us," and the cry of "Wolf!" if too often raised about doubtful or trifling evils, is likely to lead to disregard of the warnings of science on matters of graver import.

INSURANCE OF INFANT LIVES.

THE insurance of the lives of young infants appears to be profitable business, but it is one of doubtful morality. The practice of taking up policies of insurance on the lives of infants is almost confined to the wage-earning classes. The amount of such assurance is usually, we believe, 30s., and the premiums are collected weekly by most of the few offices who conduct such business. The cost of collection alone consumes a large share of the premiums paid; besides this there is the question why should such assurances be effected? The policy serves only as a burial fee in the event of the child's death. The premium is an additional expense over and above the cost of the child's keep. Such business is totally different from assuring the life of a bread-winner. These policies more resemble a gambling with life than a prudential assurance. It is too common in poor districts to see infants neglected—ill-fed with farinaceous food till diarrhœa from intestinal catarrh results, when neighbours say the child has "consumptive bowels," and finally the amount of the insurance is paid at the child's death. The proper mode of making provision for the expenses connected with a young infant is by some form of provident club, not by an assurance on or against its life. The practice of insuring infants' lives has often been condemned by the Legal Bench, and ought to be discontinued.

DEATH FROM HYDROPHOBIA.

THE following particulars of a case of hydrophobia admitted at St. Thomas's Hospital on Saturday last have been furnished us by the House-Surgeon, Dr. E. Hobhouse:—E. F., aged 32, hairdresser, with no history of dog-bite since childhood, had kept some dogs in Belgium three or four years ago He first appeared ill on Monday the 13th with smarting in the legs, and got much worse on the 16th; was very ill on the 17th, and then first became quite unable to swallow, and showed horror of liquids, though very thirsty. No sleep for three nights before admission. He was very restless, incessantly moving, and called out for air. Admitted to the hospital on August 18th, at 2.30, in a state of intense emotional excitement, but quite rational, and free from hallucinations. Eyes wide open; look of extreme terror on the face, which he generally kept buried in his hands, only looking up occasionally with a start when spoken to. Movement incessant and restlessness extreme, with constant expectoration of frothy mucus, ejected with some violence from the mouth; cries out constantly that he is very nervous, and begs for morphine. One-third of a grain of morphine was given subcutaneously, but without any effect; and at 4 o'clock, as his condition grew worse, it was decided to administer chloroform. When offered milk in a spoon he put his head forward as if to take it, but before it reached his lips started back, dashed away the spoon with a look of terror, and shuddered violently, suffering apparently from spasm of the respiratory muscles. At 4.45 the administration of chloroform was commenced, and sufficient to control the constant restlessness and spasms of the throat-muscles was given until 6.45, when he suddenly became much worse, and the respirations

tended to assume the Cheyne-Stokes character. The anæsthetic was at once discontinued, and a brandy enema administered; but he never rallied, and died without apparent spasm at 7.5. When the anæsthetic was begun the temperature was found to be 101.8°, and the pulse 100 and feeble. Unfortunately the *post-mortem* temperature was not taken, but the body was found to be warm for a long time after death. There were two or three abrasions on the body, but nothing which resembled a dog-bite.

SPONTANEOUS RUPTURE OF THE VAGINA DURING LABOUR.

Dr. Duhrssen recently described, in the *Berliner Klinische Wochenschrift*, a case of rupture of the vagina during labour, not caused by clumsy or violent manipulations, but by pelvic contraction and an abnormal presentation. The patient was aged 34, and had twice borne twins, delivered without difficulty. She had a flat, rickety pelvis. Before the membranes broke, footling presentation was diagnosed, but the feet had evidently prolapsed below the head, which could be felt to be easily movable. At this stage, had the membranes been ruptured early and the feet drawn down, the vagina would have escaped damage. The waters broke of themselves; about half an hour later, the pains suddenly ceased, and severe abdominal pains set in. A globular swelling occupied the lower part of the abdomen; this was the body of the child; to the right of this swelling, which was globular, lay an elongated hemispherical body, the uterus strongly contracted. Soft masses could be felt to the left between the parietes and the child's body. The child was easily delivered by the feet; it had been partially forced into the peritoneal cavity. The placenta and much blood then came away. On examination, no rupture could be found in the uterus, but a large rent was detected at the insertion of the vagina into the left side of the cervix, where, apparently, the head had pressed. The laceration extended into the broad ligament. The cavity above the laceration, and the vagina, were packed with iodoform gauze. The temperature rose considerably on several occasions during convalescence, without any distinct evidence of peritonitis. The patient was able to get up within a month. Dr. Duhrssen stated that in rupture of the vagina none of the symptoms could be observed which experienced obstetricians can detect when rupture of the uterus was about to take place.

HYPNOTISM IN LARYNGEAL AND NASAL DISEASE.

In the *Internat. Klin. Rundschau* for August 5th Professor Schnitzler, of Vienna, records the results of some clinical experiments which he has made during the last two years on the effect of hypnotism in the treatment of nasal and laryngeal disease. In a case of paralytic aphonia and spastic dyspnœa in a girl aged 20, in which recognised therapeutic measures, including galvanism, had been exhausted to no purpose, Dr. Schnitzler, as a last resource, induced hypnotic sleep by throwing a strong light on the patient's eyes with the frontal mirror. The breathing at once became easy and natural, and on the girl being awakened in about ten minutes, she spoke in a loud voice. In a few days there was a relapse, when the same treatment was again employed with success. In this way the patient gradually recovered completely. Professor Schnitzler states that he has been equally successful in several other cases of paralysis of the vocal cords, spasm of the glottis, etc., in which the local condition was not dependent on organic disease. One of the most remarkable was that of a lady, aged 20, who suffered from obstinate chorea of the larynx, which had come on simultaneously with general hemichorea. The hypnotic sleep was induced by means of the frontal mirror as before; the barking cough, which occurred from twenty to thirty times a minute, ceased as if by magic, and the twitchings of the face and jerkings of the limbs disappeared soon after. The effect passed off very quickly, however, and "suggestion" was then tried in addition to hypnotism with the result of permanent cure. Professor Schnitzler also relates a case in which a woman, aged 26, suffering from mucous polypi in each nostril, was operated on by one of his pupils during hypnotic sleep, accidentally induced by means of the frontal mirror. Several polypi were removed with the snare, and the seats of implantation afterwards touched with the galvano-cautery. During the whole operation, which lasted about ten minutes, the patient remained as quiet as if she had been fully under the influence of chloroform. On being awakened she knew nothing of what had happened, but complained of some pain in the head. A few weeks later the operation had to be repeated, and this time the woman was intentionally hypnotised; the result was the same as on the previous occasion. Dr. Schnitzler, who is careful to point out that the patient was not in the least hysterical, thinks this is the first time hypnotism has been successfully used in intra-nasal surgery.

DIAGNOSIS EXTRAORDINARY.

Our American brethren would seem to be a long way ahead of us in the use of the microscope in the examination of the blood for diagnostic purposes, if an article, which has lately come under our notice, is by an entirely trustworthy observer. After describing briefly his microscope, with which he says "I get an amplification of 500 diameters, which will settle positively to my mind whether the patient has *pre-tuberculosis* (so important as easily treated), *tuberculosis*, *rheumatism*, *pre-embolism*, *anæmia*, *fibræmia*, *syphilis*, etc., or not." (The italics are not ours.) "Sometimes the blood has to be studied for five, ten, or fifteen minutes, or more, but often one can make his diagnosis in short order." After this who will say that there is no royal road in medicine? Now that we have so ready a means of looking into the future, and determining whether or not a patient is going to be the subject of embolism or tuberculosis, it cannot be long before other conditions are also brought within our ken, and we may confidently look for the recognition by similar means of other conditions; for instance, pre-cancer, pre-insanity, etc. It is to be regretted that the author has not seen fit to impart to us any details of the appearances in the blood by which these various states reveal themselves to his tutored eye; but no doubt he would be willing to divulge his secret for a sufficient consideration, so we will hope that the Government of the United States will purchase the much-needed information of him, and magnanimously make it public. Curiously enough, our author goes on to say that this mode of study does not throw aside other physical explorations, but this must be merely the outcome of excessive modesty on his part, as it is obvious that when others become as expert with the microscope as he is, all our present methods of physical examination will speedily become obsolete.

CYSTS OF THE PINNA.

Dr. Hartmann, of Berlin, now so well known in association with the present Kaiser, has published in the *Zeitschrift für Ohrenheilkunde* (Band xviii, p. 42), an article on cystic tumours of the outer ear. He believes that many of these morbid growths have been erroneously described as hæmatomata; but careful examination of each case would probably have shown that the cyst had not arisen from effusion of blood into the tissues of the pinna, and in many instances no secondary extravasation of blood appeared to have taken place. Hartmann describes four new cases which confirmed the opinion he has already expressed, that the morbid process begins by the formation of a cyst. The patients were healthy middle-aged individuals, with no tendency to mental disease. The cysts could not be traced to local violence, and, when incised (generally about a fortnight after their appearance), the contents were always a clear, light-yellow fluid. No traces of

clot, colouring matter, broken-down epithelium, or micro-organisms could be found. In none of the cases was there evidence of perichondritis, the pinna being free from pain, redness, or any other symptom of perichondritis throughout.

A REPUTED SOLVENT FOR CATARACT.

We should not have thought it necessary to take any notice of this very old mare's nest had not the *Pharmaceutical Journal* been so ill-advised as to publish a letter from a practitioner at the Port of Spain who believes from experiments on his own eyes that the juice of a plant called Cineraria maritima has a curative effect upon cataract. It is only fair to state that this letter does not purport to have been written for publication, but it was unfortunately forwarded by the superintendent of the Botanical Gardens at Trinidad, to whom it was addressed, to Mr. Dyer, the director of the Royal Gardens, Kew, who, discerning in it "many intrinsic marks of accuracy," thought it worth publishing, and sent it to the *Pharmaceutical Journal*. We must confess that we have not noticed these marks of accuracy, and even if we admit all the writer's facts, we fail to see any ground for his conclusion that the drug has any beneficial effect upon a cataract. The story is briefly this. In 1868, while in practice at the Port of Spain, the writer began to suffer from impaired vision, which gradually increased. In 1878 he visited Europe for advice, but nothing was done, and he went back. He returned to England in 1878, and a cataract was removed from the left eye (which was the better of the two) by a well-known surgeon, but without any good result. He returned to the colony and had to be led about till February, 1888, when he applied the juice of the above-mentioned plant. He commenced its use on February 7th, and on the fourth day (which the writer is careful to explain was February 11th) he perceived a "faint glimmer of light" in the right eye. It is not stated that perception of light was previously absent in this eye—a capital omission, since cataract by itself never destroys perception of light. After a little while he could with this eye discern figures, and even faces under a favourable light, and tell the time on a white watch dial. Similar treatment was adopted for the other eye, from which the cataract had been removed. In this eye there had always appeared to be "a curtain of the blackest darkness hanging over and covering two-thirds of the orbit." This was accompanied by great weight, pressure, and occasional pain, "but all this has now disappeared by a steadily increasing flood of light and unmistakable vision, so that I can now discern my hand and the separation of my fingers when held up before it." The accuracy of the writer's language is really wonderful, but again he omits to say what vision the eye previously had; a person who could perceive his own fingers suspended in front of his hand might still require someone to guide him in walking about. The narrative, then, stripped of its intrinsic inaccuracies, amounts to this, that the writer suffered from some very chronic affection which impaired his vision, that he subsequently also developed a cataract in one eye; in the other, if there was cataract (as to which there is no evidence), it was not the cause of the vision being worse in that eye, or the operation would have been performed on it. The result of the operation was to confirm what might have been suspected from the history, that the failure of vision was due only partly, if at all, to the cataract. The patient then tries the effect of a drug, the therapeutical properties of which are solvent, stimulating, and absorbent, but which is obtained from "a simple, unpretending little plant," of which the writer believes but three specimens exist in the colony, and these are "husbanded with sacred care." The result of this treatment is that there is a slight improvement in the eye which the patient believes to have cataract, and about an equal improvement in the eye which has not even a lens, the improvement in both cases being uncertain, as we have no reliable record of the previous vision, and the result in both being exceedingly bad. There is nothing to show whether the effect endures when the drug is discontinued, or whether it has any effect on the size of the pupil.

TREATMENT OF UNUNITED FRACTURE OF THE NECK OF THE FEMUR.

In the *Riforma Medica* of August 14th a case is related, in which Professor Loreta successfully treated an ununited intracapsular fracture of the neck of the femur, by scraping the fractured surfaces and inserting a bundle of metallic sutures between them. On January 23rd, a robust man, aged 36, was admitted into the Bologna clinic with the history of a fall on the left hip nineteen months previously, since which he had been quite unable to stand and had suffered from constant severe pain, shooting from the left hip-joint into the gluteal region, the point of greatest intensity being over the course of the sciatic nerve. The limb was much wasted, but it was normal in position, and scarcely at all shortened. Flexion and extension of the thigh on the pelvis were almost impossible, but the patient could occasionally execute very slight movements of rotation and abduction. In rotation, he was sometimes conscious of faint crepitus in the trochanteric region. On February 15th, Professor Loreta operated with full antiseptic precautions. He made a long incision behind the great trochanter, so as to expose the capsule of the joint, when he noticed a depression between the intracapsular and extracapsular portions of the neck of the femur. On moving the limb, it was found that there was a fracture without displacement in that situation. The capsule was then opened, the fibrous tissue between the fragments divided, and the fractured ends carefully freshened by scraping with a raspatory. As it would have been very difficult to wire the fragments, a bundle of from eight to twelve metallic sutures was introduced between them, and brought out at the lower angle of the external wound. The wound was carefully cleansed, a drainage-tube inserted, the edges brought together with deep and superficial interrupted sutures, and the whole covered with a sublimate dressing. A long outside splint was then applied. Five days after the operation, the bundle of metallic sutures was removed, and the wound healed by first intention. In less than a month the pain had permanently ceased, and fifty-five days after the operation the patient left the hospital, being able, not only to stand, but to walk with no further support than an attendant's hand.

SCOTLAND.

THE QUEEN'S VISIT TO GLASGOW.

Glasgow and the West of Scotland have been busily engaged this week preparing for the visit of Her Majesty the Queen. The present is Her Majesty's first visit to the new University Buildings at Gilmorehill. In recognising also Queen Margaret College, Her Majesty shows her interest in the cause of the higher education of women in Scotland, at present not a very flourishing cause in this portion of the realm, which however may, and doubtless will, be advanced by the royal recognition.

GLASGOW SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.

During the month of July this Society dealt with 57 new cases, involving the welfare of 82 children. Temporary shelter had been provided for 57, and 404 meals had been given. Thirteen children had been placed in industrial schools, 5 in hospitals, and 39 had been placed under the supervision of the school boards, and 4 convictions had been obtained against parents for neglect.

POOR CHILDREN'S FRESH-AIR FORTNIGHT.

THE committee in charge of this movement in Glasgow have this season sent to the country 1,099 boys and 1,187 girls, a total of 2,286. All have had a fortnight, 96 have had three weeks, 25 four week, and 14 five weeks. The expenditure has always been met by subscriptions from week to week, and the committee intends to continue sending others to the end of the month of August.

GLASGOW OUTDOOR BLIND.

THE usual trip of the outdoor blind of Glasgow was given recently, and took the form of a sail down the Firth of Clyde. The party numbered 500, and the value set on this annual excursion may be estimated by the fact that the company included many from outlying districts round Glasgow, who had to start at 4 A.M. to reach the steamer in time.

GLASGOW MEETING OF THE ASSOCIATION.

THE Kirk Session of the Glasgow Cathedral have divided the collection, made on the occasion of the service at the opening of the meeting of the Association, and which amounted to £15 2s., between the Dunoon and Lenzie Convalescent Homes. The directors of these institutions gratefully tender their thanks to the British Medical Association.

TRICYCLE ACCIDENT TO A MEDICAL PRACTITIONER OF GLASGOW.

DR. A. MUIR SMITH, of Bearsden, Glasgow, met with a very serious mishap when riding his tricycle near Duntocher on Thursday of last week. He was upset with such violence as to fracture the right radius and both bones of the leg a few inches above the ankle. He lay on the road for some hours before anyone passed. He despatched the person who found him for a nurse, whom he knew to be in the neighbourhood, with instructions to bring splints and bandages, so that when she arrived he was able to have temporary treatment applied, and to be removed home in comfort and safety. Neighbouring medical men soon came to his aid, and he is now progressing favourably.

IRELAND.

DR. MAGNER.

THE Committee of Management of Timoleague Dispensary last week received a communication from the Local Government Board, expressing their approval of the appointment of Dr. James Magner to the office of Dispensing Medical Officer at a salary of £100 a year.

QUEEN'S COLLEGE, BELFAST.

THE President of the Belfast College, in his recent annual report, calls attention to the difficulties with which they have to contend. He remarks that several of the professors have been seriously crippled in their work by insufficient laboratories and defective apparatus, for the number of their students, combined with the requirements of modern education, has far outgrown the capacity of the buildings. The physical, histological, and biological laboratories are described as miserably deficient. The chemical laboratory is so small that it has not accommodation for one-third of those in attendance. The professors are subjected to great inconvenience, and are unable to carry on their work with the efficiency after which they strive. Practical training in several departments of science is now absolutely necessary, and a comparatively small grant towards the enlargement and equipment of the College laboratories would enable the governing board to carry out still more successfully than heretofore the great purpose for which the institution was founded and endowed; and it appears a short-sighted policy to enfeeble and starve a College which has shown itself to be in all respects worthy of public support.

PRESENTATION TO DR. HEUSTON.

ON Wednesday, August 9th, at the Carmichael College, Dublin, Dr. F. T. Heuston, F.R.C.S.I., received handsome presents and congratulatory addresses, on the occasion of his marriage, from his past pupils, now holding commissions in the medical departments of Her Majesty's services, and from his colleagues and past and present pupils. The chair was occupied by Mr. J. K. Barton, ex-President, R.C.S.I.; and amongst those present were Mr. A. H. Corley, ex-President, R.C.S.I.; Mr. Ormsby, F.R.C.S.I.; Surgeon-Major Adye-Curran, M.S.; Surgeon Dobson, M.S.; Surgeon C. A. Young, M.S.; Dr. F. W. Kidd; Dr. Scriven, jun.; Dr. J. A. Scott, Dr. Broomfield, Dr. Healy, Dr. D'Alton, Mr. R. B. Heuston, Mr. Thompson, Mr. L. Hungerford, Surgeon W. A. Carte, Coldstream Guards, and a number of students. Letters of apology were read from many of the leading medical gentlemen of Dublin who were unable to attend. Addresses of congratulation were read by Surgeon W. A. Carte, M.B., Coldstream Guards, and by Mr. Launcelotte Hungerford, which concluded by wishing Dr. Heuston and his bride long life, happiness, and prosperity; the first address was accompanied by the presentation of a handsome silver tea-service and massive salver, the latter by a piece of plate and a clock. Mr. Barton presented a beautiful clock and a complete set of silver spoons, forks, etc. Dr. Heuston gracefully expressed his thanks for the gift, and good wishes for himself and wife.

THE SUICIDE OF DR. RIDLEY.

THE inquest regarding the suicide of Dr. Ridley, of Tullamore, closed on Friday, August 17th, after a prolonged sitting, and the jury returned the following verdict:—"We find that Dr. James Ridley died on the 20th July, 1888, at Fermoy from wounds inflicted by his own hand with a razor on the same day, whilst labouring under temporary insanity produced by the apprehension of disclosures at the Mitchelstown inquest, and that he was compelled to act in his official capacity in contravention of his own humane and considerate views. We beg to add our expressions of deep sympathy with Mrs. Ridley and Mrs. Mandeville in their affliction. We condemn the reckless and unfounded charges made by Dr. Barr against the medical men and poor Mr. Mandeville. We are of opinion that the charges made against Dr. Moorhead are absolutely unfounded, and that his reports and visits had a beneficial effect." It is unnecessary to recapitulate the evidence which has already appeared in the public journals in great detail. The character of the verdict was foreseen. Dr. Ridley was greatly respected, and there can be no doubt that he was worried to death. Who the "worriers" were we must leave our readers to judge.

DR. H. ST. JOHN BROOKS.

THE *Dundee Advertiser* announces that the Committee of the Council of University College, Dundee, had agreed to recommend to the Council the appointment of Dr. Brooks, of Trinity College, Dublin, to the Chair of Anatomy. The final decision has been postponed, but meanwhile it may be said that the removal of Dr. Brooks from Dublin would be a very distinct loss to the School of Anatomy. As assistant to Professor J. Cunningham for some years, he has established his reputation as an anatomist of the highest class. Those who know his work and have heard his communications at the Royal Academy of Medicine and elsewhere, have been struck by the thoroughness of all he does and the enthusiastic scientific spirit which animates him. It is flattering to know that a Dublin man is thus far the most prominent candidate for Dundee College.

THE diphtheria epidemic in Madrid is said to be increasing, chiefly among children. From eight to ten cases daily, more than half ending fatally, are reported.

GEHEIMRATH V. SCANZONI was, on his retiring from the Chair of Gynæcology at Würzburg, distinguished by the honorary citizenship ("Ehrenbürgerrecht") of that town.

THE MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.

THE fifth general meeting of the members of the Medical Sickness, Annuity, and Life Assurance Friendly Society was held on Wednesday, August 8th, in the Astronomy Class-room of the University, Glasgow. Among those present were: Mr. E. Bartlett (London), Mr. W. Bartlett (London), Dr. A. H. Bampton (Plymouth), Mr. W. P. Biden (Hyères), Mr. C. W. Buck (Settle), Dr. W. Bruce (Dingwall), Dr. James Cameron (Edinburgh), Dr. T. M. Dolan (Halifax), Dr. W. R. Duguid (Buckie), Dr. W. Dobie (Keighley), Mr. Edward L. Freer (Birmingham), Mr. Ernest Hart (London), Dr. F. de Havilland Hall (London), Mr. Leigh Hunt, M.B. (Perth), Dr. W. L. Hunter (Pudsey), Dr. W. B. Hunter (Londonderry), Mr. G. Jackson (Plymouth), Mr. J. Brindley James (London), Mr. M. Killoch, M.B. (Johnstone), Mr. Lewis Lewis (London), Dr. R. Lord (London), Dr. James McGregor (Portsmouth), Dr. A. Mackay (Appin), Dr. J. W. N. Mackay (Elgin), Mr. Maconachie (Isle of Wight), Dr. F. Robertson Mutch (Nottingham), Dr. Andrew Ritchie (Pollokshaws), Mr. Septimus W. Sibley (London), Mr. E. Noble Smith (London), Mr. F. Wallace (London). Dr. J. C. Ogilvie Will (Aberdeen), Dr. F. Mitchell Wilson (Doncaster), Dr. P. A. Young (Edinburgh). A letter of apology for non-attendance was received from Mr. T. Vincent Jackson (Wolverhampton).

Mr. ERNEST HART, the Chairman of the Society, on rising to open the proceedings, said their members were in the habit—seeing that the affairs of the Society progressed with such uninterrupted success and prosperity—of leaving the conduct of affairs very much in the hands of the Executive; and from the fact that so few attended the general meeting, he thought they were able to draw an augury exactly the opposite of that which would have to be drawn in many other cases where the business to be done could only be done by general meeting. They knew from the communications they received with what great interest the members of the Society received its annual reports, and how anxiously, each member being directly interested in the affairs of the association, they looked for the publication of the monthly information which they (the Executive) gave them with the utmost regularity and with the utmost completeness and minuteness of detail. He (the Chairman) would not need to trouble the meeting with any detailed observations, because the report was already in their hands, and had been circulated to every member, as well as published in the BRITISH MEDICAL JOURNAL. But they could not meet together at this, which was rather an interesting date in the history of the Society, without congratulating themselves on the extraordinary and uninterrupted success of the Society, and on the completeness with which it had fulfilled aims which every member of the medical profession agreed to be of the highest importance to the whole profession, and important perhaps as an example to other professions. They had undertaken to solve a problem which the highest authorities in the insurance world had long declared to be insoluble, and one which societies of large resources, great experience, commanding almost unlimited capital, and with the aid of experts, had either declined to grapple with, or, having attempted to deal with, had failed. The problem which they undertook, four and a half years ago, to set themselves for solution was: Did there exist in the medical profession a sufficient number of persons desirous, by an act of providence, to guard against sickness, accident, disability (permanent or temporary) throughout life perhaps, or merely for a few weeks, by an annual payment which would secure them against the calamities which sickness was so apt to bring upon professional men in every walk of life; and, if they were so willing, could they supply them with the machinery, and were there enough of them willing to afford a sound numerical basis? Now, every society, as he had already said, which had attempted sickness provision for any other class than the working class had failed, and the working class, and that only, had succeeded in providing sickness funds. The accident societies of this country, as they knew, according to recent statements, had had a very unfavourable experience of an attempt to provide against accidents other than railway accidents; and the last reports recently published of these societies, as they may have seen in the daily press, showed very unsatisfactory results—that is, a very large expenditure, varying from sixty to ninety per cent., of the total premium income, absorbed in payment for sickness and accident. Now, what had been their experience? They, who were not experts, had simply brought to bear on this question the principle of professional union, the means of intercommunication with which they at the present moment were favoured beyond any other profession, and that habit of mutual consideration and of mutual combination, which the medical profession now had practised throughout Great Britain with such remarkable success for a considerable number of years, and which by the aid of their Association had been made to produce such remarkable results. When they started they took pains to ascertain what was the lowest numerical basis on which a society having those objects and everything else being favourable, could be carried on with stability. They consulted Mr. Neilson, giving him such data as he (the Chairman) had been able to collect by individual and unofficial effort, on data not altogether adequate for the purpose, but which he was able to correct by reference to the experience of the friendly societies. He (Mr. Neilson) decided that a membership of 400 was the lowest numerical basis, and he settled for them tables, based upon the experience of which he (the Chairman) spoke and qualified in that way. He ventured to tell Mr. Neilson, from what he knew of the habits of the medical profession, of their mutual self-sacrificing work, one for the benefit of the other, that they might depend in this case upon a far larger amount of mutual work without payment for each other, and of a far more economical administration than could be commanded by any other association that he knew of. Under those circumstances, and with the data of which he (the Chairman) was able to give him the proof, he (Mr. Neilson) placed the working expenses of the Association at 10 per cent. of its premium income; an extraordinarily low estimation. Now, let them look at what the results had been, for they had now been four and a-half years at work, and they were about to approach their first quinquennial valuation. Their minimum stability was 400. They had had during the four and a-half years, as the report told them, over 1,000 proposals, and they had now a full and active membership of 900 members; so that they had more than double the number which they thought they were about to attain. And what was satisfactory was, that that continuous growth was also an increasing growth, and that each year the increment of their members was greater than it was when they began; so that their membership had grown this year to a greater extent than in any previous year. However, they ought not to rest satisfied with that growth, and he must pause to say that while they had no reason to desire to increase their numbers for their own sakes, for, as he would be able to show them, their rate of profit was so good that if they were to remain absolutely in their present position, the profit to each member would certainly not be less, and would be possibly greater than if they were to increase their numbers; nevertheless they must desire, in virtue of the principle by which they were banded together, which was not a purely selfish principle, they must desire to see this Society spread, until the members of the medical profession at large were protected, as all of them were protected, against the worst accidents of fortune, by joining the Society, by contributing to its funds and taking a part in its benefits. Therefore they must ask every member to help to spread a knowledge of the work of the Society each in his own circle, and every member to give to those of his friends, and especially to the younger members of the profession within his district, the documents with which they would always be happy to furnish them by means of which they may be able to learn all about the Society and the benefits it confers. He would ask the members to consider how they could do that indirectly not only to their own friends, but in the circle of the local societies with which they are connected, in the Branches and at the Branch meetings, at the medical societies, and medical clubs, to assist to make known the work of the Society and its advantages. They had spoken of their numerical growth; he would now speak of their financial growth. During the four and half years they had accumulated £24,000 of capital, and during the last year they had saved £7,050. And as to the economy of management, they would have seen with satisfaction that while their numbers went on increasing, their expenses of management continued to decrease, and that instead of spending even the very small proportion of 10 per cent. on management, they were spending less than 4 per cent. of their premium, and that during those four and a half years, they had accumulated nearly £2,000 as a saving to the Management Fund, which £2,000 was a clear profit to every member (for theirs was a purely mutual society), and would go to their credit when they came to their quinquennial valuation. He was sure they would feel, and he must say how much he felt, that the Society was indebted to the Executive (as also to Mr. Upton, one

of their trustees) for their valuable, and, of course, quite unpaid assistance. He did not think it would be right to abstain from specially mentioning the friend on his right (Dr. de Havilland Hall), one of the vice-presidents of the Society, who weekly took the greatest trouble in examining all the working details, on the successful management of which their success wholly depended. Nor should he omit to mention Mr. Noble Smith and Mr. Sibley (their two Treasurers), and among the gentlemen present, Dr. Wallace, Mr. Brindley James, Mr. Bartlett, and Dr. Lord should be mentioned as being quite unfailing in their attendance. Some of the great reasons of their success he (the Chairman) had already stated, but beyond that the secret of success in a Society such as theirs was minute daily attention to every small detail, the exact scrutiny of every application that came, the exact scrutiny of every claim so as to see that it was dealt with in perfect equity, so as to be carefully and actually within the strict observance of all the rules of the Society. A very little carelessness, a very little recognition of that habit which all men had more or less, of failing to observe strict regulations, failing to send in their certificates, failing to report themselves accurately to date, failing to give the precise information necessary—a very little carelessness in these particulars on their part would lead to a leakage which would very materially affect the annual results. He was sure that they would feel that it was not a little creditable to the services of the executive that while the business of the Society had been conducted with great strictness, it had also been done with so much courtesy that the work of the Society had been carried on under the most agreeable circumstances, and the friction incurred in carrying out the regulations had been reduced to a minimum. He had stated that some of the other societies had already failed—even the great societies—to carry out this work. One society had paid as much as 70 per cent. of premium income in sick pay alone. It was interesting to note that their expenditure was 37.7 per cent. in 1885-6, 38.1 per cent. in 1886-7, and 36 per cent. in 1887-8; so that they were decreasing the expenditure of their Sickness Fund as years went on. But of course that could not quite continue, because as members grew older it was only natural to expect, and they had provided for, an increase in sickness payments which was likely to arise. It was satisfactory to notice that even the increase in growth of years had not yet come into operation, and the total cost of management was only tenpence in the pound. It was, he thought, an unexampled record. If they had merely to record figures of financial success, that would not be quite satisfactory, as their great object was not merely to accumulate figures, but only as a means of carrying out the objects of the Society by meeting cases of accident and death. How far had they been able to meet them? They had been able to make payments in every genuine case. When they examined their records, they came to this very striking result—with which he thought they should arm themselves when people said that they did not fear sickness—they had made sickness payments to one out of every three of their members in the course of four years—a very striking proof of the great usefulness of the Society. He (the Chairman) thought it would be interesting to give one or two instances of the nature of the cases, to show the great benefits of the Society. One of the earliest members, a young man, was laid up for twenty-one weeks with ischio-rectal abscess very shorly after joining. He recovered, and after an interval of little more than two years he was taken with scarlet fever. He had received 120 guineas to help him through the period of sickness. Another gentleman, who was taken with blood-poisoning, had received thirty-seven weeks' sickness pay; and a gentleman who met with a carriage accident, with injuries supposed to be slight, was laid up for five months and received sickness pay. Another gentleman, who met with severe spinal injury from falling down stairs, received thirty-five weeks' sickness pay. A gentleman, who joined in apparently good health, was suddenly seized with cancer, and £50 was paid at death. A gentleman who had lately died, one of the ablest young men in the profession, received, within eighteen months of joining, £200 at his death. There was another gentleman who received thirty-two weeks of sickness pay, and then £200 at death. So they had been able to meet very substantial claims, and they had one or two gentlemen who would probably receive payments for the whole of their lives, being permanently diseased. The above showed that the Society was one of the most active usefulness. As to the rate of interest they were receiving on their investments, that rate of interest was calculated at 3 per cent., but they were receiving on securities of the highest character 3§ per cent., and as evidence of the success of the management of that part of the business, they would notice that, when lately an opportunity occurred of reinvesting a considerable part of their funds at a somewhat enhanced rate of interest, in making the necessary reinvestment they realised a sum of £400 by profits of reinvestment, the securities having already improved to that extent. The Chairman said he would conclude by saying that the first quinquennial valuation would shortly commence, when the results would be laid before them, he hoped about April, certainly before their next meeting, and the data in their hands showed that the result of the quinquennial valuation would be in every way satisfactory, and would show an enhanced value of their property, and would show them at the same time that they had a certainty of going on in the same useful and successful way as they had heretofore. Mr. Hart concluded by formally moving "That the report now presented be received and adopted."

Dr. DE HAVILLAND HALL, in seconding the motion, said Mr. Ernest Hart had put so ably and so succinctly the great advantages which the Society had been able to confer on its members, that little remained for him to say. But one thing he should like to say—and, of course, that was a thing Mr. Ernest Hart himself could not say—it was the immense amount of service he had been able to do for the Society; in fact, it would be only fair to say that he was practically the father of the Society. Had it not been for his initiation the Society would never have existed. Then, again, the Society owed him a great debt of gratitude from the fact that, owing to his kindness, they were enabled to dispense with any offices in London. His house was always at their disposal for the meetings of the Committee, and invariably he was there himself to take the chair, and to supervise the affairs of the Society, so that to Mr. Ernest Hart was owing, to the greatest extent, the success which they had achieved. Examining as he (Dr. Hall) had, week by week, the proposals and the claims of sickness that came in, the number of claims of accident, and next to that the claims of zymotic disease, two classes of cases against which no man can guard, he had been very much struck by the great utility, he might almost say the necessity, of such a society, and one was astonished that it was not sooner started; now it was not only started, but well on its voyage. Dr. de Havilland Hall concluded by saying it had been an unmixed pleasure to him to assist in a small degree in the successful carrying on of this work.

A MEMBER asked whether the surplus shown by the quinquennial valuation would be applied to the reduction of present premiums, or, as was usual with ordinary insurance offices, for bonuses to the holders of policies?

Other questions were asked as the advisability of seeking some other method of increasing the annuity due after 65; and whether it was intended, after the quinquennial valuation, to lower the assessment of the management fund.

The CHAIRMAN said all three of the questions related practically to the same subject—namely, as to the method of dealing with any surplus declared by the actuary after investigating the affairs of the Society. Of course, they knew that it was usual for the actuary to make various alternative suggestions, and these suggestions would have to be dealt with according to the view of the members generally, subject to the recommendations which the actuary himself might give as preferential, and those which the Executive might recommend to the general meeting. The customary method was either to create a reserve, or to offer the members the alternative of either increasing their bonuses or diminishing their payments as the result of the investigation might show they were entitled to. But there was another larger question which would govern that, and that was whether it would be desirable to go too far in that direction at so early a stage of the history of the Society. They were only in the fifth year, and they had to face many large financial questions. Their success had been very phenomenal, but they were to remember that it was based upon data which assumed a given rate of interest of three per cent. But the rate of interest on money was decreasing, and Consols were now only two and three quarters, and would eventually be two and a half. They would have to face the possibility of diminution in the interest-earning power of their capital. Their actuary would be bound to take into consideration those larger financial questions, as well as any recommendation of dividing profits. There was a very great satisfaction in knowing that they had earned profits, and there was often very great wisdom in not being in too great a hurry to divide them. As to the Management Fund, they had obtained this result by the use of

offices at the nominal rent of £26 a year, by extreme economy in the clerical work, and by the fact that they had the houses of members at their disposal for meetings. No doubt that would continue, more or less; but it was hardly a thing that could be calculated upon in an actuarial valuation. As to the question of increase of annuities, the Chairman pointed out that it would involve new actuarial tables, and add complications which rendered any change at the present moment undesirable.

Dr. MUTCH (Manchester) suggested bringing the benefits of the Society more prominently before the Branches of the British Medical Association.

Dr. HALL pointed out that this had been done to a very great extent; that documents had been distributed by Mr. Radley, their secretary, to each Branch. It was difficult for the committee to write to the secretaries of the Branches without knowing something about them, and he thought the secretaries might come forward and volunteer to do the work.

Dr. BRUCE (Dingwall) also offered suggestions for bringing the Society before the notice of the Branches.

Dr. OGILVIE WILL pointed out that it was a curious fact that Scotchmen, who were considered to be the most prudent of all people, were very poorly represented upon the Society, and suggested that increased interest would be given to the Society by Scotchmen if a Scotch member were added to the Executive. He suggested that Dr. Bruce be added to the Executive Committee.

The CHAIRMAN replied that he had just received Dr. Bruce's sanction to the proposal. He (the Chairman) notified that they would be glad to hear from any gentlemen who would take leaflets and so help the Association.

The motion that the report be received and adopted was carried unanimously.

Dr. DOLAN (Halifax) thought they should not rest contented until they had a membership of five or six thousand, and to do so every individual member should be a canvasser. It had often been said that medical men were not good financiers; but looking at the present depressed state of the money market, he thought they might congratulate themselves that they had men connected with the Society of great business capacity. He had great pleasure in moving that the accounts as presented be received and adopted.

Mr. WALLACE (London) seconded the resolution, which was carried.

Mr. J. BRINDLEY JAMES (London) proposed that Mr. Ernest Hart be re-elected Chairman of the Society.

Dr. DOLAN seconded the motion, which was carried *nem. con.*

Dr. OGILVIE WILL (Aberdeen) proposed the re-election of the Vice-Chairmen, with the addition of Dr. Bruce (Dingwall), as also the members of the General Committee and the arbitrators.

Mr. LEWIS LEWIS (London) seconded the above, which was adopted.

Mr. W. BARTLETT (Newcastle-under-Lyme) proposed and Mr. FREER seconded a vote of thanks to the officers of the Society for their honorary services.

Mr. NOBLE SMITH thanked them on behalf of the Committee. He said they all knew to whom the success of the Society was chiefly due. They were also fortunate in having the services of a very excellent secretary, who was most indefatigable. The greatest care and supervision was exercised in dealing with sickness claims. Nothing was taken for granted.

This brought the meeting to a close.

THE GLASGOW POLICE AND AMBULANCE WORK.—Ambulance instruction is being imparted to the Glasgow Police Force on a more extensive scale than ever. It is the purpose of the authorities that every constable in the city should know something of how to deal with cases of emergency. On four days a week Dr. Kennedy Dalziel, casualty surgeon of the central district, gives lectures and practical instruction to a certain number of men from all divisions. These lectures are to be continued till all the men have had the opportunity of attending. Examinations are also to be held, and those who have profited most by the lectures will receive certificates of proficiency from Dr. Dalziel, and will be entitled to wear the red St. Andrew's Cross on the right arm to indicate that they are competent to treat injured persons.

CENTENARIANS.—There is reported to have died at Birtley, a village in the county of Durham, a woman named Mary Long, at the age of 110. She leaves a sister aged 104, and a brother died a few months ago aged 100. The two deceased were blind, and so is the surviving sister.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING FOR 1888.

ELECTION OF MEMBERS.

ANY qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

A meeting of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

SOUTH-EASTERN BRANCH: EAST KENT DISTRICT.—The next meeting of the above District will be held at Hythe on Thursday, September 13th, Dr. Lovegrove in the chair. Anyone wishing to read papers, etc., should communicate at once with the Honorary Secretary, W. J. TYSON, 10, Langhorne Gardens, Folkestone.

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

Local Anæsthetics.—Sanitary Legislation in France.—Gastro-Duodenal Ulceration in Infectious Diseases.—Effect of Hydrofluoric Acid on the Tubercle Bacillus.—Action of Drugs on the Bile.—Talc in Infantile Diarrhœa.—Artificial Colouring of Wine.—The Small-Pox Epidemic.—Lead-poisoning in the Departement de la Seine.—The Society for Helping Wounded Soldiers and Sailors.—The Wine Poisoning Case at Hyères.

AT a meeting of the Société de Biologie of Paris on April 14th, M. Oscar Liebreich read a communication on substances which cause local anæsthesia. Having been led to experiment on a large number of substances, either natural or produced by synthesis, he found that there were a great many more capable of causing local anæsthesia than had been supposed. Some of these substances have an effect on animals, but not on man, for many of them act, not by entering the general circulation, but by their direct effect upon the tissues with which they come into contact. With regard to the cornea, it must be remembered that there are two kinds of anæsthesia. M. Liebreich operated by subcutaneous injection of the dorsal region in rabbits and guinea-pigs. For the eye he merely allowed a few drops of the substance in solution to fall on the cornea. Among the substances producing local anæsthesia the principal are hydrochlorate of ammonia and the bromide and sulphate of ammonia; the carbonate and nitrate are without effect. Hydrobromide of sodium acts, whereas the hydrobromide of potassium is without effect. Sulphate of copper is inactive, but iron salts, particularly the sesquioxyde, have an anæsthetic action without producing coagulation at the point of introduction. Acetate of lead is anæsthetic, zinc salts are not. Among organic

substances, hydroquinone, resorcin, antipyrin, substances belonging to the digitalis group, and serpent venom, in small doses are active. Thallin, alcohol, ether, and glycerine have no action. Essential oils, such as oil of turpentine, hydrate of terebene, eucalyptol, oil of camomile flowers, and a number of others, have a remarkable effect. According to Dr. Liebreich, these substances act by destroying the nerve-ends and by irritating the neighbouring parts, causing what has been called "painful anæsthesia." Some substances, such as cocaine, do not cause painful anæsthesia, and are followed by contraction of the vessels, whereas substances that cause painful anæsthesia lead, on the contrary, to vascular dilatation. Substances causing painful anæsthesia have a caustic action, particularly hydroquinone. This anæsthetic and caustic action is also observed in distilled water, the action of which on the nerves is already known. In general a very great number of substances produce local anæsthesia, but in their application to man it is necessary to examine first whether they act as caustics, producing painful anæsthesia.

The Minister of Commerce and of Industry has lately addressed a report to the President of the Republic recommending the following measures for the better working of the public health service: the creation of a directing committee of the public health service, the sending of sanitary delegates to those points of the territory of the Republic that have been attacked or threatened by epidemics, the establishment of disinfecting apparatus in the great seaports, the organisation of the sanitary service, and the attachment to this service of the professors of hygiene of the faculties of medicine. The President of the Republic has signed the following decree: "The President of the French Republic, pursuant to the report of the Minister of Commerce and of Industry, and to the letter of the Minister of Public Instruction of April 13th, 1888, decrees: Art I. The professors of hygiene of the departmental faculties of medicine will fulfil, under authority of the Minister of Commerce and of Industry, the duties of regional inspectors of the Public Health Service, each one in the territorial division of the faculty to which he is attached. He will correspond with the medical officer for epidemics, and with the Council for Public Health of that division. Art. II. Special circulars of the Minister of Commerce and of Industry will regulate the details of the present decree. Art. III. The Minister of Commerce and of Industry is charged with the execution of the present decree, which shall be published in the *Bulletin of Laws*. Given at Paris, the 23rd April, 1888. (Signed) CARNOT. By the President of the French Republic. The Minister of Commerce and of Industry. (Signed) PIERRE LEGRAND.

M. Maurice Letulle has in several instances observed an evident correlation between the evolution of an infectious disease and the development of ulcers of the gastro-duodenal region. In two cases observed by him there was a simple ulcer of the stomach or duodenum at the decline of an infectious disease. Another pathogenic factor is that, in cases of such infectious diseases as give rise to colonies of microbes, the microbes collect at the level of the gastro-duodenal region. A recent necropsy in a case of septicæmia revealed two hæmorrhagic ulcerations of the stomach of recent date. The veins just beneath the ulcerated mucous membrane were thrombosed, and the fibrinous clot contained a quantity of streptococci; the veins were gorged with the same microbes. The same lesions, both mucous and submucous, were reproduced in a guinea-pig, not only with pure cultivations of dysentery, but also with the staphylococcus pyogenes aureus. These ulcerations varied from ecchymoses to vast ulcerations threatening the perforation of the walls of the stomach. There is probably a double cause for these ulcerations. More rarely the injection of pathogenous germs swallowed permits of their cultivation on the surface of the gastro-duodenal mucous membrane; sometimes morbigenous elements in the veins or lymphatics become fixed in the areolar connective tissue. There the parasites develop easily; they impede the action of the nutritive juices, and expose the corresponding mucous membrane to the corrosion of the acid liquids which moisten it.

At the meeting of the Société de Biologie on June 2nd, M. Grancher communicated a series of experiments made by him, from which it is evident that the vapour of hydrofluoric acid has no action on the ulterior development of experimental tuberculosis. Eight animals were inoculated with a cultivation of tuberculosis diluted with sterilised water, and four with a cultivation exposed to the vapour of hydrofluoric acid. The latter four animals died four days after the eight others. It is improbable, therefore, that the tubercle bacilli are influenced by this acid. M. Daremberg stated that he had obtained no good results from hydrofluoric acid; the sputa of patients submitted to this treatment were never acid, which proves its penetrating power to be insignificant.

MM. J. L. Prévost and Paul Binet have recently made researches concerning the action of drugs on the bile, and their elimination by that secretion. Their experiments were made on two dogs, in which a biliary fistula had been established, and which were kept for several months. The following results were obtained. 1. As proved by Rohmann's experiments, the animals suffering from biliary fistula were kept in good health by a diet free from fat, which passed almost entirely into the stools. 2. The quantity of bile increased in proportion to alimentation, especially after the ingestion of peptones. On the other hand, fat did not increase the bile. Cold or lukewarm water only increased the bile in doses of 150 to 200 cubic centimètres. Injections of cold water, recently recommended in icterus, did not modify the biliary secretion. 3. The different substances ingested by the stomach, or injected under the skin, may be divided into four groups, according to their influence on the biliary secretion. 4. The elimination of drugs by the bile is insignificant; small quantities only pass away by its means. 5. There is no relation between the elimination of a substance and the action it has on the activity of the biliary secretion.

M. Sevestre communicated to the Société Médicale des Hôpitaux, June 22nd, 1888, good results obtained by him in seven cases of diarrhœa in children, which he had treated with talc. He administered 20 grammes in four doses; in four or five days the diarrhœa was cured, and the children ceased to lose weight. M. Féréol stated that he had treated diarrhœa in cases of phthisis with talc, with good results.

The Comité Consultatif d'Hygiène Publique de France discussed, at its last meeting, the question of artificial colouring of wine. M. Ogier read a report on the question raised by the Chambre de Commerce, that all vegetable or mineral products designed and advertised for colouring wine shall be prohibited. The Chambre de Commerce is of opinion that by Art. 60, Titre II, of the Penal Code, anyone selling substances for artificially colouring wine is liable to be prosecuted, as well as the agent who puts it in the market. Such prosecutions are rare, however; whilst, on the other hand, the tradesmen who have unwittingly sold the coloured wine are frequently prosecuted and condemned if they cannot shift the responsibility to the supplier, which is often difficult. M. Salis, Deputy, brought before the notice of the Chambre de Commerce a scheme for a new law which should prohibit the manufacture and sale of all substances intended to colour wine artificially. The Chambre de Commerce of Paris expressed an opinion that this would touch the liberty of manufacture, and would expose makers of substances for colouring other articles to prosecution. It was, however, necessary to have a law which would strike at the colouring matter as soon as it is put in the market, or even advertised. The Chambres de Commerce of Montpellier, Bordeaux, and La Meuse are of the same opinion; that of Mâcon had already made similar suggestions in 1887. All substances for colouring wine artificially are considered by the Chambres as adulterations. At the same time it must be remembered that, although many colouring matters are not poisons, experience has proved that constant ingestion of such substances is not without injurious effects. The Comité decided that all substances for colouring wine are adulterations, and should be absolutely prohibited. At the same time the Comité recognised the fact that it is extremely difficult to put such a prohibition into practice, as many useful chemical products, manufactured for perfectly legal purposes, would thereby be condemned.

The Comité Consultatif d'Hygiène Publique de France recently discussed what measures should be taken against the small-pox epidemic in the department of Morbihan. After hearing Dr. Roux's report, the Comité made the following recommendations: Isolation of patients; disinfection of linen, mattresses, and clothes by means of the portable steam stoves; the use of sulphuric acid and antiseptic sprays in the dwellings; vaccination of all the inhabitants with animal vaccine; and special instructions promulgated by means of placards.

A report by Dr. Napias was also read on lead-poisoning in the Departement de la Seine. Though the hygienic measures enforced for several years have diminished the number of these accidents, the Comité thought that powdered white lead should be replaced by white lead mixed with oil, which is not dangerous.

At the annual meeting of the Société Française de Secours aux

Blessés Militaires des Armées de Terre et de Mer, the president read the statistics for the past year, which showed that in gifts of money or objects to the soldiers wounded at Tonquin and in other wars the Society had spent 131,181 francs; 130,000 francs have been spent in necessaries for the ambulance services. The Society has now thirty-five hospitals in railway stations, besides which 30,000 beds in different hospitals are at its disposal. As the general expenses amount only to 110,000 francs, and the subscriptions to the general fund this year amount to 150,000 francs, the prospects of the Society are encouraging. After speaking warmly of the zeal of the provincial committees, the President said: "With regard to personal resources, the Society has at its disposal 600 doctors, 1,200 nurses and litter bearers, taken from the Brothers of Christian Doctrine and Sisters of Charity of different orders, and the ever-increasing multitude of noble men and devoted women, who are ready to-morrow, if need be, to hasten to the side of the wounded soldiers, besides the 22,000 members, the Central Committee, and the 200 provincial committees." The president concluded by an appeal to the members to practice self-abnegation, saying: "If the Society be the growth of Christian charity, which sees a brother in the wounded soldier, it is above all patriotic; and the banner of the Society, emblazoned with the symbol of divine charity, is inseparably associated with that of military virtues and devotion to our country." Before the close of the meeting, M. Riant complimented the Society on the election of the new lady president, Madame MacMahon.

The Comte de Villeneuve was lately tried at Hyères for selling wine falsified by arsenic. Dr. Gambrie, in his evidence before the court, stated that the analysis of the wine he had made demonstrated the presence of a considerable quantity of arsenic. An examination of the dead bodies of those who had drunk the count's wine furnished the same evidence. It was impossible to conclude that the presence of arsenic resulted from an accident; on the contrary, there was proof of intention skilfully realised; the "plastering" mixed with arsenic was done with great intelligence. Besides those who have died from the effects of the wine, there are several who are disabled. Considerable damages were claimed by the victims.

SWITZERLAND.

[FROM OUR OWN CORRESPONDENT.]

Professor Langhaus on Actinomycosis in Man.—Resection of Intestine: Cæcal Hernia in an Infant.—Intubation of Larynx.—State Centralisation of Sanitary Service.—Police and School Hygiene at Berne.

In the *Correspondenz-Blatt fuer Schweizer Aerzte*, Nos. 11 and 12, 1888, p. 329, Professor Th. Langhaus, of Berne, published an interesting contribution on actinomycosis. Up to the present Swiss literature had supplied only three cases of actinomycosis in man (Julliard, Muench, and Klebs); Professor Langhaus now publishes three other cases, in one of which the mastoid attachment of the sternocleidomastoid muscle (in a woman aged 28, successfully operated on by Professor Th. Kocher) was the seat of three small actinomycotic abscesses of one month's standing, while in another (a man aged 40, under the care of Dr. Ancken) who died of marasmus after the disease had lasted a year and a half, the primary focus was found to be in the vermiform process, and the main secondary one occupied the whole left and the adjoining half of the right lobe of the liver, which was much enlarged. In the third case (a man aged 23, under the care of Dr. Feurer, who died of marasmus after an illness of eight months' duration) the starting point was thought to be also in the cæcal region, the cæcum and ascending colon showing several perforations. The results of Dr. Langhaus's careful microscopical researches may be summarised as follows: 1. The actinomycotic granules presented great variations in their colour; in one of the cases they were black, in another whitish yellow, and in a third grass-green. In all, the mucoid intergranular substance was more intensely coloured than the granules themselves; the black coloration was caused by groups of minute black-green pigment granules of an obscure nature. 2. Like Weigert, the author observed a *post-mortem* progressive vegetation of the fungi. 3. In all the cases the so-called actinomycotic granules consisted of symbiotic colonies of several different species of fungi. Side by side with the true actinomyces (which did not take in either Weigert's orseille, or Israel's orceine, or hot carbolic fuchsin, or Gram's dyes), there were present in two cases threads and rods, and in one cocci and threadlike organisms. Hence, the author is inclined to believe with Professor Ponfick, that actinomycosis represents a symbiosis of several mycotic species; but he justly thinks that the question can be settled positively only by cultivation experiments. We should add that in one of the cases Dr. Langhaus examined the fungi on fine layers of pus. Having mixed a purulent fluid with absolute alcohol, he soaked the mixture, which was then a finely granular mass, in a solution of equal parts of alcohol and ether, to mix it subsequently with celloidin, spread over a cork, ultimately hardening in 70 per cent. alcohol. A similar examination of actinomycotic granules present in liquids is thought to lead to results identical with those obtained by the author. In one case of his, a striking antiseptic action of the actinomyces, in the truest and strictest sense of the word, could be observed; the actinomycotic liver (Case II) remained quite sweet and free from any putrescent odour for full nine hot summer days, though it was preserved without any special precautions, being simply kept in a well-closed glass vessel. On the other hand, the liver presented an "acute specific, though not very strong, somewhat mawkish and musty odour."

Dr. F. Dumont, House Surgeon to the Krankenhaus Wertheim, in Berne, relates two rather uncommon instances of incarcerated hernia. One of them is that of a tabetic gentleman, aged 40, a confirmed morphinist, in whom, after a violent *crise gastrique* with vomiting, there appeared a small-sized femoral hernia, which became incarcerated; this was followed on the fourth day by stercoraceous vomiting. On the 6th day Professor Kocher cut across the tumour, and found (as he had partly expected) that he had to deal with a gangrenous incarcerated hernia of one intestinal wall alone. The gangrenous piece of the small bowel, 20.5 centimètres long, as well as the ligatured hernial sac, were excised, and the wound closed. The patient bore the operation fairly well, but on the third day extreme collapse with vomiting and abdominal distension set in. A saline transfusion into the median basilic vein was performed; the wound, which was already healed, was reopened and the intestinal loop gently pulled out. It was found that the intestinal sutures had given way, the bowel being quite softened. An artificial anus having been established, the patient experienced marked relief, but died the next day from prostration. Dr. Dumont dwells upon the extremely unfavourable conditions of the case, such as the patient's exhaustion from tabes (of seven years' standing) and morphinism, recent surgical interference, etc. Dr. Dumont's other case refers to a sickly bronchitic boy, aged 4 months, in whom an acquired inguinal hernia, of the size of a hen's egg, became incarcerated, and was operated on twenty hours later by the author and Dr. H. Sahli. The hernial sac was found to contain the cæcum with the vermiform appendix, but only a very small portion of the ileus. The contents having been reduced, the hernial ring was closed with catgut and the sac excised. The wound healed by second intention, the boy being discharged well on the fourth day after the operation. Unfortunately, shortly afterwards the boy contracted whooping-cough from his sisters. This was soon followed by the reappearance of the inguinal hernia and the development of an umbilical one in addition. Dr. Dumont points out that, 1, incarcerated herniæ in young children are of relatively very uncommon occurrence; thus, Professor Kocher, in his monograph, in Gerhardt's *Cyclopædia*, on Ruptures in Childhood was able to collect only thirty-four cases of successful herniotomy, five of which were from Professor Demme's practice. 2. That the cæcum and vermiform process are met with relatively seldom even in adult herniæ; still more rarely do they form the contents of herniæ in children.

At a meeting of the Société Vaudoise de Médecine Dr. Irwin H. Hance, of the New York Hospital for Children, made a communication on O'Dwyer's intubation of the larynx, based on 806 American cases, with 27.4 per cent. recoveries. Referring to Hance's paper, Dr. E. Thomas, of Geneva, says (*Revue Médicale de la Suisse Romande*, June 20th, 1888, p. 337) that he has assisted in eleven cases of intubation performed by Dr. D'Heilly in the Hôpital Trousseau in Paris. Only two of the eleven recovered. On the whole, as the matter stands at present, Dr. Thomas believes that the procedure has only two distinct advantages, namely—1, it is bloodless, and hence readily consented to by parents; and 2, it allows the child to breathe air previously warmed in the oral cavity as under normal conditions. In its present imperfect form, however, O'Dwyer's procedure is thought to have many inconveniences and difficulties, which will, for some time at least, prevent it from superseding tracheotomy. "Undoubtedly," Dr.

Thomas says, "the latter operation is far from easy, but it requires less complicated instruments. The practitioner's eye can guide his bistoury all the while. The operation can be performed just as rapidly as perhaps intubation, while the after-management is easier. In addition, the curative effects of the intubation remain yet to be determined."

The second general meeting of Swiss practitioners (the thirty-fifth of the Schweizerischer Aerztlicher Centralverein), held at Lausanne on May 25th to 27th was visited by about 230 medical men from the German, French, and Italian cantons, and proved a great success. The chief subject discussed was the desirability of State centralisation of medico-sanitary service in Switzerland. A unanimous resolution was carried to the effect that it is "highly necessary at last to establish official relations between the medical corporation and the Federal Council." There can be little doubt that, at no distant date, the proposal will take exactly the practical shape which was sketched out before the meeting by Drs. De Cérenville and Sonderegger. They ask for: 1, the creation of a permanent federal sanitary commission, of a permanent council, which is to be consulted by the federal authorities in regard to every important sanitary measure, and which, on such occasions, is to meet under the presidentship of the chief of the Federal Department of the Interior. The said commission representing an authorised intermediary agency between cantonal medical societies and the Federal Council is to be appointed by the latter according to the recommendation of the medical corporation. It would be sufficient, generally, that the Federal Council should only bestow its official sanction and the right of initiative on the Swiss Medical Commission such as it exists at present. It would then be, an organisation similar to the Prussian Sanitary Chambers appointed by the provincial medical corporations and including a special deputy of the government. 2. The appointment of a permanent federal secretary for sanitary matters, attached to the Federal Department of the Interior. The official is to be a medical man selected by the Medical Corporation. His office would be a central bureau for every kind of information relating to public hygiene, sanitary and professional questions, Swiss and foreign statistics; further, it would deal with such matters as the supervision of the people's food-supply, practical application of the law on epidemics, control over secret remedies and illegal medical practice, etc.

According to the *Schweizerischer Socialdemokrat*, June 30, p. 4, the new Polizeidirektion of Berne has inaugurated its accession to office in a most gratifying and useful manner, by issuing a very detailed and suggestive programme dealing with the sanitary state of the town schools. They also without delay appointed a special commission, divided into four sections and including many distinguished names, to institute an inquiry into every one of the points laid down in the police programme. The latter included such important questions as educational overpressure, the sanitary arrangements in school-buildings, extra-scholastic influences, statistics concerning the age of pupils, etc.—in short, the programme covers the whole field of school hygiene.

SHEFFIELD.

[FROM OUR OWN CORRESPONDENT.]

The Public Hospital and Dispensary.—Presentation to the Rev. Dr. Dallinger.—Nursing Homes.—Hexthorpe Railway Accident.—Sheffield General Infirmary and the Late Resident Staff.—Retford Corporation.

THE Weekly Board in its report to the annual meeting of the Public Hospital and Dispensary, drew attention to the number of accidents and cases of emergency admitted into the hospital without the usual recommendation, as showing the necessity of the institution. The work of the hospital had been accomplished at a somewhat smaller cost than in the previous year. Regret was expressed that the receipts from the Saturday and Sunday collections had realised less than last year. The report concluded with thanks, among others, to Mr. B. Wake, who had allowed patients of the hospital the free use of his convalescent home at Sandygate.

In view of the Rev. Dr. Dallinger's intended removal from Sheffield it was thought advisable that some public recognition should be made of his invaluable services to the town, not not merely as a minister of religion but as a man of science and a contributor to the cause of education in its highest and largest sense. With this object a meeting was held presided over by the Mayor, and the movement received cordial support. The presentation of the testimonial took place on Tuesday, August 14th, at a well-attended meeting of the subscribers. The testimonial took the form of a silver tea-tray to Mrs. Dallinger, with a suitable inscription; and a purse containing a cheque for £200 to Dr. Dallinger. The presentation was made by the Mayor. The regret at Dr. Dallinger's departure is very wide-spread, and not least among the members of the medical profession, for whom much of his scientific labours has a close and peculiar interest.

From a circular which has been issued it appears that Miss Corvan, who recently resigned the office of lady superintendent at the Nurses' Home, has established with her old nurses a separate institution under the name of the St. George's Home for District and Private Nurses. The town is thus provided with two nursing institutions.

Most of the sufferers in the Hexthorpe railway accident have had their claims settled. In a recent case, which was before the Under Sheriff at Rotherham, a young married woman was awarded £1,150. Her injuries had been severe; amputation of right thigh, fracture of left leg, injuries to head and back, and disturbances of vision.

The nurses, servants, and patients at the Sheffield General Infirmary have made presentations to the late resident medical officers on their leaving the Infirmary. The house-surgeon, Mr. C. F. Coombe, received a handsome salad bowl of polished oak and silver, mounted; Mr. P. Priestley, assistant house-surgeon, a costly marble timepiece; and Mr. H. T. Wightman, house-pupil, a pair of opera glasses.

The Retford Corporation has been inquiring into the duties and salaries of its officials. Dr. Pritchard, as medical officer of health, received £10 per year; and the committee found the salaries in neighbouring towns were: Chesterfield, medical officer of health, £100; Grantham, £50; Doncaster, £70; Gainsborough, £10 10s.; Goole, £30; Newark, £50. It is not surprising, therefore, that the committee recommend that Dr. Pritchard's remuneration shall be increased.

CORRESPONDENCE.

THE BOWER AND KEATES INDEMNITY FUND.

SIR,—After four years of legal delay we are glad to say our troubles are at an end, and we hasten to take the earliest opportunity to express to the subscribers to the above fund, through your columns, our sincere and grateful thanks for the very great sympathy and support extended to us during a period of exceptional trial and anxiety.

Amongst so many friends who have given valuable time and advice it would be almost invidious to make a distinction, but we shall always hold in grateful memory the names of the late Drs. Moxon and Mahomed. The former, from the very commencement of our troubles, although not personally known to us, was ever ready to cheer and support us with his advice; the latter, as joint honorary secretary, worked hard in our cause. To Dr. Burnet also our special thanks are due for the kind and able manner in which he has discharged the arduous duties of honorary secretary, the whole burden of which has fallen on his shoulders since Dr. Mahomed's death. To the Committee we have already privately expressed our thanks and gratitude, but we are glad now to be able to give public expression of our thanks to them for all their kind exertions on our behalf.—We are, etc.

East Dulwich, August 21st. EDMUND BOWER.
W. COOPER KEATES.

ADMINISTRATION OF ETHER PER RECTUM.

SIR,—I have this day, for the fourth time, administered ether *per rectum*, and send you the following short notes of the case, which may possibly be of interest to your readers.

The patient was a woman, aged 29, who has had four children: a total abstainer, and in fair health. She required the extraction of the whole of the teeth in the upper jaw, twelve in number: some were badly decayed, others were stumps. Mr. R. F. H. King was the operator, and the operation was performed in his operating room. The ether was administered through a simple apparatus made for me by Messrs. Maw, Son, and Thompson; the ether used was of the specific gravity of 0.717, and its boiling

point 74° F. Precisely two minutes after the commencement of administration the characteristic smell was detected in the patient's breath; at the same time she remarked, "Oh, I can taste it." In 7 minutes 56 seconds she was sufficiently under its influence for Mr. King to commence, and the administration was continued until eight of the teeth had been extracted; then, exactly ten minutes from its commencement, it was discontinued, and the remaining four teeth were extracted without any sensation of pain. The whole operation lasted exactly fifteen minutes. The teeth were very awkward to extract, and could not be taken out hurriedly, as they were very brittle, and required great care. The amount of ether used was fourteen drachms; and the sole discomfort complained of by the patient was a sense of heat in the rectum. The pulse was quickened very considerably, going up from 80 to 132, and being full and bounding; after the expiration of eight minutes it slowed down to 108, and became soft; it was always regular. The respiration was not interfered with in the least, and we could not tell that it varied at all. There was no sickness, and twenty-one minutes from the commencement the patient rose and walked with assistance into another room. She was exhilarated, and remarked that she felt rather stupid, but had not felt the extractions. Of course, the anæsthesia was not pushed to a sufficient extent to produce insensibility to the pain of a more severe operation; but in my three previous cases, which were all for cancer of the tongue and floor of the mouth, in two complete anæsthesia was produced in twenty minutes, in the third, a strong burly man, who had been rather a free liver, the result was a failure, and it had to be administered in the usual way.

For prolonged dental operations I feel sure it will be very useful, as it gives the operator more command over his patient; there is no inhaler in his way, and he can take his time, knowing that the patient can be kept under its influence.—I am, etc.,

Newark, August 21st. F. H. APPLEBY.

METHYLENE AS AN ANÆSTHETIC.

SIR,—I beg to forward copy of replies received from Dr. B. W. Richardson, who introduced methylene. They deal with points of importance to the general practitioner, working short-handed, as is usually the case.

1. "Methylene can be given from any simple inhaler; but, as it evaporates more quickly than chloroform, it must be confined by some structure that will fold into a funnel, like strong paper, a piece of starched linen, or a fold of leather."

2. "It will keep as long as chloroform in a cool place and away from the light. I narcotised quite recently from a specimen which had been in keeping many months."

Dr. Richardson further informs me that the "next" *Asclepiad* (his letter is dated July 26th) is to contain a paper dealing with these and other points.—I am, etc., A. OGIER WARD, M.D.

Lower Tottenham, August 16th.

INSTRUCTION ON DISEASE IN CHILDREN.

SIR,—Your leader on this subject, emphasising the pertinent remarks of Dr. Cheadle on the importance of all students, before receiving a licence to practise, being required to attend a course of clinical instruction on disease in children, will, I trust, have the desired effect of drawing the attention of the Medical Council and the Schools to the necessity of affording opportunities to students, and ultimately rendering compulsory the clinical study of disease in children. Let us hope that, before long, all the medical schools will follow in the wake of those who have already shown a laudable example in this respect. There can be no doubt, as Dr. Cheadle remarked, that one of the great difficulties we, as teachers, have had to encounter is the fact that children under two years of age are rarely admitted to our hospital wards. It is these young children, the infants, that we require to teach our students; the other children are practically adults, so far as their ailments are concerned, and comparatively useless for our purpose. There are only two ways of overcoming the difficulty, either by admitting infants to the wards, or making the out-patient department available for clinical purposes.

In the Edinburgh Royal Hospital for Sick Children, the directors, at the request of the University and medical school authorities, have given the clinical teachers the run of the out-patients for the purpose of teaching, the children being brought in from the out-patient room to the ward *cliniques* or lecture theatre as required.

Another difficulty in the way of getting instruction in some schools is the distance between the school or the general hospital and the children's hospital. This can only be overcome by having one or more wards for children in all our general hospitals. This would afford a ready means of giving students an opportunity of seeing disease in young children.

Let us hope that, before long, it will be impossible for any young man to go into practice without having given a share of his attention to pædiatrics, thereby relieving him of the awkward predicament most of our young medical men find themselves in, of being ignorant of the way to examine and treat probably the first patient they are called on to attend on entering practice.—I am, etc., JAMES CARMICHAEL, M.D., F.R.C.P.,

Clinical Lecturer on Disease in Children in the Edinburgh University.

22, Northumberland Street, Edinburgh.

CHOLERA.

SIR,—We have here a good many cases of cholera, and in searching through the literature on the subject I fail to make out that very high temperature is frequently present.

In three cases in my own practice, resulting in death, the history was as follows:—Sudden seizure with the usual symptoms of cholera; in three to four hours the temperature in the rectum began to rise, reaching in three hours in the rectum 108° F. in two cases, 105° F. in a third, when death occurred, the disease lasting in all seven hours.

I observe in many books that the temperature in the rectum is said to rise to 100°; but I do not find such high temperatures as I have observed recorded. A sailor on board H.M.S. *Impérieuse*, lying here, died also with a temperature of 108° in the rectum. Will some surgeon experienced in cholera record his observations on the subject?—I am, etc., JAMES CANTLIE.

Hong Kong, June 29th.

NAVAL AND MILITARY MEDICAL SERVICES.

CHANGES OF STATION.

THE following changes of station among the officers of the Medical Staff of the Army have been officially notified as having taken place during the past month:—

	From	To
Brigade-Surgeon R. W. Troup, M.B.	Gibraltar	Malta.
Surgeon-Major R. Harman, M.B.	Mullingar	C. of Good Hope
,, P. A. Hayes	Netley	Portsmouth.
,, E. A. H. Roe	Headquarters	Home District.
Surgeon M. R. Ryan, M.D.	Home District	Woolwich.
,, J. J. Morris, M.D.	Barbadoes	Portsmouth.
,, K. S. Wallis	York	Strensall Camp.
,, R. O. Cusack	Strensall Camp	York.
,, M. F. Macnamara	Netley	Dublin.
,, J. O. G. Sandiford, M.D.	,,	,,
,, T. Archer, M.D.	,,	Dover.
,, H. J. R. Moberly	,,	Portsmouth.
,, A. P. Hart, M.B.	,,	Devonport.
,, R. Jennings, M.D.	,,	Portsmouth.
,, T. F. W. Fogarty, M.B.	,,	Devonport.
,, G. Coutts, M.B.	,,	York.
,, W. J. Baker	,,	Devonport.
,, S. Townsend, M.D.	,,	Dublin.
,, G. T. Trewman, M.B.	Portsmouth	C. of Good Hope
,, W. Babtie, M.B.	Netley	Portsmouth.
,, W. O'Brien, M.B.	,,	Dover.
,, S. H. Creagh	Cyprus	York.
,, W. L. Reade	Netley	Devonport.
,, J. I. P. Doyle	Dublin	Curragh.
,, L. R. Colledge	Barbadoes	Dover.
,, J. S. Green, M.B.	Fermoy	Wexford.
,, H. L. G. Chevers	Dunbar	Edinburgh.
,, E. Eckersley, M.B.	Sheffield	Strensall Camp.
,, D. Hennessy, M.D.	Wexford	C. of Good Hope
,, W. Kiddle, M.B.	Navan	Cyprus.
,, D. M. O'Callaghan	Curragh	,,
,, B. J. Inniss	Altcar Camp.	Alnwick Camp.
,, A. Wright	N. B. District	Hamilton.
,, H. S. Peeke	York	Southport.

THE NAVY.

E. A. SPILLER, Surgeon, has been appointed to the *Albacore*, and R. T. A. LEVINGE, Surgeon to the *Triton*.

Staff-Surgeon R. S. O. GRIFFITHS has been promoted to the rank of Fleet-Surgeon. His Surgeon's commission is dated November 12th, 1867; that of Staff-Surgeon March 14th, 1879. During the Egyptian war in 1882 he was Staff-Surgeon of the *Orontes*, and received the medal and the Egyptian bronze star granted for the campaign.

THE MEDICAL STAFF.

Surgeon-Mayor R. W. Wellings is brought on the strength of the British forces in the Bombay Command from July 8th, the date of his arrival at Bombay.

Surgeon R. R. H. Moore, serving in the Bombay Command, is appointed to the medical charge of the station hospital at Poorundhur, *vice* Surgeon-Major W. P. Bridges, proceeding on leave.

Surgeon-Major A. W. Roche has been granted retired pay. He entered the service as Assistant-Surgeon April 1st, 1867; became Surgeon March 1st, 1873; and Surgeon-Major April 1st, 1879. He has no war record.

Surgeon-Major Thomas Kingston, M.D., has also gone on retired pay. His commissions were dated: Assistant-Surgeon, October 1st, 1867; Surgeon, March 1st, 1873; and Surgeon-Major, October 1st, 1879. He served in the Soudan campaign in 1885 with No. 1 Field Hospital, and was present in the action at Hasheen, at that near Tofrek on March 21th, and at the advance on and destruction of Tamai. He received the medal with clasp and Egyptian bronze star.

Surgeon T. R. Lingard, M.B., has retired on temporary half-pay. He entered as Surgeon July 30th, 1881, and served with the Nile expedition in 1884-85, and in the operations of the Soudan Frontier Field Force in 1885-86 (medal with clasp and Egyptian bronze star).

Brigade-Surgeon A. Allan and Surgeon-Major W. P. Bridges, who are serving in the Bombay Command, have leave of absence on private affairs for six months and four months respectively.

THE INDIAN MEDICAL SERVICE.

The retirement of Deputy Surgeon General J. Henderson, M.D., Madras Establishment, already announced in this Journal, has been approved by the Queen.

Brigade-Surgeon G. S. Sutherland, M.D., Bengal Establishment, has retired from the service, which he entered as Assistant-Surgeon August 4th, 1857, attaining the rank of Brigade-Surgeon December 7th, 1884. Dr. Sutherland served in the Eastern campaign with the Turkish Contingent in Turkey, and after the fall of Sebastopol in the Crimea (5th class of the Medjidie and Turkish medal). He was also engaged in the Indian Mutiny campaign in 1858-9, and was at the capture of Lucknow and during the operations in Oude (medal with clasp).

Surgeon-Major C. F. Ogilvie, M.D., Bombay Establishment, has also retired. His commission as Assistant Surgeon is dated February 20th, 1856, and that of Surgeon-Major twelve years after. He served in the Persian Expedition in 1857 and was at the bombardment and capture of the forts of Mollumrah (medal and clasp). He was also in the Indian Mutiny Campaign in 1858-9, including the siege, capture, and destruction of Fort of Awah and the operations of the Rajpootana field rorce and pursuit of rebels under Tantia Topee (medal and clasp); and in the Burmah Expedition in 1886-88, when he served as Senior Medical Officer 3rd Brigade, Upper Burmah Field Force (mentioned in despatches, medal and clasp).

Brigade-Surgeon G. D. Riddell, Madras Establishment, is appointed to be Principal Medical Officer, Upper Burmah, with the temporary rank of Deputy Surgeon-General from the date of the expiration of Deputy Surgeon-General Farrell's privilege leave.

Surgeon-Major A. Crombie, M.D., Bengal Establishment, is appointed to be Surgeon-Superintendent of the Presidency General Hospital at Calcutta.

Deputy Surgeon-General G. Farrell, C.B., Bengal Establishment, is appointed to the officiating administrative medical charge of the Lahore Division, *vice* Deputy Surgeon-General P. W. Sutherland, who has been granted sick leave to England.

The services of Surgeon-Major J. J. Monteath, M.D., Bengal Establishment, are placed temporarily at the disposal of the Government of Bengal.

Surgeon-Major W. F. Murray, M.B., Bengal Establishment, is appointed to be Civil Surgeon of Chittagong.

Surgeon-Major J. Moran, M.D., Bengal Establishment, is appointed to officiate as Superintendent of the Central Prison at Agra.

Surgeon C. C. Vaid, Bengal Establishment, officiating Civil Surgeon of Jhansi, is appointed to officiate as Civil Surgeon of Boolundshuhur during the absence on privilege leave of Surgeon G. M. Nixon.

Surgeon K. H. Mistri, Bombay Establishment, is appointed to the civil medical charge of the the Meiktila District, Burmah, and its police, *vice* Surgeon R. J. Geddes, relieved.

The Medical Fund Annuities, July, 1888, are granted as follows:—Retired Deputy Surgeon-General J. Henderson, M.D., late Madras Establishment, large annuity, from July 1st; Retired Brigade-Surgeon W. P. Kelly, M.B., late Madras Establishment, large annuity, from July 1st; Retired Brigade-Surgeon W. J. Busteed, M.D., late Madras Establishment, large annuity, from July 1st, made up of his own small annuity, and that liberated by Brigade-Surgeon W. P. Kelly, M.B.

Surgeon-General W. J. Moore, K.C.I.E., of the Bombay Establishment, who retired on February 26th last, has been appointed Honorary Physician to the Queen, *vice* Inspector-General B. P. Rooke, M.D., Bombay Retired List, deceased.

Surgeon-General J. M. Cunningham, M.D., C.S.I., of the Bengal Retired List, is also appointed Honorary Physician to the Queen, *vice* Inspector-General W. A. Green, Bombay Retired List, deceased.

The Queen has approved the resignation of Surgeon W. G. M'Evoy, Madras Establishment, which has been already announced in the Journal.

Surgeon E. R. W. C. Carroll, Bengal Establishment, is appointed to be Medical Officer to the Lawrence Military Asylum at Sunawur, *vice* Surgeon-Major W. F. Murray, M.B., who vacates that appointment.

Surgeon-Major E. A. Birch, Bengal Establishment, Surgeon-Superintendent of the Presidency General Hospital, has leave of absence for one year on medical certificate.

The services of Surgeon-Major P. J. Freyer, M.D., Civil Surgeon of Moradabad, are temporarily placed at the disposal of the Nawab of Rampore.

Surgeon-Major G. Price, Bengal Establishment, Principal Assistant Opium Agent, Behar, is allowed leave for three months.

Surgeon-Major E. Colson, Bombay Establishment, Civil Surgeon, Aden, has been granted twelve months' furlough to Europe.

Surgeon-Major J. H. Newman, M.D., Bengal Establishment, has been appointed Honorary Surgeon to the 2nd Battalion of the Bombay, Baroda, and Central India Railway Volunteers.

The services of Surgeon E. Cretin, M.P., Surgeon J. H. T. Walsh, and Surgeon J. R. Adie, M.B., all of the Bengal Establishment, are placed temporarily at the disposal of the Government of India.

The services of Surgeon A. W. Alcock, M.B., Bengal Establishment, are temporarily placed at the disposal of the Government of the North-West Provinces and Oude.

The services of Surgeon-Major H. Hamilton, M.D., Bengal Establishment, are replaced at the disposal of the Military Department.

Brigade-Surgeon C. Siebthorpe, Madras Establishment, Surgeon General Hospital, and Professor of Surgery Madras Medical College, has leave on private affairs for one year and 152 days.

ARMY MEDICAL RESERVE.

Surgeon A. D. L. Napier, of the 1st Haddington Artillery Volunteers, to be Surgeon-Major (ranking as Major).

Surgeon P. B. Giles, F.R.C.S.Eng., of the 1st Hereford Rifles, to be Surgeon-Major (ranking as Major).

THE VOLUNTEERS.

Mr. T. E. F. M'Geagh is appointed Surgeon to the Honourable Artillery Company of London, *vice* W. P. Rawlins, retired.

Surgeon S. A. Julius, of the 1st Cinque Ports Rifles, and Surgeon J. W. Danaher, of the 3rd Volunteer Battalion Essex Regiment (late the 3rd Essex), have been granted the honorary rank of Surgeon-Major.

Mr. Robert Torrance has been appointed Acting-Surgeon to the 1st Newcastle-on-Tyne and Durham Engineers.

Surgeon and Hon. Surgeon-Major J. W. Watkins, M.D., of the 1st Volunteer Battalion South Lancashire Regiment (late the 9th Lancashire), has resigned his commission, which was dated August 6th, 1887. He is permitted to retain his rank and uniform.

J. P. A. Gabb, M.D., is appointed Acting-Surgeon to the 2nd Volunteer Battalion Queen's Royal West Surrey Regiment (late the 4th Surrey).

The undermentioned gentlemen have been appointed Acting-Surgeons to the regiments specified:—D. L. Hubbard, 1st Cheshire and Carnarvon Artillery; John Ritchie, M.B., 5th Volunteer Battalion Argyll and Sutherland Highlanders (late the 1st Argyll Volunteers).

New Military Hospital at Alexandria.—The new military hospital at Ras-el-Teen, Alexandria, was occupied on July 28th, when the sick were transferred from Ramleh in charge of Surgeon Robertson, M.S. His Highness the Khedive went over the buildings when they were completed by the Royal Engineers, accompanied by Major-General Hon. R. H. de Montmorency, commanding the garrison, and Brigade-Surgeon Gore, S.M.D. The hospital was inspected officially by Major-General Hon. A. C. Dormer, C.B., on August 2nd at 7.20 A.M. On leaving, the Major-General expressed his gratification at the very creditable way everything was arranged in so short a time. The hospital contains 137 beds on the site of the Lighthouse Fort, bombarded by our fleet some years since.

MEDICO-LEGAL AND MEDICO-ETHICAL.

A PROBLEM IN MEDICAL ETHICS.

"X. Y." cannot find in the *Code* rules strictly applicable to the following case. A., an old practitioner, is attending a serious case. At the request of the patient's husband, B., a young practitioner, is asked in consultation. A change of diagnosis is the result, but this is not directly expressed to the family. A change of treatment cannot be concealed. The patient recovers. Meanwhile, B. is rigidly careful of A.'s interests, refusing, in opposition to several requests from the friends, to hold any intercourse regarding the case, except in A.'s presence. The attendance over, A. is paid. The husband there after writes to B., that the lady's life is owing entirely to him, that they cannot employ A. again, and that they hope B. will attend if sent for. B. pleads that they are unfair to A., and declines to attend. The result is that a third practitioner is called for the future. Could B. have acted otherwise in accordance with professional ethics?

*** If our correspondent will again refer to the *Code* in question, he will, on pages 62, rule 6; 64, 10; 68, 4; and 70, 9; find clearly expressed the general principles by which the respective practitioners should be guided in cases similar to that related by him. With especial reference to it we are of opinion that B.'s stated procedure was in strict accord with the rules of professional etiquette; and although it is undoubtedly annoying that a third practitioner is to be called in in any future illness, B. will, we feel assured, have no reason eventually to regret his line of conduct in the matter.

With regard to his future policy in any case of a like character, in which the family may determine to discontinue the professional services of their former medical attendant, we (in reply to the question submitted in his private note) would advise him to make a friendly call on the discarded practitioner, A., and, as a simple act of courtesy, communicate to him the fact that he (B.) has been requested to attend the family, and at the same time solicit his views thereon. If, however, A. demurs to such arrangement, B. will then be fully justified in acceding to the family request.

THE OFFICIOUS FRIEND AGAIN.

Messrs H. and H.—Although the excessive length (eleven closely written folio pages) of the correspondence between Messrs. H. and Dr. P., precludes its insertion in the columns of the Journal, owing to the unavoidably limited space assigned to medico-ethical questions, we may note in response to their request that, after a careful and critical examination of the points involved, and assuming, moreover, that the statement submitted for our opinion is a strictly accurate representation of all the important facts of the

case, there cannot, we think, be any reasonable doubt that the conduct of Dr. P. in visiting the child in question at the instance of a third party, and not only without the knowledge and previous assent of the practitioners in attendance, but of the parents also, was ethically and professionally deeply to be regretted.

As to the assumed necessity, or otherwise, for an instrumental exploration of the bladder for a calculus in the moribund child, we abstain from offering any opinion.

ATTENDANTS ON INFECTIOUS PATIENTS.

"No. 7" asks: 1. How can persons in direct attendance on patients suffering from infectious disease be prevented from attending public meetings? 2. Is any legal penalty attached to such an action? If so, what?

*** The only general statutory provision dealing with the subject is Section 126 of the Public Health Act, which imposes a penalty: 1. On any person suffering from a dangerous infectious disorder, if he wilfully exposes himself in any public place without proper precautions against the spread of such disorder; (2) or any person who, being in charge of a person so suffering, so exposes such sufferer. The local Acts of some towns also contain clauses somewhat similar. We know of nothing which imposes a penalty on a person who, having been exposed to infection, goes about in public in such a way as possibly to convey the infection to others. If it could be proved that he did so knowingly and wilfully, he might be indicted for the misdemeanour of causing a public nuisance, or might be liable to pay damages to persons injured; but he could not be punished summarily.

SOCIETY RATES.

A. R. writes: The Royal Liver Friendly Society pay their medical referees 2s. 6d. for each case examined, none to exceed £200. When I found that they only paid 2s. 6d. for examining a person for £100, I resigned. Do you think it becoming the dignity of our profession for a "highly respectable and fully qualified medical man" (I use their secretary's phrase) to make such an important examination and report for 2s. 6d.?

*** A fully qualified medical man should follow the example set by our correspondent, and resign. It is to be regretted that members of the profession lend their influence to the practices followed by this insurance society. However, until the medical men of a locality learn to combine together, and fix the minimum wage or fee, little or no improvement can be looked for, nor is it the duty of the non-medical public to reform the medical profession in this matter. The plan of charging low fees, either at medical charities, tontines, dispensaries, and such like, has been tried, and has been found wanting. Generally, a thing is worth what it costs, and if a man considers his advice or labour worth sixpence, or a little over, he must not grumble if the public take him at his own valuation. At the assize court in a large town, a barrister told the judge that he would get him as many death-certificates as he wished, for from 1s. to 2s. 6d. each. Is this a false statement? All must regret that it is true; but it is also too true that medical men will not combine to wipe out such stains, but will quietly stand aside and let matters go as they please. It would be better if our correspondent treated the society as a charity, than to pretend that a physician can fully examine a person, test and microscopically look to his urine, and fill up a long form, and all for thirty pence.

MEDICAL POACHING.

ASSUMING that the recorded statement of our B—ll—y correspondent conveys a correct representation of the facts of the case, we need scarcely assure him that the conduct of "Dr. McE." therein referred to constitutes a gross breach of professional etiquette, and which we would advise him to submit to the Council of the N. Branch for adjudication, in doing which we would further suggest that he should seek the co-operation of the other medical men who have experienced like treatment frrom the practitioner in question.

To "J. L. N.'s" specific questions we may briefly reply—(1) That unless Dr. McE. retires from the case, we do not see how, under the circumstances related, he can, with any degree of self-respect, accede to the patient's request to continue his attendance; (2) that he will be entitled to recover his fees up to the time of discontinuing his attendance; to the third and fourth we deem it unnecessary to make any reply.

HOSPITAL AND DISPENSARY MANAGEMENT.

PRESSURE ON OUR INFIRMARIES.

A REPLY to the various articles referred to in the JOURNAL of July 28th on the pressure on infirmaries and the average period of residence therein has just been made by Mr. William McEwen, who was for so many years chairman of managersof the Royal Infirmary. Mr. McEwen believes that the longer average residence in recent years as compared to former is due (1) to the absence of fever cases, which were formerly admitted into the infirmary in large numbers. These had an average residence of only sixteen days, and consequently reduced the average of other cases. No fever cases are now admitted. (2) To the great increase in the number of surgical beds as compared with medical, there being now 400 surgical beds and only 200 medical. The importance of this is seen in the great number of operation cases and severe injuries admitted, and the greater success attained in these cases under modern antiseptic methods of treatment. It is now frequently possible to save both lives and limbs that were formerly lost, but at a considerable expense of time and trouble. About twelve ago years statistics were taken of the results of the different kinds of treatment in the hospital in 10,791 cases. At that time there were two surgeons who followed closely the antiseptic treatment, two the semi-antiseptic, and one the old method. The figures were taken for five consecutive years, and in each year the antiseptic method showed a mortality of 2 to 3 per cent., against 4 to 4½ per cent. of the old method. The expense was a little more, and a longer period was required, but when such results are obtained no one can grudge either the time or the expense. From his own observation Mr. McEwen thinks the staff are disposed to reduce the stay in hospital as much as possible, consistently with safety to the patient, and as the infirmary is entirely for curative purposes and not for merely passing through patients in the shortest possible time, it should not be judged by the number of days occupied, but rather by its results. It would diminish the expense and be a great boon to many hospitals if there was a roomy house in the country attached to each, under the charge of an experienced nurse, to which convalescent patients could be removed and have their wounds dressed. Our existing convalescent homes will not receive such patients, and to send them to their own homes with open wounds is only to insure their being brought back again to the hospital worse than when they went away. Mr. McEwen does not see how the present system could be improved upon.

BELFAST HOSPITAL FOR SKIN DISEASES.

THE annual meeting of the subscribers to this institution was held on June 9th at the Hospital, Glenravel Street, Belfast, Professor Hodges, J.P., occupying the chair. The report showed that the number of cases treated during the year was 1,110, the largest number on record. The expenditure for the year was £282 1s. 11d., and the income from all sources £276 11s. 7d. The committee deplored that the annual subscriptions were so small, the amount received from this source being only £48 11s. In spite of the deficit on the year, there was still a small balance in the treasurer's hands to the credit of the institution. The re-election of the committee and a vote of thanks to the chairman brought the proceedings to a close.

BELFAST DISTRICT LUNATIC ASYLUM.

THE fifty-eighth annual report of this institution, which has just been issued by the medical superintendent, Dr. Alexander Stewart Merrick, shows that the admissions during 1887 were—males, 113; females, 97; total, 210. The total number of patients under treatment during the year was—males, 463; females, 348; total, 811. The discharges during the year were—males, 68; females, 81; total, 149. The deaths have been—males, 26; females, 9; total 35. The majority of the patients were between the ages of 25 and 50. There were 28 cases showing suicidal tendencies, 7 cases which refused food, of whom 3 died from inanition. Of the deaths, 35 in number, 9 were due to chronic brain disease, 5 to acute brain disease, 3 to epilepsy, 1 to apoplexy, 4 to phthisis, 4 to congestion of the lungs, 2 to heart disease, 1 to liver disease, 3 to exhaustion, and 3 to senile debility. There was no case of infectious disease during the year, and the general sanitary condition of the institution was excellent. Special attention was given to providing suitable outdoor and indoor employment for the patients. The returns show the importance of early treatment, as in those cases admitted where the disease was of short duration the recovery rate was very high. The institution is at present overcrowded, and the Lunacy Commissioners have advised the provision of accommodation for 300 additional cases. The cost of maintenance of the asylum for the past year amounted to £13,847 4s. 9d., being an average yearly cost per inmate of £22 11s. 9½d.

Dr. Nugent, one of the inspectors, testifies to the continued high state of efficiency maintained by the institution under the direction of Dr. Merrick.

MR. WILLIAM CARTER, one of the coroners for Surrey, has retired from the duties of his office owing to advanced age. The duties are now being performed by Mr. G. Percival Wyatt, coroner for Camberwell.

THE Italian Ophthalmological Association will hold its next meeting at Naples on September 3rd, 4th, 5th, and 6th.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

ENGLISH URBAN MORTALITY IN THE SECOND QUARTER OF 1888.

THE vital and mortal statistics of the twenty-eight towns dealt with by the Registrar-General in his weekly return are summarised in the accompanying table. During the three months ending June last 73,592 births were registered in the twenty-eight large towns, equal to an annual rate of 31.4 per 1,000 of their aggregate population, estimated at nearly nine and a half millions of persons. In the corresponding periods of the three preceding years the birth-rate in these towns was 32.9, 33.1, and 32.4 respectively. The birth-rate in London last quarter was equal to 30.5 per 1,000, while it averaged 32.2 in the twenty-seven provincial towns, and ranged from 23.1 in Brighton, 25.1 in Huddersfield, and 27.9 in Bradford, to 37.0 in Sunderland, 39.5 in Newcastle-upon-Tyne, and 40.2 in Cardiff.

The 42,324 deaths registered in the twenty-eight towns during the second quarter of this year were equal to an annual rate of 18.1 per 1,000, against 20.6, 18.6, and 19.8 in the corresponding periods of the three years 1885-6-7. In London the rate of mortality was only 16.9 per 1,000, while in the twenty-seven provincial towns it averaged 19.1. The lowest rates in these provincial towns were 15.7 in Derby, 16.0 in Birkenhead, and 16.4 in Brighton and in Portsmouth; the highest were 22.0 in Salford, 23.2 in Blackburn, 23.6 in Preston, and 25.6 in Manchester. During the quarter under notice 4,000 deaths were referred to the principal zymotic diseases in the twenty-eight towns, equal to an annual rate of 1.71 per 1,000. In the second quarter of the five preceding years the zymotic death-rate in these towns averaged 2.60 per 1,000. The lowest zymotic rates in the twenty-eight towns last quarter were 0.43 in Portsmouth, 0.58 in Sunderland, and 0.64 in Birkenhead; while they ranged upwards in the other towns to 2.48 in Sheffield, 2.60 in Blackburn, 2.65 in Manchester, and 3.14 in Salford. The 4,000 deaths referred to the principal zymotic diseases included 1,540 which resulted from whooping-cough, 562 from diarrhœa, 523 from scarlet fever, 449 from measles, 404 from diphtheria, 370 from "fever" (principally enteric), and 152 from small-pox. The 1,540 fatal cases of whooping-cough registered in the twenty-eight towns during the quarter under notice were equal to an annual rate of 0.66 per 1,000, which was slightly below the average rate in the corresponding period of the five preceding years. In London the death-rate from whooping-cough was equal to 0.75 per 1,000, while in the twenty-seven provincial towns it did not average more than 0.58, and was highest in Blackburn, Manchester, and Salford. The 562 deaths referred to diarrhœa were equal to an annual rate of 0.25 per 1,000, which was slightly below the rate in recent corresponding quarters. The 523 fatal cases of scarlet fever were equal to a rate of 0.22 per 1,000, which showed a further considerable decline from the rates in the two preceding quarters, and was lower than in any quarter since the second of 1886. The rate of mortality from this disease in London last quarter was 0.22 per 1,000, and corresponded with the average scarlet-fever rate in the twenty-seven provincial towns, among which this disease showed the highest proportional fatality in Halifax, Cardiff, and Blackburn. The number of scarlet fever patients in the Metropolitan Asylums Hospitals, which had been 1,087 at the beginning of April, had declined to 844 at the end of June; the admissions, which had been 1,416 in the first quarter of this year, declined to 1,028 during the three months ending June last. The 449 deaths referred to measles were equal to an annual rate of 0.19 per 1,000, which showed a marked further decline from the rates in recent quarters, and was a lower rate than in any quarter on record. In London the measles death-rate was 0.23 per 1,000, while in the twenty-seven provincial towns it averaged only 0.16, and was highest in Nottingham, Plymouth, and Bradford. The rate of mortality from diphtheria, which had been 0.23 and 0.21 per 1,000 in the two preceding quarters, further declined during the quarter under notice to 0.17, but was higher than in the corresponding period of any of the ten previous years. The death-rate from this disease in London was as high as 0.24 per 1,000, while it averaged only 0.12 in the provincial towns, among which it showed a marked excess in Norwich. The 370 deaths referred to different forms of "fever" (including typhus, enteric, and simple and ill-defined forms of continued fever) were equal to an annual rate of 0.16 per 1,000, against 0.31 and 0.23 in the two preceding quarters. In London the fever death-rate was only 0.14 per 1,000, while it averaged 0.17 in the provincial towns,

Public Health Statistics relating to Twenty-eight Large English Towns, for the Second Quarter of 1888.

Towns.	Estimated Population middle of 1888.	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Zymotic Diseases.	Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Fever.	Diarrhœa.	Rate per cent. of Uncertified Deaths.	Deaths of Children under one year of age to 1,000 Births.
28 Towns	9,398,273	73,592	42,324	31.4	18.1	1.71	4,000	152	449	523	404	1,540	370	562	2.3	132
27 Provincial Towns	5,115,352	41,008	24,295	32.2	19.1	1.63	2,074	151	202	288	150	741	220	322	3.2	138
London	4,282,921	32,584	18,029	30.5	16.9	1.80	1,926	1	247	235	254	799	150	240	1.0	125
Brighton	119,983	691	491	23.1	16.4	1.10	33	—	—	3	8	15	1	6	2.6	119
Portsmouth	139,575	1,233	571	35.5	16.4	0.43	15	—	1	1	3	4	3	3	1.2	108
Norwich	93,675	862	451	36.9	19.3	1.37	32	—	—	3	14	8	3	4	1.1	136
Plymouth	77,674	668	412	34.5	21.3	1.45	28	—	14	1	3	3	4	3	1.0	117
Bristol	226,510	1,713	1,005	30.4	17.8	1.20	68	10	17	14	5	6	5	11	3.7	129
Wolverhampton	81,691	726	425	35.7	20.9	1.97	40	—	6	4	4	14	5	7	2.1	143
Birmingham	447,912	3,445	1,955	30.9	17.5	1.28	143	—	22	15	12	52	19	33	2.9	136
Leicester	146,790	1,252	637	34.2	17.4	1.48	54	—	9	1	5	24	13	2	3.8	150
Nottingham	230,921	1,780	954	30.9	16.6	1.79	103	1	34	18	2	16	19	23	1.7	127
Derby	96,241	717	377	29.9	15.7	1.33	32	1	5	3	—	16	5	2	2.4	141
Birkenhead	100,093	782	399	31.4	16.0	0.64	16	—	—	6	4	2	3	1	1.5	97
Liverpool	599,738	4,508	2,703	30.2	18.1	1.48	221	—	7	32	17	101	29	35	5.8	130
Bolton	113,506	936	597	33.1	21.1	2.09	59	—	5	10	—	21	6	17	2.0	152
Manchester	378,164	3,331	2,408	35.4	25.6	2.65	250	6	7	35	11	128	23	40	3.2	159
Salford	226,336	1,827	1,243	32.4	22.0	3.14	177	—	7	25	12	109	12	12	4.2	169
Oldham	138,220	1,071	725	31.1	21.1	1.42	49	5	—	15	10	8	2	9	1.7	144
Blackburn	119,039	1,010	687	34.1	23.2	2.60	77	3	1	26	—	26	7	14	3.6	191
Preston	103,234	947	606	36.8	23.6	2.02	52	27	1	5	1	2	8	8	1.8	145
Huddersfield	91,419	571	420	25.1	18.4	1.27	29	—	—	8	5	11	3	2	4.0	193
Halifax	80,138	572	398	28.6	19.9	1.35	27	1	4	9	1	10	1	1	5.8	145
Bradford	229,721	1,595	974	27.9	17.0	1.31	75	—	44	5	1	3	6	16	2.3	135
Leeds	351,210	2,840	1,666	32.5	19.0	1.35	118	1	4	17	7	62	11	13	1.3	136
Sheffield	321,711	2,454	1,530	30.6	19.1	2.48	199	84	5	20	11	43	12	24	5.7	144
Hull	202,359	1,609	856	31.9	17.0	1.39	70	9	3	12	5	17	10	14	6.1	132
Sunderland	131,919	1,216	544	37.0	16.6	0.58	19	—	1	—	3	7	3	5	0.9	117
Newcastle-on Tyne	159,003	1,564	773	39.5	19.5	1.06	42	—	2	2	4	24	4	6	1.9	123
Cardiff	108,570	1,088	488	40.2	18.0	1.70	46	—	3	18	2	9	3	11	2.5	112

among which this disease showed the highest proportional fatality in Preston, Nottingham, and Leicester. During the three months ending June last, 152 fatal cases of small-pox were recorded in the twenty-eight towns; of these, 84 occurred in Sheffield, 27 in Preston, 10 in Bristol, 9 in Hull, 6 in Manchester, 5 in Oldham, and 4 in Leeds. Only two cases of small-pox were under treatment in the Metropolitan Asylums Hospitals at the end of June, and 23 cases of this disease had been admitted during the quarter under notice, against 7, 30, and 38 in the three preceding quarters.

The rate of infant mortality in the twenty-eight towns, measured by the proportion of deaths of children under 1 year of age to registered births, was equal to 132 per 1,000 during last quarter, against 133 and 142 in the corresponding periods of the two preceding years. While the rate of infant mortality was only 125 in London, it averaged 138 per 1,000 in the twenty-seven provincial towns, among which it ranged from 97 in Birkenhead, 108 in Portsmouth, and 112 in Cardiff, to 159 in Manchester, 169 in Salford, 191 in Blackburn, and 193 in Huddersfield.

The causes of 955, or 2.3 per cent. of the deaths registered in the twenty-eight towns during last quarter were not certified, either by registered medical practitioners or by coroners. The proportion of uncertified deaths in London did not exceed 1.0, while it averaged 3.2 per cent. in the twenty-seven provincial towns, and ranged from 0.9 in Sunderland and 1.0 in Plymouth to 5.7 in Sheffield, 5.8 in Liverpool and in Halifax, and 6.1 in Hull.

THE OUTBREAK IN AN INDUSTRIAL SCHOOL, GLASGOW.

The Health Committee of the Glasgow Town Council have had under consideration the report by the medical officer on the outbreak of febrile disease in Abercrombie Street Industrial School, and have agreed to recommend: That St. Mary's burying ground should be absolutely closed as a place of sepulture; that a copy of the report be sent to the Secretary for Scotland, with a request to be informed what steps have been adopted with a view to a discontinuance of the school on its present site; and that a copy be sent to the Industrial School, and their attention directed to the terms thereof, with a view to such steps being taken as may be deemed expedient.

VISIT OF THE ASSOCIATION OF SANITARY INSPECTORS TO CROYDON.

On Saturday, July 7th, the Association of Public Sanitary Inspectors paid a visit to the Corporation of Croydon's Sewage Farm, at Beddington, at the invitation of and under the guidance of Dr. Alfred Carpenter. This farm has now been in existence for over thirty years, and at the present time disposes of the sewage of nearly 100,000 people. The system pursued at Beddington is that of broad or surface irrigation, the sewage, when freed from its coarser solid bodies by an extractor, being applied direct to the surface of the land. The effluent water, which at the time of the visit was found to be clear and inodorous, is discharged into the river Wandle, towards which the whole of the farm has an easy natural slope, so that no pumping is required at any point. About 500 acres of land are used for irrigation, but not more than 75 acres are under sewage at one time. There are no storm overflows, so that all the sewage, whether diluted with storm waters or not, must pass over the land—none can enter the Wandle untreated. Italian rye-grass is the staple crop of the farm; it is cut green and sold to cowkeepers who cart it away. Most of it is disposed of in this manner. Roots and vegetables are also raised, but they are not sewaged when growing. They are useful in exhausting the sewage left in the land after three years of rye-grass. The Corporation do not now keep live stock, but horses and cattle are taken in to graze on the pasture lands. The Association inspected the cowsheds of a dairy farmer whose 200 head of cattle are fed chiefly on sewage-grown rye-grass. The beasts were all in fine condition, and apparently free from any trace of disease. The farm pays its working expenses, and last year there was a balance to the good of over £1,000. A rate of threepence in the pound is levied to pay the interest on the capital sunk in the purchase of the farm. In less than forty years the purchase money will be paid off, and the Corporation will then be the absolute owners of this fine freehold estate.

The Association subsequently visited the Corporation's Waterworks in the town, where the water is raised from three borings in the chalk, and the Public Baths, which are supplied with condensed water from the Waterwork's pumping engines.

At the conclusion of a dinner in the Public Hall, Croydon, at which the members of the Association were the guests of Dr. Carpenter, Dr. Carpenter expressed his pleasure in welcoming so useful a body of public servants as the sanitary inspectors. In his opinion, the more general adoption of sewage farming by sanitary authorities as a mode of disposing of the sewage of towns would tend to obviate the necessity for small allotments, which were only resorted to as a means of preventing the agricultural labourer being driven into the already overcrowded towns. Sewage farms not only gave employment for a large number of hands, but raised enormous crops, which could be converted into milk and meat, and so tended to keep down the price of these necessities. There was no ground for saying that sewage farms depreciated the value of property in their neighbourhood. At Beddington, the rateable value of property had increased fourfold within the last twenty-five years. He believed that the villas bordering the sewage farm were rarely unoccupied. As to its influence on health, the men employed on the farm were in the best of health. No case of infectious disease amongst them had ever been traced to the irrigation of the land with sewage. In like manner, no epizoötic or entozoic disease had ever been known to affect the cattle fed on sewage-grown produce, which could be traced to the sewage. There never had been any proof that sewage farming injured either man or beast.

Dr. Thompson, a member of the Croydon Town Council, said that although, twelve years ago, Croydon was in a very insanitary condition, enteric fever being almost endemic there, it was now the healthiest large town in the country, as evidenced by its low death-rate. Beddington had even a lower death-rate than Croydon.

Mr. Alderman Grundy, Chairman of the Beddington Farm Committee; Mr. Alexander, and other gentlemen, addressed the meeting, and the procedings terminated with a vote of thanks to Dr. Carpenter.

Health of English Towns.—During the week ending Saturday, August 4th, 5,729 births and 2,881 deaths were registered in the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had been 16.0 and 15.8 in the two preceding weeks, rose again to 16.0 during the week under notice. The rates in the several towns ranged from 9.0 in Bristol, 10.0 in Brighton, 12.0 in Cardiff, and 12.4 in Hull to 18.8 in Sheffield, 19.2 in Wolverhampton, 21.1 in Huddersfield, and 21.9 in Manchester. The mean death-rate in the twenty-seven provincial towns was 15.0 per 1,000, and slightly exceeded the rate recorded in London, which was 15.9 per 1,000. The 2,881 deaths registered during the week under notice in the twenty-eight towns included 432 which were referred to the principal zymotic diseases, against 311 and 409 in the two preceding weeks; of these, 215 resulted from diarrhœa, 64 from measles, 61 from whooping-cough, 39 from scarlet fever, 27 from diphtheria, 21 from "fever" (principally enteric), and 5 from small-pox. These 432 deaths were equal to an annual rate of 2.4 per 1,000; in London the zymotic death-rate was 2.7, while in the twenty-seven provincial towns it averaged 2.2 per 1,000, and ranged from 0.0 in Brighton and Cardiff, and 0.3 in Newcastle-upon-Tyne to 4.2 in Sheffield, 4.3 in Leeds, and 4.6 in Leicester. Measles caused the highest proportional fatality in Wolverhampton; scarlet fever in Huddersfield and Blackburn; whooping-cough in Birmingham, Norwich, and Manchester; "fever" in Birkenhead; and diarrhœa in London, Leeds, Preston, Leicester, and Sheffield. The 27 deaths from diphtheria in the twenty-eight towns included 19 in London and 3 in Manchester. Of the 5 fatal cases of small-pox recorded during the week under notice, 2 occurred in Preston, 1 in Sheffield, 1 in Hull, and 1 in Oldham. The Metropolitan Asylums Hospitals contained only 2 small-pox patients on Saturday, August 4th, and one patient was admitted during the week. These hospitals also contained 768 scarlet-fever patients on the same date, against numbers declining from 844 to 787 in the four preceding weeks; there were 68 admissions during the week, against 95 and 78 in the two preceding weeks. The death-rate from diseases of the respiratory organs in London was equal to 2.0 per 1,000, and was below the average.

Health of Scotch Towns.—During the week ending Saturday, July 28th, 796 births and 387 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had been 13.1 and 18.4 per 1,000 in the two preceding weeks, declined again to 15.3 during the week under notice, and

was 0.5 per 1,000 below the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Aberdeen and Greenock, and the highest in Perth and Paisley. The 387 deaths in these towns during last week included 41 which were referred to the principal zymotic diseases, equal to an annual rate of 1.6 per 1,000, which was 0.7 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic rates were recorded in Greenock and Dundee. Of the 171 deaths registered in Glasgow, 6 resulted from whooping-cough, 5 from measles, 5 from diarrhœa, 2 from "fever," 1 from diphtheria, and 1 from scarlet fever. The mortality from diseases of the respiratory organs in these Scotch towns during the week under notice was equal to 1.9 per 1,000, and corresponded with the rate in London.—In the eight principal Scotch towns, 810 births and 402 deaths were registered during the week ending Saturday, August 4th. The annual rate of mortality, which had been 18.4 and 15.3 in the two preceding weeks, rose again during the week to 15.9, and almost corresponded with the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns, the lowest rates were recorded in Perth and Leith, and the highest in Glasgow and Aberdeen. The 402 deaths in these towns during the week under notice included 38 which were referred to the principal zymotic diseases, equal to an annual rate of 1.5 per 1,000, which was 0.9 below the mean zymotic rate during the same period in the large English towns. The highest zymotic rates were recorded in Paisley, Glasgow, and Dundee. The 184 deaths registered in Glasgow during the week included 12 from diarrhœa, 3 from measles, 3 from whooping-cough, 3 from "fever," 1 from scarlet fever, and 1 from diphtheria. The mortality from diseases of the respiratory organs in these towns was equal to 2.3 per 1,000, against 2.0 in London.

MEDICAL MEMBERS OF LOCAL BOARDS.

THE position of many medical officers of health is not an enviable one. They have many difficulties to contend with, and they often find themselves in disagreement with their boards or sanitary committees on matters which they regard as most directly concerned with the proper maintenance of the public health, but in which the authorities are, for various reasons, loth to move. It is evidently the duty of all medical men, more especially of those who are themselves members of local boards, to assist the medical officer of health in his efforts to promote the public health, and to estimate his services, which are often onerous and difficult, at their proper value.

We are sorry to find that a medical member of the Rawmarsh Local Board, at a recent meeting of the Board, saw fit to animadvert in strong terms on the conduct of the medical officer of health, who had ordered the removal to the small-pox hospital, with the consent of the Chairman of the Hospital Committee, of a case of enteric fever, the patient being lodged in an overcrowded house in a crowded district. The medical member alluded to thought it was unnecessary to remove a typhoid case at all, and objected to the removal to hospital as involving unnecessary expense to the ratepayers. At a later stage of the meeting the same gentleman objected to the medical officer of health receiving extra remuneration for extra work performed during a period of epidemic small-pox.

The medical officer's salary does not appear to be a high one (£60 per annum altogether as medical officer of health and hospital surgeon), and half of the extra fees, which amounted in all to £20, would have been allowed by the Local Government Board. If there is no *esprit de corps* in the medical profession, and if medical men strive to depreciate each others' services, it is not to be wondered at that the public and local boards should themselves form a low estimate of the value of the responsibilities and duties of medical officers of health.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

BOURNEMOUTH (Population 27,300).—The climatic advantages of Bournemouth attract to that favourite seaside resort numbers of visitors in search of health, who remain for lengthened periods, or who succumb to their maladies while resident in the town. In estimating the death-rate, therefore, Mr. T. Kinsey-Morgan, on the ground that these visitors make up a great part of the population, does not exclude the deaths of visitors. During 1887, 419 deaths occurred in the town, of which 142 were of visitors, and these yield a death-rate of 16.3 per 1,000. An analysis of the death-causes shows that by far the largest proportion was of chest affections, the total under this heading being 162. Of these 95 were from pulmonary consumption. The deaths from the principal zymotic diseases numbered 31; 6 were due to diphtheria and croup, 17 to whooping-cough, and 12 to diarrhœa; measles and scarlatina were prevalent at different periods of the year, but there were no deaths from these causes nor from fever, of which 6 cases, all imported, came under notice. As regards sanitary matters, Bournemouth seems to be well supervised. There is a good system of sewers. The water-supply is of good quality, and although at present it is an "intermittent" service, there is good reason to believe that the recent extension of the filter beds and reservoirs will enable a "constant" supply to be provided throughout the town. The town's refuse matter is destroyed in a public "destructor," and the efforts are unremitting to secure general cleanliness and wholesome conditions. A hospital for infectious cases and a "quarantine" cottage for doubtful cases are provided, at both of which institutions patients may be attended by their own medical man.

BRACKLEY RURAL.—In spite of a rather serious outbreak of diphtheria at the close of the year, Dr. J. C. Bradshaw's report for 1887 is the most favourable he has yet been able to make. There was a marked reduction in the death-rate (14.4 per 1,000), as compared with 17.4 in 1886, the total number of deaths being 143. Of these, 70 were persons of 66 years and upwards. The principal zymotic diseases caused only 12 deaths: scarlatina 2, diphtheria 2, and measles and whooping-cough 4 each. The cause of the outbreak of diphtheria could not be traced; but it is significant that the drainage is not good, and altogether it is one of the least satisfactory portions of the district.

BRAINTREE RURAL (Population, 20,481).—*Severe Epidemic of Measles.*—Mr. C. E. Abbott, in his annual report for 1887, says the number of outbreaks of infectious disease under observation were few, compared with some previous years, though the district was by no means free from sickness. He remarks that there is every reason to believe that zymotic disease was more prevalent during 1887 than in any year since the formation of the district in 1881, owing to the extensive outbreak of measles, which began early in the year in the urban district, and, spreading to the parish of Bocking, afterwards became general. No fewer than 285 cases are contained in the returns of pauper sickness from January to July, so that, in all probability, upwards of 1,000 cases occurred during the first half of the year. The mortality was not large, 25 deaths being referred to this cause. These, with other 10 deaths from various diseases, brought up the zymotic death-rate to 1.7 per 1,000, against 0.83 in the previous year. One fatal case of typhus fever was recorded, but there were no deaths from scarlet fever.

STROUD URBAN AND RURAL (Populations, 9,535-28,054).—*Isolation Hospital and means of Disinfection needed.*—The vital statistics of these districts for 1887 were very favourable, the death-rate for the rural district, 15.04 per 1,000, being the lowest ever recorded, and for the urban, 16.7, the lowest but one, the exception being in 1885. Mr. T. Partridge, the medical officer of health, states that zymotic diseases have largely raised the mortality during the past three years, and, during 1887, measles were very prevalent and fatal, causing 30 deaths in the two districts, or more than half the entire zymotic mortality. Several schools were closed, owing to the absence of a large percentage of the scholars through illness. Scarlet fever existed in several parts of the rural district during the spring, and at the close of the year attacked the town, causing 3 deaths. Mr. Partridge complains of the difficulties he experienced in having no proper means for isolation or disinfection, and states that, in the absence of some better means of prevention, it is impossible to stay the spread of disease. Enteric fever caused one death in each district, and there were two fatal cases of diphtheria in the rural district, all more or less in connection with sanitary defects. There was no epidemic prevalence of diarrhœa. Several parts of the rural district are in great need of a better water-supply; and it is to be hoped that the Stroud Water Company, who have a monopoly in the district, will push forward as quickly as possible the much-needed works of improvement.

SUCCESSFUL VACCINATION.—Mr. George Ashmead, L.R.C.P., L.R.C.S.Edin., of Brierley Hill, Staffordshire, has received the Government grant for successful vaccination, first class.

MEDICAL NEWS.

MEDICAL VACANCIES.

The following Vacancies are announced:

BELGRAVE HOSPITAL FOR CHILDREN.—Resident House-Surgeon and Assistant Secretary. Appointment for six months. Salary at the rate of £30 per annum, with board and residence. Applications by September 15th to the Honorary Secretary, 79, Gloucester Street, S.W.

BOROUGH OF SHEFFIELD LODGE MOOR HOSPITAL FOR THE TREATMENT OF INFECTIOUS DISEASE.—Resident Medical Officer. Salary, £150 per annum, with board, lodging, and attendance. Applications by August 28th to J. W. Pye-Smith, Esq., Town Clerk.

BOROUGH OF SHEFFIELD WINTER STREET HOSPITAL FOR THE TREATMENT OF INFECTIOUS DISEASE.—Resident Medical Officer. Salary, £200 per annum, with board, lodging, and attendance. Applications by August 28th to J. W. Pye-Smith, Esq., Town Clerk.

CHELTENHAM GENERAL HOSPITAL.—Resident Surgeon for the Branch Dispensary. Salary, £180, with partly furnished house, etc. Applications by September 15th to the Honorary Secretary.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITAL, Grafton Street.—Resident Medical Officer. Salary, £100 per annum, with board and residence. Applications by August 27th to the Town Clerk, Municipal Buildings, Liverpool.

EDINBURGH CITY POORHOUSE, Craiglockhart.—Resident Medical Officer. Salary, £80 per annum, with board. Applications by September 12th to Mr. G. Greig, Inspector.

GENERAL HOSPITAL, Birmingham. — Assistant House-Surgeon. Board, residence, etc. Applications by September 1st to the House Governor.

GENERAL HOSPITAL, Nottingham.—Junior Resident Medical Officer. Salary, £100 per annum, with increase, board, residence, etc. Applications by August 29th to the Chairman of the Weekly Board.

GENERAL INFIRMARY, Leeds.—Resident Medical Officer and Pathologist. Salary, £100 per annum, with board, residence, etc. Applications by September 15th to the Secretary of the Faculty.

KING'S COUNTY INFIRMARY, Tullamore. — Surgeon. Salary, £94 per annum. Personal attendance on August 27th at 12 noon.

LIVERPOOL NORTHERN HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum, with board and residence. Applications by August 27th to the Chairman of the Committee.

NATIONAL LYING-IN HOSPITAL, Dublin.—Assistant to the Master. Applications to Dr. Roe, 13, Lower Fitzwilliam Street, Dublin.

PARISH OF OCHILTREE.—Medical Officer. Salary, £20 per annum. Applications by August 27th to Mr. Andrew Smith, Inspector of the Poor, Ochiltree, Ayrshire, N.B.

ROTHERHAM HOSPITAL.—Assistant House-Surgeon. Board, residence, etc. Applications by September 8th to the House-Surgeon.

ROYAL BERKS HOSPITAL, Reading.—Assistant House-Surgeon. Board and lodging. Applications by August 28th to the Secretary.

ROYAL HOSPITAL OF BETHLEM.—Assistant Medical Officer. Salary, £300 per annum, with furnished residence. Applications by September 4th to J. Baggallay, Esq., Bridewell Hospital, 14, New Bridge Street, E.C.

SWINFORD UNION, Low Park Dispensary.—Medical Officer. Salary, £120 per annum, and fees. Applications to Mr. James C. Brady, Honorary Secretary, Hagfield, Charlestown. Election on August 31st.

UNIVERSITY OF ABERDEEN.—Chair of Chemistry. Applications by September 15th to R. Walker, Esq., M.A., University Library, Aberdeen.

WINCHCOMB UNION (No. 2 District).—Medical Officer. Salary, £65, with fees. Applications by September 6th to J. H. Stephens, Clerk, Winchcomb.

MEDICAL APPOINTMENTS.

BARCLAY, W. M., M.R.C.S., L.R.C.P., appointed Assistant Surgeon to the Bristol General Hospital, *vice* W. J. Penny, F.R.C.S.Eng., L.R.C.P.Lond., resigned.

FLETCHER, G. R. J., M.R.C.S.Eng., L.S.A.Lond., appointed House-Surgeon to the Worcester General Infirmary, *vice* T. P. Gostling, L.R.C.P.Lond., M.R.C.S.Eng., resigned.

GIDLEY, G. G., M.R.C.S., L.R.C.P., L.S.A., appointed House-Surgeon to the Morpeth Dispensary, *vice* A. C. Dutt, M.B., L.S.A., resigned.

HALLIDAY, Andrew, M.B., C.M., appointed House-Surgeon to the Dumfries and Galloway Royal Infirmary, *vice* W. D. Grieve, M.B., C.M.Edin., resigned.

HASTINGS, E. B., M.R.C.S., L.R.C.P., appointed Resident Clinical Assistant to the South-Eastern Fever Hospital, New Cross, S.E.

LAWRIE, W. J., M.D., appointed Visiting Surgeon to Ayr County Asylum.

LAXTON, T. L., L.R.C.P., M.R.C.S., appointed Medical Officer and Public Vaccinator to No. 3 District, Bridgwater Union, and Public Vaccinator to the Borough of Bridgwater.

LUND, H., M.B., B.C.(Camb.), F.R.C.S.Eng., appointed Honorary Surgeon to the Hulme Dispensary, Manchester, *vice* John Broadbent, M.R.C.S., resigned.

MACKEITH, W. D., M.B.Glas., L.R.C.S.Edin., and L.M., re-appointed Medical Officer to the Parish of Kirkmabreck, N.B.

MADDICK, E. Distin, F.R.C.S., L.R.C.P., appointed Assistant Medical Officer to the Italian Hospital.

MORAN, M. J., M.B., L.R.C.S.I. and L.M., appointed Medical Officer to the No. 2 Dispensary District, Carrick-on-Suir Union.

RUTHERFORD, H. T., M.B., M.R.C.P., appointed Physician to the Out-department of the Samaritan Free Hospital for Women, *vice* R. Boxall, M.D., resigned.

TINKER, W., L.R.C.P.Edin., L.R.C.P.Lond., appointed Assistant House-Surgeon to the East Suffolk and Ipswich Hospital.

MESSRS. COE and HUNTER, summoned as "Doctors" of the American Dental Association, 44, Finsbury Square, for having used the letters D.D.S., or some other name, title, or description implying that they were registered under the Dentists' Act, 1878, or were specially qualified to practise dentistry, they not being registered, have been each fined £5 and costs. The magistrate observed that the Act sought to protect the public against quacks and knaves by the following among other provisions: "Persons styling themselves dentists must be on the *Register*, and are liable to be struck off for misconduct. Before being registered they must satisfy the General Registrar that they have proper certificates of competency, and only such foreign certificates are admissible for the purpose as are recognised in the list published by the General Council." Certificates from Pennsylvania University and Boston College were not included in that list. If, he added, persons by merely substituting such equivalents as "dental surgeon" or "doctor of dentistry," or, as the defendants have done here, "doctor of dental surgery," could escape, the protection to the public would be slight indeed. The defendants intimated that they would give notice of appeal.

SOME PARISIAN STATISTICS.—The following statistics have recently been collected by the officials of the prefecture of the Seine. There are in Paris 6,386 persons over 80 years of age, 2,747 between 85 and 90, 640 beyond 90, and 138 beyond 95; there are 20 centenarians, of whom 11 are men and 9 women. Of the former 1 is a bachelor, 1 is married, and 6 are widowers; of the latter 1 is an old maid, 1 a married woman, and 7 are widows. The proportion of married people is less in Paris than in the rest of France, while widowers and especially widows are relatively more numerous in the capital than elsewhere.

SPECIALISM IN FRANCE.—The report of Dr. Damaschino, urging that three *agrégés* out of five should be required to take up a specialty immediately on their *agrégation*, has been approved by the Council of the Paris Faculty of Medicine and an official sanction has thus been given to a movement, which, though irrepressible, has hitherto been discountenanced by those who claim to rule the destinies of the profession. The specialities to be chosen at present comprise ophthalmology, experimental and comparative pathology, hygiene, forensic medicine, mental diseases and cutaneous and syphilitic disorders. Later on, therapeutics, nervous diseases, and the diseases of children are to be added to the list.

THE town of Osnabuck is said to have been visited by an extraordinary epidemic of ophthalmia. A report received in Berlin from the affected town states that there is hardly a house which has not one at least of its inmates stricken.

MR. GORDON JONES, a dentist at Brixton, committed suicide at the Galen Club on Saturday last.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

ADENEY.—On the 21st instant, at Tunbridge Wells, the wife of Edwin Leonard Adeney, M.D.Lond., of a son.

ALEXANDER.—On August 10th, at 57, Great Western Road, Glasgow, the wife of T. G. Alexander, M.B., M.R.C.S., of a daughter (Jane Marjorie Graham).

SKRIMSHIRE.—On August 18th, at Chantry House, Morpeth, Northumberland, the wife of Fred. W. Skrimshire, Medical Officer of Health, of a daughter.

MARRIAGES.

CLAY—HESTER.—At Kimo, Gundagai, on June 28th, by the Rev. R. J. R. Edwards, William Rudolph Clay, M.R.C.S., L.R.C.P.Lond., of Rockdale, eldest son of the Rev. W. French Clay, M.A., M.D., late of the Indian Medical Service, to Rosa Catherine, eldest daughter of the late James Hester, M.D., Indian Medical Service, and stepdaughter of T. F. Waller, Esq., Sydney.

HUDSON—BLAND.—On August 21st, 1888, at St. Martin's Church, Leeds, by the Rev. T. S. Fleming, Vicar of St. Clement's, assisted by the Rev. E. B. Bland, B.A., Curate of Revesby, Lincolnshire, cousin of the bride, Theodore Joseph Hudson, M.D., L.R.C.P.Lond., of 110, North Street, Leeds, and Skidby Vicarage, Hull, to Clara Bland, younger daughter of the late S. Y. Bland, Esq., Burnsall-in-Craven, and of Mrs. Bland, Newton Grove, Chapel Allerton, Leeds.

PURSLOW—HATCHETT.—On August 22nd, at St. Michael's Church, Ravenstone, by the Rev. J. T. Alderson, Rector of the Parish, assisted by the Rev. E. Hallett Todd, Rector of Stretton-en-le-Field, and the Rev. Geo. Crossley, Vicar of Bredon-on-the-Hill, Charles Edwin Purslow, M.D.Lond., 1892, Broad Street, Birmingham, to Alice Jane, only daughter of Joseph Hatchett, M.D., Ravenstone, Ashby-de-la-Zouch.

WITHERS—OLIVER.—August 18th, at St. Andrew's Church, Nottingham, by the Rev. F. W. Paul, M.A., John Sheldon Withers, M.R.C.S., L.R.C.P., of The Grove, Sale, Cheshire, to Hannah Mary, daughter of the late Thomas Oliver, Fern Lodge, Sherwood Rise, Nottingham. No cards.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's—1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

PAROXYSMAL SNEEZING.

MEMBER writes: I have a case of paroxysmal sneezing in a middle-aged gentleman, who is otherwise healthy. There is no history of gout. Having failed to give him any relief myself, I should be grateful for any suggestions from any member who has had similar cases. I ought to mention that the sneezing is more frequent in the winter months.

ANSWERS.

NEMO.—We do not recommend individual practitioners.

P. F. ROBERTSON.—The letters of Mr. Ernest Hart. "A Winter Trip to the Fortunate Islands." have been republished in book form by Messrs. Smith, Elder, and Co., 15, Waterloo Place, W., price one shilling.

SANITAS.—We should advise you to apply to the Secretary of the Parkes Museum, Margaret Street, W.

CHLORAL HYDRATE IN MIDWIFERY.

DR. JOHN PHILLIPS (London) writes: One case only has been reported of death from chloral administered during labour, and it can be found in a paper by Kane, of New York, in *Amer. Journal Obstet.*, Vol. xiv, No. 2. Fifteen grains were given every fifteen minutes, four times, and then twenty grains, fifteen minutes later. The patient thus took eighty grains in seventy-five minutes. Deep narcotism, with stertorous breathing and feeble pulse, followed. There is a short and excellent article on the subject to be found in *Amer. System of Gyn and Obstet.*, Vol. i (*Obstetrics*), p. 683, by Dr. Reeve.

CEREBRAL LOCALISATION.

BRAIN.—The titles of Dr. Ferrier's books are: *The Functions of the Brain*, 2nd Edition, 1886; *Localisation of Cerebral Disease*, 1878 (Smith, Elder and Co). The most recent work is Byrom Bramwell's *Intracranial Tumours*, 1888 (Young J. Pentland, Edinburgh). The handbooks of Ross, Gowers, etc., treat of the subject along with other diseases of the nervous system.

ROOMS FOR STUDENTS.

PENDAVEY.—Temple Chambers, on the Embankment, near Bouverie Street, Fleet Street, might be suitable. Some account of them was given in the JOURNAL of January 22nd, 1887, p. 187.

THUJA OCCIDENTALIS IN WARTS.

EATON W. WATERS, M.B., M.Ch., M.A.O. (Tramore), writes: In reply to "Allopath," I can state that I have used "thuja occidentalis," both internally and externally, in a case of warts (Verucea exanthematosa), but without any benefit. I also tried Sir Erasmus Wilson's treatment (Quain's *Dictionary of Medicine*), namely, arsenic internally, and an ointment of tar locally, but with a like result. Chrysophanic acid ointment, salicylic acid, and electrolysis gave in succession also a negative result, although each was persevered with. Finally I carefully applied nitric acid and destroyed them individually. I had held this treatment in reserve for fear of scarring the patient (a young lady), but was much pleased to find that the scars were not noticeable, being hardly perceptibly whiter than the surrounding skin. This, being only one case and that not of the ordinary variety, is not much evidence against the drug, so, like "Allopath," I should like to hear some good reports of "thuja."

VARIOLOID AND VARICELLA.

S. A. T. writes: Will you inform me briefly as to the differential diagnosis between small-pox modified by vaccination (varioloid) and chicken-pox (varicella)? Also as to the infectiousness of the former in comparison with small-pox, and whether it gives rise, when transmitted to others, to true small-pox or a modified form of small-pox?

*** Small-pox, whether modified by a former attack or by a previous vaccination—varioloid—begins with marked symptoms, such as backache or sudden *malaise* two days before the eruption, so that there is always a day's interval between the first febrile symptoms and the appearance of the spots. In varicella, on the other hand, spots appear within a few hours—never more than one day—from the first symptoms of illness, when these are sufficiently marked to attract attention. In modified small-pox the fever falls rapidly as the eruption appears, even if severe at the ingress. In varicella the fever, if of a degree sufficient to be marked, increases slightly as the successive spots continue to come out for two or three days. The infection of modified small-pox does not persist so long as in a first attack, but it sets up the severe and unmodified disease in an unvaccinated person or in one unprotected by a previous attack.

NOTES, LETTERS, ETC.

AN APPEAL.

SINCE the last insertion of this appeal (August 11th, p. 330) the following additional subscriptions have been received.

	£	s.	d.		£	s.	d.
Dr. Pye Smith	2	2	0	Mr. Tyte, Worthing... ...	1	1	0
Berkeley Hill, Esq.	1	1	0	Mr. Jones Leigh	0	10	0

THE L.S.A. QUALIFICATION.

FAIR PLAY writes: I can well understand the meaning of your correspondent, "L.S.," in his letter to the JOURNAL of August 18th. Clearly he was not aware of the changes that had taken place in the extent and character of the examination for the L.S.A., which have been in existence since June, 1887. This is only natural, as although a candidate has now to pass a severe examination in medicine, midwifery, and surgery; still, all he gets for the said examination, if successful, is the title L.S.A.; that is, the General Medical Council register him as L.S.A.; surely this is most unfair. Patients often consult medical directories nowadays, and no doubt would form a very poor opinion of the man with one qualification, say L.S.A., as compared with the other who had passed an examination in identically the same subjects, but yet was L.R.C.P., M.R.C.S. In common justice to the men who have passed the "Hall" since June, 1887, let us hope that there will soon be a change.

Medicine and Atheism.

Senior writes: Before reading Dr. Gairdner's address in the Journal, p. 282, I was under the impression that "*ubi tres medici, duo athei*," was Hoffmann's, and that it occurred in his *Medicus Politicus*. It is now many years since I read Hoffmann, and I may be at fault, not having his works at hand myself. Probably some of your readers who have may feel inclined to look into them, and may give us the result of their research.

Edinburgh University Pass List.

We are asked to state that Mr. Edward Brooks was unavoidably prevented from attending the graduation ceremony on August 1st, to receive the degree of M.B., C.M., which he obtained at the last final examination. He will consequently have to wait till November before he can be "capped."

Hypodermic Syringes.

Mr. John James Serres (Osgathorpe, Loughborough) writes: As hypodermic injections are now very much in vogue, I wish to call attention to the syringes. A medical friend of mine and myself tested a lot of syringes by various makers, and found that nearly every one varied from 5 m. to 7 m.; thus, two or three supposed to hold 10 m. held 17 m. As we are so careful about our thermometers being graduated according to Greenwich, ought we not to be more careful over our hypodermic syringes?

"M.S.Durham," for Practitioners.

Chirurgia writes: I had fully hoped to see in the Journal for August 11th, an answer to your correspondent "M.D., M.S.Durh., M.R.C.S.E.Eng.," who so strongly expresses his objections to the institution of a M.S. degree for practitioners of fifteen years' standing.

The gist of his objections seems to be that the granting of the degree would be in the first place an injustice to those who have obtained it after residence, and in the second place unbecoming to the dignity of the University. I desire to combat both these propositions, and I can do so the more freely in that I received my M.D. there after the usual residence.

Now, whether or no the men who obtain their degree after residence suffer injustice, depends on the antecedent question "Does the typical 'fifteen years' man,' by his professional standing, enhance or depreciate the value of the degree?" For, if their standing be such that they increase its value, then there can be no injustice to anyone in granting it to them. Again, if they increase its value, then the second objection falls, for the dignity of the University will not be lessened by granting its degree to recipients who are worthy of it.

Thus the question is narrowed to this, "What is the professional standing of the typical 'fifteen years' man?" So far as I have seen, he is the picked man of his neighbourhood, he is the local consultant, he is the man who has already attained a high professional position, and desires to obtain the "hall mark" which shows it. So he turns to the only University which recognises his value. He has not only to pass a severe examination at Durham, but, before he can enter, he must have passed the remorseless examination of the world. He is not the man who lessens the value of a degree.

The position of the proposed M.S. is obviously the same as that of the existing M.D. for practitioners. If the latter is a wise institution, so also must the former be, and this cannot be too warmly pressed upon the authorities of the University.

Extraordinary Vitality in a Child.

Dr. W. A. Thomson (Ampthill) writes: The following narrative may, perhaps, be of some interest: On Tuesday, July 17th, two children, aged respectively 4½ and 5 years, left their homes shortly after their dinner at 1 o'clock. They were seen during the afternoon playing together by the side of a pond, with shoes and socks off their feet, by a passing labourer, who shouted to them to leave the water, and it appears that the boys ran away frightened in different directions. The eldest boy arrived home some hours later on, and stated that he had lost his companion and knew nothing as to what had become of him. Search was made about the roads and paths where the children had been seen, but to no purpose. It was now getting dark, and, the police being informed, a large party started off in search, some with lanterns and some with St. Bernard and retriever dogs. Rain fell nearly all that night, but the search was continued, night and day, for several days. It rained heavily frequently during this period.

All hope of finding the child was now abandoned. However, on the Sunday morning following (July 22nd) some young men and boys were having another look round the fields, when, at about 10 A.M., one of them thought he heard some groaning in a field of wheat near to him, and, on going there, found the little boy sitting on the ground, not very far from the pathway. He was sitting upon his coat, with his little trousers drawn down over his feet, and crying out: "Mother, Mother! I am so hungry!"

How long he had been in that spot and in that condition of attire we cannot make out, and he is too young to give much explanation. When found he appeared to be in a semi-conscious state, and did not seem to know those around him; but after some hours he recognised his mother and brothers. With suitable treatment the child has completely recovered, without any subsequent illness which might be induced by starvation or exposure to wet and cold for the long period of five days and nights, counting from the dinner-hour on Tuesday until 10 A.M. on the Sunday following.

During this time, as far as anyone knows, the child had nothing to eat except the heads of growing wheat (which was in very poor condition at that time). He told me that he had eaten some, and we may presume he sucked water off the wheat and grass about him. Curiously enough, the child had out with him a small tin box without any lid, and he states that he tried to catch rain-water in it, but could not get any; the wheat being very high probably prevented him doing so, and also most likely kept him fairly dry. In appearance the child did not seem much the worse for his prolonged fast, and seemed as plump as any ordinary child; but the mother states that he was an unusually strong and fat boy.

Taking all things into consideration—the child's age, no proper food or drink for over 117 hours, the exposure to the wet and cold weather prevailing at the time, the misery and the loneliness it must have endured for so long a period—it seems somewhat remarkable that life was preserved.

Erratum.

In the summary of proceedings in the Section of Ophthalmology, published in the Journal of August 18th, the name of Mr. C. G. Lee was erroneously given in one place as "C. H. Lee," and in another as "C. Lee."

COMMUNICATIONS, LETTERS, etc., have been received from:

Sir Geo. H. B. Macleod, Glasgow; Nemo; Dr. James Dewar, Buxton; Dr. Fisher, Lytham; Messrs. T. and R. Annan, Glasgow; Mr. J. de Courcy Young, Lewisham; Miss Palmer, Drew: Jordan Lloyd, M.B., Birmingham; Dr. Paterson Corrie, Arran; Mrs. Crisp, Keynsham; J. Mackie Whyte, M.B., Dundee; Dr. A. Ogier Ward, Lower Tottenham; Messrs. Thos. Pearse, Son, and Co., Darlington; Dr. Carmichael, Edinburgh; Dr. Nunn, Royat-les-Bains; Mr. R. S. Sleman, Bromley; Sir Edmund Lechmere, London; Mr. R. Stuart Sanderson, London; Mr. Alex. D. H. Leadman, Boroughbridge; Mrs. E. Browett, London; Dr. W. Carter, London; Mr. Charles Truax, London; Mr. Richard Jones, Bradford-on-Avon; Mr. W. Arthur Dickson, Bridge of Allan; Mr. A. Sutcliffe, Burnley; Mr. Alexander Fraser, Edinburgh; Mr. J. Vesey Fitzgerald, Birmingham; Dr. Glaister, Coln; Rev. G. Howard Wright, London; Dr. J. Crawford Renton, Glasgow; Dr. Jas. Ramsay, York; T. G. Alexander, M.B., Glasgow; Messrs. Garrard and Cowan, Sheffield; Mr. E. Stanmore Bishop, Manchester; Our Manchester Correspondent; the Registrar-General, London; Mr. T. H. Bickerton, Liverpool; Dr. Andrew Smart, Edinburgh; Dr. Francis Warner, London; Dr. Macewen, Glasgow; Professor Benedikt, Vienna; Mr. Joseph Welsh, Knighton, Radnor; Dr. Partridge, Stroud; Mr. G. Rice, Derby; Dr. Cremin, Cork; Mr. W. H. Bennett, Coleraine; Sir William Mac Cormac, London; Dr. C. Lewis, Birmingham; Messrs. T. Christy and Co., London; Parish Doctor; Mr. Carl Lawinski, London; Mr. T. Burnell, Criccieth; Dr. Tatham, Salford; Mr. F. H. Appleby, Newark; J. S. Butler, M.B., Rotherham; Mr. W. A. Johnston, Ambleside; Mr. T. L. Laxton, London; Dr. E. Leonard Adeney, Tunbridge Wells; Dr. Macintyre, Glasgow; Dr. J. Gage-Parsons, Bristol; Dr. Black, Newcastle-on-Tyne; Dr. J. Phillips, London; Mr. C. E. Adams, London; Mr. G. A. Montgomery, Briton Ferry; Mr. J. J. Serres, Osgathorpe; Mr. F. Vasey Adams, Glasgow; C. Smelt, M.B., Marlborough; Dr. C. Bell Taylor, Nottingham; Dr. P. F. Robertson, Glasgow; Dr. Roe, Dublin; Messrs. Anderson and Adams, Dublin; Mr. Wm. Berry, Wigan; Dr. A. J. Hubbard, Hemel Hempstead; Mr. F. F. Peet, Tralee; Mr. G. Russell Beardmore, London; Mr. C. G. Lee, Liverpool; Dr. Ferrier, London; Professor Victor Horsley, London; Mr. Oliver Withers, Nottingham; E. Hobhouse, M.B., London; Mr. F. Hudson, Slingsby; Dr. S. Moore, Glasgow; Mr. P. S. Hutchinson, London; Sir William C. Hoffmeister, Osborne; Messrs. Burroughs and Wellcome, London; Mr. Eardley Bailey Denton, London; Dr. J. Swain Scriven, Duffield; G. Washington Isaac, M.B., London; Dr. J. Holmes Joy, Tamworth; Dr. A. J. Wharry, Malvern; H. T. Rutherford, M.B., London; Dr. Henry Bartlett, London; Mr. Alfred Corrie, Devonport; Mr. C. C. Blake, London; Dr. Lodge, Bradford, Yorkshire; Mr. James Milner, Shipdham, Norfolk; Dr. W. H. Myers, Fort Wayne, Indiana; Messrs. T. Christy and Co., London, etc.

BOOKS, ETC., RECEIVED.

Notes on Surgery for Nurses. By Joseph Bell, M.D., F.R.C.S.Edin. Second Edition, Revised and Enlarged. Edinburgh: Oliver and Boyd. 1888.

Intubation of the Larynx. By F. E. Waxham, M.D. Published by Charles Truax, Chicago, Ill. 1888.

The Principles and Practice of Medicine. Edited from the manuscript of the late Charles Hilton Fagge, M.D., F.R.C.P., by Philip Pye-Smith, M.D., F.R.S. Vols. I and II. London: J. and A. Churchill. 1888.

A Manual of Nitrous Oxide Anæsthesia. By J. Frederick W. Silk, M.D.Lond. etc. London: J. and A. Churchill. 1888.

On the Relief of Excessive and Dangerous Tympanites by Puncture of the Abdomen. A Memoir by John W. Ogle, M.A., M.D., F.S.A. London: J. and A. Churchill. 1888.

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THE BRADSHAWE LECTURE
ON
URÆMIA.

Delivered before the Royal College of Physicians, August, 1888.

By WILLIAM CARTER, M.D., B.Sc., LL.B Lond., F.R.C.P.Lond.,
Physician to the Royal Southern Hospital, Liverpool; Professor of Materia Medica and Therapeutics, in University College, Liverpool.

My first duty is to thank Sir William Jenner for having, as President of this College, paid me the high compliment of requesting me to give the Bradshawe Lecture for 1888; and my next is to state that in choosing uræmia as its subject I have no hope of being able to resolve the many difficulties which surround it. My task must be the more modest one of making to it such small contribution of fact as I have been able to gather from my observation of cases, and of indicating the more fruitful and hopeful work of others. Indeed, the pathogeny of uræmia is so obscure and the difficulties which surround its investigation are so great that it seems doubtful if it can ever be completely elucidated; yet some recent researches, and especially those of Feltz and Ritter, Bouchard, Brieger and others, who will be mentioned, have so far lightened the obscurity, that we may now anticipate, and even see reasons for some of those apparent anomalies and contradictions in the manifestation of symptoms which formerly seemed hopelessly puzzling.

Uræmia may be defined as the altered condition of health caused by the accumulation within the body of poisonous products that should be eliminated by the kidneys. But the symptoms of this altered condition are so various in themselves, and so variously combined, that within the limits of this general definition what on the surface appear to be altogether different diseases are formed. Thus, after apparently similar degrees of suppression or diminution of urine, some patients have only violent and persistent vomiting, the brain remaining clear; others have this with diarrhœa superadded, and others again become comatose. Some are convulsed, others delirious, others asthmatic, while in yet others nervous symptoms come and go in a seemingly capricious fashion, a transient but recurring hemiopia, hemiplegia, or lesser paralysis, cephalalgia, tinnitus, or deafness, alone betraying the serious attack that is being made upon the nervous centres, while in not a few the symptoms that most attract attention are epistaxis or altered cutaneous sensations or various cutaneous eruptions.[1]

It is not surprising that many explanations have been offered of such various phenomena.

The first serious attempt to comprehend within one general theory all differences was that of Traube. According to him the nervous symptoms were due to cerebral anæmia, and never occurred without preceding cardiac hypertrophy and blood dilution. Heightened blood-pressure caused cerebral œdema, which in its turn caused cerebral anæmia, and as this affected one or other portion of the brain, there would be a preponderance of either coma or convulsions, these last being limited if the anæmia was limited, general if it were general. On this ingenious hypothesis it seemed clear why a paralysis or spasm might be limited to one side, or one limb, or even to a part of one limb, and why, instead of being permanent, it might pass away. A localised œdema causing a localised anæmia, and œdema and anæmia being removed on removing their causes, heightened pressure and watery blood appeared so completely to explain what had been an unexplained puzzle that the theory was eagerly accepted; and doubtless when the œdema and anæmia do occur, their effects must be added to and complicate those produced by other causes. But the theory was too exclusive. Traube had never seen uræmia where the left ventricle was not hypertrophied; and as others had done so, they perhaps as wrongly wholly rejected his theory as he had rejected all others. Curiously enough, however, a question so easy of determination as the more or less watery condition of the blood in any given case had never been settled by actual examination. Bartels[2] admits that he had not determined it, and that he was not aware that others had done so. The two following cases are of some importance therefore as bearing upon the point.

The first was that of J. B., a young man who was admitted into the Royal Southern Hospital, Liverpool, under my care in January, 1878, suffering from scarlatinal nephritis. He died after seven weeks' illness, having been very dropsical throughout, and towards the end suffering from vomiting, cramps, convulsions, and coma. The kidneys were much enlarged, and the heart of normal size. The brain was examined first. Twenty grammes, partly of white and partly of grey matter, were taken from the middle lobe, carefully dried for forty-eight hours at 82° C. over sulphuric acid, then pulverised and dried again in a similar manner until weight was no longer lost. The weight, when the drying was complete, was 4.15 grammes; the fluid part, therefore, equalled 15.85 grammes, the percentage proportions being 79.25 water to 20.75 solid, or almost exactly those of normal brain substance—namely, 80 water and 20 solids.

The second case was one of chronic contraction of the kidneys, and the patient for some days before his death was drowsy and slightly delirious. The brain was examined in an exactly similar manner to that just mentioned, when the proportion of solid matter was found to be decidedly greater than in the normal organ, the percentages being 74.55 liquid and 25.45 solid. In this case, moreover, two of the circumstances supposed to be especially favourable to the production of cerebral œdema existed in a marked degree—namely, a heightened blood-pressure and a watery condition of the blood, for the left ventricle was enormously hypertrophied, its firm outer wall being one inch thick. The cardiac valves were competent, and the heart when freed from clot weighed 1 lb. 5 ozs. The specific gravity of the blood removed from the vena cava was only 1027.6.

But before absolutely rejecting Traube's ingenious theory, it ought to be considered in the light of certain recent experimental facts, when that modification of it adopted by Jaccoud, in France, and some eminent physicians in our own country, will seem far from unreasonable.

Such facts are those adduced by M. Raymond,[3] and after him by M. G. E. Bernard.[4] M. Raymond first incised one of the inferior cervical ganglia in the rabbit, so as to deprive a cerebral hemisphere of vasomotor control, and then tied both ureters; but instead of the resulting uræmic convulsions being bilateral as usual, they were limited to one-half of the body, the half opposite to that of the operation. Yet the only difference observable between the hemispheres *post mortem* was that one of them appeared to be affected with very slight œdema. Here there was a general uræmic poisoning, followed by local symptoms, caused apparently by local vascular dilatation. Whether it was the scarcely noticeable œdema caused by this dilatation, as M. Raymond thinks, that determined the unilateral convulsions, or, as seems equally possible, the larger amount of poison which the dilated vessels allowed to act on one side of the brain, yet the facts remain that the convulsions were unilateral, and that they were on the side opposite to the hemisphere whose vessels must have been dilated.

We have no absolutely certain *post-mortem* signs that enable us to say that either local dilatations or local spasms of cerebral vessels have occurred during life in any case of Bright's disease; but as, at any rate, vascular spasm certainly occurs in other and sometimes strangely limited parts, where the deathlike pallor which it produces can be plainly seen, it is at least not improbable that it may also occur in some of the vessels of the brain, where, from the nature of the case, it cannot be seen.

The "dead hand" is regarded by some, M. Dieulafoy, for example, as common enough to be ranked among the marked and early signs of uræmia. Before referring to some recent inquiries, I desire to make a few observations on one or two points which I think are not without practical importance. The first is as to the supposed utility of dropsy to the Brightic, and the danger of precipitating uræmic convulsions, etc., by any rapid reabsorption of the presumedly toxic dropsical fluid. In proof of the noxiousness of this fluid, Bartels[5] relates his now well-known case, where a violent storm of nervous symptoms broke over a patient, whose

[1] Three striking examples of this kind of manifestation are given by Dr. Samuel West in vol. xxii of *St. Bartholomew's Hospital Reports*, pp. 228-7.

[2] Bartels, Ziemssen's *Cyclopædia*, vol. xv, p. 111.

[3] *Archives Générales de Médecine*, vol. i, 1886, p. 97.

[4] *Contributions à l'Etude des Paralysies dans l'Urémie*. Par G. E. Bernard, p. 54 *et seq.*

[5] *Bartels*, p. 136.

dropsy was rapidly disappearing, as he lay streaming with perspiration in a blanket pack after half an hour's immersion in a bath, at a temperature of 102.5° F. This case seems to have coloured medical opinion ever since its publication. Without entirely denying the validity of the explanation, I cannot help thinking that it is open to much doubt, for the following reasons, namely, that the rapid absorption of such fluids often takes place without inconvenience; that convulsions not infrequently come on during the very height of the supposed conservative dropsy, and that (if the patient is not jaundiced or very feverish) the fluids themselves, when examined, appear to be simple, both as regards their organic and inorganic contents; and as the rapid relief of dropsy is often a matter of some moment, it will be unfortunate if a doubt is cast upon the propriety of promoting it by all legitimate means.

Since the publication of Bartels's book, I had a somewhat similar case to the one which he relates; but I felt inclined to attribute the nervous symptoms to a different cause; and as it illustrates what I venture to think is an important point of practice, I make no apology for briefly mentioning it here. It was that of a robust man, John J., aged 29, who came into hospital on February 13th, 1879, suffering from general dropsy of ten days' duration. The urine contained a quarter albumen. The bowels having been relieved, a hot-air bath was used. As the result of this he perspired profusely, but the pulse was much quickened, the temperature raised, and he at once complained of headache. The œdema began immediately to disappear, but, some sixteen hours after the bath, he had a slight attack of convulsions, during which the face and limbs twitched, and the tongue was bitten. An hour later a much more severe attack occurred. He was bled at once freely from the arm; and twenty-seven grains of chloral being administered by the rectum, he slept quietly all night, and next day had a soft and natural pulse. Ten days later he left without dropsy, but with the urine still albuminous. It seemed to me, then, as it does still, that the nervous symptoms were due less to the reabsorption of poisonous fluids than to the induction by the heat of the bath, in one already half-way towards uræmia, of great arterial dilatation and excitement (a condition of cerebral vessels comparable to that produced on one side of the brain of Raymond's and Bernard's rabbits), and increased body temperature.[6] The headache certainly came on before any reabsorption of fluid could have taken place, for it was immediate. Since that time I have made it a point of practice to have both the pulse and the temperature carefully watched; and if either rises much, or headache occurs before perspiration is induced, to have the bath at once withdrawn, and the surface of the skin sponged with tepid water or vinegar and water before it is re-employed; and though I have frequently seen a rapid disappearance of dropsical fluids, I never again saw accidents follow it. The very patient in question returned to hospital in February last, just nine years after the former treatment, as dropsical as he then was, and having as part of his treatment the hot-air bath, used with the precautions mentioned, soon lost his dropsy and other theeatening symptoms, without any attendant inconvenience.

Though there is less need of evidence on the second point, I will briefly mention a case which impressed me much at the time of its occurrence. In October, 1881, I was requested by a medical friend in Liverpool to see with him his nephew, a little boy, aged 10, who on the twenty-first day after scarlatina, and while very dropsical, had suddenly become convulsed. I was informed that three other children of the family had all been affected in the same way. At about the end of the third week after scarlatina, in the height of dropsy, they had been seized with convulsions, which quickly terminated in death. The child in question was extremely anæmic and œdematous. Instead of bleeding him, therefore, we used the hot-air bath, and, so soon as he could swallow, gave a purgative and diaphoretics. The sweating was very profuse. By degrees the œdema and the convulsions disappeared, and, though it was six months before albumen was entirely absent from the urine, he became perfectly well, and is now, as I hear from his uncle, a strong healthy youth of 17 years of age. If dropsy were so conservative, and the absorption of dropsical fluid so poisonous, as it is sometimes said to be, the fates of these children ought to have been exactly reversed.

As to the composition of the effused fluids, though it is altogether improved, and, with the exception mentioned as to jaundice and fever, not a little improbable that they are poisonous, we very frequently meet with such statements as the following:

"We have known that the liquid infiltrated into the cellular tissue is rich in urea and extractives, so that their rapid absorption into the blood system can occasion an intoxication more or less acute."[7]

We really know nothing of the kind. We simply infer it from Bartels's case, and what of positive evidence there is tends, I think, to an exactly opposite conclusion. It has been my practice for many years past to examine these fluids, and I have been very much struck with the relatively small amount, both of urea and salts, which they have contained, even when the vomited matters have been rich in the former substance.

Schottin, as referred to by Bartels, alludes to this, but does not, so far as I am aware, support his opinion by facts.

In an instance lately there was only 0.048 grammes of nitrogen in 100 cc. of subcutaneous fluid.

The next fact to which I desire to direct attention, as influencing, if not causing, some of the symptoms of uræmia, is the progressively diminished alkalinity, if not towards the end the actual acidity, of the blood which occurs in some cases.

The facts which I wish to put in evidence on this point are such as follow: Subcutaneous effusions, effusions into serous cavities, and purulent secretions are, under ordinary circumstances, alkaline or neutral. In Bright's disease, on the other hand, they are frequently strongly acid. I will transcribe a few notes made at various times. Thin pus collected on several occasions from large superficial bullæ, which formed during the last week or two of J.B.'s life, while he was suffering, early in 1876, from uræmia, caused by post-scarlatinal nephritis, was always found to be "very acid." It is noted that care was taken thoroughly to cleanse the surface of the skin before incising, so as to prevent admixture with perspiration. Fluid from chest in the same case "decidedly acid." J. C., May, 1878, *post-mortem* examination, serum from right pleural cavity "distinctly acid." D., chronic Bright's disease; fluid from right pleural cavity "decidedly acid." March 23rd, 1888. In one case, when death took place very rapidly from uræmia, in a young diabetic who had been ill only three weeks, this acidity extended to the blood itself. Its subject was a robust young married labouring man, who, up to fifteen days before admission to hospital, had scarcely ever had a day's illness. He had worked hard in the open air, but had had a good home and good food. Two days after admission, and before any treatment other than a mild purgative had been ordered or any restrictive diet imposed, while lying in bed he became suddenly somewhat delirious. The temperature fell to 96°, the pulse to 76, the respiration became sighing, and the pupils were widely dilated. He was not comatose. Corneal reflexes were present, and he could swallow and put out his tongue up to four hours before his death, which took place sixteen hours after the delirium was first noticed. Only 32 fluid ounces of urine were secreted during the twenty-four hours preceding his death. On the previous day he had passed 105 fluid ounces. This urine was found on ultimate analysis to yield but 0.205 grammes of nitrogen per 100 cc., which, for the amount secreted, would give but 1.845 gramme for the day, instead of some 10 to 14 grammes, the normal amount for a man of his size. The urea was 0.45 per cent., so that what nitrogen there was was eliminated as urea. On *post-mortem* examination the blood and a little serum obtained from the cerebral ventricles were decidedly acid.[8] Of this there can be no doubt, as I examined them again and again, and got others to do so as well. The fact that the amount of nitrogen contained in the urea of a given quantity of urine was exactly the same as the total nitrogen of the same quantity shows that there was no question here of poisonous alkaloids—at least, that none such were being discharged by the kidneys; and it seems probable that the symptoms were due to a sudden interruption to the ordinary oxidation,

[6] Bartels seems himself to show the probable correctness of this interpretation by his account, at p. 144, of a stout robust man, aged 35, who went into a Russian steam-bath heated to 66.5° C. "Within twenty minutes, the thermometer placed in his rectum rose from 37.8° C. to 41.9° C. Whereupon he had a violent convulsion, and lost consciousness." In this case there were no dropsical fluids to be absorbed, the man, for anything that is said to the contrary, being healthy, merely the voluntary subject of observations on his body temperature.

[7] *Des Différentes Formes de Dyspnée chez les Brightiques*, par Augustin Uribe, p. 76.

[8] In a recent communication to the BRITISH MEDICAL JOURNAL of July 28th, 1888, p. 205, Dr. Squire disposes of all such cases as the above in a very summary manner by the short statement: "Of course any active reaction of the blood is an impossibility." The certainty of the acid reaction in the present case renders any discussion as to its impossibility needless. But whether it was present just before, and as a cause of death, or merely just after and as a consequence of it, I am not able to say, though, I think, probably the former.

owing to the acid condition of the blood. The urine gave but a slight red reaction with solution of ferric chloride.

Comparing the symptoms in this case with some of those of uræmia without glycosuria—the slow, weak pulse, low temperature, dilated pupils—and remembering the acidity of the serous and other fluids in some of these latter, it is not, I think, unreasonable to suppose that a diminished alkalinity of the blood might have combined with other causes to bring about the result.

Turning now to the experimental methods of investigating uræmia, these have really only been commenced within comparatively recent years; and, though they show us more distinctly than we were ever shown before how great are the difficulties to be overcome before in any given case the pathogeny of the affection can be understood, yet, by showing us at the same time what are some of the causes of those difficulties, they encourage us to hope that patient investigation will ultimately greatly lighten the obscurity that now surrounds it. Considerable discredit has been thrown upon these methods by various writers, notably by Bartels; and it must be admitted that great caution is required in interpreting clinical facts by the results of experiments on the lower animals. Yet, after exercising all legitimate scepticism concerning the value of these results, the fact remains that they are opening up new and hopeful methods of practice, as well as confirming and establishing what was good in older methods by giving previously unknown reasons for their being good. One of the best contributions to this subject is the conscientious and masterly inquiry of MM. Feltz and Ritter[9] into experimental uræmia, the full account of which was only published in 1881. The main conclusion come to by the authors, which alone can be mentioned here, was that the only really toxic constituents in the urines of health were the potassium salts, and "that these, therefore, by accumulating in the blood or fixing themselves in excess upon the anatomical elements, are almost always the true agents of intoxication." There was one weak point, however, in the assumption that because the non-potassic constituents of three days' secretion did not produce very serious symptoms, they were therefore non-poisonous.

It is scarcely necessary, perhaps, to state that among the organic constituents, urea (the one from which the morbid condition derives its name) was found to be the least harmful.

But there early arose another question. Urea itself is not at all, or but very little, poisonous. Under the influence of ferments, however, it is easily and often decomposed within the bladder, and more easily still in the laboratory, one of the products of its decomposition being ammonium carbonate. Could ammonium carbonate be poisonous? And could such diminutions of the normal proportion of urea as are often found in the urine of uræmia be the result of the decomposition of this latter within the blood and the consequent impregnation of that fluid with the poison thus necessarily formed? These questions were most natural, and the theory of Frerichs based on this presumed intravascular decomposition, its denial and disproof by Claude Bernard, its modification by Treitz (who supposed the intestinal mucous membrane, and not the blood, to be the actual seat of the decomposition, and the effects to be due to reabsorption from it), its reassertion and support by ingenious but insufficient experimental proofs by Cuffer, are all now matters of history.

The probability is that uræmia has many causes, this one among them; and that every theory that has been advanced may have some measure of truth and some applicability to particular cases. It is not impossible, also, that uræmia, in the sense in which it is here defined as the altered condition of health caused by the accumulation within the body of poisonous products that should be eliminated by the kidneys, may be an important factor in many diseases, infectious and non-infectious alike. Even sound kidneys may be incompetent to remove waste products with sufficient rapidity to prevent them from producing ill effects if these are suddenly and enormously increased, while these which are shrunk to half their normal size will suffice (as we often see) if the amount of material to be removed be but small. The late Dr. Murchison[10] recognised the uræmic element in typhus fever.

The relations, if any, between putrefactive changes and the chemical reactions of living tissues have yet to be clearly established. It is noticeable, however, that in the successive stages of chemical change undergone by muscular tissue during decomposition, as observed by MM. Gautier and Etard,[11] after the formation of acid products, one is reached as early as the fifth day in summer, where, coincidently with the dissolution of the muscle structure proper, ammonia is evolved and fixed, and volatile alkaloids of various kinds are formed. Whether these chemical facts have any bearing on clinical facts time will show. Quite recently, however, a fatal case of uræmia came under my care, which impressed me very much, and made me think that the connection might not be so remote as would at first sight appear. The patient was a male, aged 52, who up to, as he said, six weeks, but, as we learned from his relatives, really nine weeks, previously had been in apparently perfect health and doing his work as steward on a large transatlantic steamer as well as he ever had done it. He then caught a severe cold, and became rapidly weak, but continued to perform his duties for seven days, at the end of which time diarrhœa, vomiting, and exhaustion compelled him to go to bed, where he remained till his admission to hospital on June 25th, 1888. Up to the illness in question he had been very stout. He looked extremely ill, spoke with a faint voice, was very slow in answering questions, and, as his account of his illness proved, had failed in memory. The tongue was dry; the pupils were in a medium condition of contraction, but responded instantly to light; the temperature was subnormal (96.2°); the pulse 92 and very weak. There was no trace of dropsy either of subcutaneous tissues or cavities. His height was 5 feet 4½ inches, and he weighed but 6 stones 4¼ lbs. During the day succeeding his admission he passed only eleven fluid ounces of urine. This was faintly alkaline; specific gravity 1010; contained one-fifth albumen and 1.5 per cent. of urea.

It presented, moreover, a very unusual appearance In staining, a bright blood-red layer, almost half an inch thick, rose to the surface. It looked as if stained with carmine, and was sharply separated from the underlying lighter-coloured liqnid. There was not the faintest trace of blue when it was treated with tincture of guaiacum and ozonic ether, while with solutions of phosphourolybdate of sodium and terchloride of gold it gave dense precipitate, the former reagent imparting to it an intense green colour.

There had been no vomiting for twenty-four hours when, at mid-day of the 27th, he died almost suddenly, before the first quantity of oxygen which had been brought to his bedside in the gasometer for the purpose of daily administration, or any other medicine, except fifteen grains of sodium sulpho-carbolate in nutrient enemata, had been given. The condition immediately preceding death was one of collapse. He was quite clear in his mind, asked the ward-sister in a faint voice if he was not dying, and, before the house-surgeon could reach him, was dead. The collapse was so sudden and severe that the impression on the mind of the ward-sister, a lady of very great experience, was that internal hæmorrhage must have taken place. The peculiarity of the case, however, does not end here. A *post-mortem* examination was made twenty-three hours after death. The weather was quite cool, and the body did not show the least sign of decomposition, yet the only two whose duties brought them very closely into contact with it were made ill. Our able pathologist, Dr. Charles Macalister, was quite well up to the moment of commencing the examination, and though long engaged in similar work, often with much more likelihood of being upset by it, had never been made ill before. Immediately after opening the body he became faint and giddy, was shortly afterwards seized with diarrhœa and vomiting, and was so ill in the night that his friends had to obtain medical assistance. By the following day the vomiting had passed away, the diarrhœa continuing a day longer. The senior porter, whose duty it was to sew up the incision, suffered from exactly similar symptoms for the same length of time. The only organs presenting any appearance of disease were the kidneys. Each weighed but 1⅔ oz.; heart 11½ oz.; left ventricle somewhat hypertrophied. Is it unreasonable to ask, whether that volatile product which caused faintness, giddiness, diarrhœa, and vomiting in Dr. Macalister and the porter may have been the product which caused exactly similar symptoms in the patient; and whether the cessation of the vomiting and purging, by means of which it may have provoked its own discharge in all three cases, may not have led to such accumulation within the patient as to cause fatal collapse?

The most recent and suggestive work in experimental uræmia is that of Bouchard, whose conclusions, as set forth in detail, with

[9] *De l'Urémie Expérimentelle*, by V. Feltz and E. Ritter, pp. 341-4.

[10] Murchison, *On Fevers*, 2nd ed., pp. 21 and 153.

[11] *Comptes Rendus de l'Académie des Sciences*, vol. xciv, pp. 1357 *et seq.*

the facts on which they were based, in his suggestive lessons on "Auto-intoxication in Disease," may be thus briefly summarised. The urine, as a whole, is poisonous. The sources of its toxicity are fourfold—namely: (1) aliments, and more especially their potassium compounds: (2) the absorbed products of intestinal putrefactions; (3) secretions, such as the bile, saliva, etc.; and (4) tissue disintegrations. Between their several sites of origin within the body, or of their introduction into it from without, and the kidneys, their common site of exit, these traverse the blood, and, if not removed from it with rapidity, poison the tissues. Those that are taken up from any portion of the alimentary canal undergo the modifying influence of the liver—an influence now proved, in many and very different ways, to be of the utmost use in protecting against auto-infection.

Even this simple enumeration would be sufficient to show how various and variously combined the toxic elements may be in any given case of uræmia, and what a modification of symptoms might be expected according as one or other of them should chance to predominate. But it conveys no adequate idea of the extent and variability of the urinary poisons, even in health. By careful injections into the veins of different animals, Bouchard established such facts as the following—namely, that the urine secreted during the night differs from that of the day, not only in the degree, but also in the nature of its toxicity, the former being mainly convulsive in its action, the latter soporific or coma-producing; that that of one part of the day differs from that of another; that the night urine, though specifically heavier, is less poisonous than that of the day; that hard work in the open air markedly diminishes the toxicity, while a mere passing indisposition, indicated by no more serious symptom than a transient feeling of weariness, markedly increases it; that, within the limits of ordinary health, it varies with the degree of cerebral activity, the presence or absence of constipation, and innumberable other circumstances until lately thought to be of little importance; that the several constituents are not only different from, but to some extent atagonistic to, each other, and so on.

Furthermore, by comparative experiments on animals with urines in their natural condition, and decolorised by animal charcoal respectively; by injecting at different times aqueous solutions of those portions of the dry residue of evaporated urine that were severally soluble and insoluble in alcohol, and by employing first one and then another definite constituent, such as urea or the potassium compounds, and observing their physiological effects, Bouchard determined the presence of seven distinct toxic substances, combined together in the most variable proportions under different circumstances, of which two were convulsivant (one of the two being either the colouring matter or contained in it), one (probably urea) diuretic, one narcotic, one sialagogue, one pupil-contracting, and one temperature-reducing. These could not all be isolated, and their chemical composition determined, yet the conclusions seemed inevitable from the methods of experimentation adopted.

Coming out of these and similar inquiries, we have at any rate the broad general fact unknown, and not even suspected a short time ago—namely, that the urinary poisons may have very different effects according to the times and circumstances of their formation, either stimulating or inhibiting the same cortical cells of the cerebrum, and thus causing at one time paralysis and at another convulsive movements in animals into whose vascular systems they are injected. It is not correct, therefore, to say, as is said by Uribe, and implied by many writers, "that the convulsions, or the uræmic dyspnœa, occur in paroxysms, with intervals of calm between them, while the cause which provokes them persists." The cause does not persist, for it may and does differ from hour to hour. Now we can understand how paralysis and convulsions of the same parts may succeed each other, as in the following case.

J. J., aged 46, in hospital for chronic Bright's disease, became suddenly blind, and lost the use of the left hand and arm on the morning of December 21st, 1887. Towards evening the paralysis disappeared, but later still he had general convulsions, which attacked the previously paralysed as well as other parts, while two days afterwards, and for many weeks, there was neither paralysis nor convulsion, or, as in a case related by Dr. A. Davidson at the Liverpool Medical Institution on January 5th, 1888, of a female, aged 20, who, in the course of Bright's disease, had paralysis of the right arm and aphasia, both of which disappeared before death, the brain *post mortem* being simply pale and watery. These, and many similar cases related by M. G. E. Bernard, prove also that the following statement by Sir William Roberts, however generally correct, cannot be regarded as universally so. "It is a marked feature of uræmic phenomena that those which are of a paralytic nature affect the sensorium and the special senses, while those of an opposite kind (exalted irritability) affect the voluntary muscles and not the special senses." Sensorium, special senses, and voluntary muscles were involved alike in paralysis.

There must also be *a* reason, and in the different relative amounts and degrees of diffusibility of the narcotic and convulsive constituents of the urine respectively there may possibly be *the* reason, for the absence of convulsions so often characterising the uræmia of absolute suppression in persons healthy up to the time of the suppression, of which probably most physicians have seen examples.

The fact of physiologically antagonistic principles existing together in the same organism has now been so well established in regard to vegetables that we might have anticipated that, like so many other facts relating to the two kingdoms, it would be equally established in the case of animals. The paralysing physostigmine and tetanising calabarine of the calabar bean, the narcotising morphine and tetanising thebaine of the poppy, the heart-energising digitalin and heart-depressing digitonin of digitalis are conspicuous examples of the former, as are the facts established by Bouchard and others of the latter.

M. Bouchard has endeavoured to appraise the toxic values of the various urinary constituents, giving one-ninth to the urea, two-fifths to those substances (including the colouring matter) that are fixed by animal charcoal, a very small but unmeasured fraction to ammonia or its compounds, and the remainder to the mineral constituents, at the head of which stand potassium salts. Such an evaluation, however, differs from that made by others, as will be seen directly, and at the best can be but the barest approximation to the truth even with the urine of health, seeing that the composition of this fluctuates so greatly; while even this limited approximation fails in disease where new cases of complexity present themselves. There is always, for example, a marked increase in toxicity in persons suffering from any febrile disorder, whether alone or as an accompaniment of renal disease, whereas in non-febrile diseases there may sometimes be an increase and sometimes even a decrease. Such a decrease occasionally marks the glycosuric urine, while icteric urine, the albuminous urine of chronic parenchymatous nephritis, and the urines of those suffering from cancerous cachexia or grave anæmia, even though there be no fever, are twice and sometimes three times as poisonous as those of health. An alteration in the character of the poison also takes place in the feverish condition, for MM. Lépine and Aubert have shown, by a number of careful experiments, that whereas in normal urine the toxicity of the organic is to that of the inorganic matter as 15 to 85, the proportion in many febrile diseases is as 45 to 55.

A difference is then clearly to be anticipated in the symptoms of uræmia according as it is due to mechanical obstructions in persons in health or to disease of the renal cells, accompanied or not by lessened function of the liver or by any fever.

The most recent endeavours to unravel the complexities of this difficult subject are in the detection, separation, and determination of the chemical constitution and physiological action of animal alkaloids. Some of these (such as the fluorescent substance discovered by Dr. Bence-Jones), creatinine, xanthine, hypoxanthine, carmine, etc, have been known for a good many years, but it was mainly owing to the announcement by Pouchet in 1880 of his discovery in normal urine of a hitherto unknown alkaline base, consisting of fusiform deliquescent crystals, forming definite salts with acids, that a renewed impetus was given to this research, and it is now fairly well established that a number of these compounds (the "leucomaines" of Gautier) are formed as the result of all normal cell life. Some few have been isolated, and their chemical and physiological properties determined. In health the amount formed is so small and the elimination is so rapid as to prevent any injurious accumulation within the organism; not so, however, in disease. Alkaloidal and other substances of great activity not found in health, and varying in their nature with the character of the affection have then been separated from the tissues and found in the urine, and if the kidneys and other eliminators should make default, the tissues become poisoned. A combination of careful clinical observation and chemical research in this direction may be expected to do much to elucidate disease. When reading what is said of xantho-

creatinine, one of these substances separated by Gautier in well-defined crystals from muscular tissue, one is tempted to run ahead of what has been proved, and to ask if the symptoms of some uræmias may not possibly be due to it. It is thus described by Hougounenq: "They"—the crystals—"exhale in the cold a faint cadaveric odour.....they are toxic even in minute dose, determining faintness, somnolence, extreme fatigue, and repeated diarrhœa, and vomiting."

In this direction will probably have to be sought the cause of the distressing dyspnœa, frequently amounting to the most terrible asthma, and of other disturbances of respiration, to which some Brightics are liable. One patient in hospital early in 1877 used often to wake suddenly in the middle of the night as if his chest were tightly grasped, the sensation being followed by prolonged orthopnœa. Another, a male, aged 54, was attacked pretty regularly at 9.45 P.M. In the case of a third, a female, aged 49, admitted on February 9th, 1879, I find the following note, taken on the day of her admission: "For four nights has been unable to lie down owing to breathlessness, which has commenced every afternoon at 5." Now that we know that the character of the urinary poisons varies from hour to hour, and markedly from day to night, we are the less surprised at such temporary storms.

On listening to the chests of some of these patients even at the time of their greatest respiratory distress, but little *râle* or other sign of obstruction to the entry of air may be detected, there being the greatest difference in this respect between the uræmic asthmatic and the ordinary asthmatic patient. The fine whistlings and cooings of the latter may be absent, though the gasping may be as painful both to experience and to witness. The mind is almost irresistibly led to seek an explanation in a change in the calibre of the blood-vessels rather than of the air-vessels; and with the knowledge of the immediate spasm of the pulmonary and other arteries, and the consequent intense dyspnœa produced by the intravenous injection of very minute quantities of muscarin, as has been so ably demonstrated by Dr. Lauder Brunton, and the further knowledge that neurine and choline, two alkaloids structurally and physiologically allied to muscarin, have actually been separated from the human body by Brieger, it anticipates the time when one of these or some allied substance shall be proved to be the cause of the asthmatic paroxysm, and when a physiological antagonist shall be discovered capable of unlocking the spasm and relieving the distress as promptly as atropine does in the case of muscarin poisoning. We sometimes have more than conjecture that such pulmonary spasm exists in the actual occurrence coincidently of spasm of the systemic arteries. Thus in J. C., one of my hospital patients under treatment early in 1878, and in whom the asthmatic attack occurred with great regularity almost every night at 9 o'clock, there was superadded on one occasion (as I have elsewhere reported) so marked a failure in the general blood-supply that he was believed to be dying. Hands, arms, feet, and legs were quite cold; the breath was gasping and difficult, and he was unable to speak. The free administration of ozonic ether, wrapping all the extremities in hot cotton-wool, and the employment of a hot-air bath were followed by relief, and subsequent attacks were confined to the chest. Moreover, the kind of remedies that bring relief, so different from those which relieve the ordinary asthmatic, also point to spasm of the blood-vessels as the chief cause of the dyspnœa.

That nitrogen combustions of an unusual character are formed during many morbid states, and especially in those attended with fever, is easily proved by one or all of the following methods—namely, either by comparing the specific gravity of the urine before and after having filtered it through purified and washed animal charcoal, or by comparing the amounts of nitrogen as determined by absolute analysis before and after such filtration, or, lastly, by comparing the amount of nitrogen voided as urea with the total amount of nitrogen voided. In health there is little or no difference either between the specific gravities or between the proportions of total nitrogen under these two sets of circumstances; while many observations prove that all the nitrogen eliminated in the urine is eliminated in the form of urea, not more than from one-twentieth to one-twelfth being in any other combination. In disease all this is changed, and the differences then often become very great, as much sometimes as one-third or even one-half of the total nitrogen being voided in some form not decomposable by alkaline hypobromites.

What have the newer studies of recent years taught us? Have they led to any newer and better methods of treatment? It must be admitted that in this last respect research has largely served, in this as in many other departments, but to emphasise and confirm the value of practice already established. But it has done more, it has pointed out early symptoms, the importance of recognising which cannot be overestimated, and by establishing the relations between these and defective renal function has driven home upon the medical mind the necessity of determining by frequent examination the relation between body weight and the amount of urinary constituents. Insurance offices are beginning generally to recognise the value of this, and their requirements will healthfully stimulate medical men to go further in urinary examination than has up to lately been thought necessary. The accumulation of toxic products in the blood and tissues is often very slow, and the slighter the warning afforded by early symptoms the more valuable will treatment be likely to be. The principles on which practice must be based consist mainly (1) in cutting off one or another of the urinary poisons at their source, now that we know to some extent what these poisons consist of, and whence they are derived. Under this head we recognise the great importance (*a*) of limiting potassium salts both in food and in medicine, (*b*) of employing the simplest and most easily assimilated diet such as milk, (*c*) of bowel disinfection, (*d*) of maintaining at its best the functional activity of the liver, (*e*) of care in the nature of nutrient enemata when these are required. (2) In directly and indirectly withdrawing or diluting the uræmic poison, by (*a*) venesection, (*b*) purging, (*c*) sweating, (*d*) transfusion. (3) By burning up the poison, by (*a*) active exercise, (*b*) the administration of oxygen or oxydisers. (4) In antagonising the poison, or at least overcoming special symptoms.

Reducing the above principles to practice, the first caution inculcated as to potassium salts would lead to the substitution of sodium bromide and other sodium salts for the corresponding ones of potassium, as the former have only one-fortieth of the toxicity of the latter.

According to Bouchard, one-fifth of the total toxicity of normal urines is due to poisonous products reabsorbed into the blood from the intestines, and resulting from putrefactive changes which the residue of food undergoes there. Can the formation of such products be controlled? If a healthy man is fed for a given length of time on an ordinary mixed diet, and then for an equal length of time on milk alone, the urine of the second period is much less poisonous to animals when injected into their veins than that of the first, hence the great value of milk as an article of diet to the Brightic. But this value was firmly established by Dr. George Johnson from clinical observation, and has been fully recognised for many years by all practical physicians.

The compact and small faecal residuum from milk, the deficiency of this residuum in biliary colouring matter, and the small proportion of potassium salts in milk, all help to explain its utility.

But it sometimes happens that it cannot be digested; the question then arises as to whether the destruction of biliary colouring matter and of the soluble products of intestinal putrefaction can be effected even when dietetic means fail. A practical answer seems to be given by such experiments as the following. If a healthy man is fed during a given period on an ordinary mixed diet alone, and during another and equal period on a similar diet, *plus* certain agents capable of disinfecting the contents of the lower bowel, there will be as great a difference in the toxicity of the urines under the two sets of circumstances as there is under a milk and non-milk diet respectively, it being much less when the disinfectants are used. The best bowel disinfectants are naturally those which pass through the intestines unchanged, exercising their local effects on the way, and the employment of these is suggested for the purpose of cutting off one cause of indirect blood contamination at its source. The idea is a valuable one and its application capable of and already receiving wide extension. Naphthalin, iodoform, and animal charcoal, being among the least soluble of non-poisonous antiseptics, are on that account chosen by Bouchard, and recommended for the purpose indicated. Our choice happily is not limited to any one mode of administering these, or even to these substances alone, or the utility of the principle would be seriously curtailed. That they will arrest putrefactive changes in the bowel, and the last mentioned diminish the colouring matter of the urine, is certain, but although a healthy man may by an effort take a mixture containing the large quantities of them required for the purposes indicated, it is unhappily often otherwise with the subjects of Bright's disease, and especially with those in whom uræmic symptoms are present.

The stomach is so abnormally irritable in them, that even the blandest nutriment is often rejected, and almost all medicines share the same fate. Occasionally, however, the disinfectants are tolerated, and when they are distasteful in one form, the manifold resources of modern pharmacy can present them in others that are not so. It is well to know that even iodoform and naphthalin can be so presented as to be perfectly free from odour, while iodol has no odour to correct.

Though I feel no doubt as to the value of this principle in the treatment of uræmia, and though I have applied it to practice on all fitting occasions, yet the time during which this application has been made is too short to warrant me in speaking in other than these general terms of approbation. M. Bouchard however mentions three cases where, in the practice of his colleague M. Tapret, "uræmic accidents yielded when intestinal antisepsis was realised," and one under his own care where a "formidable uræmic dyspnœa disappeared on the morrow after the administration of naphthalin." He adds, with characteristic fairness and caution, "these are only four facts, but they are encouraging, especially when one considers the small number of therapeutic means at our disposal for combating uræmia." This note of encouragement will probably be re-echoed by us all.

But if the poisons have been already absorbed or retained in sufficient quantity to produce convulsions or coma, something further must be attempted. It is then open to us, according to circumstances, to abstract some of the poison by abstracting a portion of the blood which contains it, or to dilute the poison by diluting the blood by the addition either of healthy blood or other fluid, or to try and draft away some of the poison by organs compensatory to the kidney; or, lastly, to antagonise the symptoms by appropriate medicines administered hypodermically or by the bowel.

Whether blood shall be added or abstracted must depend largely on the general condition of the patient. If the pulse is hard and quick, a moderate bleeding will do no harm even if he should be anæmic, and if he is not anæmic will be likely to do much good. And perhaps I may be pardoned for alluding to what I conceive to be an error even yet too largely prevalent, namely, that if the disease is advanced enough to cause uræmic convulsions, it must also be advanced enough to cause anæmia. This certainly is not the case: a person may be overwhelmed with fatal convulsions in the midst of apparently robust health, and the contracted kidneys and hypertrophied heart alone reveal, *post mortem*, the length of time that the disease had existed.

Happily there is a great margin of reserve in the healthy kidney, or probably we should all be liable at times to uræmia. But when contraction has proceeded to any extent, though the increased outflow caused by the large heart and heightened blood-pressure may preserve the patient from uræmia under favourable conditions, yet these are very easily disturbed, and then danger becomes immediate. I have already related an instance where relief to convulsions was afforded by a free abstraction of blood, and where the patient came under treatment nine years after. This is an example of some few that have come under my notice. On the night of July 23rd, 1881, I saw, with Dr. A. Williams, of Liverpool, a robust man, aged 60, whose tight arteries and large heart told immediately of renal cirrhosis, even if there had not been the confirmatory evidence of the abundant discharge for a long time of urine of low specific gravity. After twitching, which had commenced in the right forefinger and extended thence to the right arm and leg, he had become the subject of general convulsions which had recurred for some hours with scarcely any conscious intervals. Sweating was profuse, temperature 105° F., and he was deeply comatose. We immediately bled him very largely from the right arm; the quantity of blood was not measured, but I do not think it could have been less than from 25 to 30 fluid ounces. There was an immediate diminution of the convulsions, which shortly ceased altogether, and soon afterwards the patient appeared to be well.

But adding to the blood will equally dilute the poison, and if the patient is very anæmic as well as very unconscious, it may be the only safe and even the only possible way of doing it. M. Dieulafoy relates the case of a woman, aged 27, the subject of Bright's disease, who had been overtaken by convulsions, followed by coma, and in whom there had been an absolute intolerance of milk, into whom he injected by means of his transfuser 120 grammes of blood, with the effect of a complete clearing away of the uræmic symptoms and a subsequent great improvement, as indicated by diminished albumen, improved general nutrition, and increased body-weight. Six weeks after leaving the hospital she was again overtaken with coma, a second transfusion was again followed by a speedy return of consciousness, and by a copious urination, but on this occasion by no dimunition of the albumen. The respite however was short, pulmonary œdema, double hydrothorax, and death soon following.[12]

It is by no means easy, however, to procure blood for purposes of transfusion. I have on two occasions, though not in uræmics, injected freshly-drawn goat's milk by means of Higginson's transfusion apparatus, and in cases where neither of these could be procured, it would be well to inject the solution of chloride, phosphate, and carbonate of sodium, sometimes used in the coma of diabetes.

The practical value of purgation and diaphoresis in warding off the severer symptoms of uræmia seemed to have been so firmly established that it would not have been necessary to insist upon it if Bouchard had not spoken in somewhat doubtful terms of it. He critically examines the effects of purgation, for example, compares the small amount of urea drafted off in the intestinal fluid with that eliminated in the urine, and speaks of the alternate dehydration by purgatives, and subsequent hydration by means of imbibed liquids as a "dangerous game," but at the same time admits that diarrhœa must abstract poison from the blood, founding the admission on the reduced toxicity of the urine of a healthy person secreted during the four hours of a medicinally induced purgation. But we have better evidence than this, for we see constantly headache and even more alarming symptoms rise and fall in the Brightic, according as diarrhœa is suppressed or established. An empirically established fact of this kind is quite as reliable in practical medicine as any other, and would remain as valuable if it could be proved that no poison at all were eliminated by the bowel. In this instance it is somewhat difficult to see the force of Bouchard's criticism. Urea is not the poison which causes the symptoms. Whether it is or is not discharged by the bowel is not, therefore, of much consequence. What the true poisons are, except potassium salts and colouring matter, is unknown; it must be possible, therefore, that they may be discharged from the intestine, even if it were established—which I do not admit to be the case—that urea in large amount cannot be.

The following case, admitted to hospital in September of last year, showed in a striking manner the value of purgation and the danger of its suspension. It is one to which allusion has already been made. Its features were constant diarrhœa, sub-normal temperature, dilated pupils, frequent and severe headache and vomiting, inactive skin, and urine of low specific gravity, not very abundant, deficient in urea but with abundance of albumen. His symptoms, with a general tendency to improvement, lasted for many weeks, but in the middle of December the bowels became suddenly inactive, while the urine, instead of increasing in quantity fell to less than half. Coincidentally with this change he became very drowsy, lost his sight, and then was paralysed in the left hand and forearm. This paralysis passing off during the day, at 10 P.M. general convulsions supervened, and for two days he remained very stupid. The aperient which had been given to him at the outset then acted freely, and all the threatening symptoms cleared away; but once subsequently, on the occasion of temporary constipation, general convulsions again occurred, after which, great care being taken to secure daily free action of the bowels, no further uræmic symptoms were manifested during the seven weeks of his stay in hospital.

Some twenty years ago physiologists learnt from Dr. Parkes that severe bodily labour had but slight and sometimes no effect in increasing the amount of nitrogen eliminated, a fact confirmed by all subsequent observers, not even excepting Mr. North.[13] Muscular exertion and muscular waste, muscular waste and increased nitrogen discharge, had been so long considered as necessarily associated causes and effects, that nothing but the rigidity of the proof advanced by Parkes dispelled the belief. The old superstition still clings, for it certainly was somewhat of a surprise to be assured that the urine of one working hard in the open air was less toxic to others, and that, therefore, the urinary constituents, while still existing in the blood, were less toxic to himself than that of the same man when resting at home. Another experience gives the explanation: "I have seen a sojourn in compressed air diminish the urinary toxicity by more than one-half," says Bouchard. The only factor common to the two conditions of hard work in the

[12] *Archives Générales de Médecine*, Vol. i, 1886.
[13] *Proc. Royal Soc.*, 1887.

open air and no work in compressed air is increased oxygen consumption. On such facts as these, Jaccoud founds his treatment of Bright's disease. He gives inhalations of oxygen, 10 litres three times a day, allows only the simplest possible food, and promotes tissue exchange with the inhaled oxygen by a systematic application of douches followed by frictions. That this method of treatment is as useful in practice as it is rational in theory I feel convinced, and the readiness with which pure oxygen can now be obtained in a condensed form, and the ease with which by means of a gasometer and inhaler it can be administered in exactly measured quantities, and with any required degree of dilution with atmospheric air, ought to ensure its utility being extensively tested. My own daily increasing experience of it serves but to confirm my belief in its advantage; and I have certainly seen headache and vomiting disappear under its use.

It is more difficult to decide on the utility of antagonisers of uræmic poisons. Morphine, for example, though much extolled by Drs. Loomis[14] and Davis,[15] of New York, as the most efficient agent, when hypodermically injected, for controlling uræmic convulsions requires to be used with very great caution where it is used at all, as cases are mentioned by Dr. Wood,[16] of Philadelphia, where its employment was shortly followed by death in coma.

I feel quite sure that the agents which give most relief in uræmic asthma are those which relax vascular spasm; and of them the most generally useful is ozonic ether. From half a drachm to a drachm of this will nearly always mitigate the severity of the dyspnœa, and sometimes entirely remove it. In one case an ounce of whisky in hot water gave sleep every night, and prevented the spasm. Another patient, though relieved by similar means, found most benefit from free friction of the chest and arms, and by having them then wrapped up in hot cotton wool. When we know the exact nature of the poisons which produce this and other symptoms, our remedies will be less empirical.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PSYCHOLOGY.

At the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By JAMES C. HOWDEN, M.D.,
Superintendent of the Montrose Royal Lunatic Asylum,
President of the Section.

ON THE TREATMENT OF INSANITY.

If I ought to open this Address with observations on the present position of what is called pure psychology proper to distinguish it from that hybrid science known as physiological psychology, I had better confess at once that I am unequal to the task, and that I am utterly incapable of laying before you the treasures concealed in its obscure depths. I think that we medical men, with our limited capacities, should keep out of the arena where the mighty battles of metaphysical psychology are fought. For if we are foolish enough to appear there, our poor heads are soon split by "cogito, ergo sum," and we stagger under such assertions, as that feeling is "subjectively subjective," and get utterly bewildered and dazed in the battlings about the "ego," whether on the side of its "extrusion" or "retention." Let us modestly admit, therefore, that the philosophers are altogether too much for us, and turn our attention to the more comprehensible physiological psychology; for, after all, metaphysical psychology has little interest for the physician, and its theories throw little light on the problems with which he has to deal. It is different, however, with physiological psychology, which, though still in its infancy, exhibits elements of promise. It keeps in view the molecular or physical theory of nervous action, and by relying on observational methods, by extending the scope of reflex action so as to include the highest functions of the brain, and by applying our knowledge of evolution and heredity to mental phenomena, this branch of psychology has already made solid progress. It is always a hopeful sign when instruments of precision can be applied to phenomena, and this has already been achieved in mental physiology. Cerebral operations are studied like other physiological processes. Just as Helmholtz determined that a reflex action occupied a definite time, so this time test has of late been applied to sensation, attention, inhibition, memory, will, and even reasoning.

The establishment of psychological laboratories at Leipzig and elsewhere must be regarded as the commencement of a new era in the history of philosophy, and though the Leipzig researches may not as yet have much practical value, they are in a hopeful direction, and may by-and-bye not only enlarge our knowledge of brain physiology, but may throw light on the causes and nature of those aberrations from normal mental action which we are called upon to treat.

While watching with interest, however, the development of psychology as a progressive science, it behoves us as practical men to make the best of the means at our disposal, and to consider what, in the immediate future, are the aids we are likely to obtain from collateral sciences.

First and foremost we may ask ourselves what assistance we can get from recent brain physiology? The important discoveries which have been made by the localisation experiments have chiefly concerned the motor and sensory functions of the brain; but though they merely touch the threshold of our province, they have illuminated the whole field of brain physiology. We have now some confidence in our working hypothesis that morbid mental action is due to the implication of certain brain-cells and tracts, and though the problems that face us are difficult enough, we feel that we are no longer in the nebulous region of pure mind.

The most sanguine experimenter can hardly expect to localise a delusion, or by a surgical operation be able "to pluck from the memory a rooted sorrow, or raze out the written troubles of the brain;" but he would be an ill-advised man who, at this early stage, belittled the possibilities of brain surgery as applied to insanity. Cases are already on record of the cure of insanity by the removal of a depressed piece of cranial bone; but unfortunately the etiology of the majority of our cases seldom presents this surgical simplicity—such cases, indeed, are very rare. Epilepsy, however, bulks very largely as a cause of insanity, and any treatment that can cure epilepsy must be reckoned a powerful aid in the prevention of insanity, and there seems every reason to believe that brain surgery has an important future before it in the treatment of the epilepsy that is due to cranial injury. Ten years ago Echeverria advocated the more extensive use of the trephine in these cases, and certainly the percentage of cures—64 per cent. in the 145 cases he collected—warranted his advice. There are cases—such as that reported by Dr. Henry Clark of this city two years ago—where no spicula or rough edge of bone projecting inwards was found, but only slight thickening; and yet, after trephining, the fits gradually diminished or entirely disappeared, the mental condition showing a corresponding improvement. I do not wish to build extravagant hopes on the narrow basis of a few favourable cases; but, in the face of results like these, shall we not be justified in a more frequent resort to the trephine, even in the more doubtful cases of traumatic epilepsy?

The beneficial effect of trephining where no local injury was detected has been regarded by some as an instance of counter-irritation, but may it not be due to the relief of general intracranial pressure? And in any case does not relief of intracranial pressure open up a wide field for the operations of brain surgery? How often has one felt at *post-mortem* examinations, on finding, for instance, large arachnoid hæmorrhages, cysts, or greatly distended lateral ventricles, that with the same knowledge a few hours before, one might, by trephining or tapping have, at all events for a time, averted a fatal issue? Then again in some of the acuter forms of brain disease that end in death or in irretrievable injury to the brain, may we not look to the relief of intracranial pressure by brain surgery, as at least a rational method of treatment, and one that should not be overlooked? It is well also to learn the lesson which those cases, which now and then occur, teach—where perforating disease of the cranium, by removing pressure, relieves or modifies the mental disorder. A case in my own experience, many years ago, strongly impressed me with the importance of this lesson. A man was brought to the asylum, maniacal and epileptic. Shortly after admission an abscess formed over the left temporal fossa, from which, on its being opened, a copious discharge of fœtid pus issued. Immediately after this discharge the maniacal symptoms disappeared, the fits ceased, and he became for a time sane. By-and-bye the discharge ceased, the

[14] *New York Medical Review*, 1873.
[15] *American Medical Journal*, July, 1874.
[16] Wood's *Therapeutics*, pp. 213 *et. seq.*

epileptic fits and mania returned. This alternation of conditions, that is the mania and epilepsy with the suppression of the discharge and their disappearance when it was re-established, occurred several times, till in the end the patient died in a severe epileptic seizure. On *post-mortem* examination, it was found that the pus had discharged through a carious perforation of the temporal bone, by which a probe passed easily into an abscess occupying a large portion of the left frontal lobe. Had this opening been enlarged and free exit given to the imprisoned pus, there cannot, I think, be a doubt that the man's life would have been prolonged, and there is a strong probability that both his epilepsy and his insanity would have been cured.

At the most favourable estimate, however, the surgical treatment of insanity will always be comparatively exceptional, and I will ask you to turn from these speculations to the subject of the medical and mental treatment of insanity.

Definitions are proverbially difficult, and I am not wise enough to give a definition of insanity, nor yet foolish enough to attempt to do so; but nowadays we all know what insanity is and what it is not, and herein have made a great advance on the knowledge possessed by our ancestors. We no longer believe in demoniacal possession, visitation by saints or devils, or the influence of the moon. We know that insanity is simply an affection of the brain, and that a rational explanation of its symptoms is possible without the introduction of any supernatural influences or phenomena. With the attainment of this knowledge and the gradual growth of enlightenment, many different forms of treating the insane have fallen into desuetude. Exorcism has become a lost art, faith-cures by the observation of religious rites are almost unheard of, and cures by whipping, immersion in sacred pools, drinking from holy wells, sorcery, and the employment of those wonderful combinations of herbs and animal substances, which were once thought to be such potent cures, have now, among civilised peoples, little more than an antiquarian interest. The most successful treatment of all in the eyes of its inventors, and one that certainly was not attended with relapses, the method of witch-finding and witch-prosecuting, with its inevitable termination at the stake, has long been banished from civilised communities, and I know not whether the uncivilised were ever barbarous enough to adopt it.

One of the later developments in the treatment of insanity is the proper separation of the insane from the criminal. Even in this country we do not always satisfactorily distinguish between them, and we cannot wonder that in the lower stages of civilisation crime and insanity are dealt with as one and the same. It is only in the advanced stages that the lunatic asylum is substituted for the gaol, and the tendency in our day, notwithstanding the legal view of insanity, seems to be rather to treat the criminal as a madman than the madman as a criminal.

Without further criticising the failures of our ancestors, let us consider for a little the methods of treatment of insanity as practised in our own day.

No one nowadays dreams of discovering a specific for insanity. We know that insanity is not a unity that can be combated by a single remedy. It is a group of diseases owning the most various causes, and characterised by great differences in symptoms, in morbid anatomy, in course, and termination. And it is, perhaps, our increased knowledge of the natural history of mental diseases that has induced some to regard them among the class of disorders which have a certain course to run, and which it is futile and even mischievous for the physician to attempt to cut short. There is no doubt that this expectant treatment is often followed by good results. Many cases of acute insanity recover admirably under it, and those who follow this line of treatment have done good service by pointing out the mischievousness of indiscriminate drugging with sedatives. But while we have some sympathy with the expectant treatment, we must recognise how easily it may have a hurtful effect.

Trusting to Nature breeds a feeling of fatalism, and induces a habit of *laisser faire* that is very inimical to progress. Nature helps those who help themselves, and surely a wise doing is possible as well as a wise abstention from what is hurtful doing. Are we not too apt, for example, to think that general paralysis is necessarily a fatal disease, and, in consequence of this hopelessness, practically do our best to make it so? Or, again, although it is true that sedatives and hypnotics as a rule are powerless to cut short attacks of mania without doing more harm than good, should we give up all trials, in despair of finding remedies that would be to acute mania what the salicylates are to rheumatism or quinine to ague? Though in experimenting with new remedies the methods we pursue may be purely empirical, it is surely better to be trying and hoping than to sink into a self-satisfied routine, in the performance of which we flatter ourselves that all has been done that can be done.

The resources of medical science are widening daily, and there is scope enough for the most energetic in the application of these resources to the treatment of insanity. The importance of treating the bodily ailments that are so generally associated with mental affections is universally recognised. To do justice to our patient we need to be cognisant not only of his mental condition, but of the state of his various bodily organs. We must, in a word, individualise our patient. It may be well to consider, therefore, if the medical staff of most of our asylums is sufficiently large to allow of this being efficiently done. Until the medical element is strengthened, and our asylums have more the character of hospitals, we can hardly expect the patients to receive as much of the ordinary attention and treatment as we would desire, and much less can we expect that anything like a thorough trial of massage, electricity, hydro-therapeutics, and other special methods of treatment will be made, even in cases where it might be expedient to employ them. These are not new words, but the cumulative effect of repetition may some day be blessed with responsive action. A movement has already begun in respect to the training of asylum attendants and nurses, which we have every reason to believe will strengthen our hands in treatment, and perhaps the time is not far distant when a thorough training and special education will be considered essential for a fully-equipped asylum attendant or nurse.

The so-called moral treatment of insanity is in these days rightly put in the foreground as one of the most important means of treating insanity. It is, perhaps, the most effective of the weapons at our disposal, and there are few cases in which at one time or another it cannot be made good use of.

The phrase "moral treatment" is not a particularly happy one, for though it is high-sounding enough to gain favour in this emotional age, it has an unpleasant pharasaic flavour about it in suggesting the immorality of other methods of treatment. Now, even the moral treatment of insanity has not a perfectly stainless reputation. In its earlier days it did not scruple to use as instruments of moral suasion such agents as blows and stripes, and the shock of terrifying shower or plunge baths. Indeed, to produce a sense of fear in the patient was one of its valued resources, and apparently some modern pure psychologists are of the same opinion still, for they seem to think that alienists have made a mistake in banishing punishment from their means of treatment.

The "mental treatment" of insanity would, in many respects, be a preferable expression to "moral treatment," but it is not easy to displace a phrase that has so long held its place in our language.

There is no need of my attempting to describe to this audience what is now meant by the "moral," or, as I prefer to call it, the "mental" treatment of insanity. Briefly stated, it is a recognition in the treatment of the insane of the effect of mental influences. It insists on the removal of the patient at the earliest possible moment from the mental environment that has induced, or that is aggravating, the malady, and it seeks to distract the mind from morbid feelings and thoughts by occupying it with healthy employments and recreations. The treatment in a modern asylum is an example on a large scale of the mental treatment of insanity. To many all that this means is the removal of a patient from his home, and his confinement in a large building until his malady has left him or killed him. It appears to them a very haphazard business, and in the absence of drugs they can see very little in it worthy of the name of treatment. But though scant justice is often meted to it, mental treatment is founded on a sure basis, and is thoroughly scientific and rational. Let us see how this is.

No argument is needed to prove the desirability of removing a patient from any mental influence that is having a bad effect on him; but the case is strengthened if we look at it from the physiological side. According to our present theory of brain action, there is a physical record in the brain of (or, perhaps I had better say, corresponding to) our experiences and thoughts. This physical memory is not confined to healthy thought and action. There is likewise a memory of morbid thought and action. This is not the place to discuss degrees of memory, nor to compare the memory of dreams with that of morbid mental

states, or of the ordinary healthy conscious states of the mind. It will be conceded that the longer morbid mental action goes on, the greater will be the danger of a morbid habit being formed. There will be a physical organising in the brain of false trains of ideas; the cells and fibres concerned in particular delusions, by repeated stimulation, will come to have a certain predominance, and will ultimately be excited by impressions which were at first powerless to do so. In the same way insane actions by repetition tend to become automatic and difficult to break off. Now the great importance of early treatment in insanity, and of removal from an unfavourable mental environment, lies in this, that it tends to prevent the formation of a morbid habit.

In like manner, the constant occupation of the mind by employment and recreation is an endeavour to deflect the brain action into other than the morbid tracks and channels, in reliance on the well-known fact that all ideas, normal and abnormal, sink into oblivion if not renewed.

The whole subject of habit in disease is very fascinating, and has bearings, as Dr. Creighton has shown, far beyond the limits of our particular branch of medicine. In his work on *Unconscious Memory in Disease*, Dr. Creighton has shown that a morbid state may continue long after the cause producing it has ceased to act, and that the only way to cut short the disease is by the use of some powerful agency which will arrest the habit, and he sees an explanation of the treatment by alteratives in their power to break up the habit.

May we not derive from this teaching hints as to the treatment of various forms of insanity and nervous disease? Ordinary medicinal alteratives generally fail to break down the morbid mental habit; but all of us are familiar with the mental amelioration that sometimes follows severe illnesses, which may be regarded as constitutional alteratives. How often have we known patients become sane during the course of some acute malady, or immediately before death?

But to return to the subject of the mental treatment of insanity. It is commonly held that it does no good to argue with patients about their delusions and mental state; and another equally common opinion is that delusions never yield to opposing facts, however convincing. Dr. Savage, in his address to the Medico-Psychological Society in 1886, has given cases which show that delusions do sometimes yield to this mode of treatment, and it certainly merits further trial.

Mental treatment, again, often yields capital results in the case of patients who have gone through acute attacks of insanity, and are in a state of incipient dementia. Such patients, by a process of re-education, especially by employment in simple work to begin with, not infrequently recover, or so greatly improve that they are able to live at home with their friends, or to be boarded out with suitable guardians.

I have now very rapidly run over the surgical, the medical, and the mental treatment of insanity. But the best treatment of all, if you will pardon me the bull, is its prevention. The most brilliant results of surgery, the most skilled and patient application of the resources of medical science, and the most wisely-ordered trial of the whole range of mental treatment, cannot hope to boast of triumphs equal to those that would follow the widespread observance of the laws of mental health. Insanity is not caused by the chance shafts of some mysterious agency which scatters its darts with a reckless heedlessness. It is one of Nature's penalties for her broken laws. Given a certain constitution, and a certain line of conduct, and insanity is the predictable result. There is no doubt whatever that there is a vast deal of purely gratuitous insanity in this country. Almost anyone could make himself mad if he would take the trouble, and, unfortunately, a great number of foolish and ignorant, and even some reputedly wise, people, do take the trouble every year.

The prevention of insanity depends, in the first place, upon our knowledge of the causes that produce it. With many of these we are well acquainted, and I pass over them the more readily, since they formed the subject of Dr. Yellowlees's excellent address to this Section three years ago. I shall, however, ask your attention to one of the broader questions of etiology—I mean, the relation of civilization to insanity.

It has been often stated that insanity is almost unknown among savage races, and that it is less common in nations of simple habits than in those which have attained the highest development of civilisation. In the absence of trustworthy statistics, or even well authenticated statements, the subject must be discussed chiefly on general theoretical grounds. Uncivilised man lives, like other animals, more or less in accordance with the law of selection, and in the survival of the fittest we have *a priori* ground for supposing that the insane and the imbecile would be more or less eliminated. It is only when man opposes this law that he can be said to be civilised, and the highest civilisation is the most powerful agent in perpetuating defects and infirmities.

On the other hand, the standard of saneness is often so vague and so different from ours, that it is almost impossible, without an intimate knowledge of a race, such as few travellers possess, to judge of what is really abnormal. Beliefs and practices which with us are looked on as evidences of insanity and qualifications for asylum treatment, are in other nations—and were even in our own at one time—looked on not only as normal, but as evidences of wisdom or superior piety. In some semi-civilised races the melancholic may follow his inclinations even to suicide, and the maniac may rave unheeded so long as he does not harm his fellow-men; and when he does, he is treated as a criminal. You may be told in such a country that lunatics are unknown, but the chances are you will find the gaols half full of them.

In a simple people eccentricities are tolerated: and erroneous ideas, so long as they do not develop offensive acts, can be entertained without risk. There is accordingly great difficulty in arriving at a right judgment as to the prevalence of insanity among savages and uncivilised peoples. But if there is less insanity among uncivilised nations, there will be little cause for surprise. Civilisation is essentially the result of the higher and more complex development of men's brains, and we cannot doubt that it tends to produce insanity. Hitherto, the concomitants of civilisation have been a concentration of the population in towns and cities, a monotonous division of labour, pressure in all the conditions of life, with worry, overwork, overcrowding, underfeeding, and a universal resort to nerve-stimulants—all of which contribute to insanity. Civilisation, too, by protecting the weak and neurotic, tends to foster rather than eradicate it, by allowing more scope to the influence of a vitiated heredity. Still civilisation has its remedial resources, which we may expect will be more and more called into play. Indeed, a study of the causes of insanity arouses feelings, not of despondency, but of hopefulness; for many of them are preventable. We must not be discouraged by the doctrine of averages, or by thoughts about the tyranny of the organisation, nor even lulled into satisfaction with things as they are, by the knowledge that the world owes much to minds that were below the physician's standard of sanity, and which would have been improved into a dull and unfruitful rationality if physicians could have had their way.

The inertia of the human race forbids us to hope too much, and while human nature is what it is, man's efforts to prevent insanity will always lag far behind his knowledge of the causes that produce it. But though we moderate our hopes, it is only to urge with greater force that it is quite within our power to do much more for the prevention of insanity than is being done at present. One thing is clear; until people know what is right they cannot be expected to do what is right. They must be educated in the laws of bodily and mental health, taught the causes of insanity and the lessons of heredity, made to know the dangerous periods of life, and be shown how to avoid the dangers. If this gospel of health could only be got into people's minds, it would react on their lives and make insanity less prevalent.

While the prevention of insanity must always rest chiefly on the conduct of the people as individuals, the State may do much to promote the same by wise legislation. The enforcement of sanitary conditions in dwellings, the shortening of the hours of labour, the increasing of the means of public recreation and instruction, greater attention to the training and education of children—indeed, whatever measures tend to improve the general well-being of the race, must have a powerful influence in the direction of preventing insanity.

Assuredly much remains to be done in our branch, as in every branch of medicine and science; but no man can forecast the future. It may not be altogether a dream that in the time to come our brains will be so highly organised that false judgments and sophistical reasonings will be impossible, except to the imbeciles of our race; or perhaps Dr. Maudsley's ideal of a perfect state of mental health will be reached, and people will be unconscious of themselves; or that perfect consummation of the happiness of the race be attained when even consciousness lapses.

But letting philosophy alone, and looking at the matter as practical physicians, we may derive a feeling of hopefulness for the future from a retrospect of the past.

Within my own memory and experience of five-and-thirty years, a great and beneficial change has come over the whole aspect of lunacy in Scotland. Before the passing of the Act of 1857 there was no public provision for the pauper insane save the poor-house and the voluntary accommodation afforded by the chartered asylums. About one-fifth of the pauper insane were boarded in private asylums, and no fewer than 4,075 lunatics were ascertained by the Royal Commission in 1855 to have been received into houses without the cognisance of the sheriff, the only public official charged with the supervision of the insane. The sheriff's duties and responsibilities, moreover, were so ill-defined, that they were too frequently a name rather than a reality, and his visitation of asylums was often performed with a rapidity that would surprise the superintendent of the present day. Now all this is changed. Every district in Scotland has made provision for its pauper insane, and, so far as I am aware, there is not a single pauper lunatic kept in a private asylum, and the whole of the lunatics of the country, whether in asylums, poor-houses, or private dwellings, are under the supervision and care of one Board—the General Board of Lunacy.

It would be unjust of me not to recognise here the powerful impetus that has been given to the improvements of the last thirty years by the enlightened and progressive policy of the Scotch General Board of Lunacy, which has been distinguished among other things for this, that it has not hampered but encouraged the individual efforts of superintendents in their trials of new methods, and this in itself is no mean contribution to progress.

Compared with thirty-five years ago we have made a great advance in our ideas as to asylums. It is now generally recognised that there must be variety, not only in the wards, but also in the buildings that compose an asylum; cottages, hospitals, and other detached blocks are now provided. Airing courts have, to a great extent, been done away with; seclusion and restraint are rarely resorted to; and shower baths and surprise baths, which the physician used to call treatment, but which the patient called punishment, are given up. In place of repressive measures we use employment in workshops and on the asylum farm. Anything worth calling an asylum farm was unknown in Scotland when I entered on the study of lunacy, and oakum-picking was one of the most favourite occupations. I can well remember how some of the old oakum pickers were gradually roused from their demented condition, and became like different beings when more varied work was given them. With fuller employment has come greater liberty, and it is remarkable to anyone who remembers the old *régime*, how much liberty can, under prudent management, be accorded to patients. The advocacy and practice of the open-door system by Dr. Batty Tuke while superintendent of the Fife and Kinross Asylum, and afterwards by Dr. Rutherford, at Lenzie, has certainly been beneficial, though, of course, like all good things, it is capable of being pushed too far. The plan of boarding out unrecovered patients was originally a matter of necessity from the overcrowded condition of our asylums; but it is now clear that, under careful supervision, many chronic cases may, with advantage to the patients and to the asylums, be thus provided for. There has been also great growth of liberality in the whole treatment of the lunatic poor, who are now regarded more as invalids than paupers.

I have mentioned some of the more striking of the beneficial changes that the last thirty years have witnessed. We must not, however, be too satisfied with past reforms, nor get wedded to any system, though it may be the best at present available. The times change and we change with them; and so do the needs and demands of lunacy treatment. We have need of a perfect openness of mind. In this spirit let us, with untiring energy, apply ourselves to the problems that still await solution in psychological medicine.

TINNED MEAT FOR THE MARKET.—Mr. H. Spadaccini, inspector of nuisances of the sanitary authority of the Port of London, brought within the precincts of the West Ham Police Court, on August 20th 1,363 tins of meat, consisting of beef, mutton, and rabbit, which had been selected from cargoes brought to London from New Zealand in the ships *Arraway* and *Tangariro*. About 20 per cent. of the tins were found to be unwholesome as the result of ten days' examination, and the putrid tins were brought for condemnation. Mr. Lionel Hart had some of the tins opened, and, being satisfied of the nature of their contents, he ordered them to be all destroyed.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF OTOLOGY.

At the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY THOMAS BARR, M.D.,
Surgeon to the Glasgow Hospital for Diseases of the Ear;
President of the Section.

GENTLEMEN,—My first and most pleasant duty, speaking for my Glasgow colleagues and myself, is to offer to all our visitors a very cordial welcome. We have looked forward with deep interest to this visit, the first to our city, of the British Medical Association; and we have anticipated with special pleasure the opportunity which the meetings of this Section would afford of forming new and renewing old friendships with many of our esteemed co-workers in otology.

When the high honour of presiding at this Section was conferred upon me, I was confronted with the usual preliminary difficulty of selecting a topic suitable for a presidential address. After reflecting on the various subjects which might interest you, I thought it would not be unprofitable were I to offer some remarks on the present position of the British school of aural surgery and the influence it has exerted upon the progress of the art, adding a few suggestions as to how that influence might be still further increased.

In the evolution of the knowledge of ear disease we have reached a stage from which I believe we are justified in looking backward with considerable satisfaction on what has been already achieved, and in looking forward with a hopeful spirit to what may yet be accomplished. The organ of the body with which we have specially to deal is now receiving all necessary attention, after the culpable neglect of centuries. Especially for the past thirty years earnest, able, and eminent men have been engaged, both in Europe and America, in the study of problems connected with the ear, and unquestionably their labours have greatly enlarged our knowledge of that organ, and increased our power of dealing with the diseases affecting it. We are surely, if gradually, reducing the number of the incurable diseases of the ear, and thus enlarging the range of possible recovery. The respect entertained by the profession and the public for the work of the aural specialist has therefore vastly increased, and is daily increasing, while otological literature testifies during these later years to the great industry and patient skill employed in cultivating this special department of medical science.

In inquiring what influence this country has exercised in the progressive development of the knowledge of ear disease, we have unfortunately to act somewhat on the defensive, for, as you know, the extent of this influence has been occasionally the subject of unfavourable comment and criticism by our Continental brethren. I venture, however, to submit that these strictures have been made without due appreciation of the facts of the history of aural surgery. I hope, indeed, to show that the services rendered by our countrymen in extending the knowledge of ear disease, whether we consider remote or recent times, have scarcely been excelled in importance by those of workers in any other country.

Glancing first at the past history of aural science, we shall find, I repeat, that many of the most important services ever rendered in our department were contributed by British surgeons. Who, for example, were the first to utilise the Eustachian tube as an avenue of treatment? Not the postmaster of Versailles, whose suggestion was impracticable, but rather the English surgeons Archibald Clelland and Jonathan Wathan, who, in the middle of last century, were the first by means of the Eustachian catheter introduced through the nasal passages to propel air and fluids into the middle ear. Who, again, has the merit of being the foremost to illuminate by artificial light the interior of the ear but the same Archibald Clelland by his convex lens and candle? Who were among the earliest to propose the operation of incising the tympanic membrane and to demonstrate its practicability? Was it not Dr. Peter Degravers in Edinburgh, and, later on, Sir Astley Cooper in London? Then, if we ask by whose marvellous work

in pathological anatomy aural surgery was first established on a satisfactory and scientific basis, the universal admission will be, by the labours of the renowned Joseph Toynbee. To whom, again, are we indebted for that valuable means of improving the hearing, which is to form one of our subjects of discussion, namely, the so-called artificial tympanic membrane, but to Toynbee and Yearsley? Lastly, who by his classical writings was the first to secure the respectful attention of the profession to the importance of a knowledge of ear diseases, and the most influential in reclaiming the previously waste field of aural surgery? Was it not that "great reformer of our science" the accomplished Irishman Sir William Wilde?

In addition to all this, we might also point to the share which Britain has taken in the educative treatment of the child who is totally deaf; and if we ask, who was amongst the earliest to demonstrate to scientific men that deaf-mutes might be taught articulate speech, and to urge this method of instructing the deaf and dumb, the answer must be Wallis, Professor of Mathematics in Oxford, a clear and full account of whose method I had recently the privilege of reading in the *Philosophical Transactions* of 1698; while probably the first institution devoted to the instruction of deaf-mutes, which included instruction in articulate speech, was that founded by Thomas Braidwood in Edinburgh, in 1760, some years before Heinicke inaugurated his institution in Leipzig.

Passing now from the honoured dead to the work done by living exponents of our art, and avoiding, as far as possible, invidious references to names, we are justified in pointing to the excellent and original work done by our countrymen in the operative treatment of osseous tumours of the external auditory canal; in the elucidation of the bearing of nasal and pharyngeal affections upon morbid conditions of the middle ear; in the contributions to the etiology and treatment of tinnitus and auditory vertigo; and last, and most important of all, in the operative treatment of the intracranial conditions dependent upon disease of the ear.

By the specially brilliant work done in the last direction, conditions which have always been regarded as the most hopelessly fatal of all the consequences of ear disease have been successfully dealt with—conditions in which, as the result of ear disease, collections of purulent matter have formed in the substance of the brain or just inside the skull. This is one of the most recent and striking developments of surgery. That it is not yet sufficiently known even by specialists is evidenced by the fact that I have searched in all the works on aural surgery available without finding, except in one instance, any reference to this operative treatment. That exception is in the latest edition of Dr. Roosa's American treatise on *Diseases of the Ear*, when he says that, after much consideration, he would advise that, in all cases where death seems to be threatened from cerebral abscess, trephining should be carried out, and a thorough search made for pus in the interior of the cranium. Dr. Roosa has, however, no successful case to record. Even in the largest and most exhaustive work hitherto published on diseases of the ear, namely, that by Professor Adam Politzer, of Vienna, there is no reference whatever in the edition just published to the practicability of reaching and removing, by trephining the skull, purulent collections in the intra-cranial cavity. We are proud to be able to claim for this country the merit of demonstrating within the past two years that without any carious aperture or superficial swelling on the surface of the head to guide the surgeon as to the seat of the abscess, but simply and solely from the local and general symptoms manifested by the patient, a collection of matter in the brain or inside the skull may be diagnosed, reached, and drained with complete success. In this way a number of patients have been restored to health, even from the very jaws of death. Dr. William Macewen, of this city, has operated in seven cases where he trephined and drained abscesses in the temporo-sphenoidal lobe, by which operation he has saved five lives. Mr. Barker, of London, has recorded two similarly successful cases. Mr. Caird, of Edinburgh, has also successfully operated once. Victor Horsley has likewise performed the operation once, with the result of saving the patient. All these, of course, were cases in which the abscesses were due to ear disease. You will, I trust, have the opportunity of seeing two of Dr. Macewen's cases; the one having been treated eighteen months ago, and the other three months ago. In one case operated upon by Dr. Macewen, while the results of the operation were entirely satisfactory, the patient, a little girl, died some time after from peritonitis, and I had the opportunity of seeing in the brain the cicatrix marking the position of the abscess, which after being drained had entirely healed, leaving only the cicatrix behind. In this direction, gentlemen, I am convinced that a splendid field of usefulness lies before the surgeon who treats disease of the ear. Not only will it be possible to reach and drain abscesses in the temporo-sphenoidal lobe of the cerebrum, but it will also be possible to save life by opening into the cerebellar fossa, and removing pus from the neighbourhood of the lateral sinus. I believe it may even yet be within the possibilities of surgery to clear out septic thrombi from the interior of the lateral sinus (the formation of which is no doubt often a premonition of pus formation elsewhere) by ligature and removal of a portion of the sinus. The general surgeon has thus come to our aid, and it is for us now earnestly to co-operate with him, and to watch most carefully every case of purulent ear disease which may develop symptoms of extension to the interior of the cranium, and, without undue delay, to adopt these operative measures which, as experience has now so brilliantly proved, offer in competent hands a fair chance of success. We may, I think, trace the inception of these recent triumphs of brain surgery, as applied to the consequences of ear disease, to the influences of that antiseptic system which was originated in this city more than twenty-two years ago by Sir Joseph Lister. As his pupil, I had the great privilege of watching in the wards of the Glasgow Royal Infirmary, the earlier development of the system, which has placed him on the highest pinnacle of medical fame. In like manner the antiseptic method of treating purulent disease of the middle ear, by the insufflation of powdered boracic acid, which stands first as a remedy for that disease, was no doubt suggested to Bezold by the Listerian system. The merit therefore of that most important addition to the therapeutics of ear disease may also be said, in some measure at least, to remain with this country.

In drawing attention, gentlemen, to the pioneer work done by British surgeons in the sphere of aural surgery, and to the share taken by them in bringing the knowledge of ear disease to its present honourable position, I do not for one moment attempt to minimise or undervalue the splendid and enduring work of our Continental and American *confrères*. To many of these, aural surgery will be for ever indebted, and I yield to no one in the appreciation of the value of their labours. Fortunately our art is cosmopolitan in its sympathies, and does not recognise national jealousies and distinctions.

I should like, gentlemen, now to say a few words as to the importance of more combined action on the part of those devoted to the study of ear disease. I think that by the addition of co-operation to individual effort, we may reasonably hope to make more rapid strides than heretofore. With this end in view we should, I think, in the interests of the British school of aural surgery, take steps without delay to associate ourselves more closely in the further development of scientific observation and treatment. Our transatlantic brethren, as you know, have already had for twenty years their American Otological Society, which, by its meetings and discussions, as well as by the publication of its transactions, has been the means of diffusing important information. The time has surely now arrived for the inauguration of a British Otological Society. By meeting twice or thrice a year we should have the great advantage of becoming better known to each other, and, by the interchange of opinions and the comparison of experience, we should, I am sure, be greatly stimulated and encouraged. A hundred workers closely associated in the researches belonging to our subject of medical study would, it is clear, be much more powerful in advancing the importance and usefulness of our department, than isolated and unsupported effort.

It may be alleged that these advantages are already attained by this Section of the British Medical Association. I think, however, that is not the case to the same extent as if we had a *special association*. As a matter of experience, it has been found that a large attendance of otologists can never be ensured at this season of the year. Most men find it advisable in the interests of health to devote this month to the enjoyment of a thorough holiday spent in freedom from all professional work or discussion, hence the meagre average attendance, especially of London men, at these meetings. Now, in the case of a special society, its members could meet at times and at intervals suitable to the majority. Another great advantage would be that the office-bearers would be appointed by otologists themselves, and that the working office-bearers, the secretaries, would not be changed from year to year, but remain more or less permanent. The customary change of secretary every year is a source of weakness. The method

adopted in the recent formation of the British Laryngological Association, especially in the manner of choosing office-bearers, would, I think, in this case, prove satisfactory. I trust, gentlemen, that at this meeting you may take the initiatory steps which will lead at no distant period to the formation of a British Otological Society. By the publication of the transactions of such a society our Continental and American brethren would have a better opportunity of knowing and appreciating the work done in Britain, while our influence with the profession in our own country would be greatly enhanced. In this connection I might just, in a word, make the suggestion that it would be well if there were an English editor of the *Archives of Otology*, in the contributions to which it would also be very desirable that British otologists should take a larger share.

While, gentlemen, the advance and improvement in the knowledge and treatment of diseases of the ear should be our first aim, it is our duty to see to it that medical practitioners, and, through them, the public shall benefit by the improved knowledge. As Mr. Jonathan Hutchinson fitly expresses it, "In the early stage of any department of knowledge it is almost a matter of necessity that it should be in the hands of a few. But it is the highest privilege of those who devote themselves to the reclaiming of new spots of territory to hand them over to the commonwealth to prove that they are now cultivated and worthy of annexation." A vast number of those who suffer from ear disease can never come under the direct treatment of surgeons specially devoted to the practice of aural surgery. It is therefore of the utmost importance to the community that every medical man, before entering upon practice, should be acquainted with the chief and most approved methods of examination and treatment, and should be familiar with the main pathological conditions affecting the organ of hearing. We cannot conceal the fact that the great majority of men begin the practice of their profession with neither practical nor theoretical knowledge of the diseases of the ear, to the grievous injury of the public. Students have the impression, evidently justified by experience, that while they may have to undergo thorough examination in regard to their knowledge of the anatomy and physiology of the ear, it is superfluous, for the purposes of examination, to know anything of the diseases of that organ. Most of us who undertake to lecture or give clinical instruction upon ear disease know how this impression affects the numbers and regularity of attendance of those who come to our classes. If no change for the better ensues, large numbers of men will continue to enter upon the practice of the medical profession unable to cope with the simplest diseases of the ear, until either attendance upon a course on diseases of the ear is made compulsory, or until the medical-examining boards decide that these diseases shall be no longer ignored in the professional examinations for degrees. I quite acknowledge the difficulties of the situation. I quite recognise that students are already overburdened with subjects of study and with examinations, and that the licensing bodies are naturally unwilling to add still further to the burden. But if, on account of the shortness of the curriculum and of the magnitude of the work which has to be done, something must be omitted, I would submit that, in justice to the public, the omission should not be that of the knowledge and treatment of an important organ of the body. Will the public prefer that its doctors should have a knowledge, meagre as it usually is, of botany, zoology, or chemistry, if such knowledge is at the expense of their inability to treat diseases of the eye, the ear, or any other important organ of the body? Whatever fresh arrangement be decided upon by the examining boards, it is not, I think, unreasonable to insist that every student, without exception, before receiving the legal qualification to practise medicine and surgery, should be competent to examine the ear intelligently and to deal with the important and common diseases of that organ. If this matter were submitted to the public there can be no two opinions as to what the decision would be. That practitioners should possess this knowledge is now rendered all the more necessary by the improvements in the methods of treatment of recent years, and especially by the development of the operative treatment of the intra-cranial complications. These complications are, I am more and more convinced, much more frequent than is generally supposed, and now that surgical treatment may save such patients, how supremely important it is that the general practitioner should promptly distinguish their true nature, and resort in time to the improved methods of surgery. At the meeting in Ryde seven years ago, a resolution was proposed and adopted unanimously by this Section of the British Medical Association, strongly recommending the compulsory examination of students upon ear diseases. So far as I am aware the representations made at that time to the proper authorities produced no result. It may be worthy of consideration by the gentlemen here present whether, after the lapse of seven years, a second effort in the same direction should not be made. The present time, when the acquirements of medical students are being keenly debated, might be favourable to renewed action on our part. It is for you to decide.

Gentlemen, I shall not detain you further. A large and varied programme of work lies before us. Three most interesting and important subjects have been selected for discussion. May this, the first meeting of otologists in Scotland, be signalised by good and useful work and by increased interest in the Otological Section of the British Medical Association.

OPERATIONS ON THE MASTOID PROCESS.

Read in the Section of Otology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By P. McBRIDE, M.D., F.R.C.P.E., F.R.S.E.,
Surgeon to the Ear and Throat Department, Edinburgh Royal Infirmary.

It would serve no good purpose to discuss the history of operative attacks upon the mastoid region, which is, no doubt, familiar to all those present; nor do I propose to consider the pathology of mastoid inflammation further than the strictly practical aspect of the subject requires.

In many modern works on ear disease we find a tendency to classify inflammatory conditions of the mastoid under two headings, namely: (1) Periostitis confined to the outer surface; and (2) ostitis within the pneumatic space or spaces.

Pathologically, no doubt this subdivision is justified; but it seems open to doubt whether, from a clinical point of view, it can be maintained. It is true that those rare cases of primary periostitis, unassociated with any suppurative process within the ear, and of inflammation the result of disease confined to the external meatus, can be diagnosed clinically as well as pathologically to be due to inflammation confined to the periosteum.

In the comparatively common cases, however, in which acute or chronic suppuration of the tympanum spreads to the region behind the ear, I hold that we are only entitled to speak of mastoid inflammation, and that usually we cannot further define its limits; I venture to doubt, however, whether the lesion is, in such instances, often confined to the periosteum, or even to the layer of bone immediately beneath it.

With these preliminaries disposed of, I should like to ask and attempt to answer the question: "Of what therapeutic value is incision of the soft parts down to the bone, before pus has formed in cases of acute or chronic middle-ear suppuration complicated by mastoid inflammation?" It seems to me that in most cases—more especially in instances of mastoid inflammation due to examples of chronic middle-ear suppuration—this operation is useful (1) as a palliative of pain; (2) as being of the nature of an exploration of the condition of the outer layer of bone. In mastoid inflammation arising in acute tympanic inflammation where the discharge is still sweet it may possibly do more, for here the danger to be feared is extension of inflammation to the intracranial structures, and the depletion resulting from the incision is undoubtedly useful; but the same result can be arrived at by free leeching. On the other hand, Wilde's incision can do little for a patient whose mastoid antrum and cells are filled with granulations, carious *débris*, decomposing pus, and epithelium. When I make an incision behind the auricle, then the object I have in view is: (1) to palliate pain; (2) to let out pus if it be present; (3) to save the outer layer of the mastoid process from injury; (4) to explore, that is to find out, whether there is any fistulous opening which would indicate or facilitate perforation of the bone. I am strongly of opinion that Wilde's incision is not a life-saving operation, and am therefore inclined to delay its application longer than, for example, Roosa, who writes: "It is only when the symptoms are not severe, although positively existing, that a little delay, that is, of a few hours, may be admissible for the use of leeches, etc."[1] Cold applications, leeching, iodine, the injection of weak boracic lotion through the Eustachian catheter, and instil-

[1] *Diseases of the Ear*, 6th edition, p. 455.

lation of a solvent solution of soda into the meatus in chronic cases, should certainly have a trial before the more active remedy is resorted to. It may not be amiss to refer very briefly to two points in connection with the treatment of suppuration of the middle ear, with perforation of the drum membrane, namely (1) the use of small tubes introduced through a perforated drum membrane, for the purpose of breaking up inspissated secretion by means of a stream of fluid; (2) the use of powders as a cause of mastoid disease. With regard to the first, I cannot say that the use of Hartmann's apparatus has, in my hands, proved serviceable. When the perforation is small it is difficult to use, and when, on the other hand, the orifice is large, it has seemed to me that constantly applied instillations of an alkaline solvent promise better results.

With regard to the question of insufflated powders as a cause of pus retention—a subject which has recently given rise to somewhat acrimonious discussion in German otological circles—I do not hesitate to say that I am more chary now than formerly of recommending this treatment in cases where the perforation is small, for I have met with more than one example where its use was followed by mastoid inflammation. I may fairly be met with the reply that *post hoc* proves nothing; but, with regard to these cases, I have never been able to divest myself, rightly or wrongly, of the idea that, while it was certainly *post*, it was also *propter insufflationem*.

Before concluding my remarks on Wilde's incision, I should like it to be understood that, in a case of mastoid inflammation, after a delay varying from two days to a week, and after other remedies have failed, I have no hesitation in adopting this method of treatment; but I always do so with the idea of perforating the bone itself, should such an almost immediate amelioration of symptoms set in. I am, therefore, at one with Politzer when he advises the incision to be made near the attachment of the auricle, so that it may be utilised for the more serious proceeding, should this be found necessary.

With regard to the operation of opening into the mastoid process, I have, of course, like most of those present, studied the most recent writings on the subject in the works of Schwartze, Politzer, Gruber, and Bezold; but it seems to me that in a paper read at a meeting such as this one ought to avoid, so far as possible, literary references, and adhere to personal observation. I may, however, to avoid misconception, at once state that of those cases in which mastoid abscesses have burst through the inner surface of the cortex and led to burrowing of pus beneath the muscles of the neck I have had no experience.

The indications for opening the mastoid antrum seem to me to be present in almost every case of chronic middle-ear suppuration (excepting in cases of perforation of Shrepnell's membrane), in which we have head symptoms threatened, and in which milder measures have failed, the urgency of the indication being directly proportionate to the danger of the patient. In both acute and chronic cases the operation should be performed when tension cannot be relieved by other means, and when to allow it to continue would be a grave risk.

Some time since I had occasion to collect a number of cases in which middle-ear suppuration had proved fatal, owing to bad complications, and I found that in the great majority both the tympanic and mastoid antra were involved in the suppurative process; hence my belief that opening the mastoid should not be long delayed when danger threatens, excepting, as already stated, in cases in which Shrepnell's membrane is perforated, while the lower part of the tympanic cavity does not show evidence of disease. In such cases perhaps, under certain circumstances, and assuming, as is often the case, that the patient is in no condition to brook the delay, etc., of removing the malleus and membrane, it may be better to proceed at once to open the cranial cavity just above and in front of the osseous meatus, provided we have fair grounds for suspecting that there is already a cerebral abscess. Cases of chronic suppuration threatening to end fatally are often brought to hospital when matters have considerably developed, and then of course the surgeon must be guided by general indications, whether he shall open the mastoid or cranial cavity, or whether indeed any operation is justifiable, in patients suffering from chronic suppuration who can be watched. I am inclined to think that opening the mastoid antrum should be performed when there is great pain, facial paralysis, with or without rigors, optic neuritis and symptoms of meningeal irritation, whether or not there be tenderness over the mastoid, and I would further venture to suggest that in such cases the most important symptom is pain, and that the indication is commonly urgent, exactly in proportion to its severity. It may be argued that, if we have distinct evidence of involvement of the labyrinth, or of caries of the inner tympanic wall, the surgical proceeding proposed is likely to be useless; but observe that even the most probable cause of these complications is tension *plus* putrefaction, and by no other known method can we get such perfect drainage and irrigation of the tympanum as by opening the antrum. Besides, it must always be remembered that I only advocate the operation after other known means have been tried and found wanting. There are certain cases of obstinate otorrhœa associated with the presence of polypoid growths which yield in my experience only to perforation of the mastoid; but I must admit that, so far, I have always hesitated to perform or recommend the major operation until pain and threatened head symptoms demanded it urgently. The most characteristic of such cases are those where a polypoid growth springs from the posterior wall of the meatus. Such a tumour will almost invariably be found to have an aperture in its centre, and if a bent probe be introduced, it passes towards the mastoid process, and bare bone may be felt. Sometimes however an apparently true aural polypus keeps recurring, in spite of removal and in spite of caustics, only disappearing after the antrum has been opened.

In most of such cases, no doubt it is the free drainage that removes the cause of these growths, which are probably the result of a mechanical irritant. It has happened to me, however, to operate upon a densely sclerosed mastoid, of ivory-like hardness, in a patient who seemed to be already suffering from meningitis. This patient had been for some time under my observation, on account of chronic middle-ear suppuration, associated with which was a polypoid growth from the posterior wall of the meatus, perforated in its centre by a canal leading towards the mastoid. I have, unfortunately, no notes and write from memory; to the best of my recollection, however, there was no dead bone to be felt with the probe, and the case did well for a time, and then disappeared from treatment. After an interval, however, I was asked by Dr. Carmichael to see her, and both he and I agreed that the pain, mastoid swelling, delirium, etc., made almost any attempt at relief justifiable. The meatus was now filled with a polypoid mass, which was in great part removed; this failing to give relief, the mastoid was opened. I made the incision behind the ear, close to the auricle, and, to get more ready access, made, contrary to my custom, another at right angles to its upper extremity. It is needless to go over the steps of the operation. Suffice it to say that, after chiselling parallel to the meatus through bone of ivory-like structure for nearly an inch, the operation was suddenly cut short by the wound filling again and again with dark venous blood. I had evidently opened at the lateral sinus, and therefore abandoned further attempts to drain the tympanum. The hæmorrhage was easily checked by lint dipped in carbolic oil, and did not recur to any appreciable extent after removing the plug, which was done, if I remember right, about eight hours after the operation. Syringing antiseptic fluids into the wound produced giddiness, but no flow from the meatus, neither could any fluid injected into the meatus be made to flow from the wound. The patient, however, did well, although after her ear symptoms were relieved, she contracted a pneumonia—whether or not connected with a clot in the lateral sinus, Dr. Carmichael and I were unable to determine. The special points of interest, however, from an otological point of view, were:

1. That the case did well without any drainage from, or even opening at, the mastoid antrum.

2. The granulation, or rather so much of it as remained, disappeared never to recur again.

As to the first point, it may be said that there never was any retained pus in the mastoid antrum; but the great swelling and infiltration of the post-auricular tissues, the tenderness and threatened meningitis, negatived this view; so did the presence of the granulation and fistula leading towards the mastoid from the meatus. I regret that, owing to the necessity for an immediate operation at the patient's home, no ophthalmoscopic examination was made, although we are now aware that many cases recover in which the ophthalmoscope has shown changes in the disc.

With regard to the spontaneous disappearance of so much of the growth in the meatus as remained after the bulk of it was shaved off, and the cessation of the otorrhœa which soon followed, I am quite at a loss for an explanation. Of course, such platitudes as counter-irritation and the production of a trophic change, are

always at command. With regard to the beneficial effect of the operation on the head symptoms, I am, however, inclined to attribute importance to the bleeding from the lateral sinus.

As to the method of opening the mastoid, I am strongly of opinion that it should be done as close to the meatus as possible, and, by working towards the antrum, on the accepted anatomical data—that is, using either spina supra meatum or the upper wall of the meatus as a guide to the highest point of the osseous opening—by means of a hammer and gouge. Indeed, I cannot but think that trephines and borers are hardly justifiable. That a measure of success attends their use seems to me to show that, in the majority of cases, the layer of solid bone which has to be penetrated is not deep. My chief objection to their use is that, if the lateral sinus be wounded, the danger is not detected immediately, as in cases where the gouge is used, and irreparable mischief may result.

I have already occupied too much time, although I have endeavoured to avoid anatomical and operative details which are familiar to all present. In conclusion, I may just mention that in those cases where the operation is undertaken to relieve the effects of chronic middle-ear suppuration, as it usually is, I utterly fail to understand the insistance of certain otologists on antiseptic precautions. That antiseptic washes should be used goes without saying; but to carefully render the skin antiseptic before making a wound over the surface of which putrid secretion is destined to pass seems to me, to say the least, superfluous; unless, indeed, the operator wishes in every case to provide against possible ills from opening into the cranial cavity.

In the majority of these cases—especially when they are not treated in a general hospital, where various microbes may be supposed to be collected together, and ready for an attack on any open wound—I am inclined to apply as little dressing as possible, and to have the wound syringed with warm boracic lotion every hour or two, the fluid being made to pass both from the meatus to the wound and *vice versâ*. As all who have any experience in this operation are aware, this through current cannot always be produced immediately after the operation, probably owing to reactive swelling. One of the greatest difficulties in after-treatment is to keep the channel leading to the antrum open. Equally well-known is the fact that the wound often tends to fill with granulations, which require to be scraped away. For drainage purposes I prefer to use a lead tube, as it is more easily introduced when the channel has become narrowed: but, on the other hand, it also is more difficult to keep comfortably in its place.

As the cause which necessitates these mastoid operations and which so often endangers life in chronic middle-ear suppuration is the inspissation and subsequent putrefaction of pus, together with the tension so produced, my mind has for some time past been exercised by the question, whether a better means of cleansing the recesses of the middle ear than we at present command could not be found. It has occurred to me to use for this purpose the digestive ferments. I hope to discuss this subject at length on a future occasion, but may be permitted now to mention that trypsin and papayotin in solution seem to me most likely to prove suitable. The former I have already employed (in the form of Benger's liquor pancreaticus mixed with sodæ bicarb. to secure alkalinity), and it acted most efficiently and painlessly in the case of a boy whose tympanum was filled with a choleastomatous mass. Such experiments must of course be conducted with care; but on general grounds we are entitled to assume that trypsin is likely to act strongly on most if not all dead tissues and to spare living structures. If by its means we are enabled to break up hardened masses of pus, cholestearin, and epithelium, and, perhaps also, dead bone, a distinct advance in treatment will be thus achieved.

Superannuation.—Mr. Joseph R. Donald, F.R.C.S.Eng., late medical officer for the Lower Holloway district of the parish of St. Mary, Islington, has obtained a superannuation allowance of £77 16s. 1d. per annum.

George Bernard Hoffmeister, M.A., M.B.Cantab., B.Sc.Lond., M.R.C.S.Eng., has been associated with his father (Sir William Hoffmeister) and brother, as Surgeon at Osborne, as well as to the Royal Yacht Squadron, Cowes.

Bequest.—By the will of an Ayrshire farmer, Mr. Peter Connor, Ayr County Hospital benefits to the extent of £200, the Glasgow Asylum for the Blind £100, and the Glasgow Asylum for the Deaf and Dumb £150.

A CASE OF DEEP CELLULITIS OF THE NECK WITH PARTIAL PARALYSIS OF RIGHT ARM FOLLOWING ACUTE OTITIS MEDIA CAUSED BY A BLOW.

Read in the Section of Otology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By CHRISTOPHER LEWIS, M.D.,
Assistant-Surgeon Ear and Throat Hospital, Birmingham.

This case, presenting as it does points of unusual interest, is I think worthy of recording before the members of this Section.

I was called in consultation by Dr. MacMunn, of Wolverhampton, in January last, to see a strumous, delicate boy, aged 13, with the following history: some fourteen days prior to my visit the lad had received a box on the ear at school—a fact not brought before the attendant's notice. He complained of sore throat and occasional earache; in a few days these slight symptoms rapidly developed into a more serious condition, for the temperature ran up to 102°, delirium came on at night, obstinate vomiting and pain in the head. These symptoms became more pronounced, particularly the delirium; deafness became marked, and the temperature ranged between 102° and 104°.

He was seen in consultation by Sir Walter Foster, who was inclined to the belief that it was probably a case of cerebro-spinal meningitis, so allied were the symptoms to this disease; indeed, with no appreciable discharge from the ear and the cerebral symptoms so pronounced, some meningeal irritation was the most natural conclusion to draw in a case so obscure.

About the ninth or tenth day the true nature of the disease showed itself by a swelling and redness over the apex of the mastoid, and the cerebral symptoms, which had been gradually improving for a few days, now almost disappeared. The mastoid puffiness subsided, only to be followed by a deep-seated inflammation of the neck, which rapidly assumed an alarming size. It was at this stage of the disease that I saw him. I found a slight muco-purulent exudation in the external meatus of the right side, which was generally congested and tender to touch, but no inflammatory thickening. The tympanitic membrane had a boggy appearance, its lustre had gone and the pyramid of light was obliterated; there was, however, no perforation.

The hearing distance with Politzer's acoumeter was barely one inch, and the conduction over the mastoid was distinctly impaired. The temperature was 102.2°; the patient was emaciated and complained of violent pains in the neck, shooting up the scalp and around the ear. Antipyrin had been given by Dr. MacMunn; the temperature was by this means kept under, and it further aided in modifying the pain.

The whole inflammatory mischief was now centred in the neck, where an enormous swelling had developed, as hard as a board. This induration extended to some distance beyond the edge of the sterno-mastoid posteriorly, anteriorly to the median line of the neck, inferiorly on a level with the clavicle, and superiorly in a line with the floor of the meatus. There was some difficulty in swallowing, and the breathing was slightly laboured. Singularly enough there was no history of rigors, nor was there the least tendency to pointing, the pain, however, was so great and the constitutional disturbance so grave that it was a matter for serious consideration whether some attempt should be made at once to relieve the pressure. We decided, however, to wait a day or so. On my next visit, as the symptoms did not appear to subside, it was decided to make an incision, although no fluctuation could be detected. I chose a point a few inches above the clavicle, and, dividing the skin and superficial fascia, I groped about with a grooved probe until I at last struck upon a caseous mass. The wound was now enlarged, and after the caseous substance had reached the surface there was some discharge of pus. As the hæmorrhage was rather profuse the wound had to be plugged firmly with strips of lint. The pus welled up freely during the night, and the following morning there was a decided improvement in the patient's condition, and from this time virtually the whole symptoms began rapidly to subside. Dr. MacMunn made a counter opening later on. It was at this stage that some diffi-

culty of movement was noticed in the right arm, owing of course to the injury received by the cervical plexus. This in itself is sufficient to show how deep-seated and extensive the inflammation was.

Curiously enough, owing to some trophic changes, he lost the nails from three fingers. The details of the paralysis I need not, however, dwell upon in this Section. I may add that he gradually lost his deafness, so that now his hearing is to all tests and appearances normal. The recovery, indeed, has been in every way complete, although his convalescence has been both prolonged and tedious.

The points of special interest which this case presents are—1. The unusually severe cerebral symptoms in a case of suppurative otitis media, and such occurring after a blow. 2. The absence of perforation of the membrane, which so generally takes place in such cases. 3. Rapid formation of deep cellulitis of the neck following so quickly the appearance of mastoid swelling and puffiness. 4. An unusual paralysis of arm following cellulitis.

This case affords a striking instance of the absolute necessity that exists of making a thorough examination of the ear in all cases of cerebral symptoms, both in children and adults. Many cases of apparent meningitis may be cleared up and more accurately diagnosed by the use of a mirror and speculum. There are few practitioners, when obscure fever and delirium set in, who do not make a practice of examining the chest for evidence of pneumonia: if they observed the same routine with regard to the ear many a grave disease might be checked, and perhaps it is not too much to say, lives saved by a timely incision into the membrane.

The suppuration of the middle ear in this case was, in all probability, due to concussion—the severe shock to the delicate structures of the ear by the sudden compression of the column of air within the external meatus, and consequently the forcing inwards of the tympanic membrane is sufficient to account for this. The severe cerebral symptoms may be due to the want of free egress to the pus when formed, and the immediate effects of pressure in the labyrinth, for the impaired conduction over the mastoid pointed to some extent that the labyrinth was implicated; but it is a well-established fact that in acute inflammation of the ear the cerebral symptoms are more severe in children than adults.

These symptoms would probably have been less severe had the membrane become perforated either spontaneously or by artificial means. That suppuration of the middle ear without perforation, although a somewhat rare coincidence, is not impossible, was proved by a case reported by Toynbee, where a *post-mortem* examination revealed the presence of pus in the tympanum, but the membrane was intact.

The escape of pus through the mastoid in all probability saved the patient's life and prevented spreading to the brain, for, instead of bursting the membrane, the fluid forced its way into the mastoid cavity, and then through its apex, for it was at this point that the redness and swelling presented itself, and thus the products of inflammation were brought into contact with the deep cervical fascia, and so accounting for the formation of cellulitis.

Bezold was, I think, the first to point out that when the inflammation of the mastoid process is confined to the inner aspect of the apex of the mastoid, such extension takes place, for a very thin osseous layer here protects the air-cells, so that, if any pus is formed, it easily forces its way through it at its inner aspect, and thus readily extends beneath the sterno-cleido-mastoid muscle, and so the pus escapes into the deep tissue. From the time that the mastoid puffiness showed itself to the development of the enormous swelling in the neck could be counted by hours rather than days. Deep-seated abscess not infrequently forms in the muscle of the neck near the affected mastoid cavity, but it rarely spreads so deeply. Again, phlebitis of the emissory veins of the mastoid may occur in the course of an inflammation of the ear, but the induration is peculiar; and, although a cellulitis may develop, I am not inclined to the belief that the case could be classified among those due to such a cause. The explanation which I have given appears to me the most reasonable one. I saw a few days ago a case where there was a history of a discharge from the ear some days previously, although there was none present at the time of examination, where a large induration appeared below the ear, which, after examination, proved to be glandular; and these glandular masses, when the induration is great, are liable to be mistaken for a cellulitis, but the course of the one is totally different from the other.

Chronic cellulitis of the neck is occasionally met with as a sequel to mastoid abscess and caries. The worst case that I have met with was one where the pus had so burrowed that sinuses formed over the whole neck, which lasted, off and on, for a year or more. The origin of the mastoid was due to a surgeon plugging the ear firmly with boracic acid. The patient died some six months back, from, it is thought, cerebral abscess.

NOTES OF A CASE OF CHRONIC OTITIS PURULENTA, FROM WHICH SEQUESTRA OF THE LABYRINTH WERE REMOVED.

Read in the Section of Otology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By J. ERSKINE, M.A., M.B.,
Surgeon Glasgow Ear Institution.

M. C., aged 24, married, was brought to the Glasgow Ear Institution in May last, complaining of deafness in both ears. The patient could neither read nor write. She had not learned the digital signs used by the deaf and dumb. It was, therefore, impossible to obtain a complete history of the case from the patient. Her sister stated that there had been a discharge of matter from the right ear for the last four years, until two months ago, when that side of the face became paralysed. About three years ago the left ear began to discharge, and matter has been coming from it ever since.

On examination the nasal passages were found to contain polypi, and adenoid vegetations were present in the naso-pharynx. In the meatus of the right ear a mass was lying, which, on being removed by the forceps, appeared to consist mainly of steatomatous material and *débris*. When this mass was placed in water it was observed that sequestra of necrosed bone were embedded in it. These, by further washing, were separated completely from the soft *débris*, and proved to be, on careful inspection: (1) the cochlea; (2) a sequestrum of the inner wall of the tympanum, containing the fenestra ovalis and the Fallopian canal for the facial nerve above and behind it, and appearing to run into it, on account of the erosion that had taken place; (3) a small scale of bone, apparently from the wall of the cochlea; and (4) the long process of the incus. Viewing the sequestrum of the cochlea from the cupola through a perforation in its wall in that situation, the modiolus is plainly visible with the helicotrema, and also the bony spiral lamina throughout the most of the extent of the uppermost one turn and a half. The outer wall was also complete in that part when the sequestrum was first removed. On the inner aspect or base of the specimen the cochlea is incomplete, and no vestige appears of the vestibule. No granulations or polypi were present in the right meatus where these sequestra were found, but on their removal a small quantity of thick viscid pus was discovered behind the mass in which they were embedded. The facial paralysis of the same side was very well marked, the face being drawn to the left side. The paralysed muscles gave no response to the faradic current, and responded very weakly to the galvanic. Sensation was not diminished. The right eye could be closed to a very slight extent. There was no deviation of the tongue, and the sense of taste did not seem to be affected.

There was no indication of abscess connected with the mastoid process during the history of this case. The region of the mastoid antrum, externally, was perfectly free from any cicatricial appearances. There was no trace of the tympanic membrane, and a probe could be passed into the antrum.

On testing the hearing the patient was found to be totally deaf in the right ear; the tuning-fork being applied to the vertex was only heard in the left ear. The latter meatus contained a great mass of polypi, but no sequestra of necrosed bone, so far as the case has been observed. The patient only attended twice at the Ear Institution, and then failed to put in an appearance for six weeks. When she returned after that interval the growths in the left ear were very exuberant, and up to the present time treatment has not been carried out so successfully as could have been desired, on account of the very irregular attendance of the patient.

It is worthy of note that nasal polypi and adenoid naso-pharyngeal growths were present in this case, and, so far as could be ascertained, had existed prior to the ear disease. This is very

interesting as a factor in the production of the otitis, for no other cause could be set down in the history of the case.

This contribution may be justified by the rarity of such cases in otological literature. The latest specimen, and one of the most interesting and important, consisting as it does of a sequestrum of the whole labyrinth, has been described by the President of this Section in the pages of the *Glasgow Medical Journal* for April of last year. Two years before (JOURNAL, June 13th, 1885) that contribution was made we were indebted to Mr. Pye, of London, for elaborate notes of a case of the same kind. Mr. Phillips, of the Bolton Infirmary, had also a similar case about the same date. These form the most recent memoirs on the subject in the annals of otology in England. But members will have observed with great interest the most elaborate paper on necrosis of the labyrinth by Bezold, of Munich, that appeared in the *Archives of Otology* for December of last year, in the course of which a comparatively complete list is given of all the reported cases accessible to him, including five of his own. These amount to forty-six, of which he gives a very critical analysis. In addition to these forty-six there are about eight others of which he had not heard or had not obtained particulars while preparing his paper. One of these was reported by Hartmann, of Berlin, in the previous number of the *Archives*, the sequestrum described by him consisting of a portion of the cochlea, including about the two upper turns. Seeing that the records of aural surgery in this country and the Continent only contain notes of over fifty cases of the separation of sequestra of the labyrinth in whole or in part, perhaps the members of this Section will not grudge me the few minutes I have occupied in reading my notes of a recent additional case.

Notes regarding an unusually large Auricular Appendage.—M. Q., aged 29, weaver, came to the Glasgow Ear Institution, last September, for the purpose of inquiring whether a very unsightly appendage, projecting in front of her right ear, could be removed without danger. Apparently, matrimonial prospects had suggested the inquiry with a view to improving her appearance. In the position of the tragus, there were found a very minute nodule and the appendage now shown, in front of it and on a slightly higher plane. The large projection was directed forwards and upwards. Its base measured half an inch, and its length from base to apex was over an inch. The crest of the helix approximated very closely to its upper border, and it extended downwards to the incisura intertragica. A small nodule could be felt just below the crista helicis. Another was present at the lower border of the base of the large appendage. The hearing was perfect.

Under chloroform, the whole of the large projecting structure was removed from its very base by one snip of large scissors. The stump of cartilage which appeared slightly above the level of the skin was pared away as deeply as possible, and the edges of the wound brought together by a wire suture. It was dressed with dry boric lint, and healed perfectly by first intention.

Small nodules, projecting from various parts of the auricle, are common enough, and Virchow has described such auricular appendages; but I had never seen one so large as the one shown. That is my reason for bringing it before the notice of the Section.

Such specimens as these form examples of the collection of curiosities which every man makes who has the opportunity of examining a very large number of cases in one special department of disease, and no doubt members have many remarkable specimens in their possession. Practising as the most of us are in large towns, we have not the opportunity of exhibiting them except at meetings of societies of general practitioners, where their importance is not sufficiently appreciated. It is exceedingly rare that we can have such an opportunity as the present occasion. It seems to me, therefore, that the President's suggestion of a combination of otologists is most worthy of practical adoption. There might be a Society in Scotland, consisting of the aurists in Edinburgh and Glasgow, which could meet a number of times a year in either of those cities. Similar associations might be formed in England and Ireland. Such meetings would do very much to facilitate the inter-communication of experience and information on the part of individuals, which could not fail to benefit the whole of those surgeons working in this department of disease.

THE Camberwell Guardians have increased the salary of Dr. Samuel Hague, medical officer for the St. George's district, from £130 to £150 per annum.

ON THE TRUE VALUE OF THOSE AIDS TO HEARING USUALLY TERMED ARTIFICIAL TYMPANIC MEMBRANES.

Read in the Section of Otology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY W. LAIDLAW PURVES, M.D.
Aural Surgeon, Guy's Hospital.

IN considering the true value of the artificial drumhead, it should be remembered that the ear, the organ of tune, is suited to receive transverse sonorous vibrations, and that what is required of the ear is: 1. An appreciation of noises. 2. The determination of direction. 3. The determination of intensity. 4. The recognition of a combination of impulses.

We need not, at present, regard the artificial membrane in relation to the two requirements first mentioned. The last two requirements are those which come practically before the surgeon, and they included the others to a great extent. Our assistance is not asked by a patient to enable him to hear the tick of a watch, or the sound of a fork, but to restore him, as far as may be, to conversational intercourse with his fellow men.

This conversational intercourse is interfered with by any changes which damage the mechanism regulating the intensity, the analysis of the several impressions, the conveyance of these to the brain, or the sensations thereby produced. It is with the first cause—changes in the mechanism regulating the intensity—that we have to deal. These are found in abnormal alterations in the reflection, resonance, conduction, and tension of the external and middle ears, and almost exclusively on those in the latter organ.

The changes in the meatus itself, excluding those in the membrana tympani, in which the artificial drumhead might be of service, are somewhat obscure, but cases have come before me in which the benefit effected seemed to be in the size and position of a piece of moistened cotton wadding in the meatus. I shall be happy to learn if any such cases have been seen by any member present, as I have not observed such cases mentioned in the literature of the subject. The so-called, but in such cases mis-called, artificial drumhead is made in the form of a cylinder, and placed on the floor of the meatus, but so that no part of it reaches the natural membrane, or its position in the normal state. If we remember that the vibrations collected by the auricle, and those which strike the meatal wall perpendicularly are reflected frequently in the meatus; and these reflections are influenced by changes in the regularity of surface, both in the cartilaginous and osseous portions of that canal; that these reflected vibrations then strike a membrane standing at an angle of about 140° to the canal causing those reflections; and that this canal acts as a resonator to certain tones, strengthening high tones, and deadening low ones, we must admit that the placing of a body which changes the calibre of the canal irregularly may alter its capacity for exercising these functions, and, when abnormal changes are present, may assist in restoring that capacity.

It may be that in cases of abnormal change in the membrana tympani itself, without meatal changes, this meatal pad may reflect or concentrate vibrations to a part of the tympanum better fitted to receive and convey them to the inner ear.

When we turn to the tympanic membrane itself, and the cavity of which it forms the outer wall, and note its irregularity in stiffness, its irregularity in density, in tension, in movement, and in curvature, the changes which may occur by the placing of an artificial drumhead against a tympanic one in which abnormalities are present are innumerable. When we pass to the cavity with its muscles, joints, ligaments, linings, membranes, and peculiar nervous supply, and then remember that any changes which may arise either in the membrana tympani or in the cavity, must cause anomalies in their relations to each other, is it a matter of astonishment that there has been difficulty in determining the exact mode of action of the artificial drumhead?

It may be that it acts in the many ways alleged, as by restoring the screen between the meatus and cavity, and so increasing the resonant power of the latter, by acting as a medium between

the air and the ossicles, or by restoring a lost curvature and so increasing the action of the vibrations on the ossicles. It may load the membrane so as to prevent after-vibrations, or enable the membrane to accommodate itself to vibrations of every degree of rapidity. It may and does act as a protector, as a vehicle for medicaments, as an absorbent, as a moistener; but it is pre-eminently as a tension transposer, and an assistant to the intratympanic muscles that it effects the changes which delight both patient and practitioner.

When accommodative loss has taken place in the ear from anomalies of tension, as (1) by a lengthened closure of the Eustachian tube, causing rarefaction of the tympanic air, and thereby an increased tension of the membrana tympani and ossicula, and so causing a hindrance to the conduction of sound; (2) by thinning of the membrane by atrophy or cicatrices, or thickening of the same by deposits, and so causing a disturbance between the tension of the membrane and chain; (3) by ossicular changes, especially at the joints or articulating surfaces, interfering with easy conduction—then the artificial drumhead may be applied with a prospect of success.

We are, however, unable to say before trial in what position our assistant is to be employed, and this is only determinable by trial. We may conjecture by observing the changes present in the drumhead by means of a magnifying lens, and the variations in the tension thereof by means of a Siegel's speculum, whether an increase in the tension or a relaxation of the ossicles is most likely to benefit; but I know of no method by which you can predict an improvement to conversational hearing before trial.

Should the loss of accommodation have arisen from a general cause, such as anæmia, nervous prostration, or other general impairment of vitality, we cannot look for improvement by a local application of this kind; but we are able to differentiate the loss in the two different classes of cases, by the presence in the class in which the artificial drumhead is of benefit, of the objective symptoms above mentioned, and in the other by the general condition or the presence of paretic conditions in the eye, pharynx, or larynx. There may be a combination of causes present, each requiring the attention of the surgeon.

We have still to deplore the want of a good standard for accurately determining the degree of loss for conversational hearing, which is the province in which the artificial drumhead achieves its greatest victories—victories which, in suitable cases, are unsurpassed in any domain in surgery. I have heard it averred in public discussion by a well-known surgeon in London that the membrana tympani acted as a protection or covering to the cavity, and nothing more. I have read the report of a scientific meeting in which it was stated that the artificial drumhead was "a pretty scientific toy, and occasionally very satisfactory in its effects." As well may we consider the transparent refracting media of the eye merely coverings and protectors of the retina, and the spectacle lens "a pretty scientific toy!" How such enunciations could be calmly delivered by men practising aural surgery, and who must surely have seen the delight of the patient to whose ear an artificial membrane has been successfully applied, the eager inquiries for instruction in its use, and the satisfaction evinced after many months of easy hearing, free from that constant strain to listen which was causing nervous prostration, headache, and giddiness by the very effort, I cannot understand. I have heard the successful application of the artificial drumhead compared to the successful operation for cataract, but I would rather say that the artificial membrane does for the ear what the artificial lens does for the eye, performing the work which the muscles themselves cannot do without a strain, and placing the vibrations and undulations in the respective organs within the easy command of the muscles, so that those wonderfully minute variations necessary for conversational hearing may be effected with comfort—variations which are constantly being acted upon in our waking hours by the guardians of the gates of the two great senses.

SECTION OF PSYCHOLOGY.

WEDNESDAY, THURSDAY, AND FRIDAY, AUGUST 8TH, 9TH, AND 10TH.

Remarks on Boarding Out as a Provision for Pauper Insane.—Dr. TURNBULL described first the object of boarding out as an effort to do for pauper patients what was done, and rightly done, by the relatives in the case of many non-pauper cases. Its aim was to provide domestic care for a certain class of the pauper insane, by selecting suitable guardians and placing the patients in homes in suitable districts. It was only done in cases in which asylum treatment could not do anything further to promote recovery, and asylum control was not necessary for restraining any dangerous or offensive habits. Financially the boarding out system was much cheaper than the cost of care in asylums, or in lunatic wards of poorhouses: and if efficiency was not sacrificed, economy was a strong argument in its favour. The advantages were (1) that it provided a natural, healthy, and satisfactory mode of accommodation for a certain class of the insane; (2) it was economical; (3) it lessened the pressure on the accommodation of asylums, and allowed these latter to turn more to their proper purpose of acting as hospitals for the cure of the insane. The requirements were, (1) a selection of suitable patients, (2) a selection of suitable guardians, and (3) efficient inspection by a central authority. The class of patients suitable for boarding out were those suffering from either congenital or acquired insanity, who were in the quiet manageable stage, generally incurable, but not necessarily so. The contra-indications to boarding-out were (1) presence of dangerous propensities, (2) habits making the patient offensive to public decency, and (3) the risk of sexual accident. Regarding the number of patients suitable for boarding out, Dr. Turnbull said that in Fife it represented a proportion of 16 per cent. of those who came under asylum treatment. Taking all the cases which came on the registers of the parish as insane, whether they had needed asylum treatment or not, the experience of the city parish of Edinburgh showed that 28 per cent. could be provided for by boarding out.—Dr. YELLOWLEES desired to thank Dr. Turnbull for an admirable and temperate defence of the boarding-out system. He said that no one would question the value of boarding out pauper patients, given suitable cases, suitable guardians and proper supervision; but that such combination was very difficult to obtain, and in some districts, where high wages were earned, simply impossible. The patients were not received by guardians from pure benevolence, but they expected to profit by their boarders, and only in a poor home could the profit made out of 6s. or 7s. a week be an object if the patient were not neglected. Even at the best, Dr. Turnbull's paper showed that only 16 per cent. of our asylum population could thus be provided for, and such an outlet was utterly inadequate as a provision for the constant accumulation of chronic insane in our asylum wards. Of course it was a very welcome relief so far as it went, but something more was needful. He believed that the insane of any area should be received into small cure asylums—as numerous as the area might require—from which the patients whose recovery had become doubtful should be transferred to a large chronic asylum, or restored to friends, or boarded out with strangers, as might be found best. Dr. Yellowlees gave some details as to the mode of providing for such patients in the United States as seen at the asylums at Willard and at Middletown. With the one drawback of being too costly, such provision was admirable, and boarding out was there found to be impossible.—Dr. HACK TUKE said that what struck him forcibly was that, after eliminating the unsuitable cases out of the chronic insane, a comparatively small number remained to be provided for. He thought that while we looked to the interests of patients and the ratepayers we were too apt to overlook the moral injury which might be done to the family, especially the younger members, with whom the patient was placed. It appeared that the Scotch Lunacy Board regretted the number now aggregated together at Kennoway, etc. If so, the difficulty of meeting the evils of the great accumulation of chronic cases in asylums was evident, and the advantages to be derived from boarding out proportionately limited. At the same time, he fully recognised the value of the cautious use of boarding out, so long as careful and frequent inspection was in force. In England there were 6,000 pauper lunatics and idiots boarded out and placed under the official inspection of local parish medical men, but without the supervision of the Lunacy Board. In this respect there was a marked difference between the Scotch and English systems of boarding out. He (Dr. Tuke) had visited Gheel, and no doubt there was much that was unsatisfactory as well as satisfactory in that system, but it would not be fair to compare it to that in force in Scotland, unless the latter went on increasing until there was one-third of the population of the colony insane. It was clear that many abuses might arise in the one case and not in the other. On the other hand, it should in fairness be remembered that there was a good asylum in the midst of the Gheel colony, so that cases proving unsuitable for the village life could at once be removed to the asylum. He thought a strong argument in favour of the

boarding-out system was its greater cheapness, for so long as no mischief was done to families, it was a duty to lessen the present enormous expense of our county and borough asylums by a recourse to more economic methods of caring for the chronic insane.—Dr. STEARNS said that when in this country, several years since, it was his good fortune to visit one of the colonies of the boarded-out insane, where he had the fullest opportunity to observe its operation. He saw no reason to think that the plan was not a successful one in Scotland, and on his return to the United States he had occasion to consider its desirability there. He was forced, however, to the conclusion that, aside from any other objections to the plan there, there existed this insurpassable one, namely, the impossibility of securing reliable and proper persons to take charge of them, except at such expense as would render such provision impracticable. In the United States the rate of wages was so high that reliable persons and those possessed of the requisite requirements could utilise their time to much better advantage. Attention was therefore directed in other directions. This had been in the form of annexes to asylums and hospitals already existing. It was first instituted at Willard, New York, by Dr. Chapin. Provision had been made there for some fifteen hundred of the various classes of the chronic insane, with some six hundred or more acres of land, which provided occupation. A somewhat similar plan had been adopted at the State Hospital at Middletown, Conn. Two annexes had been erected there—one for each sex—with capacity for 300 patients. They were in the immediate vicinity of the Central Hospital, where they were under the direct care and supervision of a separate resident medical officer for each annex, who alone decided as to the fitness of the patient to be employed. He was happy to be able to report that this plan appeared to have worked exceedingly well, so far as related to an elimination from the hospital proper of a considerable number of the chronic insane, thus providing for a like number of the acute; it provided for all that could be secured, if these patients were to be removed to houses in the country. It certainly provided for many of the chronic insane who would not be of a proper character to be boarded out. And, again, it provided for a system of care and inspection vastly more efficient than would be possible for boarded-out patients. Finally, the expense was much less than would be the case if such cases were boarded in families in the conditions of society in the United States. He regretted to say that in the hospital at Middletown there had not been separate accounts kept in the expense of providing for the two classes, so that he was unable to state what this would be. He might, however, say that it was originally thought that the expense of care of the mild chronic insane would be not in excess of two-thirds that of the more acute and excited chronic insane, but in consequence of some defect of the law such separate accounts had not been required. He desired to express his thanks to Dr. Turnbull for his very thoughtful and interesting paper.—Dr. MOULD said, with reference to the distinction which Dr. Yellowlees had pointed out—namely, boarding out with individuals and families not connected with the asylum, and those who were lodged out in houses owned or ruled by the asylum authorities—that two-thirds of his patients—that is, about 200—were lodged out in houses in the neighbourhood or at a distance. They were under careful supervision, but were boarded and cared for by the asylum authorities, being frequently visited by the medical officers; and with such precautions the system answered well. The cost was considerable, but the effect was good. The Commissioners visited such patients, and care was taken that no patient was allowed to live in the outside houses unless they could be cared for without either danger to themselves or others.—Dr. RICHARDSON said that, boarding-out not yet having been formally sanctioned by the Legislature of the Isle of Man, it had not yet been so fully developed there as it might be. He might, however, notice one case of a male patient who was located with a farmer, He cost the asylum nothing excepting his supervision, and received from his employer a sum of 3s. per week in money, in addition to being fed. There was one aspect of boarding out which he had always regarded with regret—namely, that frequently it was the most useful patients who were most suitable for boarding out, and that consequently, on their withdrawal from the asylum, perhaps more paid help was required. Counterbalancing this, however, was the fact that when a useful patient was removed it was found that the attendant would generally train up another patient to take the place of the one removed, and therefore that even in this respect benefit to the asylum community ensued.—Dr. CLOUSTON said that in the Royal Edinburgh Asylum, during the fifteen years he had been in charge of it, the pauper department had not increased, and this had been entirely owing to the energetic and intelligent system of boarding out adopted by the Edinburgh inspectors of the poor. The result of this had been that the money spent on the pauper department during that time (£35,000) had been spent in developing hospital and admission departments or reconstruction, and generally in making the institution more medical and more curative, and not in providing those endless annexes for incurable, mindless dements as they had had to do in the English and Scotch counties. They had 500 pauper patients and 250 yearly admissions. Therefore from the ratepayers', the physicians', and the administrative point of view, their boarding-out system had been useful. He believed the patients were well cared for, and those who turned out to be not suitable were sent back without much cost or trouble. He did not pretend to be sure about the cases that were suitable for boarding out when he was selecting them in the asylum wards. Many cases he had thought most doubtful had turned out well as boarded-out cases, while some of those he thought most suitable had to be sent back.—Dr. WATSON said there was a danger of losing sight of the fact that the guardians of boarded-out patients were very poor, who hoped to benefit pecuniarily by the patients, and that they were therefore doubtful persons to whom the charge of their lunatics should be given. For instance, according to Dr. Turnbull, in Shetland, where the people were poor, 53 per cent. of the insane were boarded out; whereas in Nairn, where the people were well-to-do, the proportion boarded out was only 8 per cent.—Dr. ROGERS considered that the question was chiefly a financial one. Where wages were high and employment constant it did not pay persons of the labouring class to take lunatic boarders. The number of patients boarded out under supervision of parish authorities, and also the number in workhouses, had materially fallen off since the granting of the weekly allowance of 4s. per week for lunatics in asylums, which was not extended to those in workhouses or boarded out. This was especially marked in the last-named class, which had fallen in Lancashire since the grant was first given to one-fourth of what it was. The falling off of the number in the workhouses might be assumed to be due to this cause, because, by the addition of the 4s., the cost in asylums and workhouses was equalised, the guardians got rid of a troublesome class of inmates, and could utilise the space for others. Referring to Dr. Clouston's observations, Dr. Rogers wished to know if it was not a fact that the elimination of so many chronic quiet patients (such as were suitable for boarding out) not only increased the cost of those that remained in the asylum, but also, by associating a larger proportion of the more excited, destructive, and violent cases, did not increase the general excitement of the asylum wards, and so act prejudicially on those who were left behind, as patients of a quiet demented class were not only useful workers, but acted also as a diluent in moderating the turbulence of the more excited class. In Lancashire the subject had received much attention, and he (Dr. Rogers) believed that it had been unanimously settled in favour of erecting annexes for the accommodation of the chronic class of patients in connection with each of the county asylums.—Dr. TURNBULL, in replying, argued that failures or shortcomings in the system should not be taken as implying that boarding out ought not to be practised at all. He believed that it was capable of being carried out in districts where at present it was believed to be impossible, or, at any rate, was not practised. He thought the remarks made by different members in the discussion showed that our general lunacy administration should, like our asylums, include various modes of provision, so as to meet the various requirements of our patients, and that boarding out was one mode of provision which should be maintained, as it was exceedingly beneficial in improving the mental state of one class of the insane. Boarding out existed in all countries, and always would exist; the special feature in Scotland was that it was systematic and brought under the inspection of a central authority.

Pathology of Delusional Insanity (Monomania).—Dr. JOSEPH WIGLESWORTH read a paper on this subject. The importance of considering monomania as a distinct type of insanity was pointed out, and, in particular, its fundamental distinction from mania was insisted on. Mania was considered to be an affection of the highest controlling and co-ordinating plexuses of the brain, and, in dissolution of the nervous system from this affection, the nerve cells and fibres perished from above downwards. But it was suggested that, in the disease known as delusional insanity, the nervous derangement progressed, not from above downwards, but

from below upwards, the primary change being in the peripheral nervous system or lower cerebral centres. The evidence in favour of this mode of origin was twofold, being derived partly from a consideration of the mental symptoms themselves, and partly from the teachings of pathology in allied cases. The three leading mental traits of delusional insanity were (1) the entrance of well-marked hallucinations (or illusions); (2) the presence of delusions; (3) the preservation of the reasoning faculties. The invariable presence of the hallucinations was insisted on, and their relation to the systematised delusions pointed out. The author considered that in this affection the hallucinations always came first in point of time, and that the delusions were secondary, being directly developed out of the sensory disturbances. The direct dependence of the delusion upon the hallucination could, indeed, often be clearly traced—for example, the construction of delusions of conspiracies and persecutions out of hallucinations of the tactile and auditory senses. Here the pathological formation of ideas proceeded upon the same lines as the normal physiological process. If, then, it could be shown that the hallucination always preceded the delusion, clearly the latter must be a secondary thing, and the primary change must be in the nervous structures, derangement of which was capable of giving rise to simple uncomplicated hallucinations. The preservation of the reasoning faculties was a fact of much significance. The argumentative power and excellent memory displayed by many monomaniacs was commented on; and it was argued that this fact in itself showed that, at this stage of the case, there could be no disease of the highest centres of mind. Turning to the pathological evidence, the author remarked that it was a recognised fact that disease of the sense organs was prone to give rise to a delusional state; and cases were quoted of syphilitic optic neuritis, in which marked delusions of suspicion became developed, the latter disappearing on the cure of the optic troubles. The most typical examples, however, of a delusional insanity, dependent upon changes in progress in the nerves themselves, were derived from certain cases of locomotor ataxy. The insane manifestations which at times supervened in this disease frequently took the form of the monomania of suspicion and persecution; and the importance of these cases lay in the fact that we could often clearly trace the genesis of the delusion out of the abnormal information furnished by the peripheral nervous system. The abnormalities of the tactile sense in this disease gave rise to various kinds of perversion of touch, the patients feeling as if they were treading on cotton-wool, etc. The perversions of this sense were, however, usually conducted by the sense of sight, and no delusions were developed. When, however, blindness came on from atrophy of the optic nerves, this method of correction was no longer available, and delusions were very prone to ensue. So much the more likely were these to occur if the auditory nerve also became affected. If the main avenues to knowledge were sealed, delusions must become developed almost as a matter of course. That under these circumstances the sensory pains should be mistaken for the tortures inflicted by supposed enemies was not surprising, nor was it to be wondered at that delusions of suspicion and persecution should become developed. Such cases showed that a mental state practically identical with monomania might be produced by physical changes in progress in the peripheral nervous system. This did not prove that the more ordinary examples of this affection were thus produced, but it suggested that at least in some cases they might have a similar origin and course. It was not necessary, however, for the lesions to be of the coarse nature of sclerosis in order to produce an effect; changes far more delicate might be equally efficacious, although less easy to demonstrate. Clearly also disease of those nerves which took the leading part in furnishing the raw material of intelligence would be more likely to be followed by mental derangements than affection of those nerves which were less immediately connected therewith. Hence the paramount importance of the senses of sight and hearing in this regard; hence also, perhaps, the comparative infrequency with which mental derangements became superadded in the numerous forms of peripheral neuritis, this affection having been studied chiefly in connection with the mixed spinal nerves. It was not, however, proposed to limit the inception of delusional insanity to the peripheral nervous system; in some cases it was probable that the disease commenced in certain lower cerebral centres, such as the optic thalamus or the primary perceptive cortical centres—those forming the end stations of the nerve fibres from the special senses; *post-mortem* evidence in favour of this latter mode of origin was however at present wanting.—Dr. SAVAGE said that monomania used to be looked upon as often the result of degeneration due to mania, or more often melancholia. Dr. Wiglesworth preferred to consider monomania as the equivalent to delusional insanity. He (Dr. Savage) doubted whether sense perversion would produce delusional insanity in any than a neurotic person. He agreed that sense perversion preceded delusions. He met with many cases with deafness and delusional insanity; middle-aged people developed deafness and hallucinations of hearing, suspicion, dread, and fear of persecution, and might finally become possessed by ideas of grandeur. Locomotor ataxy provided many interesting experiments of sense perversions, and was worth all our efforts at investigating the mental accompaniments. He agreed that often in delusional insanity memory and other mental faculties might be intact.—Dr. MICKLE differed from Dr. Wiglesworth as to monomania always being preceded by and based upon hallucinations of the special senses. He believed that in many cases of monomania hallucinations did not precede, whether they subsequently occurred or not. In some cases of monomania there were no hallucinations at the onset; there was often disorder of the inward feeling—a perversion of the normal feeling of existence.—Dr. CONOLLY NORMAN said that it appeared to him that monomania frequently occurred without hallucination. He thought the disease was essentially a degenerative one, arising most often in the hereditarily disposed or those who had acquired a predisposition. It was akin to idiocy; it also often followed on neurasthenia. This might in part account for its tendency to be associated with tabes dorsalis, the same cause underlying both. Its distinctive clinical features he held to be a tendency to systematised and organised delusion with relative integrity of the higher intellectual functions. He instanced cases in elderly men of systematised delusions of conjugal infidelity. It must be remembered that the integrity of the higher functions was only relative. The highest function of all, the judgment, was profoundly impaired. Believing, as he did, that monomania was a disease that could hardly be acquired by a brain that had not been abnormally constituted for a length of time, he could not accept Dr. Wiglesworth's views. Dr. Norman referred to the investigations of Dr. Charles K. Mills, who held that the brains of monomaniacs showed certain peculiarities of conformation—undue width of the Sylvian fissure, deficiency of the annectant gyri, prolongation of the parieto-occipital fissure over the external surface of the hemisphere, etc. Such profound and essential alterations in the conformation of the brain were rather, perhaps, what one would expect, considering the essential nature of the malady.

Relations of the Sexual and Reproductive Functions to Insanity.—Dr. CAMPBELL CLARK introduced a discussion on this subject, and suggested subjects for discussion under the heads of: 1. Menstruation. 2. The sexual instinct and its abuse. 3. Pregnancy, parturition, the puerperal period, and lactation. The question of action and reaction of body and mind opened up the subject; next came the question what had menstruation to do with mental change and mental disease; and the relation of amenorrhœa as a cause or sequence of mental disease. The neurotic relations of chlorosis were touched on, and special attention was given abnormalities of sexual development in cases of insanity. The study of the sexual instinct assisted by temperature registrations, the effect of different diets, and the relations of self-abuse and insanity were next considered. A rare type of trophic disease associated with masturbation was described, and the question was asked: Is there such a thing as true masturbatic insanity? When is it primary and when secondary? And lastly, the influence of the act of masturbation directly in the mental condition, especially in producing violence, excitement, and attempts at escape. In opening up the third section, attention was specially desired for topics which give scanty information in individual practice, so as to accumulate evidence of rarer kinds. Of such the following were proposed: 1. The nervous and mental peculiarities of pregnancy. 2. The mania transitoria of labour. 3. Puerperal eclampsia associated with insanity. 4. The premonitory symptoms of puerperal insanity. Clinical illustrations were given briefly of insanity of pregnancy, the mania transitoria of labour was referred to from the author's experience, and the relative significance of the various premonitories of puerperal insanity was also stated.

Mental Disorders associated with Marriage Engagements.—Dr. GEORGE H. SAVAGE said that cases of mental disorder associated with marriage engagements were frequent in both sexes. In many it was only a natural feeling or set of feelings in excess;

it was not necessarily associated with habits of masturbation, nor was it necessarily associated with continence, though in some cases excess and in others abstinence seemed to be part causes. The onset of the disorder was often rapid, might be sudden, it was always of a melancholic type, there was self-analysis and over self-consciousness, frequently loss of or change in affection, with or without religious depression; these symptoms often led to breach of promise of marriage and might be connected with legal actions; these affections were more common in neurotic families and might occur to the same person several times, and might occur in several members of the same family. As a rule these cases recovered under proper care. Marriage or sexual indulgence should not be recommended: it would often lead to ideas of impotence and suicide.—Dr. CLOUSTON said it would be necessary to unite the experience and knowledge of general practitioners of medicine and gynæcologists to have a satisfactory discussion on the most important subjects so very ably treated by Drs. Campbell Clark and Savage. The mental symptoms of puberty and adolescence could not be dissociated from the headaches, the chloroses, the choreas, the epilepsies, and the trophic deficiencies of the period. All this came from the same cause—a want of full developmental force in highly-organised and hereditarily weak brains. The connections of disturbed menstruation and insanity might be divided into two, the acute mania of sudden suppression and the melancholia of amenorrhœa and menorrhagia. In regard to the causative connections of masturbation with insanity it comprised, in a sentence, the neurotic. Youths might become insane from masturbation. The strong country lumpkin might masturbate as much as he liked and no permanent harm would come of it. He advocated paraldehyde for sleeplessness as the very best hypnotic we had, whether there was mental disease or not. And whenever they had a highly-temperatured and puerperal insanity large doses of quinine (10 to 20 grains), frequently repeated, was by far the best remedy.—Dr. WIGLESWORTH said that with reference to the question of association of puerperal insanity to septicæmia, he should like to bear witness to the fact that a large proportion of cases of mania arose in connection with this condition. As regards masturbation and insanity he should have liked to have heard more remarks about masturbation produced by insanity. He had very frequently seen temporary masturbation in epileptics after their fits—in patients who were in all respects correct at other times; and he thought, in a large number of cases, masturbation was the effect of insanity and not its cause.—Dr. CAMPBELL (Garlands) thanked Dr. Savage for his very excellent paper, but confessed his entire inability to discuss such a paper without further consideration. Such a paper should be carefully read before it could be discussed. As regards some of the remarks made by Dr. Clouston, Dr. Campbell said his puerperal cases rarely showed any signs of septicæmia. The temperature rarely kept up for any time; his experience, as given in the paper of Dr. Macleod of Beverley, had been very fortunate in puerperal mania. As regards reduction of temperature by large doses of quinine, Dr. Campbell questioned the benefit to the patient, and this after largely using the treatment in a considerable number of cases of pneumonia. He had used paraldehyde pretty largely. He thought it one of the best hypnotics we had; its taste was against it, but if given in rum this was not noticed. He had also used urethane, but did not think so highly of it.—Mr. ALFRED APLIN rose to seek information respecting the connection between self-abuse and true ozæna. It was stated in another Section yesterday that ozæna was a very constant accompaniment of this vice, especially so in women. During his twelve years' experience of asylum practice he had met with numerous cases of hallucinations of the sense of smell, but never with true ozæna, except in a few cases which were due to syphilis or to injury to the nasal bones.—Dr. TURNBULL referred to a case associated with amenorrhœa of long standing, in which the use of permanganate of potash had proved of service, and in which the patient ultimately recovered; and to a case of an epileptic youth, who averred that the act of masturbation gave great relief to the feelings of heaviness and confusion in the head which came on him periodically. He mentioned also the case of an epileptic woman, who had at one time intense suicidal impulse, and attempted to cut off her head; she afterwards married, and during her pregnancy had an attack of very acute mania; she was quite delirious during the birth of her child, but immediately afterwards improved very rapidly, and soon recovered from the maniacal state. His limited experience of paraldehyde had so far not been so favourable as Dr. Clouston's, but he would give it a further trial.—Dr. SAVAGE said there was no evidence that amenorrhœa depended in any way on insanity causally. In some cases obstinate amenorrhœa followed with mental weakness. In puerperal insanity he recommended a return to domestic life, with precautions against pregnancy. He believed masturbation in boys and girls might arise spontaneously. He had had a graphic description of this by a female patient. At the climacteric and at other ages, with sexual perversion there were often hallucinations of smell, and Sir A. Mitchell recognised this. He had found salix nigra useful in some cases of masturbation, but it was not useful in many weak-minded young men. Its effect was useful in some who were able to feel disgust, and sermons and salix nigra were both useful in these cases. He saw a good many cases of insanity of pregnancy, and he divided them into two classes—those before the fourth month, which generally got well at "quickening;" the other went on to insanity of parturition. Transitory mania was of very great medico-legal interest. Women might be unconsciously delivered. He had known same cases following eclampsia, but most of those reported were hysterical. He looked on sleeplessness and bad dreams as early symptoms and very general. He had seen septic causes giving rise to puerperal insanity.

Asylum Construction.—Dr. CLOUSTON (Edinburgh) read a paper on the principle of construction and arrangement of an asylum for private patients of the richer classes. He said that in every good institution a strong effort was now made to make the accommodation for every class of patients homelike, cheerful, and tasteful, and to provide a variety of accommodation to suit patients in different states of mind. This idea was given effect to by different physicians in different ways, but in all cases with the object of the cure, contentment, comfort, and health, bodily and mental, of the patient. The house in which he lived, and the impressions made on his mind of his surroundings, were universally admitted to aid most powerfully the direct mental treatment—the diet and the regimen, the nursing, the moral means, and the amusements and occupations, in the recovery of a mentally afflicted patient. The chief varieties of accommodation that should be provided for the better classes were five, namely: (1) special wards near the medical officer for the treatment of the acute cases, the very suicidal, the disorderly, the violent, and those needing much supervision from any mental cause; (2) infirmary wards for the weak, the paralysed, the very old, those deprived of their senses, the sick, and those requiring much and careful bodily nursing; (3) houses attached by corridors to the administrative centre, mostly with arrangements much like those of an ordinary house or an hotel, each containing a distinct group of patients, whose home it is, but with certain special arrangements; (4) cottages and villas within the grounds; (5) seaside and country houses, where bathing, fishing, and change of air and variety of life could be got. The three last were specially suited for the patients who were improved in mental state, for the convalescent, and for many chronic but quiet cases, who could enjoy with safety and be benefited by home-like surroundings and change of scene. The hospital home for the insane should be constructed on the principle of adaptation of various parts of the house to the varied needs and mental states of its inhabitants. That meant much variety, but the more he had found that principle carried out the happier did the patients seem, and the better were the results in recovery and financial success. His general conclusion was that they should provide about 45 or 50 per cent. of their accommodation in the shape of central wards, 25 to 30 per cent. as houses attached by corridors, about 14 per cent. as infirmaries, and 15 per cent., meantime, as attached villas in the ground or as country or seaside houses. Dr. Clouston proceeded to describe plans that had been drawn for the construction of an asylum for 150 private patients in the neighbourhood of Edinburgh, in which the ideas promulgated in his paper had been carried out.—Dr. URQUHART then described two infirmary wings that were in process of erection at Murray's Royal Asylum, Perth.—Dr. CAMPBELL (Garlands) questioned very much if most rich cases could not be treated in private houses quite as well as in an asylum. He might remark that all asylum officials should know that. A cement now made at Carlisle by Robinson and Co. was, for its price, the best and most useful thing for an asylum. He quite disagreed with the Scotch plan of wood lining walls in asylums; it was dirty, offered a habitation for both fæces and insects, and increased the risks of fire. He thought both commissioners and asylum superintendents had been foolish in going so much in for this wood pannelling. He thought cement walls were, for health, cleanliness, and all purposes, much better than any

mode of wood mural adaptations.—Dr. WARD said he would have been glad to have heard from Dr. Clouston some details as to lighting an asylum by electricity, and the relative cost of that to gas.

Methods of Examining Children in School as to their Development and Condition of Brain.—Dr. FRANCIS WARNER read a paper designed to show that it was practicable to examine the children in a school as to their development and brain-state by visible signs observed. Two classes of signs were described: *a.* The proportions and form of the body, the head and the separate features, obvious bodily deformities or signs of disease, and the signs of nutrition; *b.* The movements and balances or postures of the body and action as seen in the face, the eyes, and other parts, typical forms of which had been described and classified by the author. Thus the signs indicating nervousness, exhaustion, frequently recurring headaches, or slight chorea, had often been detected in school children, as also the signs of low-class brain action. Examples were given of facts seen when observing children in schools, and cases were quoted showing that in many instances visible defects were found to correspond with defects in character. The author urged that attention should be directed to these cases, that means should be taken to ascertain their proportion among strong and healthy children, and concluded by moving the resolution already published in the JOURNAL (p. 373).—Dr. SHUTTLEWORTH rose to second the resolution proposed by Dr. Warner. He trusted the importance of the subject of Dr. Warner's paper would commend itself to the careful consideration of the Section. It was, of course, impossible in the few minutes remaining that morning to adequately set forth the physical criteria upon which the skilled observer might form an opinion upon the fitness or otherwise of children in elementary schools for the prescribed curriculum; but it would be readily acknowledged that a certain percentage were seriously handicapped by defect of nerve power, which expressed itself in physical abnormal conditions, for example, chorea, and certain allied movement disorders. There were, no doubt, many children who were not so deficient as to be called idiots or even imbeciles, but were nevertheless so far below the average of the *mens sana in corpore sano*, that they were left out in the cold under our present educational system. It was with a view of investigating in a scientific manner first the number and then the needs of this class, that Dr. Warner had brought forward his resolution. Not long ago Dr. Shuttleworth had been interrogated by the Royal Commission inquiring into the education of the blind, deaf-mutes, imbeciles, and other exceptional children as to the desirability of doing something for the class to which Dr. Warner had referred. The assistance of the British Medical Association, in whose JOURNAL the matter had been already discussed, would be of great moral weight in drawing public attention to this matter, and it seemed only fair that the necessary expenses connected with the inquiry should be defrayed by a grant from the Scientific Investigation Committee. Dr. Shuttleworth concluded by describing the so-called "auxiliary classes" for abnormal children which he had seen at work in Norway in connection with the elementary schools, and which existed also in Germany.—Dr. HACK TUKE supported Dr. Warner's motion. Having recently seen the intermediate or auxiliary schools in Germany, he (Dr. Tuke) believed them to be very useful; and he could see no better way of ascertaining whether there was a sufficient number of the class of cases in question than by appointing a committee to make careful and extensive inquiries in elementary schools.—Dr. YELLOWLEES thought this was only a part of a far larger question. He was less concerned for the small proportion of manifestly nervous children, whom any good teacher would recognise and deal considerately with, than he was for the great mass of ordinary children in primary schools, whose growing brains were crammed with all sorts of knowledge, and all crammed alike, in a way that was an outrage on physiology and common sense. He would like, if possible, that the scope of the Committee's investigation should be extended so as to include this supremely important subject.—Dr. FLETCHER BEACH supported Dr. Warner. He thought the proper method was to observe physical signs. They all knew how doctors were said to differ in their opinions. If we gave an opinion that a child was weak-minded, that was only our own opinion, and might be contradicted; but if skilled observers noticed physical signs, and limited themselves to this, there would be more confidence in the observers on the part of the public. There was no doubt that the teachers of schools would be glad of such medical help. Some time ago, a case arose in the School Board for London, in which a father wished to send his child to school, but the teacher refused to admit the child, saying she was imbecile. He (Dr. Beach) was sent by his chairman, who was then on the School Board, to see the child and give his opinion. On entering the house, he saw at once that she was a Mongolian imbecile. He gave a certificate to that effect, and both parties were satisfied. Afterwards he wrote to his chairman, suggesting that day schools for the feeble-minded should be formed; that the children should not be sent to asylums, but that the home-life should be kept up; and that the child should go, if possible, in charge of another child, and return in the same charge when the school was over. Unfortunately, his chairman soon after left the School Board, and nothing was done. If countries like Norway and Germany had day schools for the feeble-minded, surely a country such as England should also have them.

Cases of Disease of the Brain in Imbeciles.—Dr. FLETCHER BEACH said that actual disease of the brain was not so common in imbecility as want of development. It was more usual to find the convolutions simply arranged than to find tumours, hydrocephalus, sclerosis, etc. The convolutions in some cases were quite half an inch in width, and in such cases the arrangement must necessarily be simple. The two conditions producing undue size were hydrocephalus and hypertrophy of the brain. Hydrocephalus might be present at birth, or come on afterwards. The shape of the head in hydrocephalus was different from that found in rickets, and the differences were given. Hypertrophy of the brain was a comparatively rare disease, and its cause was obscure. The process was not one of mere increased growth, but the nutrition of the organ was modified in character as well as increased in activity. According to Rokitansky, the augmented bulk was not produced by the development of new fibrils, or by the enlargement of those already existing, but by an increase in the intermediate granular matter, most probably due to an albuminoid infiltration of the structure. MM. d'Espine and Picot considered the affection to be a congenital one, and in this opinion as well as that of Rokitansky the author concurred. The principal symptoms were headache, at times intensified, excitement followed by coma, blunting or arrest of development of intelligence, difficulty in walking, and convulsions. Tables showing weight of hypertrophied brains, and average weight of brains of individuals of the same age were distributed, and the differential diagnosis between hydrocephalus and hypertrophy was given. Atrophy of the brain was due to incomplete development, or to loss of nervous elements which had previously been present. Microcephalic imbeciles were instances of the first class. The nerves of special sense were usually well developed in microcephaly, and the ganglia of the base and of the spinal cord were of nearly normal size. The cerebellum was relatively much larger than in the normal brain. The second form of atrophy might present itself in various forms, but the most interesting was that in which there was atrophy of one side of the brain, usually the left, with coexistent atrophy of the limbs on the opposite side of the body. Imbecility was not necessarily the result, everything depending upon the more or less healthy state of one hemisphere of the brain. An inflammation of the brain meninges or skull during fœtal life or early childhood would no doubt cause the disease. The course of events appeared to be this: first, there was, as the result of chronic inflammation of the meninges or of the cortical substance, wasting of one side of the brain. To compensate for this, the skull became thickened, and serum was poured out beneath the arachnoid and into the ventricles. Then, since those parts of the brain which were connected with motion were wasted, the limbs, the action of which was governed by them, were imperfectly nourished and became atrophied.

Clinical Results of Craniometry and Cephaloscopy in Diseases of the Mind and Brain.—Professor BENEDIKT (Vienna) gave a most interesting demonstration on this subject, copiously illustrating his arguments and conclusions by skulls, drawings, and sketches on the black board. He insisted on the hereditary influence in development, and described the divers shapes of the skull from the point of view of symmetry, compensation, and accurate measurements. In cases of anomalies of the brain functions, either congenital, hereditary, or acquired in early youth, Professor Benedikt said he inquired whether the skull and the head were normal or not, and on the other hand, when a skull or head was found abnormal, he asked if the brain functions were in order. He gave a short summary of his results, which are published largely in his new book (*Craniometry and Cephalometry*, Vienna, 1888, Urban and Schwarzenberg). In general, excessive measure-

ments were equivocal, as they might represent either perfection or degeneration. On the contrary, extreme deficiency in the measurements was generally quite unequivocal. This was especially the case as regards undue smallness of the skull and head in general, and of the shortness of the median and transverse frontal, parietal, and occipital arches. Taking oxycephaly as an example, he showed how Nature endavoured to compensate partial deficiencies, and how this work of compensation could produce very atypical shapes, which might thus come to lose their pathological significance. He also referred to the lower forms of trigonocephaly and their great clinical importance; to a sort of "pecten" in the anterior part of the sagittal suture; to the importance of abnormally low skulls; to extreme dolichocephaly and brachycephaly; and to asymmetry principally through defective evolution of one-half of the skull. Professor Benedikt attached great clinical importance to that form in which the ears were too near to the posterior end of the skull (*brachycephalia occipitalis bilateralis*), and to another type in which this was the case only on one side (*brachycephalia occipitalis hemilateralis*). The last anomaly was the most frequent anatomical symptom of degeneration of all sorts. In studying the details one learned how intimate were the relations between anomalies of form and anomalies of brain functions. These researches were not matters of opinion, but solid facts.—Professor GAIRDNER expressed the wonder and gratification of the meeting at the researches of Professor Benedikt.—Dr. BATEMAN (Norwich), after expressing the great interest he took in the subject brought under the notice of the Section, said that Professor Benedikt had given the result of his microscopical examinations, by which he found that each section differed microscopically, and therefore proved difference of function. He (Dr. Bateman) would like to ask Professor Benedikt whether he had made any chemical examination of different sections to ascertain whether different regions differed chemically. He thought that the chemistry of the brain had hitherto been much neglected, and that its study was calculated to throw additional light upon the obscure question of localisation of function.—Dr. BATTY TUKE said they were a long way from the point where chemistry could assist. As allusion had been made to the character of cells, he wished to mention that he had commenced a series of examinations of brains of persons dying from all sorts of disease. The result showed that in exhausting disease rapid degeneration of cells took place; that in such diseases as pneumonia the great cells of the third layer were as extensively degenerated as in the oldest cases of senile dementia. A long series of observations was necessary before even the roughest generalisation could be ventured on. The first step should be the establishment of a typical healthy cell.

Hallucinations.—Dr. HACK TUKE read an elaborate paper on hallucinations, arriving at the following conclusions. 1. That the revival of a sensory impression in idea did not call into action any infra-cortical sensory organ or nerve. 2. That when this revival was so intense as to induce hallucinations, but yet they were not projected externally, there was still no reason to assume more than an intensely vivid action of the cortical cells representing sensory impressions. 3. That even when these hallucinations were projected outwardly, there might be in some instances no action of the peripheral sense organs and nerves, but there might be in such cases a backward current as far as the sensorium. 4. That the proofs of the peripheral sense-organs being sometimes involved, even when this hallucination originated in the cortex, were very forcible. For example, in visual hallucination, if the object seen followed the motions of the eyes, concealed real objects, and was projected, the presumption was in favour of this view. 5. That Brewster's test of the subjectivity of an object alleged to be visible was, in his own experience, reliable.—Professor BALL (Paris) stated that he had observed the fact of double vision in hallucinations by pressure on the eyeball, not once, but a great many times; and this occurred exclusively in cases of hypnotism or of natural somnambulism.—Dr. A. ROBERTSON said that the threefold course of hallucinations was—1, from the sense organ; 2, from the lower ganglia; 3, from the cortex. The more perfect the hallucination the more likely was it to be of cortical origin. A personal experience was suggestive of the mode in which hallucinations might arise and spread. Seven years ago, owing to inflammation of the eye, a friend put a few drops of a solution of nitrate of silver into his (the speaker's) eye. Whether his system was specially susceptible at the time, or the inflammation was too acute for the application, he did not know, but it produced most marked effects. First, there was intense pain and spasm of the eyelids, with flow of tears; then there was the appearance of balls of fire being projected before the eyes at momentary intervals, and thereafter there seemed to be frequent discharges of artillery; these were accompanied by a feeling of severe strain. What occurred was 1, there was the ordinary reflex spasm; 2, there was an extension from the optic to the auditory centres, possibly in the lower centres, as the false impressions were of so simple a kind. In the cortex we might have similar origin and extension of hallucinations. In this connection it was interesting to remember the close proximity in situation of the auditory and visual centres. This might perhaps explain, or at least it suggested, how often in acute insanity, hallucinations of sight and hearing occurred together, or the one after the other. Alcohol might act, as it often did, on one part of the cortex more readily than another in different cases, owing to the peculiarity or imperfection of development; hence visual hallucinations might be prominent in one case, auditory in another; and the same remark applied to other agents and morbid causes. — Dr. IRELAND said that he could not agree with the view that in hallucinations there must be disease of the sensory cortical centres. Binet and others had described cases where the hypnotised subjects saw their hallucinations divided by a prism or reflected in a mirror; but a rigid examination of these cases had proved that visual hallucinations were not really governed by external optical conditions. They were the result of ideas either suggested by the hypnotiser or caught up by the hypnotised person. A good hypnotiser could cause his subject to make any kind of observation he desired to bring out.—Dr. BATTY TUKE said one source of hallucination had not been alluded to, namely, the actual, wilful false statements of the hysteric. As he or she invented false statements as to facts, false statements were made as to things seen, heard, or felt, in order to arouse sympathy or interest. The utmost care was required to be exercised in inquiry into such statements, and even the utmost care could not entirely guard the inquirer from being deceived.—Dr. YELLOWLEES agreed emphatically with Dr. Batty Tuke, that many emotional persons gave quite untrustworthy accounts of their alleged hallucinations with a view to excite interest and attention, but he desired to call attention to another large class whose apparent hallucinations were only vivid descriptions of their vivid recollections, who unconsciously deceived themselves as well as others, and whose personal equation—a very large one—had to be deducted from all their statements of their personal experiences. He fully believed in the cortical character of all true hallucinations.—Dr. SAVAGE said many people could visualise voluntarily; this was purely cerebral, and there were many insane who thus visualised. This visualising was not necessarily associated with disease of the cortex. Other cases were hallucinated through disorder of organs of sense. The alcoholic and the tabetic might interpret their morbid sensations as hallucinations.

Four Cases of Folie à Deux in the Same Family.—Dr. OSCAR T. WOODS read a paper on four cases, undoubtedly of communicated insanity, exhibiting all the symptoms of folie à deux, as described by Dr. Hack Tuke. The sudden onset of the attack of those secondarily affected, the similarity of the delusion and the symptoms in each case, the quick recovery and the family history were all interesting features. Five members of one family (mother, son, and three daughters) were recently admitted into the Killarney Asylum, under the following circumstances. On the day previous to admission, the constabulary found all these patients in their house, almost naked, fighting, screaming, and behaving more like wild beasts than human beings, and the dead body of a child, the son of the eldest lunatic, lying on a dungheap in front of the house; further inquiry revealed the fact that this child had been murdered. It appeared that during the previous night, at "cockcrow," the mother took the boy, aged 14, out of the house, and beat his skull in with a hatchet, and then, as they all with one accord described it, "We prayed and went to Heaven." The eldest daughter was the first insane, having for some days been very excited, all the other members of the family affected appeared to have become suddenly insane on this fatal night. The one dominant delusion with all was, that having killed the fairy, they were freed from their sins and went to Heaven. The family history was peculiar, for while the father of this family, and one of his brothers, married strangers, nearly all their children were either insane, or deaf and dumb. Another brother, who married a first cousin, had brought up a family all perfectly healthy. The only hereditary taints on either side were, an uncle of the mother's

died insane; a first cousin of the father's had recently committed suicide. The result was also interesting, as all those secondarily attacked recovered within a fortnight, while the eldest daughter, the one primarily insane, was still demented, and showed no sign of improvement. An hereditary predisposition, together with strong superstitious ideas, acting on people whose bodily health was impaired by bad food and loss of rest, must be assigned as the causes of the attack.

Note on Antifebrin.—Dr. W. JULIUS MICKLE read a paper dealing with the antipyretic properties of antifebrin, as administered to various insane patients, particularly those suffering from pulmonary phthisis; and referred to the state of the patients both generally and as regards the local lesions at the time of the administration of the drug, and the temperature charts as influenced thereby.

SECTION OF OTOLOGY.

WEDNESDAY, THURSDAY, AND FRIDAY, AUGUST 8TH, 9TH, AND 10TH.

Cerebral Abscess from Ear Disease.—After delivering his address, which is published at page 472, Dr. BARR (the President) showed two cases which had been operated upon by Dr. Macewen for cerebral abscess due to ear disease. The first was a boy, aged 10½, who had been operated upon on January 22nd, 1887. For a year previously there had been a discharge from the ear. Prior to the operation he had been ill for about a month with vomiting, rigors, headache, slow pulse. Three days after admission to the Ear Hospital, Dr. Barr perforated the mastoid process, and washed out the middle ear with a disinfecting solution. This operation was followed by no distinct subsidence of the symptoms, and Dr. Macewen then trephined the skull. A half-inch disc of bone was removed from the squamous portion of the temporal bone at a point an inch and a half above and half an inch behind the centre of the external auditory meatus. A hollow needle was inserted into the brain, and, after it had penetrated the brain tissue for about three-quarters of an inch, there was a sudden escape of foul gas, followed by about two drachms of offensive, yellowish-coloured pus, while shreds of sloughed brain tissue were removed by the forceps. To ensure perfect drainage, a second aperture was drilled just above the external auditory meatus. Chicken-bone drainage-tubes were inserted. The parts were dusted over with boracic acid, and covered with sublimated wood-wool pads. The wound was only dressed once a week, and at the end of six weeks it was quite healed. The ear-discharge was also completely at an end, while the hearing distance was $\frac{5\frac{1}{2}}{40}$. Bone conduction was good, and there was an excess of air-conduction. A soft depression marked the position from which the disc had been removed. The second case was that of a young man, aged 21, who was operated upon on the 15th of May last. There had been a discharge from the left ear for eight or nine years. For three weeks before the operation the symptoms were headache, vomiting, slow and intermittent pulse, normal or subnormal temperature, contraction of left pupil, paresis of all the ocular muscles with exception of the external rectus, partial facial paralysis on the opposite side, paresis of right arm, with wrist-drop. The mastoid was first trephined, so as to establish communication with the external auditory canal, but little or no pus was found there. Dr. Macewen then trephined above the external auditory canal, and pierced the brain-tissue with a trocar. Three ounces of horribly fœtid pus were removed. The cavity was syringed with a weak solution of carbolic acid. A chicken-bone drainage-tube was inserted. The dressing was not removed for three weeks, when the wound was found to be almost healed. The patient recovered without a single bad symptom. The opening was filled up with firm bone, and the patient was now perfectly well.

Perforation of the Mastoid.—Dr. P. MCBRIDE read a paper on this subject, which is published at page 474.—Dr. STEWART (Nottingham) said he should lay it down in a general way that, with local indications of pent-up secretions in the middle ear causing injury to the general health, and not yielding to other methods of treatment carefully carried out, the surgeon should penetrate the mastoid and establish a communication through the antrum mastoideum and the external meatus. The operations short of reaching the antrum, though in themselves frequently of great benefit, were of secondary importance. He had laid down rules for his own guidance for penetrating to the antrum mastoideum, and he hoped they would be found safe and reliable. If a line were drawn in the direction of the zygoma, and exactly coinciding with the osseous roof of the external meatus, and another downwards from that line at right angles to it, and exactly coinciding with the posterior osseous wall of the meatus, the posterior angle formed by these two lines would indicate the spot to be perforated. The perforation should be done as close up to these two lines as possible, but not beyond them. Let him compare these directions with other methods. The bony points being thus fixed upon, the incisions in the integuments should be guided accordingly. Bearing in mind the structures likely to be injured—lateral sinus, dura mater in the floor by the cranial fossa, facial nerve, and external semicircular canal—he believed it possible for the surgeon who proceeded with due care to expose the dura mater without injuring it or without bad consequences to the patient. Beyond a fixed depth (five-eighths of an inch) the surgeon should not go, and it was well known that in many skulls it would not be possible to bring the operation to a successful termination. The instruments that appeared to him to be the best were a trephine in preference to the chisel and mallet, sponges of two or three sizes, and a scoop. Dr. Stewart concluded by referring to some cases that had come under his own care.

Congenital Ear Disease, producing Mastoid Abscess and Facial Paralysis.—Dr. CHARLES WARDEN (Birmingham) related the following case:—"D. K. M., aged now 2½ years, of strumous aspect; light blue eyes, widely dilated pupils, and generally anæmic; born very quickly and without difficulty; father very nervous and excitable, having had a railway accident; mother nervous and delicate, had another child previously quite strong and healthy. During her pregnancy the mother was in a low nervous condition; suffered from a severe cold and intense neuralgia, which existed for some time, and affected the left side of her head and face, being the same side as in the case of the child's affection, the facial nerve being implicated. After birth the child was fretful, evidently suffered from pain; nervous and excitable, starting at the least noise; was badly nourished, and wasted in flesh. About the time of commencement of teeth formation the mother noticed a discharge from the left ear, after a feverish attack, restlessness and distressed condition, generally followed, in a short time, by severe convulsions, producing paralysis of the left side. After recovering from the acute symptoms she was brought to me at the suggestion of her medical attendant when about three months old, and I found her suffering from a purulent discharge from the left ear, of offensive odour and profuse. She could not close the left eye, which remained always open during sleep and at other times, and she had a constant flow of tears from that eye, in laughter and crying; mouth was drawn, cheek dropped loosely, and facial muscles did not act on that side. The discharge continued, and in about a fortnight after this the mother brought her again to me, and I found that a large abscess had formed at the back of the ear in the temporal and mastoid region. This I at once opened, and diseased bone was evident. The child was treated according to the usual modes—cod-liver oil, iron, etc.; on the tonic plan, with all the nourishment it could take. Great improvement in all respects followed, and in another two or three weeks the inflammation and abscess had subsided. The discharge continued from the meatus, no direct efforts being made to check it for fear of a repetition of internal mischief. I removed some pieces of dead bone from the meatus, previous to which there was bleeding from time to time. The discharge now gradually diminished, the facial paralysis rapidly improved, no further pain occurred; the limbs were never affected, and the child walked well at 1½ year old. July 17th, 1888: Face now perfect, eyes close completely, mouth opens and closes with equal lips on both sides, all the facial muscles act with perfect symmetry and harmony. The child is thoroughly well nourished, talks and walks well; pupils of eyes equally dilated, but still some otorrhœa. I am of opinion that in this case a low form of inflammatory action was going on from birth. The child appeared, according to the mother's account, always in pain, whining, pining, and fretful, crying out with a plaintive cry now and again as though in paroxysms of pain, misunderstood by the parents, as is frequently the case in early inflammation of ear disease, and until the real interpretation was afforded by the appearance of the discharge. At length the teething period arrived, and then the whole condition of the parts implicated was much aggravated. The facial branches of the fifth nerve became involved, and the discharge no doubt found its way to the membrane of the brain, and possibly an

abscess formed under the dura-mater, pressing on the brain itself and caused paralysis of the branches of the facial nerve to the eyelids, mouth, tongue, and muscles of the whole of the left side of the face. There was no evidence of its having caught cold at birth, but that a low form of inflammation existed from the first, possibly associated in some mysterious way with the condition of the mother during pregnancy. I do not, however, pretend to offer any explanation, but I am anxious to learn from my distinguished *confrères* present their experiences, and any light which may be shed on the subject. In conclusion, was there any syphilitic taint? I was disposed to look for a cause in that direction, but was quite unable to trace any such history. Was it tubercular? Had the mother during her pregnancy an attack of non-suppurative inflammation of the middle or internal ear or of the nerve structures, which was mistaken for neuralgia? I remember another case which occurred in very early life, which ended fatally, and at the *post-mortem* examination complete disorganisation of all structures of the middle and internal ear had been brought about, and a cerebral, or rather cerebellar, abscess was found. The history, course, and satisfactory termination of this case, considering the fact that the mischief must have commenced with life, induced me to venture on bringing it before the Association, hoping that the members present will consider it sufficiently interesting to command their attention and comments."—Dr. BARR referred to the propriety of opening into the antrum for the cure of those cases of chronic suppurative inflammation of the middle-ear which had resisted all other methods of treatment, where, in spite of long-continued and thorough cleansing and antiseptic treatment from the direction of the external auditory canal and Eustachian tube, the purulent discharge still continued and still emitted the odour of decomposition. By this means they might efficiently change the cavities of the middle ear, and bring about an end to the secreting and decomposing process, and thus the removal of a serious menace to life itself. Dr. Barr believed that in this direction important work might be accomplished in the future. The desideratum was that an absolutely safe method of operation should be adopted. Dr. Barr did not think that operation by the mallet and chisel would insure the safety of the lateral sinus, if that sinus had an abnormally outer and anterior position. The blows of the mallet were very considerable, especially in cases where the symptoms pointed to the possibility of cerebral abscess or meningitis, while to use chisel and mallet at the bottom of a deep wound was often very difficult. A proper dental burr, propelled by a suitable mechanism, was probably the safest instrument; was much easier than the chisel and mallet, and had not the dangerous points of the ordinary drill or trephine.—Dr. LAURENCE TURNBULL (Philadelphia) said his experience with boric acid extended back to the year 1879, and he had not found it to act injuriously, or prevent pus from passing out. He had even packed the diseased meatus, especially in large perforations, with no injurious results, if carefully watched by the physician. Now and then an imperfectly prepared powder was employed, not having the soft soapy character, and even containing bacteria and other injurious matters, and it should be carefully treated before being used. He was of opinion that they were apt to neglect the importance of constitutional treatment in mastoid disease such as diet, rest, use of antipyrin, aconite, iron, and iodine, and, above all, the relief of pain by morphine and atropine. Polypoid growths in a large majority of old cases should be removed, for dead bone was so often found under them. In illustration of this subject, Dr. Turnbull reported cases in which he had removed sequestra of bone from the mastoid and labyrinth, which had been covered up by the polypoid growths. He also gave an account of a case of temporary insanity following mastoid disease, in a man, where there was a hard, almost ivory-like, condition of the bone, which he removed, but did not enter the antrum, and by this operation and constitutional treatment the case recovered.—Dr. LEWIS (Birmingham) said cerebral abscess following suppuration of the middle ear was more frequently met with than was generally supposed. Five cases of death from this cause had come under his notice in five years; in two cases a *post-mortem* examination was made, when in one a large quantity of pus was found in the temporo-sphenoidal fossa; the other case died from phlebitis of the lateral sinus. Two declined treatment, but the third, who suffered from old mastoid trouble, died, he was told, from symptoms of cerebral disease. Pain was not always to be the guiding condition that demanded either trephining the mastoid or skull, for a case came under his notice where most violent pain lasted for a considerable time. All operative treatment was deferred, and the ice-bag being applied for weeks, the patient made an apparent recovery. When, after cutting down upon the mastoid caries, that condition was found, he thought the mastoid should then be drilled; and, in one case, not having a drill at hand, he had used a gimlet with satisfactory result.—Dr. WALTON BROWNE (Belfast) referred to cases of caries of the mastoid process, and advocated free drainage by suction and passing a drainage-tube through the mastoid process to the external meatus. He detailed two cases of abscess of the brain treated by trephining; one of these recovered. Dr. Browne did not approve of a drainage-tube in case of abscess of brain, and thought trouble was produced by it and washing out the abscess cavity. He would advocate simply trephining, opening the abscess and allowing it to drain away.—Dr. WALKER (Pollokshaws) bore testimony to the advantage of efficient drainage in mastoid abscess, and alluded to cases shown by him in the practice of Professors Lucae and Trautman, of Berlin, in which drainage by tubes, and also clearing out matter by suction through the meatus, was adopted with marked success.—Dr. FARQUHAR MATHESON spoke of the frequency of mastoid inflammation, and concurred in the classification of dividing this condition into two classes, namely, periostitis of the mastoid and ostitis of the whole bone. The first class was by far the most important, and occurred as a rule in children and young persons. This condition readily yielded to treatment. In the first outset leeches and fomentation were all that was required. This failing, incision through all the structures down to the bone must be made, followed by drainage. In ostitis, occurring oftenest in adult and old age, the trephine must be used to open the mastoid cells.—Mr. JAMES BLACK expressed pleasure at two points brought out by Dr. McBride, namely: (1) the risk of retention of inflammatory products due to blocking of the auditory passage by caking of a pack of boracic acid in the "dry method" of treating an otorrhœa, and the caution of vigilant attention of the aurist when this treatment was adopted; and (2) the importance of pain and facial paralysis with recurrence of granulation polypus after removal as an urgent reason why perforation of the mastoid should be performed. Mr. Black showed a skull in which it would have been quite impossible to have performed the operation in the plan often recommended, namely, a perforation of the bone half an inch behind and the same distance above the centre of the meatus without penetrating the wall of the lateral sinus. The perforator or drill was advocated, as dispensing with the jarring effect by which the use of the mallet and gouge was of necessity accompanied; but the only sure way of avoiding the lateral sinus was to hug the upper and posterior wall of the external auditory meatus.—Dr. CHARLES WARDEN, in replying, said he was of opinion that dead bone in each ear was very rare; he had never known an instance. With regard to eye closure caused by disease of the athmoid, there was no evidence of any mischief in that region, the only condition being secondary to the others. Mastoid inflammation and abscess were not always the result of otitis media. He had known cases arising from external injury. With regard to the use of dry powders, boracic acid, etc., and packing therewith, the difficulty was that one was not able to see the patients often enough, in which case the powder was left from day to day, not acting as an absorbent, but as a direct plug, which he considered most dangerous, as it simply locked a discharge of matter which should have a free exit. His preference was for boracic acid solution, zinc, and carbolic, etc.—Dr. MCBRIDE, in reply, said that in spite of what had been said he must adhere to his views as to the advantages of the chisel. The objections as to doing harm by concussion were purely theoretical. The difficulties of diagnosing intracranial lesions, both as to their commencement and as to their nature was touched upon. As to constitutional treatment, he failed to see how it could do more than palliate; it could not produce drainage. Dr. McBride could not agree with the President's suggestion as to mastoid opening in cases of perforation of the membrana placida, as in such cases the suppurating cavity was often shut off from the tympanum, and could not be reached by through irrigation.

Adenoid Growths in the Naso-Pharynx.—Mr. LENNOX BROWNE, in opening the discussion, said it was probable that many members attending the Section, who were specialists, might, on the announcement, have thought that the subject had been so thoroughly thrashed out that all would be inclined to cry "agreed!" and he especially referred to the excellent papers which were delivered in the Section of Laryngology at the meeting of the International Medical Congress in 1881, as ren-

dering needless any detailed account of etiology and pathology. He thought, however, that this renewed discussion was useful, first, with a view of recording results, and secondly, to consider whether the importance of the subject had been over exaggerated, or whether it might not be extended to still larger limits. This latter was his opinion. Amongst some of the points which an extended experience had proved might be mentioned the relation of adenoid growths to enlarged tonsils. It would be found that not only were there growths where the tonsils were not enlarged, but that in almost all cases of deafness formerly considered due to enlarged tonsils there was coexistence of adenoids, and that failure to cure deafness after tonsillotomy would be less if the vault of the pharynx were always explored and cleared of additional lymphoid overgrowth. It was also probable that adenoids did not disappear at so early an age as was generally advanced, and several cases were quoted in which they were present and were the cause of deafness in patients more than 21 years of age. A moot point was the relation of adenoids to the exanthemata—whether the former predisposed to suppurative and non-suppurative catarrh as a sequel, or whether the growths themselves were started into activity as a direct consequence of the fever. Probably each condition might occur in different cases. Hitherto adenoids had been looked for principally in relation to non-suppurative middle-ear deafness; but experience went to show that if equal attention was directed to the pharyngeal vault many obstinate cases of otorrhœa with perforation would be more amenable to treatment. With regard to the use of anæsthetics, it was advanced that they were not needed where, as in hospital practice, the surgeon could operate so soon as the diagnosis was made, that is, on the one introduction of the finger; but young children were so terrified by the examination that in those cases in which the operation had to be performed at a subsequent date deep anæsthesia was an absolute essential to success. Lastly, because these growths became absorbed with advance of life it must not be supposed that they ought not to be treated, even in cases where the symptoms were but mild at earlier ages. It was quite possible that in many cases of progressive deafness in the adult, which might have been arrested by treatment in earlier years, there had existed adenoids, and that the hypertrophic condition of the tympanic and Eustachian mucous lining in the adult was the remnant of a malady of childhood. There must always be a certain amount of submucous thickening and deposit in the naso-pharyngeal space of the adult who had been the subject of adenoids as a child, and a limited experience warranted further trial of the process of scraping of the post-nasal space where there was thickening without actual outgrowth as an aid to resolution of an adult hypertrophic middle-ear catarrh. From every point of view the subject of adenoids merited consideration from the general practitioner, because no special skill was necessary for their detection and eradication, and the relief afforded was such as to greatly enhance the results, not only of the treatment of deafness in childhood, but of the speech, intelligence, and general well-being of all subjects of the disease.

The Rôle of the Pharyngeal Tonsil in Health and Disease.—Dr. William Hill (London), after some historical remarks, said it was curious that no serious attempt had been made to ascertain the function of so constant a mammalian structure, for only by correct physiological considerations could the etiology of hypertrophy of the pharyngeal tonsil (adenoid growths) be satisfactorily comprehended. After drawing attention to the comparative anatomy and histology of the gland, the author contended that, as the structure was homologous, so was the function of the tonsil analogous to that of an ordinary lymphatic gland, namely, the production of leucocytes for the blood. Such leucocyte-manufacturing organs, though usually situated in the course of the lymph stream, were very favourably located on the banks of the alimentary canal, for the raw materials necessary for continuous production were constantly flowing contiguous to, and were absorbed by, the adjacent mucous membrane. It was important not to confound this absorption by the mucous membrane (and the passage of some of the nasal and pharyngeal fluids into the tonsil) with the primary manufacturing *rôle* of the gland. Although the bulk of the leucocytes produced passed into the blood, histological investigation showed that a pretty constant migration took place into the alimentary canal, and it was suggested that these migratory leucocytes, being strongly amylolitic, played some subsidiary part in the processes of digestion. This same migration probably obtained in the case of the other lymphoid masses lining the alimentary tract. If these views were correct, they easily understood why pathological changes in the pharyngeal tonsil were so constantly associated with strumous and such other constitutional states of the system as implied contaminated and diseased nasal and buccal secretions; and it served to explain why the mere surgical treatment of adenoid growths was often so unsatisfactory.

Post-Nasal Growths.—Dr. Macfie read a paper on this subject, for Dr. Adolf Bronner, of Bradford, dealing with the following points: 1. The frequent occurence of the growths in children. He had recently examined 250 school children in Bradford, and found that out of these 250 children, twenty, or 8 per cent. showed the symptoms of adenoid growths in a very marked degree. 2. The intimate relation between adenoid growths and diseases of the middle ear. Of 152 cases of adenoid growths, which he had carefully examined and operated on, 125, or 85 per cent., showed symptoms of past or present affections of the middle ear. 3. The fact that the adenoid growths were in most cases limited to the region of the vault of the naso-pharynx; in fact, that they were simply a hypertrophic condition of the pharyngeal tonsil. 4. The best method of removing the growths was by the use of Hartmann's curette: for the following reasons: 1. It was the simplest method. 2. The operation was not very painful, and over in a few seconds. 3. Because the operation could be performed without the use of an anæsthetic. 4. There was no danger of wounding any important structure, such as the septum, the Eustachian prominences. [A series of adenoid growths which had been removed by Dr. Bronner was shown.]

Stammering or Stuttering and Naso-pharyngeal Disease.—Dr. Farquhar Matheson read a paper on the relation between naso-pharyngeal diseases and stammering and stuttering, which showed that this latter condition was caused in most cases in early life from growths and diseases of the nasal cavities. Several cases were related in which the removal of adenoid growths from the naso-pharynx completely cured the stammering and stuttering. The conclusions based on these and other cases were: (1) that stammerers were, as a rule, of a neurotic temperament; (2) that one of the following conditions was a constant factor in cases of stammering—namely, enlargement of the turbinated bones, adenoid vegetation in naso-pharynx, chronic rhinitis. The explanation given showed that the spasmodic motion of the muscles of the throat was due to reflex irritation.—Dr. McKenzie Johnston said in the first instance he should like to refer to the cause of adenoid growths. Chronic nasal catarrh, the strumous diathesis, the exanthems, were all credited with a share in the causation; but he was glad to hear Dr. Hill's reference to the digestive organs. He himself had so often found what he might call "digestive incompetence" associated with these cases that he was inclined to look upon this as a cause. He was aware that it would be stated that the discharge swallowed from these growths was the cause of the gastric disturbance; but the gastric and lithic diathesis was, in his experience, so frequent in adenoids that he could not help thinking there must be some causal relationship. With reference to nasal catarrh as a cause, it was curious that in America this catarrh was exceedingly common, while, as shown by Traub, of Cincinnati, and Beverley Robinson, of New York, adenoid growths were rare in that country. Meyer had found deafness in 60 per cent. of adenoids, so that their effect upon the ear might at once be admitted. He thought that they acted (1) mechanically; (2) by inflammation of the surrounding tissue and extension along the Eustachian canal; (3) extension to the middle ear, producing catarrhal and suppurative conditions; (4) by the reflex agency of the vasomotor and trophic nerves, as shown by Dr. McKenzie, of Baltimore; and, lastly, by producing paresis of the palato-tubal muscles. There could be no doubt that, if treatment of these growths were neglected, it would be impossible to cure either cases of middle-ear catarrh or of suppurative disease. The middle ear drained by the Eustachian canal; and therefore, if these growths prevented the proper draining of the cavity, they failed to get one of the most important conditions—dryness and cleanliness—for the treatment of diseases of the ear. The effects of these growths on the general health were sufficiently serious to require careful consideration, but these hardly came under the subject of discussion. In conclusion, he expressed a decided preference for the forceps in place of the finger so much lauded by Mr. Lennox Browne.—Dr. Howard said that while quite alive to the dangers in using anæsthetics in operations on the naso-pharynx, he always used chloroform, and thought that with precautions against the flow of

blood into the larynx, the danger could be reduced to a minimum. He specially emphasised the importance of drawing forward the head in introducing the finger, so as to relax the soft palate and give the maximum of space, and secondly throwing the head back and downwards over the edge of the table when the patient was under chloroform and the blood began to flow, the position of the head making it impossible for the blood to get into the larynx.—Dr. LAURENCE TURNBULL (Philadelphia) was glad to have the opinion of Dr. Howard in reference to the danger of the use of chloroform in so comparatively trifling an operation, and the discussion bringing forth the information of the death of two individuals from this cause. He was of the opinion, and had so expressed it in his *Manual of Anæsthetics*, that in such a class of operations systemic anæsthetics were not necessary, and should not be employed when they had such an admirable local anæsthetic as the hydrochlorate of cocaine. He had found that all operations on the nose or throat could be successfully performed with a 2 or 4 per cent. solution of cocaine; the cocaine was best dissolved in a 1 per cent. watery solution of pure crystallised carbolic acid, which assisted the action of cocaine and prevented nervous symptoms.—Dr. CHARLES DENISON (Denver, Colorado) answered an inquiry, made by Mr. LENNOX BROWNE, as to the frequency of these post-nasal adenoid growths in his section of country. In so far as his experience went, he could not say that either these growths or enlargements of glands generally were so frequently met with in the clear, dry atmosphere of Colorado as in sections bordering on the ocean. The circulation of the blood was a clearer and more perfect process in the high altitudes, and glandular enlargements were not so apt to occur Yet there was a mechanical effect, so to speak, of the dry air upon the nasal mucous membrane, creating irritation through the constantly drying effect of the atmosphere, especially in the winter season.—Dr. WAXHAM (Chicago) simply agreed with Dr. Turnbull that adenoid growths were comparatively rare in America. His experience had been that the obstruction in the post-nasal space which was frequently met with was due to hypertrophy of the mucous membrane and of the pharyngeal tonsil rather than to adenoid growths.—In reply to a question from Mr. GEORGE STONE (Liverpool), the PRESIDENT did not believe that where the growths were very tough the finger-nail would suffice for their complete removal, and thought that Loewenberg's forceps, or some modification of it, was essential.—In answer to a question as to the latest age at which these growths had been found, Mr. LENNOX BROWNE gave the age of 25.—Mr. JAMES BLACK believed the natural finger-nail, when well-developed, was the best instrument, because it was in close contiguity to a tactile organ; but still, the fact of some men, that is, Dr. Bronner, discarding the finger-nail in favour of the curette seemed to show that in certain cases some other instrument was necessary. In most cases, however, the natural or artificial nail was necessary to complete the operation after another instrument had been used for the removal of the adenoid growths in the naso-pharynx, and the reason why was, that the choanæ were often blocked by thickening of the mucous membrane around these openings, and it was his (Mr. Black's) opinion that the only safe way to remove this thickening was by the use of the nail. Not possessing a well-developed finger nail, the speaker procured one of the artificial nails usually recommended, but was inconvenienced by the amount of steel of which the instrument was composed, and he had had a modification of the instrument made by Messrs. Wright and Co., of Bond Street, London, in which, by two relatively large fenestræ, the amount of metal was reduced to a minimum. It was enabled to fit either index finger, by the fact that the rings through which the extremity of the finger was passed, were incomplete, which gave a certain expansive advantage, so that the instrument could fit fingers of slightly different sizes. The importance of securing the artificial nail by a string passed around the wrist was dwelt on, in order to prevent the risk of the instrument slipping, or rather being dragged off and possibly getting into the larynx.—Dr. FARQUHAR MATHESON referred to the early existence of adenoid growths, resulting in many cases from vaginal secretions at birth, as also ophthalmia, etc. This was as frequently the cause as scarlet fever. Removal with the finger-nail was preferable to the use of any instrument. An anæsthetic ought to be carefully administered, and a weak alkaline solution for nasal injection to be continued for some weeks after.—Dr. WALTER WOLSTON (Edinburgh) said that a very large percentage of the deafness now existing in Great Britain—his experience would venture to say above 75 per cent.—was due to the presence of adenoid vegetation in the naso-pharynx. Were the general practitioners alive to the existence, symptoms, and facility of removal of adenoid growths, countless drumheads might be saved, and lives secured from being embittered by deafness. The operation for removal of adenoids had been called a "minor" one, and so it was from one point of view, and easy to a skilled hand, but its results were so brilliant that it should be thoroughly done. To effect this he thought an anæsthetic was necessary. Were the deaths under chloroform for the operation compared with those occurring in other greater operations, he doubted if any remarkable mortality would be found to exist. He thought it was of great importance to have the patient completely narcotised, carefully gagged by an assistant, and, by suitable straps, rendered incapable of struggling. He used Loewenberg's forceps to clear the larger masses, and then, with the finger-nail, completely scraped out the choanæ, vault, and pharynx, and various crypts and recesses of the post-nasal space, paying particular attention to the little cushion that almost always lay just above and pressed on the extremity of the Eustachian tubes. The finger-nail alone would not suffice in all cases, as in those above seven years of age the growths, often of a fibrous character, which sprang from the posterior wall of the pharynx, were so embedded in the normal tissues that a considerable amount of a cutting wrench with the forceps was necessary. This action he often supplemented by placing the forefinger of the left hand just below the mass, which prevented the pharyngeal wall being too much pulled on. It was well to reduce the posterior turbinated bodies if they were very large, and this he did by the galvano-cautery loop passed through the anterior nares. The removal of even small masses of tissue would often give remarkable results, in proof of which he related the following case: A young lady, aged 27, contracted a severe catarrh, accompanied by intractable sneezing, which lasted ten days, but was subdued immediately by a 4 per cent. spray of cocaine. Deafness for two months was complained of, and did not give way to the air-bag. Examination showed the pharyngeal tonsil to be very turgid and impinging on the tubes. Under chloroform he removed tissue only the size of a horse-bean. Within a week she heard as well as ever, and at the end of three months quite twice as well as before, and, in addition, found that she had gained three semitones in her singing voice, now reaching A-flat, whereas F had been previously her highest note.—Dr. BARR (the President) thought the men who brought this subject before the profession, such as Meyer, Guye, and Loewenberg, had performed a most important service to aural surgery; indeed, the discovery of these growths as sources of ear disease marked an important epoch in the development of the knowledge of ear disease. There was no doubt that these growths were very frequently met with in Scotland, and were most important causes of ear disease. In their operative treatment Dr. Barr employed finger nail, artificial steel nail, and Loewenberg's forceps, or modifications of them. He preferred, as a rule, the steel nail and the forceps to the finger-nail. The latter was not sufficient to remove the tough growths, and was not so cleanly a method as instruments. Dr. Barr frequently employed first the forceps and then finished with the artificial nail. The introduction of proper forceps into the naso-pharynx was less painful than the finger, but the sensitiveness varied very much in different persons. Local application of cocaine was very useful, but it was well to avoid chloroform, although in very nervous children this anæsthetic was necessary. If chloroform was employed, the head should be placed well down so as to avert the possibility of blood entering the windpipe. One operation was not usually sufficient to completely clear out the vegetations, and three or four might be necessary before a smooth condition of the mucous membrane and a permeable state of the nasal channels were secured.—Mr. LENNOX BROWNE, in reply, referring first to the question of anæsthesia, repeated that if operation were done at the time of first examination, no anæsthetic was required. Although the effect of introducing the finger into the naso-pharyngeal vault was disagreeable, and, in young children, somewhat terrifying, it was by no means really painful, and local anæsthesia by means of a cocaine spray of 10 per cent. strength was quite sufficient to annul all sensation. Although he preferred the finger-nail for removal of these growths, and had never found a case in which it could not be employed with success, he desired to accord the greatest liberty of action to everyone on this point. The important thing was not what instrument was used, but how to attain a good result; and, personally, he very rarely found it necessary to repeat an operation by his method, while three or four repetitions of procedure by forceps had been admitted by

various speakers. Many members not having heard his introduction had unconsciously repeated his own observations, and he was glad to have such independent confirmation of his views, as, for instance, with regard to the presence of adenoids in persons of advanced age, and of their influence on the singing voice. Doubtless in some portions of America adenoid growths were rarely found; but one of the best monographs of recent date was that of Dr. Hooper, of Boston, who had recorded a large experience. Mr. Browne spoke of the possibility of sending blood into the middle ear, and thus causing suppuration in that situation, if Politzer inflation, or even syringing of alkaline solutions, were pursued immediately after the operation, and he recommended observance of Meyer's advice to leave the parts completely at rest for a few days. He also spoke of protection of the finger from biting by means of a leather guard, as suggested by his colleague, Dr. Dundas Grant. This was preferrable to the metal lobster-claw guard, which last did not protect the portion of the finger usually attacked. Reference was also made to etiology. Without doubt digestive derangement was an effect rather than a cause.

Artificial Tympanic Membranes.—Dr. MACFIE read for Dr. LAIDLAW PURVES a paper on this subject, which is published at p. 478.—Dr. TURNBULL (Philadelphia) read a paper, in which the following conclusions were expressed:—1. That such aids were important to the health of the ear, by preventing dryness and the general danger to the hearing, from the want of the protecting power of the natural membrane. 2. A certain degree of hearing would be possible without the membrana tympani, but perfect hearing was impossible without it. 3. In the various agencies which had been employed they had not only the means of protecting and preventing drying effects of the air, but also the prevention of the passage into the middle ear of injurious foreign agents, the prevention of disease from cold air or water, so apt to set up acute inflammation, followed by abscess in the mastoid or brain. Satisfactory results had been obtained from the cotton ball or pellets of "Yearsley." The objection to this was the tendency which the ordinary cotton had to cause irritation, by bearing in its fibres bacteria and micrococci; also other foreign matters. Again, it sometimes fitted so closely, owing to discharge or mucus on its surface, as to make a shut sac, and absolutely prevent the vibrations of the membrane, thus acting as a damper. These difficulties were overcome by employing corrosive sublimate solutions with "sublimate cotton," or a disc of sublimate gauze, moistened with fluid cosmoline, so as to make it more adhesive. When water with glycerine was employed the mixture would soon ferment in the ear and become irritating and cause inflammation. By treatment they could much sooner employ the artificial membrane, even when there was a slight suppuration going on. The solution of the sublimate should not exceed in strength 1 to 4,000; if stronger it gave pain. The patient was supplied with a dozen or two of these cotton pellets, attached to threads which had also been soaked in the solution. The fluid cosmoline, or vaseline, was to moisten the pellet when about to be introduced, if the parts were dry. The pellets were placed in position by means of ordinary tweezers; the thread must be cut off close, so as not to be seen. The second form was the india-rubber disc, cut out with the apparatus of Gruber, and introduced with the forceps, as seen illustrated in the writer's work (*Clinical Manual of Diseases of the Ear*, 2nd ed., 1887, p. 489. J. B. Lippincott and Co., Philadelphia). He (Dr. Turnbull) had discarded all the forms of apparatus which had any metallic spring, handle, etc., having found them always irritating and injurious. He applied a disc of "Mead's adhesive plaster," which was found to be perfectly pliable and antiseptic, or the same make of "boric acid plaster." He had had reports from almost every case of its success in relieving deafness, assisting the perforation in closing, the plaster being retained for months, and in one case two years, with but little irritation. Dr. C. M. Thomas, of Philadelphia, informed him (the speaker) that he had found the "oil silk," such as was employed in antiseptic dressing, a very successful artificial membrane, looking and acting like the natural one. He cut them the size required, leaving a small opening in the centre. Dr. C. S. Turnbull, the speaker's son, employed with success a pledget of antiseptic wool, placed near to but external to the annulus tympanicus.

Fraudulent Treatment of the Deaf by Impostors.—Mr. RICHARD ELLIS (Newcastle) read a paper on this subject, in which he said that patients affected with chronic deafness were always ready to listen to anyone who would give them hope. This was often taken advantage of by impostors. Seeing at the institution to which he was attached a very large number of deaf cases, he was, some months ago, surprised by the number asking with great regularity, when he told them the nature of their cases, the same question, namely, "Would an artificial drum do any good?" Following this up, he found it was in consequence of the insertion in the newspapers of an advertisement from a person in London, offering to cure deafness by the use of patent artificial drums with gold cylinders; and, further, he found the cure was stated to be applicable to all forms of deafness, "of however long standing." He had there for inspection a small box of those precious artificial drums, brought to him by a working man, and for which he paid £2 17s. 6d., which he stated he could very badly afford at the time, but which he was induced to send by the positive promises of cure held forth. He (Mr. Ellis) had had the metallic portion of these drums examined by a goldsmith, and he pronounced them "brass"—which he thought they would agree with him was a most appropriate metal. The poor man who was induced to purchase these drums suffered from nervous deafness and tinnitus, and had nothing whatever the matter with his tympanum or conducting apparatus, and Mr. Ellis purposely avoided entering into the question of the applicability of the artificial tympanum, but from the various impositions practised under its cover, he was sometimes inclined to ask, Was the artificial tympanum a blessing or a curse? Might they not, failing to cure some of their patients, at least endeavour to save them from imposition and fraud by exposing the nefarious schemers who lay in wait for them?—Dr. MATHESON mentioned that artificial membranes in deafness were of considerable assistance in two conditions of the membranæ tympani. The first condition in which they aided hearing, was that of collapse and irregularity of the external meatus and in retraction of the membrane from chronic catarrh. The second condition in which artificial membranes were of use was in the absence or perforation of the membranæ tympani. The most useful form of artificial membrane was the cotton-wool plug (antiseptic) and a covering or plug of boric acid. All discs of tissue of whatever variety acted as irritants, and should be used with much caution. The application of boric acid favoured healing and cicatrisation of the perforation, as well as improving hearing.—Dr. DONALD STEWART said that with reference to artificial membranæ tympani, the difficulty of deciding whether the artificial membrane was a means to avoid dampness of the membrane or a means to introduce the necessary moistness was an important point. In health the membrane was quite dry, and in this uncertainty they had a pregnant hint to take care not to overtreat these cases. The danger and cruelty to the public who suffered from deafness by quacks should be condemned in the strongest terms.—Dr. WARDEN said the benefit arising from the use of artificial membranæ tympani varied very much, and the best of the advantages derived was one of personal experience. The physiological explanation was that the bones of the meatus, especially the stops, were supported by the pressure, and the nervous apparatus of the internal ear affected. The plan he adopted was gradually to arrest the discharge in cases of the otorrhœa with perforation—the only cases in which he used it, and the only one in which any benefit accrued; and his preference was for Field's drums or a modification of Toynbee's or Yearsley's.—Mr. RICHARD ELLIS had not found the artificial tympanum of much use in hospital practice, but in a number of cases in private practice it was undoubtedly serviceable. He had found the invention of Dr. B. W. Richardson, which consisted of a hollow cylinder of gold, useful. He had found boracic acid useful in perforation of the membrane, but it required care in its use, and should be watched and changed.—Dr. WALKER DOWNIE agreed with Dr. Warden when he said that the results from the use of artificial tympanic membranes were very variable, and could never be predicted. As a preliminary, Dr. Downie was in the habit, after all suppuration had ceased, of using a layer of cotton-wool firmly compressed between finger and thumb, and applied by a pair of fine forceps; these could afterwards be readily applied by the patient himself. Should this not succeed, he frequently used Field's pattern. Lately he had, partly as an experiment, been applying a small circular patch of pellicle of egg, which was soft and lay firmly in contact with the membrane. This he dipped in a saturated solution of boric acid before application, and, should the desired condition be entirely remedied, that is, no suppuration present, they could be left *in situ* for several weeks.—Dr. JAMES ERSKINE had found Professor Lucae's artificial tympanic membrane very useful. It had the advantage of being very

easily inserted, and no injury could happen to the meatus in its introduction. He had come to the conclusion that the cotton-wool pellet of Yearsley's invention was the best artificial drum membrane. Dr. Turnbull's paper contained a complete catalogue of everything that had been utilised for this purpose, but the experience of most surgeons was that the simple cotton was generally found the best. If it failed, the india-rubber disc of Lucae and other appliances might be tried. He did not approve of the use of boracic acid powder as an artificial membrane in the way Dr. Farquhar Matheson had described, as there was a great tendency for the powder to cake and dam up the pus that might be forming in the tympanum. With respect to the quacks referred to by Mr. Ellis, he would like to make a remark. The late Mr. Syme, of Edinburgh, was credited with saying that curable ear cases were treated by general practitioners, and the incurable cases by specialists. Nowadays it was true that curable cases were treated by specialists and incurable cases by quacks.—Dr. BARR (the President) said the cotton pellet was on the whole the best form of artificial tympanic membrane. The india-rubber disc was however occasionally, though rarely, more efficient. As usually sold by the instrument maker it was very defective, as from the mode of connection of the disc with the stem a hard metal knob pressed upon the tympanic structures. He (Dr. Barr) regarded the cotton pellet properly applied in suitable cases as a most valuable aid to hearing, and in cases of complete destruction of the tympanic membrane, or of the postero-superior part, when the nerve structures were fairly normal, probably 75 per cent. were benefited. Before employing this aid to hearing, the purulent secreting process, if present, should be cured, or should be reduced to a very small compass, and great care should be taken at first that it should remain in the ear only for a short time, not more than two or three hours, otherwise a fresh purulent process might be excited which would greatly discourage the patient. It should rarely be allowed to remain in the ear during the sleeping hours. Before deciding as to the value of this remedy in any given case, we must take great pains to try more than once various sizes and shapes in various positions. He believed that many failures were accounted for by the want of sufficiently painstaking efforts in those directions. A certain degree of pressure was usually necessary before the good effect was achieved, and while the postero-superior quadrant was usually the best position, trial should be made over the short process of the malleus, and indeed on any part in the upper regions of the tympanum. The pellet should be moistened, preferably by some thickish antiseptic fluid. In some cases where the cotton pellet or disc was apt to become misplaced, falling out from its proper position, it was a good thing to immerse the cotton in collodion and apply it to the part. In this case, if the ear could bear prolonged contact, it need not be removed for days or weeks. He knew a patient who kept it in the ear day and night for months when the collodion was applied. The patient should be most carefully taught the mode of using the pellet of cotton with all due precautions before finally dismissing him, and until the patient had become dexterous in the mode of withdrawing the pellet, the precaution should be taken of fixing a piece of thread to the pellet in order that it might be easily withdrawn. Dr. Barr expressed the opinion that the so-called "ear-drums," so extensively advertised in the newspapers, and which consisted of a piece of india-rubber attached to a metallic stem, were frequently highly injurious to persons with defective hearing, that the number of deaf persons who might be benefited by this form was comparatively small, and that in no case should an artificial drum of any form be used until a surgeon had examined the defective ear and ascertained if the case was suitable, for if not suitable their introduction into the ear was not merely valueless but decidedly injurious.—Dr. TURNBULL, in reply, referring to the abuse of the artificial membrane, said this depended upon the want of care in the selection of cases and the kind of cotton used. It should in all cases be sterilised cotton in one long fibre, to remove pus which might be formed, or a pledget of cotton of a round form, moistened with cosmoline. Dr. Turnbull objected to pure glycerine on account of its absorbing water, and, if there was no water, it would dry the cavity. It should be mixed with pure water, and could be given to the patient with safety. He had no special plan in all cases, but, by testing the hearing with the tuning-fork and watch, found out by such means what would be best for the patient.—Dr. J. MACFIE said that, although the discussion had been successful in many ways, he somewhat regretted that it had taken an almost exclusively practical turn, with the exception of the President, only one or two members having alluded to what was an important part of Dr. Purves's paper, that is, the influence produced by the artificial drumhead on the sonorous vibrations, and how this was brought about. At that advanced hour he (Dr. Macfie) did not think of taking up that part of the subject; with regard to the rest, he said we need not expect to find one form of artificial drumhead applicable to all cases amenable to improvement by this treatment, the form varying with the case, but he thought the most generally applicable was Yearsley's cotton plug, or some modification of it. He agreed with Dr. Farquhar Matheson as to the dangers of boracic powder, especially when packed into the ear, unless the patient was almost daily under the observation of the surgeon.

CLINICAL MEMORANDA.

ECTOPIA CORDIS.

IN the JOURNAL of July 21st, the Liverpool correspondent mentions a case of transposition of the heart and liver. As such cases are somewhat rare, I may be permitted to record one that came under my notice a year or two ago. The subject was a fairly strong, middle-aged man, who had consulted me for some trifling ailment when I first noticed something abnormal. On placing the stethoscope over the cardiac region, there was a complete absence of heart-sounds, while on percussion the resonance was as marked as over any other part of the chest. Further examination revealed the presence of the heart on the right side, in a position as nearly as possible corresponding to its normal one on the left, the apex-beat being easily made out between the fifth and sixth ribs on the right side. The man met with his death accidentally soon after, and this prevented me from making a further examination as to the position of the liver, etc., nor was I allowed to make a *post-mortem* examination of the body.

Coniston. JOHN KENDALL, L.R.C.P., etc.

OBSTETRIC MEMORANDA.

ABSENCE OF RIGHT PARIETAL BONE.

ON June 28th, 1888, I attended Mrs. B. in her confinement. On examining the child—a fine healthy boy born at full term—I found that the right parietal bone was absent. Over its site the skin was loose and distended with fluid; palpation produced fluctuation. By pressing the fingers firmly into the margin of this swelling I could distinctly define the edges of the surrounding bones. This was verified daily during the subsequent nine days' attendance.

A month later I again saw the child, and found that the site was now occupied by bone, with the exception of a small circular space rather less in size than a shilling, situated about midway between the parietal eminence and the posterior superior angle of the bone.

On August 22nd I visited the child, and was told that the "hole had filled up" a week after my last inspection. The bone was quite firm, but somewhat nodular, especially over the site of the space that was last to disappear. The case must, I think, be one of extreme rarity, first, on account of the deformity being symmetrical, and secondly, because of the way in which the bone was developed (?). The labour was an easy and rapid one, and the swelling, which somewhat resembled a caput succedaneum, instead of diminishing during the next day or two, distinctly increased daily for three or four days.

G. WASHINGTON ISAAC, M.B., C.M.Edin.

Mornington Crescent, N.W.

CASE OF ABORTION OF FŒTUS AND MOLE, WITH ANTEFLEXION OF UTERUS.

I WAS called to attend Mrs. H., aged 30, multipara, suffering from severe pain in the lower part of the abdomen and difficulty of micturition. She informed me that she was four months pregnant, and that the membranes had ruptured on the previous day. On examination I found a large rounded mass anteriorly extending low down into the vagina, which proved to be an anteflexed uterus. I reduced the anteflexion and ordered her to remain in bed. About fourteen hours afterwards a putrid fœtus was ex-

pelled, followed by the placenta. The uterus was rather larger than ordinary. During the next six days the lochia were normal in quantity, and everything appeared to be going on well.

On the seventh day I was again summoned to see her, and found her suffering from very severe hæmorrhage. On examination I felt a substance projecting through the cervix. After digital dilatation of the cervix, I passed three fingers into the uterus, and with difficulty removed a large mass about the size of my fist, which proved to be a fleshy mole. She made a good recovery, and milk appeared in the breasts on the third day after the delivery of the mole. There was no history of syphilis. As these cases are rare, some interest may attach to this report.

Nottingham. ALFRED SYKES-WARD, M.B., C.M.

SURGICAL MEMORANDA.

SUCCESSFUL OPERATION FOR STRANGULATED INGUINAL HERNIA IN A CHILD FOURTEEN DAYS OLD.

ON Monday evening, July 30th, 1888, I was called to see a child, whose age was just fourteen days. The mother gave me the following history: The child had always been peevish, but she had not noticed that it was ruptured. On Saturday evening, July 28th, it had a motion, but from that time until I saw him nothing had passed. On Sunday, July 29th, he vomited several times, but only the contents of the stomach, and this continued until the next day, Monday, at noon, when stercoraceous vomiting commenced. I saw the child about 8.30 P.M.; he was rather collapsed; the mouth was covered with aphthæ; the abdomen was very hard and distended and apparently tender.

On examination I found a right inguinal hernia, very tense and hard, and irreducible. As soon as possible I administered chloroform, and tried taxis, but without avail. I then sent for my partner, Dr. Carey, and we again put the child under chloroform; but, as after a reasonable trial of taxis, we could not reduce the hernia, I proceeded to operate. On exposing the bowel it was found to be of a deep purple colour, but quite smooth and shining. It was easily reduced after division of the stricture. The after-treatment consisted simply in giving a tablespoonful of milk and lime-water every hour with a few drops of brandy.

Tuesday, July 31st. The child had had a fair night, and had passed two motions; the temperature was 102° F.; pulse 165; the abdomen was not hard or distended. I did not disturb the dressing. The child was kept on the same diet, the brandy being omitted.

Wednesday, August 1st. Temperature normal; no tenderness of abdomen; the wound looked well.

August 7th. The child was doing well; the wound all but healed.

REMARKS.—My object in reporting the case is, first, the age at which strangulation took place, and also the rapid recovery of the child without any alarming symptoms. Of course such a case may be common enough; but, as I and some of my medical friends have never heard of strangulation occurring in so young a child, I have therefore ventured to report it.

Guernsey. E. L. ROBINSON, M.R.C.S.Eng., etc.

PAPILLOMA OF CHEEK.

THE following case, which recently came under my notice, may be of interest to merit publication.

J. M., labourer, aged 36, presented himself for examination, complaining of a "growth" on the inner side of his cheek. Investigation showed this to be a large, well-developed papilloma, made up of about nine or ten central papillæ, about three-eighths of an inch long, surrounded by about a dozen smaller ones, projecting an eighth of an inch. The entire growth was situated on the buccal mucous membrane of the right cheek, about one inch from the angle of the mouth and on a line with the lower border of the upper teeth. I removed the tumour with scissors, and cauterised the wound with nitrate of silver; at present only a slight scar remains. My only reason for bringing this case to your notice is that, having consulted various standard works on surgery, I do not find mention of papillomata in this position. Obviously there is no histological reason why they should not occur here, but examples appear to be sufficiently rare. The man could give no history tending to show cause for the growth of the tumour.

Crewe. ALFRED E. VAUGHAN, L.R.C.S. and L.R.C.P.Edin.

THERAPEUTIC MEMORANDA.

MENTHOL IN PRURITUS LABII.

HAVING seen some time since in the JOURNAL an interesting paragraph by Dr. Routh, jun., on the value of peppermint water in cases of pruritus, I gave it a trial; but finding it only gave slight relief, and acting on the principle "when you hit, hit hard," I applied the crystallised menthol as sold by Shirley and others, for relieving neuralgic pain. The application produces some burning pain at first, but is followed by a most comfortable sense of coolness and relief, which relief I find lasts for days in some cases, and the congested colour of the vulva almost altogether disappears. I should be glad if the treatment will be tried by others in these distressing cases; and, reasoning by analogy, I fancy it would also prove of use in pruritus ani. The menthol is applied by rubbing the surface over three or four times with the solid menthol, and I can certainly testify as to its value.

Dublin. ALEXANDER DUKE, F.K.Q.C.P.

COCAINE IN MINOR SURGERY.

THE death under chloroform, noticed in the JOURNAL of July 21st, administered for the performance of a minor operation—"small perineal fistula"—prompts me to ask, Why should not all such operations be done with the aid of cocaine?

I have found it perfectly anæsthetic in operations for fistula, hæmorrhoids, phimosis, avulsion of toe-nails, enucleation of small cystic tumours, extirpation of eye, amputation of thumb, etc. Only twice, in my experience, were there any toxic symptoms—extraction of a tooth and operation for phimosis; on both of these occasions the maximum dose was administered by a single subcutaneous injection. Given, as is now my custom, in minute and frequently repeated doses, scattered about the area of the neighbouring surfaces, the patient experiences no unpleasant sensations whatever.

I find a four per cent. solution, injected in three to five minim doses, quite sufficient to procure perfect anæsthesia.

R. E. POWER,
Medical Officer, H.M. Convict Prison, Portsmouth.

REPORTS
OF
HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

THE PRINCESS ALICE MEMORIAL HOSPITAL, EASTBOURNE.

CASE OF CHRONIC KNEE-JOINT DISEASE TREATED BY ARTHRECTOMY.

(Under the care of Mr. A. EDWARD ROOK.)

ON May 28th, 1885, a young woman, aged 22, fell down stairs, bending the right knee under her. On admission, a few hours after, the joint was found to be swollen, painful, tender, patella floating. The muscles of the calf and thigh were somewhat wasted. She stated that eighteen months previously she awoke with severe pain in the joint, for which she could not account. The joint gradually enlarged, became stiff, and at times painful. In her fall she suddenly completely bent this joint. Her grandmother and aunt died of phthisis. Her mother suffered from "king's evil."

Under treatment the knee improved. The fluid, pain, and tenderness disappeared, but thickening of the tissues remained, the circumference over the patella being one inch greater than on the left side. She remained in hospital a month, and for more than a year received careful general and local treatment.

Towards the end of 1886 the knee became much worse. The pain was so severe that she could hardly get about on crutches. She had wretched nights, was thin and miserable.

On January 7th, 1887, she returned to the hospital, and a few days later the joint was thoroughly fired. No improvement. On February 23rd the joint was opened by a transverse incision through the ligamentum patellæ. The crucial ligaments, almost the whole of the articular cartilage, and the semilunar cartilages had disappeared. A soft gelatinous substance replaced these

structures and the synovial membrane. The bared bone was soft, fatty, and "worm-eaten." The whole of the diseased bone was scraped or gouged away. Scarcely more than a shell was left of the inner half of the patella, and a walnut could have been laid in the excavation made in the outer tuberosity of the tibia, and the femur was well gouged. The remains of the semilunar and articular cartilages were removed, and the thickened synovial membrane cut away. A forty grain to the ounce chloride of zinc solution was applied, a drainage-tube laid across, and the incision closed. The limb was put up in plaster-of-Paris, and the patient put to bed, to begin five days of most incessant, intractable vomiting, of which she nearly died. The skin-wound healed by first intention. On only four occasions was the temperature over 100° F. Boracic acid dressings were used. Dr. Gabbett kindly examined some of the material removed from the knee for tubercle bacilli. None were present.

On May 2nd she was walking in a Thomas's knee-splint, which was worn till November 10th, when it was changed for a steel back splint. To-day (May 30th, 1888) there is firm bony ankylosis between femur and tibia. There is a quarter of an inch shortening. Circumference over patella is three-quarters of an inch less than on the left side. Cicatrix is good. Twelve small pieces of bone have escaped through a sinus now nearly closed. She has been doing her housework for the past six months, and is free from all pain or discomfort.

The large amount of bone gouged away at the operation with a good result is worthy of note.

REVIEWS AND NOTICES.

A Practical Treatise on Diseases of the Skin. By John V. Shoemaker, A.M., M.D. With Coloured Plates and other Illustrations. New York: D. Appleton and Company. 1888.

Although Dr. Shoemaker's book extends over more than 600 pages and weighs over 3 pounds, he states that it has been his constant aim in writing it to accomplish the task with conciseness and brevity.

Dr. Shoemaker has evidently been a most indefatigable student of dermatological literature, and has endeavoured that his book should embody references and notices of everything that has been published on skin diseases during the last decade. What we miss in it is the judicious selection of what is important to the exclusion of what is temporary and without utility. The compilation, of which the work in fact largely consists, requires more judicious editing and more thorough pruning.

There are six coloured plates, which are fairly successful and have a distinct value, inasmuch as all good pictorial representations of skin diseases which are easy of reference are useful to students or practitioners who have few opportunities for clinical instruction. The first, a chancre of the lip, is not very successful. A plate showing acne rosacea shows very well the characteristic appearances of that common disease. There is a plate of an exaggerated case of sycosis which Dr. Shoemaker tells us "was cured in the Skin Hospital a short time ago." A rather ghastly picture of infantile eczema of the head and face is not very highly to be commended from an artistic point of view, but the appearances are difficult to render. A plate showing eczema of the palm is an instructive one, while there is an excellent representation in the sixth plate of vitiligo in a negress. In addition to these plates there are the usual woodcuts showing the microscopic structures of the skin and hair and the parasites of the skin.

The book is written on the same principle and with the divisions that we are familiar with in all recent books on diseases of the skin. The first chapter deals with the anatomy, and runs to the length of twenty-four pages.

In the chapter on Treatment (with general reference to all skin diseases), the action of drugs is discussed at considerable length. In his remarks on arsenic Dr. Shoemaker states that Dr. C. B. Radcliffe was the first to inject arsenic hypodermically; a solution of arsenite of potassium having been injected under the skin of a patient suffering from chorea with good results. It is well known that hypodermic injections of arsenic have been used to a considerable extent on the Continent for some years, and Dr. Shoemaker regards this as the best way of producing a powerful impression on the skin, and considers the method especially adapted to the treatment of obstinate cases of psoriasis and eczema. He generally administers either the arsenious acid or the arsenite of sodium in solution. He has the arsenite of sodium made into pellets of various strengths, beginning with one-tenth of a grain, one of which, dissolved in distilled water, is injected daily into the areolar tissue in some part of the back. In the course of a few days the dose is largely increased until some evidence of the action of the metal is observed either upon the disease or by its constitutional effect.

A page is devoted to discussing the effect of massage on the skin, and we find enthusiastic statements in regard to its efficacy similar to those which are used in commending the great number and variety of drugs and instruments and manipulations referred to in this book. The page following that on Massage is devoted to the description of woodcuts of the author's "Dermatological Case."

We do not know quite what class of readers are likely to benefit by Dr. Shoemaker's book. Dermatologists are more likely to refer to the original sources from which Dr. Shoemaker has so largely drawn than to the incompletely digested accounts which he has given. Practitioners, who require a book of reference as regards treatment, will be simply lost in the multitude of therapeutic measures that are more or less briefly alluded to. For example, the treatment of alopecia areata is stated to consist in change of diet, change of air, local and general galvanism, arsenic, strychnine, phosphorus, quinine, iron, and cod-liver oil; whilst locally oleate of mercury is applied, naphthol, sulphur iodide, chrysarobin, cantharides, veratria, tannic or gallic acids being also recommended as applications. Even this does not finish the list; cantharidial collodium, corrosive sublimate, glacial acetic acid, simple or compound; hot poultices, mustard or capsicum being added to them. How much more useful to the general practitioner are the simple and clear directions that are to be found in regard to the treatment of this disease in any ordinary good textbook on medicine.

We have marked other parts of the book in which the directions for treatment are given in the same prodigal fashion, and with the same absence of critical acumen.

Dr. Shoemaker makes a statement in regard to leprosy which, if correct, is certainly very startling. Forty years ago, he says, according to the inhabitants, leprosy was introduced into the Hawaiian Islands by two Chinese coolies. Now over 4,500 persons, or one-tenth of the total population, are victims of the disease! In 1805, there were three lepers on the island of Trinidad; in 1878, there were 860. In Norway, on the contrary, where a rigid system of isolation has been adopted, the decrease has been 50 per cent. within the last twenty years.

It is characteristic of the book that fifty-six pages are devoted to a formulary in which readers, if there are any such, who have carried away from their medical schools no leading principles to guide their practice, and are in the habit of keeping a pocket-book full of prescriptions, as a *vade mecum*, may wallow at leisure. The man who could use judiciously this extensive formulary would not require to read Dr. Shoemaker's book; and he whose knowledge and experience are not sufficient to enable him to use it judiciously will find it a dangerous guide.

We must not forget to add that there are three pages of medicated soaps, arranged alphabetically, containing the composition and uses of twenty-nine varieties of soap. He who runs may read.

NOTES ON BOOKS.

Medical Publications, 1887. Harvard Medical School.—Dr. J. Collins Warren, Chairman of the Committee on Publications, states in the preface that the articles which make up the book are presented in bound form to show the character of some of the original work done by the instructors of the school, or under their personal supervision during the past year. Clinical papers are excluded. The papers are very heterogeneous in their literary form, crown octavo, post octavo, royal octavo, small pica, long primer, bourgeois and brevier being inharmoniously blended. Closer inspection shows that the papers are simply reprints from well-known scientific serials, such as the *American Journal of the Medical Sciences* and the English *Journal of Anatomy and Physiology*: nearly all the papers are physiological. Herbert L. Burrell's contribution to the Massachusetts Medical Society, on the immediate reduction of fracture of the spine and fixation by means of

the plaster-of-Paris jacket is of high interest; but one other surgical paper, The Experimental Value of the Dowse Splint, by Dr. Brackett, is to be found in this collection. Dr. Collins Warren's paper, The Process of Repair after Resection of the Intestine, is, however, of direct surgical interest, although essentially physiological. We may briefly note the remaining papers, namely, Dr. Bowditch on The Action of Sulphuric Ether on the Peripheral Nervous System; Dr. F. H. Hooper on The Anatomy and Physiology of the Recurrent Laryngeal Nerves; Dr. J. Warren on The Effect of Pure Alcohol on the Reaction Time, with a Description of a new Chronoscope; Dr Dwight's Notes on Muscular Abnormalities; Dr. Rotch on The Artificial Feeding of Infants; and Dr. H. C. Ernst's Experimental Research upon Rabies. In short, Harvard can show good work for 1887.

Hypnotism Employed in Practical Medicine. By Dr. OTTO G. WETTERSTRAND.—This little pamphlet contains a number of curious and interesting cases of hypnotic treatment of various diseases by Dr. Wetterstrand. The author appears to have no hesitation in using hypnotism as a curative means, and evidently does not share the distrust of a large number of medical men as to the ultimate results of its employment. He states that he has never found a case in which the patient suffered mentally even after repeated hypnotising. He holds that a sensitiveness to hypnotism depends more on character than temperament, and, contrary to the general opinion, considers hysterical people less sensitive to hypnotic impressions than others. Age is one of the most important factors. The author believes all children from 3 or 4 to 15 years of age are hypnotisable. After 30 people are less impressionable. His method is as follows: He invites the patients to sit down, and, telling them that sleep will probably cure their disease, urges them to concentrate their thoughts entirely on sleep, in the mean time looking at them keenly. He tells them they will feel weight in the eyelids and limbs, and gradually will be unable to move. Sleep sometimes results almost instantaneously, in others a longer time has to elapse. While asleep he assures them the sleep is beneficial, and suggests various things to them. There are four grades of sleep. The first is characterised by a certain sleepiness and sense of weight; the patient lies perfectly still, and there is no catalepsy. The second is a deeper sleep; the patient cannot open his eyes or move. The third grade is characterised by automatic movements. In the fourth the patient is conscious of no one but the hypnotiser, and hears him but no one else, and acts in accordance with his will. In the fifth somnambulism is present in greater or less degree. Insensibility is then at its height, and an operation could be performed without pain. Amnesia on waking up is complete. The patient follows any suggestion most rapidly. The suggestions and assertions should be made in a calm, assured voice, and the mind of the operator fixed entirely on the patient's cure; look, voice, and manner should all be in harmony. Dr. Wetterstrand ascribes some of his failures, not to the fact that the patients were unhypnotisable, but to the fact that his hypnotic suggestions were not therapeutically fortunate. Nervous and sick headaches seem to have been treated by him with marked success; out of seventy-four cases, sixty-five were completely and permanently cured. All sorts of other cases were treated by him. Chronic rheumatism, neuralgia, spinal complaint, epilepsy, stammering, mental diseases, general nervousness, uterine hæmorrhage, epistaxis, etc. With regard to consumption, Dr. Wetterstrand does not claim for hypnotism the distinction of acting as a cure, but as a very decided alleviation, especially where the patient has no appetite, and suffers severely from pain in the chest. Whatever may be the objections to hypnotism, Dr. Wetterstrand apparently considers them as of small account in proportion to the benefits to be derived, and concludes the pamphlet with the words of Professor Bernheim: "Suggestive therapeutics is one of the most brilliant methods of contemporary science."

BEQUESTS AND DONATIONS.—Miss Georgiana Johanna Austin, of Oxford Terrace, Hyde Park, bequeathed £500 each to the Cancer Hospital and the Hospital for Consumption and Diseases of the Chest, £250 to the Hospital for Sick Children, £150 to St. Mary's Hospital, and £125 to the Royal National Sea Bathing Infirmary at Margate.—The Hon. Bowes Daly, of Killough Castle, Tipperary, bequeathed £200 each to the City of Dublin Hospital, St. Mark's Ophthalmic Hospital at Lincoln Place, Dublin, the Hospital for Incurables at Donnybrook, and the Convalescent Home at Stillorgan.

MEMBERS PRESENT AT THE ANNUAL MEETING.

THE following names of members and visitors attending the annual meeting were entered in the books provided for the purpose:—

Abraham, P. S., M.D., F.R.C.S.I., London; Adam, Chas., M.D., Elgin; Adam, James, M.A., M.B., C.M., Western Infirmary; Adams, A. M., M.B., C.M., Glasgow; Adams, Frederick Vasey, L.R.C.P.E., etc., Glasgow; Adams, James A., M.D., Glasgow; Adams, John, M.B., C.M., Glasgow; Affleck, J. O., M.D., Edinburgh; Alston, J. M., M.D., Airdrie; Aitken, Sir William, M.D., LL.D., F.R.S., Professor of Pathology, Netley; Alcock, W. E., M.R.C.S.; Alderson, Fred. Henry, M.D., Hammersmith; Aldous, George F., M.R.C.S., Plymouth; Alexander, Geo. P., F.R.C.S., Forfar; Alexander, John, M.D., Glasgow; Alexander, L. D., M.D., Kilcreggan; Alexander, Thomas Gray, M.B., C.M., M.R.C.S., Glasgow; Allen, Donald, M.D., Evanton, Ross-shire; Allan, Geo. Richard, B.A., M.D., Glasgow; Allen, H. Blyth, L.F.P.S., Sunderland; Allan, James W., M.B., Belvidere Hospital, Glasgow; Allan, J. G., Esq., Keady, County Armagh; Allan, William, Esq., Govan; Allbutt, T. Clifford, M.D., F.R.S., Meanwood, Leeds; Allden, John H., M.R.C.S., L.S.A., Shirley, Southampton; Anderson, A. Jasper, M.R.C.S., Prestwich, near Manchester; Anderson, E. G., M.D., London; Anderson, F. H., M.D., M.C., Georgetown, Demerara; Anderson, J. W., M.A., M.B., C.M., Barrow-in-Furness; Anderson, J. Wallace, M.D., Glasgow; Anderson, Robt., M.B., C.M., Glasgow; Anderson, Robt., M.D., Seaton Delaval, Northumberland; Anderson, R. J., M.D., Newry; Anderson, Stirling, M.D., Chapel-en-le-Frith; Anderson, Thomas M'Call, M.D., Professor of Clinical Medicine, University of Glasgow; Anderson, W. W., M.D., Dennistoun; Andrews, Henry Charles, M.D., M.R.C.S., L.M., and L.S.A., London; Angus, James, M.D., Edinburgh; Annandale, T., M.D., Edinburgh; Aplin, Alfred, M.D., L.R.C.P., M.R.C.S., Nottingham County Asylum; Apostoli, George, M.D., Paris; Arbuckle, Hugh W., M.D., Thorne, near Doncaster; Arbuckle, J. H., M.D., Kilmarnock; Arthur, James, L.R.C.P.S.E., Wingate, Co. Dublin; Arthur, Hugh, M.D., Airdrie; Ashby, Henry, M.B., Manchester; Ashdown, H. H., M.B., London; Ashton, J. T., L.F.P.S., London; Atkinson, Robert, M.R.C.S.E., Ripponden; Aveling, J. H., M.D., London.

Baber, E. Cresswell, M.B., Brighton; Baird, James T. W., M.B., Congleton; Baker, R., M.D., York; Balding, B. F.R.C.S., Royston, Cambridgeshire; Balfe, J. H., L.R.C.P., L.R.C.S.G., Glasgow; Balfour, M. A. G., M.D., Edinburgh; Ball, Professor, Paris, Member of the Academy of Medicine, Paris; Bamber, H., M.B., Norwich; Bampton, A. H., M.D., Plymouth; Banks, Professor John T., *Vice-President*, Dublin; Banks, J., M.B., Dunoon; Barker, D. Fordyce, M.D., New York; Barlow, John, M.D., F.R.C.S., Glasgow; Barnes, Henry, M.D., Carlisle; Barnes, Robert, M.D., London; Barr, James, M.D., Liverpool; Barr, M., M.D., LL.D., London; Barr, Thomas, M.D., Glasgow; Barras, James, M.D., Govan; Barron, G. B., M.D., Southport; Bartlett, Edward, M.R.C.S., L.D.S.E., London; Bartlett, William, M.R.C.S., L.D.S., Newcastle, Staffordshire; Bateman, F., M.D., F.R.C.P., Norwich; Bates, W. R., L.K.Q.C.P.I., Addingham; Bayliss, H. M., L.R.C.P., Glasgow; Beach, Fletcher, M.B., Darenth Asylum; Beale, E. Clifford, M.D., London; Beatson, George Thomas, M.D., Glasgow; Beattie, Surgeon-Major J. F., Netley; Beck Fred. E., F.R.C.P., Belfast; Beggs, G. H., M.A., M.D., Sioux City, Ts., U.S.A.; Bell, James M., M.D. and L.R.C.S.E., Kettle, Fifeshire; Bell, John Hy., M.D., Bradford; Bell, Robt., M.D., Glasgow; Benington, R. C., M.B., Newcastle; Bennet, Fred. W., M.D., Glasgow; Bennett, M., F.R.C.S., Birmingham; Benson, A. H., F.R.C.S., Dublin; Bentley, A. S., Esq., Edinburgh; Benton, Samuel, M.R.C.S., London; Bernard, Walter, F.R.C.P.I., Derry; Berry, Wm., F.R.C.S.I., Wigan; Beveridge, John, M.B. and C.M., Kilmarnock; Bickerton, Thos. Herbert, M.R.C.S., Liverpool; Biden, Wm. Price, F.R.C.P., Hyères, Var, France; Bingham, Henry, M.D., Belfast; Black, D. C., M.D., Glasgow; Black, James, M.B., F.R.C.S., London; Black, J. F., M.D., Halifax, N.S.; Black, Malcolm, M.D., Glasgow; Black, Robt., M.D., Greenock; Blackwood, James Simson, L.R.C.P.E. and L.R.C.S.E., Glasgow; Blaikie, R. H., M.D., F.R.C.S.Edin., Edinburgh; Blair, Archibald, Surgeon, Dalry; Blair, John, M.D., Shotts; Blair, Robt., M.D., C.M., Woodiloe, Lenzie; Boileau, T. P. H., M.D., Surgeon-Major, M.S., Woolwich; Bond, C. J., F.R.C.S.Eng., Leicester; Booth, J. M'Kenzie, M.D., Aberdeen; Bower, David, M.D., L.F.P.S.G., Bedford; Bowles, Robert, M.D., Folkestone; Bowman, Charles, M.R.C.S.Eng.,; Bowman, R.M., Ripon; Boyd, James P., Glasgow; Boyd, M.A., M.D., Dublin; Brady, C. M., L.R.C.S.I., Wigan; Brailey, W. A., M.D., London; Braithwaite, Jas., M.D., Leeds; Bramwell, Byrom, M.D., Edinburgh; Brand, A. T., M.D., Driffield, E. Yorks; Brett, Alex. F., M.D., Watford, Herts; Bridgwater, Thomas, M.B., *President of Council*, Harrow; Broadbent, S. W., M.R.C.S., Dalton-le-Dale, Sunderland; Brockhall, Andrew A., London; Brodie, David, M.D., Canterbury; Brodie, J. Ewan, M.D., Glasgow; Bromwell, J. R., M.D., Washington, D.C.; Brooke, F. C. G., M.B., Manchester; Brooks, H. St. Jno., M.D., Dublin; Brown, Archibald, M.B., Glasgow; Brown, Geo., M.R.C.S., London; Brown, John, M.D., F.R.C.S.Eng., Burnley, Lancashire; Brown, John, M.D., Glasgow; Brown, John Ritchie, M.D., Saltcoats, Ayrshire; Brown, Leonard, Esq., London; Brown, M., F.R.C.S., Edinburgh; Brown, Robert, M.D., Pollokshields; Brown, Thomas, L.F.P.S.Glas.; Brown, Wm., M.B., Fishponds, Bristol; Brown, Wm., M.R.C.S., Carlisle; Browne, D. J., Londonderry; Browne, J. W., M.R.C.S., Belfast; Browne, J. W. A., B.A., M.D., M.R.C.S., Belfast; Browne, Lennox, F.R.C.S.Ed., London; Browne, Samuel, M.D., C.M., R.N., Warwick; Browne, Thos., L.F.P.S., Dunblane; Bruce, Alex., M.D., Edinburgh; Bruce, Robt. Wilson, L.F.P.S.G., Glasgow; Bruce, Wm., M.D., Dingwall; Bryce, Thomas H., M.A., M.B., C.M., Glasgow; Buchanan, George, Professor Clinical Surgery, Glasgow; Buchanan, Jas. R., Glasgow; Buchanan, H. Bryden, M.B., C.M., Thirsk; Buck, Chas. W., M.R.C.S.E., Settle; Buist, J. B., M.D., Edinburgh; Bulteel, Christopher, F.R.C.S., Stonehouse, Plymouth; Buncle, Alex., M.B., Purstone; Burgess, John, L.R.C.P., Burnley; Burns, John, Esq., Glasgow; Burns, Wm., M'G., M.R.C.S.E., L.R.C.P.Ed., Glasgow; Burrell, Edwin, M.D., London; Burrows, T. E., M.B., London; Butter, John Kerr, M.D., C.M., Cannock, Stafford; Butterfield, Harris, M.D., L.S.A., Sevenoaks, Kent; Byers, John W., M.D., Belfast; Byrne, J., F.R.C.S., Londonderry.

Cadell, F., M.B., Edinburgh; Calder, Marcus, Esq., Greenock; Calderwood, G., Esq., Egremont; Caldwell, John, M.D., Shotts, Lanarkshire; Cameron, Alex., Esq., Glasgow; Cameron, Charles, M.D., M.P., Balclutha, Greenock; Cameron, Hector C., Esq., Glasgow; Cameron, James A., Esq., Edinburgh; Cameron, John M., M.B., C.M. Old Kilpatrick; Cameron, J. Spottiswood, M.D., Hud-

dersfield; Cameron, J. Wilson, M.B., Glasgow; Cameron, M., M.D., Glasgow; Campbell, A. L., M.B., C.M., Glasgow; Campbell, D., M.D., Ballachulish; Campbell, Dugald, M.D., Glasgow; Campbell, P. E., Esq., Caterham; Campbell, William, M.D., Cardiff; Campbell, W. D., M.B., C.M., Shawlands; Candy, John, M.D., Southampton; Carey, Rich. B., L. and L.M.K.Q.C.P.I. and L.R.C.S.I., Borris, Co. Carlow; Carleton, Surgeon, M.D., Glencorse Barracks; Carlier, E. W. W., Esq., Edinburgh; Carline, W. A., M.D., Lincoln; Carlyle, J., M.D., Greenock; Carmichael, A., M.A., M.D., Barrow-in-Furness; Carmichael, J., M.D., Edinburgh; Carmichael, N., M.D., Glasgow; Carpenter, Alfred, M.D., Croydon; Carslaw, John Howie, M.A., M.B., C.M., Helensburgh; Carswell, J., L.R.C.P.E., L.F.P.S.G., Glasgow; Carter, Charles Henry, F.R.C.S., Hastings; Carter, William, M.D., Liverpool; Carter, R. B., F.R.C.S., London; Carr, Wm., M.B., H.M. Gen. Prison, Barlinnie; Cash, J. Theodore, Esq., Aberdeen; Caskie, John Boyd, M.D., London; Cathcart, C. W., M.B., Edinburgh; Chaffey, W. C., M.B., Brighton; Chalmers, Arch. K., M.D., Mossend; Chalmers, J., M.D., London; Chalmers, William, Esq., Glasgow; Chambers, James, M.D., Garlands, Carlisle; Chambers, John, M.D., Indianapolis; Charles, John James, M.A., M.D., Cork; Cheadle, W. B., M.D., London; Chiene, John, F.R.C.S.E., Edinburgh; Chisholm, John O., L.R.C.P., Glasgow; Christie, James, Esq., Professor of Physiology, Glasgow; Christie, W. W., M.B., C.M., Belvidere Hospital, Glasgow; Clark, Sir Andrew, Bart., M.D., F.R.S., President of the Royal College of Physicians, London; Clark A., Campbell, M.D., Kirklands; Clark, Duncan, Esq., Tarbert; Clark, Duncan, Esq., Rotherham; Clark, H. E., F.F.P.S., M.R.C.S., Glasgow; Clark, James, M.D., F.R.C.S.Ed., Lichfield; Clark, James C., L.R.C.P.and S.Ed., etc., Glasgow; Clark, J. C., Esq., Southsea; Clark, M. R., Esq., Sheffield; Clarke, F. H., Esq., Dumfries; Clarke, J. C., Esq., Farnworth; Clegg, W. J., M.D., M.R.C.P.E., Bacup; Cleland, Professor John, Glasgow; Clippingdale, S. D., M.D., F.R.C.S.Eng., London; Clouston, T. S., M.D., R.C.P.E., Edinburgh; Cluckie, N. G., Esq., Greenock; Coats, Joseph, M.D., Glasgow; Cockburn, R., Surgeon-General, London; Coghill, John Geo. S., M.D., F.R.C.S., Ventnor, I. W.; Coldstream, Alexander R., M.D., Florence, Italy; Coleman, Henry W., L.R.C.P., M.R.C.S., Armley, Leeds; Collenson, F. W., Esq., Royal Infirmary, Glasgow; Colley, T. Davies, Newton Cottage, Chester; Connel, John, M.D., F.R.C.P.E., Peebles; Constable, John, M.D., Leuchars, Fife; Coppinger, Charles, M.D., F.R.C.S.I., Dublin; Core, William, M.A., Barnhill, Glasgow; Corner, T. M., Esq., London; Cossar, T., M.D., Edinburgh; Cottell, Arthur, Surg. M.S., Chatham; Counihan, John F., L.K.Q.C.P.I., etc., Kilrush; Counsellor, W. P., M.D., Whalley, Lancashire; Couper, David, M.D., Glasgow; Coupland, Sydney, M.D., F.R.C.P., London; Court, William, L.F.P.S.G., Bolton; Cousins, J. Ward, M.D., Portsmouth; Cowan, John, M.R.C.S., Wishaw; Cowan, W. C., L.R.C.P.E., Dundee; Cox, M. F., M.K.Q.C.P.I., L.R.C.S.I., Dublin; Crabb, James, M.D., London; Craig, John Wright, M.D., M.R.C.S., Bingley; Crawford, G., M.D., Port Glasgow; Crawford, R., M.D., Glasgow; Creery, J. T., Esq., Coleraine; Crichton, George, M.D., Twickenham; Crighton, Alexr., M.D., Brymbo, Wrexham; Cromie, J., L.R.C.P.and S.E., Blyth, Northumberland; Crookshank, Edgar, M.B., London; Crozier, W., Esq., Glasgow; Crozier, W., Esq., Liverpool; Cuming, J., M.D., Belfast; Cumming, A. S., M.D., Glasgow; Cunningham, J., Esq., Campbeltown; Cunningham, W. L., M.B., Alva, Stirlingshire; Cureton, E., M.R.C.P., Shrewsbury; Curle, D., M.B., C.M., Glasgow; Currie, D. W., M.B., C.M., Tillicoultry; Currie, Ronald, M.D., Skelmorlie; Cutts, W. Henry, M.D., Melbourne, Victoria.

Daly, Geo. W., M.D., Ratoath, Ireland; Dantra, S. H., M.D., London; David, John, M.R.C.S., Londonderry; Davidson, Alex., M.B., C.M., Glasgow; Davidson, Jas. M'Kenzie, M.B., C.M., Aberdeen; Davidson, Robert, M.B., C.M., Shettleston, near Glasgow; Davidson, Thos., M.D., Thornhill; Davies, D. Arthur, Esq., Swansea; Davies, D. L., Esq., Neath; Davies, H. N., L.R.C.P.L., Porth, Pontypridd, South Wales; Davis, Nathan Smith, Esq., Chicago, U.S.A.; Davison, James, M.D., F.R.C.S., London; Davy, Henry, M.B., Dublin; Day, Wm. White, M.D., Lower Edmonton; Dempsey, Alex., Esq., Belfast; Denison, Charles, A.M., M.D., Denver, Colorado, U.S.A.; Dewar, Daniel Mackellar, M.D., C.M., Glasgow; Dewar, Jas., M.D.Ed., F.R.C.S.Ed., Drylaw, Midlothian; Dickson, George, M.D., Glasgow; Dickson, J. D., M.D., Marlow; Dickson, Wm. A., L.R.C.P.S., George Town, British Guiana; Dill, R. T., M.D., Belfast; Diver, Ebenezer, M.D., M.R.C.S., Kenley, Surrey; Dix, John, Esq., Hull; Dobbie, Robt., M.D., Ayr; Dobie, William, M.D., Keighley; Dolan, Thomas M., M.D., Glasgow; Don, Surg.-Maj. Wm. Gerard, London; Donbavand, Edgar J., L.R.C.P., Lewisham Hill; Donnelly, Thomas, M.D., F.R.C.S.I., Dublin; Dougal, J., Esq., Strathaven; Dougau, William, M.D., Springburn; Douglas, John C., M.D., L.R.C.S.Edin., Whitborn; Douglas, Justyn G. D., Esq., Bournemouth; Dow, D., Esq., Dunfermline; Dowie, William, M.D., Carlisle; Down, L., M.D., F.R.C.P., London; Downie, J. Walker, Esq., Glasgow; Downing, Charles, L.R.C.P.Lond., M.R.C.S.Eng., Cardiff; Dowse, T. Stretch, M.D., London; Doyle, E. A., M.B., Leigh; Drewett, John D., Esq., Stirling; Drinkwater, H., M.D., M.R.C.S., Sunderland; Drinkwater, W., M.R.C.S., Bicester; Drummond, David, M.D., Newcastle-on-Tyne; Drury, Arthur, M.B., Halifax; Duckworth, Sir Dyce, London; Dudley, Brig.-Surg. W. E., Bath; Duffey, George F., M.D., Dublin; Duguid, Wm. Robert, Buckie; Duke, Alex., F.K.Q.C.P.I., Dublin; Duncan, Andrew Jas., Esq., Dundee; Duncan, B. A., Esq., London; Duncan, Ebenezer, Esq., Crosshill; Duncan, James, M.B., C.M., Cleland; Duncanson, Kirk, Esq., Edinburgh; Dunlop, James, M.D., Professor of Surgery, Anderson's College, Glasgow; Dunlop, James, M.B., Glasgow; Dunlop, John, M.D., Glasgow; Dunlop, Thos. C., Esq., Glasgow; Dunn, Wm. G., M.D., F.F.P.S.G., Glasgow; Dwyer, F. Conroy, Esq., Dublin.

Eames, Thos. Boles, L.R.C.S.E., M.R.C.P., Stoneclough, Manchester; Eastes, Geo., M.B., London; Eastwood, J. W., M.D., M.R.C.P., Dinsdale Park, Darlington; Eaton, John, M.D., F.F.P.S.G., Cleator Moor, Cumberland; Eccles, A. Symons, M.B., London; Edington, Alex., M.B., C.M., Edinburgh; Edis, Arthur W., Esq., London; Edwards, E. Parry, Esq., Anglesey; Edwards, W. Lloyd, L.R.C.P.Lond., M.R.C.S., Carmarthen; Ellis, Richard, F.R.C.S.Ed., Newcastle-on-Tyne; Erskine, James, M.A., M.B., Glasgow; Erskine, Robert, M.D., Camborne, Cornwall; Erskine, R. B., M.D., Ayr; Erwin, Samuel Jas., L.R.C.P. and S.Ed., Openshaw, Manchester; Esler, Robert, M.D., Belfast; Evans, Maurice G., M.D., Cardiff.

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Palmer, B. A., M.B., Crossmaglen; Parker, James, M.B., C.M., Royal Asylum, Gartnavel; Parker, James, M.D., L.R.C.S.Ed., Glasgow; Parker, Roger, Esq., Liverpool; Parker, R. W., Esq., London; Parkinson, J. Taylor, M.B., C.M.Aber., M.R.C.S.Eng., Crystal Brook, South Australia; Parry, Thos. W., M.R.C.S.E., Ferndale; Parsons, Charles, M.D., Dover; Parsons, Francis, M.D., West Worthing; Parvin, Professor T., Philadelphia; Paterson, A. Browning, M.D., M.B., Butterknowle, by Darlington; Paterson, James, M.D., M.R.C.S.E., L.S.A., Partick; Paterson, Thomas Lewis, M.B., C.M., Glasgow; Paton, James, M.D., Greenock; Patrick, William, M.D.Glas., Glasgow; Patterson, A., M.D., Manchester; Patterson, Alex., M.D., Glasgow; Patton, Alex., M.B., etc., Finglas, Co. Dublin; Pavy, F. W., M.D., F.R.C.P., London; Pearce, F., M.D., London; Pearce, Philip A., M.B., Sunderland; Pearce, W., M.D., London; Pearse, W. E. G., L.R.C.P., etc., London; Peart, Robert Septimus, M.D., etc., North Shields; Peden, Wm. K., M.B., C.M., Glasgow; Pegler, L. H., M.D., M.R.C.S., Alfreton; Penny, James Champion, M.D., Deputy Surgeon-General, Kew; Perry, R., M.D., Glasgow; Petch, R., M.D., York; Pettigrew, J. Bell, M.D., St. Andrews; Philip, Wm. Robert, F.R.C.P.E., Edinburgh; Philipson, George Hare, M.D., D.C.L., F.R.C.P., Newcastle-on-Tyne; Phillips, C. D., M.D., London; Philpots, Harris, Esq., Birkenhead; Pickering, T. H., M.B., etc., Monte Carlo; Pierce, F. M., M.D., Manchester; Pirie, John, M.D., L.R.C.S., Glasgow; Platt, Arthur, Esq., London; Playfair, Jno., Esq., Edinburgh; Pollock, Alex. Barr, M.B., C.M., Glasgow; Pollock, Charles Fred., M.D. F.R.C.S.E., Glasgow; Pollok, Robt., M.B., Pollokshields; Pope, Edward, M.R.C.S.Lond., Tring, Herts; Pope, H. Campbell, M.D., F.R.C.S., London; Porter, Sir George, Dublin; Power, H., F.R.C.S., London; Prankerd, J., F.R.C.S., Bath; Prankerd, O. R., F.R.C.S., Brighton; Pratt, Walter, M.R.C.S., L.R.C.P., Leighton Buzzard; Prichard, Augustin, Esq., Clifton, Bristol; Pridie, F., M.B., Tullyallan Castle, Kincardine; Pringle, Henry Turnbull, M.D., Bridgend, S. Wales; Pringle, R., M.D., London; Proudfoot, Thos., M.D., Glasgow; Purvis, Prior, M.D., Blackheath, London; Pye, Walter, F.R.C.S., London.

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Urquhart, A. R., M.D., Perth.

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Yates, Jas., M.D., Oldham; Yates, P., M.D., Bolton; Young, Peter, L.R.C.S.E., Dundee; Young, P. A., M.D., Edinburgh; Young, R. Bruce, M.B., Glasgow; Young, Thomas, M.D., Ancoats, Manchester; Young, William, M.D., West Calder; Younger, H. J., M.B., Glasgow; Yellowlees, David, M.D., Gartnavel, Glasgow; Yeoman, G., Esq., Glasgow; Yourell, M., M.K.Q.C.P.I., Dublin.

Ziemssen, Oswald, M.D., Wiesbaden.

EXCURSIONS.

The Perthshire Highlands, Lochearnhead, and Crieff.—The full complement of visitors (namely, 100), including a number of ladies, availed themselves of this excursion, *viâ* the Caledonian Railway Company's well-known circular route. The weather unfortunately turned out very disagreeable, a thick drizzling rain falling throughout the greater portion of the day. Leaving Glasgow by special train at 8.35 A.M., the party proceeded to Lochearnhead, where seven brakes and carriages awaited their arrival. Driving thence down the north shore of Loch Earn to St. Fillans, the scenic grandeur on each side of the loch was not seen to advantage. At St. Fillans a short stay was made, and the party thereafter drove to Comrie. Here the party had the option of taking tea at Cowden, or journeying to see the Deil's Cauldron, a romantic waterfall in the neighbourhood. The journey was resumed to Crieff, which was reached at half-past four. Dinner was served in the Strathearn Hydropathic Establishment, to which a number of the leading citizens of Crieff were invited along with

the party. They left by special train in the evening for Glasgow.

Lanark and Falls of Clyde.—The party, to the number eighty, left, per special train, the Central Station at 9.40 A.M., and it was pleasing to note that several ladies were present. Places of interest on the way were pointed out, and Tillietudlem Station was reached in good time. The morning was mild, and there was no rain, therefore the short walk to the Castle was enjoyed by everyone. Preparations had been made at the Castle for our reception; the place was thrown open in readiness, candles were burning in the dungeons, and the ascent to the roof made comfortable. After the exploration, Dr. Glaister gave a short descriptive sketch of its archæological and historical distinctions. The party then walked down the Nethan ravine, a very lovely walk, and in the pleasant morning was, after the gaiety and hard work of the week, a very agreeable contrast. Joining vehicles at Crossford, they drove to the different falls of the river, Stonebyres, Cora, and Bonnington Linns. At Corehouse estate they were joined by Hugh Davidson, Esq., solicitor, one of the leading archæologists of the neighbourhood, who, by his entertaining anecdotes of places, men, and things, gave interest to the drive. At Cora Castle the party was photographed, and an exceedingly effective group has been made. At the top of the Falls the carriages awaited the party, and they drove on to Lanark, where every arrangement had been made, at the Clydesdale Hotel, for the comfort of the visitors. After the outer man had been refreshed, with appetites whetted, the inner man was abundantly provided for. Dining with the party were the Provost and Town Clerk of the burgh, Mr. Davidson, and other gentlemen. After dinner, a few toasts were pledged enthusiastically, and the party then proceeded to view and examine Smellie's library, which was laid out for inspection in the County buildings. There the medical visitors were shown an advance copy of Smellie's *Atlas*, with written corrections by himself in many places. Many expressions of interest were heard from the visitors *à propos* the worth of the collection, and it is to be hoped that a change will take place soon in its environment. The party then divided itself into sections, and, piloted by local gentlemen, visits were made to Cartland Crags, the old Roman bridge, St. Kentigern's Abbey, Smellie's grave, etc. The absence of rain, and on the other hand the absence of brilliant sunshine, contributed to make the weather agreeable, and many doubtless will remember their visit to Lanark and the Falls of Clyde.

Loch Lomond.—The excursion to Loch Lomond was not so numerously attended as it was expected, the broken character of the weather no doubt preventing many from taking advantage of this charming trip. The party, consisting of between thirty and forty members of the Association, with a goodly sprinkling of ladies, left Glasgow by train at 11.5 A.M., reaching Balloch pier at 12.5. Here they were joined by the guests, R. D. McKenzie, Esq., of Caldarvan, Convenor of the county of Dumbarton, and Mr. Wylie, of Cordale. The loch was in one of its sober moods, but the scenery was much enjoyed by all, although only the shoulders of the Ben and other heights were visible. A sail of two hours took us to the head of the loch, during which the objects of interest were pointed out to the visitors. The boat lay here for two hours, during which time a substantial luncheon was discussed, and a short toast list disposed of, Dr. Morley Rooke, of Cheltenham, discharging the duties of chairman with entire satisfaction. The return sail to Balloch was very pleasant. Only slight showers (Scotch mist) fell at intervals, and the whole party seemed to enjoy the day's outing. A vote of thanks to Dr. Robertson, of Dumbarton, the representative of the Excursions Committee, before landing, testified to the success of the arrangements. The party reached Glasgow shortly before 8 o'clock in the evening.

Stirling, Bridge of Allan, and Dunblane Cathedral.—Owing to a little delay in starting it was close on 10 o'clock when the party of forty excursionists, chaperoned by Dr. Erskine, reached Stirling. Conducted by Dr. Haldane, Provost Yellowlees, Dr. Galbraith, and Chief Magistrate Drysdale, visits were made to the places of interest in the town: to the Royal Infirmary, where Dr. M'Nicol and the matron, Miss Falconer, conducted the visitors over the building, and to the Castle, Mar's Work, Argyle House, the East and West Churches, and the Guildhall, which were all examined, and their history graphically given by the Provost. At the Smith Institute the picture galleries and museums were inspected, and after cake and wine had been partaken of in the Reading Room, the party in open carriages (a few ladies not caring to face an inclement Scotch mist, sheltering themselves in a bus, thoughtfully provided) proceeded to view both the old and the new town. A smart run brought the party to Causewayhead and the foot of the Abbey Craig, where all dismounted and proceeded to climb the hill. Arrived at the summit a general desire was felt to ascend the monument, where the armour and marble busts were examined, and from the top of which, with the wind blowing lustily, the indefatigable Provost and Drs. Haldane and Galbraith pointed out the several objects of interest in the surrounding landscape, including Airthrey, Bridge of Allan, Blair Drummond, Craigforth, the Gowan Hills, the Heading Stone, Stirling Castle and Town, the Gillies Hill and Field of Bannockburn, the Forth with its many windings, Cambuskenneth Abbey, the railway bridge at Alloa, the Whale Park, and Demvat. A drive (by kind permission) through the lovely grounds surrounding Lord Abercrombie's mansion till the lodge on the Bridge of Allan was reached, was much enjoyed. Arrived at the Bridge of Allan, a substantial dinner was served in *recherché* style, to which ample justice was done. Dr. Haldane took the chair; toasts were freely drunk, and many pleasant speeches followed. The drive was now continued through the Bridge of Allan to Keir Lodge; Kippenross, by kind permission of Colonel Stirling, was driven through, and its beauties much admired, and on to Dunblane, where the cathedral was next visited, and its window and carving elicited warm admiration. At the Hydropathic Establishment light refreshments of a most agreeable kind were prepared. Dr. Brown, the resident physician, and Chief Magistrate Bell did all they could to enhance the pleasure and administer to the comfort of their guests. Time was pressing, the carriages were waiting to convey the party to the Bridge of Allan Station to catch the special from Lochearnhead, and all but a few, who had resolved on staying behind to enjoy more of the beauties of the place, arrived in Glasgow at 8.35, after a most enjoyable excursion, which had but one marring element, and that was the cold and inclement weather.

Rothesay and Kyles of Bute.—Over eighty excursionists (ladies and gentlemen) left the Central Station by special train for Greenock, where the new s.s. *Victoria* (specially chartered for the occasion) was waiting. Leaving Greenock the *Victoria* sailed round the s.s. *Great Eastern*, which was lying close by, giving the visitors a splendid view of it. Rothesay was next reached, where a few more gentlemen came on board, including the Provost of the town; and thence the sail was up the Kyles and right round the Island of Bute, back to Rothesay Pier. A splendid dinner was served on board, Dr. Charles Cameron, M.P., presiding. He was supported by the Provost of Rothesay, Sir Spencer Wells, Dr. Farquharson, M.P., and Professor Struthers, of Aberdeen. An impromptu toast list was prepared and heartily gone through. On arriving at Rothesay, brakes were in readiness to convey the party to Mount Stuart House, and thence back to Glenburn Hydropathic, where, by the kindness of Mr. Philp, the proprietor, tea was provided. The party next walked to Rothesay Castle, under the guidance of the Provost, who kindly described a number of interesting points in connection with this ancient ruin. The *Victoria* was again reached, conveying the party to Wemyss Bay, where train was waiting for Glasgow. Everyone seemed pleased with the day's entertainment, the only thing marring it being the weather which, at the outset particularly, was rather disagreeable. Dr. James Hamilton acted as chaperon.

Ayr and the Land o' Burns.—This trip was conducted by Dr. Robert Pollok, and was joined by some Americans, including Professor N. Davis, late President of the International Medical Congress which met at Washington last year; Miss Davis, and by a few Colonial medical men, amongst whom was Dr. Ogilvie, from Kingston, Jamaica, with other members interested in archæology and in the favourite Scottish poet, Robert Burns. The party left St. Enoch Station by special saloon carriage, and the "auld town o' Ayr" was soon reached, where carriages were waiting. A pleasant drive followed, through the rich and varied scenery of agricultural Ayrshire, past the Ayr water reservoirs by Auchendrane, the country seat of Sir Peter Coats, and near that of the old family of Cathcart. At intervals the banks of the bonny Doon peeped out, rousing the enthusiasm and song of some of the poetic members. The time glided swiftly and pleasantly on until the horses' hoofs clattered on the causeway of Ancient Maybole. The old castle attracted special attention; and here the head of "Johny Faa" still frowns down upon the descendants of Cassilis. "John Knox's house," and the old tolbooth were also seen. After luncheon, Crossraguel Abbey was visited. This old Gothic ruin, with its altar, vestry, ecclesiastical court, vaults, cells, and tower, afforded abundant material for friendly discussion; and it was

with some difficulty that the more ardent antiquarians were hurried off from the many associations that cluster round the remains of the old residence of Abbot Quentin Kennedy. Culzean Castle, the seat of the Marquis of Ailsa, was next visited. The recent demise of the lamented Marchioness cast a depression on this part of the programme; but the castle with its beautiful grounds, gardens, and extensive ponds, was much admired and greatly enjoyed. On the way home, the monument erected to Robert Burns was inspected, and here were seen the Bible Burns presented to his Highland Mary, Jean Armour's wedding ring, a few original manuscripts, and other relics of the poet. Thom's statues of Tam o' Shanter and Souter Johnny rivetted the attention. The company strolled along the "banks and braes o' bonny Doon," which flows through the well-kept grounds, and stood on the "auld brig o' Doon," where the witch caught possession of Tam's "grey mare Meg's tail." The "auld Alloway Kirk," with its graveyard and the window through which Tam sacrilegiously watched "Cutty Sark" dance were pointed out. The cottage, with the original fireplace and bedplace and many of the poet's relics, were closely scrutinised, and taking an affectionate farewell of the thatched cottage, the company were rapidly driven into Ayr, where an excellent dinner was served in the Station Hotel. So much time had been consumed in "doing" the many sights of the route, that toasts were dispensed with. Dr. Erskine proposed a vote of thanks to Dr. Pollok for the great kindness and geniality with which he had surrounded the day's journey. This was ably seconded and supported by Professor Davis, and cordially responded to by the company. Some waited to see Ayr, its Wallace Tower, and other historical connections, whilst the remainder of the party returned to Glasgow by the 6.15 P.M. train.

Arran.—The party, numbering 81, left Bridge Street Station in saloon carriages at 9.40 A.M. for Wemyss Bay, where it joined the famous Clyde steamer *Ivanhoe*, called at Rothesay, *en route* to Arran, and passed through the Kyles of Bute. Dinner, to which ample justice was done, was served on board during the passage. On landing on the island the party visited Brodick Castle (by the kind permission of his Grace the Duke of Hamilton), and all, highly pleased with the day's excursion, returned to Glasgow by by the same route.

Callander and the Trossachs (Loch Katrine).—A party, 100 in number, left Buchanan Street Station, in special saloon carriages, for Callander, where coaches were in readiness to convey them to Loch Katrine. Dinner was served at 3 P.M. in the Trossachs Hotel, after which visitors enjoyed a sail on the loch to the Silver Strand, mentioned by Sir Walter Scott in the *Lady of the Lake*. After a most delightful and enjoyable trip, the party returned by the same route to Glasgow at 7.5 P.M.

A Trip on the "Hebe."—Some members of the Association and their families had a pleasant excursion in the yacht *Hebe*, placed at the disposal of Professor Gairdner, president of the Association, by the generosity of Mrs. Coates, of Ferguslie. The party left Greenock at 11 o'clock, and after calling at Rothesay, sailed up Loch Long. The weather was too boisterous for a trip further in the opposite direction, but in other respects all was propitious, and the voyage was thoroughly enjoyed by everyone. A handsome lunch was provided by Mrs. Coates, to whom great thanks are due. A number of ladies were of the party.

In addition to the above there was a series of short excursions, including visits to the harbour and shipbuilding works, under the charge of Dr. Barras, of Govan; the City of Glasgow Fever Hospital, Belvidere; the Hamilton Palace, Mausoleum, and Grounds (under the conductorship of Drs. Lennox and London, of Hamilton); Glasgow Corporation Waterworks, Mugdock (conducted by Dr. Robertson, Milngavie); Queen's Park and Cathkin Park, under the charge of Drs. Fenwick and Barrie; Barony Parochial Asylum, Woodilee, Lenzie, and the fossil trees in Victoria Park, Whitewich (Mr. John Young, F.G.S., conducting the party and explaining the interesting remains).

THE Queen has sent the Lord Mayor a donation of £50, in aid of the fund for the relief of the sufferers by the recent floods in the Isle of Dogs.

THE METROPOLITAN RAILWAY.—The state of the atmosphere in some portions of the Metropolitan Railway has long been a source of danger to those who travel by it. We are pleased to know that improvements are being effected at the Baker Street Stations which will admit some light and air to this part of the line, where both are so much needed.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, SEPTEMBER 1ST, 1888.

DR. CARTER'S BRADSHAWE LECTURE ON URÆMIA.

WE congratulate Dr. Carter upon his choice of subject for the Bradshawe Lecture of this year, and upon the concise review and criticism he offered his audience of the state of our knowledge concerning the pathology of uræmia, and of the theories advanced to connect its pathology with the clinical facts. To those who watch the progress of medical research it must during recent years have been evident that the study of pathological anatomy was rapidly ceasing to yield results which could be considered a sufficient recompense for the labour bestowed upon it. Observers have been reduced to a description of the curiosities of disease, or of minutiæ only to be discovered by high powers of the microscope and after infinite pains of preparation. Of course such researches have their value, still most will prefer a more open field of discovery, and hence we see growing yearly a desire to investigate functional pathology, of which pathological chemistry forms one of the most important, and possibly one of the ultimate divisions. While something may still be claimed for the significance of the anatomy of uræmia, it has long been suspected that the clinical picture, designated by that name, was produced essentially by a chemical poisoning, the nature of which, as the number of the theories concerning it proves, was not yet known. Those who heard Dr. Carter's lecture, or who will read the account of it which we publish, will appreciate the strides made during the last few years in the investigation of the chemistry of uræmia. The narrower ideas of its pathology, the theories of ammonæmia, creatinæmia, urinæmia, and the rest, are seen to be no longer consistent with either clinical or chemical facts, and give place to broader views, which, if still lacking in precision, do not hide our ignorance under the cloak of a name.

Dr. Carter, as will be seen, has carefully digested the recent work of the French rather than of the German School, and, while giving a clear exposition of our scientific position, adds certain observations of his own, which are not the least interesting points in his lecture. He is not inclined to support Traube's theory, that the nervous phenomena of uræmia are due to œdema, and consequent anæmia of the nervous centres. The theory was mainly called forth by an anatomical fact that, in some cases of death from uræmia, the brain was seen to be pale and apparently watery. Such a change is often, but not always, seen; and as Dr. Carter, agreeing with Voit and

others, has determined, the brains of persons who have died after suffering from uræmic symptoms may not show any excess of fluid. Dr. Carter found this to be the case in two instances, although we note that, in the record given, it is not asserted that the brain showed the naked-eye appearance described by Traube. We think that Traube's change may be of more importance than the chemical pathologists are inclined to admit, and yet, if viewed in its proper light, may not be antagonistic to their views. We ourselves are of opinion that the old term "serous apoplexy" should not be so generally rejected as has been the case, until, at any rate, the pathology of the condition which this term describes is more fully understood. Not uncommonly, cases are met with where hemiplegia, sometimes succeeded by coma, appears in a patient who is the subject of high arterial tension, with or without other evidence of renal disease. The condition may pass away often with remarkable rapidity, or death may ensue, and nothing be found in the brain but excess of fluid in the ventricles and bathing the membranes. This may fairly be called a serous apoplexy, whatever may be the method of its production, and it is probably expressive of a disorder of the cerebral circulation. Traube's change appears to us to be of similar nature, and viewed in the same light, not as the actual cause of the symptoms, but as produced by the vascular change which simultaneously calls forth the symptoms, it should not be excluded from consideration. Such symptoms as we have mentioned (known sometimes, when renal disease is discovered, as uræmic hemiplegia) are more readily explicable by the supposition of a vascular disorder than by direct poisoning of the nervous tissues. Wagner, in the article which took the place of that of Bartels in the more recent edition of Ziemssen's *Cyclopædia*, considered that the condition was due to capillary hæmorrhages, which are often found in the brain in such a case. But these, like the serous effusion, may be produced by the vascular change, and this, we believe, is the cause of the symptoms.

But it will be seen that the admission of this version of Traube's theory, as an explanation of certain cases, leads us not much further toward the ultimate pathology of uræmia. Even if admitted for a limited number of cases, the vascular disorder must have a cause, most probably a chemical poison in the blood, which acts upon the vasomotor centre or by an unknown mechanism varies the capillary resistance. Thus may be produced a few of the nervous, and possibly the respiratory, symptoms. But, as Dr. Carter clearly shows, the phenomena of uræmia are protean, convulsive as well as paralytic, gastric as well as nervous, and may affect but limited portions as well as the whole of the body. Here it seems reasonable to suppose that the chemical poison is acting directly upon the tissues without the medium of vascular change, and further, the complexity of symptoms is readily explained if the existence of more than one poison be inferred. We commend to our readers the able review of the French work upon this subject, given by Dr. Carter. Although the researches of Bouchard are wanting in the chemical niceties and accuracy displayed by those of Brieger, they are nevertheless very suggestive, and have already greatly extended our knowledge of the various poisons which may affect the body, and are self-engendered by the system. One of the most important of his observations is, to our mind, that of the variability in the nature of the urine poison at different times of the day. The kidneys, as we know, eliminate a certain portion of the excrement of the body. Some of the substances thus removed can only be eliminated by the kidneys when presented to them in a certain form. We can thus see how, even with healthy kidneys, a toxæmia may be produced if other organs concerned in tissue metamorphosis be not performing their functions accurately. This seems to be the inference we must draw from the fact that not only the quantity but the nature of the urine poison varies.

Moreover—and this as will be seen, Dr. Carter insists upon—from clinical considerations it must be inferred that the condition usually called uræmia is but the renal form of a toxæmia which is present with similar though somewhat different characters in other conditions. In fevers, in affections of the liver, in suppression of urine, in obstruction of the ureters, we find symptoms which, though differing greatly, are nevertheless allied to each other. The condition, by whatever name it be called, is produced by the presence in the circulation of matters which should be removed, or which assume a form or attain an amount with which the system is unable to cope. The proof, by Bouchard, of the varying nature of the renal excrement affords an explanation of the differences observed in the clinical observations. It may be added that recent researches by Brown-Séquard and Würtz have shown that a multiplicity of symptoms may be artificially produced by the poisoning of animals with alkaloidal matters eliminated by the lungs. The case described by Dr. Carter, where the exhalations from the dead body appeared to be of so very poisonous a nature, is extremely interesting, and strongly bears out his opinion that a chemical poison was at work. In ordinary medical practice it is rarely possible to make a minute chemical examination just at the time when an important case is under observation, but it would still further have increased the interest of this case had a complete analysis been made of the coloured layer of the urine, and of the other fluids of the body.

The basis of all rational treatment must be a thorough knowledge of the nature of disease, and it will be seen that Dr. Carter does not neglect to show how the facts he records, even in their as yet incomplete form, may be made use of by the physician in medical practice. The sources of some of the poisons of uræmia may be removed, other organs may assist in elimination when the kidneys are disabled, and pure blood may be substituted for that which is impure. It would appear not improbable, that the liver, or some such organ, may have the power of breaking up the poisonous combinations into others of less toxicity. Possibly it is by stimulating the circulation through the other internal organs that some of our therapeutic remedies relieve the symptoms of renal toxæmia.

THE TREATMENT OF INSANITY AND THE ADDRESS IN PSYCHOLOGY.

The practical address of Dr. Howden, as President in the Section of Psychology, at the recent annual meeting, which we publish elsewhere, regards from many points of view the treatment, causation, and pathology of insanity.

The *surgical* treatment of mental disease has recently come into some prominence owing to the advances made of late in brain physiology, and in the methods of maintaining the parts in an aseptic state after operative interference with the cranium, meninges, and encephalon.

The *medical* (using that word in the more limited sense) treatment of insanity slowly grows and gains strength and development in detail with every advance in general as well as special pathology, for it is only upon a comparatively accurate estimate of the whole pathological state and tendencies, psychic and somatic, of the individual lunatic, that a scientific medical treatment can be devised and applied.

The *moral* or *mental* treatment of insanity, as it is differently termed, is briefly, but ably and on broad lines, dealt with in the address to which we are referring; and the influence of occupation and recreation, of temporary residence in an asylum, of separation from the scenes and conditions under which the insanity arose, of prompt arrest of the formation of a fixed morbid memory or impress, or morbid habit of thought, all receive their due meed of notice. So also does the still more important subject of prevention, in relation more more particularly to the influence of civilisation in the production of insanity—or, as we would prefer to say, its influence in fostering a tendency to insanity in a people, highly civilised, under the conditions prevalent in the present half of the century. Control over the production of insanity largely concerns the individual members of the community, but the State also, by legislation, can exert a considerable effect upon the mental and physical health of the people, and therefore on the ratio of insanity in the general population.

One most important subject, briefly glanced at in this address, has within the past few days formed the matter of a short correspondence in the *Times*, under the head of "hospital treatment for the insane." We refer to the subject of the insufficiency in number of the medical staff in most of—we might say in all—our large public and other asylums, for the scientific study and treatment of insanity, for the protracted clinical and pathological observations necessary to a complete study of each case, and the bringing of the sane and medical mind more fully into operation and active influence on the unsound mind. The medical staffs of our large asylums ought to consist of highly trained, skilful, scientific men, in larger numbers than is now the case, and relieved from many of the details of a purely managerial nature in their superintending functions, as at present exercised. There is room, and need, for a large reform in this matter, and for better utilising the powers of many able men now in the asylum service.

THE ADDRESS IN THE SECTION OF OTOLOGY.

With Dr. Barr's thoughtful appeal as President of the Otological Section for a more extended study of the diseases of the ear, all who have the true interests of medicine and surgery at heart must cordially sympathise. Physicians whose diagnosis of intracranial and other lesions are frequently influenced by the discovery of the presence or absence of subjective or objective phenomena in the auditory apparatus are equally interested in this question with surgeons to whom ignorance of ear affections may mean exclusion from one of the most fertile fields of action open to them, and the consequent loss of many valuable lives. But the question arises, will the object at which Dr. Barr aims with such laudable zeal, namely, the diffusion of knowledge of the pathology and surgery of the ear, be best promoted by that further specialisation in this field which he seems to advocate? We believe not. What is taught as a speciality by a specialist remains such to the end of the chapter in the minds of those who have been thus instructed. The fact is, this branch of science, to become really fruitful, must be studied as a part of general pathology, and must be presented to the student by those who teach him the ordinary facts of the latter. There ought to be no difficulty about this. There is nothing specially mysterious about ear diseases. Three-fourths of them commence as inflammatory affections of the cavity of the tympanum, whose causation is well known, and the treatment of which, moreover, requires only the application to them of the everyday rules of antiseptic surgery. There is really no more difficulty in studying the inflammations of this cavity, whether acute or chronic, than of those other regions such as the mouth or rectum, with the diseases of which every practitioner is expected to be familiar.

Again, those serious complications which so frequently follow neglected aural disease will nearly always fall into the hands of the physician or surgeon, and will certainly never be safely dealt with by those whose studies and practice have been diverted solely into the fields of otology. As a matter of fact, not one of those British surgeons whose names Dr. Barr has associated with the most recent achievements in connection with lesions of the ear producing intracranial disease is an aurist, or, except in the case of Dr. Macewen, has taken his cue from an aurist. Certainly neither Dr. Macewen, Mr. Barker, Mr. Caird, or Mr. Horsley can be called special aural surgeons, although as pathologists the ear has received the attention due to it from them. In saying this we would not in any way disparage the work of conscientious otologists. They can continue to add abundantly to our knowledge of the physiology and pathology of hearing; but for the public and the profession at large the treatment of ear disease is no longer by any means a mere question of the prevention of deafness. They are concerned far more with the simple inflammatory conditions of the cavities of the temporal bone so easily treated at their outset, but which, if neglected, become not only a source of much suffering, but are also fatal in countless cases to hearing and often to life.

The real difficulty, however, in the spread of a knowledge of ear diseases lies in the fact that the student is not examined as to their pathology and treatment by the various licensing bodies; and as long as the ordinary examiners in medicine and surgery are incompetent to test the candidate's knowledge in this subject, but little progress will be made. Hardly an examiner of to-day would be able to recognise with speculum and mirror the appearances produced by an incipient suppuration in the middle ear, or be prepared to treat it promptly according to the most approved methods. This difficulty will not be removed by the development of specialism in otology. It can only disappear when a generation of examiners arises which has been taught the pathology of the temporal bone as a matter of ordinary study, and which has dealt with disease

in this region as frequently as with morbid conditions of the mouth or hip-joint. A step in the right direction has already been made in some of the larger metropolitan hospitals, where some of the junior members of the surgical staff, upon whom much of the ordinary teaching of pathology falls, have been obliged to undertake the duties of the aural department *as part of the regular routine out-patient practice*. In this way not only has the general practitioner been taught aural surgery as a common everyday subject; but a number of hospital surgeons are being gradually supplied to the profession with a sound practical knowledge of the subject, and competent eventually to examine in it as a part of general pathology and surgery. Moreover, when the number of surgeons so qualified increases, a distinct and wholesome check will be put upon the evils which always necessarily accompany exclusive specialism. And, further, the student, seeing his surgical teacher or examiner as familiar with aural disease as with venereal or joint affections, will be encouraged if not compelled to equip himself similarly, and that without fear of being dubbed "faddist" or specialist.

Dr. Barr has done good service in again pointing out a blot on our present system of medical education, and deserves the thanks of the public and the profession. But a leaven of younger clinical examiners as familiar with the speculum and mirror as with the ophthalmoscope, and as skilful in the antiseptic manipulations of the meatus and tympanum as with the washing out of the bladder, would do more to promote the true interests of the public than the most thoroughly organised Otological Society or the most widely circulated Journal of Otology.

THE HEALTH OF MANCHESTER.

It is to be hoped that the public attention which has recently been directed to the high death-rate of Manchester will produce good results, and that as the death-rate of the city, which was 29.6 per 1,000 for the ten years 1871-80, fell to 26.8 per 1,000 for the next seven years, so this latter excessive rate may be still further speedily reduced. To secure this end there must be increased attention to sanitary problems. Great sanitary progress has taken place in Manchester during the last twenty years; but the defects which at present mar the healthiness of the town must be remedied, and more wholesome conditions of life and dwelling must be established, if the rate of mortality is to be brought within reasonable limits. One of the first and greatest difficulties to be overcome is the overcrowding of persons in houses and houses on area. The local health officer, in his recently issued annual report, estimates the density of population in Manchester at eighty persons to the acre, and he seems to regard this density of population as one of the chief causes of the high rate of mortality. He quotes the strong opinions which the late Dr. Farr held on this subject, and refers to a conversation in which the great statistician said: "Give me the density of your population, and I will tell you your death-rate." The great influence of density can scarcely be over-rated; and it is worth noting that Dr. Leigh, whilst comparing Glasgow with Manchester, significantly observes that "while Glasgow has had six and a half millions expended in the improvement of its dwellings, and has re-housed 250,000 people, Manchester has had nothing expended upon it." Concurrently with action for meeting this evil, there should be adopted and enforced a code of proper building regulations. Another evil, which requires more stringent attention than is at present given to it, is the smoke nuisance. This could undoubtedly be reduced without material interference with the rights and operations of the manufacturers. Then, again, the local rivers are grossly polluted. In assisting reform in all these and many other directions, the Manchester and Salford Sanitary Committee have rendered great services to the locality. It would be well if those who are most immediately interested in the welfare of Manchester appreciated those services more fully than they do, and recognised the fact that, if greater support were accorded to the Association, even greater results than at present would ensue from the Association's efforts.

THE SANITARY INSTITUTE AND PARKES MUSEUM.

The amalgamation between the Sanitary Institute of Great Britain and the Parkes Museum (who have long been housed together) has become at last an accomplished fact. This is a step which all true sanitarians will regard with satisfaction, and one which cannot but increase the usefulness and add to the membership of the Sanitary Institute.

EPIDEMIC OF PNEUMONIA AT MIDDLESBROUGH.

Dr. Ballard, the Local Government inspector, who was sent down to Middlesbrough three months ago to inquire into the causes of the serious epidemic of pneumonia which had prevailed there, has concluded his investigations. Before leaving the town he had, it is said, an informal interview with the Sanitary Committee, and suggested various improvements in the sanitary arrangements. His report will probably not be issued till the close of the year.

LEAD POISONING FROM HOME-MADE WINES.

Dr. Fosbroke, the Medical Officer of Health of the Alcester Rural Sanitary District, in a recent report records some cases of lead poisoning attributed to home-made wines. It appears that members of two families residing at Inkberrow were attacked by unmistakable symptoms of lead poisoning, and the result of Dr. Fosbroke's inquiries showed that the persons affected had partaken of some home-made wine, though not by any means in large quantities. This wine, he learnt, was made from black currants and plums, which, in the course of preparation, were allowed to ferment in a glazed earthenware washing pan. This pan showed signs of corrosion, and there seems to be no doubt that the "glaze" had been taken up by the wine and imbibed by the sufferers. As the manufacture of home-made wine is more common among the labouring classes than it used to be, the *Sanitary Record* suggests that the fermentative process required for its manufacture should be carried out in wooden vessels, and the ordinary glazed earthenware pans be specially avoided.

A GIGANTIC INTESTINAL DIVERTICULUM.

Dr. Maas, of Würzburg, read, during the last year's session of the Physico-Medical Society of that city, an unusual case of abdominal tumour. The case is reported in the *Centrablatt für Gynäkologie*, April 22nd, 1888. The patient was a boy aged 14. Shortly after birth the abdomen began to swell; the tumefaction increased as years passed by, with little disturbance to the system, till one year before inspection; then the swelling became much larger, and the lad suffered from dyspnœa and palpitations. The urine was normal; the bowels were often moved; the stools were

scanty and thin. The abdominal walls were very tense but not œdematous, the skin pale; some of the subcutaneous veins were uniformly dilated. The circumference at the umbilicus was 35½ inches; three inches higher, the point of greatest distension, the girth was over 39 inches. The resonance was uniformly tympanitic, with very slight impairment laterally. No solid tumour could be felt. The urine was albuminous on the first day but not subsequently. Much fæcal matter was voided after injection. A sound passed into the rectum could be felt under the parietes, apparently over the tumour. On that account congenital hydronephrosis on the left side, or cystic degeneration of the kidney, was diagnosed. An exploratory puncture was made in the left loin with a somewhat large trocar. Only fæces escaped. An incision was then made along the linea alba. A large plexus of thick veins covered the surface of the suspected tumour; the operator feared to proceed further, so the abdominal wound was closed. It then appeared as though a cystic kidney, communicating with the intestine, existed. No peritonitis ensued, but the swelling increased, and, after suffering badly from dyspnœa, the boy died suddenly. The tumour proved to be a gigantic diverticulum, from the upper part of the rectum; it was filled with 14 litres of thin fæces, and also contained gas. The aperture of communication, the diameter of which was not mentioned in the *Centralblatt*, was at the posterior inferior aspect of the diverticulum. The rectum was strongly compressed by the tumour. Kölliker and Maas attributed the malformation to a disturbance in the normal involution of the layers of the blastoderm.

RED TAPE AT THE UNIVERSITY OF LONDON.

THE long delay in promulgating officially the alterations in the regulations for the medical degrees of the University of London calls for some explanation from the Executive. These alterations were approved by the Senate as long ago as last May, and the Committee on Examinations in Arts, Science, and Laws, and the Committee on Examinations in Medicine have had the alterations before them ever since; a few hours' serious work would have sufficed to embody all the changes in the regulations and syllabuses, and the revised documents might easily have been issued before the vacation commenced. As it is, we have reached a period of the year when parents and guardians are compelled to make a final choice of the course which a medical student is to follow, for in a month's time all the medical schools in the metropolis and the provinces will be ready to open their doors for the winter session, and yet we shall probably have to wait some months more before the Committees and the formalists will be kind enough to carry out the instructions of the Senate.

SANITARY CONDITION OF LAGOS.

IN a report on the sanitary condition of Lagos, by Mr. J. W. Rowland, transmitted by the Governor of the island to the Secretary of State, the writer observes: The island is alluvial, and, being in the tropics, could not be otherwise than malarious. The level of the ground water never retires far from the surface. In the driest season it is in some wells not six feet deep; in Olowogbowo, the most elevated part of the island, at this season water is found at a depth of 21 feet, and the average depth, as found by the measurement of Government wells erected only in the more elevated quarters, is 13 feet. In the rains the water is close to the surface—in some places indeed above it. This is very favourable for the production of malaria. There was a large mortality amongst the European population in the town. This points out the urgency for sanitary works, as most of the deaths were due to malaria. To combat the two chief conditions necessary for the development of malarial poison, namely, subsoil and a high temperature, Mr. Rowland suggests, as a sanitary measure, that the extensive planting of quick-growing and shade-producing trees in the open spaces, in the compounds of houses, and in all the streets should be considered a matter of great urgency, and be proceeded with at once. He recommends that the open plain known as the Racecourse be planted with bamboos and other such hardy, quick-growing trees, and that subsoil drains be constructed to afford a speedy removal of the rainfall. All the streets should be shaded with trees, which should be planted so as to give the maximum shade with the minimum interference with the circulation of air. The eucalyptus, he adds, has been largely used for this purpose, but it does not thrive in Lagos, owing, he thinks, to the poor sandy soil. One planted in the hospital compound in 1882 was now covered with flower buds, but the tree had not gained its reputed dimensions. There were many local trees that would answer the purpose better.

VACCINATION AT SHEFFIELD.

A CASE of some importance respecting vaccination was decided recently at the Sheffield County Court. The plaintiff was a workman engaged with Messrs. Bessemer, and when the smallpox epidemic came upon Sheffield, the firm made a rule that all the workmen should be vaccinated. The plaintiff refused to be vaccinated, and notice was given him that he was not to consider himself any longer in their service, and he brought an action for wrongful dismissal. The judge said it was quite clear they could not dismiss him for that cause. Messrs. Bessemer had done what they had no right to do; it was a reasonable thing in one sense to do, but they had no right to make any rule that their workmen should be vaccinated. Judgment was, however, given for the defendants, in consequence of all workers in the converting furnaces being liable to take, and free to give, a moment's notice.

ACTINOMYCOSIS IN MAN.

M. NOCARD recently reported to the *Académie de Médecine* a case of actinomycosis, which is the first in which this disease has been observed in the human subject in France. The patient was a stable boy, in whom, after certain injuries to the left buttock and thigh in the spring of 1887, what seemed to be a deep-seated chronic abscess developed in the limb. This was opened in July, but other abscesses appeared in October and November. The pus contained a considerable number of small white bodies, which, on microscopic examination, were found to be masses of actinomyces. In July, 1888, there was still an obstinate fistula which from time to time became inflamed and discharged pus presenting the characteristics already described. The patient is now able to walk, and his general health is better than it was, but he is not cured.

ST. MARY'S HOSPITAL.

DURING the last five years the school buildings of St. Mary's Hospital have been twice enlarged at a cost of about £15,000, and at last the long wished-for object of obtaining a frontage in Praed Street has been secured by the purchase of twenty-three houses on the north side of the street adjoining the hospital. The scheme submitted to the Board by Mr. Field, the Dean of the school, which met with the unanimous approval of the Governors, was that four new blocks of buildings should be erected with a frontage in Praed Street; one for a new Board-room, secretary's office, with new quarters for the resident medical officers; No. 2 for a residence for nurses, now much wanted; No. 3 for special wards, so as to make the special departments, in appliances and for all the requirements of teaching purposes, as perfect as possible, for it was felt that if the authorities in general hospitals would look into this matter more thoroughly, many of the special hospitals would cease to exist. The special wards now in the hospital, consisting of thirty-one beds, would be given up to purely medical and surgical cases when this wing was built. In No. 4 it was pro-

posed to build wards for lying-in women, an addition the importance of which it was impossible to over-estimate, as the students would have the opportunity of learning much more thoroughly than had heretofore been possible this branch of the profession. Here cases of difficult labour would be brought to their notice, a system of teaching which at present could only be obtained by a course of study at Dublin or Vienna and some other towns. Mr. Field, the Dean of the school, is to be congratulated on the result of his untiring efforts in this matter, which cannot fail to be of immense advantage to the hospital, to the students, and to the poor, who will here get the advantage of proper treatment and careful nursing too often wanting in their own homes.

DUTY ON DEAD BODIES.

THE proposed reform of the burial laws in France not having yet been carried into effect, cremation is still illegal in that country. Under these circumstances, bodies which it is desired to cremate have to be taken to Italy for the purpose. The Italian Custom House appears to have discovered in this necessity a source of revenue which it was advisable to make the most of while it lasted. The *post-mortem* adventures of a M. Morin, who died recently in Paris, may be of interest to members of the Cremation Society. He had left instructions in his will that his body should be conveyed by two of his friends to Milan, where it was to be cremated. This was done on July 18th, the incineration being accomplished in an hour and a half, and costing between fifteen and sixteen shillings. The Italian Custom House, however, levied £14 import duty on the body when it entered the country, and the same amount as export duty on the ashes as they were carried back to France. This (says the *Progrès Médical*) is their way of encouraging cremation!

THE INVESTIGATION ON DRINK AND DISEASE.

RARELY has any document been the subject of such extraordinary misconception and misrepresentation as have fallen to the lot of Dr. Isambard Owen's Report of the Collective Investigation on the Connection between Drink and Disease. All over the kingdom Dr. Owen has been represented as laying down, from the returns sent in to this Committee, that total abstainers do not live so long as moderate drinkers, or even as those who are actually intemperate. We need hardly say to our readers that Dr. Owen has never said anything of the kind. On the contrary, he distinctly stated that no conclusion could be drawn from the returns as to the relative longevity of teetotallers. It is true that the figures warrant the construction of a table, from which a casual observer, ignorant of the subject, might suppose that the average life of the abstainer was some nine months less than that of the decidedly intemperate. But Dr. Owen devotes considerable space to the exposure of such a fallacy. His explanation of the apparent anomaly is simply that, as the greater number of converts to abstinence have been from the young, during the three years embraced in the returns, the average age of adult abstainers must have been less than the average age of drinkers. He supports this explanation by constructing two tables of the average age at death of persons between 30 and 40 and of those above that age, with the result that the relative proportions are greatly altered. The conclusion, erroneously attributed to Dr. Owen, is utterly unwarrantable, though it has been paraded in high-class journals, of which better things might have been expected. Taking into consideration how valueless vital statistics are without the explanations which usually accompany them, it is curious how so many writers have seized upon a few isolated figures, have put an interpretation on them which they did not warrant, and have credited conclusions to the editor of the Returns which he not only never drew, but actually showed good reason for not drawing. A careful perusal of the Committee's Report would have saved not a few literary critics from a ludicrous blunder.

MEETING OF THE ASSOCIATION OF GERMAN SCIENTISTS AND PHYSICIANS.

THIS Association will hold its sixty-first annual meeting at Cologne from September 18th to 22nd. Every branch of medical science and practice, including dentistry and veterinary medicine, is fully represented, and the programmes of sectional work comprise all the most interesting topics at present occupying the minds of professional men. Professor Waldeyer, of Berlin, will deliver an address at one of the general meetings on Women and the Study of Medicine, which will, no doubt, excite attention.

RUPTURE OF MUSCLES IN CAVALRY SOLDIERS.

MM. CHARCOT and COUILLANT wrote a clinical essay on this subject in the *Revue de Chirurgie* last year, having examined twenty cases. Rupture of a muscle is far more frequent amongst soldiers than in civil life, and is most common in cavalry recruits. The rectus abdominis is often torn in one class of trooper, the light-cavalry soldier, when first made to ride a spirited horse, the accident occurring as he springs into the saddle. A few fibres may at first be torn, with much pain, which does not last. On a later occasion the injured muscle is completely torn through. In particular reversion of the customary action of a muscle often causes its rupture. What is physiologically the origin of several large muscles in the walker becomes the insertion in the rider. Thus the rectus femoris acts as an extensor of the thigh, and so pulls on the knee as a man walks; but when he mounts the saddle it pulls towards its upper or pelvic attachment, in order to fix the thigh against the side of the saddle. Under these conditions the different fasciculi of muscular fibres do not work together with precision and power when the usual action of the muscle is reversed. The ruptured muscle readily recovers after rest, unless the rent is very complete. There is generally much effusion of blood in the gap between the torn ends of the fibres, caused by the rupture of a large branch of the epigastric artery. That suppuration is not an infrequent complication there can be no doubt; but it does not seem to be common in troopers, who lead relatively healthy lives. Abscess of the rectus is probably in a large majority of cases due to laceration of some of its fibres, often overlooked. The "muscle callus" formed in the process of repair may be slow to be absorbed, and may thus be taken for sarcomatous or other new growths. There are no satisfactory grounds for supposing that ossification of the tendinous insertions of the adductor magnus and other muscles arises, in cicatricial tissue, as the result of the rupture.

PAUPERISM AND JUVENILE CRIME.

A REPORT issued by the Select Committee of the House of Lords, appointed to inquire as to the efficiency of poor-law relief, points to several facts of marked significance. During the last thirty years there has been a marked decrease of pauperism in the metropolis, there being now about 25 per 1,000. This decrease must to a great extent be ascribed to the more strict and efficient administration of the law by boards of guardians, and especially to the restriction of outdoor relief. It is, however, not to be inferred that there has necessarily been a corresponding diminution of poverty. In Stepney, St. George's-in-the-East, and Whitechapel, the restriction of outdoor relief has been attended with a remarkable diminution of the total number of persons receiving relief from the rates. In Whitechapel the outdoor paupers were 2,568 in 1871, and only 63 in 1888. The success in the working of the system as pursued by these boards is, however, essentially dependent on the organised active co-operation of charity with the poor-law authorities. The value in this direction of provision for support and medical treatment during sickness is strongly insisted on by the Committee. There appears to be sufficient money spent for the relief of the necessitous poor, but too little intelligence and organisation in its

application to their needs. The pauper district schools do not appear effective in raising the children, especially the girls, above their inherited tendencies. The children of those who have failed in maintaining a social position, inheriting a tendency to fail likewise, need a careful and prolonged training to eradicate impressions received by their inheritance, and to bring them into harmony with the duties and responsibilities of a self-reliant life. We maintain that children whose make of body or of brain is lower than the average, or whose parentage points to inherent weakness, are a source of social danger; from among them come a large proportion of paupers and criminals. When such children are known, it is wise to take exceptional care to cultivate their intellectual and moral faculties, and by prolonged training or supervision to bring them under the influence of the ordinary rules and manners of society. Pauperism is but one sign of social failure; juvenile criminality is another, as was recently illustrated at the Hammersmith Police-court. Seven boys, whose ages varied from 11 to 13 years, were charged with being concerned in breaking into certain premises and stealing money; two boys were committed for one month with hard labour, and one was ordered six strokes from a birch rod. Our school system has done much to lessen juvenile crime, and doubtless is one cause in the diminution of pauperism; but we have not yet gained all the benefit expected from a system of general education as a preventive of pauperism and crime. It is always a source of regret when a police magistrate has to send a boy to prison, and it is for this reason that we have maintained the wisdom of leaving some discretionary power of chastisement in the hands of the schoolmaster, whose duty it is to maintain morality among the boys of his school. In the endeavour to lessen pauperism and crime, it is necessary to appreciate the fact that the physical conditions producing the tendency to failure should be recognised early in the educational career. Much good might be done by early training of children with feeble brains and bodies. In connection with this subject it is satisfactory to know that at the Glasgow meeting a committee was appointed by the Section of Psychology, on the motion of Dr. Francis Warner, to conduct an investigation as to the average development and the condition of brain function among children in primary schools.

PREVENTIVE VACCINATION AGAINST ASIATIC CHOLERA.

At a meeting of the Paris Académie de Médecine on August 21st, M. Pasteur presented an important communication from Dr. N. Gamaleia, of Odessa, in which that gentleman claimed to have discovered a method of preventive vaccination for cholera. He began by pointing out that although ordinary cultures of the cholera microbe were so slightly virulent that Koch believed cholera was not inoculable in the lower animals, it was possible to intensify its virulence to an extreme degree by conveying it to pigeons after it had passed through the guinea-pig. It produced in the former a fatal form of "dry" cholera, with exfoliation of the intestinal epithelium. The microbe was found in the blood of pigeons which had died of the disease so induced. After passing through several pigeons the microbe acquired such virulence that one or two drops of the blood of an inoculated bird sufficed to kill healthy birds in from eight to twelve hours, whilst an even smaller dose proved fatal to guinea-pigs. If the virus obtained after passing through pigeons is cultivated in nutrient broth and is afterwards exposed to a temperature of 120° C. for twenty minutes, it will be found that there is left in the sterilised culture a toxic substance which produces characteristic phenomena in animals. If 4 cubic centimètres of the sterilised broth be injected into a guinea-pig, the animal's temperature gradually falls, and death takes place in from twenty to twenty-four hours. Pigeons die in the same way but require a larger quantity, namely, 12 cubic centimètres injected in one dose. On the other hand, if the same quantity of the sterilised fluid is injected, but in two or more doses given at intervals of a day or two, they do not die, but are found to have become refractory to cholera to such an extent that even half a cubic centimètre of the most intense virus (the blood of an inoculated pigeon) is not fatal to them. Guinea-pigs are still more easily vaccinated by injecting the sterilised broth in doses of 2 cubic centimètres once or twice repeated. Dr. Gamaleia has found this *chemical* vaccine of unfailing efficiency and perfectly innocuous. He admits that he derived the idea of it from a paper of M. Pasteur's on the chemical vaccine of rabies, and from Dr. Roux's experiments on septicæmia. He offers to repeat the experiments in M. Pasteur's laboratory, in presence of a committee of the Académie des Sciences. He further volunteers to test the method on himself in order to determine the question of its applicability to man and the dose of the vaccine required, and states that he is prepared to undertake a journey to the countries where cholera prevails with the view of proving the value of his discovery. M. Pasteur, after reading the communication, said he would be glad to place his laboratory at the disposal of Dr. Gamaleia, who had already worked therein on more than one occasion. In 1886 he had been sent to Paris by the Odessa municipality to study the method of preventive inoculations for hydrophobia, which he had since applied with great success in his native country.

THE LATE MR. FREDERICK MASON, OF BATH.

The Association in general, no less than the Bath and Bristol Branch, has sustained a heavy loss by the death of Mr. Frederick Mason, of Bath. The deceased gentleman had been a member of the Council of the Association for eleven years, and he discharged his duties in that capacity in the most conscientious and self-sacrificing spirit. There was no more regular attendant at the Council meetings than Mr. Mason, whose clearness of insight and solidity of judgment made him respected by all his colleagues, whilst the unfailing courtesy of his manner won for him the personal liking of all with whom he was associated. Such men can ill be spared where work that is purely voluntary has to be done; and, though the Bath and Bristol Branch numbers many men of powerful intellect and lofty character among its members, it will be no easy matter to replace the admirable representative whom it has just lost.

WRITERS' CRAMP.

Writers' cramp, or scriveners' palsy, is a malady of some importance, since a large class of middle-aged bread-winners are liable to it, and the remedy is as grave in its effect on the interests of the patient as the disease itself. For the cramp prevents a man from living more or less directly by his pen, and can only be thoroughly relieved by rest—that is, by suspension of his wage-earning duties. Dr. S. E. Henschen has recently written, in the *Upsalla Läkare förenings Förhandl*, on the pathogenesis of writers' cramp. He carefully examined three cases, and compared the muscles of the sound and of the affected side in each case. On the affected side, he noted more or less distinct tenderness and swelling of the muscles concerned in moving the pen. In one patient this condition was marked in the adductor pollicis and in the first and second dorsal interosseous, and was seen, less developed, in the remaining muscles of the ball of the thumb, and in the forearm, in the supinator longus, the two radial extensors of the carpus, and the extensor digitorum communis. On the extensor aspect, there was pain over the seat of origin of the extensors of the thumb and forefinger; on the flexor aspect, Dr. Henschen found tenderness and induration in the space between the supinator longus and pronator teres, and tenderness over the origins of the supinator longus and radial extensors of the carpus.

Besides, he observed that there was tenderness along the course of the brachial nerve, and induration of the lower border of the deltoid. The upper and posterior part of that muscle was somewhat swollen, and the whole of the pectoralis major was distinctly swollen and tender. The objective conditions, recapitulated above, corresponded entirely, in this case, with the symptoms which attended the movements of the hand during writing—that is, the tonic spasms, tremor, and pain. Dr. Henschen has always opposed any theory that the disease may be of central origin. He recommends massage and gymnastic exercises for the hand, without neglect of any neurasthenic condition which may very probably be present in individual cases.

CANCER AND FIBROID DISEASE OF THE BODY OF THE UTERUS.

DR. LÖHLEIN exhibited, last June, before the Berlin Obstetrical and Gynæcological Society, a cancerous fibroid uterus, which he had removed a week previously; the patient was still living, and in a favourable condition. She was fifty-eight years old and sterile. For six months she had suffered from purulent and sanious discharges. A remarkable symptom, already noted by Sir J. Simpson, Herman, and others, in cases of cancer of the body of the uterus, was observed. At ten in the morning severe pains set in; they increased in intensity till mid-day, and then diminished, disappearing about four o'clock. Dr. Löhlein traced its cause in this, and in another instance occurring in a nullipara, to great elongation and simultaneous narrowing of the cervical canal. There was some delay in treating the case. The patient was very fat, and the vaginal wall and surrounding tissues rigid. The operation, therefore, proved difficult. Dr. Löhlein believed that in such cases supravaginal amputation would have been at least easier. An interstitial fibroid growth projected to the right under the serous coat. The cancerous changes of the endometrium had reached the os internum. Hence the probability of early recurrence was considerable. Dr. Williams and other authorities, not advocates of extreme measures, admit that, in cancer of the body of the uterus, total extirpation affords the only chance of cure. Fortunately, it is other and more accessible parts of the uterus which are usually attacked by cancer.

SCOTLAND.

UNIVERSITIES (SCOTLAND) BILL.

IT is stated that the debates on the unfinished stage of the Scottish Universities Bill at the autumn sitting of Parliament are likely to be increased in liveliness by the fact that a number of English members, who are interested in various points in it, more particularly the subject of theological tests, are being communicated with by their Scotch friends, who wish to secure their assistance.

QUEEN VICTORIA NURSES' INSTITUTE (SCOTTISH BRANCH).

AN appeal for subscriptions has been made by Mr. Guthrie Smith (honorary secretary) on behalf of the Scottish Branch of Queen Victoria Nurses' Institute. He points out that, with the object of promoting the training of nurses for the sick poor in their own homes, Her Majesty has transferred to trustees the surplus of the Women's Jubilee Offering, amounting to £72,588. The Central Committee for England has established two other centres for the United Kingdom, in Edinburgh and Dublin respectively. The Central Training Institution for Scotland will be in Edinburgh, from which it is intended that lady superintendents and nurses shall in time be supplied to any towns in Scotland where they may be required. "It is," he adds, "much wished that existing institutions, such as the admirable institutions at present existing in Glasgow, may offer to affiliate themselves to the Scottish branch of the Queen Victoria Nurses' Institute, under which circumstances they will be required to prove that their nurses reach the required standard, and will conform to the necessary regulations." He also points out that, as the interest on the surplus Jubilee Offering amounts only to £2,000 a year, obviously, if the scheme is to succeed, it must be supported by the assistance of the public.

CLUB FOR THE DEAF.

A VERY sensible proposal has recently been made in the columns of the *Glasgow Herald* to establish a club for the exclusive use of those who can speak well and fluently but are either dull in the auditory organs or altogether deaf. These latter unfortunate people are the keenest face-readers, and very quick at discerning what is said to them orally. To bring such people together would, it is hoped, not only promote social intercourse, but also further the science of lip reading. As the proposal has the support of several Glasgow aurists it will probably soon become an accomplished fact.

CHARGE OF MALPRAXIS AGAINST AN UNQUALIFIED ASSISTANT.

JUDGMENT has just been given in an action raised by a miner at Lochgelly, Fifeshire, against Dr. Stiell, Lochgelly, in which pursuer sued the doctor for £12, as damages on account of the careless and unskilful manner in which Mr. Edwards, Dr. Stiell's unqualified assistant, dressed his leg, which was injured by an explosion. The sheriff's decision was in favour of the doctor, on the ground that the charge of careless and unskilful treatment on the part of his assistant was not proven. But the sheriff held that by virtue of his appointment as a colliery doctor, Dr. Stiell, if unable to attend a serious accident himself, ought to have provided a legally qualified surgeon of the same sort of standing as himself to take his place, as "in the case of a serious accident, where the services of a colliery doctor are contracted for, a miner is not bound to accept the services of a student assistant, as implement of the contract, quite irrespective of the question whether the assistant is, or is not practically qualified..... Although I think the pursuer has a good claim against the defender to some extent on the ground of contract, that was not the ground on which the action was based. The claim was made against the defender on such a ground that he was almost bound in honour to resist it." No expenses were given to either side.

THE QUEEN'S VISIT TO GLASGOW.

HER MAJESTY'S visit to Glasgow last week passed off with great success. The State visit on Wednesday and the private visit on Friday were both favoured with fair, if not brilliant, weather. Bunting and decorations of a profuse kind along the entire route taken by the Queen proclaimed the loyalty of the inhabitants, attested still more fully by the tens of thousands of people who lined every street through which she passed, and thronged every corner from which she could be seen. Nowhere in all the crowd on either day was there the slightest sign of disorderliness, in spite of the hours which had to be spent in waiting. Everywhere order and good-nature prevailed. On Friday Her Majesty drove to the University, and was there received by the Chancellor, principal, professors, assistants, and examiners and representatives of the students assembled in front of the main entrance under the tower. Here a few minutes only were spent, sufficient for Her Majesty to receive an address, to hand over her reply, and to exchange salutations with the Principal and to have Sir William Thomson presented. On the same day, on her return from the University, she visited Queen Margaret College, where, gathered on the terrace in front of the College, was a large number of the students of the college, who, in their summer costumes, completed a very

fair and pretty scene. An address was here also presented, Mrs. Campbell, of Filliechewan, the Hon. Vice-President of the College, performing the ceremony, and Mrs. Elder, the donor of the building, Miss Galloway and Miss McArthur, the hon. secretaries, were also presented. Glasgow citizens, on their part, have much cause to be gratified by the success of the visit and by the honour done to their Lord Provost, Sir James King, LL.D., by his elevation to a baronetcy; to the town clerk, James D. Marwick, LL.D., and the late Lord Provost, Mr. Wm. McOnie, by the knighthood conferred on each of them. A few accidents unfortunately occurred on both days,. Three of the mounted police were thrown from their horses, and one had his leg fractured. At Renfrew a flagstaff fell, and part of it, in rebounding, struck a woman on the head, rendering her insensible and otherwise doing serious injury. On Thursday a triumphal arch fell at Paisley, injuring three people but slightly, and one rather seriously. The latter was removed to Paisley Infirmary. Only one person, a woman, was injured owing to the crowd in the street.

POST-GRADUATE COURSE AT EDINBURGH.

THE third session of the Post-Graduate School of Medicine at Edinburgh is announced to open on Monday, September 24th. The session will last, as previously, for three weeks. The syllabus shows a large representation of the teaching staff both of the University and of the Extra-mural Medical School, and the programme of work is most complete. A wise alteration has been made in the mode of arrangement by the introduction of separate courses on special subjects, apart from those which are covered by the common matriculation fee. This has the double advantage of stimulating the teacher and of restricting the number in attendance, so that those who are anxious to prosecute a particular branch are not hampered by the crowded state of the class-rooms. Such special courses are announced on Diseases of the Ear and Throat, Diseases of the Eye, Pathology, Bacteriology, and Nervous Diseases. Syllabuses and further information may be obtained from the Honorary Secretaries, Dr. Claud Muirhead and Professor Chiene.

IRELAND.

EYE, EAR, AND THROAT HOSPITAL, CORK.

THE 18th annual report of this institution shows a further large increase in the work done by the hospital. Close on 4,000 patients sought relief during the year, being an increase of 600 over last year. There has been a slight increase in the annual subscriptions, but nothing in proportion to the increased demand on the resources of the institution, and it is only by the most rigid economy that the executive can make ends meet. The want of additional room will not exist much longer, as the adjoining premises are now in the hands of the committee, and only await the necessary funds to be fitted out and added to the hospital. By this addition the public waiting-room will be enlarged to twice its present size; a more convenient consulting-room, etc., will be added, and, among other improvements, the patients will have the benefit of a small pleasure ground, where convalescents can obtain fresh air. Also two small private wards will be added, where patients of the better class who can afford to pay may be admitted. Any payments thus obtained go directly to help the funds of the hospital, and thus these wards become a source of revenue to the institution.

QUEEN'S COLLEGE, GALWAY.

THE Galway College, placed in the centre of a province in a marked degree behind the rest of the kingdom in wealth, was yet able to show for several successive years a steady accession to the number or its students. Progress was suddenly arrested in the session 1882-3 by the extinction of the Queen's University in Ireland, and the College has not since regained the position it previously occupied. Considerable additions have been made since last year to the museums in connection with the departments of physics, natural history, and physiology, which may now be said to be in a perfect state of efficiency for teaching purposes.

THE DRAINAGE OF WEYBRIDGE.

A CORRESPONDENT writes: Weybridge must be well known to many medical men in London, not only for the pretty scenery in its neighbourhood, but for its dry sandy soil, its pine woods, and the purity of its air, which have long caused it to be resorted to by sufferers from bronchial affections who are unable to go farther afield in search of health. Being within an easy railway journey of London, it also has a large residential population of London merchants and professional men. Like most other places in the neighbourhood of London, Weybridge has largely increased in size in recent years, more especially since the introduction of a public water-supply a few years ago; its population is now about 4,000. Most of the houses being of the better class, and the water-supply being abundant in quantity as well as good in quality, water-closets are almost universal, and there being no sewerage system at present, cesspools are a necessity. The number of cesspools in Weybridge must be very large, and as houses have now been built in many parts of the parish, closely crowded together with the merest strips of gardens, it must follow that pollution of the subsoil with excremental filth has already taken place to a large extent, and must reach even larger proportions as the land becomes more valuable, and houses are more and more closely packed together. That this is no imaginary danger is shown by the fact that analysis of the well-waters over a considerable portion of the parish reveals sufficient proof of pollution of the ground-water to warrant condemnation of these sources for human supply. Beyond and above this pollution of the originally pure virgin soil, there is the constant nuisance arising from the emptying of the cesspools at night by the scavengers of the rural sanitary authority. The effluvia which arise after the arrival of the night-carts are most nauseous and penetrating, and it is no exaggeration to say that in some of the pretty and picturesque roads of this village it is impossible to sleep with the windows open, as the scavengers are in almost nightly request. The health of Weybridge is now very good, but it is impossible to say how long it will continue to be so, when both soil and air are gradually becoming contaminated with the most offensive kinds of organic matter. Invalids will be deterred from residing in a place where pure air at night is denied to them, and many of the residents are becoming rapidly disgusted with a system which, however suitable for those who have large gardens on which the sewage of the house can be utilised, is utterly unsuited for villa residents in close proximity to one another.

To remedy these blots on the sanitary condition of Weybridge some of the more enlightened inhabitants have advocated a sewerage scheme. To this there is much opposition from those who either have large grounds of their own, and are therefore exempt from the evils which press upon the poorer section of the ratepayers, and who object to the raising of the rates for their relief; or from those who fear that Weybridge, when sewered, will lose its rural simplicity and degenerate into a commonplace London suburb. The first objection is not only a selfish but a short-sighted one. Nothing is better proved by experience than that the true interests of any community are one and indivisible. If, owing to preventable causes, disease breaks out in the poorer and more crowded portions of a parish, the whole community must suffer for its neglect of elementary sanitary principles. As regards the second objection, it is idle to suppose that any limit can be placed on natural growth and development when once begun. The time for objection on this score has passed by; the public water-supply was introduced without opposition, and thus the only factor which could have any effect in limiting the growth of the neighbourhood was allowed to become an accomplished fact Builders and speculators pay no heed to the ever-encroaching sewage question; they leave that to be solved by the local authority; and cesspools are convenient, for, being out of sight, they are supposed to be out of mind also.

Mr. Peregrine Birch has been entrusted with the preparation of several alternative schemes for the sewerage of Weybridge. The

separate system of sewerage by means of stoneware pipes has been adopted, as being the cheapest, the most in accordance with true sanitary principles, and the best suited to the neighbourhood. In one of these schemes it is proposed to effect a junction of the Weybridge sewerage with that of Hersham (a neighbouring village not yet sewered), to carry the combined sewage by means of an iron main outfall sewer to the banks of the Ember below its junction with the Mole, there to precipitate the sewage and filter the clarified effluent through specially prepared land, the effluent passing into the Ember, which joins the Thames near Hampton Court, below the intakes of all the London Water Companies. This scheme is estimated to cost about £25,000, exclusive of the precipitation works and the land for filtration, and appears to meet and overcome all difficulties. It can only be a question of time when some such scheme must be adopted. The inhabitants of Weybridge had better submit to the inevitable with a good grace, and not waste money on costly inquiries and legal opposition to what, in a few years probably, every one will be rejoiced that the neighbourhood possesses.

THE BRITISH ASSOCIATION.

THE fifty-eighth annual meeting of the British Association for the Advancement of Science will be held this year at Bath, from September 5th to the 12th, under the presidency of Sir Frederick Bramwell, D.C.L., F.R.S. This great Association is two years older than the British Medical Association, and may claim to be the parent of the associations holding meetings at various places throughout the empire. It was founded at a time when only a comparatively small portion of the public took interest in scientific pursuits. In its foundation its promoters had a treble aim in view, namely, to give a stronger impulse and a more systematic direction to scientific inquiry; to promote the intercourse of those who cultivate science in different parts of the British empire with one another, and with foreign philosophers, and to obtain more general attention for the objects of science and the removal of any disadvantages of a public kind which impede its progress. The steady progress the Association has made during the fifty-eight years of its existence and the high appreciation and support accorded to it by the public have fully justified the most sanguine expectations of its founders, of whom but few now remain. Between this Association and our own there is an intimate bond of union, which should ever secure for it the sympathy and support of members of the medical profession. The subjects of study which it embraces are of a much more general nature than those included in the programme of the British Medical Association, but nevertheless they are subjects which must always form the general basis of the science of medicine, and the advancement of which has exerted, and must continue always to exert, a considerable influence on the advancement of medical science. As examples of this we may refer to the adaptations of electricity for the diagnosis and treatment of disease which have resulted from the advances and improvements made in purely electrical science. Advancements in biological science are also being constantly applied to pathology and treatment of disease. The work of the British Association may be compared to those preliminary scientific subjects which, it is universally recognised, form so important a feature in the curriculum of every member of the medical profession in preparing him for the later and more strictly professional part of his curriculum, which includes the subjects embraced under the British Medical Association. The physician or surgeon who wishes to advance the special line of his after-work cannot disregard the progress made in those subjects which were formerly part of his studies and the foundations of his after-work. Thus the work of the two Associations must ever be an object of close and united interest to their respective members.

The work of the Association will be conducted in eight Sections, which are (*a*) Mathematics and Physical Sciences, which will be presided over by Professor G. F. Fitzgerald, M.A., F.R.S.; (*b*) Chemical Science, of which Professor W. A. Tilden, D.Sc., F.R.S., is the President; (*c*) Geology, with Professor Boyd Dawkins, M.A., F.R.S., as President; (*d*) Biology, presided over by Mr. W. T. Thiselton-Dyer, C.M.G., F.R.S.; (*e*) Geography, with Sir Charles Wilson, K.C.B., as President; (*f*) Economic Science and Statistics, over which the Right Hon. Lord Bramwell, F.R.S., will preside: (*g*) Mechanical Science, with Mr. W. H. Preece, F.R.S., as President; and lastly (*h*) Anthropology, under the presidency of General Pitt Rivers, F.R.S. In connection with this last section there will be an anthropological laboratory similar to that instituted last year at the Manchester Meeting.

The extensive local preparations which have been made and the favourableness of situation for holding such a meeting conduce to the belief that the ensuing meeting of the Association will be a most successful one.

BRITISH DENTAL ASSOCIATION.

THE annual meeting of the British Dental Association was held in Dublin on Thursday, Friday, and Saturday last. The business meetings took place in the Medical School of Trinity College.

The chair was taken by the President, Mr. J. R. BROWNLIE, L.D.S.

The Treasurer, Mr. F. H. Canton, reported that there was a balance of £766 to the credit of the Association.

Dr. Smale intimated that the Southern Counties Association had invited the Association to hold the next meeting at Brighton, and this had been agreed to.

After a vote of thanks to the outgoing President.

The new President, Mr. Daniel Corbett, M.R.C.S., L.D.S.Eng., delivered an inaugural address, in which he contrasted dental practice at the present day with what it had been sixty years back, when six weeks was the usual time spent in the manufacture of a complete denture. He should observe that before the use of human teeth became general, it was customary to use exclusively the hippopotamus tusk. When human teeth were in fashion, the supply was usually from the graveyard. The President then referred to the introduction of the gold plate, the manufacture of composition teeth and its difficulties, and several other points.

Dr. Theodore Stack read a paper on Dental Ethics; Dr. Anthony Corley, on Anæsthetics in Dental Surgery; Dr. A. W. W. Baker, on the Annual Museum and its Contents.

A garden party was given by the President in the Provost's garden. In the evening a grand banquet was given in the splendid hall of the Royal University, when 200 persons were present.

On Friday a meeting of the Dental Benevolent Association was held. Mr. G. W. Parkinson stated that the total amount for the year was £661, but the actual subscriptions were less than usual.

Mr. Pearsall read a paper on the Use of Imagination in the Design and Construction of Artificial Teeth; Mr. G. M. Murray, on the Workroom Section of the Museum and its Contents; Mr. Amos Kirby, on Some Properties of Amalgams; and Mr. George Cunningham, on Implantations.

In the afternoon the members were the guests of the Reception Committee at the Dublin Art Club, and in the evening there was a *conversazione* at the Royal College of Surgeons.

On Saturday the members visited Guinness's Brewery, and afterwards were entertained at luncheon at Howth, where Mr. Wigham lectured at the lighthouse on illuminants.

SANITARY CONFERENCE AT BRIGHTON.

THE Association of Public Sanitary Inspectors of Great Britain held, on Saturday last, by invitation of the Mayor (Alderman Martin), a public conference on "Sanitation" in the Royal Pavilion, Brighton. About 130 members were present. Mr. Hugh ALEXANDER, Chairman of the Association, presided. An address by Mr. EDWIN CHADWICK, C.B., the President, on "The Progress of Sanitation, Civil and Military, to the Year 1888," was read by Dr. RICHARDSON, Mr. Chadwick being absent in consequence of ill-health. Mr. Chadwick said when, in 1881, he presided over one of the sections of the Congress at Brighton, the chief topic of his address was the sanitary defences against severe epidemics. He might now submit a view of the progress made since then. He took as the test standpoint the death-rate for the previous year, when it was 20.5 per 1,000 of the population of England and Wales. In 1887 the death-rate was 18.8, and on Dr. Farr's estimate of the average value of each life, the saving in 1887 was £7,635,000 in money—nearly the amount of the poor rates for the year. Looking at the extraordinary recent reductions of the death-rates in the metropolis, where it was not long since 24 in 1,000, but had recently come down to 14 and 15 in 1,000, he could not but consider that much of that reduction must be due to climatorial causes. On the occurrence of a great thunderstorm, immediately after it had cleared away there was an experience of a new and fresh atmosphere. It had done for a time what must be the constant work of good sanitation. Good sanitation would, however, do more than that permanently. A contractor with

enlarged and commensurate powers might contract for the reduction of the excessive death-rate of Manchester, now 27, to 16 in the 1,000; and this reduction would be attended, as shown in the manufacturing town of Leek, with an augmentation of five years of the average duration of life and working ability, and at what cost? At not above one-third of the insurance charges of the £24,000,000 annually paid by the wage-classes of England to provide against excessive sickness and premature mortality; nay, he believed at not above one-third of the insurance charges against sickness and mortality enforced by a special executive machinery made by Prince Bismarck in Germany. The sanitary works of drainage and improved water carriage were, however, sometimes countervailed by overcrowding. Let them look at the case of the working man under that condition. In some experiences got out at Glasgow it was shown that there was an excessive death-rate in single-roomed tenements, but a lower death-rate in double-roomed tenements, and a still lower death-rate in the three-roomed tenements. There had during the last seven years been a reduction of children's diseases by sanitation. The progress of the power of sanitation had also been strikingly displayed in the military services. A quarter of a century ago the death-rate in the Guards was 20 per 1,000. It was now 6½ per 1,000. The death-rate in the home army was 17 per 1,000; it was now about 8 per 1,000. But Germany beat us with her death-rate of 5 and 6 in 1,000. In France it was 10 in 1,000; in Austria, 11; in Italy, 11; in Russia, 18. In the Indian army the old death-rate was 69 in 1,000. From 1879 to 1874 it was reduced to 20 per 1,000, and now it was about 14 per 1,000. In the six years from 1879 to 1884 the aggregate saving was 16,910 lives; and, on the military estimate of £100 per life, the saving in money during the six years was £1,691,000. He had recently been made aware of the prevalence in high political statesmanship of a deadly error—that sanitation was opposed to the Malthusian doctrine, "that pestilence was the great check to the growing excess of population." Unfortunately he found a younger generation who had never read the demonstration of that great error given in his report of 1842—that pestilence was attended by a rapid augmentation of births, and did not reduce the numbers of populations, but only weakened them, and augmented the proportions of the dependent pauperism. There was one large economical effect which he had recently ascertained was now developed in connection with the sanitation of the German army. By the manual instruction and industrial exercises given in the three years military training, the recruits came out with an improved industrial aptitude, which imparted to them 30 per cent. of higher value in the labour market. With this result of improved productive force of the whole working population, the military training might be said to cost the State nothing, it being really economically remunerative. In conclusion, he referred to some of the chief provisions of the new Local Government Act.

On the motion of Sir T. ROBERTSON, M.P., a hearty vote of thanks was passed to the President for his address.

Dr. EWART, Chairman of the Sanitary Committee of the Brighton Town Council, read a paper on the Sanitary Advantages of Brighton. He dealt at length with the situation of the town, its climate, its excellent drainage system, and its splendid water-supply.

Dr. NEWSHOLM had prepared a paper on the Duties and Difficulties of Sanitary Inspectors, but time would not allow of its being read.

After the customary votes of thanks had been passed, the company adjourned to the banqueting-room, where they were entertained at lunch by the Mayor. Later on the party proceeded in brakes to the Goldstone Waterworks, where they were met by Mr. Alderman Hawks, the Chairman of the Waterworks Committee, who gave details as to the supply which can be obtained, and stated that, although only 3,000,000 gallons are required per day in the town, the reservoirs, holding a total of 9,500,000 gallons, are filled every day. The headings had been pumped out for the occasion, and the visitors were lowered into the tunnels, nearly 200 feet below the ground, and made an inspection of some of the large fissures. After leaving Goldstone they drove to Portobello, and descended the large ventilating-shaft on the intercepting and outfall sewer to inspect the furnace and flushing gates.

FITZWYGRAM PRIZES.—In the annual competition for the Fitzwygram prizes, held during the summer, Mr. John A. Gold, of Ladywood, Birmingham, and Mr. J. G. Clayton, of Wilmslow, Cheshire, graduates of the "Dick" Veterinary College, obtained the first and second prizes of £50 and £30 respectively.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING FOR 1888. ELECTION OF MEMBERS.

ANY qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

A meeting of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary*.

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

SOUTH-EASTERN BRANCH: EAST KENT DISTRICT.—The next meeting of the above District will be held at Hythe on Thursday, September 13th, Dr. Lovegrove in the chair. Anyone wishing to read papers, etc., should communicate at once with the Honorary Secretary, W. J. TYSON, 10, Langhorne Gardens, Folkestone.

NORTH OF ENGLAND BRANCH.—The autumnal meeting will be held at Middlesbrough on Thursday, September 20th, at 2.45 P.M. A discussion will take place on the recent epidemic of pneumonia in the Middlesbrough district. Dr. Drummond will exhibit some pathological specimens. Dr. Oliver will read a paper on Adonidine in the Treatment of Heart Disease. Dr. Ellis will read a paper on the Treatment of Noises in the Head. The dinner after the meeting will be at 4.30 P.M.—G. E. WILLIAMSON, F.R.C.S., Honorary Secretary, 22, Eldon Square, Newcastle-upon-Tyne.

EAST ANGLIAN BRANCH: ESSEX DISTRICT.—The next meeting will be held in the Town Hall, Clacton-on-Sea, on Saturday, September 15th, at 2.30 P.M. Dr. E. G. Barnes will preside. Dr. Stretch Dowse will give a Demonstration of the Massage Processes, with special reference to their Use in Trophic Muscular Changes. Members wishing to bring forward subjects for discussion are requested to communicate with the Honorary Secretary, C. E. ABBOTT, Braintree.

SPECIAL CORRESPONDENCE.

VIENNA.

[FROM OUR OWN CORRESPONDENT.]

Ether in Failure of the Heart—Erythrophlœin in Cardiac Affections.

IN a recent number of the *Wiener Klinische Wochenschrift* Professor v. Bamberger describes an interesting observation as to the effect of ether on cardiac insufficiency. Two years ago he had had under notice a man, aged 60, who was suffering from severe insufficiency of the heart depending on fatty degeneration, and most probably also from sclerosis of the coronary arteries, but without cardiac failure. The other symptoms present were considerable dropsy, albuminuria, swelling of the liver, severe dyspnœa, and continual sleeplessness. The patient had enjoyed perfectly good health until recently, but owing to over-work and irregularity of life the action of his heart became impaired. As the ordinary remedies were of no use or were only temporarily beneficial, the patient was directed to undergo the Oertel "cure" in the mountains. The symptoms, however, and particularly the dyspnœa,

increased to such a degree before the treatment commenced that the attending physician, becoming anxious about the case, had recourse to injections of ether with a Pravaz's syringe. This had a really surprising effect, as immediately after the injections the secretion of urine, which could not be augmented by any means before, increased to several thousands of cubic centimètres a day, and continued to be so for some time longer without any other remedy being used; the dropsy and the dyspnœa also simultaneously decreased. In this ameliorated condition the patient was able to undergo the Oertel treatment, at Reichenau, where his health made further progress. In the spring of the following year, the patient was seized with an apoplectic attack—probably of embolic origin—with hemiplegia of the left side; contracture of the left arm remained behind. Later on symptoms of dropsy again showed themselves, for this the treatment with calomel proved very useful, as the excretion of urine rose to 6,000 cubic centimètres a day; the vital powers of the patient, however, decreased more and more, and death supervened. With regard to the surprising effect of the ether, Professor v. Bamberger says that two possibilities had to be taken into account, namely, either the effect on the heart itself, which stimulated the weakened organ to a last successful effort, and thus overcame the congestion in the renal blood-vessels, or there was a direct influence on the excretory apparatus of the kidneys. From the fact that calomel had a similar effect, which could only be explained on the latter of these two hypotheses, Professor v. Bamberger considered that the direct influence on the secreting apparatus was, in all probability, the correct explanation.

Dr. Herrmann, in a recent number of the *Wiener Klinische Wochenschrift*, gives an account of experiments which he had performed in the clinic of Professor Drasche in the Vienna General Hospital, on the effect of erythrophlœin on the diseased heart. It was used in cases of compensated and non-compensated failures of the heart, as well as in cases of fatty heart with slight disturbances of circulation. The drug was used in a solution of 0.002 grammes of erythrophlœin in 10.0 grammes of laurocerasus water, ten drops of this solution being given every hour. In general, the drug was well tolerated, and only in a case of insufficiency of the aorta depending on acute articular rheumatism did the sensation of disgust and great irritation supervene. Retardation of the pulse after the administration of erythrophlœin came on in several cases, and this was particularly true of the case of insufficiency of the aorta after 150 drops of the solution had been given for eight days. The number of the pulse-beats was reduced from 100 to 84 a minute, and in another case of insufficiency and stenosis of the mitral valve, the pulsations decreased from 100 to 68 a minute after the administration of 50 drops of the solution, and during an interval of time of from midday till 5 P.M. This, however, was not constant, as in the last mentioned case the number of the pulsations reached 108 a minute three hours later, although the administration of the solution was continued. In another case of insufficiency of the mitral valve with severe palpitations, the drug was administered for twelve days, and it was not until some days later that the frequency of the pulsations sank from 120 to 96 in a minute, and at the conclusion of the experiment it decreased to about 84 beats. As to the effect of the erythrophlœin on the renal function no particular influence could be observed in some cases, whereas in another series of cases the effect was quite striking. In a patient affected with incompetence of the mitral valve the daily quantity of urine, during an interval of twelve days, increased from 800 to about 1,500 cubic centimètres. In another case of slight fatty heart, where, before the use of erythrophlœin, the number of the pulsations was from 68 to 60 a minute, and the quantity of urine reached 700 cubic centimètres, the latter increased to 2,150 cubic centimètres, while the pulse remained unchanged. The disturbances of respiration had also diminished. Erythrophlœin had also a marked effect on the pupil. In a patient with incompetence of the mitral valve, persistent dilatation of the right pupil ensued on the sixth day after administration. In another case with insufficiency of the aortic valves, distinct dilatation of both pupils came on on the fifth day; this disappeared some days later when the administration of the drug was discontinued. Kaposi had also observed dilatation of both pupils in a case of poisoning from the subcutaneous injection of two centigrammes of erythrophlœin (JOURNAL, March 24th, 1888). For the sake of comparison, experiments were made with strophanthus. In cases in which erythrophlœin exerted no particular influence on the frequency of the pulsations, the arythmia, and the congestive symptoms, from 60 to 70 drops of the tincture of strophanthus with equal parts of laurel water were administered in the day. The difference was very striking, and the slight effect of the erythrophlœin could not be compared with that of strophanthus. In one case, for instance, the frequency of the pulsations after the use of strophanthus soon fell from 112 to 72 a minute, and remained nearly at this rate. The arythmia had almost entirely disappeared, and the excretion of urine was augmented to a much higher degree than after the use of erythrophlœin. Symptoms of poisoning with erythrophlœin were observed on only two occasions. The results of the experiments with erythrophlœin may be summarised as follows: The drug had a marked retarding influence on the pulse, but the effect was not lasting. This was also true of its diuretic influence. The drug was well borne, and might be tried in cases in which digitalis, strophanthus, and similar medicaments were either not well tolerated or were contraindicated. Erythrophlœin did not appear to have any cumulative effect.

LIVERPOOL.

[FROM OUR OWN CORRESPONDENT.]

Fracture of the Orbital Plate.—Horse Meat.—Death from Hydrophobia.—Registration of Plumbers.

A CASE of some medico-legal interest is reported from Peel, in the Isle of Man. Mr. Kermode, a journalist, was recently indicted before the grand jury on a charge of manslaughter, having caused the death of a fisherman named Perry. It appears from the published evidence that the deceased and two other men, all of whom had been drinking freely, attacked the prisoner, whom they met in the street at night, and who used his umbrella to defend himself. The night was dark, and in the struggle Perry was struck in the left eye with the point of the umbrella, and a few minutes afterwards was found lying on the ground, but still conscious. Dr. Cole was called to him and found him apparently very drunk. He vomited. The left eye was greatly swollen, and it seemed to be protruding; the swelling was so great that the lids could not be separated, a little blood came from the corner of the eye and from the nose, but no abrasion could be seen. Next day, after leeches had been applied, the swelling had partly subsided so that the eyelids could be separated, and a small wound was now detected in the conjunctiva on the inner side of the eyeball. The following day Perry died. The necropsy showed that the point of the umbrella had pierced the conjunctiva at the inner side of the eyeball, which was uninjured, and afterwards traversing the orbit had fractured the posterior part of the roof. A clot of blood was found in the anterior fossa of the skull, and death resulted from concussion of the brain. The epistaxis was accounted for by the fracture of some of the cells connected with the nose. The grand jury threw out the bill as the blow was evidently given in self-defence.

It is not generally known that horse-flesh is regularly exposed for sale in butchers' shops, and that the authorities do not interfere with the traffic so long as the meat is sound in quality and is offered as horse-flesh. On July 25th a butcher in Scotland Road, in the heart of one of the most abject and destitute parts of the town, was prosecuted for exposing for sale some pieces of horse-flesh unfit for the food of man. The meat in question was placed along with pieces of good beef, and was offered at 10d. a pound. It smelt of some kind of medicine with which the animal had been heavily dosed, and the hind quarters were affected by some pathological swelling. For the defence it was stated that the animal was slaughtered in Salford, and had been inspected and passed by the borough inspector there. One witness who had a slaughter-house in Salford said that he killed one or two horses for food every week, a surprising statement when we bear in mind that the number of horses that are unfit for work, and yet suitable for food, must be very small. The magistrate considered the offence proved, and imposed a fine.

Another death from rabies has occurred here. On Saturday, July 24th, Dr. Jarvis, of the North Dispensary, was called to attend a girl, aged 7, said to be suffering from sore throat. She had been ill since the day before, and six weeks ago had been bitten under the chin by a dog, which was killed after biting another child on the chest. Dr. Jarvis found the wound under the chin quite healed, and the cicatrix, though thick and irregular, was free from inflammation and pain. On being offered some liquid to drink, the child evinced great alarm, but after a good deal of persuasion made an effort to swallow it. The attempt brought on a general convulsion; she got down some of the liquid,

but some returned. Spasms were also brought on by sudden noises, such as the slamming of a door. There was no paralysis. A quantity of sticky mucus was constantly being hawked up, and she had a peculiar cough, that her mother compared to the barking of a dog. The convulsive seizures succeeded each other at short intervals, and death ensued the following morning, apparently from exhaustion. At the inquest a verdict of death from hydrophobia was found.

On July 23rd a public meeting of the plumbers of Liverpool and the district was held in the lecture hall of the Free Library, for the purpose of considering the registration of qualified plumbers, as a means of securing a higher craftsmanship in the work. Mr. J. B. Smith, Chairman of the Health Committee, presided, and several medical practitioners interested in sanitation, were on the platform. A Council, consisting of representatives of master plumbers, operatives, and the public was elected, with the object of bringing about a system of registration for the district.

CORRESPONDENCE.

HOSPITALS AND SANITATION.

SIR,—In the discussion upon hospitals and their organisation, at which I was unfortunately not able to be present, at Glasgow, Dr. Walker, referring apparently to the proposal concerning the reporting of certain hospital patients to the sanitary authorities, said: "In reference to the question of sanitary inspection of all houses from which infectious diseases had been removed, it was obviously a neglect of sanitary duty not to do so" (JOURNAL, August 25th, p. 410). The proposition, however, made in my paper does not relate to cases of *infectious* disease, but to patients having *ordinary* diseases, such as dyspepsia, debility, anæmia, rheumatism, rickets, phthisis, and, in short, every case except those with which it is quite certain that insanitary arrangements at home can have nothing whatever to do. Cases, whether of in-patients or of out-patients, in which there is the slightest doubt upon this point, should be reported to, and the houses inspected by, the sanitary officers, in the interest of the people and of the hospital alike, since, if the houses are insanitary, the patients will inevitably, sooner or later, have the same or some other disease, and will return to the hospital, to be again and again a trouble and an expense. That such a recurrence of disease is probable, is manifest, and that it occurs is capable of easy proof; while, on the other hand, houses can be shown which, having formerly yielded a constant supply of hospital patients, have entirely ceased to produce them upon the discovery and rectification of defects wholly unknown to, and sometimes even more or less positively denied to exist by, patients themselves. I hope to report further upon the experiment now being made to the meeting of the Association at Leeds next year.—I am, etc.,

Leeds, August 25th. T. CHURTON, M.D.

CARCINOMA OF THE BREAST.

SIR,—Whilst desiring to emphasise Mr. Latimer's not quite novel suggestion that the early recognition of cancer should be followed by early extirpation, I must differ with him absolutely in his view that the implication of the axillary glands is to be regarded as in any way a negation to operation. The treatment of cancer in advanced stages requires the combined courage of both patient and surgeon. Timidity in either is certain to shorten life. If Mr. Latimer doubts the advisability of repeatedly attacking the disease in the axilla and neighbourhood, let him come and see a woman just re-admitted into Guy's Hospital. She was first operated on for peripheral cancer of the breast in 1880. It returned in the axillary glands eighteen months later, and I cleared out the axilla. She was then free two years. Since then I have repeatedly operated as soon as a painful nodule has been observed, and have frequently exposed the axillary vein and artery, removing, on one occasion, the small gland often found between them. Latterly it has recurred in the pectoralis major muscle, and I have several times taken pieces of this muscle away. In all I have operated eight times. See this woman now—and her general health is as good as it was eight years ago—she is stout and healthy-looking still. I admit I am approaching the end of my powers of assistance, for so much skin has been removed at different times, and the matting of the axilla is so great, that œdema of the arm is commencing; but I shall probably try again. This case has been repeatedly proved by microscopical examination to be true scirrhus, yet the disease has been kept local for eight years. Another case, originally sent to me by Dr. Moore, and afterwards under the observation of Drs. Hearnden and Atkins, of Sutton, was a stout plethoric woman, who had suffered from paralysis. She was repeatedly operated upon for recurrent cancer the moment recurrence was noticed, and lived, I think, longer than the case now under observation. She eventually died, not of cancer at all, but suddenly of apoplexy, after returning from chapel one Sunday evening.

There seems a distant danger of a school arising conservative of cancer rather than of the life of the patient, and I hope to prevent Mr. Latimer from becoming a disciple of this reactionary class. For my own part I can scarcely suppress my contempt for some of the opinions of late expressed in favour of leaving cancer to take its chance. This reactionary school bears some relation to the unwholesome quackery of the cancer curers of former days. It is a school born of timidity, fostered by ignorance, and justified only by senility.—I am, etc.,

R. CLEMENT LUCAS, B.S., F.R.C.S.,
Surgeon to Guy's Hospital.

PROFESSOR SPIEGELBERG AND THE DUBLIN METHOD OF CONDUCTING THE THIRD STAGE OF LABOUR.

SIR,—In his address delivered at the opening of the Section of Obstetric Medicine at the annual meeting of the Association in Glasgow Dr. More Madden is reported to have said, referring to the services of the Dublin School, "In like manner the management of the third stage of labour by the method which is claimed as his own in the late Dr. Spiegelberg's recently-translated *Text-book of Midwifery* is practically almost identical with that followed in the Rotunda from time immemorial, as described some years ago in my edition of the *Dublin Practice of Midwifery*." On referring to Dr. Hurry's translation of Professor Spiegelberg's work, published by the New Sydenham Society, it will be found that there is no ground for this charge of plagiarism. On p. 265 Dr. Spiegelberg, having described Credé's method, says "I, on the contrary, lay most stress (following in this respect the plan of the Dublin *Rotunda*) on early and regular, that is, generally distributed, contraction of the uterus, etc." In 1855 Spiegelberg visited the lying-in hospitals of Great Britain and Ireland, and the two things which he specially mentioned as having impressed him most were the Dublin method of conducting the third stage (*der Dubliner Handgriff*) and the use of chloroform in labour. Dr. Madden's edition of the *Dublin Practice of Midwifery* was not at the time in existence.—I am, etc.

W. J. SMYLY, M.D., Gynæcologist to the
City of Dublin Hospital.

HESSE'S APPARATUS.

SIR,—In the JOURNAL of August 4th there is published a report on the air of coal mines, by Dr. Nasmyth, and on page 223, speaking of Hesse's apparatus, he says there is a defect in using this because, "although you run off a litre of water, it does not follow that a litre of air has been drawn from the outside. The first half of the air contained in the glass cylinder may be removed, but after that, or even before it, the air from the outside and the air inside diffuse and commingle, so that a mixture of these will be aspirated out, and *in consequence a litre of air will not have passed in.*"

Dr. Nasmyth has unaccountably fallen into an error in making these remarks, and if the statement of the last sentence (which I have italicised) were correct, it would indeed vitiate the whole method as a quantitative test. A moment's reflection will, however, serve to show the fallacy of the argument. Each time the aspirating bottle is emptied of its litre of water a litre of air must enter it to take the place of the water; if the connections, etc., are all properly made, the only place this air can come from is from or through the glass cylinder of the apparatus, and this again can only get its air from the outside surrounding air, so that exactly a litre of air passes into the cylinder at each operation, and we have an exact measurement made. Of course it is possible that some of the original air contained within the cylinder may remain there, but this does not affect the result, as the litre of outside air has passed to the inside, with all the floating matters such litre may contain.

There are undoubtedly disadvantages attaching to Hesse's apparatus, but the measurement of the amount of air experimented upon is not one.—I am, etc., HY. TOMKINS, M.D., B.Sc.

Leicester, August 23rd.

IDIOPATHIC PNEUMOTHORAX.

SIR,—Dr. Gabb's interesting account of a case in which pneumothorax recurred from time to time in the absence of any of the recognised causes of that condition, published in the JOURNAL of July 28th, and my friend Dr. Byrom Bramwell's letters, referring to the same case, remind me of a case I recently saw with Dr. Bradley, of Jarrow. The patient was a man, aged 40, a shipwright, whose illness began about two months before our consultation, with shortness of breath and slight pain over the front of the right chest. For a little while he was able to continue his employment, but soon the dyspnœa became so pronounced that he was obliged to desist. He subsequently went to the country, but returned in two or three weeks without experiencing any benefit from the change.

When I saw him he was exceedingly breathless, the slightest exertion causing him to pant in the most distressing way. He stated that, prior to his present attack, his health was excellent, and that there was not the slightest tendency to phthisical disease in his family. He presented the appearance of a well-built, healthy-looking man, and had not lost flesh. The right side of the chest was almost entirely unaffected by ordinary respiratory efforts, and all over this side there was a loud, booming, tympanitic note on percussion; even the usual liver dulness had disappeared. The heart was somewhat displaced to the left. Auscultation revealed a metallic, amphoric sound, and there was a most characteristic bell sound, as tested by coins; these signs were best heard in front. It was evident that the whole lung was collapsed, and that air expanded the right pleural cavity. The left lung was healthy. The temperature was normal, nor had there been any rise detected previously.

This patient made steady progress, and Dr. Bradley writes me that he is now at the sea-side, and continuing to improve. We were at a loss to account for the pneumothorax, and were obliged to adopt the view that some slight subpleural inflammatory mischief, scarcely tubercular, had brought about limited perforation.

—I am, etc.,
DAVID DRUMMOND.

Newcastle-on-Tyne, August 6th.

NAVAL AND MILITARY MEDICAL SERVICES.

DATE OF COMMISSIONS.

THE following is a copy of the reply of the Secretary of State for War to the memorial of the Royal College of Surgeons in Ireland:—

Pall Mall, London, S.W.,
August 17th, 1888.

SIR,—I am directed by the Secretary of State for War to acknowledge your letter of the 6th instant, forwarding a memorial which has been adopted by the President and Council of the Royal College of Surgeons in Ireland, upon the subject of alleged grievances under which the Medical Staff officers are said to suffer by reason of their commissions being dated at a later period than those of Indian and Naval Medical officers of similar standing. In reply I am to acquaint you, for the information of the President and Council of the above College, that the question of assimilating the manner of granting commissions in the British and Indian Medical Services is still under consideration. With reference to Naval Medical officers, I am to state that, as these officers do not now study at Netley, the alleged grievances in regard to the more liberal treatment of that service cannot, in Mr. Stanhope's opinion, be further insisted upon.—I have the honour to be, Sir, your obedient servant, RALPH THOMPSON.
—The Secretary of the Council, Royal College of Surgeons in Ireland, Dublin.

PRECEDENCE OF ARMY MEDICAL OFFICERS.

SURGEON BENGAL ARMY, writes: In a recent issue of the JOURNAL, a correspondent showed how in the Army List the names of medical officers are placed below those of their juniors in rank and seniority who belong to the combatant or commissariat departments; for example, a Deputy Surgeon-General being lower down in the list than Captains or Lieutenants.

Perhaps it is not generally known that at a regimental dinner a medical officer is not to preside so long as there is an officer of another department present, whether he be senior or junior in rank to the medical officer.

I believe it is the custom at levées, held in India, for the officers of a regiment to be introduced by their Colonel, whom they follow according to rank, but the Surgeon-Major or Surgeon of the regiment comes, as usual, last on the list, the other officers preceeding him, whatever their rank.

In the case of native officers of the Indian Army, they however come after the medical service.

NEW ARMY CORPS TABLES

A "DISMOUNTED SURGEON-MAJOR" offers adverse criticisms on these tables, which he says are retrograde so far as medical organisation is concerned. The "sanitary officer," once supposed to be an important functionary in the field, is "abolished;" so is the "principal medical officer of the cavalry brigade." Further, the "medical officers with an army corps in the field, are reduced from 164 to 118;" not the smallest margin is allowed for inevitable casualties; these officers are allowed "121 horses among them;" medical officers are no longer allowed horses, servants, or baggage, according to any scale of relative rank; that has gone along with their rank. The climax of absurdity is reached, when a solitary "ubiquitous surgeon" is placed in charge of three batteries of artillery; "like a bird," he will of course accompany each battery when the three go separately into action. A break down is courted. Where, he asks, are the medical advisers of the War Office?

*** The tendency, we understand, a few years ago was to overload army corps with impedimenta; in the laudable endeavour to secure lightness and mobility, the other extreme is now to be feared; no reserve or backbone will be left in the force. We suspect, however, the purely military spirit considers all medical establishments as but obnoxious impedimenta.

DISEASES OF CHILDREN AND ARMY MEDICAL OFFICERS.

AN ARMY SURGEON writes: Whilst reading the very able and instructive address of Dr. B. W. Cheadle at the opening of the Section of Diseases of Children, a serious thought struck me, namely, the immense importance of a good knowledge of this subject to army medical officers.

Now, Sir, a solid fundamental knowledge of this subject can only be gained previous to a man entering the army, for under the present system a medical officer may be serving for months, or even for a still longer period, without ever having a child to treat as a matter of daily practice, and the consequence is, that when called upon suddenly to take charge of a number of children, he is extremely liable to "feel very much out of it." From my own limited experience in the army, I can testify that there is no class of case where a medical officer is more closely criticised as to his treatment, and his results more narrowly watched than in that of a child. It is common to meet a medical officer who has a special objection to the charge of the children of a regiment, and doubtless the reason is that their cases require special and more minute attention to treat satisfactorily both to the parents and to the medical officer himself.

It is a serious enough matter at home, but there he may, and, in most stations can, call in a brother practitioner, or in a large town can send the child for special advice and treatment to a hospital for the purpose, but in India and elsewhere it is infinitely more serious, because he may be the only medical man available, and have to act at once and on his own responsibility, and he has in addition to contend against the various forms of disease aggravated an hundredfold by the climate of the country, as well as those peculiar to the country itself. I shall conclude by expressing a hope that the day may not be far off when diseases of children will be made the subject of a special paper, and *vivâ voce* (the clinical might be difficult to carry out) at the examination of candidates for commissions in the Indian army and naval medical services.

RELATIVE RANK.

MEDICUS ET MILES writes: Since Mr. Stanhope's reply to the remonstrance addressed to him by the Council of the Association, after the "great analysis," I have looked in vain week after week, in hopes of seeing some further decisive steps had been taken to remedy the grievances of the army medical officers. It is about eighteen months since the obnoxious Warrant was introduced abolishing relative rank, and yet a remedy seems as far off as ever. Why cannot the plan suggested by Surgeon-General Irving be carried out, and a committee formed of retired army medical officers, with an energetic paid secretary? I am sure there would be no difficulty in obtaining sufficient funds by subscriptions, and I for one would be very glad to give any reasonable sum. I have only recently returned to England after a period of foreign service. Since then I have spoken with several members of Parliament upon the matter, and I found them all quite favourably disposed to the granting of a proper rank and status to medical officers, but all were deplorably ignorant of the subject. I would at once suggest that even if the proposed committee could not be formed in time to do it, some means should be taken to supply every member of the House with a copy of the analysis, before the army estimates again come up for discussion.

*** We hear that one, if not two Committees are now sitting upon the Army and Naval Medical Services.

CURTAILMENT OF HOME SERVICE.

E. F., writing from India, suggests that, as the formation of an army medical reserve to take up home duties may become an accomplished fact, and service in the Medical Staff entirely foreign, would it not be well to accept service on a foreign basis if combined with periods of furlough or extended leave, such as is granted to medical officers in the Indian and West African Services? This might have its advantages to the officers, without extra expense to a government bent on economies.

"CONTRACT RATES."

A "RETIRED" OFFICER writes, that he learns every effort will be made to extend the "contract rates" system by the War Office, so dear to it, yet so fatal to the dignity of the profession. The "three halfpence a week" is easily managed, and staves off the bothering solution of the army medical rank question. No serious attempt will be made to employ retired medical officers on the so-called "non-effective list," the medical service must be kept entirely civilian and subordinate in the army at all hazards.

"THE COCKADE."

SURGEON ARMY MEDICAL RESERVE writes: If acting surgeons are not entitled to use the cockade, can a surgeon in the Army Medical Reserve do so? Is it a fact that acting surgeons get no commission? If so, is this not a new regulation?

*** We really cannot say; formerly the use of the "cockade" was strictly confined to certain officers holding commissions under the Crown; lately it has been assumed by persons who have no claim whatever to it—so much so, that we have heard of officers fully entitled to use it who have taken it from their servants' hats in disgust. Like many other things in these days, it is becoming vulgarised and therefore valueless.

THE LATE SURGEON NUNAN, R.N.

Dr. J. SWAIN SCRIVEN (Duffield) writes: The case of Mrs. Nunan is certainly hard, but it must be remembered that there are fixed rules with regard to pensions which cannot be departed from. In her case, however, I think that most likely the application was read by some junior clerk, who, in the flippancy of youth, merely noted it as "against rule," and thought no more of the matter. If some one of the heads of the medical profession were to bring the case to the personal notice of a Lord of the Admiralty, I think that Mrs. Nunan would receive her pension.

MIDLAND VOLUNTEER MEDICAL ASSOCIATION.

THE third annual field day of the Midland Volunteer Medical Association was held last week in Hagley Park, Birmingham. Detachments from various branches arrived at the Trent Valley Station at 11 A.M., where they paraded in full dress with side-arms, and were met by Surgeon-Major Morgan (President of the Association) and the bugle band of the battalion, and formed a strong ambulance company, fully equipped, and with two ambulance waggons. The detachments included 2nd V.B. North Staffordshire Regiment, Surg.-Major Morgan, Surgeon Lowe, Surgeon Faussett, 2 non-commissioned officers, and 11 men; 2nd V.B. South Staffordshire Regiment, Surgeon Wilson, 1 non-commissioned officer, 10 men, 2 buglers, and an ambulance waggon; 1st V.B. Royal Warwickshire Regiment, Surgeon Freer, 1 non-commissioned officer, 11 men, 2 buglers, and an ambulance waggon; 1st V.B. Derbyshire Regiment, Surgeon Gentles, 2 non-commissioned officers, 22 men, and 1 bugler; 4th V.B. Nottinghamshire Regiment, Surgeon Appleby, 1 non-commissioned officer, 10 men, and 1 bugler; 2nd V.B. King's Own Shropshire Light Infantry, Acting-Surgeon Hollies, 1 non-commissioned officer, 4 men, and 1 bugler. In addition to these, there were also present with the Ambulance Company Surgeon-Major Francis (4th Regimental District) and Surgeon Phillips, of the 1st V.B. North Staffordshire Regiment.

A special general meeting of members was held, over which Surgeon-Major Morgan presided, to receive the report of the deputation to the Volunteer Medical Association, and to discuss the Royal Warrant for Medical Reserve. After a good deal of discussion affiliation with the Volunteer Medical Association was recommended, provided satisfactory terms of subscription could be arranged with the council of that body. With regard to the second question on the agenda, it was resolved that: "Taking into consideration the anomalous position of the Volunteer Medical Service, and also that the Royal Warrant might be used as a lever to dictate terms to our comrades of the Medical Staff, without wishing to interfere with individual action, this association does not at present recommend its members to join the Army Medical Reserve."

In the afternoon the battalion paraded at 3 o'clock, and the "ambulance call" was sounded. The manœuvres were satisfactorily carried out.

Colonel Lord Burton, who with the officers of the regiment had kindly invited the association to Hagley, also invited the visiting medical officers to mess at 7 P.M., which invitation was accepted by those of them whose trains would permit.

THE "DEPRECIATED RUPEE."

AN Indian correspondent writes that he would gladly subscribe to an Army Medical Defence Fund, and thinks one of the points to be taken up is the condition of the Indian service in connection with the "depreciated rupee." It is all very well, he says, for high retired officers of the Indian Medical Service at home, drawing their pensions in gold, to sound the praises of an Indian career; but the young medical officer nowadays serves for 40 or 50 per cent. less pay than those of twenty years ago; a home remittance for £20 now costs Rs. 301 2 9, and still the value of silver goes down! He thinks Indian officers on the active list should be paid in gold.

The secretary of a defence fund should be a medical man, not a layman, and, if possible, a retired member of one of the services.

THE NAVY.

THE following appointments have been made at the Admiralty: W. H. NORMAN, Surgeon to Yarmouth Hospital; J. D. SMITH, Fleet-Surgeon to the *Canada*; A. T. CORRIE, Staff-Surgeon to the *Rupert*; HORACE ELLIOTT, M.D., Surgeon to the *Tyne*; A. D. PEYTON, Surgeon to the *Northumberland*.

THE INDIAN MEDICAL SERVICE.

SURGEON R. C. MACWATT, Bengal Establishment, is appointed to the officiating medical charge of the 19th Lancers, *vice* Surgeon-Major W. R. Murphy, temporarily transferred to the 2nd Battalion 2nd Goorkhas.

Surgeon-Major W. R. MURPHY, Bengal Establishment, from the permanent medical charge of the 19th Bengal Lancers, is appointed to the officiating medical charge of the 2nd Battalion 2nd Goorkhas, *vice* Surgeon H. C. Banerji, transferred to temporary civil employment. This transfer is made solely in the interests of the public service, and Surgeon-Major Murphy will retain a lien on his permanent appointment.

Surgeon-Major D. R. THOMPSON, M.D., C.I.E., Madras Establishment, who entered as Assistant-Surgeon April 1st, 1863, has retired from the service on a pension of £365 per annum. He was nominated a Companion of the Order of the Indian Empire in January, 1879, but has no war record.

Surgeon-Major R. T. WRIGHT, M.D., Bengal Establishment, Supernumerary Civil Surgeon, whose services have been permanently placed at the disposal of the N.W. Provinces and Oudh Government, is appointed Civil Surgeon, 2nd class, with grade station, Etawah, from April 26th, the date of retirement from the service of Brigade-Surgeon E. Bonavia.

Surgeon G. A. EMERSON, Bengal Establishment, Supernumerary Civil Surgeon, whose services have been permanently placed at the disposal of the N.W. Provinces and Oudh Government, is appointed Civil Surgeon, 2nd class, with grade station, Mirzapore, from April 18th, the date of retirement from the service of Brigade-Surgeon A Garden, M.D.

Surgeon U. N. MUKERJI, Bengal Establishment, is appointed to the medical charge of the 5th Native Infantry, *vice* Surgeon C. J. Bamber, transferred to civil employ.

Surgeon G. J. H. BELL, Bengal Establishment, is appointed to the officiating medical charge of the 7th Native Infantry, *vice* Surgeon P. Mullane, transferred temporarily to civil employ.

Surgeon-Major L. C. NANNEY, Madras Establishment, is promoted to be Brigade-Surgeon. He entered the service as Assistant-Surgeon March 31st, 1856, and became Surgeon-Major twelve years thereafter.

The services of Surgeon A. MILNE, M.B., Bombay Establishment, are placed at the disposal of the Government, in the Military Department.

The undermentioned officers of the Madras Establishment have leave of absence for the periods specified:—Surgeon J. L. POYNDER, Civil Surgeon Seonee, for sixteen months, on medical certificate; Surgeon M. P. KHAREGAT, for 149 days in India, on medical certificate; Surgeon-Major W. PRICE, District Surgeon, Nellore, privilege leave for three months; Surgeon R. PEMBERTON, acting Assistant-Surgeon, Ganjam, privilege leave for three months.

MEDICO-LEGAL AND MEDICO-ETHICAL.

THE PATIENT'S RIGHT OF CHOICE.

W. B. writes: A. is joined in partnership by B. A. leaves the town for some time, and B. is called to attend a lady patient of A.'s for cystitis and threatened abortion. B. attends for some time but goes away for two or three days, and leaves a qualified assistant in charge. As soon as B. goes out of the way he is sent for to this lady, who is aborting. The qualified assistant goes. She refuses his services. He offers to bring someone else, and she requests him to bring Dr. C. Dr. C. goes with the qualified assistant, and the lady refuses to allow him to examine her whilst the qualified assistant is in the room. She asks Dr. C. to take the case. He refuses, but offers his services for Dr. B. He tells the qualified assistant that he will do so, and attends two days till B. returns. He then hands case over to B., although requested by lady to keep on attending; no thanks from B. After this A., who had always attended this lady in confinement, leaves the town, and leaves B., his partner, in charge of the practice; and, fourteen months afterwards, Dr. C. is sent for by this lady, and she asks him to attend her in her approaching confinement. Dr. C. is under the impression that the lady is changing her family doctor, as she tells him she will not have Dr. B. on any account to attend her. Dr. C. attends the confinement, and does not send any word to B. Dr. C. finds out afterwards that B. attends the children and servants. He tells the lady he would on no account have attended her if he had not understood that she was changing her doctor, and points out the unpleasant position she places him in with regard to B. She says she will not have B. to attend her at any time; that she can in London have a doctor for the family and another for her confinements; that her husband may employ B. for the children and servants, but she will not have him for herself.

1. Was Dr. C. guilty of a breach of professional etiquette in accepting the engagement in this case?

2. If so, should he have allowed the lady to obtain the services of someone else, or attended the case for B.?

3. What should Dr. C. do if requested by this lady to attend her again in a subsequent confinement?

*** Under the circumstances narrated by "W. B.," we are distinctly of of opinion that Dr. C. was justified in accepting the obstetric engagement on his own behalf, and that he will be equally so in attending the lady in any future accouchement. Moreover, although it was not ethically essential that he should have communicated to Dr. B. the fact of his engagement, inasmuch as the latter had not only never attended the patient in her previous confinements, but she had expressed her determination not to have him, it may, nevertheless, have been well (assuming that Drs. B. and C. were on terms of friendly intimacy) to have done so as an act of courtesy.

We may also remark that his (Dr. C.'s) mode and line of procedure towards Dr. B. and the lady in the threatened abortion was, in our opinion, ethically unexceptionable.

With regard to the London arrangement referred to by the lady patient, it is scarcely necessary to add that it is not of infrequent occurrence for two distinct practitioners to attend the same family.

QUALIFIED ASSISTANTS AND NEIGHBOURING PRACTITIONERS.

AN INDOOR ASSISTANT writes: Will you kindly tell me whether it is necessary or advisable for an indoor assistant (qualified) to call on the established practitioners in his own neighbouring villages? I held a similar position eighteen months ago and did not call on the established practitioners, one of whom said I should have done so; my present principal says I ought not.

*** For a full exposition of the rules appertaining to "Intra-Professional Etiquette," we would refer our correspondent to the *Code of Medical Ethics*, pages 90 and 91, on the latter of which the following advice is given:—

"N.B.—It may be prudent to note, *en passant*, that practitioners in the position of 'assistants' are, as such, exempt from making or receiving the call, and, in either case, it should be omitted."

PAYMENT IN PURCHASE OF PARTNERSHIP.

A. B. T. writes: Would you kindly inform me whether it is usual on buying into a partnership at a year and a half's purchase to pay all on signing the agreement, or half down and the remainder in yearly instalments.

*** In purchases of partnership it is the custom for an incoming partner to pay the premium in cash on entry, unless otherwise stipulated; but no rule can be established, as the matter of payment is one of the chief points of the bargain, and is constantly varied to meet individual cases. In the event of postponed payment, proper security should be given for any unpaid portion of the premium.

OPEN SHOP.

DR. J. GAGE-PARSONS (Bristol) writes: In addition to your answer (JOURNAL, August 18th, p. 393) to a "Member," who asks if a Licentiate of the Royal College of Physicians, Edin., can keep an open druggist's shop, I beg to remind him of the laws of the College, which absolutely prohibits any such derogatory practices.

"1. Any Fellow, Member, or Licentiate of the College who shall by himself, co-partners, or servants keep a public apothecary's, druggist's, or chemist's shop shall *ipso facto* forfeit all the rights and privileges which he does or may

enjoy as a Fellow, Member, or Licentiate of the College, and his name shall be expunged from the list."

Pretty sharp, this, for those physicians who would be shopkeepers.

"3. Any Fellow, Member, or Licentiate who, in the opinion of the College, shall have been guilty of conduct unbecoming the character of a physician, may be deprived of all the rights and privileges which as Fellow, Member, or Licentiate he does, or may, enjoy."

Why is this law not put in force against the sixpenny doctors who keep an open dispensary, and advertise on their windows, "Physician and Surgeon, advice 6d., including medicine, etc?"

DEPUTIES OF MEDICAL OFFICERS OF HEALTH.

STATE MEDICINE writes: Can a medical officer of health legally appoint as his deputy his assistant, a young man with only the L.S.A. licence?

*** We have referred this question to Mr. J. R. Upton, Solicitor to the Apothecaries' Society, who writes as follows:—

"In reply to the inquiry of 'State Medicine,' I do not know of any authority enabling a medical officer of health to appoint a legal deputy; but, if he had that power, then the answer to the question depends on whether the diploma of L.S.A. was obtained prior or subsequent to the coming into operation of the Medical Act of 1886. Generally, the question of 'State Medicine' ought to be stated far more fully to elicit a satisfactory answer."

THE COLLEGES AND FOREIGN DEGREES.

YANKEE writes: I should be obliged for information whether the different Colleges are allowed, or have the power, to admit to their examinations foreign graduates whom they recognise (for the single qualification only, I mean), and would that be registrable?

*** Foreign degrees are not recognised by the Colleges for admission to examination, except under special circumstances, which may be ascertained on application to the several Colleges. A registered practitioner may have a foreign degree, if obtained prior to the passing of the Act of 1886 and after satisfactory inquiry by the Medical Council, added to his name in the *Medical Register*.

A NOVEL USE FOR THE BRITISH MEDICAL ASSOCIATION.

DR. HOLMES JOY (Tamworth) writes: I enclose for your perusal a circular letter which I received this morning. I think you will agree with me that such a device is not conducive to the honour or dignity of the profession to which the writer's father belongs, nor to the character of the British Medical Association of which he is a member.

"From X. Y. Z. and Co.: Dear Sir,—My father, Dr. X., who is a member of the British Medical Association, having favoured me with your name and address, I take the liberty of sending you a sample of fine blended new seasons tea, which is of really good market value, for your kind inspection. We send out the same in 6, 12 and 20 lbs. tins, so that they lose none of their original strength through keeping. Carriage paid on 12 lbs. and above. Other samples will be forwarded with pleasure if desired. Hoping to be favoured with a reply."

*** With reference to the above touting note, to which our attention has been called by a member, we fain would hope that the alleged sanction and consent of Dr. X. thereto, has been heedlessly assumed by the son rather than *de facto* prompted by the father. If it be otherwise, we need scarcely assure our correspondent that we fully coincide with his opinion, that such a device is neither conducive to the dignity of the profession at large, nor to the character of the Association in question.

A SCURVY TRICK.

A MEMBER writes: A. advertises an opening and a surgery for disposal. B. replies to advertisement, and comes down and sees the place, and afterwards writes refusing to take the surgery on the terms offered, and announcing his intention of starting on his own account within one hundred yards of the surgery which he has been told about in confidence.

1. May I ask what you think of B.'s conduct?

2. Has A. any legal claim for damages against B. for breach of confidence, etc.?

*** If the statement of A. in the above communication be an accurate record of the facts of the case, it has seldom devolved upon us to comment on a grosser breach of professional honour. We venture to suggest that P. will do well to reflect on the false position in which he has placed himself, and withdraw therefrom, for he may, we think, accept it as a fact that a practice obtained by such questionable means will not prove a satisfactory one, pecuniarily or otherwise.

With regard to "any legal claim for damages against B.," the point is one for the more especial consideration of A.'s solicitor, to whom it may, perhaps, later on, be worth while to refer it.

"COVERING" UNQUALIFIED PRACTITIONERS IN THE LEGAL PROFESSION.

H. F. S. writes: I would call the attention of the medical profession to the action taken by the Incorporated Law Society against Grayson and Wall. The former, a qualified solicitor, had allowed Wall to act as an attorney or solicitor under cover of his name. This offence is punished by the suspension from practice for two years of the solicitor, and imprisonment for three months of the unqualified man. An appeal to a higher court for remission of the sentences is dismissed.—*Times*, August 10th. *Verb. sap.*

SOCIETY RATES.

B.C. writes: I thank "A. R." for bringing this subject before the medical public. The Royal Liver Friendly Society used to pay me five shillings per report, and as the sums insured for were small and the cases came to my house I though the fee was enough "loading" of the policy. I have lately been reduced to "thirty pence." It is quite likely that, were I to resign, the Society could easily get the thing done for a shilling or even for nothing, and get full value for their money. I hope better things of them, however, and mean to write to them on the subject before I am compelled to resign. Let the medical officers of the Society each address the Board of Management, and I have no doubt the subject will get the serious consideration it demands.

INDIA AND THE COLONIES.

INDIA.

THE Government of Bombay have accepted the offer of 66,000 rupees made by the Albless family to construct an obstetric hospital between the Cama Hospital and the new Police Court building to be named after Mr. Bomanjee, a deceased member of their family. The donors have made it a condition that separate accommodation shall be provided for Parsee patients in the new hospital. The lady doctors attached to the Cama Hospital will also attend the Bomanjee Albless Obstetric Hospital.

THE Government of Bombay have finally and definitely decided that Sir Dinshaw Manockjee Petit's munificent gift of a lakh and a quarter of rupees shall be devoted to the building of a hospital for women and children in connection with the Jamsetjee Jejeebhoy Obstetric Hospital. Sir Dinshaw has assented to this proposal. The alternative proposal of applying this sum to the establishment of a pharmacological laboratory met with many adherents, and the Bombay *Samachar* (a native organ), writing on the subject, points out the advantages which might have followed the alternative plan. There is, it says, a mine of drugs in this country, which, if carefully worked by men of special aptitude, would be productive of great good to human kind. The establishment of a pharmacological laboratory in a city like Bombay would bring into light many new drugs possessing a variety of properties, which might be efficaciously used on manifold diseases, and while not recognising the necessity for a children's hospital, it adds there is a great need for a pharmacological laboratory, which, if the Government do not think it desirable to establish, must be founded by contributions received from the public.

Dr. H. VANDYKE CARTER'S retirement from the Indian Medical Service will create a permanent vacancy in the principalship of the Grant Medical College. This institution, as well as the Bombay Medical and Physical Society, will feel with the Indian Medical Service generally the loss of a highly-esteemed physician and valued colleague.

FEMALE MEDICAL AID IN CENTRAL INDIA.—Surgeon-Major D. F. Keegan, M.D., residency surgeon at Indore, is taking up with commendable zeal the work of supplying female medical relief to native households by starting a class in the charitable hospital in his charge. In 1887 six native women of good caste joined this class, three of whom were Brahmins and three Mahrattas, the former being widows. An Indian contemporary, speaking on this subject, says:—"The native untrained midwives are utterly incapable of fulfilling the heavy responsibilities imposed upon them, and their modes of dealing with their patients at certain critical conjunctures are of a deplorably clumsy and inefficient character. The spread of knowledge of the rational or European system of midwifery in Central India, therefore, will contribute greatly to the production of an incalculable amount of benefit to the people in general, who owe Surgeon-Major Keegan a debt of gratitude for the keen interest he evinces in providing women with medical aid. Last year as many as 460 women were admitted to his hospital as in-patients, many of whom were of the Brahmin class. As out-patients the daily average attendance of women was 27.5. In Bhopal the Begum has built a good residence for a lady doctor, and fitted up the building formerly occupied by the city Hakim as a hospital for females. There seems a good opening for a lady doctor at Bhopal, where the ruler takes a lively interest in the welfare of the women under her sway." The Canadian Mission at Indore has also supplemented this work, and Miss Beatty opened a class to train native nurses last year. Three joined, but as there was no hospital where regular practical instruction could be given her benevolent efforts were unsuccessful; but in other directions Miss Beatty's work has been most successful, and high-caste and purdah women have freely availed themselves of her services by going to her bungalow for treatment, and in obstinate cases, in which the native *Dhais* had expended in vain all their energies and skill, her assistance has been sought.

HOSPITAL AND DISPENSARY MANAGEMENT.

LUNATIC ASYLUMS, IRELAND: ANNUAL REPORT.

THE thirty-seventh report on the District, Criminal, and Private Lunatic Asylums in Ireland has just been issued. On December 31st, 1887, the inmates of district asylums numbered 10,499, or an increase of 422 as compared with 1886; while lunatics in workhouses for last year also showed an increase amounting to 120. The normal proportion of the insane as regards the population of England and Ireland, if judged by statistical returns, might be fairly accepted on an average as nearly identical up to the beginning of the present decade, at 2.8 per 1,000; but as during the past ten years in the tide of emigration from this country, not only the physically infirm, but still more the mentally affected, were for the most part left behind, to find a home in the workhouse or an asylum, any pre-existing analogy between the two countries in a lunatic point of view must be materially decreased. The total admissions into district asylums for the past year was 2,863, making a total under treatment in these institutions of 12,940, of whom 620 were relapsed cases. The inspectors draw attention to the irregularities which exist in the committing of dangerous lunatics by magisterial order, and also the disadvantages that little or no information is obtained of antecedents, so as to modify an after treatment. The statute 30 and 31 Vict., cap. 118, being based on the fact that "persons apprehended under circumstances denoting a derangement of mind and a purpose of committing some crime for which, if committed, they would be liable to be indicted," it only remains for the committing justices to call in a dispensary medical officer to certify to their lunacy, although he may have never seen or even heard of the individuals till summoned before the Bench. In reference to the physical causes of the mental disease in the inmates of asylums, 278 were attributed to intemperance and irregularity of living, 163 to cerebral disease, and 291 to bodily injuries and disorders; while as regards moral causes, we learn that 129 were due to poverty and reverse of fortune, 176 to grief, fear, and anxiety, and 84 to religious excitement. When we examine into the social condition of patients in district asylums who were admitted during the past year, we learn that of the total of 2,863, 944 were married, 1,659 single, 149 widowers or widowers, and in 111 the social condition was not known. The mortality in district asylums amounted to 857—not quite 7 per cent.—on the total treated, which is about the average for the past three years. Of 857 deaths, the cause was referable in 326 to pulmonary, in 234 to cerebral, in 94 to abdominal affections, and in 148 to old age. The total cost of maintenance of the twenty-two public asylums was £217,217 4s. 4d., the capitation cost on the daily average of inmates amounting to £21 3s. 6d.

METROPOLITAN ASYLUMS BOARD.

AT the meeting of the Metropolitan Asylums Board held on Saturday last, the Chairman brought forward an important matter relating to the admission of patients suffering from infectious diseases into the managers' hospitals without the order of a relieving officer. A letter was read from the Local Government Board sanctioning the expenditure incurred by the managers of the Metropolitan Asylums District, in respect of the maintenance, during the half-year ended at Lady Day last, of small-pox and fever patients which had been admitted into the asylums of the district on certificates signed by sanitary officers and private medical practitioners without the intervention of the relieving officer. It was added that it was the intention of the President of the Board to introduce a Bill for the purpose of removing any doubt which may exist as to the legality of expenditure of this character, but circumstances had not admitted of legislation being proposed on the subject during the present year.

The Chairman hoped this most important letter would put an end to the carping criticism that they had had so much of from boards of guardians. It was decided to send copies of the letter to the various boards of guardians, vestries, and district boards in the metropolis. A letter was read from the Local Government Board calling attention to serious sanitary defects of Caterham Asylum and to the want of flushing. It was decided, after some discussion, to refer the letter to the Caterham Committee. It was reported that during the last four weeks the cases of fever admitted to the hospitals numbered 298, as against 375 in the previous four weeks, and that there were on Thursday 802 cases of fever (729 of scarlet fever, 68 of enteric, and five of other febrile diseases), as against 871 of a month ago. There had been admitted to the Board's ships only three cases of small-pox in the four weeks, and in the previous four weeks four cases. Three cases only remained under treatment. The Board adjourned until September 22nd.

PUBLIC HEALTH AND POOR LAW MEDICAL SERVICES.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

THE Registrar-General has just issued his quarterly return relating to the births and deaths registered in England and Wales during the second or spring quarter of this year, and to the marriages in the three months ending March last. The marriage rate, although it showed a slight recovery from the exceptionally low rate that prevailed in the first quarter of 1887, was below the mean rate in the corresponding quarters of the ten years 1878-87. The birth-rate and the death-rate were also below their respective averages. The mean temperature of the air during the quarter was below the average, and the weather was favourable to the public health.

The births registered in England and Wales during the three months ending June last were 224,077, equal to an annual rate of 31.4 per 1,000 of the population, estimated by the Registrar-General to be more than twenty-eight and a half millions of persons. This birth-rate showed a further decline from the rates recorded in the second quarters of recent years; it was 2.9 below the mean rate in the corresponding quarters of the ten years 1878-87, and was also lower than that recorded in the corresponding period of any year since the commencement of civil registration in 1837. The birth-rate in the quarter under notice in the several counties ranged from 25.7 in Rutlandshire and 26.1 in Sussex, to 35.8 in Leicestershire, 36.2 in Durham, and 36.7 in Essex. In the twenty-eight large towns for which the Registrar-General publishes weekly returns, the birth-rate last quarter averaged 31.4 per 1,000, ranging from 23.1 in Brighton and 25.1 in Huddersfield, to 37.0 in Sunderland, 39.5 in Newcastle-upon-Tyne, and 40.2 in Cardiff. The births registered in England and Wales during the quarter under notice exceeded the deaths by 99,134; this represents the natural increase of the population during that period. From the Board of Trade returns, it appears that 170,079 emigrants sailed from the various ports of the United Kingdom at which emigration officers are stationed; of these, 58,224 were English, 14,676 Scotch, and 40,622 Irish. The proportion of British emigrants to a million of the respective populations of the three divisions of the United Kingdom were 2,034 from England, 3,638 from Scotland, and 8,479 from Ireland.

During the second quarter of 1888 the deaths of 124,943 persons were registered in England and Wales, equal to an annual rate of 17.5 per 1,000 of the estimated population. This death-rate was 1.8 per 1,000 below the mean rate in the corresponding periods of the ten years 1878-87, and was lower than that recorded in the second quarter of any year since the commencement of civil registration in 1837. Among the urban population of the country, estimated at more than eighteen and a quarter millions of persons, the rate of mortality during the quarter under notice was equal to 17.7 per 1,000; in the remaining and chiefly rural population of about ten and a quarter millions, the rate was 17.2 per 1,000. The urban rate was 1.8, and the rural rate 0.6, below the mean rates in the second quarters of the seven years 1881-87. The rate of mortality among infants under one year of age and among persons aged between 1 and 60 years was below the average; while the death-rate among persons aged upwards of 60 years exceeded the average.

The 124,943 deaths registered in England and Wales during the three months ending June last included 3,059 which were referred to whooping-cough, 1,511 to diarrhœa, 1,255 to measles, 1,150 to scarlet fever, 1,088 to "fever" (including typhus, typhoid, and simple fever), 1,016 to diphtheria, and 310 to small-pox; in all, 9,389 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1.32 per 1,000, the average annual rate in the ten preceding corresponding quarters having been 2.12 per 1,000. The mortality from each of these zymotic diseases, except diphtheria, was below the average. The deaths referred to small-pox, which had risen in the five preceding quarters from 30 to 582, declined to 310 during the quarter under notice, of which 84 occurred in Sheffield, 27 in Preston, 10 in Bristol, 12 in Walsall, 11

in Ashton-under-Lyme, and 9 in Hull. In London only one fatal case of small-pox was recorded during the quarter.

The rate of infant mortality, or the proportion of deaths under one year of age to registered births, was last quarter 121 per 1,000, and was slightly below the average proportion in the ten preceding corresponding quarters. While the rate of infant mortality in London was equal to 125 per 1,000, it averaged 138 in the twenty-seven provincial towns, among which it ranged from 97 in Birkenhead and 108 in Portsmouth to 169 in Salford, 191 in Blackburn, and 193 in Huddersfield.

THE NOTIFICATION OF INFECTIOUS DISEASES.

MR. HENRY E. ARMSTRONG, Medical Officer of Health for Newcastle-upon-Tyne, writes: In the JOURNAL of July 21st you publish an article containing tables by the acting statist to the General Medical Council, from which it is deduced that in all the large towns of England where notification (and especially by the dual method) of infectious disease has been in operation for a few years, the result has been "enough to condemn the system, which seems to place the towns that accept it under a ban." Amongst other expressions against the system the article states that the effect of the Act has been that in Newcastle the zymotic death-rate has "plunged from 2.9 to 3.6 per 1,000." This is strong language, but it is as false as it is strong—false because it is disingenuous, and because it is inaccurate.

The writer, in comparing the death returns before and after notification, does not (as in fairness he should do) take for comparison different periods of equal duration. On the contrary, he chooses a short period (two years) before notification, and one in which the death-rate was the lowest in the quinquennium, to condemn by contrast the system carried on during a long period (that is, five years) after notification. In doing this, he does not even take the whole of this latter period, but omits from consideration the last year of it, which, as regards the "principal zymotic diseases" notified, shows the lowest death-rate but one in the period. He does not (as in fairness he should do) confine himself to the diseases with which the system of notification deals. On the contrary, he, for the purpose of discrediting that system, makes it responsible for measles, whooping-cough, and diarrhœa, of which notification takes no cognisance, and from which the deaths, since notification, have increased 30 per cent.

In proof of my statements, I submit the following figures:—

Newcastle-upon-Tyne.—Deaths from Seven Chief Zymotic Diseases from the Returns of the Registrar-General.

	Year.	Deaths from Infectious Disease *Notified.*	Death-rate per 1,000 of Small-pox, Scarlet Fever, Diphtheria, and Fever.	Deaths from Infectious Disease *Not Notified.*	Death-rate per 1,000 from Measles, Whooping-cough, and Diarrhœa.
Before Notification.	1878	327	2.3	332	2.3
	1879	343	2.3	240	1.6
	1880	175	1.2	301	2.0
	1881	129	0.9	253	1.7
	1882	210	1.4	280	1.9
Average		237	1.6	281	1.9
After Notification.	1883	269	1.8	375	2.5
	1884	237	1.6	259	1.6
	1885	179	1.2	497	3.2
	1886	98	0.6	288	1.9
	1887	120	0.8	409	2.6
Average		180	1.2	366	2.3

I submit that, if the foregoing tables prove anything, it is that the mortality from notified diseases has fallen, whilst that from zymotic disease not notified has risen—an argument in favour of the extension of the system. As a matter of fact the death-rate from the seven principal zymotic diseases for the periods of five years before and five years after notification is the same, namely, 3.5 per 1,000. They have not increased, as is implied by the writer of the article. A closer comparison of the two periods adopted by the acting statist of the General Medical Council shows that the deaths from small-pox in Newcastle had fallen 54 per cent., and of typhus 30 per cent., since notification. The mortality of scarlet fever, although showing a higher annual average after notification than in the two years before it, was last year no less than 57 per cent. lower than the average of the two years selected by the statist. Last year an outbreak of typhus, numbering some three dozen cases, was nipped in the bud, which, I maintain, it could not have been but for notification of cases. This is no new experience.

The total number of notifications in Newcastle has fallen from 2,032 in 1883 to 1,763 in 1887. To this the statist may reply that the reduction is due to concealment of cases, and not to sanitary action. This line of argument will not adapt itself to deaths, or even to the cases in highly contagious epidemics, such as those above named, where concealment is impossible, because if in any instance no doctor were called in, the neighbours would cry out.

The writer of the article does not make allowance for variation in mortality owing to change of type of disease—a fact than which there is none more patent in the domain of medicine, but one over which notification can have no influence.

DR. MUMBY, Medical Officer of Health, Portsmouth, sends the following remarks on Dr. Biddle's statistics in the JOURNAL July 21st, p. 160: Dr. Biddle's figures are no safe basis for argument upon the question of the compulsory notification of infectious disease, at any rate as Portsmouth, Manchester, Salford, and Newcastle-upon-Tyne are concerned. It is clear that notification should not be blamed for the occurrence of deaths included in the zymotic death-rate not due to notifiable diseases. I have, therefore, in order to see if there has been any increase of deaths due to these diseases which are notified, separated the death-rates from these diseases and compared them with the death-rates from the same diseases during the decade 1871-1880 for it is manifestly absurd to draw any deductions from the death-rate of one year, as Dr. Biddle has done in the case of Manchester. To compare with the last decade, I have taken the average of the rates for the years since the Acts have been in force.

Towns.		Death-rate of Notifiable Diseases included in Zymotic Death-rate.	Small-pox.	Scarlet Fever.	Diphtheria.	Fever.
Portsmouth, Act 1883,	1871-1880	1.91	0.50	0.55	0.12	0.74
	1884-1887	0.97	0.00	0.16	0.29	0.52
Manchester. Act 1881.	1871-1880	1.93	0.13	1.13	0.10	0.57
	1882-1887	0.90	0.03	0.49	0.09	0.29
Salford. Act 1882.	1871-1880	2.49	0.49	1.19	0.12	0.66
	1883-1887	1.05	0.00	0.59	0.09	0.37
Newcastle. Act 1882.	1871-1880	2.57	0.60	1.28	0.09	0.60
	1883-1887	1.19	0.10	0.57	0.13	0.39

From the above table it will be seen that there has been a very great reduction in the death-rates from notifiable diseases in each of the above-mentioned towns, instead of an increase, as Dr. Biddle's figures would lead us to imagine. The reduction has been in each of the diseases, with the exception of diphtheria, which has increased in two of these towns—Portsmouth and Newcastle. But the reduction of the rates due to notifiable diseases during these years since the Act came into force, compared with the decade 1871-1880 in those very four towns which Dr. Biddle has picked out as examples of the fearful effects of compulsory notification of disease has been to the enormous extent of 53.3 per cent. In Portsmouth the reduction was 48.7 per cent., in Manchester 53.4, in Salford 57.4, and in Newcastle 53.7. Dr. Biddle attributes the increase in the zymotic rate to the effects of the Acts, as I think, without any justification whatever; but I think it may fairly be stated that a very considerable part of this great reduction in deaths due to notifiable diseases may be claimed for the compulsory notification of these diseases. Dr. Biddle further states that another ill effect of the Acts is to prevent persons who are ill from sending for medical advice for fear of their case being reported to the sanitary authority. Last autumn I sent a circular letter to every medical practitioner in Portsmouth, asking them if any such cases had come to their knowledge. I got a fair number of replies, some by letter, some verbally; all the replies

were to the same effect—namely, that no such cases were known. Now, I think if such cases did occur they would be sure to come to the knowledge of medical men sooner or later, and therefore I do not think the Act has any such effect in Portsmouth. I am pleased to say that the notification here works smoothly, with no friction between the medical men and myself, and I believe very greatly to the benefit of the health of the borough.

ANNUAL REPORT OF GROSSE ISLE QUARANTINE STATION, 1887.

Grosse Isle is the quarantine station for all vessels entering Canada by the St. Lawrence. The quarantine regulations lately adopted, although strict, do not appear to be in any way unreasonable, and involve none of the vexatious delays and annoyances which are still practised under the name of quarantine in many parts of the world. The regulations issued prevent all possible evasion of quarantine inspection on the part of incoming vessels by means of an order that no vessel from outside of Canada can enter the Custom House without first exhibiting its quarantine clearance admitting it to full *pratique*.

Under this system such diseases as measles, scarlet fever, and diphtheria (besides the more usually quarantinable diseases, small-pox, typhus, yellow fever, and cholera), occurring on board inward-bound vessels, can be landed and isolated at quarantine hospitals without any delay to the vessels except that incidental to a thorough process of disinfection, which in the case of those ships provided with hospitals is rapidly carried out. The infected vessels are thoroughly disinfected by means of the "mercuric chloride drench, superheated steam, and fumigation by the sulphur dioxide blast," before being allowed to proceed to Quebec. The regulations also require the vaccination of all steerage passengers on steamships who cannot furnish satisfactory evidence of having been vaccinated within the seven previous years, or of having had small-pox within that period.

Dr. Montizambert concludes his report by detailing the equipments and alterations required to bring the quarantine service, already of the greatest public use and benefit, up to a state of the highest attainable perfection.

LOCAL GOVERNMENT BOARD FOR IRELAND: ANNUAL REPORT.

From the sixteenth annual report, which has been lately issued, we learn that the average daily number of persons receiving indoor relief during the year amounted to 45,558, being 331 fewer than in the preceding year. The outdoor lists, moreover, were decreased by 12,735, the average daily number being 65,506. During the year ended January 14th last, the total number of deaths in the various workhouses was 10,187, showing a decrease of 507 deaths as compared with the number in the previous year. Of these, fever caused 383, against 346; lung disease 1,754, against 1,848; and deaths by small-pox 3, against 1 in the previous year. There were, for the twelvemonths ending September 29th, 51,244 admitted into workhouses for sickness, being an increase of 3,248 as compared with the previous year; an increase of 23,396 in the number admitted who were not sick, and of 257 in the number suffering from fever or other contagious disease. In the various dispensary districts the medical officers during the year attended 406,633 new cases at the dispensaries and 173,707 patients at their own homes, or a total of 880,340, and vaccinated 96,489 persons. The vaccination returns show an increase of 1,628 as compared with the year preceding; of these 96,489 persons vaccinated, 80,789 were under one year old when vaccinated, 12,150 above one year, while 3,550 were revaccinations. During the year small-pox caused 3 deaths in workhouses, being 2 more as contrasted with the previous return; and the number of cases of this disease treated in dispensary districts under the Medical Charities Act was 18. As regards fever, there were 5,092 cases attended by dispensary medical officers, being an increase of 47 as contrasted with 1886; also an increase of the cases of scarlet fever by 1,117, the numbers being 3,819 and 2,702 respectively. The medical charities expenditure amounted to £158,376, under which heading is included the cost of medicines and medical appliances, salaries of medical officers and apothecaries, vaccination fees, and other expenses, showing an increase of £264 over that of the preceding year. The Commissioners have sanctioned loans amounting to £83,903 8s. 9d. to various towns in Ireland, principally for sewerage and water-supply, which, added to the previous sums, constitutes a total of £1,714,297 6s. 2d. for the past thirteen years.

POOR-LAW MIDWIFERY FEES.

Mr. Matthew Carnelley (Ruddington, Notts) writes: I notice in the Journal of August 25th, page 443, a paragraph referring to the great percentage of extraordinary cases of labour attended by poor-law medical officers. I am totally unacquainted with all the medical officers under the Sheffield Board of Guardians referred to in the notice, but should like, in justice, to make one or two remarks, as the article implies that the reason why the percentage of extraordinary cases is so high is that the higher fee induces officers to treat as extraordinary those which in reality are ordinary cases. Now the cases attended by poor-law medical officers may be divided into three classes, namely:—

1. Those who obtain a parish note for medical help some time before labour is expected, simply because their aversion to seek union relief is not so strong as their desire to have reliable assistance during their confinement. The chances are that nearly all these cases would be ordinary labours.

2. Those who obtain a parish note before labour commences because their previous labours have been bad, and medical assistance has had to be obtained before delivery could take place. Many of these would probably be extraordinary labours.

3. Those who only apply for a parish note when the midwife or neighbouring friends find that, after much anxious waiting, delivery will not take place without other help. All these would probably come under the head of extraordinary cases, as instrumental delivery was necessary.

Now, it is easily seen that the percentage of extraordinary cases depends on the proportion of cases in classes 1, 2, and 3 attended by the medical officer. The following are the figures in my own practice during the last four years:—

1. Parish notes obtained beforehand as in class 1, 18—ordinary cases, 18; extraordinary, 0.

2. Parish notes obtained beforehand on account of previous bad labour, 3—ordinary cases, 1; extraordinary, 2.

3. Parish notes obtained at request of attending midwife, 9—ordinary cases, 1; extraordinary, 8.

That is to say, out of thirty cases attended, ten of them were extraordinary. This comes to nearly the same percentage as that when taking the whole of the cases quoted in your paragraph.

PAROCHIAL MEDICAL OFFICERS AND THEIR DUTIES.

Parish Doctor writes: A child brings a note from its mother to my surgery with an order from the relieving officer, describing the mother's symptoms, which are of a very mild form, and asking for some medicine. The note does not contain any wish for the doctor to call, nor does the child express any, but the wording of the order, which is the same for all cases, whether brought by the patient himself or not, is "you are requested to visit and undertake the treatment of, etc." The guardian of the parish in which the woman lives, who is also the parson, finds, on making his parochial call, that the doctor has not been to see the woman, and brings the case before the next board meeting. I am asked for an explanation, and I say that I was not asked or desired by the patient to visit her, and enclose her note as proof; and I, moreover, go to the woman and find that she had expressed no wish to see me, "only Mr. So-and-So, the parson, etc." The Board reply to me that my explanation is not satisfactory, and that in future they hope I shall in all cases visit a patient on receiving an order to do so.

Am I treated fairly, and if not, had I better carry the matter further? I may say that the parson has a personal spite against me.

*** We advise "Parish Doctor" to let the matter drop, and in future to act up to the letter of the order, especially as he has an enemy in the camp.

Health of English Towns.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 4,984 births and 3,174 deaths were registered during the week ending Saturday, August 11th. The annual rate of mortality, which had been 15.8 and 16.0 per 1,000 in the two preceding weeks, further rose to 17.6 during the week under notice. The rates in the several towns ranged from 9.2 in Derby 11.4 in Huddersfield, 12.0 in Portsmouth, and 12.6 in Hull to 19.9 in Leeds, 20.0 in Sheffield, 23.0 in Manchester, and 23.5 in Plymouth. In the twenty-seven provincial towns the mean death-rate was 17.3 per 1,000, and was 0.7 below the rate recorded in London, which was 18.0 per 1,000. The 3,174 deaths registered during the week under notice in the twenty-eight towns included 247 which were referred to diarrhœa, 74 to measles, 61 to whooping-cough, 35 to scarlet fever, 33 to diphtheria, 22 to "fever" (principally enteric), and 5 to small-pox; in all, 477 deaths resulted from the principal zymotic diseases, against 311, 409, and 432 in the three preceding weeks. These 477 deaths were equal to an annual rate of 2.6 per 1,000; in London the zymotic death-rate was 3.2, while it averaged 2.2 in the twenty-seven provincial towns, and ranged from 0.0 in Plymouth and in Oldham, and 0.4 in Sunderland to 3.4 in Manchester, 3.5 in Liverpool, and 4.8 in Leeds. Measles caused the highest proportional mortality in Bradford; scarlet fever in Blackburn; whooping-cough in Manchester; and diarrhœa in London, Preston, Norwich, Liverpool, and Leeds. Of the 33 deaths from diphtheria recorded during the week under notice in the twenty-eight towns, 25 occured in London and 3 in Nottingham. The 5 fatal cases of small-pox included 3 in Manchester, 1 in Nottingham, and 1 in Preston, but not one in London or in any of the twenty-four other large towns. Only 2 small-pox

patients were under treatment in the Metropolitan Asylums Hospitals on Saturday, August 11th, of whom one had been admitted during the week. These hospitals also contained 757 scarlet-fever patients on the same date, against numbers declining from 811 to 768 in the three preceding weeks; 60 cases were admitted during the week, against 95, 78, and 68 in the three previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 2.2 per 1,000, and almost corresponded with the average.—During the week ending Saturday, August 18th, 5,834 births and 2,954 deaths were registered in the twenty-eight largest English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had risen from 15.8 to 17.6 in the three preceeding weeks, declined again to 16.4 during the week under notice. The rates in the several towns ranged from 12.9 in Nottingham and in Bolton, and 13.0 in Birmingham and in Birkenhead to 20.1 in Plymouth, 20.6 in Derby and in Sheffield, and 22.8 in Manchester. The mean death-rate in the twenty-seven provincial towns was 16.6 per 1,000, and exceeded by 0.4 the rate recorded in London, which was 16.2 per 1,000. The 2,954 deaths registered during the week under notice in the twenty-eight towns included 486 which were referred to the principal zymotic diseases, against numbers increasing from 311 to 477 in the four preceding weeks; of these, 301 resulted from diarrhœa, 56 from whooping-cough, 53 from measles, 31 from scarlet fever, 23 from diphtheria, 21 from "fever" (principally enteric), and 1 from small-pox. These 486 deaths were equal to an annual rate of 2.7 per 1,000; in London the zymotic death-rate was 3.0, while in the twenty-seven provincial towns it averaged 2.4 per 1,000, and ranged from 0.3 and 0.8 in Hull and in Sunderland to 4.1 in Salford, 4.3 in Leicester, aud 5.0 in Sheffield. Measles caused the highest proportional fatality in Bradford; scarlet fever in Blackburn; whooping-cough in Huddersfield and Wolverhampton; "fever" in Nottingham; and diarrhœa in Liverpool, Preston, Salford, Leeds, Plymouth, Leicester, and Sheffield. The 23 deaths from diphtheria in the twenty-eight towns included 13 in London, 3 in Manchester, and 2 in Salford. Small-pox caused one death in Oldham, but not one in London, or in any of the twenty-six other great towns. The Metropolitan Asylums Hospitals contained 3 small-pox patients on Saturday, August 18th, of whom one had been admitted during the week. These hospitals also contained 798 scarlet-fever patients on the same date, against numbers declining from 801 to 757 in the three preceeding weeks; there were 62 admissions during the week. The death-rate from diseases of the respiratory organs in London were equal to 2.0 per 1,000, and was slightly below the average.

HEALTH OF SCOTCH TOWNS.—During the week ending Saturday, August 11th, 795 births and 395 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had been 15.3 and 15.9 per 1,000 in the two preceding weeks, declined again to 15.6 during the week under notice, and was 2.0 below the mean rate during the same period in the twenty-eight large English towns. Among the Scotch towns, the lowest rates were recorded in Leith and Dundee, and the highest in Perth and Greenock. The 395 deaths in these towns during last week included 44 which were referred to the principal zymotic diseases, equal to an annual rate of 1.7 per 1,000, which was 0.9 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic rates were recorded in Aberdeen and Paisley. The 166 deaths in Glasgow included 8 from diarrhœa, 4 from measles, 3 from whooping-cough, and 1 from "fever". Two deaths were referred to diphtheria in Edinburgh and 3 in Paisley. The mortality from diseases of the respiratory organs in these Scotch towns during the week under notice was equal to 2.0 per 1,000, against 2.2 in London.—In the eight principal Scotch towns, 785 births and 438 deaths were registered during the week ending Saturday, August 18th. The annual rate of mortality in these towns, which had been 15.3 and 15.9 per 1,000 in the two preceding weeks, rose again to 17.3 during the week under notice, and exceeded by 0.9 per 1,000 the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns, the lowest rates were recorded in Greenock and Perth, and the highest in Glasgow and Paisley. The 438 deaths in these towns during the week included 43 which were referred to the principal zymotic diseases, equal to an annual rate of 1.7 per 1,000, which was 1.0 below the mean zymotic death-rate during the same epriod in the large English towns. The 203 deaths registered in Glasgow included 10 which resulted from diarrhœa, 4 from whooping-cough, 2 from scarlet fever, 2 from measles, 2 from diphtheria, and 1 from "fever." The death-rate from diseases of the respiratory organs in these towns was equal to 2.3 per 1,000, against 2.0 in London.

HEALTH OF IRISH TOWNS.—In the sixteen principal town districts of Ireland the deaths registered during the week ending Saturday, July 28th, were equal to an annual rate of 18.4 per 1,000. The lowest rates were recorded in Armagh and Londonderry, and the highest in Cork and Kilkenny. The 122 deaths registered in Dublin during the week under notice were equal to an annual rate of 18.0 per 1,000, the rates for the same period being only 15.9 in London and 13.7 in Edinburgh. These 122 deaths included 8 which were referred to the principal zymotic diseases (equal to an annual rate of 1.2 per 1,000), of which 4 resulted from scarlet fever, 2 from "fever," 1 from whooping-cough, 1 from diarrhœa, but not one either from small-pox, measles, or diphtheria.—During the week ending Saturday, August 4th, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 18.2 per 1,000. The lowest rates were recorded in Dundalk and Armagh, and the highest in Lurgan and Kilkenny. The death-rate from the principal zymotic diseases in these towns averaged 2.4 per 1,000, and was highest in Wexford and Kilkenny. The 143 deaths registered in Dublin during the week under notice were equal to an annual rate of 21.1 per 1,000, against 19.4 and 18.0 in the two preceding weeks. These 143 deaths included 21 from the principal zymotic diseases (equal to an annual rate of 3.1 per 1,000), of which 11 were referred to whooping-cough, 6 to "fever" (principally enteric), 3 to scarlet fever, 1 to diarrhœa, and not one either to small-pox, measles, or diphtheria.—In the sixteen principal town-districts of Ireland the deaths registered during the week ending Saturday, August 11th, were equal to an annual rate of 16.9 per 1,000. The lowest rates were recorded in Galway and Wexford, and the highest in Lurgan and Armagh. The 131 deaths registered in Dublin during the week under notice were equal to an annual rate of 19.4 per 1,000 (against 18.0 and 21.1 in the two preceding weeks), the rate for the same period being only 18.0 in London and 14.8 in Edinburgh. The 131 deaths included 12 which were referred to the principal zymotic diseases (equal to an annual rate of 1.8 per 1,000), of which 4 resulted from diarrhœa, 3 fromscarlet fever, 3 from whooping-cough, 2 from "fever," and not one either from small-pox, measles, or diphtheria.—During the week ending Saturday, August 18th, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 17.0 per 1,000. The lowest rates were recorded in Lisburn and Armagh, and the highest in Sligo and Waterford. The death-rate from the principal zymotic diseases in these towns averaged 1.5 per 1,000. The 123 deaths registered in Dublin during the week under notice were equal to an annual rate of 18.2 per 1,000, against 21.1 and 19.4 in the two preceding weeks. The 123 deaths included 13 from the principal zymotic diseases (equal to an annual rate of 1.9 per 1,000), of which 5 were referred to diarrhœa, 3 to "fever," 3 to whooping-cough, 1 to scarlet fever, 1 to diphtheria, and not one either to small-pox or measles.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

BATH (Population, 52,000).—*Longevity: Diminishing Infant Mortality: Good Influences of Crêches.*—Dr. Brabazon had a very favourable return to make in respect of the mortality during 1887; the death-rate, 17.7 (or duly corrected, 16.4) per 1,000, being much below the average of the past five years. The principal factor in the mortality was heart disease, causing 103 deaths. Next came bronchitis, causing 102 deaths. Among constitutional diseases phthisis headed the list with 66, and cancer with 64, the former being below and the latter above the quinquennial average. The mortality from diseases of the respiratory organs—149, the lowest recorded for the past five years—affords practical evidence of the generally mild character of the climate during the year. The small zymotic mortality is also a subject for congratulation, being as low as 0.3 per 1,000. A brief diphtheritic wave passed over the town, causing nine deaths; and four others were caused by typhoid fever. Dr. Brabazon again calls attention to instances of longevity in Bath, 97 deaths being recorded of persons aged over 80, many having nearly approached a "century" of existence. Speaking of the consecutive diminution in infant mortality during the past five years, a high tribute is paid to the workers in

crèches, to whose influence is attributed much of the preservation of infantile existence.

CHELTENHAM (Population, 43,910).—*Enteric Fever caused by use of Water from Polluted Shallow Wells: Such Wells condemned.*—Surgeon-General Roch had to report an extensive prevalence of infectious disease during 1887, which, though not increasing the death-rate to any great extent, was such as to cause great anxiety and labour. Certainly the most important, because affecting the character of the town as a health-resort, has been an epidemic of typhoid fever, which, though not of a severe type, was wide-spread and lasted into the first quarter of 1888. Mr. Roch considers the mildness of the cases was influenced by the mode of introduction into the system, as by far the greater number of cases were traced to polluted water in the shallow wells of the low lying part of the town. A prolonged drought aggravated existing pollution, and by lowering the water in the wells gave a concentrated dose of the poison to persons drinking it. The use of these wells should certainly be prohibited, since an unimpeachable supply of water is now at the disposal of the Corporation. The mains have only to be extended in order to obviate another such outbreak. Small-pox, scarlatina, diphtheria and measles all presented themselves at various seasons of the year. The spread of small-pox was prevented by the prompt measures taken to isolate the two cases in the Delancy Hospital, both families being placed in seclusion, revaccination enforced, and houses and clothing, etc., thoroughly disinfected. Four cases of diphtheria came under notice, three of them being attributed to sleeping in rooms where there was an escape of sewer gas, and the fourth to sleeping in a damp room, the wall of which was covered with a layer of greenish-blue mould. The death-rate for the year was 17.1 per 1,000, which is about the average for the past ten years, and taken in conjunction with the high mortality among children and the prevalence of typhoid fever and measles, may be considered satisfactory.

JARROW (Population 83,000). — *Compulsory Notification of Measles: New Infectious Hospital.*—There appears to have been an exceptional prevalence of infectious diseases in the borough during 1887, although, as Dr. Campbell Munro explains in his annual report, the excess is to some extent more apparent than real. The year 1887 was the first entire year in which the notification of measles was general, and the increase in the number of cases reported was chiefly due to that disease. No fewer than 565 cases of measles, attended by 43 deaths, came under notice within the year. In June the holidays of the infant department of the Ellison schools—to which at that time the outbreak seemed to be particularly confined—were prolonged. But the step did not appear to affect the progress of the epidemic, which reached its highest prevalence in July. No cases of small-pox occurred. Scarlet fever caused 14 deaths, 173 cases of that disease being notified, The death-rate for the year was 19.8 per 1,000, as against 20.7 for 1886. The district has at last the valuable defence afforded by a new permanent hospital for infectious diseases.

MERTHYR TYDFIL (Population, 57,000).—*Prevalence of Scarlet Fever: Typhus Fever Outbreak in Dowlais.*—Infectious diseases were rife in this district during 1887, though the fatality from them was by no means as great as in the previous year. Mr. T. J. Dyke reports that scarlet fever was again the chief cause of the zymotic mortality, 107 deaths, chiefly those of young children, being attributed to it. Many cases of measles were under treatment, and 11 deaths were registered. Diphtheria was fatal to 2 persons. Enteric fever was debited with 26 deaths, a very unusual number during late years; the increase was due to the outbreak of this fever in the Gellideg division. In September, 17 cases of typhus fever were reported in five cellar dwellings in Plough Court, Dowlais. These places of abode were unventilated, damp, and overcrowded. The sick were at once removed to the fever hospital, the houses vacated, disinfected, and cleansed, and the malady did not spread. One death was attributed to small-pox, the patient being unprotected by vaccination. Tubercular diseases caused no less than 133 deaths, 10 per cent. of the total deaths, or 14 per 10,000 of the people. Great as is the loss of life occasioned by these maladies, it is comparatively small when contrasted with the proportionate death-rate due to phthisis in the days when no sanitary improvement had begun—namely, 38 per 10,000. The general death-rate for the year was 21.7 per 1,000, of which the zymotic proportion was 3.4.

SALTLEY (Population, 7,550).—*High Infant Mortality.*—The high rate of infant mortality which Mr. W. G. Cresswell reports for 1887 detracts somewhat from an otherwise favourable record. Of 110 deaths at all ages, 62 took place under five years of age, while of children under one year no fewer than 41 died, or 148 per 1,000 of the registered births. The district was absolutely free from small-pox throughout the year. Diphtheria was also absent, and croup nearly so. A few cases of scarlatina occurred in the autumn. Whooping-cough, however, was exceedingly rife throughout the autumn and winter months, and the end of the year brought a few cases of measles. Diarrhœa and dysentery were not marked by any epidemic character, notwithstanding the comparatively large number of 11 deaths under this head. Mr. Cresswell inclines to the belief that many of the cases were not truly zymotic in their origin, but were produced in the very young by improper feeding. Excluding, therefore, these 11 deaths from the zymotic list, the actual known number would be only 10, and the rate per 1,000 only 1.3, instead of 2.7. Sanitary matters seem to be satisfactorily attended to.

UNIVERSITY INTELLIGENCE.

ROYAL UNIVERSITY OF IRELAND.

AT a public meeting of the Senate of this University held August 3rd, 1888, the degree of Bachelor in Obstetric Science was conferred on George R. Young, M.D., Ch.M.

OBITUARY.

FREDERICK MASON, L.R.C.P.EDIN., M.R.C.S.ENG.

IT is with a feeling of profound regret we announce the death of Mr. Frederick Mason, of Bath, which occurred on August 29th, at his residence, Belmont, after a few weeks' severe illness. Mr. Mason was born in Bath in 1823, and received his early education, with many other citizens of Bath, at Lo Studio, kept by Mr. J. E. Sturges. After leaving school he was articled to Mr. Harries, surgeon, of Walcot Parade, and subsequently studied at University College, London. He became a Member of the Royal College of Surgeons and a Licentiate of the Apothecaries' Hall in 1847, and in 1859 a Licentiate of the College of Physicians of Edinburgh. On returning to Bath, he established himself in practice on the Paragon (then Axford Buildings).

His skill as an oculist has long been recognised, and since 1863 he occupied the post of Surgeon to the Bath Eye Infirmary. Mr. Mason was elected on the Committee of Council of the Association when it met at Manchester in August, 1877, since when he has always been most regular in his attendance and a most assiduous member of Council as representative of the Bath and Bristol Branch. He was also a member of the Journal and Finance Committtee of the Association. He was President of the Bath and Bristol Branch in 1847, and was a member of the Ophthalmological Society.

Since April 30th Mr. Mason had experienced some difficulty in swallowing, which had increased considerably during the last month. During the last week of his life his weakness was exceedingly distressing, and he passed quietly away. *Post-mortem* examination showed epithelioma of the cardiac end of the œsophagus about two inches in extent, with ulceration at the margin of the stomach. His reputation had extended far and wide. He made many friends both in and out of the profession, to whom his kindly and gentle manner had endeared him, and to whom his death has brought feelings of great regret.

BENJAMIN TOWNSON, M.R.C.S.Eng., L.S.A., Liverpool.

WE regret to record the death of Mr. Benjamin Townson, which took place on August 21st at his residence, Adelaide Parade, Waterloo. Mr. Townson obtained his qualifications in 1837, and for many years carried on practice in Shaw Street. He was well known in Everton and Kirkdale, and was intimately associated with many social and philanthropic movements. He was interested in many charitable institutions, especially in the St. George's Industrial Schools, West Derby Road. He was a member of the Society of Friends, and a well-known advocate of the temperance cause. He was for many years attached to the General Post Office as medical officer, an appointment he resigned on his retiring from practice a few years ago. He was 74 years of age.

MEDICAL NEWS.

MEDICAL VACANCIES.

The following Vacancies are announced:

BELGRAVE HOSPITAL FOR CHILDREN.—Resident House-Surgeon and Assistant Secretary. Appointment for six months. Salary at the rate of £30 per annum, with board and residence. Applications by September 15th to the Honorary Secretary, 79, Gloucester Street, S.W.

CHELTENHAM GENERAL HOSPITAL.—Resident Surgeon for the Branch Dispensary. Salary, £180, with partly furnished house, etc. Applications by September 15th to the Honorary Secretary.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Resident Clinical Assistant. Board and lodging. Applications by September 28th to the Secretary.

EDINBURGH CITY POORHOUSE, Craiglockhart.—Resident Medical Officer. Salary, £80 per annum, with board. Applications by September 12th to Mr. G. Greig, Inspector.

GENERAL HOSPITAL, Birmingham. — Assistant House-Surgeon. Board, residence, etc. Applications by September 1st to the House Governor.

GENERAL INFIRMARY, Leeds.—Resident Medical Officer and Pathologist. Salary, £100 per annum, with board, residence, etc. Applications by September 15th to the Secretary of the Faculty.

MANCHESTER ROYAL INFIRMARY, DISPENSARY, AND LUNATIC ASYLUM.—Honorary Assistant Physician. Applications by September 18th to the Chairman of the Board.

NEWPORT AND COUNTY INFIRMARY AND DISPENSARY, Newport, Monmouthshire.—House-Surgeon. Salary, £100 per annum, with board and residence, etc. Applications by September 13th to the Secretary.

NEWTOWNMOUNT KENNEDY FEVER HOSPITAL.—Physician. Applications to Rev. H. Irwin, Honorary Secretary and Treasurer, Prospect. Election on September 3rd.

ROTHERHAM HOSPITAL.—Assistant House-Surgeon. Board, residence, etc. Applications by September 8th to the House-Surgeon.

ROYAL HOSPITAL OF BETHLEM.—Assistant Medical Officer. Salary, £300 per annum, with furnished residence. Applications by September 4th to J. Baggallay, Esq., Bridewell Hospital, 14, New Bridge Street, E.C.

THE GENERAL INFIRMARY, Hull.—House-Surgeon. Salary, 100 guineas per annum, with board and furnished apartments. Applications by September 17th to the Chairman of the House Committee.

UNIVERSITY OF ABERDEEN.—Chair of Chemistry. Applications by September 15th to R. Walker, Esq., M.A., University Library, Aberdeen.

WINCHCOMB UNION (No. 2 District).—Medical Officer. Salary, £65, with fees. Applications by September 6th to J. H. Stephens, Clerk, Winchcomb.

MEDICAL APPOINTMENTS.

BROADBENT, John, M.R.C.S.Eng., L.S.A.Lond., late Honorary Surgeon, appointed Consulting Surgeon to the Hulme Dispensary, Manchester.

BUGGY, K. T., L.K.Q.C.P.I., L.R.C.S.I., appointed Medical Officer to the Tiscoffin Dispensary, Kilkenny Union, *vice* J. A. Morris, L.K.Q.C.P.I., etc., resigned.

KEIR, W. Ingram, F.R.C.S., L.R.C.P.E., re-appointed Medical Officer of Health to the Melksham Rural Sanitary Authority.

MILNER, James, M.R.C.S., L.R.C.P., appointed Medical Officer and Public Vaccinator for the Shipdham District of the Mitford and Launditch Union, and for the Bradenham District of the Swaffham Union, *vice* J. K. Milne, deceased.

RUTHERFOORD, Henry T., B.A., M.B.Cantab., M.R.C.P.Lond., appointed Physician to the Out-Patients, Samaritan Free Hospital, *vice* R. Boxall, M.D.Brux., resigned.

TONKS, Henry, F.R.C.S., L.R.C.P., L.S.A., appointed Senior Resident Medical Officer to the Royal Free Hospital, Gray's Inn Road.

ST. JOHN AMBULANCE ASSOCIATION.—Her Royal Highness the Duchess of Connaught has attended a St. John Ambulance class for ladies at Poona, and has been awarded a certificate after passing a very satisfactory examination. Two large classes for men of the 1st Royal Fusiliers and 2nd Durham Light Infantry have also been held by the same lecturer, Dr. Kilkelly, A.M.S.; and the certificates, forty-one in number, were presented on July 27th by H.R.H. the Commander-in-Chief, the Duke of Connaught, at the Soldiers' Institute, Poona. His Royal Highness, who was attended by his full staff, was received by Major-General Solly-Flood, commanding the division, and the members of the divisional and medical staffs and many officers of the garrison. Having witnessed a very effective ambulance demonstration by the classes, the Duke presented the certificates, and in a short speech expressed his gratification at being present and at the proficiency displayed.—Certificates of efficiency were recently distributed to the successful candidates of the ladies' class of the St. John Ambulance Corps at Hoylake, Birkenhead. With one exception, the whole class succeeded in passing the examination. At the close of the presentation of certificates on Thursday week, Dr. Barrow and Dr. Pierce, who have acted as lecturer and demonstrator respectively to the class, were presented by the ladies, as a token of their esteem, with a fish carver and fork in case and a silver salver, the former being given to Dr. Barrow, and the latter to Dr. Pierce.

THE sudden death is announced of Mr. J. T. Hillier, M.R.C.S., of Ramsgate, under painful circumstances. The deceased gentleman, who was sixty years of age, left his home on Wednesday, August 29th, apparently in the enjoyment of good health, and, accompanied by his daughter, walked hurriedly to the Ramsgate station, when suddenly he dropped on his knees and expired. Mr. Hillier was, it is stated, suffering from heart disease. He leaves a widow and family.

HEROISM OF A MEDICAL MAN.—Mr. Thelwall, M.R.C.S., of Farndon, having had his attention drawn to a man, a stonemason, who, attempting suicide, had leapt over Farndon Bridge into the swollen waters of the Dee, at once plunged into the river, and after considerable difficulty succeeded in bringing the man, who was in an unconscious state, to the shore, and by restorative means brought him speedily round.

A YOKOHAMA letter received at Plymouth gives particulars of an outbreak of cholera on board H.M.S. *Impérieuse*. It appears that two men died while the vessel was at Hong Kong, and a third soon afterwards. The outbreak is said to have been due to the abnormally high temperature of the ship, and a correspondent states that even at Yokohama, where the *Impérieuse* now is, 100° is the ordinary temperature between decks. It is so hot that the chocolate becomes liquid and the salt provisions go bad. The ship's company are described as in great discomfort.

PRESENTATION.—Dr. Scanes Spicer was on Tuesday last presented with a handsome testimonial of plate by the officers of the Fulham Infirmary, of which he has recently resigned the office of medical superintendent, after four years' service.

YELLOW FEVER IN FLORIDA.—A telegram from New York, under date of August 25th, says: The latest advices from Florida state that the epidemic of yellow fever at Jacksonville is increasing. Fourteen fresh cases occurred there yesterday, being the highest number yet recorded in one day. Two more deaths are also reported. The Board of Health is making every effort to check the spread of the epidemic.

INTELLIGENCE from Macao states that cholera broke out there on board the transport *India* among the troops embarked for Mozambique. Thirty-eight cases occurred in forty-eight hours, twenty-four of which were fatal.

RATIONS.—It is stated that, in consequence of recent complaints as to the quality of rations supplied to troops quartered at home, authority has been given by the Horse Guards for the formation of classes in which officers may be instructed in the methods of judging the quality of all kinds of provisions, forage, etc.; and facilities are to be given for the attendance of officers generally.

TRANSMISSION OF SYPHILIS.—A case has just been decided in one of the Paris law courts in which the parents of a child suffering from hereditary syphilis, which communicated the disease to its nurse, have been condemned to pay £80 damages to the woman. Each of them has also had to pay a fine of £4. The decision was grounded on the clauses of the Code providing for the punishment for wounds or other injuries inflicted through carelessness. It appears that the parents were aware of their child's condition.

CHOLERA is said to be very active in the Punjab. Every precaution is being taken to guard against the spreading of the disease.

Mr. HENRY WRIGHT, M.R.C.S.Eng., has been placed on the Commission of the Peace for the Borough of Scarborough.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTH.

RENDALL.—At 46, Charlotte Square, Edinburgh, on August 26th, the wife of Stanley M. Rendall, M.D., of Aix-les-Bains and Mentone, a daughter.

MARRIAGE.

MCCONNELL—SOWERBY.—At St. Mary's (parish) Church, Teddington, on August 23rd, by the Rev. E. T. Stubbs, M.A., Rector of Charlcombe, Surgeon-Major J. F. P. McConnell, M.D., F.R.C.P., Bengal Medical Service, to G. E. Violet Sowerby, daughter of William Sowerby, Esq., M.I.C.E.

DEATHS.

MASON.—August 29th, Frederick Mason, M.R.C.S., L.R.C.P., aged 65, at 20, Belmont, Bath.

WILTON.—August 27th, at Brunswick Road, Gloucester, aged 58 years, Francis Wilton, M.R.C.S., formerly of the United Counties (Carmarthen) and Ticehurst (Sussex) Asylums, and son of the late John William Wilton, J.P., F.R.C.S., of Gloucester.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).;

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's—1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

MEDICAL PRACTICE IN QUEENSLAND.

L.R.C.P.ED., 1882, would be grateful for any information as to the demand for medical men in Queensland, rate of fees, nature of expenses, and, in fact, any information relating to the prospects for a medical man contemplating going out.

PRIVATE LYING-IN HOSPITAL.

S. P. Y. wishes to know of a home or private hospital where a lady of very moderate circumstances could be received at a small cost during her confinement.

BELLEVUE COLLEGE, BOSTON, U.S.

BOSTONIAN writes: Letters have appeared for weeks now in the *Christian World* whether such an institution as the above exists or not. Could any of your numerous Boston readers or others decide the question? The correspondence in the *Christian World* is really amusing.

TREATMENT OF SALIVATION.

W. G. B. would be grateful for any suggestions as to treatment in the following case. He says:

My patient, an old soldier, came to me about nine months ago complaining of profuse salivation. He has no history of syphilis, or of having taken mercurials or other drugs for some years excepting for this salivation, which he described when he first came as being "pints a day." I have tried gargles containing acids, alkalies, chlorate of potash, alcohol, iodine, belladonna, etc., from time to time, and internally tonics and iodide of potassium. Atropine has also been injected hypodermically, and belladonna applied internally to the glands, all of which occasionally have had effect, though of only a temporary nature. I have passed probes along Wharton's and Steno's ducts, and latterly used one dipped in fused silver nitrate, which has had the effect of considerably lessening the secretion from the left parotid and sublingual glands; but this is almost compensated for by an increased flow from the right side. On examination the saliva can be easily seen distilling from the orifice of the right Steno's duct. I may mention that my patient has been addicted to the abuse of alcohol, but of late has been much better in this respect without a corresponding improvement in his symptoms. Strong astringent preparations and iron seem to be of no benefit.

REMUNERATION OF LOCUM TENENS IN NEW ZEALAND.

X. Y. Z. would be grateful for any information as to the usual rate of remuneration of a *locum tenens* for a length of time (say one year) in New Zealand.

HÆMORRHAGE DURING COITUS.

A MEMBER asks for suggestions as to treatment in the following case:—

W. S., aged 35, married, had syphilis eighteen years, gonorrhœa seventeen years ago. He suffered from secondaries for a long time, especially in both testicles, which were nodulated. He also had a hydrocele. Under the influence of arsenic and hyd. iodid. kali all symptoms passed away. He now suffers from sciatica. Could any member say why, during sexual intercourse, blood is discharged in small quantity? He has a slight stricture. At present he is taking Easton's syrup.

ANSWERS.

T. D.—Williams and Norgate, 14, Henrietta Street, Covent Garden, are the publishers of Mr. George Greswell's *Examination of the Theory of Evolution*. The book could no doubt be procured through any bookseller.

"CURE OF RUPTURE."

C. C. BLAKE.—We can give no information on the subject, but should advise our correspondent to consult a respectable surgeon who is not connected with advertising firms.

DOMESTIC MEDICINE.

W. H. C. asks: 1. What is the best and most recent work on domestic medicine and surgery?

2. Is there any work treating specially of diseases met with in South Africa that would be useful to a medical missionary?

*** 1. The *Family Physician* (Cassell and Co.).

2. We do not know of such a work.

ELEMENTARY PHYSIOLOGY.

R. C.—Huxley's little book (Macmillan and Co.) is by far the best. It is kept well up to date.

PAROXYSMAL SNEEZING.

DR. RONALD DANIEL (Petersfield) writes: In a case of the kind under my care I found quinine in large doses, given in anticipation of the attack, of great service. This drug, together with the application of a solution of cocaine in and about the nares, effected a cure.

DR. LEONARD G. PETERS (Gobowen) writes: I would recommend "Member" to try cocaine, in the form of a 10 per cent. solution, painted locally into the nostrils; also let the patient take aconite, arsenic, and quinine combined, in pill or mixture. As there is no history of gout, there may be malarial influence; the fact of the paroxysms being more frequent in winter seems to preclude hay-fever, etc.

CAULS.

DR. LEONARD G. PETERS (Gobowen) writes: In answer to the query by "A Member" concerning cauls, I beg to inform him that they are prized by some persons on account of a superstition that they are a preservative against drowning; hence they are especially valued by those who "go down to the sea in ships." As to preserving them, I should think any of the ordinary preservative solutions would answer, probably a solution of carbolic acid in methylated ether would be as good as any.

DR. ALEXANDER FORD (Waterford) writes: The belief in the preservative value of the caul is very ancient. Ælius Lampridius relates that Diadumenianus, who attained the sovereign dignity of the empire, was born with a caul. The superstition as to the caul was very prevalent in the early ages of Christianity, and St. Chrysostom inveighs against it in several of his homilies. In France its efficacy was recognised. *Etre né coiffé* signifies that the person is born lucky. If a child born with a caul or coif became a lawyer, it presaged that

he would wear the serjeant's or judge's coif. Midwives sold coifs to advocates to make them eloquent. The caul has also been sold for magical purposes. Grose says that a person possessed of a caul may know the state of health of the person who was born with it; if alive and well the caul is firm and crisp, if dead or sick it is relaxed and flaccid. Milton, in one of his works, says "that if a child be born with a caul on his head he shall be fortunate."

But it is as an infallible preventive against drowning that the caul was, and is, prized. To judge from the following advertisements, it was highly prized: "A child's caul to be disposed of—a well-known preservative against drowning. Price, 10 guineas. Address, ——," *Times*, June 2nd, 1835. "To Mariners, etc.—To be sold, a child's caul. Price, 15 guineas." The price asked has often been from twenty to thirty guineas. "I was born with a caul, which was advertised for sale in the newspapers at the low price of fifteen guineas."—Dickens. In May, 1848, an advertisement appeared in the *Times*, offering for six guineas a child's caul "for which fifteen pounds was originally paid, was afloat with its late owner thirty years in all the perils of a seaman's life, and the owner died at last at the place of his birth." They have come down in price now; at least, they are advertised for sale at from £2 to £5. Here are some advertisements from last year's *Freeman's Journal*: "Caul.—For sale, a male child's caul to Sea Captains and Merchants; price £3. Address ——, *Freeman* Office." "To Sea Captains and others.—A child's caul for sale; price £5. Address ——, *Freeman* Office." "To Sea Captains and others.—A child's caul for sale; will be sold for £3 10s. Address ——, *Freeman* Office."

In Denman's *Midwifery* the following note is to be found: "When the head of the child is born with the membranes unbroken, it is said to be born with a caul. To this caul imaginary virtues have been attributed, and a fancied value has been set upon it. It was esteemed the perquisite of the midwife, and perhaps the whole was the contrivance of some intelligent man to prevent her from interfering with any labour which was going on naturally." I have inquired of aged midwives here whether they preserve the caul or no, and find that none of them do so.

Iodoform Emulsion—Lembert Suture.

Surgeon A. G. P. Gipps asks: 1. The composition of the "well-known glycerine and iodoform emulsion" mentioned by Mr. Barker in his lectures on tubercular joint disease, etc.

2. Also, what is the peculiarity of the Lembert suture.

*** 1. The following is the composition of the iodoform emulsion used by Mr. Barker:—Finely crystalline iodoform, 10 parts; boiled distilled water, 20 parts; glycerine, 70 parts. A great deal depends on the way in which it is mixed. When the iodoform is put into a mortar and moistened with a few drops of spirit before the other ingredients are added gradually, the mixing of the powder with the glycerine (always a matter of some difficulty) is greatly facilitated. Mr. Barker states that he has used as much as two ounces of this emulsion for the injection of tubercular abscesses safely. How much ought to be used as a rule is a matter of opinion.

2. Lembert's suture is used for stitching the serous surfaces together in cases of wound of the intestine. The following is the description of it given in the ninth edition of Erichsen's *Science and Art of Surgery*, just published under the editorship of Mr. Marcus Beck, vol i, p. 888:—"The needle is introduced about a quarter of an inch or a little more from the wound, and made to penetrate as far as the submucous tissue; it is then brought out again about one-sixth of an inch from the edge of the cut on the same side; on the opposite side it is made to enter one-sixth of an inch from the edge of the cut, and brought out at a quarter of an inch from it. The stitches must not be more than a line apart, and the whole number required must be introduced before any are tightened. One stitch at each end must be inserted beyond the limits of the wound, otherwise leakage is inevitable. When the sutures are tightened the mucous membrane is inverted, and the serous surfaces are brought into accurate contact."

Removal of Superfluous Hairs.

Dr. Harris (Hellesdon) writes: Can you tell me the best means for removing hairs from the upper lip and chin of a lady?

*** There is only one reliable and effectual method of removing superfluous hairs, namely, by electrolysis. The operation is now in fairly common use, and is perfectly successful. It presents no difficulty, but of course requires a little practice. An irido-platinum needle is commonly used. The needle is inserted along the sheath of the hair until it reaches the level of the root. It is most convenient in practice to use a strength which requires about thirty to thirty-five seconds to loosen the hair sufficiently so that it comes out without traction when taken hold of by the forceps. In dealing with hairs on the upper lip or on the chin of women afflicted with this deformity, it is advisable only to operate on hairs that are strong and black. So long as the hairs are colourless, unless they are very thick and strong, they are better let alone.

NOTES, LETTERS, ETC.

The University Conversazione.

Chapeau writes: Through your courtesy may I be allowed to appeal to the gentleman who, in the scrimmage which took place in the cloak-room, took away a new grey coat, having in the pocket a valuable cigar case and a first-class railway ticket? My hat was also removed, which was pinned to the coat. When I had waited half-an-hour I could not go to my hotel hatless and in evening dress; I therefore rigged myself out in coat and hat (the maker of the latter is Tulloch, Dundee). The things shall be returned to the owner on his applying to Macpherson, Janitor, Glasgow College.

Venesection.

Dr. Jas. P. R. Jamison (Broughshane, Co. Antrim) calls attention to the fact that Dr. Whitla, in the part devoted by him in his work on *Materia Medica* to the therapeutics of leeches, very forcibly shows the great advantage of blood-letting from a vein, where blood is to be rapidly removed in quantity.

The Birth Stool.

Dr. E. G. Wake (Dartmouth Park Hill) writes: With reference to the notice of the work carried on at the Marburg Obstetric Hospital, published in the Journal of July 21st, p. 137, in which mention was made of the use of the "birth stool" in that institution, I wish to draw the attention of the profession to a paper read before the Obstetrical Society of London in 1860, in which this method is strongly recommended by the late Mr. Hardey, who in his day held a high position as an obstetrician at Hull. He began to use it as early as the year 1827, at the exhortation of another Hull gentleman, grandfather of the present Mr. R. M. Craven. As his nephew and pupil I adopted the plan, and during thirty years of practice have used it in hundreds of cases. Mr. Hardey advised the chairs to be placed in contact in front, and not behind as recommended by Dr. von Ahlfeld. The former plan is much more convenient; indeed, I do not see how the attendant can examine the woman with the chairs placed in any other manner. The sitting position is of great use in those cases where some disproportion between the size of the head and the capacity of the pelvis can be overcome by a little extra effort, but which would necessitate the use of forceps if not thus relieved; or, where an unyielding head is the cause of delay, which will yield to a compressing force less than that exerted by the forceps. To these two conditions I should limit its use; but when I find either of them to exist and no progress to be made, I place the patient between the chairs as the first and simplest aid that presents itself. In nine cases out of ten the woman begins to bear down with increased force at once, and if asked whether she can continue to sit, will generally express a wish to do so, because she feels that she can help herself more than when in bed. Two or three pains thus borne will often suffice to overcome the difficulty. I make a point of watching the effect of every pain whilst the woman is sitting, in order that she may be put to bed as soon as the head begins to stretch the perineum. If no advance has been made after due trial of this method, I know that the forceps or some more severe aid will be required. But in such cases I never use instruments until I have tried the sitting posture.

In the paper I have alluded to (*Medical Times and Gazette*, March 17th, 1860) Mr. Hardey insists very much upon the use of a bandage at the same time. This is now in fashion; not so the birth stool; for, though it has probably been in use somewhere or other ever since the days of Pharaoh (Exodus, i, 16), it is not by any means so frequently used as it ought to be.

Warts.

J. T. writes: I see that a correspondent records that after trying many other remedies, he found nitric acid the best treatment. I think it right to mention that whilst I used to rely only upon nitric acid, I now find deliquesced potash (of course, applied most carefully) a far more reliable and expeditious remedy, and much less liable to scar.

Mineral Waters: the Minerals.

Dr. J. R. Seymour (Camden Town) writes: How much of the water sold as potash, soda, etc., really contains potash, soda, etc.? Surely it is as important to see that these ingredients are not omitted as it is to know that our coffee is free from chicory, our sugar is without sand, our pickles contain no copperas, or our butter contains nothing foreign to the cow. Is not the one as much an adulteration as the other, and would not our public analysts be conferring a boon upon mankind if they were to give a little of their attention to this matter, and especially those waters which are supplied to our merchant vessels, where, in case of sea-sickness, an alkaline effervescing water would be beneficial to the passenger with an irritable stomach?

Treatment for Sting of Physalia or Portuguese Man-of-War.

Dr. J. R. Seymour (Camden Town), late Surgeon to s.s. *Teneriffe*, writes: Being on board ship as surgeon a short time ago, and having been stung by freely handling the cnidæ (thread cells) of a physalia which was taken out of the sea off the West Coast of Africa, I thought I would try the effect of an intermittent galvanic current. Having a battery handy I grasped one of the terminals with each hand with a magical effect, for in the course of two or three minutes all symptoms of stinging had disappeared and did not return.

Epidemic Jaundice.

Mr. H. Montagu Champneys, F.R.C.S. (Penge) writes: The report of Dr. Russell to the Health Committee of the Glasgow Town Council of an epidemic of jaundice brings to my memory an epidemic of a somewhat similar character in 1861, when in practice in east Sussex, where, during July, August, and September of that year, I had eighteen cases of jaundice occurring in persons of different classes of life—a few in the union house, some among the district poor, others (three cases) in the family of the rector of a parish, eight miles distant, living in a high situation and bracing air, who were, for youths, of rather sedentary habits; and, again, three other cases in the young daughters of the then master of foxhounds, who were continually in the saddle, and in general robust health. The ages varied from 8 to 17 years, and the attacks, which varied in acuteness, were convalescent in from four to six weeks. There were no sanitary defects present. I at the time (and no reason has since occurred to me to alter my opinion) considered the epidemic due to the previous year's wheat having sprouted a great deal (1860 was a very wet autumn); and the local mills grinding and distributing the flour, which was used for bread and pastry. Not having noticed previously, nor (till now) since, an account of an epidemic of jaundice, I think it well to give this unique personal experience.

An Original Remedy for Hæmorrhoids.

Dr. Herbert Snow (Bayswater) writes: A gentleman, aged 50, suffering from piles, was informed that he would cure them by introducing an egg, smeared with vaseline, into the rectum. He acted (with some difficulty) upon this benevolent advice, and the result can easily be imagined. Upon examination the foreign body (an ordinary hen's egg) was found embedded in the rectal pouch, at about the length of one's forefinger from the anus. Its extraction without breaking the shell was not an easy matter, but was at last successfully effected (by the fingers) under ether.

Treatment of Summer Diarrhœa.

Dr. Gerard Smith (Clapton) writes: Is the great value of the antiseptic treatment of summer diarrhœa fully recognised amongst us as it is with the American physicians? In a local succession of cases among children under my care I have found three-grain doses of sodæ salicylas following a dose of castor oil to be of immediate benefit. Milk being the article of diet in which ptomaines chiefly develop in hot weather, a diet without milk is to be insisted upon during treatment, and complete abstinence from food for twelve to twenty-four hours in case of vomiting.

Nitrite of Amyl in Chloroform Syncope.

Dr. John Ruxton (Blackpool) writes: It would be presumption on my part or any other man's to say whether nitrite of amyl would have saved any individual life without being present on the particular occasion, but I can generally and candidly affirm that I have found it a most efficient agent in collapse from inhalation of chloroform, as well as a very useful auxiliary when administering the same in doubtful cases, proof of which could be corroborated by several medical friends here. I have also found it a ready and sometimes very satisfactory remedy in cases of angina pectoris or extreme pain over the cardiac region; and an attendant can administer it while one's own hands are preparing hypodermic, oral, or local remedies. Were I asked in what class of cases amyl was most likely to be useful, I should reply, in those accompanied by extreme pallor of countenance. I have been in the habit of using amyl for the past sixteen years, unsuccessfully at first in cases of cholera, but have frequently since found it invaluable, ready in its application, quick in its action, though not infallible. I have used Martindale's preparation, and should be sorry to banish it from my emergency bag.

Irish and Scotch Diplomas and Public Appointments.

One Who Has Been Befooled writes: At page 314 of the Journal of August 11th I notice that Dr. Waters drew attention to the extraordinary rule which prevents the late President of the Association (Dr. Banks) from becoming a physician to the Liverpool Infirmary, because he did not possess a certain English diploma. It would be interesting on this point to refer to the action of certain members of Council (in the majority) in the Royal College of Surgeons in England. The regulations of the College say that Fellows of the Irish College are admissible to the Fellowship *ad eundem* of the English College, if they conform to the by-laws and produce certain formal certificates duly set forth. But these regulations do not say that the admission shall be by ballot, and after the Irish Fellow has taken the trouble to obtain the certificates required and made his application, he then finds the whole proceedings were a complete farce, and that the majority of the Council make it a rule to black-ball every Irish Fellow who applies, two only, I believe, having been elected. It would be interesting to know what is the wording of the Charter on the point, and if the Charter makes *ad eundem* admissions to the Fellowship a mere matter of a quasi-club election, and if the Council are acting within their rights in making the *ad eundem* admission a dead letter, while retaining it in the regulations.

English Practitioners in Switzerland.

Dr. J. M. Ludwig (Pontresina) writes: In a letter published in No. 1434 of the Journal Messrs. Coester, hotel-keepers in Davos, say that the persecution of the English doctors in the Engadine was caused entirely by some Swiss doctors who denounced them for illegal practice, with a view of getting altogether rid of their competition, and that the Grosse Rath of Graubünden did not adopt the view of the Swiss medical profession, but granted the right to practise to the English doctors. With these statements I beg to compare the facts, which are as follows: One of the two English doctors concerned lived in a place where he could not be in the way of any other practitioner, and no Swiss medical man has ever denounced him for illegal practice or complained of his competition. When the other English doctor first settled down a petition was signed by all the resident Swiss doctors of St. Moritz, Pontresina, Samaden, Zug, and Scanfs, asking our authorities to grant him the permission to practise. None of these medical men have ever denounced him; on the contrary, they have refused to give evidence against him, and when the question came before the Grosse Rath, the only medical member of this body was in favour of the English doctors as soon as he knew the opinion of his Engadine *confrères*. The relations between the English and Swiss medical men in the Engadine are therefore very good.

Hypodermic Syringes.

Dr. Arthur Hill Hassall (Lucerne) writes: I am glad to see that Mr. Serres has, in the Journal of August 25th, drawn attention to the manner in which the graduation of hypodermic syringes varies. The subject is a very important one, and the need of greater care in the graduation of these instruments urgent.

The divisions of the syringes of British manufacture should correspond with the minim measure, but those of foreign make are divided into decigrammes, or tenths of a gramme, so that each division in this case corresponds to a minim and a half of the English scale. Now, I believe that a very large proportion of the hypodermic syringes sold in England are of foreign manufacture, and hence the difference pointed out by Mr. Serres is partly accounted for; but no doubt other differences arise from want of care.

I have in my possession at the present moment two hypodermic syringes, both probably of foreign make. The divisions in one of these corresponds to a minim and a half, the ten divisions representing no doubt one gramme. In the other each division corresponds to two minims. Now, the strength of the hypodermic solution of acetate of morphine of the *British Pharmacopœia* is 1 in 10, and the quantity of this to be used for injection ranges from 1 to 5 minims.

Supposing, therefore, either of the above instruments were employed, in the belief that the divisions represented in each case a minim, and supposing it were desired to inject only 4 minims of the Pharmacopœial solution, the actual quantity injected would be—according to which instrument was used—6 or 8 minims of that solution, or, in the last case, double the quantity desired. In fact, a quantity of morphine would be injected which in many cases would be highly dangerous, and in some might—and, indeed, I may say would—prove fatal.

There is another point in the construction of these syringes which requires consideration, namely, the way in which the divisions are indicated. They are usually marked on the stem of the piston, the numbers up to 10 commencing from above downwards, but sometimes the divisions are marked on the barrel. When indicated on the piston the figures should commence at the bottom and not at the top, because in using the syringe one has to read off from below the number of minims injected, and this often leads to confusion and mistakes. By far the best and most accurate method is to show the divisions on the barrel, each being indicated by a coloured figure, the numbers in this case commencing at the top. The marking on the piston readily lends itself to great irregularities. Hence it appears that there is much need for the exercise of greater care in the manufacture of these syringes, the accuracy of which should be guaranteed by a certificate, as in the case of clinical thermometers.

COMMUNICATIONS, LETTERS, etc., have been received from:

Mr. Walter Basset, Bristol; Dr. F. de Havilland Hall, London; Dr. Wahltuch, Manchester; Mrs. H. E. Brown, Buxton; Messrs. E. Jesurum and Co., Venice; Dr. W. J. Collins, London; Mr. A. E. Vaughan, Crewe; Mr. Wickham Barnes, London; Dr. W. F. Murray, Forfar; Mr. W. Williams, Oswestry; Mr. J. W. R. Johnstone, Stirling; Sir Edmund Lechmere, London; Mr. W. R. H. Stewart, London; Dr. David Little, Manchester; Mr. W. H. Hargrove, York; E. R. Woodhouse, M.B., Stafford; Mr. W. G. Bower, Leyland, Preston; Dr. John Robertson, Dumbarton; Rev. H. B. Tristram, Durham; Dr. Owen Coleman, Surbiton; Mr. G. E. Williamson, Newcastle-on-Tyne; Pater Familias; Dr. C. Denison, Denver, Colorado; W. Murray, M.B., Bristol; Mr. E. H. Seccombe, London; Dr. W. B. Bannerman, Madras; J. T.; Dr. A. B. Prowse, Clifton; Dr. Maguire, London; Pro Bono Publico; Surgeon Townsend, M.S., Queenstown; Surgeon H. Todd, R.N.; Trafford Mitchell, M.B., Gorseinon, near Swansea; Dr. De Styrap, Shrewsbury; Mr. G. N. Robins, Bourne; Mr. Sprigg, Hereford; Mr. R. Clement Lucas, London; Dr. W. Smyly, Dublin; Messrs. T. Christy and Co., London; Dr. James C. Howden, Montrose; Dr. Wayland Chaffey, Brighton; Dr. T. W. Hime, Bradford; Mrs. Browett, London; Dr. G. Thin, London; Dr. Macan, Dublin; Mr. A. E. Barker, London; Our Sheffield Correspondent; Dr. Wm. Hill, London; Dr. Francis Warner, London; Dr. Churton, Leeds; Mr. L. Phillips, Hove, Brighton; Mr. E. Bellamy, London; Messrs. Krohne and Sesemann, London; Dr. J. Pirie, Glasgow; Mr. C. E. Abbott, Braintree; Mr. Leonard G. Peters, Gobowen; Dr. Bryars, West Hartlepool; Our Glasgow Correspondent; Dr. Biddle, Kingston-on-Thames; Mr. T. F. Hugh Smith, Farningham; Dr. E. T. Davies, Liverpool; Mr. C. W. Thris, London; Mr. E. F. S. McKay, Tralee; Mr. Lewis H. Brown, Standish; Dr. Tatham, Salford; Dr. F. C. Palmer, Stroud; Mr. B. A. Daniell, Aberavon; Dr. F. Willcocks, London; Dr. R. Daniel, Petersfield; Mr. Robert Ruttle, Burnley; Mr. Matthew Carnelley, Ruddington; Messrs. Burroughs and Wellcome, London; Our Liverpool Correspondent; Dr. Sykes, Mexboro'; Miss Dibben, Bournemouth; Messrs. Street and Co., London; Mr. R. C. Holt, Burnley; Messrs. De Hoghton and Co., London; J. H. Gray, M.B., London; Mr. Arthur Jackson, Sheffield; Mr. J. C. Vaughan, Bradford; L.S.A.; Mr. J. H. Griffin, London; Dr. W. M. Hayman, Winchester; Mr. J. J. Pitcairn, London; Dr. S. Sloan, Glasgow; Mr. Marshall, Lamberhurst; Dr. W. Wallace, Greenock; Dr. James Erskine, Glasgow; Dr. Louis Parkes, London; Mr. L. W. Pead, London; Dr. John Irving, Leytonstone; Dr. C. Theodore Williams, London; Dr. Arthur Hill Hassall, Lucerne; Dr. J. A. Philip, Boulogne-sur-Mer; Dr. Carlo Ruata, Perugia; Mr. T. Laffan, Cashel; Principal Walley, Edinburgh; Dr R. Pollok, Polloksheilds; The War Office; Mr. A. W. Russell, Glasgow; Mr. A. P. Arnold, Bishop Auckland; Mr. F. Nettlefold, London; H. Venables Palin, M.B., Wrexham; Dr. John Barr, Blackburn; Dr. J. Buchanan, Liverpool; Secretary of the Sanitary Institute, London; Mr. J. McIlroy, Port Glenone; Mr. M. H. Feeny, London; Mr. J. G. Douglas Kerr, Romford; A. Campbell Munro, M.B., South Shields; Dr. Pearson, London; Dr. Scanes Spicer, London; Mr. J. P. Wilton, Gloucester; Mr. H. Jackson, London; etc.

BOOKS, ETC., RECEIVED

Léon-Petit, Dr. L'Hystérie Pulmonaire. O. Doin: Paris. 1888.

The Science and Art of Training. A Handbook for Athletes. By Henry Hoole, M.D.Lond. Trubner and Co., Ludgate Hill. 1888.

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REGULATIONS
OF THE
GENERAL MEDICAL COUNCIL AND MEDICAL LICENSING BODIES.

SESSION 1888-89.

REGULATIONS OF THE GENERAL MEDICAL COUNCIL REGARDING REGISTRATION OF MEDICAL STUDENTS.

PRELIMINARY EXAMINATION.—1. No person is allowed to be registered as a medical student unless he shall have previously passed a preliminary examination in the subjects of general education as hereinafter provided.—2. The Executive Committee is to prepare and issue from time to time a list of examining bodies whose examinations fulfil the conditions of the Medical Council as regards general education.—3. Testimonials of proficiency granted by educational bodies, according to the subjoined list, are accepted; the Council reserving the right to add to or take from the list.—4. (A Degree in Arts of any University of the United Kingdom, or of the Colonies, or of such other Universities as may be specially recognised from time to time by the Medical Council, is considered a sufficient testimonial of proficiency.)—5. The following is a list of examining bodies whose examinations fulfil the conditions of the Medical Council: I. *Universities in the United Kingdom. Oxford:* Responsions; Moderations. *Cambridge:* Previous Examination; Higher Local Examinations. *Durham:* Examinations for Certificate of Proficiency; Examination for Students at the end of the first year. *Oxford, Cambridge, and Durham:* Examinations for Degrees in Arts. *Oxford and Cambridge:* Senior Local Examinations, Certificates to include Latin and Mathematics; Junior Local Examinations, Certificate to include Latin and Mathematics, and also one of the following optional subjects: Greek, French, German.—*Oxford and Cambridge Schools' Examination Board:* Certificate to include Arithmetic, including Vulgar and Decimal Fractions; Algebra, including Simple Equations; Geometry, including the first two books of Euclid; Latin, including Translation and Grammar; and one of the following optional subjects: Greek, French, German.—*London:* Matriculation Examination; Preliminary Scientific (M.B.) Examination; Examination for a Degree in Arts or Science.—*Victoria:* Preliminary Examination, Latin to be one of the subjects; Entrance Examination in Arts to include all the subjects required.—*Aberdeen, Edinburgh, Glasgow, and St. Andrews:* Examination for a Degree in Arts; Local Examinations (Junior and Senior); Certificate to include English Literature, Arithmetic, Algebra, Geometry, Latin, and also one of the following optional subjects: Greek, French, German; Preliminary Examination for Graduation in Medicine or Surgery.—*Edinburgh:* Preliminary Examination for Graduation in Science.—*Dublin:* Entrance Examination; General Examination at end of Senior Freshman's Year; Examination for a Degree in Arts.—*Queen's University (Ireland):* Local Examinations, Certificates to include all the subjects required by the General Medical Council; Entrance or Matriculation Examination; Previous Examination for B.A. Degree; Examination for a Degree in Arts.—*Royal University of Ireland:* Matriculation Examination. II. *Other Bodies named in Schedule (A) to the Medical Act.—Society of Apothecaries in London:* Examination in Arts.—*Royal Colleges of Physicians and Surgeons of Edinburgh:* Preliminary (combined) Examination in General Education.—*Faculty of Physicians and Surgeons of Glasgow:* Preliminary Examination in General Education.—*Royal College of Surgeons in Ireland:* Preliminary Examination; Certificate to include Mathematics.—III. *Examining Bodies in the United Kingdom, not included in Schedule (A) to the Medical Act.—College of Preceptors:* Examination for a First-Class Certificate, or Second-Class Certificate of First or Second Divisions, Algebra, Geometry, Latin, and a Modern Language, having been chosen.—*Intermediate Education Board of Ireland:* Junior, Middle, and Senior Grades; the Certificate to include all the subjects required.—*Queen's Colleges of Belfast, Cork, and Galway:* Matriculation Examinations.—*St. David's College, Lampeter:* Responsions Examinations, to include all the subjects required.—*Educational Institute of Scotland:* Preliminary Medical Examination.—*Pharmaceutical Society of Great Britain:* Preliminary and Minor Examinations *(pro tanto).*—IV. *Indian, Colonial, and Foreign Universities and Colleges.—Universities of Calcutta, Madras, and Bombay:* Entrance Examination; Certificate to include Latin.—*Ceylon Medical College:* Preliminary Examination (Primary Class).—*Universities of McGill College, Montreal: Bishop's College, Montreal: Toronto: Trinity College, Toronto; Queen's College, Kingston; Victoria College, Upper Canada; College of Physicians and Surgeons of Ontario; Western University of Ontario; Fredericton, New Brunswick; Halifax, Nova Scotia; Melbourne; Sydney; Adelaide:* Matriculation Examination.—*University of Manitoba:* Previous Examination.—*University of King's College, Nova Scotia:* Matriculation Examination; Responsions.—*University of Otago:* Preliminary Examination.—*University of the Cape of Good Hope:* Matriculation Examination; Examination for a Degree in Arts.—*University of New Zealand:* Entrance Examination.—*Codrington College, Barbadoes:* English Certificate for Students of two years' standing, and Latin Certificate or "Testamur."—*Tasmanian Council of Education:* Examination for the Degree of Associate of Arts, Certificate to include Latin and Mathematics.—*Christ's College, Canterbury, New Zealand:* Voluntary Examinations, Certificates to include all the subjects required.—*Dalhousie College and University, Halifax:* Matriculation and Sessional Examinations.—*University of California:* Examination in Department of Letters.—*Germany and other Continental Countries:* Gymnasial Abiturienten Examen in Germany, and other corresponding entrance examinations to the Universities.—*Gymnasium of the Circuit of Dorpat:* Examinations of Maturity.—6. No person will be allowed to be registered as a medical student unless he shall have previously passed (at one or more examinations) a Preliminary Examination in: 1. English Language, including Grammar and Composition; 2. Latin, including Grammar, Translation from specified authors, and Translation of easy passages not taken from such authors; 3. Elements of Mathematics, comprising (*a*) Arithmetic—including Vulgar and Decimal Fractions; (*b*) Algebra—including Simple Equations; (*c*) Geometry—including the first book of Euclid, with easy questions on the subject matter of the same; 4. Elementary Mechanics of Solids and Fluids, comprising the Elements of Statics, Dynamics, and Hydrostatics; 5. One of the following optional subjects: (*a*) Greek; (*b*) French; (*c*) German; (*d*) Italian; (*e*) any other modern language; (*f*) Logic; (*g*) Botany; (*h*) Zoology; (*i*) Elementary Chemistry.[1]

REGISTRATION OF MEDICAL STUDENTS.—7. Every medical student will be registered in the manner hereinafter prescribed by the General Medical Council.—8. No medical student shall be registered until he has passed a preliminary examination, as required by the General Medical Council,[2] and has produced evidence that he has commenced medical study.—9. The commencement of the course of professional study recognised by any of the qualifying bodies shall not be reckoned as dating earlier than fifteen days before the date of registration.—10. The registration of medical students shall be placed under the charge of the Branch Registrars.—11. Each of the Branch Registrars shall keep a register of medical students, according to a form indicating the name; the preliminary examination, with date thereof; the date of registration; and the place and date of commencement of medical study, as certified by a master, or a teacher, or an official in a medical school or hospital.—12. Every person desirous of being registered as a medical student shall apply to the Branch Registrar of the division of the United Kingdom in which he is residing, according to a form which may be had on application to the several qualifying bodies, medical schools, and hospitals; and shall produce or forward to the Branch Registrar a certificate of his having passed a preliminary examination, as required by the General Medical Council, and evidence that he has commenced medical study.[3]—13. The Branch Registrar shall enter the appli-

[1] Examinations in General Education conducted by Universities will be accepted as heretofore; but if, in any of these examinations, the subject of Elementary Mechanics be not included, a knowledge of that subject will be required at a separate Preliminary Examination.

[2] Exception may be made in the case of a student from any Indian, Colonial, or Foreign University or College, who shall have passed the Matriculation or other equivalent Examination of his University or College, provided such examination fairly represents a standard of general education equivalent to that required in this country.

[3] *Form of Application for Registration as a Medical Student.*—I hereby apply to be registered a Student in Medicine, in conformity with the Regulations of the General Council of Medical Education and Registration of the United Kingdom, for which purpose I submit the following particulars. [Name of applicant (to be written in words at length); Surname; Christian name; Pre-

cant's name and other particulars in the *Students' Register*, and shall give him a certificate of such registration.—14. Each of the Branch Registrars shall supply to the several qualifying bodies, medical schools, and hospitals, in that part of the United Kingdom of which he is Registrar, a sufficient number of blank forms of application for the registration of medical students.—15. The several Branch Councils—and in England the Executive Committee, if its meeting be more convenient and the case be urgent—shall have power to admit special exceptions to the foregoing regulations as to registration, for reasons which shall appear to them satisfactory.—16. A copy of the *Medical Students' Register*, prepared by each of the Branch Registrars, shall be transmitted, on or before the 31st of December in each year, to the Registrar of the General Council, who shall, as soon as possible thereafter, prepare and print, under the direction of the Executive Committee, an alphabetical list of all students registered in the preceding year, and supply a copy of such authorised list to each of the bodies enumerated in Schedule (A) to the Medical Acts, and through the Branch Registrars to each of the several medical schools and hospitals.—17. The Several Qualifying bodies are recommended not to admit to the final examination for a qualification under the Medical Acts any candidate (not exempted from registration) whose name has not been entered in the *Medical Students' Register* at least forty-five months previously. In the case of candidates from other than schools of the United Kingdom, the Branch Councils shall have power to admit exceptions to this recommendation.

RECOMMENDATIONS OF THE GENERAL MEDICAL COUNCIL ON PROFESSIONAL EDUCATION AND EXAMINATION.

AGE FOR LICENCE TO PRACTISE, ETC.—1. The age of twenty-one should be the earliest age at which a candidate should obtain a licence to practise, and the age should, in all instances, be certified.—2. The course of medical study after registration should occupy at least five years, if the subjects of Elementary Physics, Chemistry, and Biology be included in that period, or at least four years if a satisfactory examination in these subjects have been passed previous to registration.[4]

PROFESSIONAL EDUCATION.—3. At least four winter and three summer sessions should be passed at a school or schools recognised by any of the licensing bodies mentioned in Schedule (A) of the Medical Act.—4. The following are the subjects without a sufficient knowledge of which no candidate should be allowed to obtain a qualification entitling him to be registered: (1) Chemistry, including the principles of the science, and the details which bear on the study of Medicine, and the rudiments of Heat, Light, and Electricity; (2) Anatomy; (3) Physiology; (4) Materia Medica and Pharmacy; (5) Pathology; (6) Medicine, including Medical Anatomy, Clinical Medicine, and Therapeutics; (7) Surgery, including Surgical Anatomy and Clinical Surgery; (8) Midwifery, including Diseases peculiar to Women and to Newly Born Children; (9) Theory and Practice of Vaccination; (10) Forensic Medicine; (11) Hygiene; (12) Mental Disease.[5]

PROFESSIONAL EXAMINATION.—5. The Professional Examinations should be so framed as to secure that the knowledge of every practitioner whose name appears in the *Medical Register* has been tested in all the subjects of professional education which the Council deems essential (see Recommendation No. 4).—6. There should be at least three Professional Examinations.—7. The examinations, and the subjects included in each, should be such, and in such order, as may ensure, as far as possible, a due continuity and sequence of study.—8. The Final Examination should not take place till the termination of the full period of medical study.—9. The Professional Examinations should be conducted both in writing and orally; and they should be practical in all branches in which they admit of being so.—10. Two Examiners at least should take part in every oral and clinical examination.—11. A candidate should not be rejected on any written examination unless his answers have been submitted to at least two Examiners.—12. Excellence in one or more subjects should not be allowed to compensate for failure in other subjects.—13. The Professional Examinations should be held by the several licensing bodies at stated periods, to be publicly notified.—14. In no case should the Examination of a candidate in any subject be conducted exclusively by his teachers in that subject in the school in which he has been educated.—15. Every candidate for the Final Professional Examination should be required to give evidence that he has had sufficient opportunities of practical study, with care of patients, medical, surgical, and obstetrical, in hospital, dispensary, or elsewhere.—16. In addition to the requirements at present in force with respect to hospital attendance and duties, all candidates for the Final Examination should be required to produce evidence that they have, under proper supervision, taken part as pupils for six months in the practice of a recognised public dispensary, including the visitation of patients at their own homes, or in the out-patient practice of a recognised hospital, or should have acted for six months as pupil to a registered practitioner, either holding such a public appointment, or having such opportunities of imparting practical knowledge as shall be satisfactory to the Examining Bodies.—17. Candidates for the Final Examination should be required to produce evidence that they have, so far as local circumstaaces will permit, studied fevers for not less than three months, under recognised Clinical Instructors.—18. Every student should be required to attend for three months the indoor practice of a lying-in hospital, or to have been present at not less than twelve labours, at least three of which he should have conducted personally under the direct supervision of a registered practitioner.—19. Greater attention should be given to instruction in Pathological Anatomy than is required in the curricula of some of the Examining Bodies, and, with this view, a course of not less than three months' lectures on Pathological Anatomy, with practical instruction, should be included in the curricula of all the Examining Bodies.—20. It is desirable that candidates for examination should be required to have availed themselves of the opportunities within their reach of studying insanity.—21. In order to afford due time for clinical work, it is desirable that the number of systematic lectures be restricted.—22. Extreme sub-division of examinations for admission to the *Medical Register*, by allowing candidates to present themselves for the various subjects of examination separately, is prejudicial to sound professional education, and should be discouraged.

liminary examination, with date thereof; Place and date of commencement of medical study; Applicant's signature; Address; and Date of application.]

Certificate of Commencement of Medical Study.—I hereby certify that Mr. —— has commenced the study of medicine in (insert name of School, or Hospital, or place of apprenticeship, as the case may be); Signature of Master, Teacher, or Official in a Medical School or Hospital; Place and date. To the Registrar of the Branch Council for ——.

N.B.—The word "Master" or "Teacher" will be held to include any registered practitioner whose pupil the applicant may be at the time. The certificate of examination must testify that the student has been examined in the subjects required by the General Medical Council.

The above form of application, duly and legibly filled up, and accompanied by a certificate of the applicant's having passed a preliminary examination, as required by the General Medical Council, must be forwarded post paid to the Registrar of one of the Branch Councils.

[4] Exception may be allowed in the case of any graduate in medicine of an Indian, Colonial, or Foreign University, or of any student who, having completed the full time required by the Medical Council, and having given satisfactory evidence of general education, shall have spent the whole or three-fourths of that period at an Indian, Colonial, or Foreign University, the several licensing bodies being requested to communicate to the Council annually, in the month of January, a statement of the action taken by them respectively during the last preceding calendar year, in regard to such exceptional cases.

[5] It is to be understood, as regards the above mentioned subjects, that the Council offers no opinion as to the manner in which the subjects should be combined or distributed for purposes of teaching or of examination.

ROYAL COLLEGE OF PHYSICIANS OF LONDON AND ROYAL COLLEGE OF SURGEONS OF ENGLAND.

DOUBLE QUALIFICATION.

THE regulations for the Conjoint Examination, entitling the candidate who passes it to obtain both the Licence of the Royal College of Physicians of London and the Diploma of Member of the Royal College of Surgeons of England, are applicable to candidates commencing professional study on or after October 1st, 1884. For a synopsis of the regulations, see pages 625 and 527.

Professional studies commenced before Registration, except in the cases of Chemistry and Chemical Physics, Materia Medica, and Pharmacy, will not be recognised. One winter session and two summer sessions may be passed in one or more of the ways as recognised in the regulations for the Licence of the Royal College of Physicians.

The instruction in Practical Pharmacy must be given by a registered medical practitioner, or by a Member of the Pharmaceutical Society of Great Britain, or in a public hospital, infirmary, or dispensary.

The systematic practical instruction in Medicine, Surgery, and Midwifery, includes: 1, the applications of anatomical knowledge to the investigation of disease; 2, the methods of examining

various organs and other parts of the body, in order to detect the evidence of disease or the effects of accidents; 3, the employment of instruments and apparatus used in diagnosis or treatment; 4, the examination of diseased structures, whether recent or in a museum; 5, the chemical examination of morbid products; 6, the performance of operations on the dead body; 7, *post-mortem* examinations.

No metropolitan hospital is recognised which contains less than 150, and no provincial or colonial hospital which contains less than 100 patients. A three months' course of Clinical instruction in the wards of a recognised lunatic hospital or asylum may be substituted for the same period of attendance in the medical wards of a general hospital.

The Clinical lectures must be attended after the candidate has passed the second examination.

The duties of Clinical Clerk and Surgical Dresser may be discharged at a general hospital, infirmary, or dispensary, or parochial or union infirmary, recognised for this purpose, or in such other similar manner as shall afford sufficient opportunity for the acquirement of practical knowledge.

Students must attend the examinations held in the several classes.

Exemption from any of the regulations can only be granted by the Committee of Management.

Professional Examination.—The examinations will be partly written, partly oral, and partly practical, and will be held in January, April, July, and October, unless otherwise appointed. Every candidate intending to present himself for examination must give notice in writing to the Secretary of the Examining Board in England, Examination Hall, Victoria Embankment, W.C., fourteen clear days before the day on which the examination commences, transmitting at the same time the required certificates. All fees must be paid three days prior to the day on which the examination commences.

Synopses indicating the range of subjects in the Examinations in Chemistry and Chemical Physics, Materia Medica, Pharmacy, Elementary Anatomy, and Physiology, may be obtained together with the regulations.

A candidate will be admitted to the Examinations on Chemistry and Chemical Physics, Materia Medica, and Pharmacy, on producing evidence of having been registered as a medical student by the General Medical Council, and of having received instruction in each of these subjects, or he may take Materia Medica and Pharmacy as part of the Second Examination: but he will not be admitted to the Examination on Elementary Anatomy and Elementary Physiology earlier than the end of his first winter session or than the completion of his first six months' attendance at a medical school. Each of the three parts of this examination may be taken at different times, or the candidate may present himself for the whole at one time.

A candidate will be admitted to the Second Examination after the lapse of not less than six months from the date of his passing Parts I. and III. of the First Examination, on producing evidence of having completed, subsequently to registration as a medical student, eighteen months of professional study at a recognised medical school or schools.

A candidate will be admitted to the Third or Final Examination after the lapse of not less than two years from the date of his completing the Second Examination on producing evidence; 1, of being twenty-one years of age; 2, of having studied Medicine, Surgery, and Midwifery during not less than forty-five months.

SPECIAL REGULATIONS.

1. Any candidate for the Licence of the Royal College of Physicians and the Membership of the Royal College of Surgeons, who shall have commenced his professional study before October 1st, 1884, shall, on production of the certificates required by both Colleges when he commenced his professional study, and on payment of the required fees, be admissible to either or all of the examinations of the Examining Board. 2. Any candidate who shall have passed before October 1st, 1884, at either of the two Colleges, the First or Second Examination, or the First and Second Examinations, will be exempt from the equivalent examinations of the Examining Board. 3. Any member of an English University, or of a Scotch or Irish University, where it is required that not less than two of the four years' curriculum of professional education shall have been spent in residence at the University, who shall have passed such an examination or examinations at his University as shall comprise the subjects of the First and Second Examinations of the Examining Board in England, and who shall have completed not less than four years of medical study according to the regulations required by his University will be eligible for admission to the Third or Final Examination of the Board, two years after his having passed all the other required examinations; any candidate so admitted to examination will be required to pay a fee of £5 5s.; and any such candidate who shall have passed such Third or Final Examination shall, on the further payment of not less than 30 guineas, and subject to the by-laws of each College, be entitled to receive the Licence of the Royal College of Physicians of London and the Diploma of Member of the Royal College of Surgeons of England.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

MEMBERS.

EVERY candidate for the Membership of the College must furnish proof that he has attained the age of twenty-five years, and must produce a testimonial from a Fellow or Member of the College, satisfactory to the Censors' Board, to the effect that, as regards moral character and conduct, he is a fit and proper person to be admitted a Member of the College.

No candidate shall be admitted to examination who is engaged in trade; or who dispenses medicine, or makes any engagement with a chemist or any other person for the supply of medicines; or who practises Medicine or Surgery in partnership, by deed or otherwise, so long as that partnership continues; or who refuses to make known, when so required by the President and Censors, the nature and composition of any remedy he uses.

A candidate for the Membership is inadmissible to the Professional Examination who is unable to satisfy the Censors' Board of his general culture.

All candidates for the Membership shall exhibit to the Censors' Board such diplomas or other evidence of their general education as they may possess, that it may be recorded by the Registrar for future consideration of their claims to the Fellowship of the College.

All candidates for Membership under the age of forty shall be required to prove a knowledge of Latin, and of either Greek, French, or German, by examination before the Censors' Board, unless they have obtained a Degree in Arts in a British University.

Any candidate who has already obtained the degree of Doctor or Bachelor of Medicine at a University in the United Kingdom, in India, or a British Colony, or who shall have obtained a foreign qualification entitling him to practise Medicine or Surgery in the country where such qualification has been conferred, wherein the courses of study and the examinations to be undergone previously to graduation shall have been adjudged by the Censors' Board to be satisfactory, shall, if the Censors think fit, be admitted to the Pass Examination. The nature and extent of this examination shall, in the case of each candidate, be determined by the Censors' Board.

Pass Examination for Membership.—The Pass Examination shall be conducted as follows:—Thursday, from 2 till 6, by written questions on Medical Anatomy, and on the Principles of Medicine. Friday: from 2 to 6, by written questions on the Practice of Medicine, including the Principles of Public Health, and Psychological Medicine. Saturday or Monday: the candidate's practical knowledge will be tested, either at the College or in the medical wards of a hospital. Tuesday and Wednesday: by examination *viva voce*. This examination will commence on the last Thursday but one in January, April, July, and October.

Any candidate who has attained the age of forty years, and who can produce testimonials as to his moral character and conduct, his general and professional acquirements, and that he has improved the art or extended the science of Medicine, or has at least distinguished himself highly as a medical practitioner, shall submit such testimonials to the Censors' Board, who may, if they see fit, submit them to the Fellows at a general meeting, and it shall be determined by the votes of the Fellows present, or of the majority of them, taken by ballot, whether the candidate shall be admitted to examination.

The fee to be paid for examination for Membership shall be £6 6s., and such examination fee shall be reckoned as part of the fee for admission as a Member, in the event of the candidate satisfying the Censors' Board of his competency.

Every candidate (except those holding the qualifications above mentioned, or above forty years of age) shall produce proof of

TABULAR VIEW OF THE REGULATIONS OF THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, AND OF THE SOCIETY OF APOTHECARIES OF LONDON.

	ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.	ROYAL COLLEGE OF PHYSICIANS OF LONDON.	ROYAL COLLEGE OF SURGEONS OF ENGLAND.		SOCIETY OF APOTHECARIES OF LONDON.
	Double Qualification.	Licentiates.	Fellows.	Members.	Licentiates.
Age Required	Twenty-one	Twenty-one.	Twenty-five.	Twenty-one.	Twenty-one.
Evidence of General Education before commencement of Professional Study.	Certificate of registration as a student by the General Medical Council.	Certificate of having passed examination in subjects of General Education recognised by the General Medical Council, and of being registered as a student.	Certificate of registration by the General Medical Council.	Certificate of registration by the General Medical Council.	Certificate of registration as a medical student by the Medical Council, Elementary Mechanics is now required by the Medical Council to be passed with the general subjects before registration.
Duration of Professional Study.	Forty-five months; at least three winters and two summers at a recognised school or schools.	Forty-five months; at least three winter and two summers at a recognised school or schools.	Six years; or Members, two years in addition to the certificate for the diploma of Member.	Four years, or not less than four winter and four summer sessions.	Forty-five months; dating from registration as a medical student, not less than three winter and two summer sessions at a recognised hospital and school of medicine.
Courses of Lectures, etc., required.					
Anatomy and Dissections	Lectures, six months; dissections, twelve months	A course of Anatomy; Dissections twelve months.	Lectures during two winters; dissections three winters.	Lectures, two winters; dissections, two winters.	Six months; Practical Anatomy and Demonstrations, two winter sessions, or twelve months.
Physiology	Lectures, six months; Practical Physiology, three months	Physiology & Practical Physiology, each one course.	Lectures one winter; & Practical Physiology, another session.	Lectures, one winter; Practical Physiology, another session.	Six months; Histology with Demonstrations, three months.
Chemistry	Instruction.	Instruction; time not specified.	One course.	One course.	Six months.
Practical Chemistry			Three months.	Three months.	Three months.
Materia Medica			One course.	One course.	Three months.
Practical Pharmacy			Three months.	Three months.	Three months.
Botany	Not required.	Not required.	Not required.	Not required.	No certificate of attendance on lectures on Botany is required.
Morbid Anatomy ...	Three months; Demonstrations in *post-mortem* room during clinical study.	One course; demonstrations in *post-mortem* room during clinical study.	Lectures, three months; demonstrations, three winter and two summer sessions.	Lectures, three months; demonstrations in *post-mortem* room.	Three months; *post-mortem* examination during hospital practice.
Medicine	Six months.	One course.	One course.	One course.	Six months.
Clinical Medicine ...	Nine months.	Nine months.	One winter and one summer session.	One winter and one summer session.	Nine months.
Surgery	Six months.	One course.	One winter session.	One winter session.	Six months.
Clinical Surgery	Nine months.	Nine months.	Two winter and two summer sessions. Observation and examination of patients for three months.	Two winter and two summer sessions. Observation and examination of patients, three months.	Nine months.
Practical Surgery ...	Required.	Required.	Six months.	Six months.	Three months.
Midwifery and Diseases of Women	Three months; attendance on twenty labours.	One course; not less than twenty labours.	One course; not less than ten labours.	One course; not less than ten labours.	Three months; twenty cases of labour.
Clinical Study of Diseases of Women	Three months.	Three months.	Not stated.	Not stated.	Three months; besides this a course of Practical Midwifery.
Forensic Medicine ...	Three months.	One course.	One course.	One course.	Three months.
Hospital Practice	Medical and Surgical Practice; three winter and two summer sessions.	Medical and surgical practice, three winter and two summer sessions.	Surgical practice, four winter and four summer sessions; medical practice, one winter and one summer.	Surgical practice, three winters and two summers; Medical practice, one winter and one summer.	Medical and surgical practice, three winter and two summer sessions with *post-mortem* examinations.
Hospital Appointments	Medical clinical clerk, six months; surgical dresser, six months.	Clinical clerks, six months; dresser, six months.	House-surgeon or dresser six months.	Dresser, or (after a year of study) charge of patients under superintendence of a surgeon, six months.	Clinical clerk, three months; surgical dresser, three months.
Other Certificates ...	Systematic Practical Instruction in Medicine, Surgery, and Midwifery. Instruction in Vaccination.	Systematic Practical Instruction in Medicine, Surgery, and Obstetric Medicine. Instruction and proficiency in Vaccination. Moral character.	Instruction and proficiency in Vaccination. Comparative Anatomy, one course. Operations on Dead Body.	Instruction and proficiency in Vaccination. Examinations in Elementary Anatomy and Physiology at medical school.	Having been examined at class examinations certified by the Dean in the general schedule. Instruction in Vaccination signed by a Government Vaccinator. Moral character. Birth.

NUMBER OF EXAMINATIONS	Three.	Three.	Two.	Two.	Three.
FIRST EXAMINATION; WHEN IT MAY BE PASSED; SUBJECTS.	After registration: (1) in Chemistry and Chemical Physics; (2) Materia Medica and Pharmacy; at end of first six months at a recognised medical school; (3) Elementary Anatomy and Physiology.	After registration as a student; Chemistry and Chemical Physics; Materia Medica and Pharmacy: and Osteology.	After third winter session; in Anatomy and Physiology.	After second winter session; Anatomy and Physiology.	The first examination consists of two parts (1) Chemistry and Chemical Physics, Practical Chemistry, Botany, and Materia Medica, Pharmacy and Prescriptions.[1] (2) Anatomy, Physiology, and Histology, Examinations on living body.[2]
SECOND EXAMINATION; AT WHAT PERIOD IT MAY BE PASSED; SUBJECTS.	Six months after first examination. After eighteen months of study at a recognised medical school, subsequent to registration: (1) Anatomy; (2) Physiology. Each may be taken separately. Materia Medica and Pharmacy may be taken at this examination.	After eighteen months of study subsequent to registration as a medical student; Anatomy and Physiology.	After six years of professional study; in Surgery, including Surgical Anatomy and Pathology, Medicine, and Midwifery (Medicine and Midwifery not required if passed for the Membership, nor from candidates holding approved diplomas, degrees, or licences, or from those intending to obtain a qualification in Medicine and Midwifery; the diploma of the College is not issued until proof of having passed the required examination is produced).	After end of fourth year of professional education; in Surgical Anatomy, and Principles and Practice of Surgery, Medicine, and Midwifery.	At end of forty-five months of medical studies after registration, in Surgery, Surgical Anatomy, & Pathology, Instruments and Appliances, Clinical Examination of Surgical Cases.
THIRD EXAMINATION; AT WHAT PERIOD IT MAY BE PASSED; SUBJECTS.	Two years after second examination; 45 months after registration. (1) Medicine; (2) Surgery; (3) Midwifery and Diseases of Women. (Forensic Medicine and Public Health are included). Each part may be taken separately or all at one time.	Forty-five months after registration; two years after second examination; (1) Medical and Surgical Anatomy and Pathology; (2) Medicine and Surgery; (3) Midwifery and Diseases of Women. (Forensic Medicine and Public Health are included). Each part may be taken separately.			Principles and Practice of Medicine, including Therapeutics, Examination of Medical Cases, Pathology, and Morbid Histology, Midwifery (including Obstetric Instruments) and Diseases of Women and Children, Forensic Medicine, Toxicology, Hygiene, and Psychological Medicine.
FEES PAYABLE	At first or second examination, £10 10s.; re-examination after rejection in either part of examination, £3 3s. At third examination, £15 15s.; re-examination after rejection in Medicine or Surgery. £5 5s.; in Midwifery, £3 3s.	£5 5s. for admission to each examination. Candidates rejected at any examination must pay additional £3 3s. before re-admission to examination. Total fee for Licence, £15 15s.	At first examination, Members, £5 5s.; non-members £10 10s.; £5 5s. returned if rejected. At second examination, Member, £10 10s.; if not a Member, £21. In each case £10 10s. is retained in case of rejection.	Diploma of College £21; £5 5s. at first examination: after failure at this examination, candidate must pay an additional £3 3s. before being again admitted. At Pass Examination, £15 15s. paid and £5 5s. retained on each failure.	For the whole examination £10 10s., of which £4 4s. is to be paid on entering for the primary. In the event of failure, the fee is not returned. A fee of £3 3s. is required on every re-examination.
REJECTED CANDIDATES.	After first, second, and third examinations, readmitted after not less than three months. Candidates are re-examined in subjects in which they have been rejected.	After rejection at first or second examination, not again admitted until end of three months; after third examination not till end of six months. Candidates are re-examined in subjects of rejection.	After rejection at first examination, candidates not again admitted for six months; after second examination, not till end of one year, unless Court of Examiners shall otherwise determine.	After rejection at primary examination, three or six months; after rejection at second examination, six months or longer.	After rejection at primary and Part I of final examination, candidate cannot be again admitted till after three or six months, as may be directed; after Part II final examination, not till after six months.
CANDIDATES (1) EXEMPTED FROM CERTAIN PORTIONS OF THE EXAMINATIONS, OR (2) ADMITTED UNDER SPECIAL REGULATIONS.	(1) At first examination, candidates who have passed a University examination for a degree in Medicine in any subject of the first and second parts. (2) Holders of Colonial, Indian, or Foreign Qualifications entitling to practise, admitted to second and third examinations on production of evidence of age and of proficiency in vaccination.	(1) Candidates who have elsewhere passed examinations in the subjects of the first and second examinations; who have obtained degree in Surgery at a recognised University; who have passed an examination in Surgery at a College of Surgeons; who have obtained foreign qualifications entitling them to practise Medicine or Surgery.	(2) Members are admitted to first examination at any time after receiving diploma; to second examination at any subsequent time, if engaged not less than six years in study (or practice) of profession; in case of Graduates in Arts of a recognised University, five years.	(2) *a.* Candidates who have studied in Scotland or in Ireland, or at recognised Foreign or Colonial Universities; *b.* Members or Licentiates of the other Colleges of Surgeons; and Graduates in Medicine or Surgery of a recognised University, admitted to professional examination on production of the necessary certificates or diplomas.	See page 529.

[1] This may be passed at any time after registration as a medical student. [2] This may be passed after twelve months Practical Anatomy with Demonstrations.

his having passed the examinations required for the Licence of the College.

If the Censors' Board doubt the sufficiency of the certificates and testimonials produced by any candidate, or his fitness for admission to examination, they may submit the case to a general meeting of the Fellows.

Every candidate (except in cases specially exempted as above) shall give proof of his acquirements by written answers to questions, and shall also be examined *vivâ voce*.

Every candidate approved by the Censors' Board shall be proposed, at the next general meeting of Fellows, as qualified to become a Member of the College; and, if the majority of the Fellows present shall consent, he shall, on engaging to obey the by-laws and regulations, be admitted a Member of the College.

The fee to be paid for admission as a Member of the College shall be £31 10s., except when the candidate for Membership is a Licentiate of the College, in which case the fee for admission as a Member will be £15 15s.

Any candidate not approved by the Censors' Board shall not (except by special permission of the College) be readmitted to examination until after the lapse of a year.

Every candidate is required to give fourteen days' notice in writing to the Registrar of the College of his intention to present himself for examination, at the same time transmitting: 1. Such diplomas or other evidence of his general education as he may possess; 2. Such medical and surgical qualifications as he may have obtained, unless such qualifications are registered in the *Medical Register;* 3. Proof that he has attained the age of twenty-five years; and 4. A testimonial from a Fellow or Member of the College.

LICENTIATES.

The Licence of the College is a qualification to practise Medicine, Surgery, and Midwifery. The regulations here given (for synopsis, see pp. 526 and 527) are applicable to candidates who commenced their professional studies after March 25th, 1880.

Of the forty-five months of professional study, one winter and two summer months may be passed in either of the following ways, 1. Attending the practice of a hospital, infirmary, or other institution recognised by the College; 2. Receiving instructions as the pupil of a legally qualified practitioner, having opportunities of imparting a practical knowledge of Medicine, Surgery, or Midwifery; 3. Attending lectures on any of the required subjects of professional study at a recognised place of instruction. Professional studies commenced *before* registration, except in the cases of Chemistry, Materia Medica, and Pharmacy, will not be recognised.

Certificates required: First Examination.—Evidence of having been registered as a medical student by the General Medical Council; and of having received instruction in Chemistry, including Chemical Physics, in Practical Chemistry, in Materia Medica, and in Practical Pharmacy.

Second Examination.—Evidence of having completed, after registration as a student, eighteen months of professional study at a recognised school or schools: and of instructions in Anatomy and Physiology. (See Table.)

Third Examination.—Evidence of being 21 years of age; of moral character; of having passed the Second Examination; of having been engaged in professional study not less than forty-five months (see Table); and of instruction in the remaining subjects of study mentioned in the Table.

The systematic practical instruction in Medicine, Surgery, and Obstetric Medicine comprises the same subjects as in the regulations for the double qualification of the Colleges of Physicians and Surgeons. (See p. 526).

No metropolitan hospital is recognised which contains less than 150, and no provincial or colonial hospital which contains less than 100 patients. A three months' course of clinical instruction in the wards of a recognised lunatic hospital or asylum may be substituted for the same period in the medical wards of a general hospital.

Exemptions.—Any candidate who shall produce satisfactory evidence of having passed an examination in any of the subjects of the First Examination, or an examination in Anatomy and Physiology as required for a degree in Medicine or Surgery, at a University in the United Kingdom, in India, or a British Colony; or an examination in Anatomy and Physiology conducted by either of the Royal Colleges of Surgeons in the United Kingdom, or by the Faculty of Physicians and Surgeons of Glasgow, will be exempt from re-examination in the respective subjects. Any candidate who shall have obtained a degree in Surgery at a University in the United Kingdom, or who shall have passed the Examination in Surgery conducted by a Royal College of Surgeons of the United Kingdom, or the Faculty of Physicians and Surgeons of Glasgow, after a course of study and an examination satisfactory to the College, will be exempt from re-examination on Surgical Anatomy and Pathology, and on the Principles and Practice of Surgery. Any candidate who shall have obtained a foreign qualification which entitles him to practise Medicine or Surgery in the country where such qualification has been conferred, after a course of study and an examination equivalent to those required by the regulations of the College, shall, on production of satisfactory evidence as to age, moral character, and proficiency in vaccination, be admissible to the Pass Examination, and shall be exempt from re-examination on such subjects as shall in each case be considered by the Censors' Board to be unnecessary.

The examinations will commence in January, April, July, and October, unless otherwise appointed.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

DIPLOMA OF MEMBER.

THESE regulations apply only to candidates who commenced recognised professional study *before* October 1st, 1884.

For synopsis of regulations, see pages 526 and 527.

I. *Preliminary General Education and Examination.*—Candidates are required, before the commencement of their professional education, to pass a Preliminary Examination recognised by the General Medical Council, and to obtain a certificate of having been registered by the General Medical Council. In the case of any Colonial, Indian, or foreign student not registered by the General Medical Council, the conditions of admission to the professional examination for the diploma will be determined by the Council of the College.

II. *Professional Education.*—The following are recognised modes of commencing professional education. 1. Attendance on the practice of a hospital or other public institution recognised by this College. 2. Instruction as the pupil of a legally-qualified surgeon, holding the appointment of surgeon to a hospital, general dispensary, or union workhouse, or where such opportunities of practical instruction are afforded as shall be satisfactory to the Council. 3. Attendance on lectures on Anatomy, Physiology, or Chemistry, by lecturers recognised by this College.

a. By the Practical Course of General Anatomy and Physiology it is meant that the learners themselves shall, individually, be engaged in the necessary experiments, manipulations, etc.; but it is not intended that the learners shall perform vivisections.

b. The certificates of attendance on lectures must include evidence that the student has attended the practical instructions and examinations of his teacher in each course.

c. The course of Practical Surgery is intended to embrace instruction in which each pupil shall be exercised in practical details, such as in the application of anatomical facts to Surgery, on the living person or on the dead body; the methods of proceeding and the manipulations necessary in order to detect the effects of diseases or accidents on the living person or on the dead body; the performance, where practicable, of the operations of Surgery on the dead body; the use of surgical apparatus; the examination of diseased structures, as illustrated in the contents of a museum of morbid anatomy and otherwise.

d. The course of lectures on Chemistry is not required in the case of a candidate who shall have passed a satisfactory examination in this subject in his Preliminary Examination.

e. The certificate of instruction in Vaccination must be such as will qualify its holder to contract as a public vaccinator under the regulations at the time in force of the Local Government Board.

III. *Certificates, etc.*—Certificates of attendance upon the practice of a recognised provincial or colonial hospital, unconnected with, or not in immediate proximity to, a recognised medical school, will not be received for more than one winter and one summer session of the hospital attendance required by the regulations of this College; and in such cases Clinical Lectures will not be necessary, but a certificate of having acted as Dresser for at least six months will be required.

IV. *Professional Examinations.*—The First or Primary Examination is partly written and partly demonstrative. The Second or Pass Examination is partly written, partly oral, and partly on the practical use of surgical apparatus and the practical examination of patients. A candidate, having entered his name for either the

Primary or the Pass Examination, who shall fail to attend the meeting of the Court for which he shall have received a card, cannot present himself for examination within three months afterwards.

Primary Examination.—Candidates who commenced their professional studies on and after October 1st, 1882, and have pursued those studies in recognised medical schools in England, are required, before presenting themselves for the Primary or Anatomical and Physiological Examination for the diploma of Member, to produce certificates of having passed an examination in Elementary Anatomy and Physiology, conducted by their teachers at the medical schools. 1. The periods at which the examinations are held are determined by the teachers at the medical schools, provided that an interval of not less than six months elapse between the date at which the candidates have passed the examination and the date of their presenting themselves for the Primary Examination of the College. 2. The teachers at the medical schools determine the nature and extent of the Examination in Elementary Anatomy and Physiology.

"*Referred*" *Candidates.*—On and after January 1st, 1887, a candidate referred at the Primary Examination in either or both subjects wil be required, before being admitted to re-examination, to produce a certificate that he has pursued, to the satisfaction of his teacher or teachers, in a recognised place of study, his Anatomical *and* Physiological studies, *or* his Anatomical or Physiological studies, as the case may be, during a period of not less than three months subsequently to the date of his reference.

Pass Examination.—Candidates who commenced their professional education on or after October 1st, 1882, are not admitted to the Second or Pass Examination until after the expiration of two years from the date of passing the Primary Examination, except in the following cases: 1. When a candidate, before presenting himself for the Primary Examination, shall possess a recognised degree or diploma in Medicine or Surgery, or shall have completed the curriculum of professional education for the diploma. 2. In the case of a candidate who, being desirous of obtaining the Fellowship, shall fail to present himself for the Primary Examination for the Membership at the end of his second year of professional study, but who shall pass at the end of his third winter session the Primary Examination for the Fellowship; it being required that in such case not less than one year's attendance on the Surgical practice of a recognised hospital shall intervene between the date of his passing the Primary Examination for the Fellowship and the date of his presenting himself for the Second or Pass Examination for the diploma of Member. 3. In the case of a candidate who, having commenced his professional studies by attendance on the practice of a recognised provincial or colonial hospital, shall have completed a year of such attendance before entering at a recognised medical school, it shall be sufficient that not less than one year shall elapse between the date of his passing the Primary Examination and the date of his presenting himself for the Second or Pass Examination for the diploma of Member, provided that his curriculum of four years' professional education shall then have been completed. 4. When a candidate, owing to illness, duly certified by one or more of the teachers of his medical school, shall be prevented from presenting himself for the Primary Examination on the completion of his second year of professional study. 5. In the case of a candidate who, from some unforeseen circumstances, shall fail to present himself for the Primary Examination on the completion of his second year of professional study, it being left to the Court of Examiners to determine whether, in such case, the candidate shall or shall not be required to comply with the regulation.

Candidates can claim exemption from examination in Medicine and Midwifery under the following conditions; namely:

1. The production by the candidate of a degree, diploma, or licence in Medicine and Midwifery, entitling him to register under the Medical Act of 1858; or a degree, diploma, or licence in Medicine and Midwifery of a Colonial or Foreign University approved by the Council of the College.

2. A declaration by the candidate, prior to his admission to the Final Examination for Membership or Fellowship, that it is his intention to obtain either of the qualifications in Medicine and Midwifery mentioned in the foregoing paragraph, in which case the diploma of the College will not be issued to him until he shall produce either the said medical qualification or proof of having passed the several examinations entitling him to receive the same.

"*Referred*" *Candidates.*—A candidate referred on the Pass Examination is required, unless the Court of Examiners shall otherwise determine, to produce, prior to his admission to re-examination, a certificate of at least six months' further attendance on the Surgical practice of a recognised hospital subsequently to the date of his reference. A candidate, referred on the Pass Examination, who shall have exhibited such extreme ignorance as, in the opinion of the Court of Examiners, to render it desirable that he should be referred for a longer period than six months, is required, before his admission to re-examination, to produce a certificate of having attended the Surgical practice of a recognised hospital for a further period of nine or twelve months, as the Court shall determine.

The candidates under the special regulations referred to in the Table at page 527 are admitted to examination on producing (*a*) the several certificates required for the degrees or diplomas in the respective countries; (*b*) the diploma, licence, or degree of the College or University; together with, in each case, a certificate of instruction and proficiency in vaccination, and satisfactory evidence of having been occupied, after passing the Preliminary Examination, at least four years, or during four winter and four summer sessions, in the acquirement of professional knowlege.

DIPLOMA OF FELLOW.

For synopsis of regulations, see pages 526 and 527.

The paragraphs marked *a*, *b*, *c*, *d*, *e*, in the regulations for the Membership are also applicable to the Fellowship

SOCIETY OF APOTHECARIES OF LONDON.

QUALIFYING EXAMINATION FOR THE DIPLOMA IN MEDICINE, SURGERY, AND MIDWIFERY.

Registrable under the provisions of the Medical Act, 1886.

For synopsis of regulations, see pages 526 and 527.

Every student before commencing the study of Medicine must pass an examination in Arts recognised by the Medical Council. Such Preliminary Examination is held quarterly in the Hall of the Society on the first Friday and following day in March, June, September, and December, and is conducted by means of printed papers. The subjects of examination are English, Latin, Mathematics, Elementary Mechanics, and one of the following subjects at the option of the candidate—Greek, French, German, Logic, Botany, Elementary Chemistry. In accordance with the regulations of the Medical Council the subjects may be passed at one or more examinations, and re-examination is not required in any subject a candidate has passed. Medical study before registration as medical student does not count in the curriculum required. A form of notice accompanying the regulations has to be filled up by the candidate, and sent with the fee (one guinea) fourteen days before the examination. Those who desire can present themselves for examination in special subjects. The fee for each subject is one guinea. A pass list is published and sent to every candidate.

The Professional Examinations are all written, oral, and practical.

1. The Examination in Chemistry, Elementary Physics, Practical Chemistry, Materia Medica (including the Botany of the *Pharmacopœia*), Pharmacy and Prescriptions, forms Part I of the Primary Examination, which may be passed at any period after registration as medical student.

2. The Examination in Anatomy, Physiology, and Histology (including an examination on the living body) forms Part II of the Primary Examination. This Part cannot be passed until after twelve months have been devoted to Practical Anatomy, with Demonstrations. These two Parts may be taken together or separately. Part II may be taken before Part I.

3. The Examination in Surgery forms Part I of the Final. It comprises an examination of Surgical Cases, the Principles and Practice of Surgery, Surgical Pathology, Surgical Anatomy, and Operative Manipulations, and Surgical Instruments and Appliances.

4. The Examination in Medicine forms Part II of the Final, and includes an examination of Medical Cases, the Principles and Practice of Medicine, Therapeutics, Pathology, Morbid Histology, Forensic Medicine, Toxicology, Hygiene, Insanity, Midwifery, Gynæcology, and Obstetric Instruments and Appliances. Part II may be taken before Part I. Neither Part can be taken before the candidate is 21 years old, nor before he has been 45 months on the *Medical Students' Register*.

The Primary Examination is held quarterly, on the first Wednes-

day and on the Monday and Thursday of the same week, in the months of January, April, July, and October.

The Final Examination is held monthly. Part I, Surgery, on the second Wednesday and following days. Part II, Medicine, on the third Wednesday and on the Monday and Thursday of the same week.

A certificate or schedule, to be obtained from the Secretary, of the course of medical study pursued by the candidate, must be presented, signed by the Dean of the medical school or other appointed authority, and for the Final, in addition, a certificate of birth, of moral character, and of proficiency in vaccination, signed by a Government vaccinator. Those candidates possessing qualifications to practise can, in lieu of the schedule, present their diploma or certificate of its registration.

All certificates, with the fee, must be sent to the Secretary fourteen days before the examination, together with a notice form, supplied for the purpose, filled in by the candidate, when an admission card will be forwarded stating the time of attendance.

The fee for the whole examination is 10 guineas, of which 4 guineas are to be paid on entering for the Primary. Attendance is given daily at the Hall of the Society, Blackfriars, E.C., from 10 to 4, Saturdays excepted.

The course of medical study required to qualify for the above examinations is as follows (the period stated for each subject is to be understood as the shortest time required): For the Primary Examination: Chemistry and Elementary Physics, six months; Practical Chemistry, in a laboratory, three months; Materia Medica, three months; Practical Pharmacy and Dispensing, three months. Evidence of having received instruction in the foregoing subjects before registration as medical student will be received. Instruction in Practical Pharmacy and Dispensing must be given by a registered medical practitioner, or in a public hospital, infirmary, or dispensary. Anatomy, six months; Practical Anatomy, with Demonstrations, twelve months; Physiology, six months; Histology, with Demonstrations, three months; Attendance at the Class Examinations on the above subjects. For the Final Examination: Hospital Practice, Surgical and Medical, with *Post-mortem* Examinations, three winter and two summer sessions; Principles and Practice of Surgery, six months; Practical Surgery, three months; Clinical Surgical Lectures, nine months; Dresser,[1] three months; Principles and Practice of Medicine, six months; Pathology, three months; Clinical Medical Lectures, nine months; Clinical Clerk,[1] three months; Forensic Medicine, Toxicology, Hygiene, and Insanity, three months; Obstetric Medicine, including Gynæcology, three months; Clinical Instruction in the same; a course of Practical Midwifery; personally conducted twenty Midwifery Cases; Attendance at the Class Examinations on the above subjects.

The examination of candidates for a Certificate to act as an Assistant in compounding and dispensing medicines will be as follows:—in Translating Prescriptions, in the British *Pharmacopœia*, in Pharmacy, Pharmaceutical Chemistry, Materia Medica, and Medical Botany; such examination is held on the third Thursday of every month. Seven days' notice must be given, and a fee of two guineas paid. Tickets of admission to the Society's Botanic Garden at Chelsea, and to the Lectures on Botany when there given, can be had on application at the Hall of the Society.

Prizes.—Registered medical students, prior to the close of their third year, and who have not been candidates before, are permitted to compete for the Society's prizes in Materia Medica and Pharmaceutical Chemistry. The examination in Materia Medica and Pharmaceutical Chemistry is held on the third Wednesday and following day in August. The prizes for each consist of a Gold Medal to be awarded to the candidate who shows the most proficiency, and a Silver Medal to the candidate who is entitled to the second prize. Candidates are expected to reach the required standard.

UNIVERSITY OF OXFORD.

DEGREES IN MEDICINE AND SURGERY.

THERE are two degrees in Medicine, B.M. and D.M., and two degrees in Surgery, B.Ch. and M.Ch.,[1] which under the most favourable circumstances may be obtained in six or seven years from Matriculation.

[1] These offices may be discharged at a hospital, infirmary, or dispensary, where sufficient opportunities are afforded for the acquirement of practical knowledge.

[1] Also a diploma in Public Health, see page 578.

B.A. DEGREE.

It is necessary first to obtain the degree of B.A., which is only conferred on candidates who have resided for twelve terms within the University. [The four terms of an academical year being Michaelmas and Hilary, of eight weeks each; Easter and Trinity, of four weeks each.]

The degree of B.A. may be obtained in two ways:

(*a*) By passing Responsions, Moderations, a Divinity Examination in Moderations, or, in the event of a candidate objecting, an examination in some specified Greek book; and the Final Pass School in three subjects.

(*b*) i. By passing Responsions, Moderations, the Divinity Examination, and taking honours in Literæ Humaniores, Mathematics, Theology, Oriental Language, Modern History, or Jurisprudence. Candidates in the last named are excused Moderations if they pass in an additional subject in Responsions; they have also a special Preliminary Examination in their own subject.

ii. By passing Responsions, an additional subject in Responsions, the Divinity Examination, the Preliminary Examination of the Natural Science School, and taking Honours in one of the subjects of that School, namely, Chemistry, Physics, Animal Morphology, Animal Physiology, or Botany. There are also certain special subjects which a candidate may offer if he choose.

Responsions and the additional subject may be passed before a candidate is a member of the University;[2] Moderations and the Divinity Examinations can be passed in the fourth term; the Final Pass School may be taken any time after Moderations; a Final Honour School in the twelfth term or end of the third Academical year (but most candidates find four years necessary); the Preliminary Examination of the Natural Science School may be taken as soon as Responsions have been passed.

B.M. AND B.CH. DEGREES.

The degrees of B.M. and B.Ch. may be obtainee by passing the following Examinations.

1. *Preliminary.*

(i) The candidate who is following the course stated under (*a*), *supra*, should pass Chemistry in the Final Pass School (Group C. 3); Physics, Animal Morphology and Botany in the Preliminary Examination of the Natural Science School.

(ii) The candidate who is following the course (*b*) i., *supra*, will have to pass Physics, Animal Morphology, and Botany, as above, and Chemistry either in the Final Pass School (Group C. 3) or in the Preliminary Examination of the Natural Science School.

(iii) The candidate who is following the course (*b*) ii., *supra*, will, if he has taken honours in Chemistry or Physics, have to pass in Animal Morphology and Botany, as above; but if he has taken honours in Animal Morphology, Animal Physiology, or Botany, he has no further preliminary examinations.

2. *Professional (held annually in Trinity Term).*

A. *First Examination.*—Subjects: Organic Chemistry, unless the candidate has obtained a first or second class in Chemistry in the Natural Science School; Human Physiology, unless he has obtained a first or second class in Animal Physiology in the Natural Science School; Human Anatomy.

B. *Second Examination.*—Subjects: Medicine, Surgery, Midwifery, Pathology, Forensic Medicine with Hygiene, and Materia Medica with Pharmacy.

The First Examination for the degrees of B.M. and B.Ch., and the Examination in Materia Medica and Pharmacy, may be passed as soon as the Preliminary Examination in Medicine has been completed. Organic Chemistry may be taken on a separate occasion, but before Human Physiology and Anatomy. The two last-named subjects must be taken together. For exemptions, see *ante*.

The Second Examination may be taken after completion of the first. Materia Medica and Pharmacy, if not already passed, may be offered on a separate occasion, but before the remaining subjects, which must be taken together.

D.M. DEGREE.

The degree of D.M. is granted to Bachelors of Medicine of the University—

(i) Who took the degree of B.M. previously to the end of Trinity Term, 1886, provided they have spent three years in the practice of Medicine after taking that degree, and have composed a dissertation on some medical subject approved by the Regius Professor of Medicine, before whom it must be read in public.

[2] Membership is constituted by Matriculation, and by becoming a member of a College or Hall, or an unattached student.

(ii) Who took the degree of B.M. subsequently to the end of Trinity Term, 1886, provided they have entered their thirty-ninth term, and have composed on some medical subject a dissertation which is approved by the Professors in the Faculty of Medicine and Examiners for the degree of B.M. whose subject is dealt with. A book published within two years of the candidate's application for the degree may be substituted for a dissertation.

The degree may be taken in any term.

M.CH. DEGREE.

The degree of M.Ch. is granted to Bachelors of Surgery of the University who have entered their twenty-seventh term, who are members of the Surgical Staff of a recognised hospital, or have acted as Dresser or House-Surgeon in such a hospital for six months, and who have passed an examination in Surgery, Surgical Anatomy, and Surgical Operations. The examination for the M.Ch. degree is held in Trinity Term at the close of the Second B.M. Examination.

TEACHING.

I. SUBJECTS OF THE PRELIMINARY EXAMINATIONS.

Courses of lectures on Elementary Mechanics and Physics treated experimentally are given during three terms by the Professor of Experimental Philosophy at the Clarendon Laboratory, by Dr. Lee's Reader in Physics at Christ Church, by the Duke of Bedford's Lecturer in Physics at Balliol College, and by the Millard Lecturer in Experimental Mechanics at Trinity College.

Courses of lectures are given during three terms on Inorganic Chemistry by the Aldrichian Demonstrator in the Department of Chemistry, University Museum, and Practical Instruction on the same subject in the Laboratory daily.

Courses of lectures in Inorganic Chemistry with Practical Instruction are given during the three terms by Dr. Lee's Reader in Chemistry at the Christ Church Laboratory.

Instruction in Elementary Animal Morphology, by means of courses of lectures and Practical Laboratory work, is given in the Department of the Linacre Professor of Anatomy in Michaelmas and Hilary Terms, and on the Embryology of the Chick in Easter Term. The practical part of the course is conducted in the new working room lately erected for that purpose, on alternate days during Michaelmas and Hilary Terms.

Similar instruction in Elementary Botany is given in the Department of the Sherardian Professor at the Botanic Garden in Michaelmas and Hilary Terms. The practical instruction is given in the New Laboratory in the Botanic Garden on the days not appropriated to the course of Animal Morphology.

II. SUBJECTS OF THE FIRST EXAMINATION FOR THE DEGREE OF M.B. AND B.CH.

1. *Human Anatomy.*—The course of lectures and practical instruction on Human Anatomy is given in the Department of the University Lecturer on Human Anatomy. The Lecture Room and Dissecting Room adjoin the Museum. The course consists of lectures delivered three times a week, and is completed in two years. Those of the first year are devoted to the consideration of the osseous, muscular, and vascular systems. Those of the second year relate to the nervous system, the thoracic and abdominal viscera, and to the development of the human embryo. Written examinations are held twice in each term.

The Dissecting Room is open daily during term from 9 A.M. to 4.30 P.M., between which hours practical instruction is given by the lecturer. Demonstrations on the dissected subject are given three times a week at 9 A.M. On alternate days, at the same hour, special demonstrations are given. Students receiving practical instruction are examined orally from time to time by the Lecturer. The fee for practical instruction is £4 per term.

Facilities are given to graduates who may desire to pursue their anatomical studies during the vacation. The Museum, which contains a rich collection of specimens illustrative of Human Anatomy, is open to students.

2. *Human Physiology.*—A course of lectures on Physiology is given in the new Physiological Laboratory. It extends over six terms.

The course of Lectures on Histology is given in the same place by the Demonstrator of Histology. It consists of about forty lectures and demonstrations, and extends over two terms.

These two courses include the whole subject of Physiology as defined in the Regulations of the Boards of the Faculty of Natural Science (see *Examination Statutes*, 1887, p. 83) and of Medicine.

A course of practical instruction in Histology is given by the Demonstrator during Michaelmas and Hilary Terms.

Practical instruction in the Physiology of Muscle and Nerve, for beginners, is given in Hilary Term. More advanced students have the opportunity of working at the same subject during Michaelmas and Easter Terms.

A practical course of Elementary Physiological Chemistry is given in Easter Term, and practical instruction in the Laboratory for more advanced students in Hilary Term.

3. *Organic Chemistry.*—A course of lectures with practical instruction in Organic Chemistry in its relation to Physiology and Medicine is given in the Department of the Waynflete Professor of Chemistry in Easter Term.

III. SUBJECTS OF THE SECOND EXAMINATION IN MEDICINE AND SURGERY.

Informal instruction on subjects connected with Medicine and Hygiene is given by the Regius Professor of Medicine.

Courses of tutorial instruction and demonstrations in Physical Diagnosis and Regional Anatomy are given at the Radcliffe Infirmary in each term.

Clinical lectures are delivered at the Infirmary during every term by the Lichfield Lecturers in Clinical Medicine and Surgery.

Arrangements are being made for the teaching of Materia Medica and Pharmacy.

FEES.—*University.* B.A., £16 or £17. B.M. and B.Ch., £21. D.M., £40. M.Ch., £17. Also an annual fee to the University of £2 for the first four years, reduced to £1 when the B.A. is taken.—*College.* Fees (varying in amount) on taking degrees and for first four years of membership. Tuition fees, £21 to £30. The cost of living for the four University terms cannot be stated at less than £120.

Scholarships, etc.—The Colleges grant after competitive examination annually, or at longer intervals, Scholarships in Natural Science (Chemistry, Physics, Biology) of the annual value of £80, tenable for four years, and also Exhibitions of a less annual value.[3] In February there is competed for annually, by those who have obtained a first class in any school (Moderations or Final) or a Scholarship or Prize open to general competition in the University, one Radcliffe Travelling Fellowship. It is tenable for three years, and is of the annual value of £200. The examination is partly scientific, partly medical. The holder must travel abroad for the purpose of medical study, and take the degree of B.M.Oxon. A Rolleston Memorial Prize is awarded once in two years to members of the Universities of Oxford or Cambridge of not more than ten years' standing for an original research in some Biological subject, including Physiology or Pathology. Students who have passed the examinations necessary for the degree of B.A. are eligible to compete for a Burdett-Coutts Scholarship of the annual value of £115; it is tenable for two years, and is awarded for proficiency in Geology and allied subjects.

UNIVERSITY OF CAMBRIDGE.

BACHELOR OF MEDICINE.

A STUDENT proceeding to this degree must (1) reside in the University during the required portion of each of nine terms; (2) pass (or obtain exemption from) the Previous Examination; (3) pursue medical study for five years.

There are three examinations for the degree of Bachelor of Medicine. They are partly in writing, partly oral, and partly practical. The examinations take place twice in the year, in the Michaelmas and Easter Terms.

The First Examination is divided into two parts: 1. Chemistry and other branches of Physics; 2. Elementary Biology. These two parts may be taken together or separately. Before admission to this examination, the candidate must have passed (or obtained exemption from) the Previous Examination. He must also produce certificates of diligent attendance on a course of lectures in Chemistry, and on practical instruction in Chemical Manipulations.

The Second Examination is divided into two parts, which may be taken together or separately: 1. Human Anatomy and Physiology; 2. Pharmacy and Pharmaceutical Chemistry. Before admission to this examination, the student must have passed both parts of the First Examination, must have attended hospital practice, and have practised dissection, during six months, and must produce certificates of diligent attendance on a course of lectures

[3] Dates, etc., published in *University Gazette*.

on each of the following subjects: 1. Human Anatomy; 2. Physiology; 3. Pharmacy and Pharmaceutical Chemistry.

The Third Examination is divided into two parts, called the first part and the second part respectively. Before presenting himself for either part, the student must have passed both parts of the Second Examination. The first part includes Principles and Practice of Surgery, Clinical and Operative Surgery, and Midwifery and Diseases peculiar to Women. The second part includes Pathology, Principles and Practice of Physic, Elements of Hygiene, and Medical Jurisprudence. The student, before admission to the first part, must produce certificates of attendance on one course of lectures in each of the following subjects: Pathological Anatomy, Principles of Surgery, Midwifery; he must have attended the Surgical Practice of a recognised hospital (with lectures in Clinical Surgery) during one year at least; must have attended twenty cases of Midwifery; and must have obtained a certificate of proficiency in vaccination from an authorised vaccinator appointed by the Local Government Board. Before admission to the second part, he must produce evidence that he has completed the course of medical study and certificates of diligent attendance on one course of lectures in each of the following subjects: Principles and Practice of Physic, Physiological Actions and Therapeutic Uses of Remedies, and Medical Jurisprudence; he must also have attended the Medical Practice of a recognised hospital (with lectures in Clinical Medicine) during three years at least; must have been Clinical Clerk at a recognised hospital for six months at least, or have, subsequently to the completion of his attendance on Hospital Practice, attended to Practical Medicine or Surgery with special charge of patients in a hospital, dispensary, or parochial union, under superintendence of a qualified practitioner, unless the student himself be duly qualified.

After these examinations have been passed, an Act must be kept in the Schools in the following manner. The Regius Professor of Physic assigns a day and hour for keeping the Act, of which public notice has to be given eight days before. The candidate reads a thesis, composed by himself, on some subject approved by the professor; the professor brings forward arguments or objections for the candidate to answer, and examines him orally, as well as on questions connected with his thesis as on other subjects connected with Medicine of a more general nature.

DOCTOR OF MEDICINE.

This degree may he taken by a Bachelor of Medicine in the ninth term after his inauguration (this occurs on the Commencement Day next following the admission to the degree). He is required to produce certificates of having been engaged five years in medical study, to keep an Act in the same manner as that for M.B., and to write a short extempore essay on some one (at his choice) of four topics relating severally to Physiology, Pathology, Practice of Medicine, and State Medicine.

A Master of Arts may proceed to the degree of M.D. in the twelfth term after his inauguration as M.A., without having taken the degree of M.B. He must pass all the examinations for M.B., and keep the Act and write the extempore essay for the M.D. degree. He must produce certificates of having been engaged five years in medical study, and the same certificates of attendance on lectures and hospital practice as are required of the candidate for the degree of M.B.

BACHELOR OF SURGERY.

As the examination for the degree of M.B. includes Operative and Clinical Surgery, the degree of Bachelor of Surgery is conferred upon those candidates who pass the examination for M.B., without further examination.

MASTER IN SURGERY.

The subjects of examination for this degree are: 1. Pathology; 2. Principles and Practice of Surgery; 3. Surgical Anatomy and Surgical Operations; 4. A Surgical Case and a topic relating to Surgery will be submitted in writing to the candidate, on one or both of which, at his option, he will be required to write a short extempore essay.

The candidate must have completed all that is required for the degree of Bachelor of Surgery two years at least before admission to the examination for the degree of Master in Surgery.

A notice is published early in the Michaelmas and Easter Terms stating when the examinations for Medical and Surgical degrees commence, and the dates when candidates are required to send their names and the necessary certificates to the Secretary of Honours Examinations.

Each candidate pays £3 3s. to the Registrary of the University on giving notice of his intention to offer himself for the First or the Second Examination for M.B. He pays £2 2s. before the examination for B.S.; and £3 3s. before that for M.S.

Schedules defining the range of subjects in the First M.B. Examination, and of the Pharmacy and Pharmaceutical Chemistry in the Second Examination, also schedules for the necessary certificates, and a list of the schools of medicine and hospitals recognised by the University, may be obtained, on application to the Registrary of the University, or to Mr. English, at the Anatomical Museum.

UNIVERSITY OF LONDON.

THE following examinations will be held in the University of London in 1887 and 1888.

Matriculation: Monday, January 14th, 1889, and the third Monday in June, 1889.

Preliminary Scientific Examination: Monday, January 21st, 1889; and the third Monday in July, 1889.

Intermediate Examination in Medicine: Monday, January, 21st, 1889; and second Monday in July, 1889.

Bachelor of Medicine (M.B.): Monday, October 29th, 1888.

Bachelor of Surgery (B.S.): Tuesday, December 4th, 1888.

Master in Surgery (M.S.) and Doctor of Medicine (M.D.): Monday, December 3rd, 1888.

Subjects relating to Public Health: Monday, December 9th, 1888.

The certificates in each case must be transmitted to the Registrar at least fourteen days before the examination. In the case of the Matriculation and Preliminary Scientific Examinations, one month's notice is required.

The fee for each examination is £5.[1] If a candidate withdraw, or fail to pass either of the examinations, the fee is not returned; but he is admitted to a subsequent Preliminary Scientific, Intermediate M.B., or B.S., M.S., or M.D. Examination, on payment of an additional fee of £2 10s., provided that he give notice to the Registrar at least fourteen days (or in the case of the Preliminary Scientific Examination, one month) before the commencement of the examination.

BACHELOR OF MEDICINE.

Every candidate for the degree of Bachelor of Medicine is required—1. To have passed the Matriculation Examination; 2. To have passed the Preliminary Scientific Examination; 3. To have been engaged in his professional studies during four years subsequently to matriculation or graduation in Arts, in one or more of the medical institutions or schools recognised by this University; one year, at least, of the four to have been spent in one or more of the recognised institutions or schools in the United Kingdom; 4. To pass two examinations in Medicine.

Preliminary Scientific Examination.—Candidates for the degree of M.B. are required to pass the Preliminary Scientific Examination before commencing their regular medical studies. The examination in July is for Pass and Honours: that in January for Pass only. Candidates for the Pass Examination may take all the subjects, namely, (1) Inorganic Chemistry; (2) Experimental Physics; and (3) General Biology, at the same examination, or at two separate examinations; that is, two at the first examination and one at the second; or one subject at the first and two at the second examination. Candidates who enter for the whole examination in July are examined for a Pass or for Honours in Inorganic Chemistry and Experimental Physics, and for a Pass in General Biology. Candidates who have entered for the whole examination may also be examined for Honours in Botany and in Zoology. Every candidate, on sending in his name for the examination, must state whether he intends to compete for Honours in any subject or subjects; and, if he does so intend, must specify the subject or subjects. No candidate will be allowed to take both the Pass and the Honours Papers in the same subject;[2] but every candidate must take the Pass Papers in those subjects in which he does not offer himself for Honours. A candidate who enters for, but fails to obtain, Honours in Inorganic Chemistry or Experimental Physics, may be recommended by the examiners for a Pass in these subjects respectively, if they are satisfied that he

[1] For the degree of Doctor of Medicine, the fee will continue to be £10 to all such as, having taken their M.B. degree under the former regulations, shall not have paid the £5 at the Preliminary Scientific Examination.

[2] This rule does not apply to the Honours Examinations in Botany and Zoology, which do not stand in the same relation to the subjects of the Pass Examination, as is the case in the other Branches. Every candidate must take the Pass Examination in General Biology.

has shown such a competent knowledge thereof as is required for the Pass Examination.[3]

Intermediate Examination in Medicine.—This examination will take place twice in each year; once for Pass and Honours, in July; and once for Pass candidates only, in January. The candidate must have passed the Preliminary Scientific Examination at least two years previously, and must produce certificates—1. Of having completed his nineteenth year; 2. Of having been a student during two years at one or more of the medical institutions or schools recognised by this University; and of having attended a course of lectures on each of three of the following subjects: Descriptive and Surgical Anatomy, Physiology, and Histology, Pathological Anatomy, Materia Medica, and Pharmacy, General Pathology, General Therapeutics, Forensic Medicine, Hygiene, Obstetric Medicine and Diseases peculiar to Women and Infants, Surgery, Medicine; 3. Of having dissected during two winter sessions; 4. Of having attended a course of Practical Chemistry;[4] 5. Of having attended to Practical Pharmacy, and having acquired a practical knowledge of the preparation of Medicines. Candidates are examined in Anatomy, Physiology, and Histology,[5] Organic Chemistry, Materia Medica and Pharmaceutical Chemistry. Candidates must show a competent knowledge in all the subjects. The examinations are conducted by printed papers and *vivâ voce* interrogations, by preparations and specimens, and by dissections.

Candidates at the July Examination will be examined for a Pass or for Honours in each of the following subjects:—1. Anatomy; 2. Physiology and Histology;[5] 3. Organic Chemistry; 4. Materia Medica and Pharmaceutical Chemistry Those candidates only who take all the subjects at one time can be examined for Honours. Every candidate for the July Examination, on sending in his name for the examination, must state whether he intends to compete for Honours in any subject or subjects; and, if he do so intend, must specify the subject or subjects. No candidate will be allowed to take both the Pass and the Honours Papers in the same subject; but every candidate must take the Pass papers in those subjects in which he does not offer himself for Honours. A candidate who enters for, but fails to obtain, Honours in any subject, may be recommended by the examiners for a Pass in that subject, if they are satisfied that he has shown such a competent knowledge thereof as is required by the regulations. The examiners will make no report upon the Examination for Honours of a candidate who has failed in any part of the Pass Examination. On Tuesday, at two o'clock, in the week after that in which the examination ends, the examiners shall publish (*a*) a list of the candidates entered for the Pass Examination only who have passed, arranged in two divisions; also, after the July Examination, (*b*) a list of the candidates who have passed an Examination for Honours in any one or more subjects, arranged by the examiners in the several departments under their respective heads in three classes, according to their respective degrees of proficiency, candidates being bracketed together if the examiners are of opinion that there is no clear difference between them; and (*c*) a list of the candidates who have failed to obtain Honours, but are recommended for a Pass. As soon as the reports of the examiners shall have been approved by the Senate, a Pass Certificate signed by the Registrar shall be delivered to each candidate who is in the Pass List; an Honours Certificate shall be delivered to each candidate in the Honours List in respect of each subject in which he shall have obtained honours. If, in the opinion of the examiners, sufficient merit be evinced, the candidate who distinguished himself most in each of the first and second divisions receives an exhibition of £40 per annum, and in each of the others £30 per annum, for the next two years, payable in quarterly instalments; provided that, on receiving each instalment, he declare his intention of presenting himself at the M.B. Examination within three academical years from the time of passing the Intermediate Examination in Medicine. Under the same circumstances, the first and second candidates in divisions 1 and 2, and the first candidate in divisions 3 and 4 receive each a Gold Medal of the value of £5.

M.B. Examination.[6]—No candidate is admitted to this examination within two academical years of the time of his passing the Intermediate Examination, nor without certificates: 1. Of having passed the Intermediate Examination in Medicine; 2. Of having subsequently attended a course of lectures on each of two of the subjects for which he had not presented certificates at the Intermediate Examination; 3. Of having conducted at least twenty labours;[7] 4 and 5. Of having attended the Surgical and the Medical Practice of a recognised hospital or hospitals during two years, with Clinical Instruction and Lectures on Clinical Surgery and Clinical Medicine; 6. Of having, after having attended Surgical and Medical Hospital Practice[8] for at least twelve months subsequently to passing the Intermediate Examination in Medicine, attended to Practical Medicine, Surgery, or Obstetric Medicine, with special charge of patients in a hospital, infirmary, dispensary, or parochial union, during six months—such attendance not to be counted as part of the hospital practice prescribed in 4 and 5; 7. Of having acquired proficiency in Vaccination.[9] The candidate must also produce a certificate of moral character from a teacher in the last school or institution at which he has studied, as far as the teacher's opportunity of knowledge has extended. Candidates are examined in General Pathology, General Therapeutics, and Hygiene, Surgery, Medicine, Obstetric Medicine, and Forensic Medicine. The examinations include questions in Surgical and Medical Anatomy, Pathological Anatomy, and Pathological Chemistry. The examinations are conducted by printed papers and *vivâ voce* interrogations; by practical examinations in obstetric preparations and apparatus; by examination, and report on cases, of medical patients in the wards of a hospital; demonstrations from specimens and preparations. Candidates are expected to write prescriptions in Latin, without abbreviations.

Examination for Honours.—Any candidate who has passed the M.B. examination may be examined for Honours in—1. Medicine; 2. Obstetric Medicine; and 3. Forensic Medicine. If, in the opinion of the examiners, sufficient merit be evinced, the candidate who distinguishes himself the most in Medicine receives £50 per annum for the next two years, with the style of University Scholar in Medicine; and the candidates who distinguish themselves the most in Obstetric Medicine and in Forensic Medicine receive each £30 per annum for the next two years, with the style of University Scholar in Obstetric Medicine and in Forensic Medicine respectively. The first and second candidates in each of the preceding subjects each receive a Gold Medal of the value of £5.

BACHELOR OF SURGERY.

The candidate must produce certificates—1. Of having passed the examination for the degree of Bachelor of Medicine of this University; 2. Of having attended a course of instruction in Operative Surgery, and of having operated on the dead subject. The examinations are conducted by printed papers on Surgical Anatomy and Surgical Operations; by examination, and report on cases of surgical patients, by performance of operations upon the dead subject; by application of surgical apparatus; and by *vivâ voce* interrogation.

Examination for Honours.—Any candidate who has passed the B.S. Examination may be examined for Honours in Surgery. If, in the opinion of the examiners, sufficient merit be evinced, the candidate who distinguishes himself the most receives £50 per annum for the next two years, with the title of University

[3] Candidates must bear in mind that the standard of attainment for the Honours Examination is much higher than that for the Pass Examination; and they should therefore exercise due caution in making their choice—to which they will be required to adhere. A candidate who has entered for the Pass Examination will not be allowed to take the Honours Papers; and only under special circumstances will a candidate who has entered for Honours in any subject be transferred to the Pass Examination in that subject.

[4] The subjects numbered 2, 3, and 4, must be attended after passing the Matriculation Examination.

[5] Any candidate, on giving notice at the time of registration, may postpone his examination in Physiology and Histology from the Intermediate Examination in Medicine at which he presents himself for examination in the remaining subjects until the Intermediate Examination in Medicine in any subsequent year; but he cannot compete for honours on either occasion; and he cannot be admitted as a candidate at the M.B. Examination until at least twelve months after he has passed his examination in Physiology and Histology.

[6] Any candidate for the M.B. Examination who has passed the Intermediate Examination in Medicine under the former regulations is required to have also passed the examination in Physiology at some previous Intermediate Examination in Medicine carried on under the present regulations; at which examination he is not allowed to compete for honours.

[7] Certificates will be received from any legally qualified practitioner.

[8] The student's attendance on the Surgical and on the Medical Hospital Practice specified in Regulations 4 and 5, may commence at any date after his passing the Preliminary Scientific Examination, and may be comprised either within the same or within different years; provided that in every case his attendance on Hospital Practice be continued for at least eighteen months subseqnently to his passing the Intermediate Examination in Medicine. Attendance during three months in the wards of a Lunatic Asylum recognised by the University, with clinical instruction, may be substituted for a like period of attendance on medical hospital practice.

[9] Certificates on this subject will be received only from the authorised vaccinators appointed by the Privy Council.

Scholar in Surgery; and the first and second candidates each receives a Gold Medal of the value of £5.

MASTER IN SURGERY.

The candidate must produce certificates—1. Of having taken the degree of Bachelor of Surgery[10] in this University; 2. Of having attended subsequently—(*a*) to Clinical or Practical Surgery during two years in a hospital or medical institution recognised by this University; (*b*) or to Clinical or Practical Surgery during one year in a recognised hospital or medical institution, and of having been engaged during three years in the practice of his profession; (*c*) or of having been engaged during five years in the practice of his profession, either before or after taking the degree of Bachelor of Surgery in this University.[11] (3) Of moral character, signed by two persons of respectability. The examination is conducted by means of printed papers and *vivâ voce* interrogation; and the candidates are examined in Mental Physiology, especially in its relations to Mental Disorder, and in Surgery. If, in the opinion of the examiners, sufficient merit be evinced, the candidate who distinguishes himself the most in the whole examination receives a Gold Medal of the value of £20.

DOCTOR OF MEDICINE.

The candidate must produce certificates analogous to those required for candidates for the degree of Master in Surgery, but having special relation to medicine The examination is conducted by printed papers and *vivâ voce* interrogations; and candidates are examined in Mental Physiology, especially in its relation to Mental Disorders, and in Medicine. If, in the opinion of the examiners, sufficient merit be evinced, the candidate who distinguishes himself the most in the whole examination receives a Gold Medal of the value of £20.

[N.B. Important alterations in the regulations relating to degrees in Medicine were sanctioned by the Senate of the University of London in May, 1888, but have not yet been promulgated, and it cannot yet be said when they will come into force. The new regulations will remove several of the more vexatious restrictions imposed by the Senate in former years at the instigation of perverse educational fanatics.—*Matriculation.* Candidates will be permitted to take up Botany as an alternative to Chemistry, or Heat and Light, or Electricity, which are at present alternative subjects.—*Preliminary Scientific Examination.* The subjects of this examination will be divided into two sections—1, Chemistry and Physics; 2, General Biology. Candidates will be allowed to present themselves for either section separately, or for both; and in the latter case credit will be given for one section should a candidate fail in the other. The syllabus in Biology will be revised. Further, candidates will not be re-examined in those parts of "Mechanics" which they have already passed at the Matriculation; and the papers set in "Experimental Physics" will be less mathematical, a practical examination in the use of instruments being introduced. The penal clauses with regard to Honours will be relaxed. Two papers will be set simultaneously, and every candidate for Honours must answer at least one-third of the questions in the Honours paper, and obtain at least 50 per cent. of the total number of marks obtainable from the Honours paper. After the written examination, a candidate who wishes to proceed in Honours to the practical examination must give notice. —*Intermediate Examination in Medicine.* The requirements in the subjects of Organic Chemistry and Materia Medica will be revised.—*M.B. Examination.* The Pass Examination will be held twice a year.—*M.D. and M.S. Examinations.* A Thesis will be accepted in place of the written and clinical examinations at present held.—*Degrees for Practitioners.* Registered medical practitioners of not less than three years' standing and not less than twenty-five years of age, who have passed the Matriculation and Preliminary Scientific Examinations, will be admitted to subsequent degrees in Medicine and Surgery, without the interval prescribed by the present hide-bound regulations, on producing certificates that they have gone through the required course of training at any time previously.

[10] Candidates who have obtained the degree of Bachelor of Medicine previously to 1866 will be admitted to the examination for the degree of Master in Surgery without having taken the degree of Bachelor of Surgery; and their attendance on surgical practice required by Regulation 2 may commence from the date of the M.B. degree.

[11] One year of attendance on Clinical or Practical Surgery, or two years of practice, will be dispensed with in the case of those candidates who at the B.S. Examination have been placed in the first division.

UNIVERSITY OF DURHAM.

THERE are three licences and four degrees conferred; namely, a licence in Medicine, a licence in Surgery, and a licence in Sanitary Science, and the degrees of Bachelor in Medicine, and Doctor in Medicine, and Bachelor in Surgery (B.S.), and Master in Surgery (M.S.).

The regulations for the licence and degree of Bachelor, so far as regards the course of study, the subjects of each examination, and the certificates required, are similar; but the candidate for a degree must produce evidence of general education in addition to that implied in the certificate of registration as a medical student.

The examinations for the licences and degrees above named are conducted at the College of Medicine, and in the Royal Infirmary, at Newcastle-upon-Tyne. Candidates are examined—(1) by printed papers of questions, (2) practically, (3) *vivâ voce.* Every candidate who intends to present himself for any of the examinations must give at least twenty-eight days' notice to the Registrar of the College, and must at the same time send the fee and the necessary certificates. If, after payment of the fee, a candidate withdraw his name, or fail to present himself at the examination, or fail to pass it, he shall not receive back the fee, but shall be allowed to enter for one subsequent examination of the same kind without the payment of any additional fee.[1]

DEGREE OF BACHELOR IN MEDICINE.

A candidate for the degree of Bachelor in Medicine must produce the following certificates: 1. Of being 21 years of age; 2. Of registration in the books of the General Medical Council as a medical student; 3. Of good moral conduct; 4. Of attendance on lectures and hospital practice. In addition to the certificate of registration, the candidate must produce a certificate—(*a*) Of having passed the Preliminary Examination in Arts for Degrees in Medicine of the University of Durham; or (*b*) of Graduation in Arts at one of the following Universities, namely, Durham, Oxford, Cambridge, London, Dublin, Queen's (Ireland), Edinburgh, Glasgow, St. Andrews, Aberdeen, Calcutta, Madras, Bombay, McGill College (Montreal), Queen's College (Kingston), Victoria (Manchester), and Royal (Ireland); or (*c*) of having passed the Preliminary or Extra-professional Examination (including Greek) for Graduation in Medicine at one of the following Universities—Cambridge, London, Edinburgh, Glasgow, St. Andrews, Aberdeen, Queen's (Ireland), Victoria (Manchester), and Royal (Ireland); or (*d*) of having passed the Preliminary Examination in Arts which, before 1881, qualified for the Fellowship of the Royal College of Surgeons of England, or that qualifying for the Membership of the Royal College of Physicians of London. The Preliminary Examination in Arts in the University of Durham is held twice yearly, in April and September.[2] Application for admission must be made at least one month before the examination. The fee is £1. Candidates who, at the commencement of their professional education, passed the Arts Examination for Registration only, may pass in the extra subjects required, either *before or after* presenting themselves for the First or Second Examinations for the degree, but must do so before presenting themselves for the Third Examination.

For the degree of Bachelor of Medicine there are three Professional Examinations, the first and second being held in September and April, the third in June and December. The first will commence on April 15th and September 16th, 1889; the second on April 22nd and September 23rd, 1889; and the third on December 3rd, 1888, and June 17th, 1889.

The subjects of the First Examination are: Elementary Anatomy, Elementary Physiology, Chemistry, Chemical Physics, Botany, with Medical Botany. The subjects of the Second Examination are: Anatomy, Physiology, and Materia Medica, with Pharmacy. The subjects of the Third Examination are: Medicine, Surgery,

[1] There are special regulations in the case of practitioners of fifteen years' standing.

[2] The next examination will commence on September 18th, 1888, and will include the following subjects, namely—*Necessary:* Greek: Xenophon's *Anabasis*, Book III. Euclid, Books III and IV. *Optional Subjects (two to be taken)* Latin: Cicero, *De Amicitiâ.* French: Voltaire's *Louis XII*, Chaps. I-XIII. German: Immerman's *Der Oberhof.* Mechanics, Hydrostatics, and Pneumatics. English History: William III to George III. In 1889, the examination will be commenced on March 19th, and again on September 17th. The subjects will be as follows, namely—*Necessary:* Greek: Xenophon's *Anabasis*, Book IV; Euclid, Books III and IV. *Optional Subjects (two to be taken):* Latin: Cicero, *De Senectute.* French: Lemercier's *Frédégonde et Brunehaut.* German: Goethe's *Knabenjahre.* Mechanics, Hydrostatics, and Pneumatics. English History: William I to Henry II.

Midwifery and Diseases of Women and Children, Pathology, Medical Jurisprudence, Therapeutics, and Public Health.

Candidates will be admitted to each of these examinations after duly certified attendance at a recognised medical school on courses of instruction in the various subjects of the examination, as set forth in the schedules of certificates issued by the University. These may be obtained on application to the Registrar of the University of Durham College of Medicine.

Each examination must be passed before the next can be proceeded with, and each must be passed in its entirety, except the First Examination, which may be taken in two parts at different times, one part comprising Elementary Anatomy and Elementary Physiology, and the other part Chemistry with Chemical Physics, and Botany with Medical Botany. Failure in one of the subjects comprised in either part of this examination will retail rejection in that part. Before a candidate can enter for either part, his schedule of certificates must be fully signed for both parts.

A candidate who has passed the First Examination of the Conjoint Board of England of the Royal College of Physicians of London and the Royal College of Surgeons of England will be exempt from the First Examination of the University of Durham except in the subjects of Chemistry with Chemical Physics, and Botany with Medical Botany, on which he will be re-examined.

A candidate who has passed the First and Second Examinations of the University will be exempt from the First and Second Examinations of the Conjoint Board of England, and will be entitled to present himself for the Final Examination of the Board on the completion of the necessary curriculum.

Candidates who hold a qualification from a recognised Licensing Board in the United Kingdom at the date of entry for the First Examination are in every case required to pass in Chemistry with Chemical Physics, but are exempt from examination in Elementary Anatomy and Physiology, and are also exempt from Botany with Medical Botany, provided that they have passed in that subject at one or other of their examinations for qualification. In the event of failure at any examination (except those for the M.D. and M.S. Degrees, or for the L.S.Sc., and except in the case of first-year students who fail at the First Examination within their first year of study) the candidate failing will be required to attend a course of instruction at a recognised medical school in the subject or subjects in which he has failed.

One of the four years of professional education must be spent in attendance at the College of Medicine, Newcastle-upon-Tyne. During the year so spent the candidate must attend at least two courses of lectures throughout the whole winter session, and two throughout the whole summer session, together with the class and test examinations held in connection with those classes; and must also attend hospital practice and clinical lectures at the Royal Infirmary. Candidates may fulfil this portion of the curriculum at any period before they present themselves for the Final Examination for the degree. They are not required to reside at Durham. The other three years of the curriculum may be spent either at Newcastle-upon-Tyne, or at one or more of the schools recognised by the Licensing Bodies. Students are strongly advised to enter in the summer session, so as to be eligible for the First Degree Examination immediately on the completion of four years of study, and in the June following the completion of the year of attendance.

The successful candidates for the Second and Third Examinations for the Degree of Bachelor in Medicine will be arranged in three classes in the first and second (honours) according to merit, and in the third or pass, in alphabetical order.

Candidates who have completed part of their curriculum elsewhere may pass their First and Second Examinations previously to entering at Newcastle-upon-Tyne.

DEGREE OF DOCTOR IN MEDICINE.

Candidates must not be less than twenty-four years of age, must have obtained the degree of Bachelor in Medicine at least two years previously, and have been subsequently engaged in attendance on the practice of a recognised hospital, in the naval or military services, or in medical or surgical practice. Each candidate must write an essay on some medical subject selected by himself and approved by the Professor of Medicine, and pass an examination thereon; and must be prepared to answer questions on the other subjects of his curriculum, so far as they are related to the subject of the essay. A gold medal will be awarded every year to the candidate who presents the best essay (provided that the essay is judged to be of sufficient merit). The successful candidate will be permitted to publish his essay. The essays will be retained by the Faculty of Medicine.

DEGREE OF BACHELOR IN SURGERY.

For the degree of Bachelor in Surgery (B.S.) every candidate must have passed the examination for the degree of Bachelor in Medicine of the University of Durham, and must have attended one course of lectures on Operative Surgery and one course on Regional Anatomy.

Candidates will be required to perform operations on the dead body, and to give proof of practical knowledge of the use of surgical instruments and appliances.

DEGREE OF MASTER IN SURGERY.

For the degree of Master in Surgery (M.S.) candidates must not be less than twenty-four years of age, must have obtained the degree of Bachelor in Surgery of the University of Durham, and must have been engaged for at least two years subsequently to the date of acquirement of the degree of Bachelor in Surgery in attendance on the practice of a recognised hospital, or in the naval or military services, or in medical or surgical practice. The subjects of examination are: Principles and Practice of Surgery, Surgical Pathology, Surgical Anatomy, Surgical Operation, Clinical Surgery.

Every candidate who intends to present himself for any of the above-named examinations must give at least twenty-eight days' notice to the Registrar of the College, and must, at the same time, send the fee and the necessary certificates. If, after payment of the fee, the candidate withdraw his name or fail to present himself at the examination, or fail to pass it, he shall not receive back the fee, but shall be allowed to enter for one subsequent examination of the same kind without the payment of an additional fee.

All candidates who have not completed four calendar years of professional study, and attended a complete summer and a complete winter session at the University of Durham College of Medicine, will be ineligible for the Final Degree Examination.

THE DEGREE OF DOCTOR OF MEDICINE FOR MEDICAL PRACTITIONERS OF FIFTEEN YEARS' STANDING, WITHOUT RESIDENCE.

Practitioners of fifteen years' standing are admitted to examination for the degree of Doctor of Medicine under the following regulations. 1. The candidate must be registered by the General Council of Medical Education and Registration of the United Kingdom. 2. He must have been in the active practice of his profession for fifteen years as a qualified practitioner. 3. He must not be under 40 years of age. 4. He must produce a certificate of moral character from three registered members of the medical profession. 5. If the candidate shall not have passed, previously to his professional examination (in virtue of which he has been placed on the *Register*), an examination in Arts, he must pass an examination in Classics and Mathematics.[3] 6. If the candidate shall have passed, previously to his professional examination (in virtue of which he has been placed on the *Register*), a preliminary examination, he must translate into English passages in any of the parts specified below of any one of the Latin authors mentioned:—Cæsar, *De Bello Gallico*, first three books; Virgil—first three books of the *Æneid*; Celsus—first three books. The candidate has an opportunity of showing proficiency in Greek, Moral Philosophy, or some modern language. 7. He must pass an examination in the following subjects: i. Principles and Practice of Medicine, including Psychological Medicine and Hygiene; ii. Principles and Practice of Surgery; iii. Midwifery and Diseases peculiar to Women and Children; iv. Pathology, Medical and Surgical; v. Anatomy, Medical and Surgical; vi. Medical Jurisprudence and Toxicology; vii. Therapeutics. The examination is conducted by means of printed papers, clinically, in the Royal Infirmary, Newcastle, and *viva voce*. 8. The fee is £52 10s. 9. If the candidate shall fail to satisfy the examiners, £21 is retained;

[3] The subjects for this examination are:—1. An English Essay (a short essay on some subject to be specified at the time of the examination). 2. Arithmetic. 3. Euclid—Books I and II. 4. Latin—Translation from Virgil, *Æneid*, Books I and II, together with Grammatical Questions. 5. One of the following subjects: i. Greek—Translation from Xenophon's *Memorabilia*, Books I and II, with Grammatical Questions; ii. French—Translation from Voltaire's *Charles XII*, with Grammatical Questions; iii. German—Translation from Goethe's *Dichtung und Wahrheit*, Book I, with Grammatical Questions; iv. Elements of Mechanics, Pneumatics, and Hydrostatics; v. Some Treatise on Moral, Political, or Metaphysical Philosophy.

but, if he again offer himself for the examination, £42 only is then required.

Examinations, in accordance with the above regulations, will commence on December 3rd, 1888, and June 17th, 1889, in the College of Medicine, Newcastle-upon-Tyne. Gentlemen intending to offer themselves as candidates are required to forward their names to Dr. Luke Armstrong, Registrar of the University of Durham College of Medicine, Newcastle-upon-Tyne, at least twenty-eight days before the commencement of the examination, together with the fee and the before-mentioned certificates.

Fees.—The fees for the examinations, licences, degrees, and certificates are:—Registration Examination, £1; Extraordinary Registration Examination, £2; Preliminary Arts' Examination for Degrees, £1; First or Second Examinations for Degrees in Medicine, each £5; Third Examination for Degrees in Medicine, £10; Licence in Medicine or in Surgery, £3; Degree of Bachelor in Surgery, Master in Surgery, Bachelor in Medicine, or Doctor in Medicine, each £6; Degree of Doctor in Medicine, for practitioners of fifteen years' standing, £52 10s. The fee of £10 for the Third Examination will be required from candidates who entered at the University of Durham College of Medicine, Newcastle-upon-Tyne, on and after May 1st, 1885, and from candidates from other schools of medicine who commenced their professional studies on or after October 1st, 1883.

VICTORIA UNIVERSITY.

THE degrees in the Faculty of Medicine are Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.). All candidates for degrees in Medicine and Surgery are required to have passed the Entrance Examination in Arts, or to have passed such other examination as may from time to time be recognised for this purpose by the University. This examination can be passed before matriculation, if desired, in which case the candidate is required to present a certificate from his last instructor to the effect that he is a proper person to be admitted to the examination, and to pay a fee of £1.

Matriculation must *precede* admission to any University Examination other than the Entrance Examination in Arts. Matriculation consists in signing the University Register, and paying a fee of £2. If, however, the candidate has passed the Entrance Examination in Arts before matriculating, a fee of £1 only is charged. Before matriculating, candidates must produce proof that they are at the time registered students of a College of the University, or of some medical school recognised by the University.

Entrance Examination in Arts.—The subjects of the Entrance Examination in Arts are: (1) Latin: (2) Elementary Mathematics; (3) Elementary Mechanics; (4) English; (5 and 6) *Two* of the following: (*a*) French; (*b*) German; (*c*) Greek; (*d*) Mathematics (more advanced); (*e*) English History and Elements of Modern Political Geography.[1]

BACHELOR OF MEDICINE AND OF SURGERY.

Before admission to the degree of Bachelor of Medicine a candidate is required to present certificates that he will have attained the age of twenty-one years on the day of graduation, and that he has pursued the courses of study required by the University regulations during not less than four years subsequently to the date of his registration as a medical student, two of such years having been passed in a College of the University,[2] and one year at least having been passed in a College of the University subsequently to the date of passing the Preliminary Examination in Science. All candidates for these degrees must pass three examinations, namely—the Preliminary Examination in Science, the Intermediate Examination, and the Final Examination.

Preliminary Examination in Science.—The subjects of the examination are:—1. *Chemistry:* (*a*) Laws of Chemical Combination; non-metallic elements and their compounds; metals; introduction to Organic Chemistry; (*b*) Elementary Qualitative Analysis. 2. *Elementary Biology:* (*a*) Animal Morphology; (*b*) Vegetable Morphology, Physiology, and Elements of Classification; (*c*) Laboratory Work. 3. *Physics:* (*a*) General Physics: the chief phenomena of Heat, Electricity, and Magnetism, treated in an elementary manner; Geometrical and Physical Optics; Acoustics; (*b*) Methods employed in the Physical Laboratory.

Candidates for the Preliminary Examination in Science must have attended, during at least one year, courses, both of lectures and of laboratory work, in each of the above-named subjects.

Intermediate Examination.—The subjects of examination are:—1, Anatomy; 2, Physiology (including Physiological Chemistry and Histology); 3, Materia Medica and Pharmacy. Candidates must have passed the Preliminary Examination in Science, and have attended courses of instruction in Anatomy for *one* winter session, in Physiology for *two* winter sessions,[3] in Materia Medica and Pharmacy for *one* summer session. The certificates must show (1) that the candidate has been engaged in dissecting during two winter sessions and one summer session at least; (2) that laboratory instruction has been received in Physiology; (3) that practical instruction has been received in Materia Medica and Pharmacy.

Final Examination.—The examination is divided into two parts, called the First Part and the Second Part respectively, which may be passed separately or on the same occasion; but the First Part cannot be taken before the end of the third year, and the Second Part cannot be taken before the end of the fourth year of medical study. The subjects of examination are as follows:—Part I.—1, Systematic Surgery; 2, Pharmacology and Therapeutics; 3, General Pathology. Part II.—1, Systematic and Clinical Medicine, including Mental Diseases; 2, Practical and Clinical Surgery; 3, Obstetrics and Diseases of Women and Children; 4, Morbid Anatomy; 5, Forensic Medicine; 6, Hygiene.

Candidates, before presenting themselves for the first part of the Final Examination, are required to have passed the Intermediate Examination, and to furnish certificates of having attended courses of instruction, approved by the University, in a College of the University, or in a medical school recognised for this purpose, in the following subjects: Systematic Surgery, one winter session; Pharmacology and Therapeutics, one winter session or two summer sessions; General Pathology.

Candidates, on presenting themselves for the second part of the Final Examination, must furnish certificates—1. Of having attended the medical and surgical practice of a hospital or hospitals, approved by the University, during at least three years, of which two years at least must be subsequent to the date of passing the Intermediate Examination, except when exemption has been granted by the General Board of Studies, after report from the Departmental Board of Medical Studies. 2. Of having attended, during at least twelve months, demonstrations in the *post-mortem* theatre of a hospital. 3. Of having attended, under proper supervision, at least twenty cases of labour. 4. Of having, during at least three months, received, in either a general or a special hospital, approved by the University, such clinical instruction in the diseases peculiar to women as shall be approved by the University. 5. Of having acquired proficiency in vaccination. 6. Of having attended courses of instruction, approved by the University, in a College of the University, or in a College or medical school recognised for this purpose by Statute of the University, in the following subjects: Systematic Medicine, two winter sessions; Clinical Medicine, two years; Practical Surgery, one winter session; Clinical Surgery, two years; Obstetrics and Diseases of Women and Children, two summer sessions, or one winter session; General Pathology and Morbid Anatomy, one winter session and one summer session; Forensic Medicine, one summer session; Hygiene, one summer session.

DOCTOR OF MEDICINE.

Candidates are not eligible for the degree of Doctor of Medicine unless they have previously received the degree of Bachelor of Medicine, and at least one year has elapsed since they passed the examination for that degree. Candidates for the degree of Doctor of Medicine must present a printed dissertation embodying the results of personal observations or original research, either in some department of medicine or of some science directly relative to medicine. No candidate will be admitted to the degree unless his dissertation, after report from the Departmental Board of Medical Studies, shall have been recommended by the General

[1] The special books for the Entrance Examination in Arts in 1888 are: *Latin:* Cæsar, *De Bello Gallico*, Book VII; Ovid, *Metamorphoses*, Book XIII. *Greek:* Xenophon, *Cyropædia*, Book I. *French:* Scribe, *Bertrand et Raton*. *German:* Hauff. *Das Wirtshaus im Spessart* (Das Kalte Herz, Book I and II). In 1889: *Latin:* Sallust, *Catilina*; Virgil, *Æneid*, Book V. *Greek:* Xenophon, *Cyropædia*, Book V. *French:* Voltaire, *Charles XII.* *German:* Schiller, *Belagerung von Antwerpen* (ed. Buchheim).

[2] The Colleges of the University are Owens College, Manchester, and University College, Liverpool.

[3] One session of Physiology will suffice, if the candidate present attendance upon a full course.

Board of Studies to the Council for acceptance. Candidates may be examined on any subject connected with their dissertations.

MASTER OF SURGERY.

Candidates are not eligible for the degree of Master of Surgery unless they have previously received the degree of Bachelor of Medicine, and at least one year has elapsed since they passed the examination for that degree. The subjects of examination are—1. Surgical Anatomy; 2. Surgical Pathology; 3. Practical Surgery, including the performance of operations on the dead body; 4. Clinical Surgery; 5. Ophthalmology. Candidates must furnish certificates that they have been engaged, since taking the degree of Bachelor of Medicine, in the study of Practical Surgery; and that they have held, for not less than six months, a surgical appointment in a public hospital or other public institution affording full opportunity for the study of Practical Surgery. They must also furnish certificates—1. Of having attended a special course of instruction in Operative Surgery approved by the University, and of having personally practised the principal surgical operations on the dead body; 2. Of having attended a systematic course of instruction, including practical work, approved by the University, on Surgical Pathology, or a course of the same kind of which Surgical Pathology forms part; 3. Of having attended a course of Ophthalmology, and of having received instruction in Ophthalmic Surgery, approved by the University.

Fees.—No fee entitles to admittance to more than one examination. The fee for matriculation is £2, and includes the fee for the Entrance Examination in Arts. A fee of £1 is payable for any subsequent Entrance Examination. The fee for the Preliminary Examination in Science, *or* for the Intermediate Examination, *or* for the Final Examination, is £5; for any subsequent examination, £2. A fee of £10 is payable on the conferring of the degree of M.D., a fee of £5 on the conferring of the degree of Ch.M. The fee for the Ch.M. Examination is £5.

The Entrance Examination in Arts is held twice in each year, in June and about the end of September. The Preliminary Examination in Science, the Intermediate Examination, and the Final Examination are held in March and July. The examination for the degree of Master of Surgery is held in July.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

RÉGULATIONS FOR THE LICENCE.

THE College will grant its single qualification in Medicine to Candidates who already possess a recognised British, Irish, Indian, or Colonial qualification in Surgery.

Candidates will be required to pass a written and oral examination before the Examining Board of the College, in Medicine, Clinical Medicine, Materia Medica, Midwifery, and Medical Jurisprudence.

The examinations are held on the first Wednesday, and succeeding days, of every month, except September and October.

No one is admissible to examination who has within the previous three months been rejected by any Licensing Board, and every candidate must sign and send in along with his certificates a declaration stating that he has not been rejected within that period.

The fee for the Licence is £15 15s. In the event of a candidate being unsuccessful, the sum of £6 6s. will be retained; and this regulation will also apply to cases in which the candidate may have been previously rejected on one or more occasions.

Candidates may be admitted to special examination, on days other than those appointed above, on bringing forward reasons satisfactory to the Council, and on paying an extra fee of £5 5s. Should the candidate be unsuccessful, the sum of £9 9s. will be returned to him.

All candidates for Examination are required to communicate with the Secretary to the College, not less than eight days before the date of examination at which they propose to appear; and the fees must be lodged with the Secretary at least four days before the date of the examination.

FELLOWSHIP AND MEMBERSHIP.

No one can be elected a Fellow of the College until he has been at least one year a Member, and has attained the age of twenty-five years.

Any Licentiate of a College of Physicians, or Graduate of a British or Irish University, with whose knowledge of medical and general science the College may be satisfied, may be admitted a Member of the College, provided he shall have attained the age of twenty-four years.

Every motion for the election of a Fellow or Member shall be made at a quarterly meeting of Fellows by one of the Fellows present, and seconded by another; and this motion shall be determined by ballot at the next quarterly meeting—a majority of three-fourths being necessary to carry it in the affirmative.

Every candidate for the Membership (except such as are admissible under the provisions for candidates above forty years of age) must pass an examination:—(1) On the Principles and Practice of Medicine, including Therapeutics; (2) On one of the following subjects, to be selected by the candidate: (*a*) Pathology, including Morbid Anatomy; (*b*) Medical Jurisprudence and Public Health; (*c*) Midwifery and the Diseases of Women; (*d*) Psychological Medicine.

Application for the Membership must be made through the Secretary, who will transmit to the candidate a copy of the regulations and plan of examination, together with a form of petition. The candidate must return the petition duly filled up to the Secretary, and at the same time transmit testimonials of recent date from well known members of the profession, certifying as to his professional and social standing. These documents shall be submitted to the Council, who shall also employ such other methods of scrutiny as they may deem necessary. If satisfied as to the eligibility of the candidate, the Council authorise his examination by the Board of Examiners. If the report of the examiners be satisfactory, the Council report the same to the College at the next quarterly meeting, when a motion may be made for the election of such candidate to the Membership of the College.

If any candidate who has attained the age of forty years, and has been a registered practitioner for not less than ten years, produce testimonials showing that he has been distinguished for his scientific attainments, or eminence as a medical practitioner, the Council may, if they see fit, exempt him from the whole or any part of the prescribed examination.

Examinations will be held on October 9th and 10th, 1888, January 8th and 9th, April 9th and 10th, and July 9th and 10th, 1889. Application must be made to the Secretary not less than one month previous to the date of the examination.

Fees.—The fee to be paid by a Member is £31 10s. A Licentiate who has obtained the Licence prior to August 1st, 1876, when raised to the rank of Member, pays £21; a Licentiate obtaining the Licence subsequently to that date, when raised to the rank of Member, pays £15 15s. When a Member is raised to the rank of Fellow, he pays £31 10s., exclusive of stamp-duty (£25). All candidates for Fellowship or Membership must lodge their fees and the amount of stamp-duty payable with the Treasurer previously to presenting their petitions.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

REGULATIONS FOR CANDIDATES FOR THE LICENCE.

THE Regulations in the tables at pages 538 and 539, and below, are applicable to candidates who already hold diplomas in Medicine of any British, Indian, or Colonial University, or of any British or Colonial College of Physicians, whose preliminary examination and course of professional study is proved to be sufficient to fulfil the requirements contained below, or to those who have passed a full examination in any of the above. Female practitioners are admitted to the Licence of the College but not to the Fellowship, and throughout the following Regulations for the Licence the masculine pronoun is to be read as standing for candidates, irrespective of sex.

Professional Education.—In addition to the subjects enumerated in the table, the candidate must have been instructed in Vaccination. Two courses of Clinical Medicine, or of Clinical Surgery, of three months each, if not simultaneous, will be held equivalent to one course of six months. They must be attended during the attendance at the hospital where they are delivered. The six months' course delivered in Scotland must consist of not fewer than 100 lectures, with the exception of Clinical Medicine and Clinical Surgery. The three months' course must consist of not fewer than fifty lectures. It is strongly recommended to students to avail themselves of opportunities of attending lectures on Ophthalmic, Aural, and Mental Diseases, also on Botany, Zoology, and Comparative Anatomy; and of obtaining practical instruction in the use of the Microscope.

Professional Examination.—Candidates must apply to the Secretary of the Royal College of Surgeons, 6, Walker Street, Edin-

TABULAR VIEW OF THE REGULATIONS OF THE MEDICAL EXAMINING BODIES IN SCOTLAND.

	ROYAL COLLEGE OF SURGEONS OF EDINBURGH.	COLLEGES OF PHYSICIANS & SURGEONS OF EDINBURGH, & FACULTY OF PHYSICIANS & SURGEONS OF GLASGOW.	FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.		UNIVERSITIES OF SCOTLAND.
	Diploma.	Conjoint Examination.	Licence.	Fellowship.	Bachelor of Medicine and Master in Surgery.
Age Required	Twenty-one.	Twenty-one.	Twenty-one.	Twenty-four.	Twenty-one.
Evidence of General Education before commencement of Professional Study.	Having passed a satisfactory preliminary examination.	Having passed a preliminary examination, and being registered as a student by the Medical Council.	Having passed a preliminary examination, and being registered as a student by the Medical Council.	Registration as a student by the General Medical Council.	Preliminary examinations by University; or Degree in Arts or equivalent examinations.
Duration of Professional Study.	Forty-five months, including four winter sessions, or three winter and two summer sessions at a recognised school.	Forty-five months, subsequent to registration, including not less than four winter sessions at a recognised medical school.	Four years; including four winter sessions, or three winter and two summer sessions at a recognised school.	Six years; graduates in Arts or Science, five years.	Four years; one year being in the University, and another in the same or some other University (see page 544).
Courses of Lectures, etc., required.					
Anatomy	A., two courses of six months, and P. A. twelve months; or A. six months, and P. A. eighteen months.	Six months.	Six months.	Two winter sessions.	One hundred lectures.
Practical Anatomy ...		Twelve months.	Twelve months.	Eighteen months.	Course of same duration.
Physiology	Fifty lectures.	Six months.	Fifty lectures.	One winter.	One hundred lectures.
Practical Physiology ...	—	—	—	Three months.	—
Chemistry	Six months.	Six months.	Six months.	One winter.	One hundred lectures.
Practical Chemistry ...	Three months.	Three months.	Three months.	Three months.	Three months. (See footnote, page 544)
Materia Medica ...	Three months.	Three months.	Three months.	Three months.	One hundred lectures.
Practical Pharmacy ...	Three months.	Three months.	Three months.	Three months.	(See page 543).
Natural History (Zoology)	Recommended.	Strongly recommended.	—	—	Fifty lectures.
Botany	Recommended.	—	—	—	Fifty lectures.
Pathology	Or attendance in *post-mortem* room, three months.	Three months lectures; or attendance in *post-mortem* room of General Hospital.	Three months; lectures or attendance in *post-mortem* room.	Three months; and Practical Pathology three months.	One hundred lectures; or Pathological Anatomy three months, with supplementary course of Medicine or Clinical Medicine.
Medicine	Six months.	Six months.	Six months.	Six months.	One hundred lectures.
Clinical Medicine ...	Six months.	Nine months.	Six months.	Twelve months.	Six months (100 lectures, Edin.), or two courses of three months.
Surgery	Six months.	Six months.	Six months.	Six months.	One hundred lectures.
Clinical Surgery	Six months; and a third course, either systematic or clinical.	Nine months.	Nine months.	Twelve months.	Six months (100 lectures, Edin.), or two courses of three months.
Practical Surgery ...	—	—	—	Three months.	—

Midwifery and Diseases of Women and Children.	Three months; and not less than six cases of labour.	Three months; and not less than six cases of labour.	Three months; at least six cases of labour.	Three months; twenty cases of labour.	One hundred lectures; three months' Midwifery Hospital, and six cases of labour.[1]
Medical Jurisprudence	Three months.	Three months.	Three months.	Three months.	Fifty lectures.
Hospital Practice and Hospital Appointments.	General Hospital twenty-four months; Public Dispensary six months, or Visiting Assistant six months.	General Hospital twenty-four months; Public Dispensary, six months, or three months Dispensary with three months' hospital clerkship, or six months' pupilage with a registered practitioner.	Public Hospital twenty-four months.	Twenty-four months.	General Hospital, two years; Out-practice of hospital, or of dispensary or registered practitioner, six months.
NUMBER OF EXAMINATIONS.	One; final only. Candidate must have qualification in Medicine.	Three.	One; final only. Candidates must have qualification in Medicine.	Two; each examination may be divided.	In Edinburgh and Glasgow, four; in Aberdeen and St. Andrews, three. For the subjects of these examinations, and the periods of study at which they may be passed in the respective Universities, see pages 543 and 544.
FIRST EXAMINATION: WHEN IT MAY BE PASSED; SUBJECTS.	—	End of first complete year: Chemistry, Elementary Anatomy, and Histology.	—	Anatomy and Physiology (including Histology and Embryology); Chemistry (unless already passed). Candidates ten years qualified are exempted from this examination.	—
SECOND EXAMINATION; WHEN IT MAY BE PASSED; SUBJECTS.	—	End of summer session of second complete year: Anatomy, Physiology, Materia Medica, and Pharmacy.	—	—	—
FINAL EXAMINATION: WHEN IT MAY BE PASSED; SUBJECTS.	After last winter session: Surgery (including Operative Surgery and Surgical Pathology), Clinical Surgery, and Surgical Anatomy, also Medicine, Midwifery and Gynæcology, Materia Medica, and Medical Jurisprudence.	End of full period of study: Medicine (including Therapeutics, Medical Anatomy, and Pathology), Clinical Medicine; Surgery (including Surgical Anatomy and Surgical Pathology); Clinical Surgery; Midwifery with Gynæcology; Medical Jurisprudence and Hygiene.	Surgery and Clinical Surgery, Clinical Medicine, Midwifery, and Medical Jurisprudence.	Pathology and Medicine (Systematic and Clinical), or Pathology and Surgery (Systematic, Operative, and Clinical).	—
FEES PAYABLE	£15 15s.; in case of rejection, £4 4s. retained.	First and Second Examinations, each £5 5s.; additional, after rejection in all subjects, £3 3s.; after partial failure, £2 2s. Third Examinatn., £15 15s.; after rejection, additional, £5 5s.	£15 15s.; in case of rejection, £4 4s. retained.	First Examination, £8 8s.; Second, £12 12s.; Licentiates of Faculty or Graduates in Medicine, First, £6 6s.; Second, £9 9s.	£21; £5 5s. each of two examinations, £10 10s. at last examination of three: Glasgow, four fees of £5 5s..
DATES OF EXAMINATION.	October 18th, 1888; January 24th, April 18th, July 25th, 1889.	First: in Edinburgh, October 3rd to 6th, 1888; January 9th to 12th, April 3rd to 6th, July, 3rd to 6th, 1889: in Glasgow, April 17th to 20th, and July 17th to 20th, 1889. Second: Monday, Tuesday, and Wednesday following the dates of First Examination. Final: days next following Second Examination.	October 23rd, 1888; January 8th, April 9th, and July 9th, 1889.	Second week in April and third week in October.	Aberdeen and Edinburgh: end of winter and summer sessions. Glasgow, April, July, and October. Clinical Examination: Edinburgh, May; Glasgow, June. Final in Edinburgh, June. St. Andrews, end of April.
REJECTED CANDIDATES.	Not readmitted under three months.	At either examination, not readmitted before three months; not re-examined in subjects in which an absolute pass has been obtained.	Not readmitted under six months.	—	Not readmitted until after another year of medical study, or such portion of a year as may be prescribed by the examiners (unless he have studied during another year two of the subjects.—*Edinburgh*).
ADDITIONAL INFORMATION.	See page 537.	See page 541.	—	See page 540.	See page 543.

[1] Or at Edinburgh 12 cases of labour under a registered medical practitioner.

burgh, not later than the Monday preceding the day of examination;[1] and must produce—1. Satisfactory evidence of having attained the age of twenty-one years; 2. Certificates of having attended the classes enumerated under Professional Education; 3. A tabular statement (for which a printed form will be furnished), exhibiting the whole of his professional education, and distinguishing the classes, hospitals, dispensaries, and schools attended during each session of his studies; and, 4. The diploma in Medicine, certificate of registration as a medical practitioner, or satisfactory evidence of having passed a full examination for the diploma in Medicine. If the candidate has been apprenticed to a Fellow of the College, he must also produce his discharged indenture. The fee of £15 15s. must be lodged with the Treasurer not later than the Monday preceding the examination. The sum of £11 11s. will be returned to unsuccessful candidates. Candidates whose examinations are found to have been insufficient in the subjects of Anatomy, Physiology, and Chemistry may come up for the Single Licence of the College, on passing an additional examination in these subjects; but none of the subjects of examination will be omitted, even if some of them should have formed part of examination by another Board.

Candidates desirous of special examinations on other days than those fixed must prepare a case to be submitted to the consideration of the authorities of the College, with evidence to show why it is impossible for them to avail themselves of the ordinary examination. They must, at the same time, produce certificates of the whole of the prescribed course of study, and of having passed the preliminary examination, and must state the earliest and the latest days within which they can present themselves. The fees, which must lodged two days before the examination day, are £20 for examination, of which £12 will be returned to candidates remitted on examination.

N.B.—The professional examinations require one day for the written part of the examination. The clinical and oral will follow on a subsequent day.

Recent dissections, anatomical specimens, and articles of the materia medica are employed during the examinations: and all candidates are required to write out formulæ of prescriptions. They are also subjected to a practical clinical examination in the Surgical Hospital, including the application of surgical apparatus, bandages, etc. No candidate is admissible to examination who has been rejected by any other Licensing Board within the preceding three months.

LAWS RELATING TO THE FELLOWSHIP.

1. No person is received as a candidate for the Fellowship who has not the diploma of the Royal College of Surgeons of Edinburgh, or of the Royal College of Surgeons of England, or of the Royal College of Surgeons of Ireland, or of the Faculty of Physicians and Surgeons of Glasgow. 2. Every candidate for the Fellowship, with the exception of those admissible under the old constitution, with right to the Widows' Fund, and those hereinafter mentioned, must show that he is twenty-five years of age, and that he has for at least two years subsequently to the date of his licence been engaged in the study or practice of his profession; and, before having his petition laid before the College, must pass an examination as follows. A. Those who are already Licentiates of the College: on Clinical and Operative Surgery, and one optional subject. B. Those who are not Licentiates of the College: on Clinical and Operative Surgery, Surgical Anatomy, and one optional subject; and in such supplementary subjects as have not, in an adequate manner, been included in the examination for the registrable surgical qualification possessed by such candidate, and which are required in the examination for Licentiates of this College. The optional subjects embrace—*a*. Surgery in any one of its Ophthalmic, Aural, Laryngeal, or other special branches; *b*. Advanced Anatomy and Physiology; *c*. Pathology and Morbid Anatomy; *d*. Midwifery and Gynæcological Medicine and Surgery; *e*. Medical Jurisprudence and Hygiene; *f*. Practice of Medicine and Therapeutics. He shall give notice of his intention to present himself at least three weeks before the examination, so that his petition may be laid before the President's Council. In the case of registered practitioners of not less than forty years of age, who have been in practice for not less than ten years, the President's Council may consider their claims; and if these and the registrable surgical qualification they possess seem of a sufficiently high order, they may recommend such candidates to the College for ballot without examination. 3. Every candidate for the Fellowship (with the exception of those entitled to enter under the old constitution of the College, and having right to its Widows' Fund) must lodge with the Secretary a petition for examination with a view to admission, and must be recommended by two Fellows, of whom one at least shall be resident in Edinburgh. 4. Candidates for the Fellowship (not embraced under the exception to Law 3) shall pay £30 to the College funds, including all fees. The money is payable to the Treasurer immediately upon the presentation of the petition. The fee paid by any candidate not admitted shall be returned to him; but in the case of candidates by examination not being successful, £5 shall be retained as examination expenses. 5. The billets calling the meetings at which the petition is to be laid before the College shall intimate the name and surgical qualification of the candidate, his professional appointments (if any), and the names of his proposer and seconder, and whether such petition is presented after or without examination. 6. The petition will be considered at a subsequent meeting, to be held not earlier than four weeks after the first; and, in the meantime, the petition, with the names of the proposer and seconder, shall have been hung up in the Library; and the billets calling the second meeting shall contain an intimation in the same form as those of the first. 7. At the meeting for finally considering the petition of the candidate, except in the case of those eligible for the Widows' Fund, the result shall be ascertained by ballot. Three-fourths of the votes are required for admission, and the number of those voting shall not be less than twenty. 8. The candidate is informed of the result of the ballot; but, before taking his seat as a Fellow, he shall make a declaration to the following effect, and subscribe the same in the Sederunt-book: "I hereby promise faithfully to maintain and defend all the rights, liberties, and privileges of the Royal College of Surgeons of Edinburgh, and to promote the interests thereof to the utmost of my power. I also promise faithfully to obey all the laws of the said Royal College, made and to be made." 9. Candidates who do not find it convenient to repair to Edinburgh may, by a vote of the College, be enrolled as Fellows in absence, if they transmit letters of obligation to conform to No. 8 before taking their seats. 10. Every Fellow, on admission, shall receive a diploma with the seal of the College appended; and, as regards Fellows admitted after examination, the diploma bears that such has been the case. 11. Every Fellow is entitled to attend the meetings of the College, and to take part in the proceedings, and in the election of office bearers. 12. No Fellow of the College shall keep an open shop for the sale of drugs or other merchandise. 13. No Fellow of the College shall allow his name to be connected with advertisements or publications of an indelicate or immoral nature. 14. No Fellow of the College shall practise, or profess to practise, by the use of or according to any secret remedy or method of treatment; or allow his name to be connected with advertisements for the sale of any secret remedy, or for practise by the use of any secret remedy, or method of treatment: or connect himself in partnership or otherwise, or continue in connection with, any person practising by means of or advertising the sale of any secret remedy. 15. No Fellow shall be guilty of any deception or other immorality in the practice of his profession, or in any other way conduct himself inconsistently with the honour and decorum which become his position as a Fellow of the College.

[1] Candidates at a distance are requested to send their certificates much earlier, so as to give sufficient time for the exchange of one or two explanatory letters, as much disappointment has been occasioned by the discovery of defects in their course of study when it was too late to rectify them by the production of documents. Candidates should attend punctually to the dates fixed by the Regulations for lodging their certificates and for paying their money.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

DIPLOMA OF FELLOW.

THE Regulations in the tables, at pages 538 and 539, and below, are applicable to candidates not previously qualified.

Professional Examination.—Every candidate is admissible to the First Professional Examination on producing certificates of registration as a student, and of having studied (as defined in the table) Anatomy, Physiology and Practical Physiology, and Chemistry and Practical Chemistry. A candidate for the Second Professional Examination for the Fellowship must produce certificates of the remaining courses of instruction mentioned in the table, and of having been instructed in Vaccination by a public vaccinator under the regulations of the Local Government Board.

Graduates in Medicine or Surgery of recognised universities, Licentiates of Faculty, or of any of the Colleges of Physicians or Surgeons of the United Kingdom, qualified in Medicine and Surgery, are admissible to the First Professional Examination. Candidates so qualified, having passed the First Professional Examination, are admissible to the Second Professional Examination on producing satisfactory evidence of having been engaged for not less than six years (or, in the case of Graduates in Arts or Science of a recognised University, five years) in the study and practice of the profession.

The two examinations shall be passed in their order first and second; but a candidate may enter for or may pass in only one of the subjects special to the Fellowship, either at the First or the Second Examination; and he will not be required to pass again in any of these subjects in which he has formerly passed.

A candidate qualified in Medicine and Surgery, whose diplomas have been received not less than ten years previously from the Faculty, or from any of the Universities or Colleges of Physicians or Surgeons of the United Kingdom, may be admitted to an examination embracing two subjects—(1) Surgery, or, as an alternative, Medicine; and (2) one of the subjects to be selected by the candidate from the following list: (*a*) Human Anatomy; (*b*) Comparative Anatomy; (*c*) Physiology; (*d*) Pathology; (*e*) Midwifery and Diseases of Women; (*f*) Medical Jurisprudence; (*g*) State Medicine; (*h*) Psychological Medicine.

Election.—There may be admitted yearly to the Fellowship without examination, should the Faculty see fit, not more than two legally qualified medical practitioners, who have been at least ten years qualified, and who shall have highly distinguished themselves by original medical investigations. Candidates must be proposed in writing by not less than six Fellows of the Faculty, and the proposal must be submitted at an ordinary meeting of the Faculty. The proposal must be intimated on the billets calling the next three ordinary meetings of the Faculty, and at the third meeting the election shall be determined by ballot. Before the ballot is taken the Council shall report whether in their opinion the applicant has so distinguished himself as to render him admissible under this section. For the election, two-thirds of those voting must be in favour of admission.

Fees.—These are, in the case of a candidate, a Licentiate of the Faculty, or a Graduate in Medicine of a recognised University, First Examination, £6 6s.; Second Examination, £9 9s.; in the case of a not previously qualified candidate, or a previously qualified candidate not a Licentiate of the Faculty, nor a Graduate in Medicine of a University, First Examination, £8 8s.; Second Examination, £12 12s.; in the case of a qualified candidate of more than ten years' standing at entry for examination, £10; before admission: in the case of a Fellow qualified to hold office, £40; of a Fellow not qualified to hold office, £15. The fees in the case of a candidate admitted by election are: Fellow qualified to hold office, £50; Fellow not qualified to hold office, £25. Fellows whose ordinary place of residence is within five miles of the Faculty Hall shall be qualified to hold office under whatever regulations they have been admitted, and for this purpose shall pay the full fee. Fellows residing beyond that distance may or may not so qualify themselves.

Candidates must give notice to the Secretary not later than the fourth Monday in March and the third Monday in September. Not later than one week prior to the examination they must submit to the Secretary the certificates required, and pay the entry fee.

Admission.—1. A candidate, though he may have passed all the necessary examinations, shall not be admitted to the Fellowship till he has attained the age of 24 years. 2. A Fellow may be admitted at any ordinary meeting of the Faculty, or of the Council thereof, after it has been reported to the Faculty by the Board of Examiners that he has passed the necessary examinations, and has produced to the Secretary evidence that he has attained the requisite age. 3. An elected Fellow may be admitted at any ordinary meeting of the Faculty subsequent to his election. 4. Previously to admission, the candidate shall subscribe the following declaration:—"I, A. B., do solemnly and sincerely declare that I shall be a faithful Fellow of this Faculty, promote its interests, and be obedient to all lawful acts made, and to be made, for the good of the lieges and of this Faculty, and shall not willingly do prejudice to any person by my application or advice. And I make this solemn declaration by virtue of the provisions of an Act passed in the sixth year of the reign of his late Majesty King William the Fourth, entitled, 'An Act to repeal an Act of the present session of Parliament, entituled an Act for the more effectual abolition of Oaths and Affirmations taken and made in various Departments of the State, and to substitute Declarations in lieu thereof, and for the more entire suppression of voluntary and extra-judicial Oaths and Affidavits, and to make other provisions for the abolition of unnecessary Oaths.'" 5. A candidate who has passed the necessary examinations, or who has been elected, may be permitted by a vote of the Faculty to be enrolled in absence, provided he transmits to the Clerk a copy of the above declaration duly signed by him in the presence of a Justice of the Peace, by whom the signature shall be attested.

DIPLOMA OF LICENTIATE.

The examination for the Licence of the Faculty, as granted separately, is open only to Graduates in Medicine of the Universities of the United Kingdom, India, and the Colonies, and Licentiates in Medicine of the Colleges of Physicians of the United Kingdom. Candidates are examined in Surgery, including Surgical Anatomy and Clinical Surgery, Clinical Medicine, Midwifery, and Medical Jurisprudence. Examinations are held quarterly: on October 23rd, 1888; January 8th, April 9th, and July 9th, 1889. The fee is £15 15s., of which £11 11s. is returned in the event of failure.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW: CONJOINT EXAMINATION.

THE Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow have made arrangements by which, after one series of examinations, the student may obtain the diplomas of the three Co-operating Bodies.

Students passing the qualifying examination are enabled to register three diplomas under the Medical Acts—namely, Licentiate of the Royal College of Physicians of Edinburgh, Licentiate of the Royal College of Surgeons of Edinburgh, and Licentiate of the Faculty of Physicians and Surgeons of Glasgow.[1]

Every candidate must have followed his course of study in a University, or in an established school of medicine, or in a provincial school specially recognised by the Colleges of Physicians and Surgeons of that division of the United Kingdom in which it is situate. Under the title established school of medicine are comprehended the medical schools of those cities of Great Britain and Ireland in which diplomas in Medicine or Surgery are granted, and such Colonial and Foreign schools as are similarly circumstanced in the countries in which they exist.

Preliminary Examinations.—All students who intend becoming candidates for the diplomas of the three Bodies must pass the complete examinations in General Education, and have their names registered by the General Medical Council at the commencement of their professional studies. Students should therefore see to this without delay, as the regulations of the General Medical Council provide that any period of study taken more than fifteen days before registration cannot be recognised, and considerable trouble and disappointment have sometimes arisen through neglect of this requirement. The Preliminary Examination may be passed before any of certain recognised Boards, of which a list may be obtained on application. Preliminary examinations are conducted in Edinburgh by the Educational Institute of Scotland on behalf of the Royal Colleges of Physicians and Surgeons, and in Glasgow by a Board chosen by the Faculty of Physicians and Surgeons. Copies of the regulations respecting the former examination may be obtained on application to Thomas Morrison, LL.D., Free Church Training College, Glasgow; to the Officer of either of the Royal Colleges in Edinburgh: and to the

[1] The three Co-operating Bodies grant their single qualifications only to candidates who already possess another and opposite qualification in Medicine and Surgery, as the case may be. Thus the Royal College of Physicians of Edinburgh may, notwithstanding this agreement, grant its Licence on examination to candidates already possessed of a recognised British, Irish, Indian, or Colonial qualification in Surgery; and the Royal College of Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow may each grant its Licence on examination to candidates already Licentiates in Medicine of any British, Irish, or Colonial College whose preliminary examination and course of professional study are proved to be sufficient, or Graduates in Medicine of any British, Irish, Indian, or Colonial University. Copies of the Regulations for the single qualification of any of the Bodies may be had on application to the respective Secretaries.—N.B. Under the provisions of the Medical Act, 1886, the single qualifications do not confer the right to registration, but may be registered as additional qualifications by those already on the *Register*.

Secretary of the Faculty of Physicians and Surgeons of Glasgow for the latter.

Professional Education.—For particulars see pages 538 and 539. The two courses of Practical Anatomy must not be attended in the same session. In those schools of England and Ireland in which two separate courses of lectures are delivered at separate hours, one on Anatomy, the other on Anatomy and Physiology, the former of these courses will be received as a course of Anatomy, and the other as a course of Physiology. Two courses of Clinical Medicine, of three months each, if not simultaneous, are held equivalent to one course of six months. They must be attended during the period of attendance at the hospital where they are delivered. The same rules apply to Clinical Surgery. The six months' courses delivered in Scotland, with the exception of Clinical Medicine and Clinical Surgery, must consist of not fewer than 100 lectures. The three months' courses must consist of not fewer than 50 lectures. The teacher signing the certificate of Practical Pharmacy must be a Member of the Pharmaceutical Society of Great Britain, or the superintendent of the laboratory of a public hospital or dispensary, or a registered medical practitioner who dispenses medicine to his patients, or a teacher of a class of Practical Pharmacy. The candidates must have been instructed in Vaccination; the teacher signing the certificate must be a registered practitioner. It is strongly recommended to students to avail themselves of opportunities of attending lectures on Ophthalmic, Aural, and Mental Diseases; also on Natural History and Comparative Anatomy; and of obtaining practical instruction in the use of the Microscope, and its application to Physiology and Medicine. It is also recommended that while the student is engaged in his anatomical and physiological studies he should familiarise himself in the wards of the hospital with the subjects of "Fractures," "Dislocations," and the "Diseases of Bones and Joints;" and that the last year of his curriculum should be devoted as much as possible to Clinical work and study. Candidates for the Final Examination are also advised, so far as local circumstances will permit, to study Fevers for not less than three months under recognised Clinical instructors.

Professional Examinations.—See table, pages 538 and 539. A candidate may present himself either in Edinburgh or in Glasgow, irrespective of the place at which he may have been previously examined. An applicant for admission to any of the examinations is required, on entering, to lodge with the Inspector of Certificates a schedule (forms for which are supplied) showing the courses he has attended qualifying for admission. No candidate can be held to be entered for any examination till he has sent in the proper schedule, proved his course of study, and paid the fee. At all the examinations candidates shall be examined orally, as far as possible, in the order of their entry. The subjects of the Second Professional Examination should, as far as possible, be studied only after the First Examination has been passed; and similarly, the subjects of the Final Examination should, as far as possible, be studied only after the Second Examination has been passed. By adhering to this course the student will have his attention occupied by preparing only for one examination at a a time. Candidates qualified by having attended the necessary courses of study may enter for two or more examinations, to be passed successively at the same period, the condition being that failure to pass in all the subjects of any examination precludes the candidate from admission to the succeeding examination. The necessary schedule and certificates must be lodged, and the fees for these respective examinations paid, at the period of entering for the earliest of them. In the event of failure, the fee paid for any examination to which a candidate had not been thereby admissible will be returned to the candidate.

Any Graduate in Medicine of a British or Irish University, and any Graduate or Licentiate in Medicine of recognised Universities and Colleges,[2] who shall have passed at his University such an examination or examinations as shall comprise the subjects of the First and Second Examinations of this Board, and who shall have completed not less than four years' medical study, including all the subjects of the curriculum, shall be admissible to the Final Examination. Any candidate so admitted shall pay a fee of £26 5s., and, in the event of his failing to pass, the sum of £20 will be returned.

Any candidate who shall produce satisfactory evidence of having passed an equivalent examination in any of the subjects of the First Examination, before any of the recognised Boards, will be exempt from examination in such subject or subjects; and any candidate who shall produce such evidence of having passed in any of the subjects of the Second Examination, before any of the recognised Boards, will also be exempt from examination in such subject or subjects; but no examination before such Boards will be recognised as giving exemption, unless it is co-extensive in its scope with the equivalent examination of this Board, and is the only or the Final Examination on the subject or subjects required by the Board at which it was passed. The certificates of examination upon which any candidate may claim exemption from any of the subjects of the First and Second Examinations shall, in every case, *specify* the subjects embraced in such examination.

At the First Examination, the examination in Chemistry embraces Chemical Physics (Heat, Light, and Electricity), the principal Non-metallic and Metallic Elements, and their more common combinations; also the leading Alcohols, Organic Acids, Ethers, Carbo-Hydrates, and Alkaloids. The candidate is also examined practically in testing. Elementary Anatomy shall embrace —Anatomy of the Bones and Joints, of the whole body, and of the Muscles, chief Blood-vessels, and Nerves of the upper and lower extremities. Candidates who desire to pass the First Examination must apply to the Inspector of Certificates on or before the Friday preceding the day of examination,[3] and must produce certificates of attendance on one course each of Chemistry, of Practical Chemistry, and of Anatomy, and six months' Practical Anatomy, and shall lodge the requisite schedule of course of study. The fee of £5 5s. must be paid to the Inspector of Certificates not later than 4 P.M. of the Friday preceding, after which no candidate will be entered. In the case of a candidate being unsuccessful at this examination, he will be readmitted to examination after a prescribed interval on payment of £3 3s. if he has failed in all subjects, and £2 2s. if he has passed in one or more subjects. This rule will also apply to any subsequent rejection.

At the Second Examination, the candidate must produce certificates of attendance on the prescribed courses of Anatomy, Practical Anatomy, Physiology and Materia Medica, and Pharmacy. The fee of £5 5s. must be paid to the Inspector of Certificates not later than one week before the day of examination. The rule applicable to rejected candidates of the First applies also to those of the Second Examination.

At the Final Examination, every candidate, when entering for the Edinburgh Examination, must produce to the Inspector, Mr. James Robertson, solicitor, 1, George Square, Edinburgh; or when entering for the Glasgow Examination to Mr. Alexander Duncan, B.A., Faculty Hall, 242, St. Vincent Street, Glasgow: 1st, satisfactory evidence of his having attained the age of twenty-one years; 2nd, a certificate of his registration in the books of the General Medical Council; 3rd, the certificates enumerated under Professional Education.

The fee payable for this examination, which in the case of candidates who have passed the First and Second Examinations shall be £15 15s., must be paid to the Inspector at Edinburgh or Glasgow, as the case may be, not later than one week prior to the examination day, after which no candidate will be entered. In case of a candidate being unsuccessful at this examination, £10 10s. shall be returned to him, the remaining £5 5s. being retained. This rule will also apply to any subsequent rejection. Any candi-

[2] The following is a list of Licensing Boards recognised by the co-operating authorities: 1. The Royal College of Physicians of London; 2. the Royal College of Physicians of Edinburgh; 3. King and Queen's College of Physicians in Ireland; 4. the Royal College of Surgeons of England; 5. the Royal College of Surgeons of Edinburgh; 6. the Faculty of Physicians and Surgeons of Glasgow; 7. the Royal College of Surgeons in Ireland; 8. the Conjoint Boards of the Royal College of Physicians of London and Royal College of Surgeons of England, of the King and Queen's College of Physicians in Ireland and the Royal College of Surgeons in Ireland, and of the Royal College of Surgeons in Ireland and the Apothecaries' Hall, Dublin; 9. the Universities of the United Kingdom; 10. the Universities and Colleges in India and the British Colonies whose Matriculation Examinations have been recognised by the General Medical Council, whose curriculum of study extends to not less than four years, and whose diplomas have been granted upon equivalent examinations to this Board, and entitle to practise Medicine and Surgery in the Indian or Colonial dependency in which the institution is situated; 11. Such foreign Universities as grant Medical and Surgical Degrees entitling to practise in the country in which they are granted, as shall from time to time be recognised by the co-operating authorities, or as may be recognised by the General Medical Council as entitling to registration under the Medical Act, 1886, after a course of study equivalent both as regards duration and subjects to that required by this Board, and preceded by the passing of an examination in Arts recognised by the General Medical Council, or which may, on special application, be recognised by any of the Branch Medical Councils.

[3] Candidates at a distance are requested to send their certificates much earlier, so as to give sufficient time for the exchange of one or two explanatory letters, as much disappointment has been occasioned by the discovery of defects in their course of study when it was too late to rectify them by the production of documents.

date admitted to the Final Examination, on the footing of having passed in the subjects of the First and Second Examinations at a recognised Board, shall, on entering, pay the full fee of £26 5s.; and, in the event of his being unsuccessful, £15 15s. will be returned to him at his first, and £21 at every subsequent, rejection.

No candidate is exempted from examination in any of the subjects of the Final Examination.

In addition to the written and oral examinations, all candidates will be subjected to practical clinical examinations in medicine and surgery, which shall include the examination of patients, physical diagnosis, the use of the microscope, surgical appliances, bandages, etc.

No candidate is admissible to examination who has been rejected by any other Licensing Board within the three preceding months.

Copies of the Regulations containing the requisite Schedules will be supplied on application to either of the Inspectors, or at the Colleges.

UNIVERSITIES OF EDINBURGH, GLASGOW, ABERDEEN, AND ST. ANDREWS.

REGULATIONS RESPECTING DEGREES IN MEDICINE.

[THE regulations of these Universities are nearly similar. We therefore give but one statement, noticing points of difference when necessary.]

Three medical degrees are conferred by each University; namely, Bachelor of Medicine (M.B.), Master in Surgery (C.M.), and Doctor of Medicine (M.D.). The degree of C.M. is conferred only on those who at the same time obtain the degree of Bachelor of Medicine. All candidates are now required to qualify for and obtain the degrees of M.B. and C.M. conjointly.

Preliminary Education.—The preliminary branches of extra-professional education are English, Latin, Arithmetic, the Elements of Mathematics, and the Elements of Mechanics; and candidates must also pass an examination in at least two of the following subjects: Greek, French, German, Higher Mathematics, Natural Philosophy, Logic, Moral Philosophy.[1] The examination in the first class of subjects takes place before the commencement of medical study, and in the second, before admission to the First Professional Examination.[2]

A degree in Arts (not honorary) in any one of the Universities of England Scotland, or Ireland, or in any Colonial or Foreign University specially recognised by the University Courts, exempts from preliminary examination. The Universities also recognise examination in Arts by any corporate body whose examination has been recognised by the General Medical Council, and also approved by the University Court, so far as regards all subjects comprised in the examination of the said corporate body.

DEGREE OF BACHELOR IN MEDICINE AND MASTER IN SURGERY.

The principal regulations to be observed by candidates for the degree of Bachelor in Medicine or Master in Surgery are given in the tables at pages 538 and 539. Each *Annus Medicus* is constituted by at least two courses of not less than 100 lectures each, or by one such course and two courses of not less than 50 lectures each; with the exception of the clinical course, in which lectures are to be given at least twice a week.

Two courses of Midwifery, of three months each, are reckoned equivalent to a six months' course, provided different departments of Obstetric Medicine be taught in each of the courses.

Practical Pharmacy may be attended in either of the following

[1] The Universities of Aberdeen and St. Andrews include Natural History. Natural History is included in the First Professional Examination in all the four Universities.

[2] At Edinburgh the following are the subjects for examination:—1. English: Including (*a*) Writing a passage of English from dictation; (*b*) English Composition, with the correction of sentences of bad English; (*c*) Questions in English Grammar, with analysis of sentences and derivation and definition of some common English words; (*d*) Questions in Geography and History, especially in the History of the British Islands and of English Literature. 2. Latin: October, 1888, *Livy*, Book XXI; March and October, 1889, *Cicero de Senectute*; easy unseen English-Latin and Latin-English translation. 3. Arithmetic, Common Rules, including Vulgar and Decimal Fractions. 4. Elements of Mathematics: Geometry, Euclid, Books I, II, and III, or Wilson's *Elementary Geometry* Books I, II, and III, or Books I, II, and III of the Textbook issued by the Association for the Improvement of Geometrical Teaching (Parts I and II); the Elementary Rules of Algebra, including Simple Equations. A knowledge of Geometry alone or of Algebra alone will not be sufficient; candidates who have passed a qualifying examination in Geometry only, or in Algebra only, will be allowed to take separately the subject in which they have not qualified, provided they give their paper to the Examiner at the end of half the prescribed time. 5. Elements of Dynamics (Mechanics); Elementary Kinematics, Statics, Kinetics, and Hydrostatics; Textbook, Blaikie's *Elements of Dynamics* (including the chapter on Machines). In conformity with Section II of the said Statutes, which enacts that no candidate shall be admitted to a professional examination who has not passed a satisfactory examination on at least two optional subjects (in addition to the subjects mentioned above), examinations will also take place on the following subjects. 1. Greek: for October, 1888, Xenophon, *Cyropædia*, Book IV; for March and October, 1889, Xenophon, *Anabasis*, Book IV. 2. French: for October, 1888, R. Foa, *Contes Historiques*; March and October, 1889, A. de Vigny, *La Canne de Jonc*. 3. German: for October, 1888, Hauff, *Jud. Süss.*; March and October, 1889, G. von Moser, *Der Bibliothekar*. 4. Higher Mathematics: Geometry, Euclid, Books I to IV, Book VI, and the Propositions of Book XI, usually given in the modern editions, or Wilson's *Elementary Geometry*, Books I, II, III, and V, and Wilson's *Solid Geometry and Conic Sections*, Book IV, Section 1; Algebra, Elementary Trigonometry, and Conic Sections. Textbook for Conic Sections, Wilson's *Solid Geometry and Conic Sections*, Book V. The use of the above textbooks is not imperative; they are cited merely to indicate the scope of the examination. 5. Natural Philosophy: Baltour Stewart's *Elementary Physics*. 6. Logic: for October, 1888, either Fowler's *Deductive Logic, Introduction*, Parts I, II (chaps. i to iv, and vii. viii), III (chaps. i, ii, iii, and viii), and *Inductive Logic*, chaps. i, ii (sects. 1 and 2), iii. iv; or Professor Campbell Fraser's *Selections from Berkeley*, Editor's "Introduction" and "Principles of Human Knowledge," Part I, sects. 1 to 41; for March and October, 1889, either Fowler as before or Professor Campbell Fraser's *Selections from Berkeley*, Editor's "Introduction" and "Dialogue on Visual Language," along with the Prefatory Note, pp. 147 to 153 (third edition). 7. Moral Philosophy: for October, 1888, Bishop Butler's *Sermons*, 1, 2, 3, and Professor Calderwood's *Handbook*, pp. 1-43, 123, 152, and 165-202; for March and October, 1889 (1) Sidgwick's *History of Ethics*, chap iv, sects. 1 to 16, inclusive; (2) Professor Calderwood's *Handbook*, pp. 1 to 47, and 77 to 97. In answering the questions in Arithmetic, Mathematics, and Dynamics (Mechanics), the steps of the reasoning, as well as the final result, must be exhibited. In Latin, Greek, French, and German, mere translation is not sufficient; there must be translation of an English passage into each of the languages taken up by the candidate.

At Glasgow, examinations will take place on October 3rd, 1888, and three following days; and on March 27th, 1889, and three following days. *Registration Subjects:* The candidate must pass in all the subjects of this division before registration by the Branch Registrar of the General Council. 1. English; Writing correctly a passage to dictation; Composition of a short Essay on a given theme; Questions in Grammar, with analysis of sentences and the derivation and meaning of some common English words. 2. Latin: Virgil, *Æneid*, Book III, and Cæsar, *De Bello Gallico*, Book V. Translations of passages from authors not prescribed, and of English passages into Latin, the principal Latin words being supplied; Questions on Grammar and Construction. 3. Arithmetic: The Common Rules, including Vulgar and Decimal Fractions. 4. Elements of Mathematics: Euclid, Books I, II, and III (Books II and III may be passed at a subsequent examination, before the First Professional); Algebra, as far as Simple Equations. 5. Elements of Dynamics (Mechanics): Elementary Kinematics, Statics, Kinetics, and Hydrostatics. Textbooks: Bottomley's *Dynamics* (Collins's series); Blaikie's *Elements of Dynamics*. 6. One optional subject, Greek, French, German, or Logic, as prescribed in the second part. *Optional Subjects for M.B. and C.M.:* The candidate must pass in a second optional subject in addition to the one passed for registration, before he can be admitted to the first professional examination. 1. Greek: Xenophon, *Memorabilia*, Book I, and the Gospel according to St. Luke; Translations of passages from Greek authors not prescribed, and of English passages into Greek—the principal Greek words supplied; Questions in Grammar. 2. French: Montesquieu, *Considerations sur les Causes de la Grandeur des Romains et de leur Décadence.*—Translations and Exercises. 3. German: Schiller, *Wilhelm Tell*—Translations and Exercises. 4. Higher Mathematics: Euclid, Books I to IV; Algebra, including Quadratic Equations, and the Rudiments of Trigonometry. 5. Natural Philosophy: Todhunter's *Natural Philosophy for Beginners*, Part II, Sound and Heat, omitting chapters xii and xiii on Sound and in Heat from Sect. 732 to 746. 6. Logic: Jevons's *Elementary Lessons in Logic*. 7. Moral Philosophy: Herbert Spencer's *Data of Ethics*. A certificate of having passed, at the examinations for the degree of M.A. or B.Sc., in English, Latin, Mathematics, Natural Philosophy, Greek, Logic, or Moral Philosophy, will be accepted instead of examination in these subjects.

At Aberdeen, examinations will take place on October 11th and 12th, 1888, and April 18th and 19th, 1889. Part I.—The examination on the following subjects takes place prior to the commencement of the medical curriculum, namely: 1. English: Composition, Grammar, and Writing to Dictation. 2. Latin: the First Book of Cæsar's Commentaries, *De Bello Gallico*, Book I, and Virgil, *Æneid*, Book III, with Grammatical Questions. 3. Arithmetic: the Common Rules, Vulgar and Decimal Fractions, and Proportion. 4. Elements of Mathematics; the First Three Books of Euclid; Algebra: as far as and inclusive of Simple Equations. 5. Elements of Mechanics: Blaikie's *Elements of Dynamics*. Part II. Additional Subjects, on two of which, at the option of candidates, a further examination has to be undergone, before admission to the First Professional Examination for the degrees of M.B. and C.M., namely: 1. Greek: Xenophon, *Anabasis*, Book II, with Grammatical Questions. 2. French: Voltaire, *Histoire de Pierre le Grand*. 3. German: Schiller, *Wilhelm Tell*. 4. Higher Mathematics: Euclid, Books I to VI inclusive, Plane Trigonometry, Solution of Triangles, Quadratic Equations, Binomial Theorem, Logarithms. 5. Natural Philosophy: (Balfour Stewart's *Elementary Physics*, recommended). 6. Natural History: General Classification of the Animal Kingdom, Characters and Subdivisions of the Vertebrata (Nicholson's *Text-Book of Zoology*, recommended). 7. Logic: (Jevons's *Elementary Lessons in Logic*, recommended). 8. Moral Philosophy: (Reid's *Active Powers*, recommended).

At St. Andrews the examination is held in October and March; the subjects are: 1. English: Including Composition, Grammar, Geography, and History. 2. Latin: Virgil, *Æneid*, Book V, and Cæsar, *De Bello Gallico*, Book II. 3. Arithmetic: Including Vulgar and Decimal Fractions. 4. Elements of Mathematics: Geometry, *Euclid*, Books I, II, III, or their equivalent. 5. Algebra: Including Simple Equations. 6. Elements of Mechanics: Blaikie's *Elements of Dynamics*. 7. One of the following optional subjects: (*a*) Greek: Xenophon, *Anabasis*, Book IV. (*b*) French: Voltaire, *Charles XII*. (*c*) German: Schiller, *Wilhelm Tell*. (*d*) Higher Mathematics: Geometry; *Euclid*, Books I to IV and VI; Algebra, including Quadratic Equations; Elementary Trigonometry to Solution of Triangle. (*e*) Natural Philosophy: Baltour Stewart's *Elementary Physics*. (*f*) Natural History: Nicholson's *Introductory Textbook of Zoology*, or similar work. (*g*) Logic: Jevons's *Elementary Lessons*. (*h*) Moral Philosophy: Sidgwick's *History of Ethics* or Herbert Spencer's *Data of Ethics*.

ways: A course of not less than fifty hours' instruction in the class of Practical Materia Medica and Pharmacy in the University in which the student's course is passed, or a similar class conducted in a University or recognised school of medicine, or a similar class conducted at the laboratory of a hospital or dispensary or elsewhere, by a teacher recognised by the University Court; *or, for at least three months, compounding and dispensing drugs at the laboratory of a hospital, dispensary, Member of a Surgical College or Faculty, Licentiate of the London or Dublin Society of Apothecaries, or a Member of the Pharmaceutical Society of Great Britain.*[3] Evidence of a practical knowledge of vaccination is required in Aberdeen, Edinburgh, and Glasgow.

One of the four years of medical and surgical study must be in the University granting the degree sought. Another year must be either in the same University, or in some other University entled to give the degree of Doctor of Medicine. [At St. Andrews no one can be received as a candidate for the degree of Bachelor of Medicine or Master in Surgery unless two years at least of his four years of medical and surgical study shall have been in one or more of the following Universities and Colleges, namely: the Universities of St. Andrews, Glasgow, Aberdeen, Edinburgh, Oxford, or Cambridge; Trinity College, Dublin; and Queen's College, Belfast, Cork, or Galway.] Of the other two years, one may be constituted by attendance during at least six winter months on the medical or surgical practice of a general hospital which accommodates at least eighty patients, and, during the same period on a course of Practical Anatomy; and one year's attendance, to the extent of four of the departments of medical study required, on the lectures of teachers in the hospital schools of London, or in the school of the College of Surgeons in Ireland, or of such teachers of medicine as shall be recognised by the University Court, may be reckoned as one of the four years.[4] All candidates not students of the University attending the lectures of extra-academical teachers, must at the commencement of each year of attendance enrol their names in a book to be kept by the University for that purpose, paying a fee of the same amount as the matriculation fee.

Every candidate must deliver, at such time of the year as may be fixed by the Senatus Academicus—1. A declaration, in his own handwriting, that he is twenty-one years of age, or that he will be so on or before the day of graduation; and that he will not be, on the day of graduation, under articles of apprenticeship. 2. A statement of his studies, general and professional, accompanied with proper certificates.[5]

The examinations are conducted in writing and *vivâ voce*, and, as far as possible, by demonstrations of objects and other practical tests. They are divided as follows:

EDINBURGH: 1. Chemistry, Botany, and Natural History; 2. Anatomy, Institutes of Medicine, Materia Medica (including Practical Pharmacy), and Pathology; 3. Surgery, Practice of Medicine, Midwifery, and Medical Jurisprudence; 4. Clinical Medicine and Surgery in a hospital. The first division of these subjects may be passed at any examination held after completion of attendance on the prescribed courses, and the subjects may be taken at two different examinations, provided that on the first occasion the student takes (1) Botany and Natural Philosophy; or (2) Chemistry; or (3) Botany and Chemistry; or (4) Natural History and Chemistry; Practical Chemistry being in each case included under Chemistry, and on the second division at the end of their third year. The examination on the third and fourth divisions cannot take place until the candidate has completed his fourth *Annus Medicus*. Candidates may be admitted to examination on the first two divisions at the end of their third year, or to the four examinations at the end of the fourth year.

GLASGOW: 1. Chemistry, Botany, and Natural History; 2. Anatomy, and Physiology; 3. Regional Anatomy, Materia Medica and Pharmacy; 4. Surgery, Clinical Surgery, Medicine, Clinical Medicine, Pathology, Midwifery, and Forensic Medicine. Students may be examined in the first division of subjects at the period of examination next preceding the second winter session; in the second division, after two winter and three summer sessions, or, for those who commenced in a winter session, two winter and two summer sessions, from the time of the commencement of studies; in the third division, after the conclusion of the third winter session of attendance upon medical classes; in the fourth division, at the first term for the final examination after the conclusion of the curriculum of study.

ABERDEEN: 1. Botany, Natural History, Chemistry, and Anatomy; 2. Regional Anatomy, Institutes of Medicine, Materia Medica, and Surgery; 3. Practice of Medicine, Clinical Medicine, Clinical Surgery, Midwifery, Pathological Anatomy, and Medical Jurisprudence.

ST. ANDREWS: 1. Chemistry, Botany, Elementary Anatomy, and Materia Medica; 2. Advanced Anatomy, Zoology with Comparative Anatomy, Physiology, and Surgery; 3. Practice of Medicine, Clinical Medicine, Clinical Surgery, Midwifery, General Pathology, and Medical Jurisprudence.

At the Universities of Aberdeen and St. Andrews, the examination in the first division of subjects may be passed at the end of the second year (except that at Aberdeen the examination in Botany and Natural History may be passed at the examination term preceding the second winter session); the examination in the second division at the end of the third year; and that in the third division at the end of the fourth year. Candidates may be admitted to examination on the first two divisions at the end of the third year, or to the three examinations at the end of the fourth year.

DEGREE OF DOCTOR OF MEDICINE.

The degree of Doctor of Medicine may be conferred on any candidate who has obtained the degrees of Bachelor of Medicine and Master in Surgery, and is of the age of twenty-four years, and has been engaged, subsequently to having received the degrees of Bachelor of Medicine and Master in Surgery, for at least two years in attendance on a hospital, or in the military or naval medical services, or in medical and surgical practice. The candidate must be a Graduate in Arts, or must before or at the time of obtaining his degrees of Bachelor of Medicine and Master in Surgery,[6] or thereafter, have passed a satisfactory examination in Greek, and in Logic or Moral Philosophy, and in one at least of the other optional subjects of the examination in general education (see page 543). At Aberdeen, Edinburgh, and Glasgow, he must submit to the Medical Faculty a thesis composed by himself, and which shall be approved by the Faculty, on any branch of knowledge comprised in the Professional Examinations for the degrees of Bachelor of Medicine and Master in Surgery, which he may have made a subject of study after having received these degrees.[7]

At Edinburgh, candidates settled for a period of years in foreign parts, who have complied with all the regulations for the degree of M.D. (under the new statutes), but who cannot appear personally to receive the degree, may, on satisfying the Senatus to that effect, by production of sufficient official testimonials, have

[3] Substitute in the case of Edinburgh University the following for the paragraph in italics: or, that he has been engaged by apprenticeship, for not less than two years, with a registered medical practitioner, or a Member of the Pharmaceutical Society of Great Britain, or a Member of the Pharmaceutical Society of Ireland, or a pharmaceutical chemist, or chemist and druggist, registered under the provisions of the "Act for regulating the qualifications of Pharmaceutical Chemists, 1852," "The Pharmacy Act, 1868," or "The Pharmacy Act (Ireland), 1875," in the *bonâ fide* compounding and dispensing of drugs, and the preparation of their officinal and other preparations under his superintendence.

[4] Students of medicine in the London schools and in the school of the College of Surgeons in Dublin can obtain there two *Anni Medici* out of the four required for the Edinburgh degrees of medicine. Courses of lectures in these schools are regarded as equivalent to lectures on the corresponding subjects in this University, except Materia Medica and Midwifery, which, being only three months' courses in them, are not equivalent. One *Annus Medicus* may be constituted by attendance on Practical Anatomy and hospital practice during the winter session. Another *Annus Medicus* by attending either (*a*) full winter courses on any two of the following subjects: Anatomy, Physiology, Chemistry, Pathology, Surgery, Medicine, Clinical Surgery, Clinical Medicine; or (*b*) on one such course and two three months' courses on any of the following subjects: Botany, Practical Chemistry, Natural History, Medical Jurisprudence. If the student select the arrangement prescribed in (*a*), attendance on a third course will be accepted. The other subjects, and the additional courses, not given in London or Dublin, required for the degrees of the University, will have to be attended at the University. In provincial schools where there are no lecturers recognised by the University Court, a candidate can have only one *Annus Medicus*, and this is constituted by attendance on a qualified hospital along with a course of Practical Anatomy; but in a provincial school, where there are two or more lecturers recognised by this University, a second *Annus Medicus* may be made by attendance on at least two six months', or one six months' and two three months' recognised courses.

[5] The University of St. Andrews requires an Inaugural Dissertation to be presented previous to the Final Examination for M.B. In the other Universities no thesis is required until the candidate seeks the degree of M.D.

[6] Or within three years thereafter.—*St. Andrews.*

[7] No Thesis will be approved by the Medical Faculty which does not contain either the results of original observations in Practical Medicine, Surgery, Midwifery, or some of the sciences embraced in the curriculum for the Bachelor's and Master's degrees; or else a full digest and critical exposition of the opinions and researches of others on the subject selected by the candidate, accompanied by precise reference to the publications quoted, so that due verification may be facilitated.—*Edinburgh.* There is a similar regulation in the University of Glasgow.

the degree conferred on them in absence. The degree of M.D. is also conferred *in absentiâ* at Glasgow where sufficient reason is shown.

The degree of Doctor of Medicine may be conferred by the University of St. Andrews on any registered medical practitioner above the age of forty years, whose professional position and experiences are such as, in the estimation of the University, to entitle him to that degree, and who shall, on examination, satisfy the Medical Examiners of the sufficiency of his professional knowledge, provided always that such degrees shall not be conferred on more than ten in any one year. The candidate must produce a certificate of age, and three certificates from medical men of acknowledged reputation as to his professional position and experience. The examination is conducted in writing and *viva voce* on Materia Medica and General Therapeutics, Medical Jurisprudence, Practice of Medicine and Pathology, Surgery, and Midwifery and Diseases of Women and Children.

The Graduation Fees in the Universities of Edinburgh and Aberdeen are—for the Degree of M.B., three examinations, each £5 5s. = £15 15s.; for the degree of C.M., £5 5s. additional. At Glasgow there are four examinations for the conjoined degrees of of M.B. and C.M., the fee being £5 5s. for each; and at St. Andrews for the same degrees three examinations, the fee for each being £7. For the degree of M.D. the fees at each University are £5 5s. additional to that for M.B. and C.M., together with Government stamp-duty (£10).

The fee for graduating under the old regulations in Edinburgh is £25. At St. Andrews, the fee for the degree of M.D. under the section relative to registered medical practitioners is 50 guineas; if the candidate fail to pass, £10 10s. (which is to be paid before the examination) is retained. Stamp-duty is included in both cases.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

STATED examinations for the Licences of the College in Medicine and Midwifery are held in the week following the first Friday in each month, except August and September.

THE LICENCE IN MEDICINE.

Registered medical practitioners who are—(*a*) Graduates in Medicine or Surgery of any University in the United Kingdom, or of any Colonial or Foreign University recognised by the College; (*b*) Fellows, Members, or Licentiates of the Royal College of Physicians of London or of the Royal College of Physicians of Edinburgh; (*c*) Fellows, Members, or Licentiates of the Royal Colleges of Surgeons England, Ireland, or Edinburgh—may be admitted to examination for the Licences of the College to practise Medicine and Midwifery, on producing satisfactory evidence of character from a Fellow of the College, or from two registered medical practitioners. A candidate qualified as above, but who is of less than five years' standing, is required to fill up a schedule containing evidence—(1) Of having attended for twenty-seven months a recognised medico-chirurgical hospital, in which clinical lectures and clinical instruction in medicine are given, the attendance not to be for more than nine months in any one year, namely, six winter and three summer months. 2. Of having discharged the duties of medical clinical clerk during six months, or of having taken notes, to the satisfaction of the physician in charge of the case, and certified under his hand, of at least six separate medical cases—including different varieties of acute and chronic diseases—in the wards of a recognised hospital; and of having attended, during the whole period of his attendance on hospital practice, demonstrations in the *post-mortem* room of a recognised hospital.[1] 3. Of having, for not less than three months, studied Fever in a recognised clinical hospital containing fever wards, and recorded, from daily personal observation, at least five cases of fever, to the satisfaction of the attending clinical physician, as attested by his signature. The word "fever" includes the following diseases only—namely, typhus, typhoid or enteric fever, scarlet fever, smallpox, measles. 4. Of having attended Practical Midwifery and Diseases of Women for six months at a lying-in hospital or maternity recognised by the College; or, where such hospital attendance cannot have been attained during any period of the course of study, of having been engaged in Practical Midwifery under the supervision of a registered practitioner holding public appointments; the certificate in either case to state that not less than twenty labour cases must have been actually attended. 5. Of having been engaged in the practical study of Vaccination. [This rule applies to candidates who commenced the study of medicine on and after October 1st, 1879.] 6. Of having lodged the admission fee in the Royal Bank of Ireland to the credit of the College.

The subjects of examination for the Licence to Practise Medicine are—Practice of Medicine, Clinical Medicine, Pathology, Medical Jurisprudence, Midwifery, Hygiene, and Therapeutics.

A candidate qualified as above, but who is of five years' standing, shall be admitted to examination for the Licence of the College, on producing his certificate of registration, with satisfactory references, and shall have the privilege of being exempted from the examination by printed questions.

THE LICENCE IN MIDWIFERY.

Candidates for the Licence in Midwifery, who are not Licentiates in Medicine, may be admitted to examination on the following qualifications: 1. The degree or licence in Medicine or Surgery from any University or College of Physicians or Surgeons in the United Kingdom; 2. Testimonials as to character; 3. Certificates of having attended (*a*) a course of lectures on Midwifery in a school recognised by the College; (*b*) Practical Midwifery and Diseases of Women, for six months, at a lying-in hospital or maternity recognised by the College; or, where such hospital attendance cannot have been obtained during any period of the candidate's course of study, of having been engaged in Practical Midwifery under the supervision of a registered practitioner, holding a public medical appointment—the certificate, in either case, to state that not less than twenty labour cases have been actually attended.

Candidates who are already Licentiates in Medicine of the College, or who have passed the examination for such licence, may be admitted to examination for the Licence in Midwifery on lodging their fees, and signifying their wish to the Registrar a week at least before such examination.

Any registered medical practitioner of five years' standing, who is qualified under (*a*), (*b*) or (*c*), shall be admitted to examination for such Licence in Midwifery on producing his certificate of registration, with satisfactory reference, and he shall have the privilege of being exempted from the examination by printed questions.

FEES FOR THE LICENCES TO PRACTISE MEDICINE AND MIDWIFERY.

Fee for the Licence to practise Medicine, £15 15s., except in the case of Graduates in Arts and Medicine of any University in the United Kingdom, when the fee shall be £5 5s. only. Fee for examination for the Licences in Medicine and Midwifery, if obtained within the interval of a month, £16 16s.—to be lodged in one sum.[2] Fee for special examination for the Licence to practise Medicine, £21. Fee for examination for the Licence to practise Midwifery, £3 3s. Fee for special examination for the Licence to practise Midwifery, £5 5s. The admission fee, less the sum paid to the examiners, will be returned to rejected candidates.

MEMBERSHIP.

Every candidate for the Membership of the College (not admitted before December 12th, 1878), is required to produce satisfactory evidence—1. Of having attained the age of twenty-five years. 2. Of being a Licentiate of the College for three years at least, computed from the day on which he shall have subscribed his name on admission as a Licentiate; or a Licentiate of one year's standing, who shall be a Graduate of Arts of a University in the United Kingdom at the time of his obtaining the licence; or a Licentiate of one year's standing who shall be a registersd practitioner of seven years' standing at the time of his obtaining the licence. 3. Of moral character and professional conduct from a Fellow or Member of the College, or from a Fellow of one of the Colleges of Physicians of London or of Edinburgh. 4. That he is not engaged in trade; and that he does not dispense medicine, or make any engagement with a chemist or other person for the supply of medicines; and that he does not practise medicine or surgery in partnership. 5. Of having held during at least six months the office of resident physician or resident medical pupil, or of having acted during the same period as medical clinical clerk, in a recognised hospital; or of having been in medical

[1] This rule is to be enforced in the case of all candidates who shall have commenced their professional studies after September 30th, 1883.

[2] Any candidate who has been rejected at the examination for the Licence in Medicine loses this privilege, and shall be required to pay the full fee of £3 3s. for the Licence in Midwifery.

charge for at least twelve months of a public institution for the treatment of the sick.

Every candidate must pass an examination in: 1. Principles of Medicine, including Pathology, Morbid Anatomy, and Medical Chemistry; 2. Practice of Medicine, including Principles of Public Health; 3. Clinical Medicine. The fee for the examination is £21, which must be lodged in the Royal Bank, Dublin, before the applications and certificates are sent in. The examinations are held in January, April, July, and October.

Candidates who were admitted Licentiates of the College before December 12th, 1878, may be admitted Members of the College, under the following conditions. They shall comply with Clauses 1, 2, 3, and 4, as above stated. They shall satisfy the College that they have, since their admission as Licentiates, obeyed the by-laws of the College. Should the College be satisfied that they have complied with the above regulations, they shall be admitted Members without fee or examination, on taking the declaration required of Members. Should the candidate wish to obtain the parchment diploma of Membership, he shall pay one guinea.

REGULATIONS FOR THE CONJOINT EXAMINATIONS OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS IN IRELAND.

ALL information relative to the examinations under the Conjoint Scheme may be obtained from the Secretary of the Committee of Management, 47, Dawson Street, Dublin, with whom all applications of candidates for permission to be examined, and with whom the bank receipt for fees and all certificates, etc., are to be lodged at least fourteen days prior to the day fixed for the commencement of the examinations for the class to which each candidate belongs.

Each candidate before receiving his diplomas must produce evidence that he has attained the age of twenty-one years.

The examinations shall commence on the first Monday in April, July, and October of each year, unless otherwise appointed by the Committee of Management. The examinations shall begin with the Junior Grade.

The written portions of all examinations shall be held at the College of Physicians, the oral and practical portions at the College of Surgeons. The Clinical Examination shall be held in hospitals by the examiners in Medicine, in Surgery, and in Gynæcology.

First Professional Examination.—Candidates shall be required, before admission to the First Professional Examination, to produce evidence: 1, of having been registered by the General Medical Council as medical students at least nine months before the date of examination; 2, of having attended a course of lectures on Practical Anatomy, and one on Chemistry; 3, of having attended a course of Demonstrations and Dissections; 4, of having attended a summer course on Materia Medica, and one on Practical Chemistry; 5, of having studied Practical Pharmacy for three months in the compounding department of a clinical hospital, or in the compounding establishment of a licentiate apothecary or Member of the Pharmaceutical Society, or a course in Pharmacy in a recognised medical school.

Fee.—The fee for this examination shall be £15 15s.

Second Professional Examination.—Candidates shall be required, before admission to the Second Professional Examination, to produce evidence of having passed the First Professional Examination; also certificates of having subsequently attended a medico-chirurgical hospital for nine months, together with evidence of having taken notes to the satisfaction of the physicians or surgeons in charge of the cases, and certified under their hands, of at least three Medical cases and three Surgical cases, in the wards of a recognised medico-chirurgical hospital, and the following courses of lectures:—Winter Courses: Practical Anatomy, Demonstrations and Dissections, Physiology, Surgery. Summer Course, three months: Practical Physiology, including Histology.

Fee.—The fee for this examination shall be £5 5s.

Third Professional Examination.—Candidates shall be required, before admission to the Third Professional Examination, to produce evidence of having passed the Second Professional Examination; also certificates of having subsequently attended a medico-chirurgical hospital for nine months, together with evidence of having taken notes to the satisfaction of the physicians and surgeons in charge of the cases, and certified under their hands, of at least three medical cases and three surgical cases, in the wards of a recognised medico-chirurgical hospital, and of the following courses of lectures:—Winter Courses: Demonstrations and Dissections, Medicine, Midwifery, if not deferred to the fourth year. Summer Course, three months: Medical Jurisprudence.

Fee.—The fee for this examination shall be £5 5s.

Fourth, or Final, Professional Examination.—Candidates shall be required, before admission to the Final Examination, to produce evidence: 1, of having been registered as a medical student by the General Medical Council at least forty-five months previously; 2, of having passed the Third Professional Examination; 3, of having subsequently attended a medico-chirurgical hospital for nine months as extern pupil, or six months as resident pupil, unless a certificate to that effect has been accepted in the third year, and of having attended the following course of lectures:—Winter Course: Midwifery, unless taken in the third year. Certificates shall also be required: 1, of having attended a recognised midwifery hospital, or maternity, for six months in the winter or summer of either the third or the fourth year, with evidence of having been present at thirty labours; 2, of having, for not less than three months, studied Fever in a recognised clinical hospital containing fever wards, and recorded, from daily personal observation, at least five cases of fever, to the satisfaction of the attending clinical physician, as attested by his signature.—[*Note.*—Attendance at a fever hospital will not be recognised if concurrent with that on Practical Midwifery.]—3, of having attended a course of Operative Surgery in the summer session of either the third or fourth year; 4, of having attended at a recognised ophthalmic and aural hospital, or at a recognised ophthalmic and aural department of a general hospital, Clinical Lectures in Ophthalmic and Aural Surgery during a period of three months.

Fee.—The fee for this examination shall be £15 15s.

ROYAL COLLEGE OF SURGEONS, IRELAND, AND THE APOTHECARIES' HALL, IRELAND: CONJOINT EXAMINATION.

THE Royal College of Surgeons and the Apothecaries' Hall, Ireland, will continue to examine separately and to grant their diplomas only to candidates who have been registered medical practitioners before July, 1887, but the College will also continue to grant its Fellowship independently. All other candidates for the Letters Testimonial of the Royal College of Surgeons, Ireland, or the Licence of Apothecaries' Hall, Ireland, must fulfil the requirements and pass the examination instituted under the first scheme, as follows:

Preliminary Examinations, etc.—Every candidate must produce evidence of having, before entering on medical studies, passed a preliminary examination in general education recognised by the General Medical Council (*q. v.*), and of having been registered by that Council as a student in medicine.

First Professional Examination.—Certificates must be produced—(1) Of having been registered by the Medical Council at least nine months; (2) of having attended winter courses on Practical Anatomy, demonstrations and dissections, and Chemistry; a summer course in Practical Chemistry; of having been engaged in Practical Pharmacy for three months in the compounding department of a clinical hospital, or a school of pharmacy, or in the compounding establishment of a licentiate apothecary. If the candidate has not been examined in physics at the preliminary examination, he must pass in that subject at this examination. Candidates will be examined by written papers and orally in [Physics] Chemistry and Anatomy (that is, Osteology), and in Practical Chemistry in a laboratory. Fee, twelve guineas.

Second Professional Examination.—Certificates must be produced of having, subsequently to the First Professional Examination, attended—(1) a medico-chirurgical hospital for nine months, and of having held a clinical clerkship, or of having taken notes of of three medical and three surgical cases; (2) A winter course in Demonstrations and Dissections, Physiology, Surgery; and a summer course of Materia Medica and Practical Physiology, including Histology. Candidates will be examined by written papers in Anatomy, Physiology, Materia Medica, and Pharmacy, orally in these subjects and in hospital practice, and will be required to make a dissection, to prepare microscopical preparations, and to answer questions on naked-eye and microscopic preparations. Fee, seven guineas.

Third Professsional Examination.—Certificates must be produced of having, subsequently to the Second Professional Examination, attended—(1) a medico-chirurgical hospital for six months

as resident, or nine months as extern pupil, and of having taken notes or acted as clinical clerk; (2) a winter course in Demonstrations and Dissections, Medicine, Midwifery and Gynæcology (may be deferred to fourth year); and a summer course in Medical Jurisprudence, and Hygiene. Candidates will be examined by written papers and orally in Anatomy, Surgery, Medicine, and Pathology (Medical and Surgical); they will also be required to make a dissection of a region, and to answer questions on the anatomy of that or other parts. Fee, seven guineas.

Fourth Professional Examination.—Evidence must be produced of having been registered as a medical student by the General Medical Council at least forty-five months previously, and of having, subsequently to the Third Professional Examination, attended—(1) a medico-chirurgical hospital for nine months as extern pupil, or for six months as resident pupil; (2) a winter course on Midwifery (unless taken in the third year), at a recognised midwifery hospital or maternity for six months in the third or fourth year, with evidence of having been present at thirty labours; (3) for three months in a clinical hospital containing fever wards; (4) Operative Surgery (in summer session of third or fourth year); (5) Clinical lectures on Ophthalmic and Aural Surgery at a recognised ophthalmic hospital, or the ophthalmic department of a general hospital. Candidates will be examined by written papers and orally in Medicine, Therapeutics, Surgery, Midwifery and Gynæcology, Ophthalmic and Aural Surgery, and Forensic Medicine and Hygiene; they will also be examined clinically in a hospital, and in operative surgery, each candidate being required to perform a major and a minor operation.

Exemptions.—(1) Fully qualified Licentiates of the College are, at their Final Examination, exempt from examination in Surgery, Forensic Medicine, and Hygiene; Licentiates of the Hall from examination in Medicine; and, in either case, if a registrable diploma in that subject is presented, from examination in Midwifery. (2.) Candidates who have passed the First, Second, or Third Professional Examinations respectively, as hitherto conducted by the College, may present themselves for the Second, Third, or Fourth Professional Examination under the conjoint scheme respectively. (3.) Candidates who have passed the first half of the Professional Examination under the old scheme of the College, or the first and second part of the Examination of the Apothecaries' Hall, may present themselves for the Final Examination under the conjoint scheme if they have otherwise complied with its regulations. (4.) Candidates who have passed examinations by the licensing bodies which the Committee of Management may consider equivalent, are exempted from similar examinations under the scheme. (5.) The Committee of Inspection have power to make special exemption in favour of students engaged in study before July 1st, 1887.

Schedules of the subjects of examination, and all further information, may be obtained from the Registrar of the Royal College of Surgeons, or the Registrar of the Apothecaries' Hall, Dublin.

UNIVERSITY OF DUBLIN.

THE degrees in Medicine and Surgery granted by the University of Dublin are: 1. Bachelor of Medicine; 2. Doctor of Medicine; 3. Bachelor in Surgery; 4. Master in Surgery; 5. Bachelor in Obstetric Science; 6. Master in Obstetric Science. It also grants diplomas in Medicine, Surgery, and Obstetric Science, and a qualification in State Medicine.

BACHELOR IN MEDICINE.

A candidate for the degree of Bachelor in Medicine must be a Graduate in Arts, and may obtain the degree of Bachelor in Medicine at the same commencement as that at which he receives his degree of B.A., or at any subsequent commencement, provided the requisite medical education shall have been completed. The medical education is of four years' duration, and comprises attendance on a course of each of the following lectures: *Winter*—Anatomy; Practical Anatomy; Chemistry; Institutes of Medicine (Physiology); Practice of Medicine. *Summer*—Botany; Institutes of Medicine (Practical Histology); Comparative Anatomy; Materia Medica and Pharmacy; Medical Jurisprudence; Practical Chemistry. *Term Courses*—Heat (Michaelmas); Electricity and Magnetism (Hilary). Three courses of nine months' attendance on the clinical lectures of Sir Patrick Dun's or other metropolitan hospital recognised by the Board.[1] A certificate of personal attendance on fever cases, with names and dates of cases. Practical instruction in Vaccination. Any of the winter or summer courses may be attended at any medical school in Dublin recognised by the Provost and Senior Fellows.[2] Students who shall have diligently attended the practice of a recognised London or Edinburgh hospital for one year, or of a recognised county infirmary for two years previous to the commencement of their metropolitan medical studies, may be allowed to count those two years as equivalent to one year spent in a recognised metropolitan hospital.

Candidates for the degree of M.B. must pass the Previous Medical Examination and the Bachelor of Medicine Examination.

The *Previous Examination* comprises Botany and Comparative Anatomy; Physics and Chemistry; Descriptive Anatomy and Institutes of Medicine (Practical Histology and Physiology). The examination in descriptive Anatomy includes examination on the dead subject. It is not necessary that the student should pass in all these subjects at the same examination.

A stated Half M.B. Examination is held at the close of the summer session in each year; in addition to which there is an examination in the last term before the M.B.

Bachelor of Medicine Examination.—The candidate for the M.B. Examination must have previously passed the Previous Medical Examination in all the subjects, and have lodged with the Medical Registrar, on a certain day to be duly advertised, certificates of attendance upon all the courses of study above prescribed.

Candidates must pass a final examination in the following subjects: Physiological Anatomy; Practice of Medicine; Medical Jurisprudence; Institutes of Medicine (Pathology and Hygiene); Clinical Medicine; Therapeutics. The fee for the *Liceat ad Examinandum* is £5; for the degree of M.D, £11.

DOCTOR IN MEDICINE.

A Doctor in Medicine must be a Bachelor in Medicine of three years' standing, or have been qualified to take the degree of Bachelor in Medicine for three years. He must also read a Thesis publicly before the Regius Professor of Physic, or must undergo an examination before the Regius Professor of Physic. The total amount of fees for this degree is £13.

BACHELOR IN SURGERY.

A Bachelor in Surgery must be a Bachelor in Arts, and have spent four years in the study of Surgery and Anatomy. He must have passed the M.B. Examination before presenting himself at the B.Ch. Examination, having previously completed the prescribed curriculum of study. The curriculum of study comprises the following, in addition to the complete course for the degree of Bachelor in Medicine: Theory of Surgery, Operative Surgery, and Ophthalmic Surgery, each one course; Dissections, two courses. Candidates are required to perform surgical operations on the dead subject, and are examined in Bandaging and Minor Surgery, and in Surgical Pathology. Fee for the *Liceat ad Examinandum*, £5; for the degree of Bachelor in Surgery, £5.

MASTER IN SURGERY.

A Master in Surgery must be a Bachelor in Surgery of the University of Dublin of not less than three years' standing, and must produce satisfactory evidence of having been engaged for not less than two years from the date of his registration in the study or study and practice of his profession. He must then pass an examination in the following subjects:—1. Clinical Surgery; 2. Operative Surgery; 3. Surgical Pathology; 4. Surgery; 5. Surgical Anatomy (on the dead subject). And one of the following optional subjects, namely: 1. Surgery, in one of its recognised branches, namely: Ophthalmic and Aural, Gynæcological, Dental; 2. Mental Disease; 3. Medical Jurisprudence and Hygiene; 4. Advanced Anatomy and Physiology; 5. Comparative Anatomy. Graduates in Surgery of the University of Dublin, of not less than ten years' standing, may be recommended for the degree of M.Ch., by the vote of the Court of Examiners, on such examination as they shall determine. Fee for the degree of Master in Surgery, £11.

BACHELOR IN OBSTETRIC SCIENCE.

A Bachelor in Obstetric Science must be a Bachelor in Arts, and have passed the M.B. Examination. The curriculum comprises

[1] The following hospitals are recognised:—Sir Patrick Dun's Hospital, Meath Hospital, Dr. Steevens's Hospital, Jervis Street Infirmary, City of Dublin Hospital, Mercer's Hospital, St. Vincent's Hospital, Adelaide Hospital, House of Industry Hospitals, Mater Misericordiæ Hospital, St. Mark's Ophthalmic Hospital, and the National Eye and Ear Infirmary.

[2] The following schools, in addition to the School of Physic, are recognised:—The School of the Royal College of Surgeons in Ireland, the Carmichael School, the Ledwich School of Medicine and Surgery, the School of the Catholic University.

the following in addition to the M.B. course: A winter course of lectures in Midwifery; six months' practice at a lying-in hospital or maternity. The examination comprises Gynæcology, Midwifery, and Obstetrical Anatomy. Fee, £1.

MASTER IN OBSTETRIC SCIENCE.

A Master in Obstetric Science must have passed the M.B. and B.Ch. Examinations, and produce evidence of having attended a summer course of Obstetric Medicine and Surgery. Existing Graduates in Medicine, of the standing of M.D., are not required to attend this course. Fee for the degree of Master in Obstetric Science, £5.

UNIVERSITY DIPLOMAS.

The medical courses are the same as for the corresponding degrees, except that attendance on Botany and Comparative Anatomy lectures is not required. A diplomate wishing to become a graduate must complete his Arts course, attend Botany and Comparative Anatomy Lectures, and pass the Previous Medical Examination in these subjects, and pay the degree fees.

MEDICAL AND SURGICAL TRAVELLING PRIZES.

A Prize of £100 is awarded by the Board, in alternate years, to the best answerer at a special examination in Medicine and Surgery, provided that the merit be deemed sufficient. The successful candidate is required to spend three months in the study of Medicine or Surgery, as the case may be, in Berlin, Paris, or Vienna. Before he can obtain the first instalment of £50, he must satisfy the Senior Lecturer that he possesses sufficient knowledge of a Continental language to derive full benefit from the prize. The examination is held in June, and is open to students who have graduated in Medicine or in Surgery, as the case may be, within two years of the examination. The subjects of the Medical Travelling Prize Examination are Clinical Medicine, Practice of Medicine, Therapeutics, Pathology, Obstetric Medicine, and Toxicology. The subjects of the Surgical Travelling Prize Examination are Clinical Surgery, Operative Surgery, Pathology, Surgical Anatomy, and Ophthalmic Surgery. A Travelling Prize in Medicine will be competed for in June, 1889.

ROYAL UNIVERSITY OF IRELAND.

ALL degrees, honours, exhibitions, prizes, and scholarships are open to students of either sex. The following degrees, etc., are conferred in the Faculty of Medicine. In *Medicine*, M.B., M.D. In *Surgery*, B.Ch., M.Ch. In *Obstetrics*, B.A.O., M.A.O. In *Sanitary Science*, a special diploma. In *Mental Disease*, a special diploma.

No student is allowed to enter upon professional studies until after the completion of the obligatory non-professional studies; that is, he must have passed the following examinations: the Matriculation Examination at least one academical year before, and must have passed the First University Examination. Certificates of attendances not in accordance with this regulation will not be accepted.

A medical student from one of the Queen's Colleges, the Queen's University, or any other institution approved by the Senate, matriculated therein before October 1st, 1881, who has completed at least one year of the medical curriculum in any of the said institutions, is entitled to credit for a year's course without passing the First Examination in Arts.

The course of medical studies is divided into periods of one year each, during each of which the student is required to follow a prescribed curriculum in an institution recognised by the Senate; certificates of attendance on the courses prescribed for the different years must be furnished by candidates for the examinations, and no such certificate will be received unless it attests a *bonâ fide* attendance on two-thirds of the whole course.[1] The courses in Natural Philosophy, Chemistry, Biology, Anatomy, and Physiology must be attended in institutions having facilities for experimental courses and practical work.

The First Year's Course of medical studies includes (1) Natural Philosophy (six months' course of lectures on three days a week, or a three months' course of lectures on five days a week); (2) Systematic Chemistry (six months) and Practical Chemistry (three months); (3) Biology, comprising (*a*) Botany, and (*b*) Zoology, each course to consist of lectures and demonstrations on three days a week for three months (syllabus of these courses are fully given in the Calendar of the University).—*The First Examination* in Medicine includes these subjects, and in each case consists of (i) a written examination, and (ii) practical work and oral examination; particular importance is attached to the practical parts. Candidates must produce a certificate of registration as medical students. Candidates who, at the First University Examination in Arts, failed to obtain 30 per cent. of the marks assigned to French or German will be required to pass a qualifying examination in those languages. Students who have taken the B.A. in any of the subjects named for the first year's course of medical studies will, upon the production of certificates of attendance in recognised institutions at proper courses of instruction in such subject or subjects, be exempted from attending lectures on, or passing examinations in, such subject or subjects; and any such students who have passed in the three subjects [1, 2, and 3 (*a* and *b*)] shall be entitled at once to enter upon the second year's course of medical subjects, provided in every case that he shall have obtained at such B.A. examinations such marks as would have entitled him to have passed.

The Second Year's Course of medical studies includes (1) Anatomy, systematic and practical; (2) Systematic Physiology; (3) Pharmacology (materia medica); (4) attendance during a winter session of six months at a medico-chirurgical hospital recognised by the University, and at the clinical lectures delivered therein. No certificate of attendance at any of the above courses will be accepted where such attendance appears to have been given before the completion of the full course prescribed for the first year.—*The Second Examination* in Medicine shall include the subjects (1), (2), and (3) above mentioned.

The Third Year's Course comprises (1) Advanced Systematic Anatomy and Practical Anatomy; (2) Advanced Systematic Physiology and Practical Physiology and Histology;[2] (3) Medicine, including Therapeutics and Pathology; (4) Surgery, including Therapeutics and Surgical Pathology; (5) attendance during a winter session of six months, and a summer session of three months at a general hospital recognised by the University and at the clinical lectures therein. There will be at the end of the third year of medical studies *a Special Examination* in the complete course of Anatomy, Physiology, and Histology as prescribed above. A fee of £1 is payable before entering for this examination.

The Fourth Year's Course comprises the remaining subjects of the medical curriculum, namely:—(1) Midwifery and Diseases of Women and Children; (2) Mental Diseases (three months' course in a recognised institution where Clinical Instruction on Mental Disease is given); (3) Medical Jurisprudence with Hygiene; (4) Ophthalmology and Otology (a three months' course in a hospital having at least ten beds devoted to the Diseases of the Eye and Ear); (5) Operative Surgery; (6) Attendance during a winter session of six months, and a summer session of three months, at a general hospital recognised by the University, and at the Clinical Lectures therein; (7) Practical Midwifery at a midwifery hospital or dispensary.—*The Examination for the Primary Medical Degrees* is held at the conclusion of the fourth year of medical studies. Candidates are required to produce certain certificates of attendance at hospital practice. Certificates of attendance on lectures or hospital practice will only be received from institutions formally recognised by the Senate. (1) Certificate of attendance at a recognised hospital for three winter sessions, and two summer sessions, as more fully set out above. No hospital attendance will be recognised where such attendance has taken place prior to the completion of a first year of medical studies. (2) A certificate of having attended at a recognised midwifery hospital or dispensary where clinical instruction is given in Diseases of Women and Children, for six months; such attendance to take place not earlier than the fourth year of medical studies. The certificate must state that the candidate has attended 20 labours at least, at 10 at least of which he had personal charge. (3) A certificate of having attended, during a period of three consecutive months, a fever hospital of repute, or the fever wards of a general hospital receiving fever patients, and of having had personal charge of at least 10 fever cases. This attendance must not take place during the period of attendance on Practical Midwifery and Gynæcology. (4) A certificate of having compounded medicine under a licensed apothecary or pharmaceutical chemist directing a public establishment for the general compounding and sale of drugs in a town of about 10,000 inhabitants at least, or under the apothecary of a large general hospital recognised by

[1] Certificates of attendance at night lectures will not be accepted save in the case of medical students registered as such prior to October 1st, 1887, and will not be received from such students for lectures attended after July 31st, 1890.

[2] A three months' laboratory course of at least one hour, three times a week, is prescribed, but the two subjects may be attended in separate courses, and one or both may be taken in the second year at the option of the student.

the University. Certificates of instruction in connection with dispensaries will not be deemed satisfactory. (5) A certificate of having received practical instruction in vaccination stating that the candidate had attended on at least ten days at a place appointed for public vaccination, and had received practical instruction from a public vaccinator. (6) Certificates of attendance on subjects (2) and (4), enumerated above as part of the fourth year's course. (7) A certificate of attendance on a course of operative surgery by a duly appointed lecturer in a recognised school. (8) A certificate of having acted as dresser or clinical clerk in a recognised general hospital for at least two months; such certificates not to be simultaneous. [At the examinations in 1890 and thenceforth (9) a certificate of having had personal charge of at least six cases of diseases or affections peculiar to women, medical or surgical, in a special hospital or special ward. 10. A certificate of attendance on at least six cases of diseases of childhood.] The examination will consist of three parts, each of which must be taken as a whole, namely:—(*a*) Medicine, including therapeutics and pathology, mental diseases, medical jurisprudence, and hygiene; (*b*) Surgery—theoretical, clinical, operative; surgical anatomy, ophthalmology, otology; (*c*) Midwifery—gynæcology, diseases of children. Upon completing satisfactorily his examination in all these three parts the candidate will be granted the degrees of M.B., B.Ch., and B.A.O., together with a certificate setting out that he has passed a qualifying examination in Medicine, Surgery, and Midwifery. The fee for this certificate is £10; the fee for the examination is £2.

Honours.—An honours examination is held in connection with each of the four medical examinations, and in each case subsequently to the corresponding pass examination. In the case of the examination for the primary medical degree the honours examination will be held in each of the three divisions (*a*), (*b*), and (*c*) enumerated above. No one can be admitted to a degree in Medicine who is not fully twenty-one years of age.

Exhibitions.—The following exhibitions may be awarded annually by the Senate. At the First Examination in Medicine, two First Class at £20, and two Second Class at £10. At the Second Examination in Medicine, two First Class at £25, and two Second Class at £15. At the Third Examination in Medicine, two First Class at £30, and two second class at £20. At the Examination for the Primary Medical Degrees, two First Class of £40 each and two Second Class of £25 each. An exhibition will not be awarded to any candidate at the First Examination in Medicine, if a longer interval than three academical years shall have elapsed from the time of matriculation: nor at the Second Examination in Medicine, if a longer interval than two academical years shall have elapsed from the time of passing the First Examination in Medicine; or at the Third Examination, if a longer interval than three academical years shall have elapsed from the time of passing the First Examination in Medicine; or at the Examination for the Primary Medical degrees, if a longer interval than four academical years shall have elapsed from the time of passing the First Examination in Medicine. So long as each examination is held twice annually, not more than one First Class and one Second Class Exhibition shall be awarded in connection with each examination. —Hutchinson Stewart Scholarships,[1] each tenable for three years; one value £10 per annum, for competition in the subject for the Second Examination in Medicine; the other, annual value £50, to graduates of not more than two years' standing, for proficiency in Mental Diseases.

Travelling Medical Scholarship.—In and after 1888 a Travelling Scholarship, value £100, will be open to competition at the October Examination in the Faculty of Medicine. In one year the examination for this scholarship will be in Anatomy and Histology, in the next year in Physiology and Pathology. Candidates must have passed the Final M.B. Examination within one university year previous to the date of the Scholarship Examination.

DEGREE OF DOCTOR OF MEDICINE.

Candidates may be admitted to this degree after three academical years from the time of obtaining the degree of M.B. All persons who were students in Medicine in the Queen's University at the date of its dissolution are entitled to obtain the degree of M.D. upon passing the examination for the M.B. degree.

Candidates must give notice in writing of their intention to present themselves, and must pay the fee of £5 at least one month before the examination, and must produce a certificate of having been, for at least two years, engaged in hospital or private medical or surgical practice, or in the Military or Naval Medical Service.

Every candidate will be examined at the bedside, and required to diagnose at least six cases, medical and surgical, and prescribe treatment; to write detailed reports on at least two cases to be selected by the examiners, and to discuss all the questions arising thereon. Every candidate must submit to the Medical Examiners a Thesis certified by him (or her) to have been composed by himself (or herself). No Thesis will be approved which does not contain some original or personal observations in Practical Medicine, Surgery, or Midwifery, or in some of the sciences embraced in the curriculum; or else a full digest and critical exposition of the opinions and researches of others on the subject selected by the candidate, accompanied by precise references to the publications quoted.

Persons holding the degree of M.B. of this University who have been settled for two years in the Colonies or foreign countries, may, upon furnishing papers on medical subjects written by them, or official reports dealing with subjects of medical science, with evidence of the papers or reports being their own original composition, have the degree conferred on them in absence.

DEGREE OF MASTER IN SURGERY (M. CH.)

This degree is conferred only on graduates of Medicine of the University, and no candidate can be admitted to exainmation until three years have elapsed from the date of obtaining the Primary Medical Degrees. The fee is £5, and the examination will comprise: (1) Surgical diseases and Surgery, both theoretical and operative; (2) Surgical anatomy; (3) Opthalmology; (4) Otology, and will include written and clinical examinations, an examination on surgical instruments and appliances, and in operative surgery. Persons who passed the examination for M.B. before January 1st, 1888, will be entitled to proceed to the degree of M. Ch. according to the courses and regulations in force in 1887, at any time during the three years then next ensuing.

THE MASTERSHIP IN OBSTETRICS.

The degree of "Master of the Art of Obstetrics" (M.A.O.) is conferred only on graduates in Medicine of the University, and no candidate can be admitted until the lapse of three years from the date of obtaining the Primary Medical Degrees. The fee is £5. Every candidate must produce a certificate showing that he has had personal charge of at least twenty cases of labour, and at the examination of 1890 and thenceforward a certificate of having attended the practice of a clinical hospital for women, or a special ward of a general hospital for three months. The examination will comprise the theory and practice of Midwifery, and of Diseases of Women and Children, and will include a written and, as far as practicable, a clinical examination, an oral examination with practical illustrations, and an examination in instruments and appliances. Persons who passed the examination for M.B. prior to January 1st, 1888, shall be entitled at any time during the three years then next ensuing to proceed to the degree of M.A.O., according to the courses and regulations in force in October, 1887.

[1] These scholarships have been suspended owing to failure of the special fund.

NOTES CONCERNING THE HOSPITALS AND MEDICAL SCHOOLS IN LONDON.

In addition to the Tables of the Classes, hours of attendance, and fees, given at pages 550 to 553, we subjoin the points of most interest in the Programmes issued by the several Medical Schools. At each hospital, clinical instruction in Medicine, Surgery, and Midwifery is given in the wards and in the out-patient departments; and also in various special departments, as stated in the tables at pages 550, 551, and in the subjoined notes. All hospital appointments, except where otherwise specified, are made without extra fee.

St. Bartholomew's Hospital.—*The Hospital* comprises 750 beds; 227 for Medical cases, 353 for Surgical cases, 26 for Diseases of the Eye, 20 for Diseases of Women, and 50 for Syphilitic cases; while 75 are at the Convalescent Hospital at Swanley. Children are admitted into both the medical and the surgical wards.

Museums, etc.—The Anatomical Museum, and the Museums of Materia Medica and of Botany, are open to students daily from 10 A.M. to 4 P.M. The Library is open every day from 9 to 5,

(Continued on p. 554.)

GUIDE TO THE LONDON HOSPITALS AND MEDICAL SCHOOLS: 1888-89.

For further particulars regarding each Hospital and Medical School, see pp. 549, 554, et seq.

	St. Bartholomew's Hospital.	Charing Cross Hospital.	St. George's Hospital.	Guy's Hospital.	King's College and Hospital.
Physicians	Dr. Andrew, dy. ex. Th., 1.30 Dr. Church, ... daily, exc. W., 1.30 Dr. Gee...Tu. Th. S., 1.30 Sir D. Duckworth...daily, exc. Tu. 1.30	Dr. Pollock...M. Th., 2 Dr. Green...W. S., 2 Dr. Bruce...Tu. F., 2	Dr. Dickinson...M. T. Th., F., 1 Dr. Whipham...Tu. W. S., 1 Dr. Cavafy...Tu. S., 1 Dr. Ewart, Tu. Th., S., 1	Dr. Pavy...Tu. F., 1.30 Dr. Pye-Smith...M. Th. S., 1.30 Dr. Taylor...M. Th. F., 1.30 Dr. Goodhart...M. Tu. Th. F., 1.30	Dr. Beale...Tu. F., 2 Dr. Duffin...W. S., 2 Dr. I. B. Yeo...Tu. F., 1.30 Dr. Ferrier...M. Th., 1.30 Dr. Curnow.....M. Th., 1.30
Assistant-Physicians	Dr. Hensley...M. Th., 11 Dr. Brunton...Tu. F., 11 Dr. N. Moore...W. S., 11 Dr. S. West...Tu. W. Th., S., 9	[1.30 Dr. Abercrombie...Tu. F., [1.30 Dr. Lubbock...W. S., 1.30 Dr. Willcocks...M. Th., 1.30 Dr. H. M. Murray...W. S., 1.30	Dr. I. Owen...M. F., 12 Dr. A. Gamgee, Tu. S., 12	Dr. White...F., 12.30 Dr. Pitt...M., 12.30 Dr. Wooldridge...W., 12.30 Dr. Perry...Tu., 1	Dr. Tirard...Tu. F., 1.30 Dr. Dalton...W. S., 1.30
Obstetric Physicians	Dr. M. Duncan. Tu. Th. S., 2	Dr. J. W. Black...Tu. F., 2	Dr. Champneys...Tu. F., 2	Dr. Galabin...M. F., 1.30	Dr. Playfair...Tu. Th. S., 2
Assist. Obstetric Physicians	Dr. Godson...W. S., 9	Dr. A. Routh...Tu. F., 1.30		Dr. Horrocks...Tu. F., 1.30 (o.-p.), Th. S., 12.30	Dr. Hayes (o.-p.)...M. W. F., 12.30
Diseases of the Skin	Mr. H. Cripps...F., 1.30	Dr. Sangster...M., 2	Dr. Cavafy...W., 2	Dr. Perry...Tu., 1	Dr. Duffin...F.
Surgeons	Mr. Savory...daily, 1.30 Mr. T. Smith...daily, exc. Tu., 1.30 [1.30 Mr. Willett...daily, exc. F., [1.30 Mr. Langton...daily, 1.30 Mr. M. Baker...daily, 1.30	Mr. Bellamy...M. Th., 2 Mr. Bloxam...Tu. F., 10	Mr. Rouse. M. Th. F. 1; W. 1.30 Mr. Pick. T. Th. F. 1; W., 1.30 Mr. Haward...Tu. Th. S., 1; W., 1.30 Mr. Bennett...M. Th. S. 1; W., 1.30	Mr. Durham...M. Th. F. 1.30 Mr. Howse...W. S., 1.30 Mr. Davies-Colley. M. Th., 1.30 Mr. Lucas...M. Th., 1.30	Mr. Wood...Tu. Th. S., 1.30 Sir J. Lister...M. W. F., 1.30 Mr. Rose...M. W. F., 1.30 Mr. Cheyne (o.-p.) W. S., 1.30
Assistant-Surgeons	Mr. Marsh...Tu. F., 12 Mr. Butlin...M. Th., 12 Mr. Walsham...W. S., 12 Mr. Cripps, Mr. Clarke, 9	Mr. Morgan...W. S., 2 Mr. Boyd...W. S., 1.30 Mr. Sheild...M. Th., 1.30 Mr. Wainewright, T. F., 1.30	Mr. Dent...Tu. S., 12 Mr. Turner, Tu. S., 12	Mr. Golding-Bird. Th., 12.30 Mr. Jacobson...W., 12.30 Mr. Symonds...M., 12.30 Mr. Lane...S. 12.30	Mr. Barrow...M. Th., 1.30 Mr. Penny...Tu. F., 1.30
Ophthalmic Surgeons	Mr. Power (i.-p.) Tu. Th. 1.30 Mr. Vernon (i.-p.) M. Th. S. 2	Royal Westminster Ophthalmic Hospital Staff, 1	Mr. B. Carter M. Th. 2; F. 1.15 Mr. Frost (asst.)...W. S., 2	Mr. Higgens...Tu., 12.30 Mr. Brailey (Asst.)...Tu. F.,	Mr. McHardy...M. W. Th., 1.30
Aural Surgeons	Mr. Cumberbatch. Tu. F., 2	Mr. Sheild...F., 9.30	Sir W. B. Dalby...Tu., 2	Mr. Purves...Tu., 1 [12.30	Dr. U. Pritchard...Th., 2.30
Dental Surgeons	Mr. Ewbank...Tu., 9; Mr. Paterson, F., 9	Mr. Fairbank...M. W. F., 9	Mr. Winterbottom. Tu. S., 9	Mr. Pedley...Tu. Th. F., 1.30	Mr. Gibbings...Tu. F., 10
Clinical Medicine	The Physicians...F., 1	The Physicians and Assistant-Physicians, 2	The Physicians...M., 2	The Physicians (Win.), S., 1.30; the Assistant-Physicians (Sum.)...W., 1.30	Dr. Beale...alt. Tu., 3 Dr. Duffin...alt. F., (Win.) 3 Dr. B. Yeo...alt. Tu., (Sum.) 3
Clinical Surgery	The Surgeons.....M., 2.45 (Winter); S., 2.30 (Sum.)	The Surgeons and Assistant Surgeons, 2	The Surgeons...Tu., 2	The Surgeons (Win.)...W., 1.30; the Assistant-Surgeons (Sum.)...F., 1.30	Mr. Wood...Tu. Th., 1.30 Sir J. Lister...M. W., 2
Clinical Midwifery and Diseases of Women	Dr. M. Duncan.....Dis. of Women) alt. Th., 1	Dr. J. W. Black...Twice a week	Dr. Champneys...W., 2	Dr. Galabin (Win.) W., 1.30; Dr. Horrocks (Sum) Tu. 1.30	[2. Dr. Playfair...alt. Th. in Win.,
Operations	Mon., Tu., Wed., and Sat., 1.30; on Eye, Tu. Th., 1.30	Thursday and Saturday...2	Thursday, 1; Eye, F., 1.15	Tuesday and Friday, 1.30; Eye, M., 1.30; Th., 2	Mr. Wood...S., 2; Sir J. Lister...F., 2; Mr. Rose...W., 3; S., 1
WINTER LECTURES.					
Physiology	Dr. Klein...Tu. Th. S., 10	Mr. F. W. Mott...M. Tu. W. Th. F., 3	Dr. Buckmaster, M. W., 12	Mr. Golding-Bird and Dr. Wooldridge. M. W., 1.45; S., 9.30	Dr. G. F. Yeo...daily, 12.15
Anatomy, Descriptive and Surgical	Mr. Langton & Mr. Marsh...Tu. W. Th. F., 9	Mr. Sheild...M. W. F., 9	Mr. Bennett...M. W. F., 9.15	Mr. Davies-Colley and Mr. Lucas...Tu. W. Th. F., 9	Dr. Curnow (sen.)...M. Tu. W. Th., 9; (jun.) W. Th., 11.15; F. S., 9
Anatomical Demonstrations	Mr. Bruce Clarke, Mr. Lockwood, Mr. Jessop, Dr. Herringham & Assistnts, 10 to 4	Mr. Sheild, Mr. S. Boyd, & Mr. B. Wainewright ... daily, 9 to 4 (Sum., 9 to 1	Mr. Ross and Mr. Allingham [11.30	Mr. Poland, Mr. Dunn, & Dr. Washbourn....daily, 9 to 4	Dr. Curnow and Mr. Kenny
Chemistry	Dr. Russell...M. W. F., 10	Mr. Heaton...M. W. F., 4	Mr. Donkin...Tu. Th. S.,	Dr. Debus and Dr. Stevenson...Tu. Th. S., 11	Mr. Thomson..... M. W. Th., 10.30
Medicine	Dr. Andrew and Dr. Gee M. Tu. Th., 3.30	Dr. Pollock...M. W., 4; Th., 3	Dr. Dickinson. Tu. Th. F., 3	Dr. Pye-Smith and Dr. Taylor...M. W. F., 3	Dr. Beale...M. F., 4; W., 4
Surgery	Mr. Savory...W. Th. F., 2.30	Mr. Bellamy...Tu. Th. F., 4	Mr. Pick...Tu. Th. S., 9.15	Mr. Durham & Mr. Howse Tu. Th., 3.30; F., 1.30	Mr. H. Rose...Tu. W. 5; Th., 4
SUMMER LECTURES.					
Materia Medica	Dr. Lauder Brunton...Tu. W. Th. S., 10	Dr. Bruce (Therapeutics)...Tu. Th. S., 9	Dr. A. Gamgee, M. W. F., Demons., Mr. Woodland	Dr. White...M. Tu. Th., 2	Dr. Tirard...Tu. W. Th. F., 8.45
Botany	Rev. G. Henslow...M. F., 10; W., 11.30	Dr. Willcocks (with) Materia Medica) M. W. F., 9	——	——	Mr. Groves. M. Tu. Th. F., 12.15
Midwifery	Dr. Matthews Duncan ... daily, 9	Dr. J. W. Black...M. Tu. W. F., 3	[9 Dr. Champneys...M. W. F.,	Dr. Galabin. Tu. W. Th. F., 9 [10	Dr. Playfair...Tu. W. Th. F., 9
Forensic Medicine	Dr. Hensley...Tu. Th., 3.30; F., 2.30	Dr. Abercrombie...W. F., 9; Tox., Mr. Heaton, Tu., 12	Dr. I. Owen...Tu. Th. S., 9	Dr. Stevenson...Tu. Th. S.,	Dr. Ferrier...M. Tu. W. Th., 4
Practical Chemistry	Dr. Russell...M. Tu. F., 11	Mr. Heaton...M. Th., 2	Mr. Donkin...daily, 11	Mr. Groves...M. W. F., 10 to 1	Mr. Thomson & Demonstrators...M. W. Th., 10.15
Comparative Anatomy	Dr. T. W. Shore (Summer) Tu. Th., 11.15;	Dr. Garson (Sum.)	Dr. Howes (Sum.)...M. F., 4	——	Mr. F. J. Bell...(Win.) M. Tu. F., 4
Practical Physiology and Histology	Dr. Harris, Dr. Shore, and Dr. Lewis Jones, daily	Dr. Mott...(Sum.). Tu. W. F., 2; (Win.). Tu. Th., 4	Dr. Buckmaster (Histology)...M. Tu. Th. F., 10	Dr. Wooldridge (Win.)...Tu. Th., 1.30	Dr. G. F. Yeo and Demonstrators (Sum.)...Tu. F. S., 10.15
Pathology and Morbid Anatomy	Dr. Norman Moore (lect.) Tu. 3.30 and F., 11	Dr. Murray (Sum.)...Tu. W. F., 4; Mr. Morgan, Surgical (Win.)	Dr. Delépine (Winter)... W., 3; Dr. Penrose (demons.), W., 12	Dr. Goodhart (lect.) (Sum.) S., 9; Dr. Pitt and Dr. Perry (dem.)...daily, 2.30	[2. Dr. Duffin (Sum.)...W. Th. F.,
Psychological Medicine	Dr. Claye Shaw (Sum.)... Th., 12.30	——	——	Dr. Savage (Sum.)...Tu., 11; F., 10.30	Dr. Sheppard
Public Health	Dr. Thorne Thorne (Sum.) M., 10	Mr. Heaton	——	Mr. G. Turner...M. F., 11.30	Dr. Kelly (Win.)...F., 3
Practical and Operative Surgery	Mr. Butlin and Mr. Walsham...M., 4.30; W., 3.45; F., 3.30	Mr. Bloxam (Win.), Tu. W. F., 3; (Sum.).....daily, exc. M., 9	Mr. Dent (Pract.) (Sum.) M. W. F., 3; Tu. 3.30; Mr. Turner (Oper.) M. W. F., 9.30	Mr. Jacobson and Mr. Symonds, 3 months before each Final Exam. of Con. Board; Second Course of Oper. Surg. in summer	Messrs. Cheyne, Barrow, and Penny
Ophthalmic Medicine and Surgery	Mr. Power...Tu. Th., 9; Mr. Vernon (dem.), (Win.)... M., 2	Daily at 1	Mr. R. B. Carter and Mr. Frost (Win.).....W., 4; (Clin.) W. S., 2	Mr. Higgens. W. 3 (Winter); Mr. Brailey, W., 3 (Summer).	Mr. McHardy.....(clin. lect.) (Win.) alt. M., 3
Dental Surgery	Mr. Ewbank and Mr. Paterson	Mr. Fairbank...Jan. Feb. March	Mr. Winterbottom (Sum.) Tu., 10	Mr. Pedley (Summer)	Mr. Gibbings (clinical lect.) (Win.) alt. Tu., 10.30
Aural Surgery	Mr. Cumberbatch	——	Sir W. B. Dalby (Sum.)... Tu., 2	——	Dr. U. Pritchard...W., 9 (Sum.)
Diseases of Skin	Mr. Cripps	Dr. Sangster...M., 2	Dr. Cavafy (Win.), W., 2	——	Dr. Duffin...F., 3

GUIDE TO THE LONDON HOSPITALS AND MEDICAL SCHOOLS: 1888-89.

For further particulars regarding each Hospital and Medical School see pp. 549, 554, et seq.

London Hospital.	St. Mary's Hospital.	Middlesex Hospital.	St. Thomas's Hospital.	University College and Hospital.	Westminster Hospital.
Dr. Down...Tu. F., 2	Dr. Broadbent...M.Th.,1.45	Dr. Cayley...M. Th., 1.30	Dr. Bristowe...Tu. F., 2	Dr. Ringer (1 and 2 daily)	Dr. Sturges...M. Th., 1.30
Dr. H. Jackson...M. Th., 2	Dr. Cheadle...Tu. F., 1.45	Dr. Coupland...Tu. F.,1.30	Dr. Stone...M. Th., 2	Dr. C. Bastian	Dr. Allchin...Tu. F., 1.30
Dr. Sutton...M. Th., 2	Dr. Lees...W. S., 1.30	Dr. D. Powell...M.Th.,1.30	Dr. Ord...M. Th., 2	Dr. F. T. Roberts	Dr. Donkin...W. S., 1.30
Dr. Fenwick...Tu. F., 2	Dr.S.Phillips...M.Th., 1.30 (out-p.)	Dr. Finlay...Tu. F., 1.30	Dr. J. Harley...Tu. F., 2	Dr. Gowers	
Dr. S. Mackenzie...Tu. F., 2 [1.30	Dr. MaguireTu.F.,1.30 (out-p.)		Dr. Payne...M. F, 2	Dr. Poore	
Dr.Sansom.W.2 (o.-p.)M.Th.	Dr. W. Pearce...W. S., 1.30			Dr. T. Barlow	
Dr. Turner...W.,9.30;S.,1.30, (o.-p.) Tu. F., 1.30					
Dr. G. Smith.Tu.F.,2;(o.-p.) W. S., 1.30	——	Dr. Fowler...Tu. F., 3.30	Dr. Sharkey...M. Th., 1.30	Dr. Angel Money	Dr. Hall...M. Th., 1.30 [1.30
Dr. Warner...M.Th.,2;(o.-p.) Tu. F., 1.30		Dr. Biss...M. Th., 1.30	Dr. Gulliver...Tu. F., 1.30		Dr. A. H. Bennett...Tu. F.,
Dr. Ralfe...(o.-p.)M.Th.,1.30		Dr. Pringle...W. S., 1.30	Dr. Hadden...W. S., 1.30		Dr. Murrell...W. S., 1.30
Dr. J. Anderson...W. S.,1.30	[F., 1.45	Electr. Dep....W. S., 10	Dr. Acland...Tu. Th., 1.30		
Dr. Herman...Tu. F., 2	Dr. B. Hicks, F.R.S....Tu.	Dr. Edis...Tu. F., 1.30	Dr.Cullingworth...Tu.F.,2	Dr. J. Williams	Dr. Potter...Tu. F., 2
Dr. Lewers...M. Th., 2 (o.-p.) W. S., 1.30	Dr. Handfield-Jones...M. Th., 1.30	Dr. W. Duncan...(o.-p.)W. S., 1.30	Dr. Cory...W. S., 1.30	Dr. H. R. Spencer	Dr. Grigg...Tu. F., 9
Dr. S. Mackenzie...Th., 9	Mr. M. Morris...M.Th.,9.30	Dr. J. J. Pringle...Tu., 4	Mr. Anderson...F., 1.30	Dr.Crocker..W,1.30 ; S.9.15	Dr. T. C. Fox...W., 1.30
Mr. Couper...M. Th., 1.30					
Mr. Rivington...Tu. F., 2	Mr. Norton...M. Th., 1.45	Mr. Hulke...M. Th., 1.30	Mr. S. Jones...Tu. F., 2	Mr. Berkeley Hill (1 and 2 daily)	Mr. Cowell...M. Th., 1.30
Mr. Tay...M. Th., 2	Mr. Owen...Tu. F., 1.45	Mr. Lawson...M. Th., 1.30	Mr. Croft...M. Th., 2 [2	Mr. C. Heath	Mr. Davy...Tu. F., 1.30
Mr. McCarthy...W. S., 1.30	Mr. Page...W. S., 1.45	Mr. Morris...Tu. F., 1.30	SirW.MacCormac...M.Th.	Mr. Marcus Beck	Mr. Macnamara...W.,1.30;
Mr. Treves...Tu. F., 2	Mr. Pye...M. Th., 1.30 (out-p.)	Mr. A. Clark...M. Th. 1.15	Mr. MacKellar...Tu. F., 2	Mr. A. E. Barker	S., 9.30
	Mr. Pepper. Tu.F.,1.30 (out-p.)	Cancer...Th., 1.30		Mr. R. J. Godlee	
	Mr.Silcock...W.S.,1.30				
Mr. Reeves...Tu. S.,1.30	——	Mr. Pearce Gould...Tu.F., 1.30	Mr. Ballance...Tu. F., 1.30	Mr. V. Horsley (1 and 2 daily)	Mr. T. Cooke...M.Th., 1.30
Mr. C. Mansell-Moullin...M. Th., 1.30		Mr.J.B.Sutton...W.S.,9.30	Mr. Anderson...M.Th.,1.30	Mr. B. Pollard	Mr. Bond...Tu. F., 1.30
Mr. H. Fenwick...Tu. F.,1.30			Mr. Pitts...W. S., 1.30		Mr. Stonham...W. S., 1.30
Mr. F. S. Eve...M. W., 1.30	Mr.A.Critchett.Tu.F.,9.30	Mr. Lang...Tu. F., (o.-p.) 9	Mr. Makins...M. Tu., 1.30		Mr. Spencer...M. Th., 1.30
Mr.W.Tay&Mr.Eve...Tu.S., 9	Mr. H. Juler...Tu.F.S.,9.30	(in.-p.) 10	Mr. Nettleship...Tu.Th.,2;	Mr. Tweedy...M. Th. S., 2	Mr. Cowell...M. Th., 2.30
Dr.Woakes,Mr.Hovell.S.9.30	Mr. Field...M. Th., 2	Mr. Hensman...Tu., 9	(o.-p.-) Tu. Th. F., 1.30	[lard, M. 9	
Mr. Barrett...Tu., 9	Mr.H.Hayward..W.S.,9.30	Mr. Bennett ..M.,9.30;W.9	Mr. Clutton...M., 1.30	Mr. Barker,Th. 9; Mr.Pol-	Mr. James Black...M., 9
		Mr. Hern...W., 9 ; F., 9.30	Mr. Truman...Tu. F., 10	Mr.S. Hutchinson.W.,9.30	Dr. Walker...W., 9.15; Mr. Smale...S., 9.15
The Physicians	The Physicians	The Physicians...F., 3	The Physicians...weekly	Dr. Ringer, Dr. Bastian, Dr. Roberts, Dr. Gowers, Dr. Barlow, Dr. Money	Dr.Sturges, Th.(aft.Xmas.) Dr. Allchin...F.(bef.Xmas.) Dr. Donkin...W. (Sum.)
The Surgeons	The Surgeons	The Surgeons...Tu., 3	The Surgeons..weekly:Mr. Croft,special(Win.)Tu 9; (Sum.) M., 9	Mr.Hill,Mr.Heath (Holme Prof.),Mr. Beck,Mr. Barker, Mr. Godlee	Mr. Cowell. Th.(bef.Xmas.) Mr. Davy... F. (Sum.) Mr.MacnamaraW(af.Xmas)
Dr, Herman and Dr. Lewers	Dr. Braxton Hicks and Dr. M. Handfield-Jones	Dr. Edis, Dr. Duncan ..... (sum.), W. S., 1.30	Dr.Cullingworth (Win.)... Tu., 4	Dr.J.Williams.fortnightly	Dr. Potter...F.
Daily, except Saturday, 2	Wednesday...2; Eye, F., 9	Wednesday, 1; Saturday, 2	Wednesday and Saturday, 1.30; Eye, Tu., 4; F., 2	Wednesday & Thursday, 2	Tuesday and Wednesday, 2
Mr.McCarthy,1st year,M.W. 9; 2nd year...Tu. Th. S.,9	Dr.A. Waller..M.W.Th.,12	Mr. Lowne...M. W. F., 9	Dr. Sherrington..M.W.F., 9.30	Mr. Schäfer & Dr. Hallibur-ton...M. Tu. Th. F., 11	Dr. Abraham...M. W. Th., 1.30
Mr. Treves.1st year...Tu.Th. 9; 2nd year...M. W. F., 9	Mr.E.Lane..M.Tu.Th.F.,9	Mr. Hensman...M. Tu. Th. F., 4	Mr. Reid and Mr. Anderson ...Tu. Th. S., 9.30; M. Tu.	Mr.Thane...daily,exc.S.,12	Mr. Black..Tu.W.Th.F.S., 9; also Sum. Tu. Th., 9
Dr. Moullin&Demonstrators 10 to 5, excepting Sat. aft.	Mr. J. J. Clarke and Mr. G. W. Hill, Dr. Cagney and Mr. Caley...daily, 9 to 5	Mr. Sutton, Mr. Brodie and Mr.Vickery, daily, 10 to 4	Mr.Reid, Mr.Anderson, Dr. Taylor, Mr.Makins(Win) daily,10,30;(Sum.)M.Tu.	Mr. Flemming, Mr. E. H. Thane and assistants, 8 to 5; Sat., 8 to 2	Mr.Hebbert, Mr.Harrison, Mr. De Renzi...M. 9.30 to 1, other days 10 to 1
Dr. Tidy...M. W. F., 10.30	Dr.Wright...W.S.,9;Th.,10	Mr. Foster...M.W.Th.F., 3	Dr. Bernays...Tu. Th. F., 10.30	Dr. Ramsay...M. Tu. Th. F. S., 10	Dr. Dupré and Dr. Hake ...M. Th. F., 3
Dr. S. Mackenzie...M.W.F.,4	Dr. Broadbent and Dr. Lees...M. W. F., 5	Dr. Cayley...Tu. Th. S., 9	Dr. Bristowe and Dr. Ord ...M.Th.F., 4; after Jan. 1st, 9 P.M.	Dr. Bastian...Tu.W.Th.F., 9	Dr. Sturges & Dr. Allchin bef. Xms., M.W. Th., 4; after Xms., Tu. W. Th., 9
Mr. Rivington...Tu. Th., 4; S., 10	Mr. Owen and Mr. Page M. Tu. Th., 4	Mr. Morris...M. W. Th., 3	Mr. Jones & Sir W. Mac Cormac...to Dec. 31st, M.Th. F., 9; after Jan. 1st, 4	Mr. Marcus Beck...M.S.,9; W., 1	Mr. Cowell and Mr. Macnamara bef. Xms. M.W.F 9; aft. Xms. M. W. Th., 4
Dr.Prosser James.Tu.Th.F.3	Dr. Phillips...M. Tu. W. F. S., 10	Dr. Biss...M. W. F., 4	Dr.Stone and Mr.Plowman ...M. F., 12; W., 12.30	Dr. F. T. Roberts...M., 9; Tu. W. Th. F., 10 [a.m.	Dr. Murrell...Tu. Th. S., 9
Dr. F. Warner...M. W. F., 12	Rev. J. M. Crombie...M.W. F., 11	Dr. Biss...Th., 10	Mr. A. W. Bennett..Tu.W. S., 10	Mr. Oliver...daily,exc.S.,9	Mr. Worsley-Benson
Dr. Herman...M. W. F., 9	Dr. B. Hicks and Dr. Handfield-Jones. T.W.Th.F., 9	Dr. Edis...M. W. F., 9	Dr. Cullingworth...M. Tu. Th. F., 4	Dr. J. Williams. Tu.W.Th. F. S., 9	Dr. Potter...Tu. Th. F. S., 9
Dr. Tidy...W. F., 10.30; Dr. Sansom, M. Th., 3.30	Mr.A.P.Luff..M.Tu.Th.,11	Dr. Finlay...Tu, Th. F., 4	Mr. Clutton, Dr. Bernays, and Dr. Cory..Tu.Th.S.,9	Dr. Poore...Tu.W.Th.F.,10	Dr. Hall and Dr. Dupré... Tu. W. F., 3
Mr. Page...M.W.S.9and10.30 [10	Dr. Wright...Tu.F.S.,9;or-ganic, W. F., 11	Mr. Foster...M. W. F., 3	Dr. Bernays...M. Th. F.,10 [9	Dr. Ramsay...Tu. Th., 11	Dr. Hake...M. W. F., 11
Dr. Mansell-Moullin. Tu.Th.	Dr. Bottomley (Sum.).Tu. F., 11	Mr. J. B. Sutton (Sum.)... Tu. Th., 4	Dr. Gulliver (Sum.) M.Th.	Mr. Ray Lankester (Win. and Sum.)	Dr. L. Ogilvie.....Jan. to July
Mr. McCarthy(Sum.)Tu.Th 9.15; see also Physiology above	Dr. Waller and Dr. Read Tu. W. Th., 2	Mr. Lowne (Sum.)...M.W. F., 9	Dr. Charles (Sum.) M.Tu. W. F., 2; Demonst. Dr. Copeman (Win.)...M. Tu. Th. F., 12	Dr. Halliburton and Demonstrators	Dr. Abraham...(Win.) Th., 1.30; Hist. (Sum.)M.W. F., 1.30
Dr.Sutton..(Sum.)Th.,12.30; S., 10; ditto or Dr. Turner (dem.) daily, 3.30	Mr.Silcock and Dr.Maguire ...Tu. F., 12; daily, 2.30	Dr. Fowler(Sum.)..Tu.Th. S., 9; Mr. Hudson (demons.) weekly	Dr. Payne...W.F.,9; Dem., M.,4; Practical,Dr.Sharkey (Win.)...S.,11.30 [12	Mr.Horsley(Sum.),Tu.Th. F.,4; Prac.(Win.),M.Th., 4; Mr. Barker (Surg.) Tu. F., 9; W. S., 10 to 11	Dr. Allchin...W. Th., 9; Morbid Hist., Dr. Hebb, ...Tu. Th., 10
——	——	Dr. Mickle (Sum.)...Th., 3	Dr. H. Rayner (Sum.)...F., [10.30	Dr. W. J. Mickle...W., 3	Dr.Sutherland (June).Tu. Th. F., 4
With Forensic Medicine	Mr. Shirley Murphy	Dr. Finlay (Sum.)	Dr. E. Seaton (Sum.)...W.,	Dr. Corfield, Dr. L. Parkes ...Tu. Th. F., 4; (Sum.)	With Forensic Medicine
Mr. Reeves and Mr. Rivington (Sum.)	Mr. Pepper...Tu. Th., 5	Mr. A. Clark...(Win.) W. F., 9; Oper. Surg., April	Mr.MacKellar,Mr.Clutton and Mr.Pitts(Win.).S.,9; (Sum.) F., 9	Mr. B. Pollard, and Mr. R. Johnson (Oct. Nov. Dec.) ...M. Th., 4; Mr. Godlee (Win.& Sum.); Mr. A. E. Barker..Tu.F.,9; W.S.,10	Mr. Davy; Minor Surg., Mr. Stonham.Tu. Th., 4
Mr. Tay...W., 3	Mr.Critchett and Mr.Juler	Mr. Lang (Clin.)...Tu. F.,9	Mr. Nettleship..(Oct. Nov. Dec.) M. Th. F., 5; Mr. Lawford (Sum.),Tu.F.,5	Mr. Tweedy (Sum.) M.W., 4; (clin.), Mr. Tweedy	Mr. Cowell (Sum.)...M., 3
Mr. Barrett (Sum.)	Mr. H. Hayward	Mr. S. Bennett...W., 9	——	Mr. Hutchinson, Nov. Dec.	Dr. J. Walker...(Oct. Nov. Dec.), W., 2.30
Dr. Woakes (Sum.)...Tu., 4	Mr. Field	Mr. Hensman...Tu., 9	——	Mr. A. E. Barker...Th., 9; Mr. Pollard...M., 9	Mr. Black...(June)
——	Mr. M. Morris	Dr. Pringle...Tu., 4	——	Dr. Crocker.....(clin. lect. alt. weeks)	Dr.Colcott Fox (Feb.Mar.) Th., 2.30

TABLE OF FEES FOR HOSPITAL ATTENDANCE AND LECTURES.

(The letter "s" denotes single course; "p" perpetual or unlimited attendance.)

	St. Bartholomew's.	Charing Cross.	St. George's.	Guy's.	King's College.	London.	St. Mary's.	Middlesex.
Composition Fee for all Lectures and Hospital Practice required by Examining Boards	£131 5s.; or 1st win. £42 1st sum. £48 6s. 2nd win. £48 6s. University students who have finished anatomical studies £68 5s.	£94 10s.; or £105 in five instalments, namely, 1st win. £30 9s. 1st sum. £18 18s. 2nd win. £17 17s. 2nd sum. £18 18s. 3rd win. £18 18s.	1st year £15 2nd year £45 3rd year £20 Each subsequnt. year £20 (See note)	£131 5s.; or 1st win. and 1st sum. each £66; or 1st and 2nd year each £50; 3rd yr. £37 10s.	£126 11s. 6d.; or two years £66 each year; or three years £46 each year	100 guineas by instalments, or 90 guineas in one payment (See note)	£100; or 1st year £40 2nd year £40 3rd year £25	£100; or 1st win. £40 2nd win. £45 3rd win. £25
Hospital Practice	*Medical.* 3 mos. £10 10s. 6 mos. £15 15s. 2 yrs. £23 12s. 6d. Unlim. £33 1s. 6d *Surgical.* 3 mos. £13 2s. 6d. 6 mos. £19 19s. 12 mos. £26 5s. Unlim. £33 1s. 6d	*Med. or Surg.* 3 mos. £5 5s. 6 mos. £7 7s. 12 mos. £10 10s. Full period £21 *Med. and Surg.* 3 mos. £8 8s. 6 mos. £10 10s. 12 mos. £15 15s. Full p. £31 10s.	*Med. or Surg.* 1 year £10 10s. 2 years £21 Perp. £31 10s.	*Med. or Surg.* 3 mos. £10 10s. 6 mos. £15 15s. 1 year £21 3s. Perp. £36 15s. *Med. and Surg.* 3 mos. £15 15s. 6 mos. £24 3s. 1 year £31 10s. Perp. £63	*Med. or Surg.* 1 sum. £5 5s. 1 win. £9 9s. 1 year £12 12s. Perp. £31 10s. *Med. and Surg.* 1 sum. £8 8s. 1 win. £14 14s. 1 year £18 18s. Perp. £42	6 mos. £10 10s. 12 mos. £15 15s. Perp. £26 5s. *Surgical.* 6 mos. £10 10s. 12 mos. £15 15s. 18 mos. £21 Perp. £26 5s.	*Med. or Surg.* 3 mos. £4 6 mos. £7 12 mos. £12 Perp. £24 *Med. and Surg.* 3 mos. £7 6 mos. £12 12 mos. £20 Perp. £45	*Med. or Surg.* Perp. £15 15s. 1 year £8 8s. 6 mos. £5 5s. 3 mos. £3 3s. *Med and Surg.* Perp. £26 5s. 1 year £12 12s. 6 mos. £7 7s. 3 mos. £5 5s.
Fees for Students of Dental Surgery	£63; or 1st win. & 1st sum each £33 1s. 6d.	£42 2s.; or 1st Oct. £22 2s. 2nd Oct. £20	£55; or 1st year £30 2nd year £25	£66 3s.; or 1st year £42 2nd yr. £21 3s.	*Hospital.* 1 year £10 10s. 2 years £15 15s.	£40 Dent. pr. gen. £10	£55; or 1st year £30 2nd year £25	£42; or 1st win. £30 2nd win. £15
Anatomy	s. £9 9s. p. £13 2s. 6d.	£7 7s. Subs. c. £4 4s.	s. £7 7s. p. £8 18s. 6d.	s. £7 7s. —	s. £6 6s. p. £9 9s.	s. £5 5s. —	£8 —	s. £10 10s. Subs. c. £4 4s.
Demonstrations and Dissections	c. £7 7s. — —	£7 7s. Subs. c. £4 4s. —	s. £3 3s. — —	s. £7 7s. — —	s. £7 7s. — —	s. £5 5s. — —	£6 — —	s. £6 6s. Subs. c. £3 3s. —
Physiology	s. £9 9s. p. £13 2s. 6d.	£7 7s. Subs. c. £4 4s.	s. £7 7s. p. £8 18s. 6d.	s. £7 7s. —	s. £8 8s. p. £11 11s.	s. £4 4s. —	£7 —	s. £8 8s. Subs. c. £3 3s.
Practical Physiology and Histology	(P. P.) s. £7 7s.; (H.) s. £2 12s. 6d.	s. £6 6s. —	— (H.) s. £3 3s.	s. £7 7s. —	s. £6 6s. ext. c. £2 2s.	s. £3 3s. —	£5 —	s. £5 5s. Subs. c. £2 2s.
Comparative Anatomy	s. £2 12s. 6d. p. £4 4s.	s. £3 3s. —	s. £4 4s. —	— —	s. £4 1s. p. £6 6s.	s. £3 3s. —	£3 —	s. £2 2s. Subs. c. £1 1s.
Botany	s. £4 4s. p. £5 5s.	s. £4 4s. (See note)	— —	— —	s. £4 4s. p. £6 6s.	s. £3 3s. —	£3 —	s. £2 2s. Subs. c. £1 1s.
Chemistry	s. £6 16s. 6d. p. £9 9s.	s. £6 6s. —	s. £6 6s. p. £7 17s. 6d.	s. £7 7s. —	s. £8 8s. p. £11 11s.	s. £7 7s. —	£6 —	s. £6 6s. Subs. c. £3 3s.
Practical Chemistry	s. £3 3s. — —	s. £5 5s. — —	s. £1 4s. — —	s. £5 5s. — —	s. £6 6s. ext. c. £2 2s.	s. £5 5s. — —	£4 — —	s. £4 4s. — —
Materia Medica	s. £6 16s. 6d. p. £7 17s. 6d.	s. £4 4s. (See note)	s. £4 14s. 6d. p. £5 15s. 6d.	s. £5 5s. —	s. £5 5s. p. £6 6s.	s. £3 3s. —	£4 —	s. £2 2s. Subs. c. £1
Practical Pharmacy	— —	s. £2 2s. —	s. £3 3s. —	s. £3 3s. —	— —	s. £4 4s. —	3 mos. £3; 6 mos. £6	£3 3s. —
Pathology and Morbid Anatomy	s. £2 12s. 6d. p. £4 4s.	s. £4 4s. (See note)	s. £3 3s. —	P. £3 3s. M. A. £7 7s.	s. £3 3s. p. £4 4s.	s. £3 3s. —	s. £4 —	s. £4 4s. Subs. c. £2 2s.
Medicine	s. £6 16s. 6d. p. £9 9s.	£7 7s. —	s. £7 7s. p. £8 18s. 6d.	s. £7 7s. —	s. £8 8s. p. £9. 9s.	s. £5 5s. —	s. £8 —	s. £8 8s. Subs. c. £3 3s.
Surgery	s. £6 16s. 6d. p. £9 9s.	s. £7 7s. —	s. £7 7s. p. £8 18s. 6d.	s. £7 7s. —	s. £8 8s. p. £9 9s.	s. £5 5s. —	s. £8 —	s. £8 8s. Subs. c. £3 3s.
Practical Surgery	s. £6 16s. 6d. p. £9 9s.	s. £5 5s. —	s. £4 4s. —	s. £4 4s. —	s. £3 3s. ext. c. £2 2s.	— —	s. £5 —	s. £6 6s. Subs. c. £2 2s.
Operative Surgery	s. £3 3s.	(See note)	s. £2 2s.	s. £5 5s.	—	£5 5s.	£5	s. £5 5s.
Ophthalmic Surgery	s. £2 12s. 6d. p. £4 4s.	— —	inc. in Surg. — —	— —	— —	s. £2 2s. —	s. £3 —	s. £2 2s. —
Dental Surgery	s. £2 12s. 6d. p. £4 4s.	— —	— —	— —	— —	s. £2 2s. —	s. £3 —	s. £2 2s. —
Midwifery	s. £6 16s. 6d. p. £7 17s. 6d.	s. £4 4s. —	s. £4 14s. 6d. p. £5 15s. 6d.	s. £5 5s. —	s. £5 5s. p. £6 6s.	s. £4 4s. —	s. £5 —	s. £5 5s. Subs. c. £2 2s.
Forensic Medicine	s. £4 4s. p. £5 5s.	s. £4 4s. —	s. £4 14s. 6d. p. £5 15s. 6d.	s. £5 5s. —	s. £5 5s. p. £6 6s.	s. £5 5s. —	s. £4 —	s. £4 4s. Subs. c. £2 2s.
Psychology	s. £2 12s. 6d. p. £4 4s.	— —	inc. in For. Med. —	s. £3 3s. —	— —	— —	— —	s. £2 2s. —
Public Health or Hygiene	£2 12s. 6d.	£2 2s.	inc. in Med. by public Vac.	s. £3 3s. —	s. £1 1s. Small fee	— £1 1s.	£3 a month	s. £2 2s. £1 1s.
Instruction in Vaccination	—	—	—	—	—	£1 1s.	£1 1s.	£1 1s.
Library	Free	£1 1s.	Each yr. 10s. 6d. comp. £2	£1 1s.	£1 1s.	£1 1s.	£1 1s.	£1 1s.

ADDITIONAL NOTES.

St. Bartholomew's Hospital.—The Composition Fee includes Ophthalmic and Dental Surgery, Mental Diseases, and Public Health. University students who have passed their Anatomical and Physiological Examinations pay £68 5s., or instalments of £31 10s. and £42. Fee to Qualified Practitioner, for all courses of instruction, £15 15s. Extra in-patient dresserships; 3 months, £10 10s.; second period of 3 months, £6 6s. Advanced Physiology, £4 4s.

Charing Cross Hospital.—Anatomical parts, each 12s. 6d. Operative Surgery, each part, 15s. Use of microscopes to students not possessing their own, 10s. 6d. Comparative Anatomy, general students, £3 3s. Second course of practical classes, £2 2s. Students rejected in either Anatomy or Physiology at second examination of Conjoint Board, £1 1s.; at final examination, £1 1s. in each subject; the fee for Botany and Materia Medica combined is £4 4s.

St. George's Hospital.—Perpetual students pay £125 at entrance; or 1st and 2nd years, each £45; 3rd year £40. Second year students pay £90, or instalments of £50 and £45. Third year students pay £65, or instalments of £40 and £30. The payments for courses required by the examining boards do not confer the privileges of perpetual students. Extra payment is required for Practical Pharmacy; Practical Chemistry; Subjects for Dissection (£3 3s.); Operative Surgery; Library; and Comparative Anatomy.

Guy's Hospital.—Perpetual fee, 125 guineas; students entering in second year, £99 15s.; in third year £68 5s.; in fourth year, £52 10s.—Biology, £7 7s.; Experimental Physics and Morbid Histology, each £5 5s.; Practical Medicine, £4 4s.—Extra Fees: Practical Chemistry, £1 1s. The library fee (£1 1s.) is returned when the student leaves the hospital. Medical Graduates of a University, and doubly qualified Practitioners, are admitted to Hospital Practice on following terms: three months, £7 7s.; six months, £10 10s.; unlimited, £15 15s.

King's College.—If a course of Preliminary Science be included, the Composition Fee is one sum, £143 7s. 6d.; or two yearly instalments of £74; or three of £51; or four of £40 each. The Composition Fee includes perpetual attendance on Anatomy, Physiology, Chemistry, Medicine, Clinical Medicine, Surgery, Clinical Surgery (one Professor), Obstetric Medicine, Botany, Forensic Medicine, Materia Medica, Comparative Anatomy, Pathological Anatomy, and Hospital Practice; and one course each of Natural Philosophy, Practical Surgery, Practical Chemistry, Practical Pathology, and Practical Physiology. Extra courses of these subjects are charged £2 2s. each. A reduction of 20 per cent. is made to pupils who have attended at least five terms in King's College School.—Clinical Surgery (win.), one Professor, *s.* £6 6s.; *p.* £8 8s.; both Professors, *s.* £8 8s.; *p.* £11 11s.; (sum.) one Professor, *s.* £4 4s.; *p.* £5 5s.; both *s.* £5 5s.; *p.* £6 6s.—Anatomy and Practical Anatomy, together, *s.* £9 9s.; *p.* £12 12s. Students of Practical Physiology pay £1 1s. for use of apparatus, etc. Practical Biology and Experimental Physics, three terms, each subject, £8 8s.; second year, each £3 3s. Practical

TABLE OF FEES FOR HOSPITAL ATTENDANCE AND LECTURES.

(The letter "s" denotes single course; "p" perpetual or unlimited attendance.)

St. Thomas's.	University College.	Westminster.	Queen's Coll., Birmingham.	Bristol Medical School.	Leeds.	Univers. Coll. Liverpool.	Owens Coll., Manchester.	University of Durham Coll. of Med.	Sheffield.
125 guineas; or On entr. £75 2nd win. £63; or 1st year, £65 2nd year, £50 3rd year, £30	£126; or 1st year £57 15s. 2nd yr. £52 10s. 3rd year £21	£105; or 1st win. £55 2nd win. £55 or 5 payments of £24 each	Lect. £63; or 1st year £31 10s. 2nd year £31 10s.	Lect. £52 10s. or including pre- liminary sum. session £63; or 1st sess. £42 2nd sess. £21	Lect. £63; or 1st year £31 10s. 2nd year £31 10s.	Lect. £57 15s. or 1st year £31 10s. 2nd year £26 5s. For Victoria Science Classes £23 14s., Medical Classes £23	Lect. £63 in two instalments 1st year £31 10s. 2nd year £31 10s.	£63; or 2 instal- ments, each £36 15s.; or 3 instal- ments; 1st £31 10s.; 2nd £26 5s.; 3rd £21	——
Med. and Surg. 3 mos. £15 6 mos. £26 9 mos. £35 12 mos. £40 Perp. £55	*Med and Surg.* Perp. £36 15s. 1 year £21	*Med. or Surg.* 3 mos. £4 4s. 6 mos. £7 7s. Each subseqnt. 6 mos. £4 4s. 3 years £24 3s. *Med. and Surg.* 3 mos. £7 7s. 6 mos. £12 12s. Each subseqnt. 6 mos. £7 7s. 3 years £36 15s.	*General and Queen's Hospitls.* 4 years £42, or in two equal sums 1 year £21 6 mos. £14 3 mos. £10	*Royal Infirm. Med or Surg.* 6 mos. £7 7s. 1 year £12 12s. Perp. £21 *Med. and Surg.* 1 year £21 Perp. £36 15s. *Gen. Hosp. Med or Surg.* 6 mos. £6 1 year £10 Perp. £20	*Infirmary. Med. or Surg.* 1 win. £7 7s. 1 sum. £6 6s. 12 mos. £12 12s. 18 mos. £15 15s. 3 years £21 Perp. £26 5s. *Med. and Surg.* Perp. £42; or 1st year £22 2nd year £22	*Royal Infirm.* Perp. £42 or in two equal instalments *Medical* 3 mos. £3 15s. 6 mos. £6 6s. 12 mos. £10 10s. 12 mos. £7 7s. *Surgical.* 3 mos £5 5s. 6 mos. £7 7s. 12 mos. £10	*Royal Infirm.* Full per. £42; or 2 instlmnts. £22 *Medical.* 3 mos. £4 4s. 6 mos. £6 6s. 12 mos. £10 10s. Full per. £18 18s. *Surgical.* 3 mos. £6 6s. 6 mos. £9 9s. 12 mos. £12 12s. Full per. £31 10s.	*Infirmary.* 3 mos. £7 7s. 6 mos. £10 10s. 12 mos. £14 14s. Perp. £32 11s.; or 1st year £14 14s.; 2nd year £12 12s.; 3rd year £8 8s.; or 1st year £16 16s.; 2nd year £16 16s. College £42, In- firmary £19 19s.	*Gen. Infirm. or Public Hospitl.* *Med. or Surg.* Win. £6 6s. Sum. £3 3s.
£55; or 1st year £50 2nd year £10	£63 — —	£52 10s.; or 1st year £33 2nd year £22	£63; or 1st year £42 2nd year £21	*Perp., Med. and Surg.*, £36 15s. —	— — —	£75 comp.	£10 10s. for full period.	— — —	— — —
s. £7 7s. *p.* £10 10s. 3 mos. £4 4s. 6 mos. £6 6s. Perp. £10 10s.	*s.* £10 10s. *p.* £12 12s. 3 mos. £4 4s. 1 year £8 8s. —	1 c. £7 7s. Subsq. c. £3 3s. 3 mos. £5 5s. Subsequent 3 mos. £3 3s.	*s.* £6 6s. — *s.* £5 5s. — —	*s.* £5 5s. — £3 3s. — —	*s.* jun. or sen. each £5 5s. 3 mos. £2 2s. 6 mos. £3 3s. —	2 cs. each £5 5s. 3rd c. £2 12s. 6d. *s.* £3 3s. Sum. £2 2s. —	*s.* £5 5s. — 6 mos. £3 3s. 3 mos. £2 2s. Sum. £2 2s.	*s.* £5 5s. — *s.* £5 5s. — —	1st c. £4 4s. 2nd c. £2 2s. — — —
s. £7 7s. *p.* £10 10s. *s.* £6 6s. (extras) —	£7 7s. Elem. £5 5s. £8 8s. —	1 c. £6 6s. Subsq. c. £2 2s. 1 c. £2 2s. H. alone £6 6s.	*s.* £6 6s. — *s.* £4 4s. —	*s.* £5 5s. — *s.* £4 4s. —	*s.* jun. or sen. £5 5s. *s.* £6 6s. —	2 cs. each £5 5s. 3rd c. £2 12s. 6d. — (See note)	£5 5s. — *s.* £5 5s. (See note)	*s.* £5 5s. — *s.* £5 5s. —	1st c. £3 3s. 2nd c. £2 2s. *s.* £3 3s. —
s. £4 4s. *p.* £5 5s. 3 mos. £5 5s. —	*s.* £6 6s. *p.* £7 7s. 3 mos. £3 3s. —	1 c. £3 3s. 6 mos. £5 5s. —	*s.* £4 4s. — —	*s.* £3 3s. — —	*s.* £2 2s. — —	(See note) — £2 2s.	*s.* £2 12s. 6d. — 3 mos. £3 3s.	*s.* £2 2s. — £2 2s.	— — —
s. £4 4s. *p.* £5 5s. *s.* £7 7s. *p.* £10 10s. *s.* £6 6s. (extras) —	*s.* £3 13s. 6d. *p.* £5 5s. *s.* £6 6s. Sec. c. £1 1s. *s.* £5 5s. Sec. c. £2 2s.	1 c. £4 4s. — 1 c. £6 6s. Subsq. c. £2 2s. *s.* £4 4s. Subsq. c. £2 2s.	*s.* £4 4s. — *s.* £5 5s. — *s.* £4 4s. —	*s.* £3 3s. — *s.* £3 3s. — *s.* £3 3s. —	*s.* £4 4s. — *s.* £5 5s. — *s.* £4 4s. —	(See note) — £5 5s. — (See note) —	*s.* £2 12s. 6d. — (See note) — *s.* £4 4s. (See note)	*s.* £5 5s. — *s.* £5 5s. — *s.* £5 5s. —	*s.* £3 3s. — — — *s.* £3 3s. —
s. £4 4s. *p.* £5 5s. *s.* £7 7s. *p.* £10 10s. *s.* £6 6s. (extras) —	*s.* £6 6s. *p.* £7 7s. *s.* £9 9s. *p.* £11 11s. *s.* £7 7s. *p.* £8 8s. *s.* £6 6s. Sec. c. £4 4s.	1 c. £4 4s. 2 cs. £6 6s. 1 s. £6 6s. 2 s. £8 8s. 1 s. £6 6s. 2 s. £8 8s. 1 c. £3 3s. 2 c. £4 4s.	— £4 4s. *s.* £6 6s. — *s.* £6 6s. — — —	*s.* £3 3s. — *s.* £5 5s. — *s.* £5 5s. — £3 3s. —	*s.* £4 4s. — *s.* £6 6s. — *s.* £6 6s. — £4 4s. —	1st c. £4 4s.; 2 & 3 each £2 2s. 0d. 1st & 2nd cs. £5 5s.; 3rd £2 12s. 6d. 1st c. £5 5s.; 2nd & 3rd each £1 1s. 1st c. £4 4s.; 2 & 3 each £2 2s.	*s.* £4 4s. — *s.* £5 5s. — *s.* £5 5s. — *s.* £4 4s. —	*s.* £5 5s. — *s.* £5 5s. — *s.* £5 5s. — *s.* £4 4s. —	1st c. £4 4s. 2nd c. £2 2s. *s.* £4 4s. — *s.* £3 3s. —
s. £5 5s. *p.* £6 6s. *s.* £4 4s. *p.* £5 5s. *s.* £2 2s. *p.* £3 3s. *s.* £5 5s. *p.* £6 6s. *s.* £4 4s. *p.* £5 5s. *s.* £2 2s. *p.* £3 3s. *s.* £2 2s. £1 1s. —	*s.* £5 5s. *s.* £2 2s. — *s.* £2 2s. — *s.* £6 6s. *p.* £7 7s. *s.* £5 5s. *p.* £6 6s. *s.* £3 3s. £1 1s. —	£6 6s. *s.* £1 1s. — *s.* £2 2s. — 1 c. £4 4s. 2 cs. £5 5s. 1 c. £3 3s. 2 cs. £4 4s. — — — — £1 1s. £1 1s.	— — — — — — — — — — — — — — — —	£3 3s. — — — — — *s.* £4 4s. — *s.* £4 4s. — — — — *s.* £2 2s. £1 1s.	*s.* £3 3s. *s.* £2 12s. 6d. — *s.* £4 4s. — *s.* £5 5s. — *s.* £2 12s. 6d. — *s.* £2 2s. £1 1s.	*s.* £4 4s. *s.* £1 1s. — 1st c. £3 3s.; 2nd £2 8s. 1st c. £5 5s.; 2 & 3 each £2 12s. 6d. 1st c. £4 4s.; 2 & 3 each £2 2s. — £2 2s. *s.* £1 1s.	£4 4s. *s.* £3 3s. — *s.* £3 3s. — *s.* £1 11s. 6d. — £2 2s. A fee	*s.* £5 5s. — *s.* £5 5s. — *s.* £5 5s. — *s.* £5 5s. — £1 1s. 1 year 10s.; longer 15s.	— — — — — — — — — — — — — — £1 1s. —

Pathology £5 5s. Natural Philosophy £2 2s. Analytical and Experimental Chemistry (exclusive of material) 1 month £4 4s.; 3 months £10 10s.; 6 months £18 18s. Medical Tutors in every subject free of extra charge. Each second year student contributes £1 1s. towards the "Domus" fund of the College.

London Hopital.—General Fee for Lectures and Hospital Practice 100 guineas by instalments, or 90 guineas in one sum. For students entering at or before beginning of second winter £73 10s.; or two instalments of £47 5s. and £31 10s. Students in Arts of Universities where residence is required, may become Pupils of the Hospital, eligible for all appointments, on payment of £52 10s. Graduates of any Indian, Canadian, or other Colonial or American University or Medical College, may be admitted to three months' Clerkship or Dressership and twelve months' Hospital Practice for £10 19s.—The fees for Hospital Practice include Clerkships and Dresserships for one-half the term, not exceeding 6 months' Clerkship and 9 months' Dressership. Maternity Department, one year £4 4s.; including Midwifery Lectures £6 6s. Diseases of Throat and Aural Surgery, each *s.* £2 2s.; Pathological Histology £3 3s. Experimental Physics £3 3s. Extra for use of Apparatus, etc., in Practical Chemistry £2 2s.; in Practical Physiology £1 1s. Students' Club £1 1s.

St. Mary's Hospital.—*Table of Fees.*—Fee for unlimited attendance on the Hospital Practice and all Lectures and Demonstrations given in the School, £120, paid on entering the School; or £125 in instalments of £45 at the commencement of the first year of study, and £40 each at the commencement of the first and second years. Fee for attendance only on one of each of the Courses of Lectures or Demonstrations required by the regulations of the Conjoint Board of the Royal Colleges of Physicians and Surgeons of England to be attended in a Medical School and on Hospital Practice for the term specified in the same regulations, £100, paid in one sum on entering the School; or £105 paid in instalments of £40 each at the commencement of the first and of the second years of study, and of £25 at the commencement of the third year. *Fees for Separate Classes.*—Separate courses of Lectures may be attended on the following terms: Anatomy, Medicine, Surgery, each £8; Physiology £7; Chemistry £6; Histology, Midwifery, Practical Surgery, each £5; Pathology, Forensic Medicine, Materia Medica, Practical Chemistry, each £4; Botany, Comparative Anatomy, each £3; Hygiene £2

Fees for Attendance on Hospital Practice.

	Medicine. £ s. d.	Surgery. £ s. d.	Medicine and Surgery. £ s. d.
For 3 Months' Attendance	4 0 0	4 0 0	7 0 0
,, 6 ,, ,, ...	7 0 0	7 0 0	12 0 0
,, 12 ,, ,, ...	12 0 0	12 0 0	20 0 0
,, Unlimited ,, ...	21 0 0	21 0 0	45 0 0

(Continued from page 549.)

except one week of the Christmas vacation and one month in the long vacation.

College.—Students attending the hospital or medical school are admitted to residence on the recommendation of a medical officer of the hospital; and such recommendation may be obtained by commencing students on adducing satisfactory evidence of good moral character. The entrance fee is £2 2s.; and a deposit of £3 3s. is required, which will be returned to the student on leaving the College, subject to deduction of whole or part for wilful damage of furniture. Resident students are expected to dine in the hall every day.

Special Departments, etc.—Surgical consultations are held on Thursdays at 1.30. Medical casualty patients are attended by the Junior Assistant Physician, the Casualty Physicians (Dr. Lewis Jones, Dr. Garrod, and Dr. Habershon), and the House-Physicians; the surgical casualty patients, by the two Junior Assistant-Surgeons and the House-Surgeons and Dressers. In addition to the courses mentioned at page 550, Dr. Matthews Duncan teaches Practical Gynæcology in the Wards for Diseases of Women on Tuesdays, Thursdays, and Saturdays, at 2 P.M. The Lecturer on Morbid Anatomy gives a demonstration of morbid specimens (medical) at 11 on Fridays. The Surgical Registrar gives a demonstration of Surgical Morbid Specimens every Tuesday at 11. Inspections are made in the Pathological theatre: medical cases by Dr. Norman Moore or Dr. J. A. Ormerod, at 1 P.M.; surgical cases by Mr. Bowlby, at 1.45. Microscopic specimens are demonstrated every Friday at 4.15 by the Lecturer on Morbid Anatomy and the Surgical Registrar. The Ophthalmic Wards are visited at 1.30 on Tuesdays and Thursdays by Mr. Power, and at 2 on Mondays, Thursdays, and Saturdays by Mr. Vernon; the ophthalmic out-patients are seen at 2 o'clock on Tuesdays and Thursdays by Mr. Power, and at 2.30 on Tuesdays and Saturdays by Mr. Vernon. Mr. Vernon gives Ophthalmoscopic Demonstrations at 2 P.M. on Mondays in the winter session. Mr. Walsham sees orthopædic cases at 2.30 on Mondays, and Mr. Butlin patients with diseases of the larynx at 2.30 on Fridays. Demonstrations of Operative Surgery are given by the Demonstrators of Anatomy and Operative Surgery throughout the year. Mr. Mills gives three months' courses of instruction on the administration of anæsthetics. Dr. Steavenson attends in the Electric Department at 1.30 P.M. on Mondays, Tuesdays, Thursdays, and Fridays, and gives systematic instruction.

Appointments.—Eight House-Physicians and ten House-Surgeons (who must be qualified to practise), and a Senior and a Junior Assistant-Chloroformist, are appointed annually. A Resident Midwifery Assistant and an Ophthalmic House-Surgeon are appointed every six months. Each of these officers receives a

For attendance on the Medical or Obstetric Tutor's Class for a period of three months, each £3. Fee for use of Dissecting Room and attendance on Demonstrations, £6 for the session. Fee for Work in Laboratory of Practical Hygiene, £3 per month. For attendance for three months on each of the Special Departments in Hospital of Ophthalmic, Cutaneous, Obstetric, Aural or Dental Diseases, £3.

MIDDLESEX HOSPITAL.—The Composition Fee includes all the Lectures required by the London Licensing Boards, one course of Practical Chemistry, and two courses of Dissections, the use of the Library, and the instruction of the Tutor. When payment is made by instalments, additional fees must be paid after the fourth year. Members of English Universities who have completed one year of medical study in the University are admitted to all lectures and hospital practice required (except Practical Chemistry, and including only one course of Dissections), for £60 on entrance, or instalments of £45, £20, and £5 at the beginning of each year; separate fees in the latter case being required after the third year. For students who have paid the fee of £35 on entrance upon the course of instruction in Science for the Preliminary Scientific (M.B.) Examination, the Composition Fee payable upon their entrance upon the medical curriculum is £80; or by instalments, on entrance and at commencement of second winter session, £35; third winter session, £15; fourth winter session, £5. In the case of students who do not require instruction in Chemistry and Materia Medica, a deduction of £5 is made from the Composition Fee or first instalment. Occasional pupils entering to the Hospital Practice pay a registration fee of £1 6s. Parts for dissection, each session, £2 2s. Practical Medicine, one course, £6 6s.; subsequent course, £2 2s. Practical Midwifery, one course, £3 3s; subsequent course, £1 1s. Instruction in Anæsthetics, £1 1s.

ST. THOMAS'S HOSPITAL.—Perpetual Fee for students entering in second year, £85 in one sum; or, 2nd year £65; 3rd year £25; for students entering in third year, £55 on entrance; or £40, and the next year £20. Qualified medical practitioners are admitted to Hospital Practice and Lectures on payment of £12 10s. for unlimited attendance. Practical Pharmacy is not included in the perpetual fee. Students Dissecting, or attending Operative Surgery, pay for the parts they use. Midwifery Practice, £5 5s.; Obstetric Demonstrations, £3 3s.; Ophthalmic Practice, £2 2s.; Operative Surgery (voluntary class), £5 5s.; Operations on Eye (voluntary class), £2 2s. Pathological Anatomy (including practical course), £6 6s., with 10s. 6d. (extra) for apparatus, etc. Laryngology, £3 3s.; Experimental Physics, *s.* £4 4s.; *p.* £5 5s.

UNIVERSITY COLLEGE.—Composition Fees for the entire Medical Education required by the Examining Board in England and the Society of Apothecaries, £126; or first year, £57 15s.; second year, £52 10s.; third year, £21. For students who do not require to attend Chemistry, Pharmacy, and Materia Medica at a Medical School (under the regulations of the Examining Board in England), £105; or first year, £52 10s.; second year, £36 15s.; third year, £21. The student is strongly advised to attend, in addition, a course of Therapeutics, which is not included in the above composition fee; fee, £5 5s. For the whole course of instruction for the Intermediate Examination in Medicine of the University of London, £52 10s., in one sum. For the course of instruction for the Final M.B. Examination of the University of London, £73 10s. in one sum; or first year, £42; second year, £33 12s. Composition Fee for Dental Students, £63. For the whole course of instruction for the Preliminary Scientific (M.B.) Examination of the University of London, £36 15s. The Composition Fee admits to attendance for five years on Hospital Practice and Systematic Lectures, and to three years' Practical Anatomy; and to one term of the tutorial class of Chemistry.

WESTMINSTER HOSPITAL.—Students who have completed a year of study elsewhere pay £74 on entrance, or two instalments of £38 17s. each, or three payments of £27 each. Students who have completed their Anatomical and Physiological Studies can enter for hospital practice and lectures on practical subjects by paying £60 on entrance, or two instalments of £31 10s. each. These payments do not include Lectures on Experimental Physics or Comparative Anatomy, nor the special course of Operative Surgery. Graduates of Medicine of Colonial and Foreign Universities are admitted to Hospital Practice and Lectures on payment of £12 12s. Experimental Physics, one course, £3 3s.; each subsequent course, £2 2s. Elementary Anatomy in summer, £2 2s.; Morbid Histology (in summer) one course, £6 6s.; Minor Surgery and Bandaging, £1 11s. 6d., two courses, £2 2s.; Diseases of Skin, £1 1s. Aural Surgery, £1 1s. Obstetric, Ophthalmic, Aural, Skin, or Dental Clinical Departments, 3 months, £2 2s.; 6 months, £3 3s. General students may attend additional courses of lectures on all subjects except Histology (Normal and Morbid) and Practical Chemistry, for a second course of which a half fee is charged. Special Clinical Departments, and Lectures on Comparative Anatomy, Alienism, Ophthalmic, Aural, and Dental Surgery, Diseases of Skin, and Comparative Anatomy, are free to general students, unless a special certificate be required.

QUEEN'S COLLEGE, BIRMINGHAM.—Students who have paid the Composition Fee, and desire to repeat attendance in any class beyond the ordinary requirements of the examining bodies, can do so on payment of half the stated fee for each class. Dissection after second winter, 3 months, £2 2s.; 6 months £3 3s. (including parts for dissection). A fee of £1 1s. is charged for apparatus in the class of Practical Physiology, and 15s. in the class of Practical Chemistry. Advanced Practical Physiology, £2 2s. Elementary Physiology, £1 1s. Every dissecting student pays a fee of £1 10s. at the beginning of each winter session.

BRISTOL MEDICAL SCHOOL.—Students of Anatomy or Physiology pay a Medical Tutor Fee of £2 2s. per annum; this (for 2 years) is included in the Composition Fee. Students not belonging to the Anatomical Class may dissect on paying £3 3s. each session, besides Tutor's fee. *Royal Infirmary:* Entrance fee £2 2s.; and £1 1s. per annum to Library; Clinical Clerk or Dresser, 6 months, £5 5s.; Obstetric Clerk, 3 months, £3 3s.—*General Hospital:* Extra fee for Clerk or Dresser, £5 5s. for 6 months; for Obstetric Clerk, £3 3s. for 3 months. Library, £1 1s. on entrance.

YORKSHIRE COLLEGE: LEEDS SCHOOL OF MEDICINE.—An Entrance Fee of £1 1s. is paid by students who do not pay a Composition Fee. The Composition Fee admits for six years to the lectures required by the English medical corporations and to one course each of Mental Diseases, Ophthalmology, and Hygiene. Diseases of Women and Children, £2 2s.; with Midwifery, £5 5s. Morbid Histology, £3 3s. Dissecting-room for students not attending the course on Descriptive Anatomy, 3 months, £2 2s.; 6 months, £3 3s.

LIVERPOOL UNIVERSITY COLLEGE (ROYAL INFIRMARY) SCHOOL OF MEDICINE.—The Composition Fee includes Library and Ophthalmology. The aggregate fee of £100 for Lectures and Hospital Practice is exclusive of Vaccination (£1 1s.); Dissecting-room expenses (about £3 3s.); Practical Anatomy in summer (£2 2s.); and Practical Pharmacy (£2 2s.); Six months' Gynæcological Practice and Lectures at the Infirmary, £5 5s.; Practical Midwifery at the Ladies' Charity and Lying-in Hospital, £2 2s. Practical Pathological Histology, each course, £2 2s. Diseases of Children, first course, £2 2s.; second and third, each £1 1s. Practical Toxicology, £3 3s. Composition Fee for the classes in Chemistry, Biology, and Physics required for the Universities, £23 14s.

OWENS COLLEGE, MEDICAL DEPARTMENT.—The Composition Fee admits to four years of study. It does not include Hospital Practice. Practical Anatomy, after two sessions, 3 months, £2 2s.; 6 months, £3 3s.; Operative Surgery (special course), £4 4s.; Practical Pharmacy, £3 3s.; Practical Zoology and Comparative Anatomy, fees according to length of course and number of days per week; Practical Toxicology, £3 3s. Comparative Embryology, £5 5s.; Comparative Osteology, £2 2s.; Botany (Lectures and Practical Course), £3 13s. 6d.; Demonstration class in Anatomy, £2 2s., to members of Practical Anatomy Class, £1 1s.; Deposit Fee (Dissection), £2 5s.; Practical Chemistry, for chemicals, £1 1s. Pathological Laboratory (6 hours weekly), 3 months, £3 3s.; 6 months, £5 5s.—Practical Physiology and Histology, extended course (October to end of July), six days per week, £17 17s.; four days, £13 13s.; three days, £10 10s.; two days, £7 7s.; one day, £4 4s. Students entering at or after Christmas pay two-thirds of the fees, if they enter for not less than two days a week. For shorter periods the fees, entitling the student to work every day in the week, are, six months, £15 15s.; three months, £9 9s.; one month, £4 4s.—Practical Histology, £5 5s.; Chemistry, Preliminary Scientific, of Victoria University or University of London, £4 4s.; junior and senior lectures, each £3 10s.; Organic Chemistry, lectures, £3 10s.; Laboratory classes according to length of course and number of days.—Zoological Laboratory special courses, fees as for extended course of Practical Physiology.—Obstetric Practice at St. Mary's Hospital, £2 2s.—Diseases of Children, £2 2s.—Practical Morbid Histology (summer), £2 2s.—Practical Pathology for Medical Men (summer), £2 2s.—Surgical Pathology, £2 2s.; Advanced, £2 2s.—Registered medical practitioners wishing to qualify as officers of health can attend the Hygiene course free.—Practical Anatomy in summer, £2 2s. An extra charge of 5s. is made for use of microscopes in several of the practical classes.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Physics, £2 2s.; Chemical Apparatus, £1 1s. (to be returned at end of session); Use of Bones, 5s.; Use of Books for home reading, 10s. Hospital for Infectious Diseases, £2 2s.

salary of £25 a year, except the Senior Assistant-Chloroformist, who receives £50. All, except the eight Junior House-Physicians and House-Surgeons, are provided with rooms. The Clinical Clerks to the medical in-patients and the Clerks to the Physician-Accoucheur are chosen from the most diligent students. Clerks and dressers are also selected to attend in the out-patient rooms and in the special departments and in the *post-mortem* room. Dressers to the surgical in-patients and the surgical casualty department are selected, to the number of forty in each year, from the students (of the first year) who pass the best examination in the subjects of the first year. Other in-patient dresserships may be obtained by payment of the usual fees (see p. 552).

Exhibitions, Scholarships, and Prizes.—Two open Scholarships in Science, value of each £130, tenable for one year, to be competed for on September 25th. For one of the scholarships, candidates must be under twenty; for the other, under twenty-five years of age. The subjects are Physics, Chemistry, Botany, and Zoology. No candidate may take more than four subjects. The successful candidates must enter at St. Bartholomew's Hospital in the October succeeding the examination. Jeaffreson Exhibition: £20; examination on September 28th; subjects, Latin, Mathematics, and any two of the following languages—Greek, French, German. Candidates for the open Scholarships and the Jeaffreson Exhibition must not have entered to the hospital practice of any metropolitan medical school. Preliminary Scientific exhibition, £50, for one year, on October 20th, for students of less than six months' standing; subjects, the same as for the open Scholarships. *First Year:* Three Junior Scholarships, of the value of £50, £30, and £20, after the general examination in first year's subjects at the end of the winter and summer sessions. Candidates, who must not have previously entered at a metropolitan medical school, must have been students at the Hospital for less than fifteen months. Prize Dresserships are awarded to the succeeding forty candidates, if of sufficient merit, provided that they pass the first professional examinations before the end of the second year. Treasurer's Prize for Practical Anatomy, junior. *Second Year:* Foster Prize for Practical Anatomy, senior. Harvey Prize for Practical Physiology. *Second or Third Year:* Senior Scholarship, value £50, in Anatomy, Physiology, and Chemistry. Shuter Scholarship, value £50; subjects, Anatomy, Physiology, and Materia Medica. Candidates must be Graduates in Arts of the University of Cambridge, who have not graduated in Medicine or Surgery. Wix Prize: subject, The Life and Works of Edward Jenner. Hichens Prize: subject, Bishop Butler's *Analogy*. Skinner Prize, for students of not longer standing than one year from qualification: subjects, Regional and Morbid Anatomy, including reference to Scarlet Fever and Rheumatic Fever. Two Brackenbury Scholarships (interest of £2,000) in Medicine and Surgery. Sir George Burrows Prize, £15 for Pathology. Bentley Prize, for the best report of not less than twelve medical or twelve surgical cases occurring in the Hospital during the previous year. The Kirkes Scholarship of £30, with Gold Medal, for Clinical Medicine, open to students of not less than two or not more than four years' standing. *Third or Fourth Year:* Lawrence Scholarship and Gold Medal, value £42; subjects, Medicine, Surgery, and Midwifery. Candidates for the Lawrence and Brackenbury Scholarships may compete after the end of the third winter session, within a limited period after receiving qualification to practise.

Examinations.—Students preparing for their examinations are arranged in classes, and examined by the lecturers, demonstrators, and tutors. Classes are held to prepare candidates for the examinations of the University of London.

The Abernethian Society, composed of the teachers and students of the Hospital, meets every Thursday at 8 P.M. during the winter. The Abernethian Reading-room is for the exclusive use of members of the Society.

Communications regarding the Hospital and Medical College must be addressed to Dr. Norman Moore, the Warden of the College, St. Bartholomew's Hospital.

CHARING CROSS HOSPITAL.—*The Hospital* contains 180 beds. Students are also admitted to the practice of the Royal Westminster Ophthalmic Hospital, which contains 50 beds.

The Library is open daily from 10 A.M. to 4 P.M., except on Saturdays, when it is closed at 1 P.M. The *Museum* is open from 10 to 4.

Special Courses.—Lectures on Diseases of Children are given by Dr. Murray at 1.30 P.M. on Wednesdays and Saturdays. Dr. Willcocks and Dr. Murray will give a course of Practical Medicine on Mondays and Thursdays at 12.30, and on Tuesdays and Fridays at 9.30 A.M., during the winter; and on Mondays and Thursdays at 12.30 and 4 P.M. during the summer. Mr. Woodhouse Braine and Dr. F. Hewitt give instruction in the administration of Anæsthetics in the operating theatre every Thursday. Instruction in Practical and Operative Surgery is given by Mr. Bloxam on Tuesdays and Thursdays at 9 A.M., and Fridays at 3 P.M., in the winter, and daily at 9 A.M. in the summer, except Mondays; and in Surgical Pathology by Mr. Morgan. Instruction in the Clinical uses of Electricity is given by Dr. Murray at 1.30 on Thursdays, and by the Electrical Assistant on Tuesdays and Saturdays at 12 noon. An Elementary and an Advanced Course of Physiology will be given.

Appointments—A Medical and a Surgical Registrar, each with a salary of £40 a year, are appointed for twelve months. Two House-Physicians, two House-Surgeons, and a resident Obstetrical Officer are appointed by competitive examination for six months. They are entitled to rooms and commons in the hospital. An Electrical Assistant is appointed every six months, and receives £12 12s. at the end of his term of office. Clinical Clerks and Surgeons' Dressers, Clinical Ward Clerks, and Pathological Assistants are appointed for three months. Each student must hold an In-patient Clerkship and In-patient Dresserships, after the first professional examination, in order to obtain certificates of hospital attendance. Students may serve as assistants to the Dental Surgeon for three months.

Scholarships, Medals, and Prizes.—Two Entrance Scholarships, value 100 guineas and 50 guineas, tenable for one year, are awarded in October, after examination in English, Latin and Greek, French and German, Mathematics, Chemistry and Physics, and Animal and Vegetable Biology. Intending candidates must give notice before September 24th. The successful candidates must enter for their complete medical education at the Hospital, either immediately or at the commencement of the next summer session. A Scholarship of the value of 50 guineas is open to students from the University of Oxford who have passed the First M.B. Examination, and to students of the University of Cambridge who have passed the Second M.B. Examination, and who have not entered at any London medical school. Subjects: Anatomy and Physiology, including Histology. The examination for this Scholarship, which will be largely practical, will be held on September 26th and 27th. Notice to compete must be sent in on or before Monday, September 24th. The successful candidate will be required to complete his curriculum at Charing Cross Hospital. The Llewellyn Scholarship of £25, open to all general students who have completed their attendance on lectures; examination in Descriptive and Surgical Anatomy, Physiology, Materia Medica, Medicine, Surgery, Therapeutics, and Midwifery. The Golding Scholarship, £15, open to all general students who have just completed their first year; subjects of examination, Descriptive Anatomy, Physiology, and Chemistry (Theoretical and Practical). The Pereira Prize of £5, to general students who have completed the third year, for the best clinical reports of cases in the hospital (medical in 1889). The Governors' Clinical Gold Medal; examination on subjects of clinical lectures during the session, and on medical and surgical cases in the hospital. Silver and Bronze Medals, or an equivalent in books, and Certificates of Honour in all the classes. Prizes of six guineas and four guineas are given by the Lecturer on Dental Surgery. A Surgeon's Operating Case will be given by the Lecturer on Practical and Operative Surgery, at the end of the third winter session, for general practical knowledge and manipulative skill. The Lecturer on Physiology will give a prize for the best notebook and set of specimens.

Examinations.—Classes are held to prepare students for the Preliminary Scientific Examination of the University of London, the Primary Fellowship Examination of the Royal College of Surgeons of England, and the Pass Examination for the Licence of the Royal College of Physicians, and the Membership of the Royal College of Surgeons.

Residence.—Arrangements have been made with several members of the hospital staff to receive resident pupils.

Information may be had of the Dean, Dr. Mitchell Bruce.

ST. GEORGE'S HOSPITAL.—*The Hospital* contains 351 beds, of which 205 are devoted to Surgical, and 146 to Medical cases. There are special wards for cases of Diseases of the Eye (19 beds) and Diseases of Women. Children are received into the women's wards.

The Library and Reading Room and the Museum are open daily.

Special Subjects.—Surgical consultations are held on Wednesdays at 1.30. Orthopædic out-patients are seen by Mr. Dent every Wednesday at 2.30. Dr. Whipham sees patients with Diseases of the Throat on Thursdays at 2, and gives instruction in the use of the laryngoscope, etc. Dr. Cavafy sees patients with Diseases of the Skin on Wednesdays at 2. Mr. Ross will give demonstrations on the Bones, and Mr. Allingham on the Joints and Muscles. A course of Practical Medicine will be given by Dr. Whipham to students of the second summer session, at 9 A.M. on Tuesdays, Thursdays, and Saturdays. Mr. Dent gives a course of Practical Surgery (including minor surgery, bandaging, case-taking, etc.) for second year's students, at 3 P.M. on Mondays, Wednesdays, and Fridays, and 3.30 P.M. on Tuesdays, in the summer, and Mr. Turner a course of Operative Surgery for third year's students, at 9.30 on Mondays, Wednesdays, and Fridays. Dr. Champneys holds a class of Practical Midwifery in the winter and summer sessions. Dr. Délépine gives a course of Practical Pathology, at 4 on Mondays, and 3.30 on Wednesdays, Thursdays, and Fridays, in the summer; and Dr. Penrose gives demonstrations in Morbid Anatomy at 12 noon on Wednesdays. The Hunterian Lecturer on Clinical Surgery (Mr. T. Holmes) will deliver a course of lectures during the ensuing session.

Hospital Appointments.—House-Physicians, House-Surgeons, an Assistant House-Physician, and an Assistant House-Surgeon are appointed, half-yearly, from among the perpetual pupils.[1] The House-Physicians and House-Surgeons are appointed by the Weekly Board, on the nomination of the Medical School Committee; they hold office for twelve months, and reside and board in the hospital free of expense. They must each deposit £50 with the Treasurer, which will be returned on the expiration of their term of office, if they have satisfactorily performed their duties. An Obstetric Assistant is appointed annually; he must be a legally qualified practitioner. He resides and boards in the hospital, and receives a yearly salary of £100. A Curator of the Pathological Museum and a Medical and a Surgical Registrar are appointed annually from among the senior pupils, each with a salary of £50. Two Assistant Medical Registrars are appointed every six months by competition. This office must be held before competing for that of Assistant House-Physician. An Assistant Surgical Registrar is also appointed; this office must be held, alternately with that of Ophthalmic Assistant, before competing for the office of Assistant House-Surgeon. Two Demonstrators of Anatomy and a Demonstrator of Physiology are appointed annually, each with a salary of £50. Each pupil of the Hospital must act as Clinical Clerk and Dresser before a certificate of attendance on hospital practice can be signed.

Exhibitions and Prizes.—The following Entrance Scholarships are offered for competition: 1. A Scholarship, value £125, for the sons of medical men who have entered the school during the current year.[2] 2. Two Scholarships, each of £50, open to all students commencing their studies. The subjects for these three Scholarships will be Latin, French or German, and Elementary Physics, and the examination will be held in October. 3. A Scholarship, value £90, open to all students who have entered the school during the current year, and who have passed the Cambridge First M.B. since the previous October. Subjects: Elementary Biology, Anatomy, and Physiology, and Practical Chemistry. 4. A Scholarship, value £65, for students who have entered during the current year, and have been signed up for, or passed the Oxford First M.B. or the Cambridge Second M.B. Subjects: Anatomy and Physiology. The examination for these Scholarships will be held during October. The William Brown Exhibitions: 1. £100 per annum for two years, open to perpetual pupils of the Hospital under the age of twenty-five, who have become entitled to be registered under the Medical Act within two years previously; examinations in July; subjects, Clinical Examination of three Medical and three Surgical cases (including one case of Obstetric Medicine and one of Ophthalmic Surgery), with written or *viva voce* examinations in Medicine and Surgery. 2. £40 per annum for three years, to perpetual pupils of the third and fourth winter sessions. Subjects as above; the second candidate will receive the Treasurer's Prize (value £10 10s.), and the third the Thompson Silver Medal. Brackenbury Prizes in Medicine and in Surgery (value of each the interest on £1,076 12s. 3d.), open to all pupils who have been for eighteen months students of the hospital, and who have not completed the fourth year on April 1st; examinations in June. Sir Charles Clarke's Prize (value the interest on £209 14s. 5d.) for good conduct; awarded at end of summer session. Sir Benjamin Brodie's Clinical Prize in Surgery (value £6) for the best report with notes of not more than twelve Surgical cases in the hospital during the preceding twelve months. Sir H. W. Acland's Clinical Prize in Medicine (value £5) for the best record of not more than twelve cases of disease in the hospital during the preceding twelve months. (The Clinical Prizes are open to fourth year's students. Reports must be sent in on or before May 1st.) The Henry Charles Johnson Memorial Prize (value £10 10s.) for Practical Anatomy. The Pollock Prize in Physiology (value the interest on £372 10s.). These two prizes are for second year's students. General Proficiency Prizes, £10 10s., for students of each year: first year, Elementary Anatomy and Materia Medica, Elementary Physiology and Chemistry; second year, Anatomy, Physiology, including Histology, and Physiological Chemistry; third year, Medicine, Surgery, Pathology, and Midwifery.

The Hunterian Society meets once a week at the Hospital during the winter session.

Residence of Students.—The Dean has a list of medical gentlemen living in the neighbourhood, who receive pupils to reside in their families.

Further information may be obtained from Dr. Whipham, the Dean of the School; from any of the Lecturers; or from Mr. F. J. Marshall, the Resident Medical Officer at the Hospital.

GUY'S HOSPITAL.—*The Hospital* contains 695 beds, but 200 beds are at present unoccupied for want of funds. There are 50 beds for Ophthalmic and 26 for Obstetric cases. Children are received into the female wards. Detached wards, containing forty patients, are set apart for the purpose of instruction in Clinical Medicine.

Museums, etc.—The Museums of Human Anatomy, Comparative Anatomy (above 2,000 specimens), Pathological Anatomy (above 6,000 specimens), and Materia Medica, are open to the students. The Library is open to the students daily from 9.30 A.M. to 5.30 P.M., except on Saturdays, when it is closed at 3 P.M.

Special Courses.—The Dissecting-room is open from the beginning of September to the end of July. Students are allowed to visit Bethlem Hospital on fixed days in the summer; and gentlemen can enter as extern students for three months by arrangement with the Medical Superintendent. A course of Lectures on Experimental Physics is given by Mr. Reinold at 12 on Mondays during the winter session. Dr. Pitt and Mr. Lane give a course of practical demonstrations in Morbid Histology two days in the week. Dr. L. E. Shaw gives instruction in Practical Medicine throughout the year. Mr. Jacobson and Mr. Symonds give a course of demonstrations of Practical Surgery (including Minor Surgery, Surgical Pathology, and Operative Surgery) during the three months previous to each Final Examination of the Conjoint Board. Mr. Jacobson also gives a further course of Operative Surgery during the summer session. Ophthalmic out-patients are seen at 1.30 by Mr. Higgens on Tuesdays, and on Fridays by Mr. Brailey at 1.30, and also on Tuesdays after his visit to the wards; in-patients at 1.30 on Fridays by Mr. Higgens, and on Tuesdays by Mr. Brailey at 1.30. Dr. Horrocks gives courses of practical instruction in Obstetrics. Mr. Symonds sees patients in the Throat Department at 2 P.M. on Fridays.

Appointments.—All appointments are given according to the respective merits of the candidates, and without extra payment. There are appointed annually House-Physicians, House-Surgeons, Surgeons' Dressers, and Medical Clinical Clerks, for six months; Dressers in the Eye Wards, for four months; Clinical Assistants, Assistant-Physicians' Clerks, Assistant-Surgeons' Dressers, Dressers in the Surgery, Obstetric Ward Clerks, Surgical Clinical Clerks, Assistant-Surgeons' Clerks, for three months; Obstetric Residents, *Post-mortem* Clerks, Dental Surgeon's Dressers, Aural Surgeon's Dressers, for two months; Obstetric Out-Patient Clerks, six weeks; Extern Obstetric Attendants, one month; also Clerks in the Electrical Department. A special honorary certificate is

[1] All perpetual pupils are eligible for the office of House-Physician and House-Surgeon. All pupils of the hospital may become candidates for the offices of Medical and Surgical Registrar, Obstetric Assistant, Curator of the Museum, and Demonstrator of Anatomy. They are also entitled to attendance on the Maternity Department, and the practice of Ophthalmic and Dental Surgery, without additional fee.

[2] Subjects: Latin, Cicero, *De Senectute;* Virgil, *Æneid*, Book II. French, Molière, *Tartuffe;* B. Saintine, *Picciola*. German, Lessing, *Nathan der Weise;* Heine, *Buch der Lieder*. The examination in Elementary Physics will include Mechanics, Hydrostatics, Light, Heat, and Electricity.

given to every gentleman who has diligently performed the duties of not less than three of the various offices; and special certificates are given to those who have attended one hundred cases of midwifery.

Scholarships and Prizes.—Two Entrance Scholarships, each 125 guineas, to be competed for on September 26th, 27th, and 28th: one in Arts,[1] and one in Science.[2] Candidates must be under twenty-five years of age, and must not compete for both Scholarships. Notice must be given to the Dean before September 24th. The successful candidates must enter at the Hospital in the October immediately following. *First Year:* At the end of the summer session, two prizes of £50 and £25; subjects, Anatomy of Bones, Ligaments, and Muscles, Physiology, Materia Medica, and Chemistry (including Practical Chemistry). *Second Year:* At end of the summer session, prizes of £25 and £10; subjects, Anatomy and Physiology (including Practical Physiology). At end of the winter session, the Michael Harris Prize of £10 for Human Anatomy (including Minute Anatomy); the Sands Cox Scholarship (every third year, next in 1889), value £15, tenable for three years; subjects, Physiology (including Physiological Physics), Histology, and Physiological Chemistry. *Third Year:* At end of the summer session, two prizes of £25 and £10; subjects, Medical Anatomy and Methods of Diagnosis, Surgical Anatomy and Diagnosis, Operative and Minor Surgery, Midwifery, and Therapeutics. *Fourth Year:* At end of the summer session, two prizes of £25 and £10, in Medicine, Surgery, Disease of Women, and Medical Jurisprudence. In March, examination for Golding Bird Prize; subject, The Methods of Diagnosis in Disease. *Fourth and Fifth Years:* Treasurer's Gold Medals in Clinical Medicine and Clinical Surgery; Gurney Hoare Prize of £25, for best reports of three Medical and three Surgical cases, with commentaries; Beaney Prize of 30 guineas in Pathology. Honorary certificates are given to those candidates who pass creditable examinations.

The Registrars and the Demonstrators of Anatomy and Chemistry assist the pupils in their studies. Classes are held for the preparation of candidates for the Examinations of the University of London.

The Pupils' Physical Society meets on alternate Saturdays at 7.30 P.M. A prize of £5 is given for the best essay on a selected subject (this year, Pyrexia); £10 is divided between two other prizes for the best papers read. The Treasurer gives a prize of £5 for Clinical Research.

Several of the Lecturers have vacancies for Resident Private Pupils. A list of lodgings within easy access of the hospital is kept at the Medical School office. There is a Students' Club within the hospital, where members are supplied with luncheons, etc., at moderate charges.

Information may be obtained from the Dean, Dr. Perry, at the hospital.

KING'S COLLEGE AND HOSPITAL.—*The Hospital* contains 170 beds in daily use.

The Museums of Anatomy, Materia Medica, Natural History, etc., are open daily from 10 till 4. *The Medical Library* is open daily from 10 till 5.

Special Courses.—Clinical Instruction is given daily by the Physicians and Surgeons; the Special Demonstrations in Operative Surgery, Minor Surgery and Bandaging, and Surgical Pathology, by the Out-patient Surgeons and Assistant-Surgeons. Instruction is given in the Diseases of Women and Children; and in Throat-Diseases (with Laryngoscopic Demonstrations), by Mr. Barrow, every Friday, at 2. Demonstrations and Practical Instruction in Morbid Anatomy are given in the *Post-mortem* Theatre. Special Instruction is given in Medical Chemistry and the Microscope by the Physicians. A course of Osteology is given at 2 P.M. on Mondays and Fridays in the summer. Lectures on Natural Philosophy are given in the summer, at 2 P.M. on Tuesdays.

Appointments.—Resident Medical Officers, Clinical Clerks, and Dressers are chosen by examination from matriculated students, who are pupils at the Hospital.

Scholarships and Prizes.—Two Warneford Scholarships, for the encouragement of previous education,[1] each £25 per annum, for three years; two Additional Scholarships of £25 each per annum for two years will be given in October, 1888; and one Warneford Scholarship of £25 per annum at the close of the winter session, for two years, for third year matriculated students. Medical Scholarships given yearly to matriculated students—one of £40 for two years, open to students of the third and fourth years; one of £30 for one year, to students of the second and third years; three of £20 for one year, to students of the first year. Daniell Scholarship, open to students who have worked in the laboratory six months, £20 per annum, for two years. Two Sambrooke Registrarships, of the annual value of £50 each, open to matriculated students who have filled any of the higher appointments at the Hospital. Two Sambrooke Exhibitions, one £60 and one £40, open to all matriculated students at the commencement of their course of study; subjects of examination, Mathematics, Elementary Physics, Inorganic Chemistry, Botany, and Biology. Rabbeth Scholarship, value £20, in July, for best evidence of early scientific training. Two Science exhibitions, given by the Clothworkers' Company, one of £50 and one of £25 per annum, each tenable two years, for proficiency in any four of the following subjects: Mathematics, Mechanics, Physics, Chemistry, Botany, Geology, Mineralogy, and Zoology; open to all candidates under 19 on October 1st, 1886. Inglis Scholarships; two annually, £50 each, for proficiency in Modern History and English Literature. Leathes' Prizes: Interest of £300 applied in purchase of a Bible and Prayer-Book, as annual prizes to two matriculated medical students. Warneford Prizes: £40 in medals and books, to two matriculated medical students. Class Prizes: Books of the value of £3, and certificates of honour, are awarded annually for proficiency in the several subjects taught in the classes. Two Surgical Clinical Prizes of £3 each for the winter session. Todd Medical Clinical Prize: Bronze Medal and Books, value £4 4s. Jelf Medal, at the Senior Scholarship Examination who is second in order of merit. Tanner Prize, value £10, for proficiency in Diseases of Women and Children, and in Obstetrics. Carter Prize: Gold Medal and Books, value £15, for proficiency in Botany. The Carter (English Original Verse), Stephen (English Essay), Trench (Greek Testament), and McCaul (Hebrew) Prizes are open to students of the medical department.

Medical Tutors are appointed to assist, by instruction and examination, all students in the subjects of all examinations, without any extra fees.

Associate of King's College.—At the end of each winter session the professors recommend to the Council the names of medical students to be elected associates.

Residence.—Rooms are provided within the College for a limited number of matriculated students under the supervision of the Censor. The cost of the academical year varies from £50 to £60.

The Medical Society meets on Thursday, at 8.30 P.M.

Information.—The Dean of the Medical Department, Professor Curnow, attends daily (Saturdays excepted), at King's College, from 11.30 A.M. to 1 P.M., for the purpose of seeing students and their friends. Any letter addressed to the Dean during the vacation will receive early attention.

LONDON HOSPITAL.—*The Hospital* is the largest general hospital in the kingdom; it contains 786 beds, approximately thus allotted: Accidents and Surgical cases, 343; Medical cases, 290; Diseases of Women, 26; Children under seven years of age, 70; Ophthalmic cases, 12; Erysipelas and Isolation cases, 45.

The College, which has been almost entirely rebuilt, affords ample accommodation for teaching in every branch of medical education.

Special Courses.—Sir Andrew Clark, Bart., F.R.S., as Emeritus Professor of Clinical Medicine, will give in the winter session a course of lectures on Clinical Medicine. Mr. Jonathan Hutchinson, F.R.S., as Emeritus Professor of Clinical Surgery, will give in

[1] The subjects are—Latin: Cæsar, *Gallic War*, Book VII. Greek: Xenophon, *Cyropædia*, Book I. French. German. Euclid, the first four Books; Algebra to Quadratic Equations; Arithmetic. Candidates may choose Greek or German, but will not be allowed marks in more than one of these subjects.

[2] The subjects are—Inorganic Chemistry; Zoology; Botany; Physics, including general properties of solid, liquid, and gaseous bodies; Acoustics, Heat, Magnetism, Electricity, and Optics. There will be a practical examination in Chemistry, and specimens will be given with the papers in Botany and Zoology.

[1] The examination will be in the following subjects:—1. Divinity, *Old Testament*, the Two Books of Kings; *New Testament*, the Gospel according to John; *The Church Catechism;* Books recommended: Barry's *Notes on the Catechism*, or Maclear's *Class Book of the Catechism of the Church of England*. 2. English, *The Spectator*, Nos. 1-50. 3. History, *The History of England*, from 1700 to 1740; 4. Latin, Cæsar, *Gallic War*, Book VII. 5. Greek, Xenophon, *Cyropædia*, Book I. 6. French, Michelet, *La Ligue et Henri IV* (Hachette). 7. German, Schiller, *Jungfrau von Orleans*. Mathematics: Arithmetic. Algebra; as far as and including Quadratic Equations, together with Proportion and Arithmetical and Geometrical Progression. Euclid, Books I-IV, or the subjects thereof. Candidates may omit any subject except Divinity. Names of candidates must be sent to the Secretary before 2 P.M. on Thursday, September 27th.

the summer session a course of lectures on Clinical Surgery. Students desirous of obtaining a practical knowledge of Mental Diseases can attend, without additional fee, the practice at the Bethnal House Asylum every Wednesday from 10 to 12. Special lectures and demonstrations are also delivered by Dr. Herman on Clinical Obstetrics; Mr. Rivington, on Operative Surgery; Mr. Waren Tay, on Ophthalmic Surgery; Mr. Woakes, on Aural Surgery; Mr. Eve, on Pathological Histology; Mr. Mark Hovell, on Diseases of the Throat; Mr. Barrett, on Dental Surgery; Mr. Page, on Experimental Physics; Dr. Hewitt, on Anæsthetics; Mr. Reeves, on Practical Surgery. During the summer session a course of lectures will be delivered by Dr. C. H. Ralfe, on Pathological Chemistry, on Mondays at 4 P.M. To enable students to present themselves for the first examination of the Examining Board at the earliest possible opportunity, it has been arranged to hold the course of demonstrations on Practical Chemistry throughout the winter as well as the summer session. Mr. McCarthy gives instruction to first year's students in Practical Histology, at 9.15 A.M. on Tuesdays and Thursdays in the summer.

Museums, etc.—The Anatomical and Pathological Museum, the Materia Medica Museum, and the Library are open daily. The whole of the specimens have been carefully rearranged, and to a large extent remounted. The preparations are classed for convenience of study, and a printed catalogue of the entire collection is in the press.

Appointments.—Five House-Physicians, five House-Surgeons, and a Resident Accoucheur, are appointed every six months; a Receiving-room Officer, and a Senior Dresser to Out-Patients every three months. Clinical Clerks, Surgical Dressers, and Clinical Obstetric Clerks are appointed every three months. Every student must act as a Clinical Clerk for three months in the medical out-patient department, after passing the first College of Surgeons examination. Maternity pupils reside in the hospital every week. Each student must attend at least twenty cases of Midwifery; those who have attended one hundred are entitled to a special certificate. Dressers reside and board in the hospital every week. Every student must act as Dresser in the Surgical out-patient department for at least three months after the end of the first winter session. Three Clinical Assistants are appointed every three months for the Medical out-patients, and are eligible for re-election. Each receives a salary at the rate of £80 per annum. An unpaid Clinical Assistant is appointed in the Ophthalmic department. A Medical Registrar and a Surgical Registrar are appointed annually; each receives £100. An Instructor in Anæsthetics is appointed annually, and receives £50. Every student must act as a *Post-mortem* Clerk for three months. A Dental Assistant, Prosectors of Anatomy, and Dressers in the Ophthalmic and Aural departments, are also appointed. The holders of resident appointments are provided with rooms and board.

Scholarships and Prizes.—Twenty scholarships and prizes are offered for competition. 1 and 2. Two Entrance Scholarships, value £60 and £40; examination on September 26th, 27th, and 28th; subjects: Physics, Botany, Zoology, and Inorganic Chemistry. Successful candidates must forthwith become pupils of the hospital and school. 3 and 4. Two Buxton scholarships, value £30 and £20, open to full students of less than six months' standing: examination on October 3rd, 4th, and 5th.[1] 5. A Scholarship at the end of the summer session, value £20, to a first year's student; subjects: Human Anatomy and Physiology. 6. A Scholarship, value £25, to a first or second year's student, at the end of the winter session; subjects: Anatomy, Physiology, and Chemistry. 7, 8, 9. Hospital Scholarships, value each £20, for proficiency and zeal in Clinical Medicine, Surgery, and Obstetrics. 10. The Letheby Prize, value £30, for Chemistry; open to all full students from the end of the second summer session to the end of the fourth year. 11. The Duckworth Nelson Prize, value £10, awarded biennially, at the end of the winter session; subjects: Practical Medicine and Surgery. For the Hospital Scholarships and the Duckworth Nelson Prize, full students of the Hospital are eligible up to the end of their fourth year, with or without a diploma; qualified officers of the Hospital are not eligible. 12. The Hutchinson Prize, value £35, awarded triennially to the author of the best essay on a subject in Clinical Surgery; open to full students of Hospital who have not been registered as medical students more than ten years. 13—18. Six prizes, of the aggregate value of £60, by competition among the Dressers in the out-patient rooms. 19, 20. Two prizes, value £6 and £4, for Dissections, for full students up to the end of the fourth year. Special certificates to those gentlemen who have faithfully performed their duties in the Hospital, and to those who have distinguished themselves at the examinations.

Special attention is paid to the preparation of students for the examinations of the Colleges of Physicians and Surgeons, the Apothecaries' Hall, and the University of London.

The Medical Society meets for the reading and discussion of papers at 7.30 P.M. on alternate Wednesdays during the winter session.

Residence.—Students wishing to reside with a member of the medical profession, within easy access to the Hospital, can obtain information by application to the Warden. Several members of the Hospital staff receive resident pupils. A list of approved lodgings is kept by the Warden. A Refreshment Room has been provided in the buildings, where luncheons or dinners can be obtained.

Information may be obtained from the Warden, Mr. Munro Scott, at the College.

ST. MARY'S HOSPITAL.—*The Hospital* contains 280 beds; 130 Medical, and 150 Surgical. Two wards are appropriated to Diseases of Children, and one to those of Women; there are also beds for Ophthalmic, Aural, Cutaneous, and Dental cases.

The Reading Rooms and Library are open daily. The *Museum* is open daily to students. It contains about 3,000 specimens of healthy and morbid anatomy. There are also a Materia Medica Department and a collection of specimens illustrative of Comparative Anatomy. There are a Physiological and a Chemical Laboratory. The new Pathological Laboratory, opened in October last, is now in working order. The Laboratory of Hygiene is open daily.

Special Courses.—Clinical Lectures on special selected subjects are given by the Physicians and Surgeons, at 4 P.M. on Fridays, in the winter and summer sessions. Medical Practitioners are invited to attend these lectures. Clinical Demonstrations on Diseases of the Skin and of the Throat are given. The students are carefully trained to the use of the Microscope. Dr. Alder Wright gives a course of Physics at 10 A.M. on Saturdays. Dr. de Watteville gives Instruction in the Practical Application of Electricity. Mr. Pepper gives a course of Operative and Practical Surgery at 5 P.M. on Tuesdays and Thursdays during the winter.

Appointments.—Three House-Physicians and three House-Surgeons are appointed for six months each, and two Obstetric Officers for six months each; all live free of expense in the Hospital. All students must act as Clinical Clerks and Dressers for eight months after passing the Primary Examinations, and after having acted as Dressers two months in the Casualty Department, and one month as Assistants in the Electrical Department. A Demonstrator of Anatomy is appointed at a salary of £70, and a Junior Demonstrator at £50 a year. Two Prosectors are appointed annually; each receives a certificate and £5. A Demonstratorship in Pathological Anatomy, value £15, tenable for six months, is given after competitive examination in Pathology and Morbid Anatomy.

Scholarships and Prizes.—One Scholarship in Natural Science, value £105, and three of the value of £50 each; subjects, Inorganic Chemistry, Experimental Physics, and Elementary Biology. There will be a practical examination in each subject. The examination will take place on September 22nd and following days. The candidates must not have completed a winter session of study at a medical school in London. The successful candidates must enter as perpetual pupils of the Hospital, and pursue the full course of study there. A scholarship of £105, open for competition to students of Epsom College, who are sons of medical men. Two scholarships, each of £52 10s., open to students from a University, who have not entered at any London medical

[1] The subjects are:—1. The English Language and Literature, inclusive of writing from dictation, the English Grammar, and the Composition of a short Essay. 2. Arithmetic. No candidate will be passed who does not show a competent knowledge of the first four rules, simple and compound, of Vulgar Fractions, and of Decimals. 3. Algebra to Simple Equations inclusive. 4 The first four books of Euclid. 5. Latin: Cicero's *De Senectute*, and Virgil's *Æneid* Book I. And one of the following subjects at the discretion of the candidate:—1. Greek: Xenophon's *Memorabilia*. 2. French: De Souvestre's *Le Philosophe Sous les Toits*, and Ponsard's *L'Honneur et l'Argent*. 3. German: Schiller's *Jungfrau von Orleans*. 4. Natural Philosophy, including Mechanics, Hydrostatics and Pneumatics. Besides these translations into English, the candidate will be required to answer questions on the grammar of each subject, whether compulsory or optional. The Buxton Scholarships are open to all full students of less than six months' standing, who have received their cards of admission to the lectures and practice.

school: subjects, Physiology, and either Anatomy or Chemistry at the option of the competitor. There is also a Mathematical and a Classical Scholarship, each of the value of £50, open to competition each April amongst students who are about to enter in May. Three scholarships, value £20, £25, and £30, one at end of each year, after examination in class subjects. *First Year:* Winter Session: Prizes of £3 3s. each in Anatomy and Histology, and in Chemistry. Summer Session: Prizes, value £2 2s. each, in Comparative Anatomy, Materia Medica, Botany, and Inorganic Practical Chemistry. *Second Year:* Winter: Prizes of £3 3s. each for Anatomy and General Physiology. Summer: Prizes, value £2 2s. each, for Midwifery and Medical Jurisprudence. *Third Year:* Winter: Prizes of £3 3s. each for Medicine, Surgery, Pathology, and Operative Surgery. At end of each year, prizes of £5 5s. each for Clinical Medicine and Clinical Surgery. A prize of £10 10s. in Ophthalmology.

Tutorial Classes are held by Dr. Pearce and Dr. M. Handfield-Jones, to assist students in preparing for their final examinations.

Special Classes are held for the Preliminary Scientific Intermediate M.B., and Final M.B. Examinations of the University of London, and for the Examinations for the Fellowship of the Royal College of Surgeons.

The Medical Society meets on alternate Wednesday evenings, during the winter session, at 8 P.M.

Residence for Students.—Students may reside in the College, 33 and 35, Westbourne Terrace, under the supervision of the Wardens. Terms, £94 10s. for the academical year, including the assistance of the demonstrators on three evenings in the week.

A Students' Club has been founded. The rooms (in the basement of the "Mary Stanford" wing) comprise a library, reading-room, and dining-rooms. The annual subscription is 7s. 6d.

Further information may be obtained from Mr. G. P. Field, Dean of the School; from the Sub-Dean, Dr. Sidney Phillips; from any of the lecturers; or from the Medical Superintendent at the Hospital.

MIDDLESEX HOSPITAL.—*The Hospital* contains upwards of 300 beds, of which 185 are devoted to Surgical and 120 to Medical cases. There are 33 beds for cases of Cancer; also wards for cases of Uterine Disease and of Syphilis, and beds for cases of Diseases of the Eye.

The Museum is open to students daily from 9 to 5. It contains above 5,000 specimens. *The Library and Reading Room* are open to all general students from 9 to 5; on Saturdays, from 9 to 2.

Special Subjects.—A course of Practical Medicine is given in the winter by Dr. Coupland on Mondays, Wednesdays, and Fridays, at 4 P.M. Dr Douglas Powell gives a short course of lectures on Therapeutics in the summer, at 3 P.M. on Mondays and Thursdays. Mr. Morris sees out-patient Cancer cases at 1.30 on Thursdays. Practical Instruction in Mental Diseases is given at the Grove Hall Asylum, Bow. A class of Practical Surgery is held in the winter session. Mr. Andrew Clark will also commence a class of Practical Instruction in Operative Surgery in April. Each student will personally perform all the operations. Dr. W. Duncan gives a course of Practical Midwifery in the winter and summer. Instruction in the administration of Anæsthetics is given every Wednesday and Saturday by Mr. G. E. Norton and Dr. McCausland. Dr. Pasteur gives instruction in the practical application of Electricity. In connection with the class of Pathological Anatomy, a practical class of Pathological Histology is formed in the winter and summer sessions, under the direction of Mr. C. L. Hudson.

Appointments, etc.—Sixteen Resident Appointments are open annually to competition among pupils of the Hospital. The officers reside and and board in the Hospital free of expense. There are two Casualty House-Surgeons appointed annually. Six House-Surgeons are appointed every year after examination; they must have a legal qualification. Six Resident Physicians' Assistants are appointed from time to time for six months. They must have a legal qualification, or hold a Broderip Scholarship. A Resident Obstetric Physician's Assistant (qualified to practise) is appointed for six months. Each of the above-mentioned resident officers pays (except the Casualty House-Surgeon) £10 10s. on appointment. Non-Resident Physicians' Assistants are appointed in the out-patient department. Clinical Clerks and Dressers are appointed for six months. An Obstetric Physician's Clerk is appointed. In the out-patient department the appointments are: Dresser to the Assistant Surgeon and to the Dental Surgeon; Clerk to the Assistant Physician; Dresser to Ophthalmic Surgeon; Clerk to the Physician of the Skin Department, to the Assistant Obstetric Physician, and to the Surgeon to the Throat and Ear Department. There are also Extern and Midwifery Clerks, and *Post-mortem* Clerks. The appointments are so arranged that every student may during his course take both a clerkship and a dressership. Each student must be an out-patient clerk or an out-patient dresser before being eligible to an in-patient clerkship or dressership. No student can be appointed to any office until he has passed the second examination of the Examining Board in England, or its equivalent.

Scholarships and Prizes.—Two Entrance Scholarships, value £50 and £30, tenable for two years,[1] open to all gentlemen commencing their medical studies at the Hospital in October, 1886. The successful candidates must become general pupils of the school. Examination on September 27th and following days. Candidates must send in their names to the Dean, stating the subjects they select, on or before September 18th. John Murray Scholarship and Gold Medal Open to competition, in May 1889, among students in actual attendance who have entered since April 30th, 1885. Subjects: Medicine, Surgery, and Obstetrics. Hetley Clinical Prize, value £25, at the end of summer session, to students who have completed the third and not commenced the fourth winter session: *viva voce* examination in Medicine, Surgery, and Obstetric Medicine. Lyell Medal, value £5 5s., at end of third winter, for proficiency in Surgical Anatomy and Practical Surgery. Exhibition, value £10 10s., at end of first winter session. Subjects: Elementary Anatomy and Physiology. Two Broderip Scholarships, value £30 and £20, tenable for two years, to students in their fourth winter sessions for reports and comments on selected medical and surgical cases and *post-mortem* examinations. The Governor's Prize, value £21, to the student who, at the end of the third winter session, shall have been out-patient clerk and dresser, and shall pass the best examination in the subjects of the out-patient department. Prizes and certificates of honour are given in each class.

Tutors.—Mr. Pearce Gould and the demonstrators assist all general students of the Hospital, especially those who are preparing for primary examination before the Licensing Boards.

The Preliminary Scientific M.B. Examination.—Arrangements have been made by which candidates for this examination can attend the Lectures and Practical Instruction in Biology, and a portion of the ordinary courses in Physics and Chemistry, at the Normal School of Science, South Kensington.

The Students' Medical Society meets in the Board Room of the Hospital on alternate Thursdays at 8 P.M. during the winter session. Prizes are given to the reader of the best paper, to the exhibitor of the best histological specimens, and to the exhibitor of the best pathological specimens.

Information may be obtained from Mr. Pearce Gould, the Dean; from Dr. Coupland, Secretary of the School; from any of the Lecturers, or from the Resident Medical Officer at the Hospital.

The Residential College is situated in Cleveland Street, W., and has its frontage in the Hospital garden; it accommodates about 30 students. The Warden is Mr. Leopold Hudson.

ST. THOMAS'S HOSPITAL.—*The Hospital* contains 572 beds, of which about 180 are appropriated to ordinary Medical, and 230 to ordinary Surgical cases. There are also special wards for Diseases of Women, Diseases of the Eye, Venereal Affections, Children under six years of age, and (in a separate block) Infectious Diseases.

Museums, etc.—Students have access to the Library, and to the Museums of Human Anatomy, of Comparative Anatomy, of Materia Medica, of Botany, and of Chemistry and Mineralogy, and to the Laboratories of Practical Physiology and Practical Chemistry.

Special Subjects.—A Course of Lectures on Physics and Natural Philosophy is given by Dr. Stone at 12 noon on Saturdays in the winter. Classes in Advanced Anatomy are held by the lecturers

[1] The following are the subjects for examination. Latin: Passages for translation into English; short passages for translation from English into Latin; and questions in grammar. 1888. Cæsar, *Gallic War*, Book VII.—Greek: Easy passages for translation into English; questions in grammar. 1888. Xenophon, *Cyropædia*, Book I.—French or German: Passages for translation into English; short passages for translation from English into French or German; and questions in grammar.—Mathematics: Arithmetic; Algebra up to and including Quadratic Equations; and Euclid, Books I, II. III.—Mechanics and Experimental Physics.—Chemistry.—Botany.—Zoology.—The general range of subjects in Mechanics and Physics, Chemistry, Botany, and Zoology, will be that for the Preliminary Scientific Examination of the University of London.—Candidates will be examined in any three, and not more of the above subjects which they may select.

on that subject. An additional laboratory for the teaching of Advanced Physiology has been provided. Physiological Demonstrations are given at 10.30 on Mondays and Fridays, and at 12 noon on Tuesdays and Thursdays in the winter session; and Demonstrations of Pathological Anatomy at 2 P.M. daily by Dr. Sharkey and Dr. Hadden; and Dr. Copeman gives demonstrations in Morbid Histology. Dr. Cory sees cases of Diseases of Women and Children at 1.30 on Wednesdays and Saturdays. Out-patients with Diseases of the Throat are seen by Dr. Semon at 1.30 on Tuesdays and Fridays. Dr. Semon gives a short course of Clinical Lectures on Throat Diseases. Mr. MacKellar, Mr. Clutton, and Mr. Pitts give instruction in Practical and Manipulative Surgery. Practical instruction in the Administration of Anæsthetics is given by Mr. Tyrrell and Mr. White.

Appointments.—A Resident Assistant-Physician and a Resident Assistant-Surgeon, at a salary of £100 per annum, each with board, are appointed, and may hold office for a term not exceeding three years. Two Resident and two Non-resident House-Physicians, two House-Surgeons, two Assistant House-Surgeons, and a Resident Accoucheur are selected from gentlemen who have obtained their professional diplomas; they hold office for three or six months. Two Ophthalmic Clinical Assistants, chosen from qualified students, are appointed for six months, the senior receiving a salary at the rate of £50 per annum, and the junior being provided with commons. The House-Physicians, the House-Surgeons, the Resident Accoucheur, and Dressers are provided with rooms and commons. Clinical Clerks and Dressers are selected each year, to the number of at least one hundred for in-patients, and eighty to one hundred for out-patients. Clinical Assistants in the departments for Diseases of the Skin, Throat, and Ear are appointed every three months. Obstetric Clerks are from time to time appointed; also Assistants in the Physiological Laboratory, Prosectors, and Assistants to the Demonstrator of Pathological Anatomy. All students have the opportunity of being engaged in the performance of the practical duties in connection with the Medical, Surgical, Obstetrical, Ophthalmic, and Pathological departments of the Hospital. Two Hospital Registrars are appointed, at an annual salary of £100.

Scholarships and Prizes.—Two Open Scholarships in Natural Science, value 125 guineas and £60, are open to students who have passed a preliminary examination in Arts; subjects, Physics, Chemistry, and either Botany or Zoology; examinations on September 26th, 27th, and 28th. Notice must be given not later than September 24th. Successful candidates must become students of the Hospital. The William Tite Scholarship, £27 10s., to the student highest on the first-class list at the examination at the end of the first winter session. The Musgrave Scholarship, value £38 10s. per annum for two years, biennially, to the student highest on the first-class list at the end of the second winter session. The Peacock Scholarship, of the same value as the Musgrove Scholarship, and given alternately with it, on the same terms. College Prizes each winter for first and second year's students, of £20 and £10 each winter; and for third year's students, of £20, £15, and £10; and £15 and £10 each of three summers. The Cheselden Medal, annually, to a fourth year's student, for Surgery and Surgical Anatomy. The Mead Medal, annually, to a fourth year's student, after practical examination in Medicine, Pathology, and Hygiene. The Treasurer's Gold Medal, annually, at the end of fourth winter session, for general proficiency and good conduct. The Grainger Testimonial Prize, value £15, is awarded annually to students of from three to six years' standing, for an Anatomical or Physiological Essay explanatory of preparations and dissections; papers to be sent in before October, 1889. The Solly Medal, with a prize in money, every two years, for Reports of Surgical Cases, to a third, fourth, fifth, or sixth year's student; papers to be sent in before April, 1890.

Residence of Students.—A Register of Lodgings suitable for students is kept at the Registrar's office. Information as to terms, accommodation, etc., can be obtained on application. This Register has been especially prepared with a view to the convenience of gentlemen newly arriving in town, without definite arrangements having been made for their accommodation in lodgings or otherwise. Medical practitioners, clergymen, and private families residing in the neighbourhood receive students for residence and supervision. There is a Students' Club in the Medical School, where members can take their meals at moderate charges.

University of London.—Classes in the subjects required for the Preliminary Scientific Examination are held from October to July, and for the Intermediate M.B. Examinations.

The Medical and Physical Society meets on alternate Thursdays, at 8.30 P.M.

Further information may be obtained from Mr. G. Rendle, the Secretary to the Medical School, at the Hospital.

UNIVERSITY COLLEGE AND HOSPITAL.—*The Hospital* contains 207 beds available for clinical instruction and study. In addition to the Physicians' and Surgeons' wards, there are special wards for Diseases of Women, for Children's Diseases, for Ophthalmic affections, and for Skin disorders. In connection with the Skin department, there is a complete system of medical baths.

Libraries, Museums, etc.—The General and Medical Libraries, the Museums of Anatomy and Pathology, of Comparative Anatomy, of Materia Medica and Chemistry, of Geology, and of Natural Philosophy, are open daily. There are also a Chemical, a Physiological, a Zootomical, a Botanical, and a Hygienic Laboratory, where instruction is given under the superintendence of the Professors.

Practical Instruction.—Dr. Ringer, Holme Professor of Clinical Medicine, delivers Clinical Lectures every Tuesday and Thursday at 2, and trains the pupils in the practical study of disease. Lectures are also given by Dr. Bastian, Dr. Roberts, and Dr. Gowers. Dr. Barlow, Assistant-Professor of Clinical Medicine, instructs in Physical Examination, in the Diagnosis of Diseases of the Heart and Blood-vessels, and of Abdominal Diseases. Dr. A. Money instructs in the Examination of the Lungs and of the Urine. Lectures are given every Monday at 2 by Mr. Christopher Heath, the Holme Professor of Clinical Surgery; once a fortnight, or oftener, by Mr. Beck and Mr. Berkeley Hill. The Holme Professor holds a Clinical Examination every Friday at 3. Mr. Barker and Mr. Godlee, Assistant-Professors of Clinical Surgery hold examinations, and instruct students in the observation and examination of patients. Dr. Poore attends on Thursdays at 1.30 to see patients with throat-diseases, and to give instruction in the use of Laryngeal instruments. A class for the study of Practical Gynæcology meets twice a week under the direction of Dr. John Williams and Dr. H. Spencer. A course of Practical Surgery is given during the winter. It consists of three divisions: 1. The use of Surgical Apparatus, etc., by Mr. Bilton Pollard and Mr. Raymond Johnson, on Mondays and Thursdays, at 4, in October, November, and December; 2. Operative Surgery, by Mr. Godlee, during the latter part of the winter session; 3. Demonstrations of Surgical Preparations, by Mr. Barker, on Wednesdays and Saturdays at 10, from October to April, and on Tuesdays and Fridays at 9, from May to July. Mr. Godlee also gives, in the summer, a course of Operative Surgery intended for candidates for the public services, for the surgical degrees of the University of London, and the Fellowship of the Royal College of Surgeons. A practical course of instruction in Pathology is given in January, February, and March. A practical class for the detection of Poisons is held by Dr. Plimpton, at 11 A.M., on Mondays, Wednesdays, and Fridays, in October. Practical instruction in Hygiene and Public Health is given by Dr. Corfield and Dr. Parkes.

Biological Courses.—Elaborate courses of instruction are given in this College in the class of Physiology, by the Jodrell Professor, Mr. Schäfer, and assistants; and in the class of Comparative Anatomy and Zoology, by Mr. Ray Lankester, Jodrell Professor, and assistants; and in the class of Botany, by Mr. F. W. Oliver.

Offices.—Eight House-Physicians, six House-Surgeons, eight Obstetric Assistants, Out-patient Physicians' and Surgeons' Assistants, Clinical Clerks, Surgeons' Dressers, and Ophthalmic Surgeons' Assistants, are selected from among the pupils. The House-Physicians, the House-Surgeons, and the Obstetric Assistants, reside in the Hospital, paying for their board.

Scholarships, etc.—Three Entrance Exhibitions, value £100, £60, and £40 per annum, to gentlemen who are about to commence their first winter's attendance. Subjects: Chemistry, Physics, and Biology. The examination will take place on September 27th and 28th. Notice of intention to compete must be given on or before September 23rd. The Atkinson-Morley Surgical Scholarship, £45, tenable for three years, for proficiency in Surgery. Atchison Scholarship, about £60 per annum, tenable for two years, for general proficiency. The Sharpey Physiological Scholarship, annual value about £105. The Filliter Exhibition of £30, annually in July, for proficiency in Pathological Anatomy. Dr. Fellowes's Clinical Medals, one Gold and two Silver, at the end of each winter and each summer session. The Liston Gold Medal, at the end of the winter session, for reports and observations on Surgical Cases in the Hospital. The Alexander Bruce Gold Medal

for proficiency in Pathology and Surgery. The Tuke Silver Medal, awarded annually at the discretion of the Professor of Pathological Anatomy. The Cluff Memorial Prize, value about £15, every second year, to the most proficient in Anatomy, Physiology, and Chemistry: next award in 1889. Erichsen Prize, a Surgeon's Operating Case, value £10 10s., awarded yearly in the class of Practical Surgery. Morris Bursary of £25 a year, tenable for two years. Gold and Silver Medals or other Prizes, as well as Certificates of Honour, after competitive examinations in the classes. Prizes to the value of £10 in the class of Hygiene. A prize of Instruments in the class of Dental Surgery.

Private Instruction.—Gentlemen may obtain assistance in their studies within the College, on application to the respective Professors.

The Medical Society meets fortnightly to discuss subjects connected with medicine, and for the exhibition of microscopical specimens.

Residence of Students.—University Hall (Professor Henry Morley, Principal) adjoins the College. Full information as to cost and conditions of residence may be had by application at the office of the College. Several professors and other gentlemen connected with the College receive students to reside with them; and, in the office of the College, there is kept a register of persons unconnected with the College who receive boarders into their families.

Information respecting the College may be obtained from the Dean, Mr. Marcus Beck; the Vice-Dean, Mr. John Tweedy; the Sub-Dean, Mr. Thane; or the Secretary, Mr. J. M. Horsburgh.

The Session will be opened on Monday, October 1st, at 4 P.M., when an Introductory Address will be delivered in the Botanical Theatre by Professor W. Ramsay, Ph.D.

WESTMINSTER HOSPITAL.—*The Hospital* contains upwards of 200 beds. There are separate departments for Diseases of the Eye, Ear, Skin, Teeth, and Throat, for Diseases of Women, and for Orthopædic Practice, and a special ward for children.

Museums, etc.—The Anatomical Museum is constantly open to the students. A cabinet containing a valuable collection of microscopical preparations, chiefly histological, has been presented to the Museum. There are also a Pathological Museum and a Materia Medica Museum. The Library is open daily from 10 to 5.

Special Subjects.—In addition to the practice of the Hospital, general students may attend, without further fee, the practice at the Royal Westminster Ophthalmic Hospital; and the practice of the National Hospital for Paralysis. Instruction in the physical examination of the Chest is given by the Physicians and Assistant-Physicians, and in the use of the Laryngoscope, at 9 A.M. on Wednesdays, by Dr. De Havilland Hall. Mr. R. Davy gives demonstrations on Orthopædic subjects at 2.30 on Fridays. A course of Practical Surgery is given by Mr. R. Davy in three divisions: 1. October to December, Surgical Anatomy and Diagnosis and Use of Apparatus; 2. January to March, Examination of Pathological Specimens, the Use of the Ophthalmoscope, Laryngoscope, etc.; 3. May to July, Surgical Instruments, Operations on the Dead Subject. In the summer, Mr. Davy gives a course of Operative Surgery. Mr. Hebbert will give special demonstrations in Anatomy for junior students, at least twice a week in the summer. Dr. P. S. Abraham will give in the summer a course of Histology, at 1.30 P.M. on Mondays, Wednesdays, and Thursdays; and Dr. Hebb a course of Morbid Histology, at 11 A.M. on Tuesdays and Thursdays. Dr. G. Ogilvie will give a course of lectures on Experimental Physics, commencing in January.

Appointments.—A Curator of the Museum and a Pathologist are appointed annually, each with a salary of £50; and a Medical and a Surgical Registrar, each with a salary of £40. Two House-Physicians, two House-Surgeons, and a Resident Obstetric Assistant are appointed for six months, after examination, and are provided with rooms and commons. The Surgeon's Dresser of the day is provided with commons at the Hospital table. Clinical Assistants to the Assistant-Physicians and Assistant-Surgeons, and to the officers in charge of special departments, are appointed from among qualified students. Every student must perform the duties of Out-patient Dresser for four months; and afterwards hold the office of In-patient Dresser for four months, of Out-patient Clinical Clerk for four months, and of In-patient Clinical Clerk for four months. No student is eligible as In-patient Dresser or Clinical Clerk until he has passed the Second Examination of the Conjoint Board, or an equivalent examination.

Scholarships and Prizes,—A Natural Science Entrance Scholarship, value £100; two Entrance Scholarships, each £40 a year for two years; and two Entrance Scholarships, value £20 each, tenable for two years;[1] also two Entrance Scholarships, value £20 each, tenable for two years, after examination in Chemistry and Experimental Physics. Treasurer's Exhibition in Anatomy, Physiology, and Chemistry, value £10 10s., tenable for one year for first year's men. The President's Scholarship in Anatomy, Histology, and Physiology, value £21, to students of second year (to be styled Assistant-Demonstrator). After end of fourth winter, Prizes of £5 each (books or instruments) in Clinical Medicine and Clinical Surgery. Frederic Bird Medal and Prize, value £15, to students who have completed their fourth winter; subjects of examination: Medicine, Midwifery, Diseases of Women and Children, and Pathology. Chadwick Prize for General Proficiency, £21 (books or instruments), to the most meritorious student or students of any year not exceeding the fifth; subjects of examination: Anatomy, Physiology, Histology, Medicine, Surgery, and Midwifery. In most of the Classes, Special Prizes are given by the Lecturers; and Certificates of Honour are awarded in each Class. Tutorial assistance and guidance to the students in their work is given by the members of the Medical and Surgical Staff.

Students' Club.—Three of the rooms in the new School are devoted to a Club for the students, comprising reading-room, smoking-room, and restaurant. It is managed by a committee of four members of the staff and five students, and all students are eligible for admission. The annual subscription is half a guinea.

The Guthrie Society (Medical and Physical) meets once a month during the academical year.

Communications respecting the Medical School should be addressed to Dr. Donkin, the Dean of the School, from whom all particulars may be obtained. Information may also be obtained from any of the Lecturers, from the Secretary to the Hospital, or from the Librarian at the School.

LONDON SCHOOL OF MEDICINE FOR WOMEN.—The Winter Session will commence on October 1st.

The opening address will be given by Miss Walker-Dundas, M.D., at 3 P.M.

The following courses of Lectures are delivered at this school: Anatomy and Practical Anatomy, by Mr. Stanley Boyd; Physiology and Histology, by Dr. W. D. Halliburton; Chemistry, by Mr. Heaton; Botany, by Dr. P. H. Stokoe; Materia Medica and Therapeutics, by Dr. Sainsbury; Practice of Medicine, by Mrs. Garrett-Anderson, M.D., and Dr. H. Donkin; Midwifery and Diseases of Women, by Dr. Ford Anderson and Dr. Louisa Atkins; Forensic Medicine, by Dr. Dupré and Mrs. Scharlieb; Surgery, by Mr. A. T. Norton: Ophthalmic Surgery, by Mr. J. Grosvenor Mackinlay; Pathology, by Dr. A. Q. Silcock; Hygiene, by Dr. Sophia Jex-Blake; Mental Pathology, by Dr. Mercier; Operative Surgery, by Mr. Stanley Boyd.

The Dissecting-room, the Physiological Laboratory, the Chemical Laboratory, the Library, and the Museum of Anatomy, Pathology, and Materia Medica, are open daily.

Clinical Instruction is given at the Royal Free Hospital, which contains 156 beds: 74 for surgical, 64 for medical, 12 for gynæcological, and 6 for ophthalmic cases. *Physicians:* Dr. Cockle and Dr. Samuel West; *Assistant-Physicians:* Dr. Sainsbury and Dr. W. H. Mackenzie; *Surgeons:* Mr. Gant and Mr. A. Boyce Barrow; *Assistant-Surgeons:* Mr. Berry and Mr. Battle; *Physician for Diseases of Women:* Dr. T. C. Hayes; *Ophthalmic Surgeon:* Mr. Grosvenor Mackinlay; *Pathological Demonstrator:* Dr. Sainsbury.

Clinical Lectures are given once a fortnight by each of the four senior members of the staff. Instruction is also given at the Hospital as follows. Pathological Demonstration twice a week, by Dr. Sainsbury; Minor Surgery, ten demonstrations, by Mr. A.

[1] The next Examination will be held at the Hospital on September 27th and 28th. The following are the subjects. Latin: 1888, Cæsar *De Bello Gallico*, Book VII; 1889, Virgil *Æneid*, Books I and V. The paper will contain passages for translation, questions in Grammar, and easy English sentences for translation into Latin. French or German—The papers will contain passages for translation into English, and questions in Grammar. Mathematics: Arithmetic—including Vulgar and Decimal Fractions, and extraction of Square Root. Algebra—Addition, Subtraction, Multiplication, and Division of Algebraical Quantities; Proportion, Arithmetical and Geometrical Progression, Simple Equations. Geometry—First Four Books of Euclid, or the subjects thereof. Experimental Physics and Chemistry—The questions in these will be elementary, and in the latter will be confined to the Non-Metallic Elements. The examination is by written papers. Notice of intention to compete, with a statement of the languages in which the candidate wishes to be examined, and a certificate of moral character, must be sent to the Dean not later than September 24th.

B. Barrow; Ausculation and Physical Examination, by Dr. Sainsbury; Practical Pharmacy, by Mr. S. Barber. Students are appointed to the posts of Clinical Clerks, Surgical Dressers, and Pathological Registrar without further fee.

Fees.—The fee for the ordinary curriculum of non-clinical Lectures is £70 if paid in one sum, or, if paid in instalments, £40 for the first year, £30 for the second, and £15 for the third. The courses of lectures included in this fee are as follows: Two courses each of Anatomy, Practical Anatomy, Physiology, Chemistry, Organic Chemistry, Histology, Materia Medica, and Practice of Medicine, and one course each of Practical Physiology, Practical Chemistry, Surgery, Pathology, Midwifery, Diseases of Women, and Forensic Medicine. This course includes all the lectures required for the licence of the Apothecaries' Society London, and for the conjoint examinations of the Scotch Colleges, and allows for the repetition of attendance on Anatomy, Chemistry, Physiology, and Materia Medica. Any student having paid the above compounding fees, on a further payment of £6 6s., may attend additional courses of the classes mentioned above. Materials for the practical classes will be charged extra when additional courses are taken. Practical Pharmacy costs £3 3s. extra. The fees for the courses are: Anatomy, Practical Anatomy, Physiology, Chemistry, Medicine, Surgery, and Midwifery, one course of each, £8 8s.; Practical Chemistry, Botany, Materia Medica, Forensic Medicine, and Pathology, each £5 5s.; Ophthalmic Surgery, Mental Pathology, and Hygiene, each £2 2s. Students who do not hold a perpetual ticket, and who have attended regularly, can repeat any course on payment of £2 2s. for each course. Materials for the practical classes will, in such cases, be charged according to a fixed scale. Practical Midwifery, £4 4s. for one month; £12 12s. to £26 5s. for six months; and Vaccination £1 1s. The fee for four years' Clinical instruction at the Royal Free Hospital is £15 the first year, £15 the second, and £10 the third year; the fourth year is free. The fee for attendance at the London Fever Hospital for three months is £3 3s.

Scholarships and Prizes.—1. An Entrance Scholarship, value £30, is offered for competition at the end of September in each year. Candidates must have passed a Preliminary Examination in Arts, and the successful candidate must enter on a full course of medical study at the school.[1] 2. The John Byron Scholarship, value £25 a year for four years, is offered to ladies requiring assistance for the prosecution of their medical studies. The next award will probably be in 1889. 3. Scholarships are offered from time to time by the Birmingham Ladies' Association. The Society for the Promotion of Christian Knowledge offers valuable scholarships on certain conditions. 4. The Zenana Medical Mission Society assists ladies who wish to go to India as missionaries. 5. Income of the Helen Prideaux Memorial Fund as a prize every second or third year. 6. Prizes and Certificates of Honour are awarded in each class at the end of the Session. The National Association for Supplying Female Medical Aid to the Women of India provides funds for the Jubilee and the Dufferin Scholarship, out of funds collected in England.

Mr. Cooke's School of Anatomy, Physiology, Surgery, etc.—By decision of the Royal Colleges of Physicians and Surgeons, gentlemen rejected at their Anatomical and Physiological Examinations (Primary R.C.S. or Second Conjoint) can get "signed up" from this school for the three or six months' work, they are now required to put in before re-examination. The school meets the requirements of two classes of students, namely: 1. Students preparing for the usual Primary and Pass Examinations of the several Licensing Bodies; 2, qualified practitioners and advanced students, that is, gentlemen wishing either to obtain some of the higher qualifications, or to compete for appointments in Her Majesty's Army, Navy, and Indian Medical Services. For these special classes are provided. The instruction is given on the dissected and undissected body, with normal and pathological specimens, microscopical preparations, chemical, physiological, and surgical apparatus, splints, etc. The operations of Surgery are performed on the dead body. The school possesses a good collection of physiological apparatus, allowing of the demonstration to the class of the great bulk of the usual practical exercises in physiology; also chemical apparatus, allowing every student not only to see, but to repeat for himself the analysis of the principal foodstuffs and fluids and solids of the body, and also all the usual reactions, tests, etc. Gentlemen preparing for the higher examinations receive special instruction in the more difficult subjects, and have the advantage of personally repeating (with certain restrictions as to the careful use of the physiological apparatus) the practical exercises in Physiology by Professors Burdon-Sanderson, Foster, and Langley, etc.

[1] The subjects of examination are: 1, English; 2, Latin—Virgil's *Æneid*, Books v. and vi.; 3, Arithmetic; 4, Elements of Mathematics; 5, Elementary Physics.

Besides the above, students and practitioners are admitted to attend the practice of several of the general and special hospitals and infirmaries. Information may be obtained on application to the secretaries of the respective institutions.

NOTES CONCERNING THE PROVINCIAL HOSPITALS AND MEDICAL SCHOOLS.

University of Cambridge.—The following Lectures and Courses of Practical Instruction in the subjects of the Examination for Medical and Surgical degrees will be given during the ensuing year. The courses are given at the New Museums and University Laboratories unless another place is mentioned. In some cases the fee mentioned is remitted or diminished to members of certain Colleges.

Michaelmas Term, 1888.—Chemistry and Other Branches of Physics: Elementary: Professor Liveing, Chemistry for First M.B. Examination, T. Th. S., 12; Mr. Ruhemann, Organic Chemistry, M. W. F., 1; Mr. Main (St. John's). General Course of Chemistry, M. W. F., 10; Mr. Pattison Muir (Caius Laboratory), Chemistry, M. W. F., 10; Mr. Neville (Sidney), Chemistry for First M.B. and Tripos Part I, M. W. F., 9; Mr. Heycock (King's), Principles of Chemistry (non-metals) for Natural Sciences Tripos Part I, with papers, M. W. F., 1; Mr. Lewis (Downing), Organic Chemistry for First M.B., T. Th. S., 9; Mr. Glazebrook, Statics and Hydrostatics for First M.B., M. W. F., 12; Mr. Shaw, Physics for Natural Sciences Tripos Part I, M. W. F., 9; Mr. Hart (St. John's), (*a*) Mechanics for First M.B., M. W. F., 12½; (*b*) Heat, Light and Electricity for First M.B., T. Th. S., 12½; Mr. Lock (Caius) (*a*) Dynamics and Hydrostatics for First M.B., M. W. F., 9; (*b*) Revision course of Physics, T. Th. S., 9. Advanced: Professor Liveing, General Principles of Chemistry, T. Th. S., 1½; Professor Dewar, Dissociation and Thermal Chemistry, M. W. F., 12; Mr. Ruhemann, Organic Chemistry, M. W. F., 9; Mr. Pattison Muir (Caius Laboratory), General Principles of Chemistry, T. Th. S., 10; Mr. Glazebrook (Trinity), Physics, T., 9; Mr. Shaw (Emmanuel), Physics, Th. S., 9. Practical Work and Demonstrations: Mr. Sell and Mr. Fenton, (*a*) Chemistry, with explanatory Lectures for First M.B., M. W. F., 9 and 11; (*b*) Chemistry with explanatory Lectures for Natural Science Tripos Part I, T. Th. S., 9¼ and 11¼: (*c*) Chemistry with explanatory Lectures for Natural Science Tripos Part II*; Professor Dewar and Mr. Ruhemann, Laboratory Practice and Research, daily; Mr. Neville (Sidney Laboratory), Chemistry for First M.B. Examination, M. W. F., 10 to 12; Demonstrators of Physics (Cavendish Laboratory), (*a*) Mechanics and Heat (elementary), M. W. F., 10 and 3; (*b*) Mechanics and Hydrostatics (for Medical Students), weekly, afternoon; (*c*) Properties of Matter (advanced), T. Th. S., 10 to 12; (*d*) Electricity and Magnetism (advanced), T. Th. S., 10 to 12. Biology: Elementary: Mr. Sedgwick, Animal Morphology (*Invertebrata*), M. W. F., 9; Demonstrator of Comparative Anatomy, Repetition Class in Biology, M. W. F., 2 to 4. Advanced: Professor Newton, Evolution in the Animal Kingdom, M. W. F., 1; Mr. Harmer, Invertebrate Morphology, M. W. F., 9; Mr. Gadow, Morphology of Ichthyopsida, M. W. F., 10; Mr. Potter, Geographical Distribution of Plants, M. F., 12. Pharmaceutical Chemistry, Anatomy and Physiology: Mr. Robinson, Pharmaceutical Chemistry, M. W. F. and T. Th. S., 11; Professor Macalister, (*a*) Elementary Human Anatomy, T. Th. S. 1; (*b*) Demonstrations in Topographical Anatomy, M. W. F., 1; Professor Foster, Elementary Physiology (with practical work), T. Th. S., 9; Mr. Langley, (*a*) Physiology and Histology (intermediate course), T. Th. 9; (*b*) Physiology and Histology (advanced), S., 9; (*c*) Practical Work, T. Th., 2; Dr. Lea, Chemical Physiology, W. F., 11; Dr. Hill, Anatomy and Physiology of Central Nervous System, T. S., 12. Medicine and Surgery: Professor Latham (Downing), Physiological Actions and Therapeutic Uses of Remedies, T. Th., 9; Professor Humphry, (*a*) Surgery, T. Th. S., 12; (*b*) Surgical Anatomy,*; Mr. Wherry, Practical Surgery, T. Th. S., 2; Mr. Ingle, Midwifery Course (continued),*; Dr. Mac Alister. Principles of Medicine, T. Th. S., 10;

* Time to be arranged.

GUIDE TO HOSPITALS AND MEDICAL SCHOOLS IN THE PROVINCES: 1888-89.

For further particulars regarding each Hospital and Medical School, see pp. 564 et seq.

Lectures, etc.	Birmingham Queen's College.	Bristol University College Medical School.	Yorkshire College: Leeds School of Medicine.	Liverpool University College: Medical Faculty.	Owens College (Manchester Royal) School of Medicine.	Firth College: Sheffield School of Medicine.	University of Durham College of Medicine, Newcastle.
WINTER SESSION.							
Anatomy & Physiology.	Prof. Allen, Elementary, F., 4.30; Advanced, M. Tu. W. Th. F., 11	Mr. G. M. Smith and Dr. J. M. Clarke...daily	Prof. Birch and Dr. Barrs daily except S., 9.15 (Physiology only)	Dr. Caton...Tu. W. Th. F. S., 9.15	Prof. Stirling...M. Tu. W. Th. F., 11.30 (Phys. only)	Dr. S. White...W., 12.30; F., 4	Mr. Williamson and Dr. Oliver...M. W. F., 10 (Physiology only)
Anatomy, Descriptive & Surgical.	Prof. Windle...M. Tu. W. Th. F., 12	Mr. Harsant...daily, 9	Prof. Griffith and Mr. Robinson...daily, exc. S., 10.30	Mr. W. M. Banks...M. Tu. W. Th. F., 11; (Sum.) W. Th. S., 11	Prof. Young...M. Tu. W. Th. F., 1	Mr. E. Skinner and Mr. Atkin. M. Tu. W. Th., 4; F., 6 (before Xmas.)	Dr. Mears...1st year, M. F., 9.15; Tu. and Th., 11.15; 2nd year, Tu. Th. 9.15; W., 12, S., 10.15; Regional, W. 2.15, S. 9.15
Demonstrations & Dissections	Dr. Hogben, Dr. Mahood, Mr. J. Lloyd, Mr. Haslam, and Mr. Marsh...daily	Dr. Whishaw...daily except S., 1	Dr. Oliver and assistants ...daily from 9	Dr. Ross...daily, 9 to 5; S., 9 to 1	Prof. Young and demonstrators...daily, 9.30 to 4.30; S., 9.30 to 12	Mr. Atkin, Mr. Kilham, Dr. Roberts...M. Tu., 9 to 5, W. Th. F., 10 to 5	Prof. Mears, daily, 10 to 4.
Chemistry	Prof. Tilden...M. Tu. W. Th. F., 9.30	——	Prof. Smithells...M. Tu. Th. F., 11.30	Dr. J. C. Brown...M. W. F., 3	Profs. Dixon and Schorlemmer, daily 9.30	Mr. Williams (at F.C.)... M. W. F., 10; Tu. Th. S. 11	Prof. Bedson...M. W. F., 11
Medicine	Sir B. Walter Foster and Sir J. Sawyer...Tu. W. F., 3	Drs. M. Skerritt and R. S. Smith...M. W. F., 9	Prof. Eddison and Dr. Churton...M. W. F., 1	Dr. Glynn...Tu. Th. S., 9.15	Profs. Morgan and Ross ...M. Tu. Th., 3	Drs. Bartolomé, Porter, and Dyson....M. W. F., 5; Mr. A. Jackson...M. W. F., 8 A.M.	Prof. Philipson...M. W. F., 5
Surgery	Profs. Pemberton and May ...Tu. W. F., 4	Mr. Dobson and Mr. J. G. Smith...Tu. Th. S., 9	Prof. McGill...Tu. Th. F., 2	Mr. Rushton Parker...M. W. Th., 3	Prof. Hare and Mr. Southam...M. W. F., 1		Dr. Heath and Dr. Arnison ...M. W. F., 6
Hygiene, etc.		——	——	——	——	——	Mr. H. E. Armstrong...T., 3
Hospital Practice	General Hospital *(a)*. Queen's Hospital *(b)*.	Royal Infirmary *(c)* General Hospital *(d)*.	Leeds General Infirmary *(e)*.	Liverpool Royal Infirmary *(f)*.	Manchester Royal Infirmary *(g)*.	Sheffield Infy. *(h)*. Sheffield Hptl. *(i)*.	Royal Infirmary, Newcastle *(k)*.
Clinical Medicine	Physicians of Hospitals	Physicians *(c)* S., 12; *(d)* M. Tu. F., 2	Physicians of Infirmary Tu., 10.30	Physicians, Royal Infirmary...weekly	Physicians, Royal Infirmary...W., 9.15	Physicians of Infirmary & Hospital...Tu., 5 P.M.	Physicians of Infirmary... daily and W., 12
Clinical Surgery	Surgeons of Hospitals	Surgeons *(c)* F., 12; *(d)* W., 12	Surgeons of Infirmary Tu., 3	Surgeons, Royal Infirmary...weekly	Surgeons, Royal Infirmary...Th., 9.15	Surgeons of Infirmary and Hospital...Th., 5 P.M.	Surgeons of Infirmary... daily and Th., 10
SUMMER SESSION.							
Materia Medica	Profs. Rickards and Suckling...Tu. W. Th., 12	Dr. Prowse...Tu. Th. S., 9	Dr. Hellier...Tu. Th. F., 9	Dr. Carter...M. Tu. W. Th. F. S., 9 A.M.	Prof. Leech & Mr. Elborne ...M. Tu. W. Th., 12 & 1	Dr. Young...M. W. F., 8 A.M.	Mr. McBean...M. W., 4; F., 5
Midwifery, etc.	Profs. Clay and Tait (Gynæcology)...Tu. W. Th. F., 1	Dr. Swayne and Dr. Aust Lawrence...daily exc. S., 8 A.M.	Mr. Wright...M. W. F., 11.30; Diseases of Women, Dr. Braithwaite...W. F. (Win.) 4	Dr. Wallace (Win.)...M. W. F., 9.15; S., 10	Prof. Sinclair...M. Tu. Th. F., 1	Dr. Keeling, Mr. R. Favell Mr. Laver...M. W. F., 8 P.M.	Dr. Gibson and Dr. Nesham... daily, 9 A.M.
Botany	Prof. Hillhouse.....M. F., 10.30; W., 3	Prof. Leipner...Tu. Th. S., 10 A.M.	Prof. Miall...M. Tu, Th., 2	Mr. Harvey Gibson...Tu. W. Th. F., 3	Prof. W. C. Williamson and Mr. Hick...M. Tu. W. Th. F., 2.30	Mr. Birks...Tu. Th., 8 A.M.	Dr. J. Murphy...Tu. Th. F., 4
Forensic Medicine	Prof. Wilders...M., 1; Tu., 2.30	Dr. Eagar and Dr. Harrison...M. Th. S., 10	...M. Tu Th. F., 12.30 [10	Mr. F. T. Paul...Tu. Th. S., 9	Dr. Dixon Mann and Dr. Ransome. M. T. W. Th. F. 2	Dr. Roberts...Tu. Th., 5; Toxicol., M. F., 9.30	Dr. F. Page...M. Th., 8 A.M.
Practical Chemistry	Prof. Tilden...Tu. Th., 4	Mr. Coomber...M. W. F., 9 and Tu. Th. S., 8	Prof. Smithells...Tu. Th.,	Dr. J. C. Brown...Tu. Th. 2	Prof. Dixon...M. W., 10.30	At Firth College	Prof. Bedson. M. W. F., 10 to 1
Comparative Anatomy	——	Prof. Morgan...Tu. W. F., 10	Prof. Miall...M. Th., 3	Dr. Herdman (Sum.)... Tu. W. Th. F., 9.30	Prof. M. Marshall & Mr. Hurst M. W. F. 10.30 (Win)	——	Prof. G. S. Brady
Practical Physiology	Prof. Allen (Sum.)...M. W. F., 9, 10.30, or 11	Mr. Atchley...M. W. F., 8 A.M.	Prof. Birch and Dr. Barrs (Win.)	Dr. Caton and Mr. Larkin (Win.)...M. W., 2	Prof. Stirling, etc....Tu. Th. F., 10.30	Mr. F. Harrison...Tu., 12	Dr. Oliver...Tu. W. Th., 9
Pathology	Prf. Barling. M. W., 3; F. 3.30 Demonstrators, Drs. Foxwell and Hogben	Dr. Baron...(Sum.) M. W. F., 9	Dr. Jacob...Tu. Th. S., 11.30	Dr. Barron (Win.)...Tu. F., 3; (Sum.) Tu. Th. 3	Prof. Dreschfeld and Dr. Harris (Win.) M., 2; W., Th., 1	Messrs. Richardson and Banham	Dr. Drummond...M., W., F., 4
Practical Surgery	Mr. Bartleet and Mr. May	Mr. A. W. Pritchard (Sum.)...Tu. Th. S., 9	Mr. Robson...M. 2.30; F., 10	Mr. Parker (Win.) M. Th., 4; oper. course in sum.	Mr. Jones (Win.)...Tu., 12; (Sum.) W., 1; F., 12	Mr. R. J. Pye-Smith	Dr. L. Armstrong...7 A.M. and 3.30
Ophthalmic Surgery	Prof. J. V. Solomon...W., 3	——	Mr. Nunneley...Tu. F., 2	Mr. E. A. Browne...W., 4	Dr. Little (Sum.)...W., F., 4; clin. M. Th., 10	Mr. Snell (Sum.)...W., 12.30	Demonstr. M. 12; Th., 9
Vaccination	Dr. Robinson	——	Mr. Holmes	——	Mr. E. Guest	Mr. Skinner	Mr. Hawthorn

(a.) Physicians: Dr. Wade, Sir Walter Foster, Dr. Rickards, Dr. Saundby. *Assistant-Physicians:* Dr. Simon, Dr. Foxwell. *Surgeons:* Mr. O. Pemberton, Mr. T. H. Bartleet, Mr. R. Jolly, Mr. T. F. Chavasse. *Assistant-Surgeons:* Mr. W. F. Haslam, Mr. Barling. *Obstetric Officer:* Dr. E. Malins.

(b.) Physicians, Sir James Sawyer, Dr. Carter, Dr. Suckling. *Surgeons:* Mr. J. St. S. Wilders, Mr. B. May, Mr. Jordan Lloyd, Mr. Marsh. *Obstetric Officer:* Mr. A. Hawkins. *Ophthalmic Surgeon:* Mr. P. Smith. *Dental Surgeon:* Mr. C. Sims. *Assistant-Physician:* Dr. Hogben. *Casualty Surgeons:* Mr. A. F. Clay, Mr. J. T. J. Morrison.

(c). Physicians: Dr. R. S. Smith, Dr. Waldo, Dr. Shaw, Dr. Prowse. *Assistant-Physician:* Dr. Williams. *Surgeons:* Mr. Board, Mr. Dowson, Mr. Prichard, Mr. J. G. Smith, Mr. Harsant. *Assistant-Surgeon:* Mr. J. P. Bush. *Ophthalmic Surgeon:* Mr. Cross. *Obstetric Physician:* Mr. Wedmore. *Dental Surgeon:* Mr. Ackland. *Diseases of Ear:* Mr. Harsant. *Diseases of Skin:* Dr. Waldo. *Operations:* Tu. F., 1 P.M.

(d). Physicians: Dr. Markham Skerritt, Dr. Harrison, Dr. B. J. Baron. *Surgeons:* Mr. F. P. Lansdown, Mr. Dobson, Mr. Keall, Mr. Pickering. *Physician-Accoucheur:* Dr. Aust Lawrence. *Assistant-Physician:* Dr. Clarke. *Assistant-Surgeon:* Mr. Barclay. *Diseases of Skin:* Dr. Harrison. *Diseases of Eye:* Mr. Keall. *Diseases of Ear:* Mr. Pickering. *Diseases of Throat:* Dr. Baron. *Dental Surgeon:* Mr. Parson. *Operations:* Th., 1.30; Ophthalmic, M., 1.30.

(e). Physicians: Dr. Eddison, Dr. Churton. *Surgeons:* Mr. T. R. Jessop, Mr. E. Atkinson, Mr. McGill, Mr. Mayo Robson, *Ophthalmic and Aural Surgeons:* Mr. J. A. Nunneley, Mr. H. B. Hewetson. *Assistant-Physicians:* Dr. A. G. Barrs, Dr. E. H. Jacob. *Assistant-Surgeons:* Mr. E. Ward, Mr. W. H. Brown. *Dental Surgeon:* Mr. T. Carter. *Operations:* Th., 1; Eye, W., 1.

(f) Physicians: Dr. Glynn, Dr. Davidson, Dr. Caton. *Surgeons:* Mr. Bickersteth, Mr. Harrison, Mr. Banks. *Assistant-Surgeon:* Mr. Rushton Parker. *Obstetric Physician:* Dr. Wallace. *Dental Surgeon:* Mr. Phillips. *Oculist:* Mr. Bickerton. *Pathologists:* Dr. Barron and Dr. Briggs. *Surgeons to Lock Hospital:* Mr. F. W. Lowndes and Dr. Bernard. *Operations:* Tu. W., 1.

(g). Physicians: Dr. Simpson, Dr. J. E. Morgan, Dr. D. J. Leech, Dr. Dreschfeld. *Assistant-Physicians:* Dr. Ross, Dr. Steell. *Surgeons:* Mr. F. A. Heath, Mr. W. Whitehead, Mr. T. Jones, Mr. Hardie. *Assistant-Surgeons:* Mr. F. A. Southam, Mr. G. A. Wright. *Obstetric Physician:* Dr. Lloyd Roberts. *Ophthalmic Surgeon:* Dr. D. Little. *Dental Surgeon:* Mr. Smith. *Operations:* S., 10.30; Eye, M., 11; Gynæcological, M., 11.

(h). Physicians: Dr. De Bartolomé, Dr. Dyson. *Assistant Physicians:* Dr. Porter and Dr. Cocking. *Surgeons:* Mr. W. F. Favell, Mr. A. Jackson, Mr. G. H. Shaw. *Assistant Surgeons:* Mr. Hallam and Mr. Atkin, Dr. Burgess. *Ophthalmic Surgeon:* Mr. Snell. *Operations:* Th., 12.30; Eye, M., 12.30.

(i). Physician: Dr. Roberts; *Surgeons:* Dr. Keeling, Mr. Thorpe, Mr. Pye-Smith. *Operations:* F., 12.30.

(k). Physicians: Dr. Philipson, Dr. Drummond, Dr. Oliver, Dr. Limont. *Surgeons:* Dr. Arnison, Dr. L. Armstrong, Dr. Hume, Dr. Page. *Assistant-Surgeons:* Mr. Dodd, Mr. Williamson. *Pathologist:* Dr. Drummond. *Dental Surgeon:* Mr. E. Fothergill,

Dr. Anningson, Medical Jurisprudence, T. Th. S., 1; Dr. Latham, Dr. Bradbury, and Dr. Mac Alister (Hospital), Clinical Medicine, daily 10, and T. Th. S. 11; The Surgeons (Hospital) Clinical Surgery, daily 11, and T. Th. S., 10.

Lent Term, 1889.—Chemistry and other Branches of Physics: Elementary: Professor Liveing, Chemistry for First M.B. Examination (continued), T. Th. S., 12; Mr. Ruhemann, Organic Chemistry (continued), M. W. F., 1; Mr. Main (St. John's), General Course of Chemistry (continued), M. W. F., 10; Mr. Pattison Muir (Caius), Chemistry (continued), M. W. F., 10; Mr. Neville (Sidney), Chemistry for First M.B. and Tripos (continued), M. W. F., 9; Mr. Heycock (King's), Chemical Philosophy for Natural Sciences Tripos Part I, with papers, M. W. F., 1; Mr. Lewis (Downing), Chemistry for First M.B., T. Th. S., 9; Mr. Glazebrook, Heat and Optics for First M.B., M. W. F., 12; Mr. Shaw: Physics for Natural Sciences Tripos Part I (continued), M. W. F., 9; Mr. Hart (St. John's) (*a*) Heat and Light for First M.B. Examination, M. W. F., 12½; (*b*) Mechanics for First M.B., M. W. F., 9; Mr. Atkinson (Trinity Hall), Experimental Course on Heat, M. W. F., 10; Mr. Lock (Caius), Heat and Optics for First M.B. Examination, M. W. F., 9. Advanced: Professor Liveing, Spectroscopic Chemistry, T., 1½; Professor Dewar, Thermal Chemistry, M. W. F., 12; Mr. Ruhemann, Organic Chemistry (continued), M. W. F., 9; Mr. Pattison Muir, General Principles of Chemistry (continued) T. Th. S., 10; Mr. Glazebrook (Trinity), Physics (continued), T., 9; Mr. Shaw (Emmanuel), Physics (continued: Thermodynamics, etc.), Th. S., 9. Practical Work and Demonstrations; Mr. Sell and Mr. Fenton, (*a*) Chemistry for First M.B. (continued), M. W. F., 9 and 11; (*b*) Catechetical classes and papers for First M.B.*; (*c*) Chemistry for Natural Sciences Tripos Part I (continued), T. Th. S., 9¼ and 11¼; (*d*) Chemistry for Natural Sciences Tripos Part II (continued)*; Professor Dewar and Mr. Ruhemann, Laboratory Practice and Research, daily; Mr. Neville (Sidney), Chemistry for First M.B. and Tripos (continued), M. W. F., 10 to 12; Demonstrators of Physics (Cavendish Laboratory), (*a*) Mechanics and Heat (elementary), T. Th. S., 10; (*b*) Optics and Electricity (elementary), M. W. F., 10 and 3; (*c*) Heat and Optics (for medical students), weekly, afternoon; (*d*) Heat, Electricity and Magnetism (advanced), T. Th. S., 10. Biology: Elementary; Mr. Sedgwick, Animal Morphology (*Mollusca* and *Vertebrata*), M. W. F., 9: Demonstrator of Comparative Anatomy and Mr. Sedgwick, (*a*) Osteology*; (*b*) (Archæological Museum), Elementary Biology, T. Th S., 10; Mr. Hicks (Sidney), Botany, Papers with Informal Lectures, T. 8½ P.M. Advanced: Professor Newton, Geographical Distribution of Vertebrates, M. W. F., 1; Mr. Weldon and Mr. Harmer, Invertebrate Morphology, M. W. F., 9; Mr. Gadow, Morphology of Amniota, M. W. F., 10; Mr. Darwin, Biology of Plants, T. S., 12; Mr. Gardiner, Anatomy of Plants, M. W. F., 12; Mr. Potter, Demonstrations in Systematic Botany, M. F., 11. Pharmaceutical Chemistry, Anatomy, and Physiology: Mr. Robinson, Pharmaceutical Chemistry, M. W. F., 11; Professo Macalister, (*a*) Elementary Human Anatomy (continued), T. Th. S., 1; (*b*) Demonstrations in Topographical Anatomy, M. W. F., 1; Professor Foster, Elementary Physiology (contiuued), T. Th. S., 9: Dr. Gaskell, Advanced Physiology (Vascular System, etc.), M. 11, S. 12; Mr. Langley, (*a*) Physiology and Histology (intermediate continued), T. Th., 9; (*b*) Physiology and Histology (advanced), S. 9; (*c*) Practical Work, T. Th., 2; Dr. Lea, Chemical Physiology (continued), W. F. 11; Dr. Hill (Downing), Physiology for Second M.B. Examination, T. Th. S., 12. Medicine and Surgery. Professor Roy, Pathology, M. W. F., 9; Professor Roy and Mr. Adami, (*a*) Morbid Anatomy, S., 1; (*b*) Practical Morbid Histology, Bacteriology, etc., T. Th., 2 to 4; Professor Latham (Downing), Physiological Actions and Therapeutic Uses of Remedies (continued), T. Th. S., 9; Dr. Anningson, Demonstrations in Practical Hygiene, W., 12; Professor Humphry, (*a*) Surgery, T. Th. S., 12; (*b*) Surgical Anatomy*; Mr. Wherry, Practical Surgery, T. Th. S., 9; Mr. Ingle, Midwifery Course (commenced)*; Professor Paget, Principles and Practice of Physic, M. F., 12; Dr. Mac Alister, Introduction to Clinical Medicine, T. Th., S., 10; Dr. Latham, Dr. Bradbury, and Dr. MacAlister (Hospital), Clinical Medicine, daily 10, and T. Th. S. 11; The Surgeons (Hospital), Clinical Surgery, daily, 11, and T. Th. S., 10½.

Easter Term, 1889.—Chemistry and other Branches of Physics: Elementary: Mr. Sell, Chemistry (for beginners), T. Th. S., 12; Mr. Main (St. John's), Organic Chemistry for First M.B., M. W. F., 10; Mr. Pattison Muir (Caius), Chemistry (continued), chiefly Carbon Compounds, M. W. F., 10; Mr. Neville (Sidney), Chemistry for First M.B. and Tripos (continued), M. W. F., 9; Mr. Heycock (King's), Revision Class in Chemistry for Natural Science Tripos Part I, with Papers, M. W. F., 1; Mr. Lewis (Downing), Chemistry for First M.B. (continued), T. Th. S., 9; Mr. Glazebrook, Magnetism and Electricity for First M.B., M. W. F., 12; Mr. Shaw, Physics for Natural Sciences Tripos Part I (continued), M. W. F., 9; Mr. Hart (St. John's), Electricity for First M.B., M. W. F., 12½; Mr. Lock (Caius), Electricity and Magnetism for First M.B., M. W. F., 9. Advanced: Mr. Ruhemann, (*a*) Gas Analysis, M. W. F., 9; (*b*) Aromatic Compounds, T. Th. S., 9; Mr. Glazebrook (Trinity), Physics (continued: Optics), T., 9; Mr. Shaw (Emmanuel), Physics (continued: Electrolysis, etc.), Th S., 9. Practical Work and Demonstrations: Mr. Sell and Mr. Fenton, (*a*) Chemistry for First M.B. (continued), M. W. F., 9 and 11; (*b*) Chemistry for Natural Science Tripos Part I (continued), T. Th. S., 9¼ and 11¼; (*c*) Chemistry for Natural Science Tripos Part II (continued)*; Professor Dewar and Mr. Ruhemann, Laboratory Practice and Research, daily; Mr. Neville (Sidney), Chemistry for First M.B. and Tripos (continued), M. W. F., 10 to 12; Demonstrators of Physics (Cavendish Laboratory), (*a*) Optics and Electricity (elementary), M. W. F., 10 to 12; (*b*) Magnetism and Electricity (for medical students), weekly, afternoon; (*c*) Revision for Natural Science Tripos Part I, M. W. F., afternoon; (*d*) Light (advanced), and also Sound (advanced), T. Th. S., 10 to 12. Biology: Elementary: Professor Babington, Structural and Systematic Botany, M. W. F., 1; Mr. Sedgwick, (*a*) Morphology and Embryology (*Vertebrata* continued), M. W. F., 9; (*b*) (Archeological Museum) Elementary Biology (continued), T. Th. S., 10; Demonstrator of Comparative Anatomy, Osteology*. Advanced: Mr. Darwin, Demonstrations in Physiology of Plants, T S., 12; Mr. Potter Demonstrations in Systematic Botany (continued), M. W. F., 11; Mr. Gadow, Morphology of Mammalia, M. W. F., 10; Mr. Weldon, and Mr. Harmer, Invertebrate Morphology (continued), M. W. F., 9. Pharmaceutical Chemistry, Anatomy and Physiology: Mr. Robinson, Pharmaceutical Chemistry, M. W. F. and T. Th. S., 11: Professor Macalister, (*a*) History of Human Anatomy, T. Th. S., 1; (*b*) Demonstrations in Topographical Anatomy, M. W. F., 1; Professor Foster, Elementary Physiology of the Senses, T. Th. S., 9; Dr. Gaskell, Advanced Physiology (Respiration, etc.), W. F., 11, Mr. Langley, (*a*) Central Nervous System (elementary), T. Th., 9, and W. Th., 2; (*b*) Central Nervous System (advanced), S., 9; Dr. Hill (Downing), Physiology for Second M.B. (continued), T. Th. S., 12. Medicine and Surgery: Professor Roy, Pathology, M. W. F., 9; Professor Roy and Mr. Adami (*a*) Morbid Anatomy, S., 1; (*b*) Practical Morbid Histology, Bacteriology, etc., T. Th., 2 to 4; Professor Latham (Hospital), Demonstrations in Practical Therapeutics, M. W., and alternate F., 10; Professor Humphry (*a*) Surgery, T Th. S., 1; (*b*) Surgical Anatomy*; Mr. Wherry, Practical Surgery, T. Th. S., 9; Mr. Ingle, Midwifery Course (continued)*; Dr. Anningson, Medical Jurisprudence, T. Th. S., 12; Professor Paget, Principles and Practice of Physic (continued), M. F., 12; Dr. Mac Alister, Physical Methods of Diagnosis, T. Th. S., 10; Dr. Latham, Dr. Bradbury, and Dr. Mac Alister (Hospital), Clinical Medicine, daily, 10, and T. Th. S., 11; The Surgeons (Hospital), Clinical Surgery, daily, 11, and T. Th. S., 10.

The Chemical Laboratory of the University is open daily from 10 to 6; St. John's, Caius, Downing and Sidney College Laboratories, and the Cavendish Laboratory, are open daily from 10 to 5. The Dissecting-room (fee £2 2s. per term) and Anatomical Museums are open daily from 9 to 5. Clinical Instruction in Mental Diseases is given weekly at Fulbourn County Asylum.

* Time to be arranged.

Birmingham.—Queen's College.—The classes of Physiology, Chemistry, Chemical Physics, Comparative Anatomy, and Botany, are held in Mason Science College.

The Anatomical Portion of the Museum has been largely increased, and a Materia Medica Museum, and Laboratories for Practical Pathology and for Practical Pharmacology and Toxicology, are opened.

Clinical Lectures and Lectures in special departments are given in the General Hospital and the Queen's Hospital, which have a total of upwards of 400 beds. Practical instruction is given in the use of the Microscope, Laryngoscope, Opthalmoscope, and Surgical Appliances; also in Case-taking and Bandaging, with Minor Surgery and Prescribing. Students must attend each hospital alternately for six months. No student may enter for hospital medical practice or lectures during the first year. Clinical instruction in Lunacy and Mental Disease is given at the Borough Asylum. Professor Whitcombe lectures during the

* Time to be arranged.

summer at the College on these subjects. Students have free admission to the Eye and Orthopædic Hospitals. A course of Chemical Physics is given by Professor J. H. Poynting at 3 p.m. on Tuesdays and Fridays.

Appointments.—General Hospital: Resident Medical and Resident Surgical Assistant, two Resident Dressers, tenable for six months. *Queen's Hospital:* Resident Obstetric Assistant, tenable for six months; Resident Dresser, tenable for three months.

Prizes.—The Sands Cox Prize, value £20, annually, to students who have completed their curriculum, after examination in Medicine, Surgery, and Midwifery. Candidates must produce certificates of good conduct from the Warden. The examinations in 1888 will be held in the last week in March. Two Ingleby Scholarships, after examination in Obstetric Medicine and Surgery and the Diseases of Women and Children, open to students who have completed two years. One or more Sydenham Scholarships, £31 10s. each, awarded annually. One or more Queen's Scholarships, value £31 10s. each, awarded annually after examination in October. The Sydenham and Queen's Scholarships are open to students entering at the College. The Russell Memorial Prize is awarded after an examination in Nervous Diseases. Medals and Certificates of Honour, annually, in each class after examination. A Senior Medical and a Senior Surgical Clinical Prize (third and fourth years), value in each department, £5 5s.; a Junior Medical and a Junior Surgical Prize (first and second years), value of each £3 3s.; Midwifery Prize (third and fourth years), £4 4s.

The Medical Tutor holds classes for Junior Students.

Further particulars may be obtained by application to the Rev. the Warden; or to Professor Windle, at the College. Information regarding Hospital Practice may be obtained from Mr. Jordan Lloyd, 21, Broad Street, Birmingham; or Dr. Simon, Newhall Street.

Bristol Medical School, affiliated to University College, Bristol.—The Medical School provides all the courses of lectures required for the diplomas of the various Licensing Bodies and the degrees of the University of London. Practical instruction is further provided by the Medical Tutor and Demonstrators in Anatomy, Physiology, and Pathology. Clinical instruction is given at the Royal Infirmary and General Hospital. The Royal Infirmary contains 264 beds, a large Library and Museum. The General Hospital contains 164 beds, a Library and Museum. Both institutions have special departments for Diseases of Women, the Eye, etc.

Appointments—Royal Infirmary: House-Physician, House-Surgeon, and Junior Resident Medical Officer; Clinical Clerks and Dressers, also Ophthalmic, Obstetric, and Pathological Clerks are appointed. The Dressers reside in the Infirmary in weekly rotation. *General Hospital:* Clinical Clerks, Dressers, Pathological Clerks, and Obstetric Clerks are appointed. The Dressers reside in the Hospital in rotation free of expense.

Prizes.—Prizes and Certificates of Honour are awarded at the Medical School after examination in the subjects of each year. Certificates alone are given for Comparative Anatomy and Hygiene. *Royal Infirmary:* Two Entrance Scholarships (in subjects of general education), value £36 15s. and £10 10s. Suple Medical Prize and Suple Surgical Prize, each a Gold Medal, value £5 5s., and about £7 7s. in money, open to students in their fourth and third years of study respectively. Clark Prize (interest of £500) to the most successful of the Royal Infirmary students in the class examinations of the third year at the Medical School. Tibbitts Memorial Prize (interest of £315), for proficiency in Practical Surgery. Crosby Leonard Prize (interest of £300), to third year's surgical students, for the best written report of ten surgical cases (excluding those taken for the Suple Surgical Prize). Six Pathological Prizes to the Pathological Clerks who perform their duties satisfactorily. Midwifery Prize (in books, value £3 3s.), after practical examination. *General Hospital:* Lady Haberfield Entrance Scholarship, value £31 10s., at the beginning of the winter session, after examination in subjects of general education. Second Entrance Scholarship, value £20. Clarke Surgical Scholarship, £15 annually. Sanders Scholarship (interest of £500), after examination in Medicine, Surgery, and Diseases of Women. Martyn Memorial Pathological Scholarships, two of £10 each, awarded half-yearly, after examination in Pathology. Committee Gold and Silver Medals awarded annually to the most distinguished students of the fourth year.

Medical School.—The regulations have been brought into conformity with all the requirements of the Conjoint Board of the Colleges, and the fees have undergone corresponding modifications.

Further particulars respecting the Infirmary may be known on application to Dr. Prowse; respecting the Hospital, on application to Dr. E. Markham Skerritt. Information regarding the Medical School will be afforded by the Dean, Dr. E. Markham Skerritt.

Leeds School of Medicine: Medical Department of Yorkshire College.—There are Anatomical, Pathological, Botanical, and Materia Medica Museums. The Library is open to students. The Museum of the Literary and Philosophical Society is open to students at a nominal charge.

The instruction in Chemistry and Physics, Practical Chemistry, Practical Toxicology, Biology, and Botany, is given in the new buildings of the Science and Art Department of the Yorkshire College.

Clinical Instruction, etc.—The General Infirmary has 320 beds; viz., medical cases, 70; surgical, 208; ophthalmic, 30; gynæcological, 12, and 36 cots are available for the treatment of children. There is also a semi-convalescent Home with 42 beds for the reception of Infirmary patients. Clinical lectures are delivered by the Physicians and Surgeons, and classes meet in the wards for practical instruction. Demonstrations of Eye and Ear Diseases, and instruction in the use of the Ophthalmoscope, and in the application of Electricity are given. There is also a Maternity Department in connection with the Infirmary. The West Riding Lunatic Asylum at Wakefield is open for the study of Mental Diseases, and a course of lectures is given by Mr. Bevan Lewis during the summer: the systematic lectures being given at the school, and the clinical at the asylum. Students can also attend the practice of the Leeds Public Dispensary, the Fever Hospital, and the Hospital for Women and Children.

Hospital Appointments. — House-Physicians, House-Surgeons, Physicians' Clerks, Surgeons' Dressers, Ophthalmic and Aural Surgeons' Dressers, Gynæcological Ward Clerks, Assistant-Physicians' Clerks, Assistant-Surgeons' Dressers, Dressers in the Casualty-Room, and *Post-mortem* Room Clerks, are appointed during the year. The house-physicians and surgeons' dressers hold office for six months: the house-surgeons for twelve months; the others for three months. The house-physicians and house-surgeons must have at least one legal qualification. Appointments are also open to students at the Leeds Public Dispensary, and at the West Riding Lunatic Asylum.

Prizes.—The Hardwick Clinical Prize, value £10, is given annually for the best reports of medical cases. At the close of each session, Silver Medals, Books, and Certificates of Honour are awarded according to merit; and at the end of the summer sessions the Thorp Prizes of £20 are given in Forensic Medicine and Hygiene.

University College, Liverpool: Medical Faculty.—The Medical School contains two Museums, one in connection with the Anatomical Department, for specimens of human and comparative anatomy; the other for pathological specimens, drawings, wax models, materia medica specimens, etc. There is also a good Library and a Reading Room.

Instruction.—The Preliminary Scientific subjects are taught in the Science and Arts Department of the College; the rest in the Medical School. The Dissecting-room and Physiological Laboratory are kept open all the year, under the supervision of the demonstrators. In addition to the course of lectures on Medicine, Surgery, and Midwifery, practical instruction is given in each by the respective professors during the winter session. Clinical Lectures are delivered weekly at the Royal Infirmary, which contains nearly 200 beds, and medical and surgical tutors attend in the wards daily from 10 to 12. Special instruction in Venereal, Children's, and Eye Diseases can be obtained at the neighbouring hospitals free.

Appointments.—Royal Infirmary: Two House-Physicians and three House-Surgeons are appointed for six months, after (if there be more applicants than vacancies) competitive examination. Candidates must have a legal qualification. Three Clinical Clerks for each Physician, three or more Dressers for each Surgeon, and two Clerks to the Thornton Wards for Diseases of Women are appointed for three months in October, January, and May. *Post-mortem* Clerks are appointed for six weeks. All students must perform this duty before the schedule for the final examination is signed.

Exhibitions and Prizes.—Holt Tutorial Scholarships: two are awarded annually by the Medical Faculty, each of the value of £100, for one year. Roger Lyon Jones Scholarships (each £21 for two years): one is offered annually as an entrance scholarship to students proceeding to the Victoria M.B. degree; the other is competed for by second year's students in Anatomy, Physiology, Chemistry, and Materia Medica. The Derby Exhibition of £15 is open to the competition of third and fourth year's students in Clinical Medicine and Surgery. In addition the Medical Faculty give two gold medals and numerous silver and bronze medals, and certificates of honour yearly.

The *Debating Society* meets eight or ten times during the winter session on Saturday evenings for the reading and discussion of papers. Prizes are given for the best papers, and for the best collection of clinical reports.

Communications should be addressed to the Dean, Mr. F. T. Paul, 38, Rodney Street, Liverpool.

OWENS COLLEGE, MANCHESTER: MEDICAL DEPARTMENT.—The Department of Medicine comprises a very complete series of laboratories, museums, and lecture-rooms. On the ground-floor of the Medical Buildings are situated the rooms in which are located the Library of the Medical Society of Manchester. These include (1) the Library, containing above 27,000 volumes; (2) a Students' Library; (3) a Reading-room, reserved for members of the Medical Society. The Medical Buildings also comprise a Students' Common Room, besides rooms for Professors and Lecturers, offices, etc.

Instruction.—In the College, the following courses (in addition to those mentioned in the table) are given:—in the winter: Organic Chemistry, by Professor Schorlemmer (T. Th. and S., 9.30); Gynæcology, by Professor Sinclair (Th. 12). In the summer: Diseases of Children, by Dr. H. Ashby (W. and F., 3 P.M.); Mental Diseases, by Mr. G. W. Mould (T. and Th., 4 P.M.); Hygiene, by Dr. A. Ransome (T. and F., 2 P.M.); and Embryology (lectures and laboratory work), by Professor A. M. Marshall (M., W., and F., 1.30 P.M.); Comparative Osteology, by Mr. Hurst (M., W., and F., 9.30). Practical Pathology is taught by Dr. Harris, under the superintendence of Professor Dreschfeld. Dr. Harris also conducts a course of Pathology for medical men. Mr. Thomas Jones gives a course of Practical Surgery (T., 12 noon, in the winter, and W., 1, and F. 12, in the summer); and a course of Operative Surgery in the summer at 4 P.M. on Mondays. Professor A. H. Young gives a course of Surgical Pathology in the winter, at 2 P.M. on Tuesdays; also an elementary course in the summer (T. and Th., 2 P.M.) Two courses of Materia Medica and Therapeutics are given at separate hours on the same day; one being devoted to Materia Medica proper, and the other to the Action of Drugs. A special course of demonstrations in Medical Jurisprudence and Practical Toxicology will be given in the summer. A special course of Anatomical Demonstrations will be given on three days a week at 4 P.M.

The Royal Infirmary contains 300 beds. Associated with it are the Monsall Fever Hospital (220 beds), and the Convalescent Hospital (136 beds), and the Royal Lunatic Asylum at Cheadle, which accommodates 200 patients.

Clinical Instruction is given by the Physicians and Surgeons of the Infirmary. Clinical Classes are formed in October, January, and May; also Advanced Clinical Classes for students of the last two years. Medical and Surgical Demonstrations are given, each at 9.15 A.M. one morning weekly in the summer. Dr. Simpson gives instructions in the use of the Laryngoscope (W., 10); Mr. Wright in Aural Surgery (W., 12). Dr. Steell gives Clinical instruction at the Fever Hospital; also a series of Clinical Lectures on Fever, in the Infirmary. Mr. Wright gives instructions in Diseases of the Ear. Clinical Lectures on Diseases of Women and Obstetrics will be given at the Royal Infirmary, and at St. Mary's Hospital by Dr. Lloyd Roberts and at the Manchester Southern Hospital by Professor Sinclair. Clinical instruction in Diseases of the Eye, and Opthalmoscopic Demonstrations will be given at the Royal Infirmary by Dr. Little, and at the Royal Eye Hospital by Dr. Glascott.

Appointments.—The following appointments are made: A Surgical Registrar, at £100 per annum; a Pathological Registrar, at £100 per annum; a Medical Registrar, at £50 per annum; two Assistant Medical Officers, each at £80 per annum; a Chloroformist, at £75 per annum. Resident Medical Officer, two years, £150 per annum; ditto, at Cheadle, one year, £150 per annum; ditto, at Monsall, one year, £250 per annum; Resident Surgical Officer, one year, £150 per annum; eight House-Surgeons and four House-Physicians, a Resident Assistant at Monsall (salary £100 per annum); and one at Cheadle, each for six months. The House-Physicians, House-Surgeons, and the Resident Assistant at Monsall must possess a qualification which can be registered. Two or more Clinical Clerks are attached to each Physician and Assistant-Physician, and two or more Dressers to each Surgeon and Assistant-Surgeon. Two Clerks to the Pathological Registrar and Accident-room Dressers are appointed for three months.

Scholarships, Exhibitions, and Prizes.—Dauntesey Medical Scholarship, value £100, tenable for one year. Candidates must not have attended lectures in a medical school. Subjects of Examination: General and Comparative Anatomy, with Dissections and Description of Preparations illustrating Typical Forms of Animals; Outlines of Physiological Botany; Chemistry; and either Mathematics or Latin. The successful candidate must enter to the full course of medical studies at the College. Examination will commence on October 4th. A Gilchrist Scholarship of £50 per annum, tenable for three years in the College, awarded biennially, to the candidate standing highest in the Matriculation Examination of the University of London in June, if in the Honours Division; also one, annually, upon the results of the June Preliminary Examination of the Victoria University. Grammar School Scholarship, value £18, tenable for three years, open to scholars of the Manchester Grammar School between the ages of 15 and 21. Examination on October 2nd, 3rd, and 5th; subjects in 1888, Classics and Mathematics; in 1889, Mathematics and Physical Science. A subject for an English Essay will also be set each year. The successful candidate must enter to one of the departments of Owens College. Platt Physiological Scholarship, value £50, tenable for two years, open to all persons between the ages of 18 and 25, after a written and practical examination in Physiology and Histology, and Comparative Anatomy. The examiners will take into favourable consideration any original observation submitted to them. The successful candidate must attend for one year of his tenure the class of Practical Physiology in the Laboratory of the College, and in the other year in the same or some other approved physiological laboratory. Examinations on October 8th, 9th, and 10th. Notice of intention to compete must be given on or before September 20th. Two Platt Exhibitions, £15 each, for first and second year's students in Physiology. Turner Scholarship of £25, to students who have completed four years of study in the College, after examination in the subjects of the third and fourth year's courses. Dumville Surgical Prize, value £20 (in books or surgical instruments), at the end of winter session, to students of two years who have attended four courses, including one at least in Surgery. Subjects of Examinations (about middle of July, 1889): Principles and Practice of Surgery, including Surgical Anatomy or Surgical Pathology, and, at option of Examiners, examination of patients and operations on dead subject, with reports of cases. Prizes, or medals and certificates, are awarded on the results of this class examination in each of the following subjects: Anatomy, first and second year's courses; Physiology, Pathology and Morbid Anatomy, Medicine, and Surgery; Midwifery, Botany, Practical Chemistry, Materia Medica and Therapeutics, Medical Jurisprudence, Hygiene, Practical Surgery, Ophthalmology, and Practical Physiology; Practical Anatomy (senior and junior), Surgical Pathology, Diseases of Children, Mental Diseases, Materia Medica (first year's course) and Gynæcology. Bishop Berkeley Fellowships. The Council of Owens College propose—in December, 1888—to appoint at least two Fellowships of £100 each, capable of renewal for a second year. Candidates are invited to apply, before November 15th, in any one of fifteen departments, including Chemistry, Botany, Zoology, Physiology, Pathology, and Pharmacology. The Bradley Memorial Scholarship in Clinical Surgery, and two Clinical Prizes, value £6 6s. each, are awarded annually to students of the Royal Infirmary in the summer session. Candidates must be in their fourth year of study, have completed their dresserships, and have spent their whole period of studentship at the Manchester Royal Infirmary.

There are tutorial classes in Anatomy and Physiology.

Prospectuses may be obtained from the Registrar, Mr. H. W. Holder, M.A.

FIRTH COLLEGE: SHEFFIELD SCHOOL OF MEDICINE.—The General Infirmary contains 200 beds, including two ophthalmic wards. The Public Hospital and Dispensary contains 101 beds. Students are also admitted to the practice of the Jessop Hospital for Diseases of Women.

Besides the lectures mentioned at page 563, a course of Public Medicine is given by Dr. Sinclair White. The instruction in Chemistry and in Biology is given at Firth College.

The Library of the Medical School is open to students under certain regulations.

Prizes and certificates of honour are given at the end of each session.

University of Durham College of Medicine, Newcastle-upon Tyne.—The New College Building, of which the executive portion is now being erected at a cost of £25,000, will be open to students next winter session, and will be fitted with every convenience for study. The Medical Library of the Infirmary, the Libraries of the Durham College of Science and of the Literary and Philosophical Society; and the splendid Chemical and Physical Laboratories in the Durham College of Science may also be used by students.

Appointments.—An Assistant-Curator of the Museum is annually appointed from among the senior students. Assistant Demonstrators of Anatomy, Prosectors for the Lecturer on Anatomy, Assistant Physiologists, Pathological Assistants, Assistants to the Dental Surgeon, and Assistants in the Eye Department, are also elected. The Assistant Demonstrators of Anatomy receive £5 each; the others are unpaid. Four times in the year, Clinical Clerks and Dressers are appointed for three months.

The Royal Infirmary contains 280 beds. Pathological Demonstrations are given as opportunity offers. Practical Midwifery can be studied at the Newcastle Lying-in Hospital. Opportunities for practical study are also afforded by the Dispensary, Hospital for Infectious Diseases, Eye Infirmary, Children's Hospital, and Coxlodge, Dunston, Durham County Lunatic Asylums. Three months' Resident Clinical Clerkship at these Asylums may be substituted (in the University of Durham curriculum) for three months' Hospital Practice. Practical instruction in the duties of a Medical Officer of Health, and a summer course of clinical instruction at the City Hospital for Infectious Diseases are given. Arrangements are made for the complete Dental course required for the diploma of L.D.S. to be given in the College.

Scholarships, etc.—A University of Durham Scholarship, value £100, for proficiency in Arts, open annually at beginning of winter session to intending students, and to those who have attended only one winter and one summer session.[1] The Dickinson Memorial Scholarship, value £15, with a gold medal, for Medicine, Surgery, Midwifery, and Pathology; open to perpetual students who have passed the primary examination of a licensing body. The Tulloch Scholarship, interest of £400 annually, for Anatomy, Physiology, and Chemistry. The Charlton Memorial Scholarship, interest of £700 annually, open to full students entered for the class of Medicine, at end of winter session. The Gibb Scholarship, interest of £500 annually, for Pathology, at end of summer session. The Goyder Memorial Scholarship, proceeds of £325; subjects, Clinical Medicine and Clinical Surgery. At the end of each session, prizes of books and certificates of honour are awarded in each of the regular classes. One year's attendance at the College is a necessary part of the curriculum for the medical degrees of the University of Durham, and is accepted by the University in lieu of one year's residence for the degree of B.A.

Further information may be obtained from the Acting Secretary, W. P. Mears, M.D.

University College of South Wales and Monmouthshire (Cardiff).—Instruction is given in *Physics* by Professor Viriamu Jones, M.A.Oxon., B.Sc.Lond., and Mr. W. S. Hensley, B.A., Demonstrator (T. Th., noon). A junior course meets the requirements of the Matriculation Examination of the University of London. The Intermediate Course (M. W. F., 11 A.M) is adapted to the requirements of candidates for the Intermediate in Science and the Preliminary Scientific (1st M.B.) Examinations of the University of London. The Physical Laboratory is open every day except Saturday. Instruction in *Chemistry* is given by Professor C. M. Thompson, M.A., D.Sc., and Mr. J. Tudor Cundall, F.C.S., Demonstrator. The junior course (summer term, M. W. F., 10 A.M.) covers the subjects prescribed for the London University Matriculation. The intermediate course (T. Th. S., noon), together with Laboratory practice, covers the subjects required for the Intermediate in Science and Preliminary Scientific (1st M.B.) Examinations of the University of London. The Laboratory is open daily. Instruction is given in *Biology* by Professor W. N. Parker; Zoology during Michaelmas and Lent Terms (M. W. F., 2 P.M); Botany, during Summer Term (M. W. F., 2 P.M.). A more advanced course on the Zoology, Comparative Anatomy, and Embryology of the chief classes of the animal kingdom, which will include the work required for the Honours papers in the Intermediate Science and Preliminary Scientific Examinations of the University of London, is given during Michaelmas and Lent Terms. Practical Laboratory Courses in Botany (Easter Term), and in Elementary and Advanced Zoology (Michaelmas and Lent Terms), are also given.

Special Courses.—The classes and laboratories of the College afford preparation for the following examinations, among others, of the University of London: Matriculation (January and June); Intermediate in Science and Preliminary Scientific (July).

Aberdare Hall is a residential College for female students.

Fees.—Matriculation, £1 1s. Physics: junior, £2 2s.; intermediate, £3 3s. The Laboratory fee ranges from £3 3s. to £9 9s.—Chemistry: junior, £2 2s.; intermediate, £3 3s.; Laboratory (session), £3 3s., (term) £2 2s. to £4 4s. Biology, £3 3s. Zoology only, £2 2s. Botany only, £1 1s. Laboratory: junior, (session) £4 4s.; Zoology only, £4 4s.; Botany only, £1 1s.; advanced, £3 3s. A composition fee of £10 covers the cost of all lectures.

Scholarships are given on the results of examinations at entrance and at the end of the first and second years.

The Library is open to students. There is a Students' Club.

The following hospitals are also recognised by the Royal College of Surgeons for the purpose of professional education: Bath United Hospital; Bedford General Infirmary; Berkshire Royal Hospital, Reading; Bradford Infirmary; Addenbrooke's Hospital, Cambridge; Derbyshire General Infirmary; Devon and Exeter Hospital; Gloucester General Infirmary; Hants County Hospital; Hull Infirmary; Kent and Canterbury Hospital; Leicester Infirmary; Liverpool Northern Hospital and Royal Southern Hospital; Norfolk and Norwich Hospital; Northampton General Infirmary; Nottingham General Hospital; Radcliffe Infirmary, Oxford; Salisbury General Infirmary; Salop Infirmary; Staffordshire General Infirmary; North Staffordshire Infirmary; Wolverhampton and Staffordshire General Hospital; Sussex County Hospital; Worcester Infirmary.

NOTES ON THE MEDICAL SCHOOLS AND HOSPITALS IN SCOTLAND.

University of Aberdeen.—Additional opportunities for practical instruction are afforded in the Chemical, Anatomical, Physiological, Pathological, and Hygienic Laboratories, and Anatomical and Pathological Museums, throughout the day, under the direction of the professors. Practical instruction is given also in the Toxicological, Pharmaceutical, Botanical, and Zoological Laboratories, and in the Surgical Museum and Laboratory. Courses of practical instruction are given, in summer, in Medical Jurisprudence and Hygiene by Dr. Hay; in Diseases of Children at the Sick Children's Hospital by the Medical and Surgical Staff; in Insanity, by Dr. Reid, at the Royal Asylum; in Diseases of the Ear and Larynx, by Dr. Mackenzie Booth, at the Dispensary; in Diseases of the Eye, by Dr. McK. Davidson, at the Infirmary and Eye Institution; in Diseases of the Skin, by Dr. Garden, at the Royal Infirmary and Sick Children's Hospital. The General Dispensary and the Lying-in, Vaccine, and Eye Institutions, and the Sick Children's Hospital are open daily. Fee to each class, £3 3s., except Anatomical Demonstrations, Practical Natural History, Practical Midwifery and Gynæcology, Practical Pharmacy, Operative Surgery, Practical Medical Jurisprudence and Hygiene, each £2 2s.; Practical Ophthalmology, Insanity, Public Health, Diseases of the Ear and Larynx, and Diseases of the Skin, each £1 1s.; Matriculation fee, both sessions, £1; summer session alone, 10s.: Royal Infirmary: Perpetual fee, £5; or first year, £3 10s.; second year, £3. Clinical Medicine and Clinical Surgery, each £3 3s. The winter session begins on October 16th.

University of Edinburgh.[1]—Sessional fee for Materia Medica, Chemistry, Surgery, Institutes of Medicine, Midwifery, Clinical

[1] The subjects of examination, which will commence on October 10th, 1888, will be Greek: *The Gospel of St. Luke;* Latin: Grammar; Cæsar, *De Bello Gallico*, Book IV. Virgil's *Æneid*, Book IV; Arithmetic and Algebra; Euclid, Books I and II. English History will comprise the period from the beginning of the reign of Henry VII to the end of the reign of Elizabeth.

[1] The minimum expenses have recently been altered, and are not now published in the Regulations of the University.

Surgery (winter), Clinical Medicine (winter), Anatomy, Practice of Physic, Pathology, Botany (with garden fee of 5s.), Natural History, Medical Jurisprudence, each £4 4s.; Practical Anatomy, Practical Physiology, Practical Chemistry, Practical Pathology, Clinical Medicine (summer), Clinical Surgery (summer), Operative Surgery, Mental Diseases, Diseases of the Eye, Practical Materia Medica and Pharmacy, Obstetric and Gynæcological Operations, each £3 3s.; Anatomical Demonstrations, Organic Chemistry (advanced), Practical Natural History, each £2 2s.; Clinical instruction in Diseases of Children (winter and summer), £1 1s.; Vaccination, £1 1s. The fee for a second course of any lectures is £3 3s.; any subsequent course is free. For a perpetual ticket at the beginning of the first course, the fee is £6 6s. Every student, before entering with any professor, must produce a matriculation ticket for the ensuing session, for which a fee of £1 is paid at the beginning of each winter session. Students first entering in the summer session pay a fee of 10s. The Library is open every lawful day during the winter session, from 10 A.M. till 4 P.M.; on Saturdays, till 1 P.M.

The following means are afforded for practical instruction, in addition to those mentioned in the table at page 570: Practical Pathology and Morbid Anatomy, under the superintendence of Dr. Greenfield, assisted by Dr. Woodhead and Dr. Carlier; Tutorial Class of Clinical Medicine, in the Royal Infirmary, by Dr. Murdoch Brown, under the superintendence of the Clinical Professors; Tutorial Class of Clinical Surgery, by Dr. Carmichael, under the superintendence of the Clinical Professor; Practical Surgery, under the superintendence of Professor Chiene and Dr. Edington; Tutorial Class of Practical Physic, by Dr. R. W. Philip, under the supervision of the Professor; Obstetric Operations, by Dr. Simpson and Dr. Ballantyne; Organic Chemistry (advanced class), by Dr. Crum Brown; Practical Instruction in Mental Diseases, at Morningside Asylum, by Dr. Clouston, on Mondays, Wednesdays, and Fridays, at 3 (summer); Practical Botany and Vegetable Histology, by Dr. Balfour, assisted by Mr. Macfarlane. The Dissecting-rooms and the Anatomical Museum, under the superintendence of Sir William Turner: Chemical Laboratories, under Dr. Crum Brown, assisted by Dr. Gibson and Mr. Andrew King; Physiological Laboratory, under Dr. Rutherford, assisted by Dr. C. W. Carlier and Dr. E. H. Ezard; Physical Laboratory, under Mr. Tait; Natural History Laboratory, under the superintendence of Dr. Cossar Ewart and Mr. W. Smith; Medical Jurisprudence Laboratory, under the superintendence of Sir Douglas Maclagan and Dr. C. H. Stewart; Royal Botanic Garden, Herbarium, and Museum, under the superintendence of Dr. Balfour, assisted by Dr. Macfarlane; Materia Medica Museum and Laboratory, under the superintendence of Dr. Fraser, assisted by Dr. Stockman and Dr. Tillie, are open to students.

Fellowships, etc.—Falconer Memorial Scholarship, for the encouragement of the study of Palæontology and Geology, value £111 4s., for two years, but renewable under certain conditions, open to graduates in Science or Medicine of the University of not more than three years' standing; next competition probably in July, 1890. Syme Surgical Fellowship, value about £106 8s. 8d., tenable for two years, open to Bachelors of Medicine of not more than three years' standing, for the best thesis on a Surgical subject. Leckie-Mactier Fellowship, value £70 per annum, tenable for three years, open to Bachelors of Medicine of not more than three years' standing; next award in November, 1889. The examination will comprise written reports and commentaries on three Medical, three Surgical, and one Gynæcological case in the University wards in the Royal Infirmary; a written examination in Midwifery, Medical Jurisprudence, and Public Health; and an oral examination in Medicine, Surgery, Midwifery, Medical Jurisprudence, and Public Health. Freeland Barbour Fellowship, £100, tenable for one year, to the M.B. or M.Ch. who has gained the highest collective marks in Anatomy, Physiology, and Pathology in the professional examinations, and is prepared to devote not less than one year to original research in Midwifery or Gynæcology in any laboratory or practical department of the University; next award July, 1889. Sibbald Scholarship, £40, tenable for three years; subjects: Chemistry, Botany, and Natural History; next competition in October, 1889. Hope Prize Scholarship, about £35, to the most distinguished junior student in the Chemical Laboratory during the winter. Thomson Scholarship, value £40, tenable for four years, in October, 1890; subjects: Botany, Zoology, and elementary Mechanics. Eight Vans Dunlop Scholarships, each £100, tenable for three years, one in March, 1890, for highest marks at preliminary examinations; one in July, 1890, for highest marks (not less than 60 per cent.) in first year's subjects—Botany, Zoology, Chemistry, and Anatomy; one, in March, 1890, for highest marks (as above) in Physiology and Surgery; three (one each year) at end of third winter, for highest marks at a special examination on Anatomy, Physiology, Materia Medica, and Pathology; one in Chemistry and Clinical Pharmacy, and one in Natural History, Botany, and Geology. Coldstream Memorial Medical Missionary Scholarship, proceeds of at least £470, tenable for four years, to the students who intend to become medical missionaries; next award at Preliminary Examination in October, 1891. Buchanan Scholarship, annual proceeds of £1,000, yearly, for proficiency in Midwifery and Gynæcology. Murchison Memorial Scholarship, for proficiency in Clinical Medicine, annual proceeds of about £1,000; alternately in Edinburgh and London; competition in Edinburgh in July, 1889, open to candidates from London and from Edinburgh. Stark Scholarship in Clinical Medicine, value about £100, tenable one year; awarded every alternate year; next competition in 1890. James Scott Scholarship, value £50, for proficiency in Midwifery. Ettles Medical Scholarship, value about £40, to the most distinguished Bachelor of Medicine and Master in Surgery for the year. The Gunning Victoria Jubilee Prizes: Dr. Gunning, of Edinburgh and Rio de Janeiro, has founded Eleven Post-Graduation Prizes of the value of £50 each, and each recurring triennially, namely: (1) The Monro Prize for Anatomy; (2) the Bell Prize for Physiology; (3) the Edward Forbes Prize for Zoology, etc.; (4) the Hutton Balfour Prize for Botany; (5) the Joseph Black Prize for Chemistry; (6) the Christison Prize for Materia Medica; (7) the Lister Prize for Surgery; (8) the Gregory Prize for Practice of Physic; (9) the John Thomson Prize for Pathology; (10) the Simpson Prize for Obstetrics; (11) the Alison Prize for Public Health and Medical Jurisprudence. Candidates must be either Bachelors of Medicine or Bachelors of Science of this University of not more than three years' standing, except that in 1887, 1888, and 1889, candidates may be graduates of six years' standing. The Prizes will be awarded, with the approval of the Senatus, for (1) either (*a*) Competitive Essays written specially for the prizes, or (*b*) Theses submitted for Graduation; or (2) original research conducted under supervision of the Professor in the department in which the prize is awarded. The prizes in Zoology, Materia Medica, Obstetrics, Public Health, and Medical Jurisprudence, in 1889; and in Anatomy, Chemistry, and Practice of Physic, in 1890. Competitive Essays are required to be lodged with the Dean of the Faculty of Medicine on or before April 30th of the year in which each prize is to be awarded, and the successful competitors will be announced annually at the Medical Graduation Ceremonial. Abercrombie Bursary of £20, for four years, to students who have been brought up in Heriot's Hospital. Two Sibbald Bursaries, value £30 each. Three Heriot Bursaries, £30 a year each for three years, open to students matriculating for the first time in the University. Applications not later than October 1st to the Governors of George Heriot's Trust, from whom further particulars may be obtained. Eight Thomson Bursaries, value £25 each, tenable for four years, in March and October, at Preliminary Examination in the subjects of General Education. Four Grierson Bursaries, each £20 per annum; in the absence of certain preferential candidates, open to competition; one to the student who shall pass the best examination in the subjects of Preliminary Education; one open to students commencing the second winter session, after examination in Chemistry, Botany, and Natural History; one to students commencing the third winter session, after examination in Anatomy and Physiology; one to students commencing the fourth winter session, after examination in Materia Medica and Pathology. Two Dr. John Aitken Carlyle's Medical Bursaries, £32 each, for one year, for proficiency in ordinary class-examinations; one to a first year's student, in Anatomy and Chemistry; one to a second year's student in Anatomy and Physiology. Two Mackenzie Bursaries, annual proceeds of £1,000, to students in junior and senior classes of Practical Anatomy, for industry and skill. Two Mackie Bursaries of £30 each, for students of Medicine in the University who have passed the first and second professional examinations with credit, and who, in the opinion of the Faculty of Medicine, require pecuniary assistance. First award commencement of winter session, 1888-9; applications to the Dean of the Faculty of Medicine on or before October 31st. Competitors for the Bursaries must have studied the subjects of the examination at the University of Edinburgh. Gold medals are given on graduation to Doctors of Medicine whose theses are deemed worthy. Beaney

Prize, value £35, to the candidate for degrees of M.B. and C.M., who shall obtain most marks in Anatomy, Surgery, and Clinical Surgery. Hope Chemistry Prize, value £100, open to all students of the University not more than twenty-five years of age, who have worked for eight months, or for two summer sessions, in the chemical laboratory. Neil Arnott Prize, about £50, to the candidate who, having been a medical student of the University during either a summer or a winter session, shall pass with the greatest distinction the ordinary examination in Natural Philosophy for the degree of M.A. The successful candidate must continue a medical student of this University during the winter session. Ellis Prize, value about £60, every three years, for an Essay or Treatise in some subject of Animal or Vegetable Physiology; next award in April, 1889. Goodsir Memorial Prize, £60, awarded triennially. Wightman Prize, £10 10s., to student of class of Clinical Medicine for best report and commentary on cases treated in the wards. Cameron Prize, income of £2,000 yearly, to the member of the medical profession who shall have made the most valuable addition to Practical Therapeutics during the preceding year. Dobbie-Smith Gold Medal in Botany, in alternate years, for an Essay on a Botanical subject. Anderson Henry Prize, awarded triennially for a Botanical Essay by a student of the class of Botany, during any of the three years. Competing essays to be received by the Dean of the Faculty of Medicine by July 1st, 1889.

Edinburgh Royal Infirmary.—*Fees:* One month, £1 1s.; three months, £2 2s.; six months, £4 4s.; one year, £6 6s.; perpetual, £12. Separate payments, amounting to £12 12s., entitle to a perpetual ticket. Clinical Medicine and Clinical Surgery, each £4 4s. for course in winter, and £3 3s. in summer. Resident Physicians and Surgeons are appointed for six months; they live in the house free of charge. Candidates must be registered as legally qualified practitioners. Non-resident Clinical Clerks are also appointed for six months. Physicians and Surgeons appoint their own Clerks and Dressers. Assistants in the Pathological Department are appointed by the Pathologists. Instruction is given in special departments.

School of Medicine, Edinburgh.—Of the Extra-academical lecturers, some give their instruction in Surgeons' Hall; others at Minto House; others at other places. The following courses of instruction are given, in addition to those mentioned at page 570: Tutorial Classes of Physical Diagnosis and of Practical Surgery at the Royal Infirmary; Diseases of the Ear, Dr. Kirk Duncanson, lectures, 11 A.M. Tuesdays and Fridays (winter and summer), with clinical instruction Mondays, Thursdays, and Saturdays, 12 (winter and summer); Diseases of the Ear and Throat, Dr. P. McBride, daily, 10 (summer); Laryngology and Medical Opthalmology, Dr. Wyllie, 9 A.M. (summer); Vaccination, six weeks' courses in winter and summer, Dr. Husband; Public Vaccination (England) Dr. J. B. Buist, 3 P.M. on Thursdays, winter and summer; Diseases of Children, Mr. Joseph Bell and Dr. Playfair, three months' Clinical courses in winter, and Mondays, Wednesdays, and Saturdays in summer at 10; Practical Medicine and Diagnosis, Dr. James, daily, 9 A.M.; Practice of Medicine, Dr. Byrom Bramwell, 9 A.M. (summer); Practical Midwifery, Dr. P. Young, February, March, April, 1 (winter); Clinical Midwifery, Dr. Croom, 9.30 A.M. daily; Clinical Gynæcology, Dr. C. Bell, Tuesdays and Fridays, 4 P.M. (winter), and 1.30 P.M. (summer); Practical Midwifery, with clinical instruction, Dr. C. Bell, throughout year; Practical Midwifery and Clinical Gynæcology, Dr. P. Young, Fridays, 1 P.M., throughout the year; Diseases of the Skin, Dr. A. Jamieson, Wednesday and Saturday, 10, throughout year; Insanity, Dr. Batty Tuke, Tuesdays and Fridays, 3 (summer); Diseases of the Tropics and Climatology, Dr. R. W. Felkin, Mondays and Thursdays, 5, throughout year. Dr. Littlejohn lectures on Public Health in conjunction with Medical Jurisprudence.

Fees.—For a first course of lectures, £3 5s.; for a second, £2 4s.; perpetual, £5 5s. To those who have already attended a first course in Edinburgh, the perpetual fee is £2 4s. Practical Anatomy (six months) £3 3s.; Anatomical Demonstrations, £2 2s.; perpetual, £4 4s.; Practical Anatomy with Demonstrations, £4 4s.; Practical Chemistry, £3 3s.; Analytical Chemistry, £2 a month, £5 for three months, or £10 for six months; Practical Materia Medica (including Practical Pharmacy), Diseases of the Eye, Diseases of the Ear, Diseases of Children, Diseases of the Skin, and Diseases of the Tropics and Climatology, each £2 2s.; Vaccination, £1 1s.; Summer courses of Clinical Surgery and Clinical Medicine, each £2 4s.; Practical Anatomy, including Demonstrations, Operative Surgery, and Practical Medicine and Medical Diagnosis, each £2 2s.; Insanity, £1 1s. The minimum cost of education in this school for the triple qualification of the Royal Colleges of Physicians and Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow, including the fees for the joint examination, is £100, payable by yearly instalments.

Practical instruction in various subjects may also be obtained on payment of moderate fees at the Sick Children's Hospitals, Royal Public Dispensary and New Town Dispensary, Royal Maternity Hospital, and the Edinburgh Eye Infirmary.

University of Glasgow.—Dr. Gairdner will give a special course of lectures, chiefly on Diseases of the Nervous System, on Tuesdays and Thursdays at 1 P.M. in summer. Dr. Leishman lectures on Diseases of Women at 2 P.M. on Mondays, Wednesdays, and Fridays in the summer; and Dr. Yellowlees on Insanity at 12 A.M. on Wednesdays in the College, and at 10 A.M. on Saturdays in the Gartnavel Asylum.

The Chemical Laboratory is open from 10 A.M. to 4 P.M. (fee £10 10s. in winter, and £5 5s. in summer); the Physiological Laboratory from 9 A.M. to 4 P.M. winter and summer; the Zoological Laboratory from 10 A.M. to 1 P.M. in summer (fee £3 3s.); and the Botanical Laboratory from 9 A.M. to 4 P.M. in summer (fee £2 2s.). Demonstrations in the Botanical Gardens are given in the summer.

Fees, each course, £3 3s., except summer courses of Anatomy, Insanity, Diseases of Women, and Operative Surgery, each £2 2s., and Lectures on the Eye, £1 1s. In most of the courses for which £3 3s. is charged, the fee for a second session is £2 2s.; for a third session, £1 1s.

Glasgow.—Anderson's College Medical School.—The following courses are given in addition to those at p. 570. In winter, Senior Anatomy, Dr. Buchanan, 12.30 P.M.; in summer, Osteology, Dr. Buchanan, as may be arranged; Public Health, Dr. Christie, as may be arranged; Aural Surgery, Dr. Barr, Thursday, as may be arranged. The Chemical Laboratory is open daily from 10 to 5. Students of the School are admitted to the Lectures and *clinique* at the Ophthalmic Institution free.

Fees.—Each course of lectures (except Anatomy), first session, £2 2s.; second session, £1 1s.; afterwards free. Anatomy (including Dissecting Room), first session, £4 4s.; second session, £4 4s.; third session, £1 1s.; summer (including Practical Anatomy), £2 2s.; Practical Anatomy alone, £1 1s.; Osteology, £1 11s. 6d. Students who have attended classes at other schools will be admitted to such classes as they may have attended elsewhere at reduced fees. Fees for all the Lectures and Hospital Practice required of candidates for the Triple Qualification, £48.

A *Dispensary* is connected with Anderson's College Medical School. Students have the privilege of visiting and treating patients at their own homes, being assisted by a specially appointed qualified practitioner.

The Kerr Bursary (value one-third of the interest on £1,000 in bank on deposit) will be vacant in the Junior Anatomy Class.

The winter session will be opened on Tuesday, October 23rd, at 2 o'clock, with an Introductory Address by Dr. James Dunlop, Professor of Surgery.

Glasgow Royal Infirmary.—The number of beds is 542; 212 for Medical and 330 for Surgical cases; and there are special wards for the treatment of Diseases of Women, and of Venereal Diseases in Males. Dr. Newman sees cases of Diseases of the Throat at the Dispensary at 11 A.M. on Tuesdays and Fridays. Dr. Macfie attends cases of Disease of the Ear at 3.30 on Thursdays and Saturdays. Dr. Provan sees cases of Diseases of the Skin at 12.30 on Wednesdays. Dr. Freeland Fergus gives advice on Diseases of the Eye on Tuesdays and Fridays at 12 noon, and Opthalmoscopic demonstrations are given by Mr. H. E. Clark at 10 Saturdays. Courses of Clinical Medicine and Surgery are given by the Physicians and Surgeons, and *post-mortem* examinations are conducted by the Pathologist. Operations on Wednesdays and Saturdays at 9 A.M.

Appointments.—Four Physicians' and six Surgeons' Assistants reside in the hospital. These appointments can be held for one year, and are open to students who have passed all their examinations except the last, or to gentlemen who have a qualification in

TABLE OF THE MEDICAL OFFICERS, PROFESSORS, AND LECTURERS IN MEDICAL SCHOOLS OF SCOTLAND.

For further particulars regarding each Hospital and Medical School, see p. 567 et seq. The letters (W.) and (S.) in this Table denote respectively Winter and Summer Courses.

Lectures, etc.	Aberdeen University.	Edinburgh University.	School of Medicine, Edinburgh.	Glasgow University.	Glasgow, Anderson's College.	Glasgow Royal Infirmary School.	Glasgow Western Medical School.
Anatomy (Lectures).	Dr. Struthers, 11 (W.)	Sir W. Turner, 1 (W.)	Dr. Symington, 1 (W.); and Mr. Macdonald Brown, 9 (W.)	Dr. Cleland, 2 and 11 (W.); 11 (S.)	Dr. A. M. Buchanan (jun.), 4 (W.)	Mr. H. E. Clark, 11 (W.); 11 (S.)	Mr. F. Carter, 11 (W. and S.)
Anatomical Demonstrations.	Dr. Struthers, 9 (W. and S.)	Sir W. Turner, 4 (W.); 11 (S.)	Dr. Symington and Mr. M. Brown, 4 (W.); 11 (S.)	Dr. Cleland, 11 (W.)	Dr. A. M. Buchanan, 12.30 (W.), 11.30 (S.)	Mr. Clark and Mr. Macintyre, 4 (W.)	Mr. Carter, 2 and 4 P.M. (W.)
Dissections	9 to 4 (W. and S.)	Daily (W. and S.)	9 to 5 (W. and S.)	9 to 4 (W.); 8 to 2 (S.)	9 to 5 (W.); 6 A.M. to 5 P.M. (S.)	10 to 5 (W.); 7 A.M. to 1 P.M. (S.)	9 to 4
Physiology	Dr. McWilliam, 2 (W.)	Dr. Rutherford, 11 (W.)	Mr. J. Hunter and Dr. Noel Paton, 11 (W.)	Dr. McKendrick, 12 (W.)	Dr. Christie, 3 (W.)	Dr. J. Barlow, 1.15 (W.)	—
Practical Physiology.	Dr. McWilliam, 2 (S.)	Dr. Rutherford (W. and S.)	Mr. J. Hunter and Dr. Noel Paton, 9 to 4 (W.); also Sum.	Drs. McKendrick and Muirhead (Demonstrator), 12 (S.)	Dr. Christie, 1 (S.)	Dr. J. Barlow (S.)	—
Chemistry	3 (W.)	Dr. Crum-Brown, 10 (W.); 1 (S.)	Dr. S. Macadam, Mr. F. King, Mr. I. Macadam, Dr. Drinkwater, 10 (W.)	Mr. Ferguson, 10 (W.)	Mr. Dittmar, 10 (W.)	Dr. Milne, 10 (W.)	—
Practical Chemistry.	10 (S.)	Dr. Crum-Brown, 2 (W.); 10 (S.)	Dr. S. Macadam, etc. (as above), and Mr. I. Macadam, 9 to 5 (W. and S.)	Mr. Ferguson, 10 (W.); 9 (S.)	Mr. Dittmar, Tu. and W., 2 to 4 (S.)	Dr. Milne, Wed., F. 10.30 (S.)	—
Materia Medica	Dr. Cash, 4 (W.)	Dr. Fraser, 2 (W.)	Dr. Craig, 2 (W.), 9 (S.); Dr. G. A. Gibson, 9 (W. and S.)	Dr. Charteris, 12 (W.)	Dr. Napier, 4 (W.)	Dr. Dougall, 3 (W.)	—
Pharmacy	Dr. Cash, 4 (S.)	Dr. Fraser, 10 (W. and S.)	Dr. Craig, 9 and 3 (W.); 10 (S.)	Dr. Charteris, 12 (S.)	—	Laboratory, daily, 10 to 1	—
Botany	Dr. Trail, 8 A.M. (S.)	Dr. Balfour, 8 (S.)	Mr. A. N. McAlpine, M. W. F., 11 (W.), 9 (S.); Pract., 10 (S.)	Dr. Bower, 8 A.M. (S.)	Mr. A. S. Wilson, 3 (S.)	—	—
Natural History	Dr. H. A. Nicholson, 2 (W. & S.); Practical, 3 (S.)	Dr. Cossar Ewart, 2 (S.)	—	Dr. Young, 9 (W.)	—	—	—
Medicine	Dr. Smith-Shand, 3 (W.)	Dr. Grainger Stewart, 9 (W.)	Dr. J. Wyllie, Dr. Affleck, Dr. B. Bramwell, and Dr. A. James, 9 (W.)	Dr. Gairdner, 11 (W.); Tu. Th., 1 (S.)	Dr. Gemmell, 5 (W.)	Dr. J. W. Anderson, 12 noon (W.)	Dr. McVail, 11 (W.)
Surgery	Dr. A. Ogston, 10 (W.)	Mr. Chiene, 10 (W.)	Dr. MacGillivray, Mr. Cathcart, Mr. Caird, Mr. S. Lang, Mr. Hodsdon, 10 (W.)	Sir G. H. B. Macleod, 1 (W.)	Dr. Dunlop, 11 (W.)	Dr. Macewen, 11 (W.)	Mr. Knox, 12 (W.)
Practical & Operative Surgery.	Dr. A. Ogston, 10 (S.)	Mr. Chiene, M. Tu. Th. F., 11 (S.)	Dr. MacGillivray, etc. (as above) (S.)	Sir G. H. B. Macleod, M. W. F., 1 (S.)	Dr. Dunlop, as may be arranged (S.)	Dr. Macewen, 12 (S.)	Mr. Knox.
Ophthalmic Surgery.	Dr. McKenzie Davidson (S.)	Dr. D. A. Robertson, 9 (S.)	Dr. J. Robertson, Tu. Th., 4 (W.); M. W. F., 3 (S.)	Dr. T. Reid, Tu. Th., 2 (S.)	Dr. Wolfe Sat., 1 (W.); Wed., 12 (S.)	Mr. H. E. Clark, Tu. Fr., 4 (S.)	Dr. Fergus.
Diseases of Skin	—	—	—	—	—	—	Dr. Murray.
Midwifery & Diseases of Women, etc.	Dr. Stephenson, 4 (W.); Practical, 11 (S.)	Dr. Simpson, 11 (W.); Practical, Tu. F., 10 (S.)	Dr. Bell, 11 (W.), 10 (S.); Dr. Murray, 11 (W.)	Dr. Leishman, 2 (W.) and 2 (S.)	Dr. A. Wallace, 1 (S.)	Dr. Sturton, 3 (W. & S.)	Dr. W. L. Reid, 12 (W.); Practical, 12 (S.)
Pathology	Mr. D. J. Hamilton, 9 (W.); Practical (W. & S.)	Dr. Greenfield, 3 (W.); 11 (S.)	Dr. A. Bruce, 11 (W.); Pract., 9 (S.); Dr. W. Russell, 2 (S.); Pract., 10 (S.)	—, 3 (W.)	In Infirmary	Dr. D. Newman, 10 (S.); Pract. 8 A.M. (S.)	In Western Infirmary.
Medical Jurisprudence.	Dr. M. Hay, 9 (S.), (with Medical Logic.)	Sir D. Maclagan, 11 (S.)	Dr. Littlejohn, 2 (W.); 11 (S.)	Dr. P. A. Simpson, 11 (S.)	Dr. Eben. Duncan, 11.15 (S.)	Dr. Glaister, 11 (S.)	Dr. Eben. Duncan (S.)
Practical Hygiene.	Dr. M. Hay, 4 (S.)	—	—	—	—	—	—
Hospital	Royal Infirmary (*a*) daily, 11-2	Royal Infirmary (*b*.)	Royal Infirmary (*b*).	Western Infirm. (*c*), 9; Royal Infirmary (*d*)	Royal Infirmary (*d*), 9	Royal Infirmary (*d*), 9	Western Infirmary (*c*).
Clinical Medicine	Dr. Smith-Shand, Dr. A. Fraser, and Dr. Blaikie Smith.	Drs. T. Grainger Stewart, Fraser, Greenfield, and Simpson (Diseases of Women), Tu. F., 12	Drs. Muirhead, Brakenridge, Wyllie, Affleck, H. Croom (Obst.), Tu. F., 12 (W. and S.)	Dr. McCall Anderson and Dr. Gairdner, 9 (W. and S.)	Physicians of Royal Infirmary.	Physicians of Royal Infirmary.	Physicians of Western Infirmary.
Clinical Surgery	Dr. A. Ogston, Dr. Will, and Dr. Garden	Mr. Annandale, M. Th., 12 (W. and S.)	Mr. Duncan, M. Th., 12 (W. and S.)	Dr. G. Buchanan and Sir G. H. B. Macleod, 9 (W. & S.)	Surgeons of Royal Infirmary.	Surgeons of Royal Infirmary.	Surgeons of Western Infirmary.

a. Aberdeen Royal Infirmary.—*Physicians:* Dr. Smith Shand, Dr. A. Fraser, and Dr. Blaikie Smith. *Surgeons:* Dr. A. Ogston, Dr. Will, and Dr. Garden. *Ophthalmic Surgeon:* Dr. McKenzie Davidson. *Dental Surgeon:* Dr. Williamson. *Pathologist:* Professor Hamilton.

b. Edinburgh Royal Infirmary.—*Consulting Physicians:* Dr. A. R. Simpson, Dr. T. Grainger Stewart, Dr. G. W. Balfour, Sir D. Maclagan, and Dr. A. Keiller. *Physicians:* Dr. T. R. Fraser, Dr. Greenfield, Dr. C. Muirhead, Dr. Brakenridge, Dr. J. Wyllie, and Dr. Affleck. *Extra Physician and Lecturer on Diseases of Women:* Dr. J. H. Croom. *Assistant-Physicians:* Dr. A. Smart, Dr. A. James, and Dr. B. Bramwell. *Assistant-Physicians for Diseases of Women:* Dr. Berry Hart; Dr. H. F. Barbour. *Physician for Diseases of the Skin:* Dr. W. A. Jamieson. *Consulting Surgeons:* Dr. J. D. Gillespie, Dr. P. H. Watson, and Mr. Joseph Bell. *Surgeons:* Mr. J. Chiene, Mr. Annandale, Mr. Duncan, and Mr. A. G. Miller. *Ophthalmic Surgeons:* Dr. D. A. Robertson, Mr. G. A. Berry, *Surgeon for Diseases of the Ear and Throat:* Dr. P. McBride. *Assistant-Surgeons:* Dr. P. H. Maclaren, Dr. MacGillivray, Mr. Cotterill, Mr. Cathcart, Mr. Caird, and Dr. J. W. B. Hodsdon. *Pathologists:* Dr. Bruce, Dr. William Russell.

c. Glasgow Western Infirmary.—*Physicians:* Dr. Gairdner, Dr. McCall Anderson, Dr. Finlayson, Dr. G. P. Tennent. *Assistant-Physicians:* Dr. J. Coats, Dr. Christie, Mr. McVail. *Physician for Diseases of Women:* Dr. Leishman. *Surgeons:* Sir G. H. B. Macleod, Dr. G. Buchanan, Dr. A. Patterson, Dr. H. C. Cameron. *Honorary Consulting Ophthalmic Surgeon:* Dr. T. Reid. *Dispensary Physicians:* Dr. J. Alexander, Dr. W. G. Dun, Mr. R. S. Thomson, Dr. G. Dickson, Mr. C. O. Hawthorne. *Out-door Physicians-Accoucheurs:* Dr. R. Kirk, Dr. W. L. Reid, Dr. M. Cameron. *Dispensary Surgeons:* Dr. Renton, Dr. Beatson, Dr. Newman. *Dispensary Surgeon for Diseases of the Ear:* Dr. T. Barr. *Extra Dispensary Surgeons:* Mr. A. E. Maylard, Dr. J. Parker. *Dental Surgeon:* Mr. J. R. Brownlie. *Pathologist:* Dr. Coats.

d. Glasgow Royal Infirmary.—*Physicians:* Dr. Wood Smith, Dr. Robertson, Dr. W. Anderson, Dr. S. Gemmell. *Physician for Diseases of Women:* Dr. Stirton. *Surgeons:* Dr. Macewen, Dr. Dunlop, Mr. Clark, Dr. Lothian, Dr. Knox, Dr. Fleming. *Aural Surgeon:* Dr. J. Macfie. *Dental Surgeon:* Dr. J. C. Woodburn. *Assistant-Physicians:* Dr. Dougall, Dr. Middleton, Dr. T. B. Henderson, Dr. Campbell Black, Dr. Macphee, Dr. Steven. *Assistant-Surgeons:* Dr. Barlow, Dr. J. A. Adams, Dr. Muir, Dr. Shaw, Dr. Whitson, Dr. Macintyre. *Surgeon for the Diseases of the Throat:* Dr. Newman. *Diseases of the Skin:* Dr. Provan. *Diseases of the Eye:* Freeland Fergus, M.B., C.M. *Electrician:* Dr. Macintyre.

Medicine or Surgery. Clinical Clerks and Dressers are selected from the students without additional fee.

Fees for Hospital Practice and Clinical Lectures: first year, £10 10s.; second year, £10 10s.; afterwards free; for six months, £6 6s.; three months, £4 4s. To perpetual students of other hospitals where the perpetual fee is equal to that of the Infirmary, £2 2s. for six months. For Vaccination certificate, £1 1s.

GLASGOW ROYAL INFIRMARY SCHOOL OF MEDICINE.—In addition to the subjects mentioned in the table at page 570, lectures are given in the summer on Mental Diseases by Dr. A. Robertson at 12 noon, on Mondays and Thursdays, at the City Parochial Asylum.

Fees.—For each course, first session, £2 2s.; second session and perpetual, £1 1s. Anatomy: first winter session, £4 4s.; summer session, £2 2s.; second winter session, £4 4s.; afterwards for Lectures and Practical Anatomy, £1 1s. per session. Lectures on Diseases of the Eye, £1 1s.

Prizes, etc.—Prizes and Honorary Certificates are awarded at the close of each session to those students who excel in the Oral and Written Class Examinations. David Foulis Memorial Scholarship, value £25, tenable by a graduate or licentiate whose professional education has, to the extent of not less than two years, been received at the University or one of the extramural schools in Glasgow, and who shall, in the opinions of the trustees, have manifested a capacity for original work in Pathology. John Reid Bursary, value £25, tenable for three years, open for competition to all students in the University or extramural schools of medicine in Glasgow, for the best original research in medical science in the wards or scientific laboratories of the hospitals.

GLASGOW WESTERN MEDICAL SCHOOL.—This school is situated in close proximity to the Glasgow University and Western Infirmary, in which latter students obtain their hospital practice and clinical lectures. The class-rooms have been recently rearranged and enlarged. Lectures and Demonstrations are given in Anatomy by Mr. Carter; on Surgery, by Dr. D. N. Knox; on Practice of Physic, by Dr. D. C. McVail; on Midwifery and Gynæcology, by Dr. W. L. Reid; on Diseases of Ear, Throat and Nose, by Dr. Walker-Downie; on Diseases of the Eye, by Dr. Fergus; and on Diseases of the Skin, by Dr. Murray. Those classes are steadily increasing in favour with the students of the University, of whom about 150 were in attendance during last winter and summer sessions.

Fees.—For each course of lectures, except in the special course hereafter noted, first session, £2 2s.; second session, £1 1s. Students who have attended a first course elsewhere pay £1 1s. For the following three special courses the fee is £1 1s.,—Diseases of the Ear, Throat, and Nose; Diseases of the Eye; and Diseases of Skin.

The lectures are recognised for graduation purposes by the University of Glasgow in accordance with the regulations, the Faculty of Physicians and Surgeons, Glasgow, and the other Corporations.

GLASGOW WESTERN INFIRMARY.—This Hospital adjoins the University of Glasgow. Number of beds 400. The Clinical Courses are given by the Physicians and Surgeons, each of whom conducts a separate class, and students may attend whichever they select at the beginning of the session. Special instruction is given to junior students by tutors or assistants, and clinical clerks and dressers are selected from the members of the class. Special wards are set apart for Diseases of Women and for Diseases of the Skin. In the Out-patients' department there are special *cliniques* for Diseases of Women and for Diseases of the Throat, Ear, and Teeth. All the courses of clinical instruction are recognised by the University of Glasgow and the other Boards in the kingdom. In the Pathological Department the course consists of lectures and practical demonstrations, extending over both the winter and the summer sessions, and is recognised by the University for graduation. Eight resident assistants are appointed annually without fee from those who have completed their course.

Fees.—For the hospital practice, including the various courses of clinical instruction, £21 in one payment, or in two equal instalments for the first and second years; for six months, £7 7s.; and for three months, £4 4s.

GLASGOW EYE INFIRMARY.—*Senior Surgeon*, Thomas Reid, M.D. *Surgeons*, Thomas S. Meighan, M.D.; Henry E. Clark, M.R.C.S.; J. Crawford Renton, M.D. *Assistant-Surgeons*, D. N. Knox, M.A., M.B; A. Freeland Fergus, M.B.; A. Maitland Ramsay, M.B. *House-Surgeon*, Andrew Wilson, M.B., C.M. *Consulting Surgeon*, George Buchanan, M.D. In connection with the Infirmary a three months' course is given during the summer session by Dr. Reid, Waltonian Lecturer on Diseases of the Eye to the University. It consists of lectures at the College, and demonstrations at the Infirmary.

Fees: Six months, £2 2s.; for pupils of the Ophthalmic class in the University, £1 1s.; three months, £1 1s. Number of beds, 100.

MEDICAL SCHOOLS AND HOSPITALS IN IRELAND.

SCHOOL OF PHYSIC IN IRELAND.—This school is formed by an amalgamation of the medical schools of Trinity College and of the King and Queen's College of Physicians; the King's Professors of Institutes of Medicine, Practice of Medicine, Materia Medica, and Midwifery, being appointed by the latter. The departments of Medicine and Surgery are presided over by the Regius Professor of Physic, Dr. J. T. Banks; and the Regius Professor of Surgery, Dr. W. Colles. The teaching staff is as follows. University Professor of Anatomy and Chirurgy, Dr. D. J. Cunningham, jun., M. W. F., 12. University Professor of Chemistry, Dr. J. E. Reynolds, T. Th., 2; S., 11. University Professor of Botany, Dr. E. P. Wright, T. Th. Sat. Professor of Surgery in Trinity College, Dr. E. H. Bennett, M. W. F., 1. University Anatomist, Dr. T. E. Little, Practical Anatomy, T. Th. S., 12. Professor of Comparative Anatomy, Mr. Mackintosh, M. T. Th. F., 11. King's Professor of Institutes of Medicine, Dr. J. M. Purser, M. W. F., 12. King's Professor of Practice of Medicine, Dr. J. M. Finny, T. Th. S., 1. King's Professor of Materia Medica and Pharmacy, Dr. W. G. Smith, W. Th. F. S., 12. King's Professor of Midwifery, Dr. J. R. Kirkpatrick, M. W. F., 4. Lecturer on Medical Jurisprudence, H. T. Bewly, M. W. Th. F., 3. Erasmus Smith's Professor of Natural Philosophy, Mr. G. F. FitzGerald, M. W. F., 2.

The winter session commences on October 1st by the opening of the Dissecting-room. Lectures commence on November 1st. The winter courses consist of fifty-six lectures each. Attendance on at least forty-two lectures in each course is required. The summer session commences April 1st. The courses in the summer (except those of Materia Medica and Medical Jurisprudence) consist of Laboratory Instruction and Practical Demonstrations.

The Dissecting-room is open from 11 A.M. to 5.30 P.M. in the winter, and from 8 A.M. to 5 P.M. in the summer. Instruction is given daily by Professor Cunningham, Dr. Little, and three Demonstrators. A Course of Laboratory Instruction in Histology will be given in the Physiological Laboratory. On Mondays, at 3 o'clock, a Lecture will be given in the Theatre, after which, illustrative preparations will be shown. One division of the class will work from 3 to 5 o'clock, on Wednesdays and Fridays; the other from 3 to 5 o'clock, on Tuesdays and Thursdays. Each student will have his own place in the Laboratory, a Microscope, and a full set of Apparatus and Reagents. The Laboratory will be open to members of the class from 11 to 5 o'clock daily, except Mondays. The Chemical Laboratories are open daily, under the supervision of Professor Reynolds. Professor Bennett gives a complete course of Demonstrations in Operative Surgery during April and May, at 8 A.M. on Mondays, Wednesdays, and Fridays, and 11 A.M. on Tuesdays, Thursdays, and Saturdays. Professor Kirkpatrick gives Demonstrations in Obstetric Medicine and Surgery on Thursdays and Fridays at 4 P.M. Practical Botany is taught in the Botanic Garden and the Herbarium by Professor Wright.

The Museums of Anatomy and Zoology, of Pathology, of Materia Medica, and of Botany, are open to the students of the School of Physic.

Scholarships, Prizes, etc.—Two Medical Scholarships, value of each £20 per annum, tenable for two years, are awarded annually, one for Anatomy and Institutes of Medicine, the other for Chemistry, Physics, Botany, and Comparative Anatomy. A Medical Travelling Prize and a Surgical Travelling Prize, value of each £100, are also awarded in alternate years. The Professors of Chemistry, Botany, Practice of Medicine, Materia Medica, and Midwifery, and the Lecturer on Medical Jurisprudence, each gives Prizes amounting to £5.

Fees.—For Anatomy, Medicine, Materia Medica, Midwifery, Medical Jurisprudence, Institutes of Medicine (Physiology), Practical Chemistry, Obstetric Medicine and Surgery (at Sir Patrick Dun's Hospital), Ophthalmic Surgery (at St. Mark's

Hospital), each £3 3s.: Demonstrations and Dissections, each year, £8 8s.; Histology, £5 5s.; Surgery and Chemistry, each £2 2s.; Botany, £1 11s. 6d. Students dissecting during the fourth year pay £2 2s.

SCHOOL OF SURGERY: ROYAL COLLEGE OF SURGEONS IN IRELAND.—Lectures will be given as follows: *Winter Session:* Physiology, Dr. Mapother, M. W. F., 3; Systematic Anatomy, Mr. Stoker and Mr. A. Fraser, M. W. F., 12; Practical Anatomy, Mr. Fraser, T. Th. S., 12; Surgery, Sir W. Stokes and Mr. E. Hamilton, T. Th. S., 1; Medicine, Dr. A. W. Foot, M. W. F., 1; Chemistry, Sir C. Cameron, M. W. F., 2; Midwifery and Gynæcology, Dr. Roe, T. Th. S., 2. *Summer Session*, commencing April 1st, 1889: Materia Medica, Dr. R. Macnamara, daily, except S., 1; Medical Jurisprudence, Dr. Davy, T. Th. S., 1; Botany and Zoology, Mr. Minchin, M. W. F., 2; Practical Chemistry, Sir C. Cameron, M. W. F., 11; Ophthalmic and Aural Surgery, Dr. Jacob, T. Th., 3; Practical Physiology, Dr. Mapother, and Histology, Mr. Fraser, T. Th. S., 11; Operative Surgery, Sir W. Stokes and Mr. Hamilton, daily, 11; Hygiene, Sir C. Cameron, M. W. F., 3. There is a laboratory for the study of Practical Physiology. The dissecting-rooms open from October 1st, and are available from 8 A.M. to 10 P.M. during the session; also from 8 A.M. to 5 P.M. in the summer. The dissections are under the direction of the Professors of Anatomy, assisted by several Demonstrators.

Fees.—Each course of lectures, excluding the practical courses, is £3 3s.; Dissections with Demonstrations, Practical Physiology, Operative Surgery, and Practical Chemistry, £5 5s. each. Students requiring an extra course of Dissections without a certificate, and who have taken their previous anatomical courses in the School, are charged £2 2s.; other students, £3 3s. Additional Courses of Practical Histology, when a certificate is not required, £2 2s. each. The fees for all lectures and dissections for the diploma in Surgery amount to £63; hospital attendance, £37 16s. At the termination of each session, medals are awarded in the various classes. The dissecting-rooms will open on October 1st, and the lectures will commence on October 31st.

ADELAIDE MEDICAL AND SURGICAL HOSPITALS.—*Consulting Physician*, Dr. J. F. Duncan. *Consulting Obstetric Surgeon*, Dr. Lombe Atthill. *Physicians*, Dr. Henry H. Head, Dr. James Little. *Assistant-Physicians*, Dr. Wallace Beatty and Mr. H. T. Bewley. *Surgeons*, Mr. John K. Barton, Mr. Kendal Franks, Mr. F. T. Heuston, and Mr. J. H. Scott. *Obstetric Surgeon*, Mr. R. D. Purefoy. *Ophthalmic and Aural Surgeon*, Mr. H. R. Swanzy. *Dental Surgeon*, Dr. R. T. Stack.

The Hospital contains 140 beds. There are wards for infants and children, and there is a large detached fever hospital. Special hours are devoted to Clinical Instruction for the Diseases peculiar to Women, and in the Diseases of the Eye, Ear, Throat, and Skin; and students are individually instructed in the uses of the Stethoscope, Ophthalmoscope, and Microscope, in their application to Clinical Medicine. Three resident pupils are selected half-yearly. At the termination of the session, prizes in Clinical Medicine and Surgery, in Obstetric Medicine, and Ophthalmic Surgery, will be awarded. In addition, the Hudson Scholarship (£30 and a gold medal), and a prize of £10 with a silver medal, will be awarded for proficiency in the subjects of clinical instruction.

Fee for nine months' hospital attendance, £12 12s.; six months', £8 8s.; summer three months, £5 5s.

Further particulars may be obtained from any of the members of the medical staff.

CARMICHAEL COLLEGE OF MEDICINE.—The dissecting-rooms will be opened on October 1st. Lectures will commence on November 1st. The following are the courses. *Winter Session:* Medicine, Dr. J. W. Moore, M. W. and F., 12; Surgery, Dr. H. Corley, T. Th. and S., 12; Systematic Anatomy, Dr. McVittie, M. W. and F., 12; Anatomy, Dr. F. Heuston, M. T. W. Th. F., 1; Physiology, Dr. J. A. Scott, M. W. F., 2; Midwifery, Drs. Macan and Lane, M. W. and F., 3; Chemistry, Dr. C. R. C. Tichborne, T. Th., 3; S., 11; Ophthalmic Surgery, Dr. C. E. Fitzgerald, W., 1.—*Summer Session*, 1889: Botany and Zoology, Dr. Cosgrave, daily, except S., 11; Pathology, Dr. Wallace Beatty; Materia Medica, Dr. G. F. Duffey, M.W. Th. F., 12; Practical Chemistry, Drs. Tichborne and Falkiner; T. Th., 1.30; S., 11.30; Medical Jurisprudence, Mr. Auchinleck, M. W. and F., 1; Practical Physiology, Dr. J. A. Scott, daily, 3; Practical Surgery, Dr. Corley, daily, 8. There are nine Anatomical Demonstrators, who superintend the dissections. The Physiological Department comprises a Histology-Room, a room for Physiological Chemistry, and one for Physiological Apparatus. The Museum comprises a valuable collection of Anatomical and Pathological Preparations. There is also an extensive Museum of Materia Medica. A Students' Reading-Room has been added. *Fees*, for each course of lectures, £3 3s.; for each course of Practical Instruction, £5 5s. A second practical course can be attended for £3 3s., if no certificate be required. Systematic Anatomy and Ophthalmic Surgery are free, if no certificate be required. The Carmichael and Mayne Scholarships, each £15 in value, and £70 in Prizes, are awarded annually. For information, apply to Dr. Heuston, of the College, Aungier Street, or to any of the lecturers.

CATHOLIC UNIVERSITY MEDICAL COLLEGE.—*Winter Session:* The dissecting-rooms will be opened on October 1st. The lectures will commence on November 3rd. Anatomy and Anatomical Demonstrations, Dr. Birmingham, daily, 12; Physiology, Dr. Coppinger, M. W. F., 1; Chemistry, Dr. J. Campbell, M. W. and F., 11; Surgery, Mr. P. J. Hayes, M. W. and F., 3; Medicine and Pathology, Dr. C. J. Nixon, T. Th., 11, and S., 12; Opthalmology, Mr. D. D. Redmond, S., 2; Midwifery, Dr. J. A. Byrne, T. Th., 2, and S., 1; Demonstrations in Dissecting-Rooms, Mr. McCullagh, Mr. J. F. O'Carroll, and Mr. P. R. Dillon. *Summer Session*, 1887: Practical Chemistry, Dr. John Campbell, M. W, and F., 11 A.M. to 1 P.M.; Practical Histology, Dr. Coppinger, T. Th. S., 11; Materia Medica and Therapeutics, Dr. F. J. B. Quinlan, M. T. W. and Th., 1; Medical Jurisprudence, Dr. S. M. McSwiney, M. T. W. and Th., 12; Botany, Dr. G. Sigerson, M. T. Th. and S., 2; Zoology, Dr. Sigerson; Operative Surgery, Mr. P. J. Hayes; Natural Philosophy, the Very Rev. Gerald Molloy, D.D., T. Th. S., 11 (both sessions); Hygiene, Mr. Chance.

The school is within a few minutes' walk of the principal hospitals of the city. It includes a complete chemical laboratory, and a well-supplied students' library.

The *Fees* are for Anatomy, Physiology, Surgery, Medicine, Midwifery, Materia Medica, and Medical Jurisprudence, each £3 3s.; Operative Surgery, Practical Anatomy, Practical Chemistry, Practical Histology, each £5 5s.

Prizes.—At the termination of the winter and the summer sessions respectively, public examinations are held in each class, and prizes are offered for competition.

CITY OF DUBLIN HOSPITAL.—*Consulting Physician*, Dr. Banks. *Consulting Surgeon* (no surgeon has yet been appointed in Mr. Tufnell's place). *Physicians*, Dr. Hawtrey Benson, Dr. Duffey. *Surgeons*, Mr. H. G. Croly, Dr. W. I. Wheeler, Dr. H. Fitzgibbon. *Ophthalmic and Aural Surgeon*, Mr. A. H. Benson. *Gynæcologist*, Dr. W. J. Smyly. The Hospital is visited at 9 A.M.; after the visit Clinical Lectures are delivered, and Pathological Specimens exhibited. There are special wards for Fever and other Contagious Diseases, Ophthalmic and Aural Diseases, and Diseases of Women and Children; also a Daily Dispensary, and Special Dispensaries for Diseases of the Skin, Throat, Eye, and Ear, and for Diseases peculiar to Women.

Clinical Assistants to the Physicians and Dressers to the Surgeons are appointed from the most deserving of the class, and certificates awarded for the faithful performance of their duties. Medical and Surgical Resident Pupils are appointed by examination, and Special Certificates awarded if merited. A House-Surgeon is appointed annually.

The winter session commences in October and terminates in April; the summer session commences in April and terminates in July.

Fees.—Nine months' hospital attendance, £12 12s.; six months', £8 8s.; three months, £5 5s. For further particulars, apply to Mr. Wheeler, 32, Merrion Square North, or at the Hospital.

COOMBE LYING-IN HOSPITAL.—*Master*, Dr. S. R. Mason. *Assistant-Master*, Mr. E. J. Brady. *Pathologist*, Dr. J. M. Redmonds. The Hospital contains sixty-five beds, in two divisions, one devoted to Midwifery, and the other to Diseases of Women. Students can enter for practice at any period of the year. Clinical Instruction is given daily, and Lectures are delivered on the more important cases. Two Pupil Midwifery Assistants and one Clinical Clerk are selected half-yearly from among the pupils. Certificates of attendances are accepted by all the Examining Boards; and the Diploma of the Hospital is recognised by the Irish Local Government Board and the Army and Navy Board as a qualification in Midwifery. *Fees:* For six months' courses, extern pupils, £8 8s.;

intern pupils, £18 18s. Particulars may be learned on application to the Master at the Hospital.

JERVIS STREET HOSPITAL, DUBLIN.—*Physicians*, Dr. S. M. Macswiney, Dr. W. Martin. *Surgeons*, Mr. A. Meldon, Mr. W. Stoker, Dr. J. J. Cranny, Dr. R. McDonnell, Dr. C. Gunn, Mr. T. Myles, Dr. F. C. Dwyer.

Clinical Instruction is given by the Physician and Surgeon on duty on alternate mornings, between 9 and 11. Clinical Lectures are delivered each week, and pathological specimens are exhibited. Surgical Instruments and appliances of all kinds are made the subject of Special Instruction.

Surgical Operations are performed on Tuesday and Saturday, at 10 A.M., except in cases of emergency.

Resident Pupils, Clinical Clerks, and Dressers, are appointed every six months, without additional fee, and are awarded special certificates if their duties have been satisfactorily performed. Four interns are appointed each half-year, and are provided with apartments, etc., free of expense.

Examinations in Surgery, Medicine, and Case-taking, will be held at the end of the session. A gold and two silver medals will be awarded if sufficient merit be shown.

MATER MISERICORDIÆ HOSPITAL.—*Consulting Physician:* Dr. Francis R. Cruise. *Physicians*, Dr. Christopher J. Nixon, Dr. Joseph M. Redmond, Dr. Michael A. Boyd, Dr. John Murphy. *Surgeons*, Mr. Patrick J. Hayes, Mr. Charles Coppinger, Mr. Arthur Chance, Mr. John Lentaigne. *Obstetric Physician*, Dr. Thos. More Madden. *Opthalmic Surgeon*, Mr. Louis Werner. *Dental Surgeon*, Mr. Daniel Corbett. *House Physician*, Dr. Thomas Carr. *House Surgeon*, Mr. Louis Buggy.

This Hospital, the largest in Dublin, at present containing over 300 beds, is open at all hours for the reception of accidents and urgent cases. Fifty beds are specially reserved for the reception of patients suffering from fever and other contagious diseases. Instruction at the bedside will be given by the Physicians and Surgeons daily from 9 to 11 o'clock. Clinical Instruction will commence on Monday, October 1st, at 9 o'clock.

A course of Lectures and Instruction on Fever will be given during the winter and summer sessions. A certificate of attendance upon this course, to meet the requirements of the King and Queen's College of Physicians, and other Licensing Bodies, may be obtained. Opportunities are afforded for the study of Diseases of Women in the wards under the care of the Obstetric Physician, and at the Dispensary held on Tuesdays and Saturdays. Lectures on Clinical Gynæcology will be delivered on Saturdays, at 11 A.M., during the winter session. Opthalmic Surgery will be taught in the special wards and Dispensary during the winter session. Surgical Operations will be performed on Thursday mornings, at 9 o'clock.

Connected with the Hospital are extensive Medical and Surgical Dispensaries available for the instruction of Pupils. A House-Physician and House-Surgeon will be appointed on Monday, October 1st. They will hold office for one year. Eight Resident Pupils will be elected to hold office for six months from the most attentive of the class. For the current session the election will take place on Thursday, November 1st, at 10 o'clock A.M. Dressers will be appointed to attend the Out-patient Department, and certificates will be given to students who exhibit proficiency and punctuality in dressing cases.

Leonard Medals: One gold and one silver medal will be offered for competition annually in the subject of Medicine, and one gold and one silver medal in the subject of Surgery. They will be awarded on the aggregate of marks gained by reports of cases, and at a Clinical examination to be held at the close of the summer session. Further particulars can be obtained from the secretaries.

Certificates of attendance upon this Hospital are recognised by all the Universities and the Licensing Bodies in the United Kingdom.

Fee for nine months, £12 12s.; six winter months, £8 8s.; three summer months, £5 5s.

Further particulars may be learned on application to the Secretaries, Dr. Redmond, 8, Clare Street; Surgeon Chance, 15, Westland Row; to the Medical Board; or any of the other Medical Officers.

MEATH HOSPITAL AND COUNTY DUBLIN INFIRMARY.—*Physicians*, Dr. A. W. Foot, Dr. J. W. Moore. *Surgeons*, Sir G. H. Porter, Mr. P. C. Smyly, Mr. R. Macnamara, Mr. L. H. Ormsby, Mr. W. J. Hepburn, Sir William Stokes.

The Hospital contains 120 beds for the reception of medical and surgical cases. An extensive dispensary, lending library, and physical laboratory are attached. An additional ward has been erected for the reception of children.

Four Clinical Lectures will be delivered weekly, and intruction in Medicine and Surgery will be given on alternate days. The Physicians and Surgeons on duty visit the Hospital at 9 A.M.

Prizes will be given at the termination of the winter course to the best answers in their respective classes. The office of Resident Pupil is open to pupils as well as apprentices.

Further information may be obtained on application to Mr. W. J. Hepburn, 31, Upper Merrion Street, Dublin, or at the Hospital.

QUEEN'S COLLEGE, BELFAST.—The following courses are delivered: Anatomy and Physiology, Dr. Redfern, M. T. W. Th. F., 2; each alternate Friday, 4 P.M., Practical Anatomy daily, except S., 12; Practical Physiology and Histology, Saturdays and alternate Fridays; Medicine, Dr. James Cuming, M. T. W. Th. 1; Surgery, Dr. Thomas Sinclair, M. T. W. Th., 4; Materia Medica and Therapeutics, Dr. J. Seaton Reid, M. T. W. Th., 4; Midwifery, Dr. R. F. Dill, M. T. W. Th., 3; Chemistry, Dr. Letts, M. T. W. Th. F., 3; Medical Jurisprudence, Dr. J. F. Hodges, M. T. W. Th., 2 (summer); Practical Chemistry (winter), M. W. F., 10; (summer), M. T. W. Th. F., 12; Natural Philosophy, Dr. J. D. Everett, T. Th., 11; W., 1; Zoology, Dr. R. O. Cunningham, M. T. Th. F., 1; Botany, Dr. Cunningham, M. T. W. Th. F., 11 (summer).

Clinical instruction is given at the Belfast Royal Hospital. The Ulster Hospital for Diseases of Women and Children, the Belfast Lying-in Hospital, the Belfast Ophthalmic Hospital, the Ulster Eye, Ear and Throat Hospital, the Belfast District Lunatic Asylum, and the Belfast Hospital for Sick Children are open to students.

Fees.—Anatomy and Physiology, first course, £3; each subsequent course, £2. Demonstrations and Practical Anatomy, and Practical Chemistry, each course, £3. Practical Physiology and Histology, each course, £3 3s. Other Medical Lectures, first course, £2; each subsequent course, £1. Belfast Royal Hospital, Clinical Fees, winter session, £5 5s.; summer session, £2 2s.; Perpetual Fee, payable in two instalments, £10 10s.; Hospital Fee, half a guinea for each winter or summer session. Ulster Hospital for Diseases of Women and Children, and Midwifery Dispensary, six months, £3 3s. Lying-in Hospital, six months, £2 2s. Belfast District Lunatic Asylum, summer session, £3 3s. Belfast Hospital for Sick Children, £1 1s. Belfast Ophthalmic Hospital, winter or summer session, £2 2s. Ulster Eye, Ear, and Throat Hospital, winter or summer session, £2 2s. Eight Junior Scholarships, of the value of £25 each, are awarded annually, after examination, to students of the Faculty of Medicine, two being awarded for each of the four years of study.

QUEEN'S COLLEGE, CORK.—The following courses of lectures are given:—Anatomy and Physiology, Dr. J. J. Charles, daily, except S., 1; Histology and Practical Physiology, T. S., 2; Anatomical Demonstrations, five days weekly, 12; Medicine, Dr. D. C. O'Connor, M. W., 3, S., 12, 3; Surgery, Dr. S. O'Sullivan, M. W. F., 4; Operative Surgery, Dr. S. O'Sullivan, T. Th. S., 1, in January, February, March, and April; Materia Medica, Dr. C. Y. Pearson, T. Th., 3, S., 12; Midwifery, Dr. H. Corby, T. Th. S., 4; Medical Jurisprudence, Dr. Pearson, M. F., 3; Natural Philosophy, Mr. J. England; Chemistry and Practical Chemistry, Dr. M. Simpson, M. W. F.; Zoology and Botany, Dr. M. M. Hartog, M. W. S.; Modern Languages, Dr. O. O'Ryan.

The building in which the Medical School is located is provided with a large, well-lighted, and ventilated dissecting-room, with physiological and toxicological laboratories, materia medica, anatomical and pathological museums, as well as a room for surgical and obstetrical instruments and appliances. There are well appointed physical and chemical laboratories, and a large natural history museum in the adjoining building; and there is also a botanic garden. The College library is open daily to students of the school.

Fees.—For Practical Anatomy and Practical Chemistry, £3 each course; for Anatomy and Physiology, £3 for first course, and £2 for subsequent courses. Other Medical classes, £2 for first course, and £1 for second course. Eight scholarships (value £25 each), as well as several exhibitions and class prizes, are awarded every year to the most deserving students.

Clinical Instruction is given at the North and South Infirmaries (each 100 beds). Students can also attend the Mercy Hospital (60

beds), the Cork Union Hospital, the County and City of Cork Lying-in Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital. Fee for Clinical Lectures and attendance at either the North and South Infirmary, for twelve or nine months, £8 8s.; six months, £5 5s.; three months, £3 3s.; at the Lying-in Hospital and the Maternity, for six months, each £3 3s.

There will be no Introductory Address. Lectures will begin on November 1st.

QUEEN'S COLLEGE, GALWAY.—*Professors:* Anatomy and Physiology, Dr. J. P. Pye, M. T. W. Th. F., 9; Anatomy, Dr. Pye, same days, 1; Medicine, D. J. J. Lynham, T. Th. S., 2; Surgery, Dr. W. W. Brereton, M. W. F., 11; Materia Medica, Dr. N. W. Colahan, T. Th. S., 2; Medical Jurisprudence, Dr. R. J. Kinkead and Dr. Rowney, M. W. F., 12; Midwifery, Dr. R. J. Kinkead, M. W. F., 2; Chemistry, Dr. T. H. Rowney, M. W. F. S., 12; Practical Chemistry, Dr. T. H. Rowney, M. W. F., 2; Botany and Zoology, Dr. R. J. Anderson, T. W. Th., 11; S., 1.; Experimental Physics, Professor A. Anderson, T. Th., 12; Modern Languages, Professor Steinberger, M. W. F., 10. The College Library is open daily to students; also the Museums of Human and Comparative Anatomy, of Physiological Instruments, of Pathology, of Materia Medica, of Natural History, of Chemistry, and of Natural Philosophy; and the Montgomery Obstetric Collection.

Prizes.—Attached are eight scholarships of the value of £25 each; four exhibitions of the value of £12 each; two exhibitions of the value of £16 each; and sessional prizes in each of the subjects of the curriculum are awarded annually. All scholarships and exhibitions of the second, third, and fourth years may be competed for by students who have attained the requisite standing in any medical school recognised by the College Council, and have passed the Matriculation Examination in the College.

Clinical Lectures are delivered on Tuesdays and Fridays, and practical teaching at the bedside on other days of the week, at the Galway County Infirmary and the Galway Town Hospital.

Fees.—College fee, first year, 10s.; each subsequent year, 5s.; Anatomy and Physiology, first course, £3; each subsequent course, £2; Practical Anatomy and Practical Chemistry, each course, £3; pass courses, one term, £1; each course, £2; honours courses, £3; reattendance, £1. Clinical Instruction, six months, £4 4s.

RICHMOND, WHITWORTH, AND HARDWICKE HOSPITALS.—*Physicians*, Dr. J. T. Banks, Dr. S. Gordon, Dr. G. P. L. Nugent, Dr. J. O'Carroll. *Assistant Physician and Pathologist*, Dr. Thomas Donnelly. *Consulting Obstetric Surgeon*, Dr. G. H. Kidd. *Surgeons*, Sir William Stokes, Dr. William Thomson, Dr. W. Thornley Stoker, Dr. Anthony H. Corley. *Ophthalmic Surgeon*, Dr. A. H. Jacob. *Assistant Surgeon*, Mr. J. J. Burgess. *Resident Surgeon*, Dr. Vincent Nash. *Curator of Museum*, Mr. F. Blake Knox.

These hospitals contain 312 beds: 110 for surgical cases, 82 for medical cases, and 120 for fever and other epidemic diseases.

There will be a distinct Course of Lectures and Clinical instruction in Fevers. Operations are performed on Monday and Wednesday mornings, except in cases of emergency. A course of Practical Instruction in Ophthalmic Surgery will be given; fee, £3 3s. Practical Pharmacy is taught under the superintendence of the Apothecary of the hospitals. A Resident Surgeon is appointed every alternate year, receives a salary, and holds office for two years. Eight Residential Clinical Clerks are appointed each half year, and provided with furnished apartments, fuel, etc. These appointments are open not only to advanced students, but also to those who are qualified in Medicine and Surgery. The dressers are selected from among the best qualified of the pupils, without the payment of any additional fee.

The Richmond Lunatic Asylum, containing over 1,200 patients, adjoins these hospitals, affording facility for the study of mental diseases. The hospitals are visited at nine o'clock by the physicians and surgeons on alternate days. Two Clinical Lectures are delivered in each week, in addition to the usual daily bedside instruction.

Fees.—For the winter and summer session, £12 12s.; for the six winter months, £8 8s.; for the three summer months, £5 5s. Resident Clinical Clerks, winter, nine months' certificate, £12 12s.; summer, three months' certificate, £5 5s.; winter or summer, six months' residence, £8 8s. Honorary Secretary, Samuel Gordon, M.D., No. 13, Hume Street.

ROTUNDA HOSPITAL.—*Master*, Dr. A. V. Macan. *Consulting Physician*, Dr. J. Little. *Consulting Surgeon*, Dr. W. Colles. *Assistant-Physicians*, Dr. R. H. Fleming and Dr. A. J. Smith.

This institution consists of two distinct hospitals, namely, the Lying-in Hospital, into which 1,200 labour cases are, on an average, admitted annually, and the Auxiliary Hospital, set apart for the reception and treatment of patients suffering from the various forms of uterine and ovarian disease; about 500 patients are received into this hospital during each year.

There is also in connection with the Hospital a large extern maternity (1,900 patients were in the past year attended at their own homes), and a Dispensary for Diseases Peculiar to Women, which is open daily.

Pupils are admitted to the practice of all these departments.

Clinical Instruction in Midwifery and the Diseases of Women is given daily, and lectures are delivered regularly during the session on these subjects.

The diploma from this Hospital is granted to pupils on their passing an examination before the Master and Assistants after a period of six months' attendance on the practice of the Hospital.

Accommodation is provided for a limited number of intern pupils.

Pupils can enter at any time.

Fees.—Intern pupils: six months, £21; three months, £12 12s.; two months, £9 9s.; one month, £6 6s.; extern pupils: six months, £10 10s.; three months, £6 6s. Female pupils are trained as nurse-tenders and midwives, for six months, on the following terms: extern pupil, £10; intern pupil (including board), £20.

SIR PATRICK DUN'S HOSPITAL.—*Consulting Physician*, Dr. J. T. Banks. *Consulting Surgeon*, Dr. W. Colles. *Physicians*, Dr. J. M. Purser, Dr. J. M. Finny, Dr. W. G. Smith, Dr. J. R. Kirkpatrick. *Surgeons*, Dr. E. H. Bennett, Dr. T. E. Little, Dr. C. B. Ball.

The physician on duty visits the wards, with his class, at 9 A.M. on Mondays, Wednesdays, and Fridays; and the surgeon on duty, with his class, at 9 A.M., on Tuesdays, Thursdays, and Saturdays. There are separate wards for Infectious Diseases, and for Diseases of Women and Children. The Hospital Dispensary is open from 9 to 11 daily.

A house-surgeon is appointed annually, and two resident pupils half-yearly.

Silver Clinical medals in Medicine and in Surgery are awarded to the students who pass the best examinations on the Medical and Surgical cases treated in the hospital during the year.

Fees.—The payment of £12 12s. to the hospital entitles the student to hospital attendance and clinical teaching during the winter and summer sessions. For the winter session alone the fee is £8 8s.; for the summer alone, £5 5s. For twelve months' instruction in Practical Midwifery, students of Trinity College, £3 3s.; other students, £6 6s.

DR. STEEVENS'S HOSPITAL.—*Consulting Physicians*, Dr. H. Freke and Dr. T. W. Grimshaw. *Consulting Surgeons*, Mr. G. S. Wilmot and Sir G. H. Porter. *Physicians*, Dr. H. C. Tweedy, Dr. R. A. Hayes. *Surgeons*, Mr. W. Colles, Mr. E. Hamilton, Mr. R. McDonnell.

The Hospital contains 250 beds. There is a ward entirely devoted to Syphilitic Disease, and also a detached building for Fever cases; also an extensive Out-patient Department, with separate Clinics for Diseases of the Skin and Throat.

The Hospital is visited by the physicians and surgeons at 9 A.M. Clinical Lectures are given by the physicians and surgeons. Surgical Operations are performed on Saturdays at 10 A.M., except in cases of emergency.

The Museum is open daily to the pupils of the Hospital. There is also a Lending Library.

Fees.—Hospital Practice: Nine months, £12 12s.; six months, £8 8s.; three months, £5 5s. Dressership: Winter, six months, £21; summer, £15 15s.

Further particulars may be obtained from the Honorary Secretary, Dr. R. A. Hayes, 56, Merrion Square South, Dublin.

SCHOOL OF PHARMACY, APOTHECARIES' HALL OF IRELAND.—A School of Pharmacy has been established under the direction of the Court of Directors of the Apothecaries' Hall of Ireland. Instruction is given in Nomenclature, in the Weights and Measures, Processes and Apparatus of the *British Pharmacopœia*, in the Preparation of Officinal Compounds and the Application of Tests (*British Pharmacopœia*) for Purity, in the reading in full Latin, Compounding, and Dispensing of Prescriptions, and on

Incompatibility of Drugs. The Demonstrator is Mr. R. G. Montgomery, B.A., M.B., T.C.D., L.A.H. The fee for a course (three months) is three guineas. Further particulars may be obtained from Mr. C. Wright, 40, Mary Street, Dublin.

INSTRUCTION IN HOSPITALS, ETC.

BETHLEM ROYAL HOSPITAL.—*Medical Superintendent*, Dr. R. Percy Smith. Two Resident Clinical Assistants are appointed twice a year for six months from recently qualified medical students. Students can attend the hospital practice for three months on application. Students of Guy's Hospital and St. Thomas's Hospital during the summer can attend special afternoon ward-instruction.

CENTRAL LONDON THROAT AND EAR HOSPITAL.—*Consulting Surgeon*, Mr. Thomas Nunn. *Surgeons*, Mr. Lennox Browne, Dr. A. W. Orwin, and Dr. Dundas Grant. *Assistant Surgeons*, Mr. P. S. Jakins and Mr. Carmalt Jones. *Dental Surgeon*, Mr. G. Wallis. The hospital contains accommodation for eighteen in-patients, and has an extensive Out-patient Department, which is open to all medical practitioners and students for the purpose of Clinical Demonstration and Instruction. Fee for three months' attendance, £2 2s.: for six months, £3 3s.

CHELSEA HOSPITAL FOR WOMEN.—*Consulting Physicians*, Dr. R. Barnes, J. H. Aveling, M.D. *Consulting-Surgeons*, Sir T. Spencer Wells, Bart., Mr. J. Hutchinson, F.R.S. *Physicians*, Dr. A. W. Edis, Dr. Fancourt Barnes, Dr. W. Travers. *Assistant-Physicians*, Dr. T. V. Dickinson, Dr. J. Mackern, Dr. G. Harper, Dr. W. H. Fenton, Dr. H. T. Rutherfoord, Dr. J. I. Parsons, Dr. F. J. Waldo. *Anæsthetists*, Dr. J. Harper and Dr. Frank F. Scacht. Qualified medical men are admitted to the practice of the hospital, which has sixty-three beds, and to the consultations and operations, which take place at 2.30 P.M. on Mondays and Thursdays. A course of post-graduate lectures on Diseases of Women, free to qualified medical men, is delivered yearly in February and March by the physicians of the hospital.

GREAT NORTHERN CENTRAL HOSPITAL, HOLLOWAY ROAD, N.—*Consulting Physician*, Sir Andrew Clark, Bart., M.D. *Consulting Surgeons*, Frederick Le Gros Clark, F.R.S., and W. S. Savory, F.R.S. *Physicians*, Drs. Cholmeley, Barnet, Beale, and Beevor. *Obstetric Physicians*, Drs. W. S. A. Griffith and Dakin. *Surgeons*, Messrs. W. Adams, W. Spencer Watson, J. Macready, C. B. Lockwood, and H. W. Allingham. *Ophthalmic Surgeon*, Mr. Jonathan Hutchinson, Jun. *Aural Surgeon*, Mr. W. R. H. Stewart. *Throat Department*, Mr. W. Spencer Watson; *Skin Department*, Dr. Cook. *Dental Surgeon*, Mr. E. Keen. The new building in the Holloway Road have recently been completed and the practice of the Hospital is open to practitioners and senior Students. Clinical Students are appointed in the Wards and Out-patients' Department. Further information can be obtained on application to the Honorary Secretary of the Medical Committee, 23, Upper Berkeley Street, W.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.—*Consulting Physicians*, Dr. C. J. B. Williams, Dr. W. H. Walsh, Dr. Richard Quain, F.R.S., Dr. James E. Pollock. *Consulting Surgeon*, Mr. John Marshall, F.R.S. *Physicians*, Dr. E. Symes Thompson, Dr. C. Theodore Williams, Dr. R. Douglas Powell, Dr. John Tatham, Dr. Reginald E. Thompson, Dr. Frederick Roberts. *Surgeon*, Rickman J. Godlee, F.R.C.S. *Assistant-Physicians*, Dr. T. Henry Green, Dr. J. Mitchell Bruce, Dr. J. Kingston Fowler, Dr. Percy Kidd, Dr. Cecil Y. Bliss, Dr. T. Dyke Acland. *Dental Surgeon*, Mr. Charles J. Noble. Resident Medical Officer, Dr. H. D. Waugh. There are 321 beds in the two buildings constituting the hospital. Lectures and Demonstrations are given by members of the medical staff, on Wednesdays at 4, save during the vacations. Members of the medical profession are admitted on presentation of their cards. Pupils are admitted to the Hospital. *Fee*, including Clinical courses, three months, £3 3s.; six months, £5 5s.; perpetual, £10 10s. Certificates of attendance on the Medical Practice of this Hospital are recognised by the University of London, the Apothecaries' Society, and the Army and Navy and Indian Boards.

HOSPITAL FOR WOMEN, SOHO SQUARE.—*Consulting Physician*, Dr. Protheroe Smith. *Physicians*, Dr. Carter, Dr. R. T. Smith, Dr. Holland, Dr. Mansell-Moullin. *Assistant-Physicians*, Dr. Bedford Fenwick, Dr. James Oliver. *Surgeon*, Mr. Reeves. *Assistant-Surgeon*, Mr. S. Osborn. *Surgeon-Dentist*, Mr. F. Canton. *Administrators of Anæsthetics*, Dr. Dudley W. Buxton, Mr. C. J. Ogle. In connection with this institution there is now an organised School of Gynæcology open to qualified medical men and students after their third year. A limited number of Clinical Assistants to the Physicians and Surgeons in the In-patient and Out-patient Departments are appointed every three months. A course of lectures on the Anatomy and Physiology of the Female Pelvic Organs is given during each quarter. Clinical lectures are given on alternate Thursday afternoons throughout the winter and summer sessions. Prizes are given annually after examination, open to past and present Clinical Assistants. *Fee* for the three months' course, £5 5s. Further information can be obtained by letter, addressed to the Dean at the Hospital.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.—*Physicians*, Dr. W. B. Cheadle, Dr. O. Sturges, Dr. T. Barlow. *Assistant-Physicians*, Dr. D. B. Lees, Dr. Montague Lubbock, Dr. J. Abercrombie, Dr. A. Money, Dr. W. B. Hadden. *Surgeons*, Mr. Howard Marsh, Mr. Edward Owen. *Assistant-Surgeons*, Mr. J. H. Morgan, Mr. B. Pitts, Mr. W. A. Lane. *Ophthalmic Surgeon*, Mr. R. Marcus Gunn. *Surgeon-Dentist*, Mr. A. Cartwright. There are 121 beds in the hospital at Great Ormond Street, and 52 at Highgate. The physicians and surgeons of the hospital will give Clinical Instruction in the wards, and deliver lectures during the ensuing winter session in rotation. Particulars as to times of Medical and Surgical visits and the practice of the Hospital can be had on application to the Secretary.

LONDON TEMPERANCE HOSPITAL, HAMPSTEAD ROAD, N.W. (Established 1873).—*Physicians*, Dr. James Edmunds, M.R.C.P.; Dr. R. J. Lee, F.R.C.P., and Dr. J. J. Ridge. *Surgeon*, Dr. W. J. Collins, F.R.C.S. *Dental Surgeon*, Mr. A. Alexander. The Hospital contains 70 beds. The in-patients average 700, and the out-patients 3,000, a year. The medical and surgical practice of the hospital is open to students and practitioners. Classes will be held at the hospital during the winter and summer sessions for students preparing for the Final Examinations at the Hall, Colleges, and Universities. Fees for courses in all subjects, from £5 5s. a month. Appointments (vacancies for which are advertised in the medical journals), Registrar and Pathologist, Senior and Junior House-Surgeon. For particulars as to hospital practice and classes, apply at the Hospital to the Dean, Dr. W. J. Collins.

NORMAL SCHOOL OF SCIENCE.—Arrangements have been made by the Medical Schools of Charing Cross, Middlesex, St. George's, and Westminster Hospitals, for students desirous of undergoing a course of instruction in Science, such as that required for the Preliminary Scientific M.B. Examination of the University of London, to attend the Lectures and Practical Instruction in Biology, and a portion of the ordinary courses in Physics and Chemistry at the Normal School of Science, South Kensington. The fee for the whole course, which extends from October to June, is £35, of which £20 will be deducted by these four Schools from the fees for the Medical curriculum, either in one sum or in equal instalments, according as the fees are paid. A separate syllabus will be forwarded to those desiring further particulars.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL AND MIDWIFERY TRAINING SCHOOL.—*Consulting Physicians*, Dr. G. O. Rees, Dr. Gream, Dr. Brodie. *Consulting Surgeons*, Mr. H. Lee, Sir William Mac Cormac. *Physicians to In-patients*, Dr. Hope and Dr. W. C. Grigg. This Hospital, which has been recently enlarged, receives nearly 1,000 patients annually, besides having a large out-patient department. Medical pupils are received at all times of the year. Pupils have unusual opportunities of seeing Obstetric complications and Operative Midwifery, on account of the very large number of primiparous cases—upwards of three-fourths of the total admissions. Clinical Instruction is given on the more important cases that present themselves. Certificates of attendance at this hospital are recognised by all Universities, Colleges, and Licensing Bodies. Monthly Nurses and Midwives are received for training. The Pupil Midwives are specially prepared for the Examination of the Obstetrical Society of London, and the examination fees are paid by the hospital when the Society's diploma is obtained. *Fees.*—Medical pupils, from £3 3s. for one week to £26 5s. for three months, exclusive of board and lodging; Pupil Midwives, £26 5s. for three months; and Pupil Nurses, £11 0s. 6d. for two months, both inclusive of board and lodging. For further particulars, application should be made to the Secretary, at the hospital.

ROYAL ORTHOPÆDIC HOSPITAL.—*Surgeons*, Mr. B. E. Brodhurst, Mr. H. A. Reeves, Mr. C. Read, Mr. W. H. Balkwill. *Assistant-*

Surgeon, Mr. H. F. Baker. Operations are performed at 2 P.M. on Mondays. The hospital is open to all legally qualified practitioners, and students are admitted on payment of the following fees: six months, £3 3s.; twelve months, £5 5s.; perpetual, £10 10s.

ROYAL LONDON OPHTHALMIC HOSPITAL.—*Physician*, Dr. Stephen Mackenzie. *Consulting Surgeons*, Mr. J. Dixon, Sir W. Bowman, Mr. J. Hutchinson. *Surgeons*, Mr. Hulke, Mr. Lawson, Mr. Couper, Mr. Waren Tay, Mr. Tweedy, Mr. Nettleship. *Assistant-Surgeons*, Mr. Gunn, Mr. Lang, Mr. A. Silcock. There are 100 beds for in-patients. Operations are performed daily, from 10.30 until 1 P.M. Gentlemen are admitted to the Practice, and to Lectures and Demonstrations. *Fees* for six months, £3 3s.; perpetual, £5 5s. A perpetual ticket admits to Lectures and Demonstrations free. Students of the Hospital are eligible for the office of House-Surgeon, and may be appointed Clinical Assistants.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—*Surgeons*, Mr. Power, Mr. Rouse, Mr. Macnamara, Mr. Cowell, Mr. Frost, and Mr. Hartridge. *Assistant-Surgeon*, Mr. B. Wainewright. The hospital contains 50 beds. The practice is open to practitioners and students from 1 to 4 P.M. daily. Special instruction is given in the Diagnosis, Pathology, and Treatment of all Eye Affections, including the Operations on the Eye, the Treatment of Errors of Refraction, and the Use of the Ophthalmoscope. Operations daily at 2 P.M. *Fees:* six months, £3 3s.; perpetual, £5 5s. For particulars, apply at the Hospital, or to Mr. Adams Frost, 17, Queen Anne Street, W.

SEAMEN'S HOSPITAL, GREENWICH.—*Secretary*, Mr. P. Michelli. *Consulting Physicians*, Dr. Robert Barnes, Dr. Richard Quain. *Consulting Surgeon*, Mr. J. N. Davies-Colley. *Visiting Physicians*, Dr. John Curnow, Dr. J. Anderson, C.I.E. *Visiting Surgeon*, Mr. G. R. Turner. *Principal Medical Officer*, Mr. W. Johnson Smith. *Dispensary Medical Officers:* Well Street, London Docks, Dr. C. E. H. Cotes; Gravesend, Mr. R. Onslow Richmond. The hospital contains 225 beds. Apartments are provided in the house of the Principal Medical Officer for students and others who may be desirous of studying diseases incidental to tropical climates before entering the services or going abroad. There are a resident House-Physician and a House-Surgeon.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN.—*Physician*, Dr. H. B. Dow. *Assistant Physicians*, Mr. T. J. Hitchins, Dr. Alex Bowie, Dr. Morgan Dockrell, and Dr. N. W. Bourns. *Surgeon*, Mr. J. L. Milton. The medical officers attend at Leicester Square every week-day at 2; and every week-night (except Saturday) at 7. There is a School of Dermatology in connection with the hospital in which systematic and practical lectures are given twice a week, and clinical instruction every day. The sixth term will commence on Tuesday, October 2nd. Lectures will be delivered as follows:—Materia Medica and Therapeutics of agents employed in the treatment of Skin-Diseases, by Dr. H. B. Dow; Principles and Practice of Dermatology, by Mr. J. L. Melton, Dr. Alex. Bowie, and Dr. Morgan Dockrell.

ST. PETER'S HOSPITAL FOR STONE AND URINARY DISEASES.—*Surgeons*, Mr. Walter Coulson, Mr. F. R. Heycock. *Surgeons to the Out-patient Department*, Mr. F. Swinford Edwards, Mr. E. Hurry Fenwick. Qualified medical men are admitted free to the practice of this hospital, which contains 24 beds, and has a large out-patient attendance (37,255 for 1887). Operations are performed and consultations are held on Wednesdays at 2.30. Clinical lectures are given every year by members of the staff.

SCHOOL OF PHARMACY OF THE PHARMACEUTICAL SOCIETY.—The School opens on Monday, October 1st. Lectures on Chemistry and Physics by Professor W. R. Dunstan, M. T. W., 9; Botany by Professor Green, F. S., 9. Materia Medica demonstrations by Mr. Holmes, T., 10. Pharmacy Demonstrations and Lectures by Mr. Ince, T. Th. F., 5. The laboratories for Practical Chemistry are open from 10 A.M. to 5 P.M.; on Saturday from 10 to 2. *Director*, Professor Attfield. *Demonstrator*, Mr. F. W. Short; *Assistant-Demonstrator*, Mr. Edmund White. They are fitted up with every convenience for the study of Chemistry by personal experiment. Application for admission to the school, or for further information, may be made to the professors or their assistants in the lecture-theatre or the laboratories, at 17, Bloomsbury Square. Medical students, or pupils intending to enter the medical profession, are admitted to the lectures, etc., and to a course of practical chemistry of any length in the laboratories. Sir Henry Roscoe, M.P., LL.D., F.R.S., will deliver an introductory address on Wednesday, October 3rd, at 8 P.M.

ADDENBROOKE'S HOSPITAL, CAMBRIDGE.—*Consulting Physician*, Sir G. E. Paget. *Consulting Surgeon*, Mr. Lestourgeon. *Physicians*, Dr. P. W. Latham, Dr. J. B. Bradbury, and Dr. D. MacAlister. *Assistant-Physician*, Mr. Laurence Humphry. *Surgeons*, Dr. G. M. Humphry, Mr. E. Carver, Mr. G. Wallis, and Mr. G. E. Wherry. The Hospital contains 120 beds. Clinical lectures are delivered twice weekly during the academical year: and practical instruction is given daily throughout the year. Clinical clerks and dressers are appointed without payment.

BRADFORD INFIRMARY AND DISPENSARY.—*Physicians*, Dr. H. C. Major, Dr. Grabham. *Surgeons*, Dr. A. Rabaghati, Mr. J. Appleyard, Dr. T. C. Denby, and Mr. W. Lake Roberts. *Medical Officers*, Dr. J. H. Bell, Dr. D. Goyder. The Hospital contains 210 beds. Non-resident pupils are received, and have every opportunity of acquiring a practical knowledge of their profession under the superintendence of the House-Surgeon. One year's attendance is recognised by the Examining Boards. *Fee:* Perpetual, £10 10s.

CUMBERLAND INFIRMARY.—*Consulting Surgeons*, Mr. Herbert W. Page, Dr. J. A. Macdougall. *Physicians*, Dr. Lockie, Dr. Barnes. *Surgeons*, Dr. Maclaren, Dr. Lediard. *Dental Surgeon*, Mr. Warwick Hele. The Infirmary contains 100 beds. Pupils are admitted on such terms of payment as the committee may fix. Indoor pupils reside at the Infirmary; outdoor pupils visit the Infirmary at such hours as the medical officers shall approve. The pupils are entirely under the control of the medical officers.

DERBYSHIRE GENERAL INFIRMARY.—*Consulting Physician*, Dr. G. Taylor. *Physicians*, Dr. W. Ogle, Dr. C. A. Greaves, Dr. W. Benthall. *Consulting Surgeon*, Mr. J. W. Baker. *Surgeons*, Dr. W. G. Curgenven, Mr. C. H. Hough, and Mr. J. A. Sharp. *Ophthalmic Surgeon*, Mr. E. C. Green. There are 175 beds. Pupils are admitted to the practice of the Infirmary at £5 5s. a year.

DEVON AND EXETER HOSPITAL, EXETER.—*Consulting Physician*, Dr. Drake. *Physicians*, Dr. Lewis Shapter, Dr. H. Davy, Dr. Arthur G. Blomfield. *Consulting Surgeons*, Mr. A. J. Cumming, Mr. T. W. Caird. *Surgeons*, Mr. Bankart, Mr. Harris, Mr. Domville, Mr. Bell. *House Surgeon*, Mr. Russell Coombe. *Assistant*, Mr. Henry E. Shadwell. The hospital contains 214 beds, including a special children's ward. There are a good Library, Museum, Dissecting and *Post-mortem* Rooms. Attendance on the practice at this hospital qualifies for all the Examining Boards. Two Resident Pupils are received. Arrangements may be made by which students can attend Midwifery. For further particulars as to fees, etc., apply to the House-Surgeon.

EYE, EAR, AND THROAT INFIRMARY, EDINBURGH.—*Consulting Surgeon*, Joseph Bell, M.D. *Surgeons*, J. J. Kirk Duncanson, M.D., G. Hunter Mackenzie, M.D., and J. Maxwell Ross, F.R.C.S.Ed. *Treasurer and Secretary*, A. P. Purves, Esq., W.S., 102, George Street.

GENERAL HOSPITAL, NOTTINGHAM.—*Consulting Physicians*, Sir W. T. Robertson, M.D., and Dr. Storer. *Physicians*, Dr. W. H. Ransom, Dr. J. O. Brookhouse, Dr. H. Handford. *Consulting-Surgeon*, Mr. J. White. *Surgeons*, Mr. T. Wright, Mr. J. Littlewood, Mr. J. Beddard, Mr. A. C. Taylor. The hospital contains 180 beds. The Honorary Staff introduce pupils to witness the practice of the hospital, on payment of £10 10s. annually. The pupils receive instruction from the Resident Surgeon.

GENERAL HOSPITAL FOR SICK CHILDREN, PENDLEBURY, MANCHESTER.—*Physicians*, Dr. H. Ashby, Dr. Hutton. *Surgeon*, Mr. G. A. Wright. *Assistant-Surgeon*, Mr. Joseph Collier. The hospital at Pendlebury contains 140 beds, including 28 for fever. The medical staff see out-patients daily at the Dispensary, Gartside street, at 9 A.M., and visit the hospital at 11 A.M. The practice of the hospital and dispensary is free to students accompanying the medical staff. In-patients, 1887, 1,352; out-patients, 10,260.

GLASGOW HOSPITAL FOR SICK CHILDREN.—This hospital, containing 70 beds for the non-infectious diseases of children, is open for Clinical instruction. A specially designed dispensary, or out-patient department, is almost completed, and will be opened in September. *Physicians*, Dr. James Finlayson, Dr. Samson Gemmell. *Extra Physicians*, Dr. G. S. Middleton, Dr. J. Lindsay Steven, Dr. R. S. Thomson, Dr. Charles Workman. *Surgeons*, Dr. Hector C. Cameron, Dr. William Macewen. *Extra Surgeons*, Dr.

W. J. Fleming, Dr. A. Ernest Maylard, Dr. T. Kennedy Dalziel, Dr. Quintin McLennan. *Oculist*, Dr. Thomas Reid. *Aural Surgeon*, Dr. T. Barr. *Pathologist*, Dr. Joseph Coats. *Dentist*, Mr. Rees Price. Students, by paying the fee of £1 1s., are entitled to the practice of the hospital for twelve months from the term of entry, which may be at the beginning of February, May, or November. Further particulars may be had by applying to the Resident Medical Officer, Dr. David Roxburgh.

Glasgow Polyklinik, 100, Elderslie Street, a Dispensary for the Study and Treatment of Special Diseases.—There are in all six departments, namely: that for (1) Diseases peculiar to Women, under Dr. W. L. Reid; (2) Diseases of Ear, Throat, and Nose, under Dr. Walker Downie; (3) Diseases of the Eye, under Dr. Maitland Ramsay; (4) Diseases of Skin, under Dr. Alexander Napier; (5) Diseases of Nervous System, under Dr. C. Workman; (6) Diseases of Urinary Organs, under Dr. Rutherford. The clinical instruction given here is open to medical students and practitioners on payment of the necessary fees.

Gloucestershire General Infirmary. — *Consulting Surgeons*, Mr. J. P. Wilton, Mr. T. S. Ellis. *Physicians*, Dr. R. W. Batten, Dr. Oscar W. Clark. *Assistant-Physician*, Dr. H. Peacock. *Surgeons*, Mr. H. E. Waddy, Mr. R. M. Cole, Mr. A. M. Sydney-Turner. *Ophthalmic Surgeon*, Mr. E. D. Bower. *Assistant-Surgeon*, Dr. J. J. S. Johnstone. *House-Surgeon*, Mr. F. H. Knaggs. *Secretary*, Mr. H. P. Pike. The hospital contains 156 beds. Resident and non-resident pupils may be admitted by the General Committee on the recommendation of a member of the Medical Board. Each pupil pays in advance £10 for the first half year, and £5 for every subsequent quarter, or portion of a quarter, of a year. Each resident pupil has board and lodging in the house, for which he pays in advance 26 guineas for the first half year, and 13 guineas for every subsequent quarter, or portion of a quarter, of a year. Each pupil pays in advance to the House-Surgeon a fee of £5 5s. for instruction, and a further fee of £3 3s. for every subsequent year or portion of a year. One year passed at this hospital, after passing a preliminary examination, is recognised by the Royal College of Surgeons.

Jessop Hospital for Diseases of Women, Sheffield.—*Honorary Consulting Medical Officers*, Dr. Aveling, Dr. E. Jackson, Dr. Hime, and Mr. F. Woolhouse. *Honorary Acting Medical Officers*, Dr. Keeling, Mr. R. Favell, Mr. A. H. Laver, Dr. Martin. *House-Surgeon*, Mr. J. M. Willey. *Secretary*, Mr. H. B. Warner. The number of beds is 45; in the Diseases of Women Department, 36; in the Maternity Department, 9. An obstetric dressership is attached to the hospital. Students can attend the practice of the hospital, and be supplied with cases of midwifery.

Kent and Canterbury Hospital.—The hospital contains 102 beds. *Consulting Physician*, Dr. Lochée. *Physician*, Dr. Gogarty, *Consulting Surgeon*, Mr. J. Reid. *Surgeons*, Mr. Holttum, Mr. Wacher, Mr. T. W. Reid, and Mr. Creasley. *Dental Surgeon*, Mr. M. L. Bell. *House-Surgeon*, Mr. Z. Prentice. *Assistant House-Surgeon*, Mr. F. K. Holman. *Secretary*, Mr. Charles H. Read. *Fees* for hospital attendance, £7 7s. Over 800 in-patients and 4,000 out-patients attend every year. Lectures are delivered weekly to the students of St. Augustine's Missionary College on Practical Medicine by Dr. Gogarty, and on Surgery by Mr. T. W. Reid. Courses of lectures are also delivered by the medical staff for the instruction and training of the nurses and probationers of the hospital, and of the nurses and probationers of the Kent and Canterbury Nursing Institute.

Lincoln County Hospital.—*Physicians*, Dr. G. Mitchinson, Dr. C. Harrison. *Surgeons*, Mr. T. Sympson, Mr. W. J. Cant, Mr. C. Brook, and Mr. T. M. Wilkinson. *Consulting Surgeon*, Mr. S. Lowe. The hospital contains 100 beds. The House-Surgeon is allowed to take two pupils, on terms arranged by the Weekly Board, himself, and the pupils. A fee of not less than £10 10s. is paid by every pupil to the hospital. The House-Surgeon is responsible for the conduct of his pupils. The pupils remain in the hospital only when occupied in performing or observing the actual work of the hospital.

Liverpool Eye and Ear Hospital.—*Consulting-Surgeons*, Dr. R. H. Taylor, Dr. Nevins. *Surgeons*, Mr. E. A. Browne, Mr. R. Williams, and Mr. C. G. Lee. *Assistant-Surgeons*, Mr. C. H. B. Shears, and Mr. J. Rose. The Infirmary contains 46 beds. Evening courses of lectures on Refraction and Medical Ophthalmoscopy are delivered at this infirmary during the winter months by Mr. Edgar Browne. Students of medicine of University College, Liverpool, have free access to the practice of the infirmary.

Liverpool Northern Hospital.—*Physicians*, Dr. Dickinson, Dr. Barr. *Consulting-Surgeons*, Mr. Manifold, Mr. H. Lowndes, and Dr. W. M. Campbell. *Surgeons*, Mr. C. Puzey, Mr. D. Harrisson, and Mr. G. G. Hamilton. *Dental-Surgeon*, Mr. Mathews. The hospital contains 160 beds. There is a special ward for the treatment of children. Clinical Lectures are delivered by the physicians and surgeons during the summer and winter sessions. Clinical clerkships and dresserships are open to all students without additional fee. *Fees:* Perpetual, £26 5s.; one year, £10 10s.; six months, £7 7s.; three months, £4 4s. Students can enter to the medical or surgical practice separately on payment of half the above fees. Practical Pharmacy, three months' fee, £2 2s.

Liverpool Royal Southern Hospital.—*Physicians*, Dr. Cameron, Dr. Carter, Dr. Williams. *Consulting Surgeon*, Mr. Nottingham, Mr. Hamilton. *Surgeons*, Mr. Paul, Mr. Rawdon, Mr. Alexander. *Dental Surgeon*, Mr. Royston. The hospital contains 200 beds. Clinical lectures are given by the physicians and surgeons during the winter and summer sessions. Clinical clerkships and dresserships are open to all students. There are special wards for accidents and diseases of children; also rooms for a limited number of resident students. *Fees* for hospital practice and clinical lectures: Perpetual, £26 5s.; one year, £10 10s.; six months, £7 7s.; three months, £4 4s. The practice of the hospital is recognised by all examining bodies.

Norfolk and Norwich Hospital.—*Consulting Physician*, Sir P. Eade, M.D. *Consulting Surgeon*, Mr. T. W. Crosse, F.R.C.S. *Physicians*, Dr. Bateman, Dr. Taylor, Dr. Barton. *Surgeons*, Mr. Cadge, Mr. C. Williams, Dr. Beverley. *Assistant-Surgeons*, Mr. Robinson, Mr. H. S. Burton. The hospital contains 120 beds. One year's attendance is recognised by the Examining Boards. Clinical lectures are given by the physicians or surgeons. *Fees:* Physicians' practice, six months, £5 5s.; perpetual, £10 10s.; surgeons' practice, including dressership, three months, £10; six months, £15; one year, £20; two years, £30; perpetual, £40. Pupils, resident and non-resident, are admitted.

Northampton General Infirmary.—*Physicians*, Dr. Buzzard, Dr. Jones. *Surgeons*, Mr. G. H. Percival and Mr. R. A. Milligan. There are 144 beds and a large out-patient department. Out-pupils are received, and have every opportunity of acquiring a practical knowledge of their profession. Instruction is also given by the House-Surgeon in Anatomy, Materia Medica, and Pharmacy. *Fees:* 25 guineas a year; perpetual £50. Arrangements for board and residence, etc., can be made.

North Staffordshire Infirmary.—*Physicians and Medical Officers*, Dr. J. T. Arlidge, Dr. C. Orton, Mr. M. H. Ashwell, Mr. J. G. West. *Surgeons*, Mr. W. H. Folker, Mr. J. Alcock, Mr. W. D. Spanton. *Dental Surgeon*, Mr. William Bartlett. The infirmary has accommodation for nearly 220 patients, including children's wards and special ovarian wards. The attendance of pupils at this infirmary is recognised by all the Examining Boards. Particulars as to fees, etc., may be obtained from the Secretary, Mr. R. Hordley, Hartshill, Stoke-on-Trent.

Royal Albert Hospital, Devonport.—*Consulting Surgeons*, Mr. May, Mr. Laity. *Surgeons*, Mr. C. Bulteel, Mr. Leah, Mr. G. Thom. *Ophthalmic Surgeon*, Mr. J. R. Rolston. *Assistant-Surgeons and Provident Dispensary Surgeons*, Mr. W. J. Gard, Mr. M. H. Bulteel, Mr. F. E. Row, Mr. J. Harrison. The hospital contains 218 beds. The pupils of the medical staff are allowed to attend the hospital practice and to learn pharmacy on the payment of £2 2s. to the dispenser.

Royal Ear Hospital, Frith Street, Soho Square, W.—Founded 1816 for the special treatment of Diseases of the Ear. During 1887, 56 in-patients and 2,654 out-patients were treated. The clinique of the hospital is open to medical practitioners and advanced students by previous arrangement with the Secretary. *Surgeons*, Urban Pritchard, M.D., F.R.C.S.; Farquhar Matheson, M.B., C.M. *Secretary*, M. C. Puddy.

Royal Eye Hospital, Manchester.—*Medical Officers*, Dr. Little, Dr. Glascott, Dr. Mules, Dr. Emrys-Jones, Dr. Hill Griffith. The hospital contains 100 beds. The medical staff attend daily from 9.30 to 1. Clinical instruction is given to students.

Royal Hants County Hospital, Winchester.—*Physicians*, Dr. B. N. Earle, Dr. W. H. Harman. *Surgeons*, Mr. T. C. Langdon.

Dr. W. England. The hospital contains 108 beds. Apprentices are received by the Committee on payment of £100 per annum, and are bound to the House-Surgeon for five years. During the first two years they are chiefly employed in dispensing; afterwards they may witness the practice, and attend clinical lectures and operations and *post-mortem* examinations. The Physicians and Surgeons are allowed to introduce a certain number of pupils; the House-Surgeon may also receive a pupil, on payment of £100 per annum. Pupils of qualified medical practitioners not belonging to the staff of the hospital may, with the consent of the Committee, become out-pupils, and see the practice of the hospital under the direction of the House-Surgeon, on the payment of £10 10s. for one year, or £21 for unlimited attendance. Out-pupils are permitted daily (Sundays excepted) to read in the Library on payment of £1 1s.

Royal South Hants Infirmary, Southampton.—*Physicians*, Dr. G. Scott, Dr. Thomas. *Assistant Physician*, Dr. Griffin. *Surgeon-Extraordinary*, Dr. J. K. Sampson. *Surgeons*, Dr. G. A. K. Lake, Dr. W. Sims, Dr. Wade. *Assistant-Surgeon*, Dr. Shettle. *Dentist*, Mr. C. H. Bromley. The hospital contains 100 beds. Pupils, duly qualified by examination and registration, are received, and pay a fee of £10 10s. for a perpetual ticket, and £5 5s. for six months. These are under the care of the House-Surgeon. After three months in the dispensary, they see all the practice, operations, etc., and may act as clinical clerks and dressers. There being a good many surgical cases in this place, they gain a good all-round knowledge before proceeding to a regular medical school. There is a good supply of modern books, and a collection relating to Osteology, and specimens of Materia Medica.

Royal United Hospital, Bath.—120 beds. *Honorary Consulting Physician*, Dr. Coates. *Honorary Physicians*, Dr. Goodridge, Dr. Cole, and Dr. Fox. *Honorary Surgeons*, Messrs. Stockwell, Fowler, and Freeman. *Honorary Assistant Medical Officers for Out-patients*, Dr. Field, Messrs. Cowan and Craddock. *Honorary Assistant-Surgeons*, Messrs. Green, Scott, and Ransford. *Dental Surgeon*, Mr. Gaine. *Pathological Registrar and Curator*, Mr. H. Culleford Hopkins. The hospital is recognised by the Royal Colleges of Physicians, Surgeons, etc., and licensed for dissections. It contains a library and an excellent museum, in which are a large number of interesting specimens, both in Pathology and Comparative Anatomy. Fees for attendance: twelve months, £10 10s.; six months, £5 5s. (temporary pupils can also, by permission of the honorary staff, attend the practice of the hospital by the payments of £1 1s. for each month). Instruction in Practical Pharmacy for three months, £3 3s. For further particulars apply to the Registrar and Curator.

St. Mary's Hospital for Diseases of Women and Children, Manchester.—*Physicians*, Dr. Lloyd Roberts, Dr. W. Walter. *Consulting Surgeons*, Mr. Henry Winterbottom, Dr. S. Nesfield. Mr. R. Heslop. *Surgeon*, Dr. A. Donald. The accommodation for in-patients comprises 50 beds, including three for the reception of lying-in cases attended with special difficulty or danger. Out-patients are attended every day at 9 A.M. by the honorary staff, assisted by the resident medical officers. In the out-patient department, students are taught the various methods of examination and diagnosis, and the use of gynæcological apparatus; while, in the wards, they have an opportunity of becoming familiar with the diagnosis and treatment of graver cases, and of witnessing the more important gynæcological operations, which take place on Wednesday at half-past ten. The large number of maternity cases attended annually in connection with this hospital affords ample opportunity to students for receiving instruction in practical midwifery. Every student, on registering himself as a midwifery pupil, is supplied with a card, on which must be filled in the particulars of every labour at which he is present, each entry being attested by the initials of the medical officer or certified midwife in charge of the case. The hospital possesses a library, presented by the late Dr. Radford, consisting of nearly 4,000 volumes, chiefly on subjects connected with obstetrics and gynæcology. There is also a museum, containing a large number of pathological specimens, and a valuable collection of deformed pelves, casts, obstetric instruments, and anatomical models. The gynæcological practice of the hospital is free to third and fourth years' students. The fee for the midwifery practice, which includes attendance upon twenty cases of labour, as required by the examining bodies, is £2 2s. Application must be made to the House-Surgeon at the hospital.

Staffordshire General Infirmary.—*Physicians*, Dr. Reid, Dr. Greaves. *Surgeons*, Mr. Weston, Mr. Blumer. There are 120 beds. The pupils of medical practitioners resident in the county of Stafford are allowed to witness the Medical and Surgical Practice of the Infirmary, and to be present at operations. The pupils of the officers of the institution are admitted to these privileges gratuitously, those of other practitioners on the payment of £10 10s. with each pupil. The assistants of a medical practitioner, having gone through a complete curriculum, are admitted on the annual payment of £5 5s.

Sussex County Hospital, Brighton.—*Consulting Physician*, Dr. Kebbell. *Physicians*, Dr. Withers Moore, Dr. J. Rutter, Dr. W. A. Hollis. *Assistant-Physicians*, Dr. H. S. Branfoot, Dr. E. Mackey, Dr. A. J. Richardson. *Consulting Surgeon*, Mr. E. J. Furner. *Surgeons*, Mr. F. W. Jowers, Mr. F. A. Humphry, Mr. N. P. Blaker. *Assistant-Surgeons*, Mr. W. Furner, Mr. T. J. Verrall, Dr. R. Black. *House-Surgeon*, F. J. Paley, M.D. *Assistant and House Surgeon*, Mr. A. W. Hogg. *House Physician*, Mr. G. G. Hodgson. The hospital contains at present 173 beds, with separate wards for children and for cases requiring isolation; and the Out-patient Department is attended by 600 to 700 patients weekly. It is recognised by the College of Surgeons and by the Conjoint Board as a hospital where part of a medical course may be spent. Out-pupils are admitted to the clinical teaching and the classes at a fee of £21 for two years. The Ormerod Exhibition, of the average value of £30, is awarded annually, after examination, to the best student of those leaving to pursue their studies at a medical school. Further information may be obtained from the House-Surgeon on the Staff.

Swansea Hospital.—*Consulting Physicians*, Dr. G. Padley and Dr. J. Paddon. *Physicians*, Dr. J. Rawlings, and Dr. D. A. Davies. *Consulting Surgeon*, Mr. J. G. Hall. *Surgeons*, Mr. J. Thomas, Mr. H. A. Latimer. *Ophthalmic Surgeon*, Dr. W. T. F. Davies. *Medical Officers for Outdoor Patients*, Mr. J. F. Fry, Dr. A. D. Davidson, and Mr. W. C. Humphreys. *Surgeon Dentist*, Mr. F. C. Scott. The House-Surgeon is permitted to take two articled pupils, whom he binds himself to transfer to his successors in the event of his leaving the hospital during the term of their apprenticeship. The premium or fee on the introduction of pupils is such a sum as the Committee may consider reasonable. It is apportioned between the House-Surgeon and the Institution, as the Committee for the time being may determine.

West of England Eye Infirmary, Exeter.—*Surgeons*, Mr. Bankart, Mr. Tosswill. *Registrar*, Mr. Roper. The Infirmary contains 50 beds. Arrangements can be made for students of the Exeter Hospital to attend the practice of the Eye Infirmary.

Wolverhampton and Staffordshire General Hospital.—*Consulting-Physician*, Dr. Millington. *Consulting-Surgeon*, Mr. Newnham. *Physicians*, Dr. Totherick, Dr. Malet. *Surgeons*, Mr. Vincent Jackson, Mr. Kough, Mr. F. E. Manby. The hospital contains 224 beds, and is a preparatory School of Medicine and Surgery. The pupils see the whole of the practice of the physicians and surgeons, and are trained in clinical work by the medical and surgical staff. Attendance at this hospital is recognised by all the Examining Boards. *Fees:* six months, £6 6s.; twelve months, £12 12s.; perpetual, £21.

PUBLIC HEALTH OR STATE MEDICINE.

Subjoined are the regulations of the Examining Bodies which grant degrees or certificates in Public Health or State Medicine.

University of Oxford.—There will be held every year, in Michaelmas Term, an examination in subjects bearing on Preventive Medicine and Public Health, for the purpose of granting certificates of proficiency therein. No person will be admitted thereto who shall not have obtained the degree of Bachelor of Medicine in the University. There shall be five examiners, namely, the Regius Professor of Medicine, who shall preside over the examination, and four other professors nominated to serve for three years, subject to the approval of Convocation. These four, if members of the University, shall be members of Convocation, or Bachelors of Civil Law or of Medicine, at the least, or they may be persons not members of the University. The subjects of examination shall be Hygiene, Sanitary Law, Sanitary Engineering, and Vital Statistics. At the close of the examination, a list of the candidates who shall have received certificates shall be made in a book to be kept for that purpose, and shall be certified

by the signature of the examiners. Such book shall remain in the custody of the Registrar of the University. The examination shall be under the supervision of the Board of the Faculty of Medicine. The fee to be paid before examination is £5; for the Certificate of Proficiency, £10.

UNIVERSITY OF CAMBRIDGE.—Any person whose name is on the *Medical Register* of the United Kingdom may present himself for examination, provided he be in his twenty-fourth year at least when he presents himself for the first part of the examination, and have attained twenty-four years of age before he presents himself for the second part. The applications of candidates whose names have not been on the *Medical Register* three years must be accompanied by a certificate of birth or other proof of age.

Part I comprises Physics and Chemistry; the Principles of Chemistry, and methods of analysis, with especial reference to analyses of air and water; application of the microscope; the laws of heat and the principles of pneumatics, hydrostatics, and hydraulics, with especial reference to ventilation, water-supply, drainage; construction of dwellings, disposal of sewage and refuse, and sanitary engineering in general; statistical methods.

Part II comprises laws of the realm relating to public health; origin, propagation, pathology, and prevention of epidemic and infectious diseases: effects of overcrowding, vitiated air, impure water, and bad or insufficient food; unhealthy occupations and the diseases to which they give rise; water-supply and drainage in reference to health; distribution of diseases within the United Kingdom, and effects of soil, season, and climate.

The examination in both parts is oral and practical as well as in writing. Candidates may present themselves for either part separately, or for both together.

Every candidate must pay a fee of £4 4s. before admission to *each part* of the examination.

Every candidate who has passed both parts of the examination will receive a certificate testifying to his competent knowledge of what is required for the duties of a Medical Officer of Health.

The following suggestions have been drawn up as some guide to candidates preparing for the examination. Part I. Candidates will be expected to understand the application of the general laws of Chemistry to such cases as occur in the practice of an Officer of Health. It is not expected that Officers of Health will in general be able to act as public analysts, but that they will know the methods of analysis, and be able to interpret correctly the results of professional analysts. The kinds of application of the several sciences of which the candidates are expected to show a competent knowledge will be best understood by a perusal of Parkes's *Manual of Practical Hygiene*. In the actual analysis of water and air, candidates will not be expected to make complete quantitative analyses, but to know how to apply ordinary chemical methods for the detection and discrimination of mineral and organic substances in the samples. Candidates must show a practical acquaintance with the use of the microscope. Part II. Candidates must show an acquaintance with the sanitary laws in force in England; but if any candidate have information respecting alternative laws in force in the metropolis or in Scotland or in Ireland, opportunity will be given him, alternatively, of showing his acquaintance with such laws. The rest of Part II, besides the subjects expressly mentioned is to be understood as including those of Vaccination, Disinfectants, the management of outbreaks of Infectious Diseases, with the construction of Hospitals, temporary or permanent; Endemic Diseases; Birth-rates and Death-rates; the qualities and suitableness of various Waters used for domestic purposes; the inspection of factories, mines, workshops, and common lodging-houses.

The following list of works will probably be found valuable to some of the candidates, but the necessity of reading all or any of them is not urged upon them.

Parts I and II.—Parkes's *Manual of Practical Hygiene*; G. Wilson's *Handbook of Hygiene*; Grimshaw and others, *Manual of Public Health for Ireland*; Cameron's *Manual of Hygiene*: Seaton's *Handbook on Vaccination*; *Army Medical Reports; *Reports on Hygiene*; *Reports to Privy Council and Local Government Board by their Medical Officer. Chemistry: General Principles: Fownes's *Manual of Chemistry*; Bloxam's *Chemistry*; Roscoe's *Lessons in Elementary Chemistry*; Attfield's *Chemistry*. Analysis: Bloxam's *Laboratory Teaching*; Bowman's *Practical Chemistry*; Sutton's *Systematic Handbook of Volumetric Analysis*; Frankland's *Water Analysis for Sanitary Purposes*; Wanklyn and Chapman's *Water Analysis*; Hartley's *Air and its Relations to Life*; Wanklyn's *Milk Analysis*; Wanklyn and Cooper's *Bread Analysis*; C. Fox, *Sanitary Examinations of Water, Air, and Food*. Physics: Todhunter's *Natural Philosophy for Beginners*; Ganot's *Physics*; Everett's *Textbook of Physics*. Microscopy: Carpenter's *Microscope and its Revelations*; Macdonald's *Guide to Microscopical Examination of Drinking Water*; *Hassall's *Food and its Adulterations*. Sanitary Engineering, Water Supply, Sewage, etc.: Bassie's *Sanitary Arrangement for Dwellings*; Galton's *Healthy Dwellings*; Corfield's *Dwelling Houses, their Sanitary Construction and Arrangement*; *Bailey-Denton, *Sanitary Engineering*; *Latham's *Sanitary Engineering*; *Bayles's *House Drainage and Water Service*; Tomlinson's *Warming and Ventilation*; Corfield's *Treatment and Utilisation of Sewage*; *Report of Committee appointed by President of Local Government Board on Modes of treating Town Sewage; *Reports of Royal Commission on Pollution of Rivers, especially the sixth, on Domestic Water Supply; *Report from Select Committee on Public Health Act (1875) Amendment Bill, with the Evidence; *R. Angus Smith's *Air and Rain*; *Ure's *Dictionary of Arts, Manufactures, and Mines*. Laws of the Realm and By-laws relating to Public Health. For England: Public Health Act, 1875, and the Acts of Parliament relating to the various subject-matters within the domain of Hygiene passed since that date: Artizans' and Labourers' Dwellings Acts; Vaccination Acts. For the Metropolis, or for Scotland, or for Ireland: Laws dealing with the same subject-matters as the above, and having application to the particular part of the United Kingdom; Model By-laws of the Local Government Board; Adulteration of Food and Drugs Act. Statistics: Lewis's *Digest of the English Census*; the article on "Statistics" in the *Cyclopædia of Anatomy and Physiology*; *Dr. Farr's letters to the Registrar-General in the early Reports of the Registrar-General; *Reports of the Registrar-General; *Deaths in England. Average Annual Proportion of Deaths, etc., 1861-70. Parliamentary Paper C. 874, Session 1873. Construction of Hospitals: Miss Nightingale's *Notes on Hospitals*; Oppert's *Hospitals, Infirmaries, and Dispensaries, their Construction, interior Arrangement, and Management*; Galton, *On the Construction of Hospitals*; Burdett, *Cottage Hospitals*; *De Chaumont, "Hospitals," in the *Encyclopædia Britannica*, last edition. The books thus marked * are books of reference.

The names of candidates must be sent, with the fees, on or before September 27th to the Registrary, University of Cambridge.

UNIVERSITY OF LONDON.—A special examination is held once in every year in subjects relating to Public Health, and commences on the second Monday in December. No candidate is admitted to this examination unless he have passed the second examination for the degree of Bachelor of Medicine in this University at least one year previously, nor unless he have given notice of his intention to the Registrar at least two calendar months before the commencement of the examination. The fee for the examination is £5, which must be previously paid to the Registrar. If, after payment of his fee, a candidate withdraw his name, or fail to present himself at the examination, or fail to pass it, the fee is not returned to him; but he may enter for any subsequent examination upon payment of an additional fee of £2 10s., provided that he give notice to the Registrar at least two calendar months before the commencement of the examination. Candidates are examined in the following subjects: 1. *Chemistry and Microscopy*, as regards the examination of air, water, and food; 2. *Meteorology*, as regards general knowledge of meteorological conditions, and the reading and correction of instruments; 3. *Geology*, as regards general knowledge of rocks, their conformation and chemical composition, and their relation to underground water, and to drainage and sources of water-supply; 4. *Physics and Sanitary Apparatus*: the laws of heat, mechanics, pneumatics, hydrostatics, and hydraulics, in relation to the construction of dwellings, and to warming, ventilation, drainage, and water-supply, and to apparatus for these and other sanitary uses; the reading of plans, sections, scales, etc., in regard of sanitary constructions and appliances; 5. *Vital Statistics*, as regards the methods employed for determining the health of a community; birth-rate: death-rate: disease-rate; life-table: duration and expectancy of life; present amount of mortality at the various stages, and its causes, in different classes and communities; practical statistics of armies, navies, civil professions, asylums, hospitals, dispensaries, lying-in establishments, prisons, indoor and outdoor paupers, friendly societies, sick clubs, medical and surgical practice; towns; 6. *Hygiene*, including the causation and

prevention of disease. Reference shall be had to such matters as the following: parentage, temperaments; morbid diatheses; congenital diseases and malformations; effects of close interbreeding; special liabilities at particular periods of life; physical regimen of different ages; earth and climate and changes of season; dampness of soil; malaria; conditions of healthy nourishment; conditions of healthy lodgment; conditions of healthy activity; hygiene of particular establishments and particular classes of population; disease as distributed in England; particular diseases, as regards their intimate nature, causation, and preventability; processes of contagion in different diseases; incubation; particular dangers of infection, etc.; disinfectants, and establishments for disinfection; quarantine; hospitals for infectious disease; conveyance of the sick; vaccination; prostitution; diseases of domestic animals in relation to the health of man; rabies; diseases of the vegetable kingdom, and failures of vegetable crops in relation to the health of man; famine diseases; poisons in manufacture, and commercial and domestic use; 7. *Sanitary Law*, as regards the Public Health Act, 1875; the Vaccination Acts; the Rivers Pollution Prevention Act; the Sale of Food and Drugs Act; the Artisans' and Labourers' Dwellings Improvement Act, 1875; the Acts regulating the Medical Profession and the Practice of Pharmacy; the Acts relating to Factories and Workplaces, and to the Detention and Care of Lunatics. The examination is written and practical, and extends over four days. Candidates are not approved by the examiners unless they have shown a competent knowledge in all the principal subjects. In the week following the examination, the examiners publish the names of the candidates who have passed, arranged in alphabetical order. If, in the opinion of the examiners, sufficient merit be evinced, the candidate who distinguishes himself the most receives a gold medal of the value of £5. A certificate under the seal of the University, and signed by the Chancellor, is delivered at the public presentation for degrees to each candidate who has passed.

University of Durham.—Licences in Sanitary Science are granted under the following relations.

Candidates must give at least twenty-eight days' notice to the Registrar, and send the fee and the necessary certificates.

A. *Licence in Sanitary Science.*—1. The candidate must be a registered medical practitioner. 2. The candidate shall have spent one year of professional study in attendance at the University of Durham College of Medicine, Newcastle-upon-Tyne. He must pass an examination on the following subjects:—*a. Sanitary Chemistry.*—Chemistry applied to the examination of air; detection of noxious gases and atmospheric impurities. Examination of water for sanitary purposes; detection of metals in water, and the action of water on metals. Examination of milk and food. Detection of poisons in articles of dress and decoration. *b. Physics.*—Hydrodynamics, pneumatics, and hydraulics, so far as concerns drainage; water supply; the use and construction of sanitary appliances; barometers. Light; propagation of light; reflection and refraction; photometry. Heat; thermometers; laws of heat in relation to the warming and ventilation of dwellings and clothing. Principles of hygrometry and hygrometers. *c. Sanitary Legislation.*—Knowledge of the following statutes and by-laws, namely: The Public Health Acts, Rivers Pollution Prevention Act, 1876; The Model By-Laws of the Local Government Board relating to Cleansing, the Prevention of Nuisances, New Streets and Buildings, Slaughter Houses, Common Lodging Houses, Houses Let in Lodgings, Offensive Trades. *d. Vital Statistics.*—Rates of birth, death, and marriage; methods of calculation, classification, and tabulation of returns of sickness and mortality; data and conclusions deducible therefrom. *e. Meteorology, Climatology, and Geographical Distribution of Health and Disease over the Globe, and in different Urban and Rural Districts of the United Kingdom. f. Sanitary Medicine*, in relation to the origin, propagation, pathology, and prevention of epidemic, endemic, epizootic, and other communicable diseases attributable to heat, cold, or dampness; insufficiency or impurity of air, food, or drink; parasitic and other diseases affecting the food and drink of man; diseases due to habitation, in cities, towns, villages, and separate houses; occupation and trade-operations in relation to the health of the workers; overwork, intemperance, heredity; preventive measures, vaccination, isolation, disinfection; the regulation of noxious and offensive manufactures and trades; the removal of nuisances. *g. Practical Hygiene* in reference to site, materials, construction, capacity, lighting, ventilation, warming, dryness, water-supply, drainage, and refuse disposal of dwellings, schools, hospitals, artisans' dwellings, workshops and work places, and other buildings of public or private resort; the construction of dairies, abattoirs, and disinfecting stations; action with respect to nuisance, and outbreaks of disease; and other duties of a medical officer of health. The examination will be conducted by written papers, and practical and *viva-voce* examination, and will be commenced on April 22nd, 1889, and again on September 23rd, 1889, in the Natural History Museum, Barras Bridge, Newcastle-upon-Tyne. The candidate will also be required—1. To pass an examination on medical clinical cases at the Fever Hospital, Royal Infirmary, or elsewhere. 2. To report upon the condition of some actual locality. 3. To analyse liquids and gases and specimens of food. 4. To describe the construction and use of instruments employed in meteorology. 5. To make microscopical examinations. The fee is £5 5s.

B. *Licence in Sanitary Science, for Medical Officers of Health.*—The candidate must be a registered medical practitioner, and must have acted as a medical officer of health for five years. He must not be under thirty years of age. He must pass the same examination as particularised under the head A, and must write an essay upon some practical sanitary subject, and shall be examined upon the essay, and upon sanitary questions connected with the subject of the essay. The fee is £10 10s.

Royal College of Physicians of London.—Candidates must be registered under the Medical Act (1858). The examination, consisting of two parts, will be held annually, in the month of March. Part I will comprise: 1. Physics in their application to Health, with reference to—(*a*) Warming and Ventilation; (*b*) Water-Supply, Sewerage, and Drainage; (*c*) Sanitary Construction. 2. Meteorology in relation to Health. 3. Chemistry, with special reference to the Examination of Air and Water (exact quantitative analyses will not be required, neither will candidates be restricted to any particular chemical notation). 4. Microscopical Examinations, as applied to Air, Food, and Water (excluding work special to the duties of a Public Analyst). 5. Geology, in its relation to Drainage and Water-Supply. 6. Statistics in relation to Health. Part II will comprise: 1. Medicine, in relation to the growth, origin, and prevention of Disease; (*a*) Special Pathology of Preventable Diseases; (*b*) Influence of Climate, Season, and Soil; (*c*) Effects of unwholesome Air, Water, and Diet; (*d*) Diseases of Animals in relation to the Health of Man; (*e*) Influence of Occupation and Lodgment; (*f*) Isolation, Quarantine, Disinfection, Vaccination. 2. Application of Medical and other Sciences to Sanitary Work and Administration: (*a*) Health-requirements of Houses, Villages, and Towns; (*b*) the Sanitary Regulations of Households, Establishments, and Occupations; (*c*) the Prevention and Control of Epidemic Diseases. 3. Statutes and By-laws relating to Public Health. Duties of Sanitary Authorities and their Officers. Candidates must be at least 23 years of age before being admitted to Part I, and 24 years of age before being admitted to Part II. 4. Candidates may enter for Parts I and II separately or at the same time; but no candidate's name will be published until he has passed in both parts of the examination. The examination in each will be written, oral, and practical. The fee for each part is £5 5s., and must be paid three days prior to the day on which the examination commences. A candidate who fails to satisfy the examiners in either part may present himself again at the next examination on payment of a fee of £3 3s. The examination on Part I will commence on the first Monday in March, and the examination on Part II on the second Monday in March. The certificate awarded is entitled "Certificate in Hygiene of the Royal College of Physicians of London." A candidate intending to present himself for either part of the examination must give fourteen days' notice in writing to the Registrar of the College.

University of Aberdeen.—*Regulations for the Diploma in Public Health (D.P.H.)*—Candidates for the diploma must have graduated Medicine in the University before they receive the diploma; and they must have given evidence of having attended a course of Analytical Chemistry or of Practical Hygiene. The diploma is conferred after an examination in Public Health, held in March and July of each year. Candidates desiring to appear for examination at either of these periods must send their names, with the necessary fee, to the Secretary of the Medical Faculty before the first day of the month in which the examination takes

place. The fee for the examination is £3 3s. In the event of a candidate failing to pass the examination, a fee of £1 1s. will be charged for each subsequent examination for which he may enter. The examination is conducted by the examiners for the Medical Degrees. The examination is written, oral, and practical.

The subjects and scope of the examination are as follows:—

1. *Physics and Meteorology.*—The general principles of Physics in so far as they relate to Heat and Ventilation, Water-supply, and Drainage; the elements of Meteorology and Climatology; practical exercises in the use of Meteorological Instruments.

2. *Chemistry and Microscopy.*—The Composition and Analysis of Air, Water, and Sewage; the Composition and Adulteration of the more common Foods and Beverages; Diseased and Putrid Food; practical exercises in the chemical and microscopical examination of air, water, and foods.

3. *General Hygiene.*—Duties of Medical Officers of Health; Nature and Construction of Dietaries; Construction and Sanitary Arrangements of Houses, Hospitals, Workshops, Factories, Towns, etc., including interpretation of plans; Ventilation, Water-supply, Sewerage, Disposal of Dead; Etiology, Prophylaxis (including Vaccination), and Control of Infectious Diseases; Unhealthy Occupations; practical exercises in examining and reporting on the construction and sanitary arrangements of houses, etc.

4. *Sanitary Law and Vital Statistics.*—Laws relating to the Public Health of Scotland, England, or Ireland, at the option of the candidate. Laws relating to Vaccination, and Registration of Births, Marriages, and Deaths. Methods and Data of Vital Statistics, mainly in so far as they relate to the birth, marriage, and death-rate of communities.

University of Edinburgh.—This University confers two degrees in Science in the department of Public Health, namely, Bachelor of Science (B.Sc.) and Doctor of Science (D.Sc.).

Bachelor of Science.—The candidate must be a Graduate in Medicine of a British University, or of a Colonial, Indian, or foreign University specially recognised by the University Court, and must be matriculated[1] in Edinburgh University for the year in which he appears for examination or graduation. Two examinations must be passed. *First Examination.*—Fee £5 5s. Certificates must be produced showing (*a*) that the candidate has passed the First Professional Examination for graduation in Medicine in the University of Edinburgh, or one of the Universities above mentioned; and (*b*) that he has worked in a laboratory where practical instruction is given in the methods of investigating subjects pertaining to Public Health. The subjects of the examination are: (1) Laboratory work, practical, written, and oral; (2) Elements of Experimental Physics, written and oral. *Second Examination.*—Fee £5 5s. May be passed at any time after the First. The candidate must produce evidence (*a*) that he has taken a degree in Medicine; (*b*) that he has attended in the Edinburgh University two courses of instruction on subjects included in the First or Second Examination; (*c*) that he has attended a course of lectures in which instruction is given in Public Health. The subjects of the examination are: (1) Medicine in its application to Public Health; (2) Practical Sanitation; (3) Sanitary Law (of any part of the British dominions) and Vital Statistics; (4) Mensuration and Drawing. The examination in each subject is written, oral, and, as far as possible, practical. Detailed schedules in each subject are issued from time to time. The First Examination will be held on March 25th, 1889, and following days; certificates to be submitted and fee paid by March 18th, 1889. The Second Examination will be next held on November 6th, 1888, and following days; certificates to be submitted and fee paid by October 10th, 1888. Further particulars may be obtained, on application to the Convener of the Science Degrees Committee, at the office of the Faculty of Medicine, University New Buildings, where the schedules for examinations are issued and the certificates of candidates examined.

Doctor of Science.—Bachelors of Science in the Department of Public Health may, after the lapse of one year, proceed to the degree of Doctor in the same Department, on producing evidence that they have been engaged in Practical Sanitation since they took the said degree of Bachelor of Science, and on presenting a Thesis on some subject in the Department of Public Health. Every such Thesis must be certified by the candidate to have been composed by himself, and must be approved of by the examiners. The Thesis must be lodged with the Convener of the Science Degrees Committee on or before January 30th, in the year in which the candidate proposes to graduate. The fee is five guineas.

Books.—The following are recommended as examples of the class of books to be studied in preparation for the above examinations.—Balfour Stewart, *Lessons on Elementary Physics:* Tait, *Properties of Matter;* Parkes, *Practical Hygiene;* Edward Smith, *Manual for Public Officers of Health;* Edw. Smith, *Handbook for Inspectors of Nuisances;* Douglas Galton, *Healthy Houses:* Bailey Denton, *Sanitary Engineering;* Vesey Fitzgerald, *Epitome of the Laws Affecting Health;* R. A. Scott, *Meteorology (International Series);* Binns (Glegg's School-book Series), *Orthographic Projection;* Wanklyn, *Analysis of Water, Analysis of Bread, Analysis of Milk, Analysis of Tea;* James Bell, *Analysis of Tea, Coffee, and Sugar;* Woodhead and Hare, *Practical Mycology:* Arnould, *Elemens d'Hygiène;* Flügge, *Hygienische Untersuchungsmethoden.*

University of Glasgow.—A special examination is held once in every year in subjects relating to Public Health, and commences on the third Tuesday in October. All candidates must be registered medical practitioners. Candidates must produce evidence that, either during their medical studies or subsequently, they have attended a course of lectures in which special instruction was given on Public Health; and that they have attended a course of Analytical Chemistry specially bearing upon the subjects of examinations. Candidates who have not passed an *annus medicus* in the University of Glasgow must, before presenting themselves for examination, have attended as matriculated students in this University at least two courses of instruction, scientific or professional, bearing on the subjects of the examinations. The examinations are written, oral, and practical.

The fee for this examination is £5 5s. The candidate must give notice to the Assistant Clerk of Senate, and pay the required fee, at least one calendar month previous to the examination. If, after payment of the fee, a candidate withdraw his name, or fail to present himself at the examination, or fail to pass it, the fee is not returned to him; but he may enter for any *one* subsequent examination without the payment of an additional fee.

The examination embraces the following subjects: Duties of Health-Officer; Air and Ventilation; Food and its Adulterations; Water and Water Supply; Sewage and Drainage; Construction of Hospitals, Public Buildings, and Dwellings; Overcrowding; Manufactories; Insalubrious Trades; Cemeteries; Nuisances; Quarantine; Disinfectants and Deodorisers; Outbreaks of Zymotic Diseases; Climate, Topographical and Seasonal, its influences in relation to Health and Disease; Geographical Distribution of Diseases; Knowledge of leading Sanitary Acts of Parliament; Vital Statistics.

The following are recommended as books for study:—E. A. Parkes, *Practical Hygiene;* George Wilson, *Handbook of Hygiene:* A. H. Hassall, *Food and its Adulterations.*

A course of lectures on Public Health is delivered in the University during the summer session.

Further information with regard to the Lectures on Public Health and the Examinations for the Diploma may be obtained from Dr. P. A. Simpson, Professor of Medical Jurisprudence, University of Glasgow.

Royal College of Physicians of Edinburgh.—The Royal College of Physicians of Edinburgh grants a certificate of Qualification in Public Health under the following Regulations.

Candidates must be already on the *Medical Register* and possess a qualification in Medicine. They are not required to attend any special course of instruction; but their attention is directed particularly to courses of lectures on State Medicine, and to the practice of Analytical Chemistry. There are two examinations, which are written, oral, and practical. Rejected candidates are not admitted for re-examination till after the expiry of six months.

Examinations.—The first examination embraces: 1. *Physics:* especially pneumatics, hydrostatics, hydraulics, and engineering in relation to sanitary operations, including a knowledge of architectural and other plans, etc.; 2. *Chemistry:* especially analysis of air, water, food, including the biology of putrefaction and allied processes, with practical chemical analysis bearing on public health; 3. *Meteorology:* including climate, topographical and seasonal influences in relation to health and disease.

[1] Matriculation consists in paying an entrance fee of £1, and inserting the name in the students' album.

The second examination embraces: 1. *Epidemiology and Endemiology:* including the corresponding departments in the diseases of animals and plants—contagious diseases—diseases of periods of life, professions, trades, seasons, and climates; 2. *Practical Hygiene:* duties of a health officer; food, water-supply, sewerage and drainage; construction of hospitals, public buildings, dwellings, manufactories; cemeteries, including the explanation and drawing of plans; 3. *Sanitary Law and Vital Statistics.*

Meetings for both examinations are held annually in April. The first examination is held on the second Tuesday and Wednesday of the month: the second examination on the immediate succeeding Thursday. Candidates may enter for both examinations in the same week, or for one only. The examinations must be passed in their order, first and second. Candidates must appear for the second examination not later than twelve months after having passed the first. A candidate remitted at his second examination may come up again after a further period of six months.

The fees must be paid at least a week before the day of examination. The fee for each examination is £5 5s. Candidates forfeit the fee for the examination which they have been unsuccessful in passing. If a candidate who has presented himself for both examinations fail to pass the first, he is not allowed to present himself for the second, and his fee for the second is returned.

Faculty of Physicians and Surgeons of Glasgow.—Candidates may be admitted to examination before they have obtained a qualification to practise; but in no case is the certificate to be granted till the candidate is registered under the Medical Act. It is not obligatory on candidates to attend any special course of instruction; but they are strongly recommended to attend a course of lectures on public health, and a course of analytical chemistry. The examinations are written, oral, and practical. The examination is divided into two parts: (1) Chemistry, Physics, and Meteorology; (2) Medicine in its bearings on Sanitary Science, Sanitary Law, and Vital Statistics. Part I. In *Chemistry* candidates must show a fair general knowledge of the principles of the science and of the more commonly occurring elements. They will also be examined on air, water, and their constituent gases; combustion, and its products. They must be able to interpret correctly analytical reports on air, water, and milk. The practical examination will comprise—1. the usual modes of testing (qualitatively) for the commonly occurring impurities in water, including poisonous metals: 2, the quantitative analysis of air in respect of the amount of carbon dioxide which it contains; 3. milk analysis. In *Physics* the examination will be on the laws of heat, the principles of pneumatics, hydrostatics, and hydraulics, in their application to ventilation, water-supply, and drainage. In *Meteorology*, candidates will be examined on the elements of the science, and on the use of meteorological instruments; also on climatology. —Part II will comprise—(*a*). Laws relating to public health, including by-laws which may be enacted; effects of overcrowding, vitiated air, impure water, and bad or insufficient food, water-supply, sewerage, drainage, and the house in reference to health: nuisances injurious to health; vital statistics. (*b*). Origin, propagation, pathology, prevention and control of infectious diseases; unhealthy occupations, the diseases to which they give rise, and the means of removing or mitigating their unhealthy conditions; geographical and topographical distribution of disease, and effects of soil, season, and climate. The following books may be consulted: Parkes's *Manual of Practical Hygiene;* Galton's *Healthy Dwellings;* Eassie's *Sanitary Arrangements for Dwellings;* Husband's *Sanitary Law, a Digest of the Sanitary Acts of England and Scotland;* Fox's *Sanitary Examinations of Water, Air, and Food;* Scott's *Elementary Meteorology;* Farr's *Vital Statistics.* The fee is eight guineas, of which three guineas are payable on entering for the First Part, three guineas on entering for the Second Part, and two guineas on obtaining the certificate.

University of Dublin.—Doctors of Medicine or Graduates in Medicine and Surgery who wish to obtain from the University a certificate of qualification in State Medicine can do so on passing an examination in a limited course of the following subjects: 1. Law; 2. Engineering; 3. Morbid Anatomy; 4. Vital and Sanitary Statistics; 5. Chemistry; 6. Meteorology; 7. Medical Jurisprudence; 8. Hygiene; 9. State Medicine.

Candidates are required to send in their names to the Medical Registrar at least a week before the first day of examination.

Royal University in Ireland.—This University grants a diploma in Sanitary Science. It is conferred only on Graduates of Medicine of the University. Candidates must give notice in writing to the Secretaries of their intention to present themselves, and must pay the fee, £2, at least one month previous to the examination.

The examination embraces the following subjects: *Climate*—A general knowledge of meteorological conditions; the reading and correction of instruments, and tabulating the results of meteorological observations. *Physics*—Laws of heat; mechanics, pneumatics, hydrostatics, and hydraulics. *Chemistry*—Constitution of the atmosphere; pure and impure waters: food. *Geology*—The character and construction of rocks, with reference to water-supply and drainage. *Sanitary Engineering*—The construction of dwellings, barracks, hospitals, schools, factories, etc. *Vital Statistics, Hygiene*, including the causation and prevention of disease. *Sanitary Law*—The examination in Chemistry includes a practical part on the chemical and microscopical examination of air, water, food, poisonous substances used in manufactures, etc. The examination in Physics embraces the reading of plans, sections, scales, etc., in connection with buildings, sanitary constructions, etc. Candidates will be required to draw up reports on the sanitary condition of dwelling houses, or other buildings, selected for the purpose, and to show the possession of a sufficient special knowledge of hygiene, vital statistics, and sanitary law, including the Public Health (Ireland) Act, 1878, Sections 15 to 159, to discharge the duties of Medical Officer of Health. N.B.—Proficiency in practical work and an adequate acquaintance with the instruments and methods of research which may be employed in hygienic investigations are indispensable.

King and Queen's College of Physicians in Ireland.—Stated examinations for certificates in Sanitary Science are held on the Tuesday, Wednesday, and Thursday following the first Friday of February, May, and November. Every candidate for the certificate must be a registered medical practitioner of the United Kingdom. He must return his name to the Registrar of the College three weeks before the examination, and lodge with him a testimonial of character from a Fellow or Member of the College, or from a Fellow of the Royal Colleges of Physicians or Surgeons of London, Edinburgh, or Dublin. The fee for the examination is £7 7s. for Licentiates of the College; for others, £10 10s. The examination comprises the following subjects. (The books mentioned after each subject are intended to indicate, approximately, the range of the subjects, but the examination is not necessarily confined to them.) 1. *Law:* Sanitary Law and the Law of Evidence (The Public Health Acts and the Acts incorporated therewith), the Artisans' Dwellings Acts, The Artisans and Labourers Dwellings Improvement Acts, The Vaccination Acts, Powell's *Principles and Practice of the Laws of Evidence.* 2. *Engineering and Architecture:* Construction of Dwellings, Ventilation, Sewage, Water-Supply and Drainage, Physics and Geology in reference to the foregoing (Corfield's *Dwelling Houses*, etc.; Shirley Murphy's *Our Homes*, Sir Douglas Galton's *Construction of Hospitals*, Reports of Local Government Board on Treatment of Town Sewage. S. S. Hellyer's *The Plumber and Sanitary Houses*, Page's *Introductory Text-Book of Geology.* 3. *Chemistry:* with special reference to the Constitution of the Atmosphere and its Impurities, Purity of Drinking Water, Food and Adulteration, Injurious Manufactures, Poisons (Professor Emerson Reynolds's *Elements of Experimental Chemistry*, Sir Henry Roscoe's *Lessons in Elementary Chemistry*). 4. *Climatology:* Meteorology and the Geographical Distribution of Disease (R. H. Scott's *Elementary Meteorology*, Hirsch's *Handbook of Geographical and Historical Pathology*, translated by Dr. Creighton; Professor Huxley's *Physiography*). 5. *Vital Statistics:* Life Tables, Calculation of Rates of Mortality, Drawing up of Statistical Tables and Reports (Dr. W. Farr's *Vital Statistics*). 6. *Hygiene:* The Causes and Prevention of Disease, Provision for the Sick, Duties of a Medical Officer of Health (Parkes's *Manual of Practical Hygiene*, edited by De Chaumont; Grimshaw, Furlong, Reynolds and Moore's *Manual of Public Health for Ireland*; Wilson's *Manual of Hygiene and Sanitary Science*). 7. *Medical Jurisprudence:* Pathological Anatomy in relation thereto (Alfred Taylor's *Principles and Practice of Medical Jurisprudence*). The examinations are conducted by a printed paper on each of the seven subjects. One hour is allotted for the

answering of each paper, which contains five questions. The candidates are also examined orally on a second day in the Law of Evidence, and practically in the reading of Engineering Plans, Sections, and Scales, and in Analytical Chemistry, with special reference to Air, Water, and Food. The fee paid by a Licentiate in Medicine is not returned in case of rejection; three guineas out of the fee paid by other registered medical practitioners is returned in such case.

DENTAL SURGERY.

Regulations of the Medical Council.—The following are the regulations of the Medical Council regarding the registration and education of dental students. 1. The registration of dental students shall be carried on at the Medical Council Office, London, in the same manner as the registration of Medical Students, and subject to the same regulations as regards preliminary examinations. 2. Students who commenced their professional education by apprenticeship to dentists entitled to be registered, or by attendance upon professional lectures, before July 22nd, 1878 (when dental education became compulsory), shall not be required to produce evidence of having passed a preliminary examination. 3. Pupils who have been articled to their fathers, or to brothers, with whom money transactions would be nominal, shall, in all other respects, be considered to be in the same position, in regard to registration, as those pupils provided for in the first part of Section 37 of the Dentists' Act, who have paid premiums for instruction. 4. Candidates for a diploma in Dental Surgery shall produce certificates of having been engaged during four years in professional studies, and of having received three years' instruction in Mechanical Dentistry from a registered practitioner. 5. One year's *bonâ fide* apprenticeship with a registered dental practitioner, after being registered as a dental student, may be counted as one of the four years of professional study. 6. The three years of instruction in Mechanical Dentistry, or any part of them, may be taken by the dental student, either before or after his registration as a student; but no year of such mechanical instruction shall be counted as one of the four years of professional study unless taken after registration.

The Royal College of Surgeons of England grants a diploma in Dental Surgery under the following regulations.

Candidates must produce certificates: 1. Of being 21 years of age. 2. Of having been engaged, during four years, in the acquirement of professional knowledge. 3. Of having attended not less than one of each of the following courses of lectures: Anatomy, Physiology, Surgery, Medicine, Chemistry, and Materia Medica. 4. Of having attended a second winter course of lectures on Anatomy, or a course of not less than twenty lectures on the Anatomy of the head and neck. 5. Of having performed Dissection during not less than nine months. 6. Of having completed a course of Chemical Manipulation. 7. Of having attended, at a hospital or hospitals in the United Kingdom, Surgery and Clinical Lectures on Surgery, during two winter sessions. 8. Of having attended two courses of lectures upon each of the following subjects: Dental Anatomy and Physiology (Human and Comparative), Dental Surgery, Dental Mechanics, and one course on Metallurgy. 9. Of having been engaged, during not less than three years, eighteen months of which may be taken before registration as a dental student, in acquiring a practical familiarity with the details of Mechanical Dentistry, under the instructions of a competent practitioner. 10. Of having attended at a dental hospital, or in the dental department of a general hospital, the Practice of Dental Surgery during two years. The courses of instruction and hospital practice must be by lectures or in institutions recognised by the College.

All candidates who commence their professional education on or after July 22nd, 1878, must, in addition to the certificates enumerated above, produce a certificate of having, prior to such commencement, been registered as a dental student by the General Medical Council.

Candidates who were in practice as dentists, or who had commenced their education as dentists, prior to September, 1859, and who are unable to produce the certificates required by the foregoing regulations, must furnish the Board of Examiners with a certificate of moral and professional character, signed by two Members of the College, together with answers to certain inquiries. In the case of candidates practising in, or educated in, Scotland or Ireland, the certificate of moral or professional character may be signed by two Licentiates of the Royal College of Surgeons of Edinburgh, or of the Faculty of Physicians and Surgeons of Glasgow, or of the Royal College of Surgeons in Ireland.

The examination is partly written and partly oral. The written examination comprises General Anatomy and Physiology, and General Pathology and Surgery, with special reference to Dental Practice. The oral practical examination comprises the several subjects included in the curriculum of professional education, and is conducted by the use of preparations, casts, drawings, etc. Members of the College, in the written examination, have to answer only those questions set by the Section of the Board consisting of persons skilled in Dental Surgery; and in the oral examination are examined only by that Section. A rejected candidate is not admitted to re-examination within six months, unless the Board otherwise determine. Examinations are held in May and November. The fee for the diploma is £10 10s., over and above any stamp duty.

Royal College of Surgeons, Edinburgh.—*Diploma in Dental Surgery.*—All candidates, with certain exceptions mentioned below, must (1) have their names inscribed in the *Register of Dental Students* of the General Medical Council (kept by the Registrar at the central office, 299, Oxford Street, London); and (2) pass a preliminary examination in general knowledge. A schedule, giving a list of examinations recognised for this, as well as of the subjects of the professional examinations, may be obtained of the Secretary of the Royal College of Surgeons, 6, Walker Street, Edinburgh. Students who commenced their professional education by apprenticeship or attendance on lectures before July 22nd, 1878, are exempt from the preliminary examinations.

Professional Education.—Candidates must produce certificates of having (1) been engaged for four years in professional studies, and of three years' instruction in Mechanical Dentistry; (2) of having attended in a university, established school of medicine, or recognised provincial school, courses on Anatomy, Dissections, Demonstrations, and Anatomy of Head and Neck, Physiology, Chemistry, Surgery, Medicine, Materia Medica, Practical Medicine, and Metallurgy, Clinical Surgery; (3) of having attended in a recognised dental hospital the following special courses: Dental Anatomy and Physiology, Dental Surgery and Pathology, Metallurgy, Dental Mechanics; two years' course at a dental hospital or dental department of a special hospital. Licentiates of the College who are recognised medical practitioners are required to produce certificates of attendance on the special courses only.

Professional Examinations.—First Examination. The candidate must have attended the courses on Anatomy, Chemistry, and Physiology. The examination embraces Anatomy, Chemistry (with Metallurgy), and Physiology. The fee is £4 4s. Second Examination: The candidate must have attended the remaining courses of the curriculum, must be 21 years of age, and must pay a fee of £6 6s. The examination embraces Surgery, Medicine, Materia Medica, and the special subjects of Dental Anatomy and Physiology, Dental Surgery and Pathology, and Dental Mechanics.

Examination sine Curriculo.—Persons in practice before August 1st, 1878, or apprenticed before August 1st, 1875, will be, up to the end of 1888, admitted to the professional examinations, if approved by the President's Council.

Faculty of Physicians and Surgeons of Glasgow.—The regulations as to certificates, curriculum, number of examinations, fees, and examinations *sine curriculo*, are in effect similar to those of the Royal College of Surgeons of Edinburgh. A special course of Metallurgy is required.

Royal College of Surgeons in Ireland.—Every candidate for the Licence in Dentistry of the College must pass a preliminary examination and three professional examinations. The regulations of the College which refer to the preliminary examination of the candidate for the Letters Testimonial apply to the candidate for the Dental Licence.

Professional Examinations.—The First and Second Professional Examinations will be held in July and October of each year. Should the student fail to pass in July, he may present himself in October. These examinations are identical with the second and third professional examinations for the Letters Testimonial, are conducted at the same time, and are subject to the same regulations.

The Third Professional Examination will be held in April, July, and October. The candidate must, before admission to the Final Examination, produce evidence: *a.* Of having passed the Second Pro-

fessional Examination, or of having obtained a diploma in Surgery recognised by the College. *b.* Of having attended, subsequently to registration by the General Medical Council, the following courses of lectures recognised by the College: Dental Surgery and Pathology, Dental Mechanics, of each two courses; Dental Anatomy and Physiology, Dental Metallurgy, of each one course. *c.* Of having attended for two years the practice of a dental hospital recognised by the College. *d.* Of having been engaged in acquiring a practical knowledge of Mechanical Dentistry, for at least two years in a public laboratory recognised by the College; or for at least three years under the instructions of a registered dentist. The candidate must also submit a piece of mechanical work certified to be of his own making.

A candidate holding a diploma in Surgery recognised by the College must produce certificates of one course of each of the above special dental subjects, and of half the hospital attendance and half the laboratory work required from other dental students. In this case the special dental courses, hospital attendances, and laboratory work must all be taken out after the date of the diploma in Surgery.

The fee for the Final Examination is, in the case of Licentiates in Surgery of the College and for dental students, £7 7s.; for re-examination, if rejected, £4 4s. For candidates holding a Surgical diploma other than that of the Royal College of Surgeons in Ireland, £12 12s.; for re-examination, if rejected, £6 6s.

Candidates will be examined in—1, Dental Surgery—Theoretical, Clinical, and Operative; 2, Dental Mechanics—Theoretical and Operative; 3, Dental Anatomy and Physiology; 4, Metallurgy and Physics. The examination, which will last four days, will be by printed questions and oral; and the candidates' knowledge of Operative Dental Surgery and Mechanical Dentistry will be tested in a hospital and in the dental laboratory.

Examinations sine Curriculo.—Candidates who were in practice before 1878, whose names are on the *Dental Register*, and who are unable to furnish the certificates required by the foregoing regulations, may be admitted to examination if they shall fill in the schedule of application as follows:—1. The name, age, and address. 2. A certificate of moral and professional character, signed by two registered medical practitioners and by two registered dentists. 3. The date of commencing practice, and whether such practice has been carried on in conjunction with any other business, and, if so, with what business. 4. Any certificate of general education, or degree in Arts and Medicine. 5. The particulars of professional education. The schedule of application, containing these particulars, must be sent to the Registrar of the College at least three weeks before the date of the examination; and the Council of the College will then determine whether or not the candidate shall be admitted to examination for the Dental Diploma. Such examination shall comprise the same subjects, and be conducted in the same manner, as the Second and Final Professional Examinations.

The fee for this examination is £21; re-examination, if rejected, £10 10s.

An enrolment fee of £1 1s. is payable to the Registrar of the College on the issue of the diploma.

National Dental Hospital and College.—*Consulting Physicians*, Dr. B. W. Richardson and Dr. W. H. Broadbent. *Consulting Surgeons*, Sir Spencer Wells and Mr. Christopher Heath. *Consulting Dental Surgeon*, Sir Edwin Saunders. *Dental Surgeons*, Mr. F. H. Weiss, Mr. A. Smith, Mr. G. A. Williams, Mr. A. F. Canton, Mr. T. Gaddes, Mr. H. Rose. *Assistant Dental Surgeons*, Mr. W. Weiss, Mr. R. Denison Pedley, Mr. M. Davis, Mr. H. G. Read, Mr. C. W. Glassington, Mr. W. R. Humby. *Lecturers* (Winter), Dental Anatomy and Physiology: Mr. Gaddes, Tuesdays and Thursdays, 6 P.M., in October, November, and December. Operative Dental Surgery and Therapeutics: Dr. George Cunningham, Mondays, 6.30 P.M., in October, November, and December. Dental Materia Medica and Therapeutics: Mr. C. W. Glassington, Tuesdays, 7.30 P.M., in October, November, and December. Dental Metallurgy, Mr. W. Lapraik, Tuesdays, 7.30 P.M., in January, February, and March. Dental Mechanics: Mr. H. Rose, Mondays, 7 P.M., in January, February, and March. Demonstrations in Dental Mechanics: Mr. Humby, Wednesdays, 7 P.M., in January, February, and March (in 1889 and alternate years). (Summer), Dental Surgery and Pathology; Mr. W. Weiss, Mondays and Thursdays, 6 P.M., in May, June, and July. Elements of Histology, Dr. J. Maughan, Mondays and Thursdays, 5 P.M., May, June, and July.

Clinical Lectures and Demonstrations are given from time to time.

Dresserships in the Extraction Room are held for three months by six senior and six junior students of the Hospital.

Prizes.—Six Prizes in Medals are open for competition at the end of each course of lectures. Certificates of Honour are given in each class. The Rymer Medal for General Proficiency, value £5, is awarded annually to the most meritorious student.

Fees.—General Fee for Special Lectures required by the curriculum of the Royal College of Surgeons of England, £12 12s. For the Two Years' Hospital Practice required, £12 12s. Total Fee for the Special Lectures and Hospital Practice required, £25 4s. Perpetual Fee to all Lectures, and to Hospital Practice, £15 15s. each. Single Courses: Dental Anatomy and Physiology, Dental Surgery and Pathology, Operative Dental Surgery, and Dental Mechanics, each one course, £2 12s. 6d.; two courses, £4 4s.; Dental Metallurgy, one course, £3 3s.; two courses, £5 5s.; Dental Materia Medica, £2 2s.; Demonstration of Dental Mechanics, Elements of Histology, each £1 1s. Hospital Practice to registered practitioners, six months, £7 7s.; twelve months, £9 9s.

Information respecting the Hospital Practice and the College may be obtained from the Dean, Mr. Gaddes, at the Hospital, Great Portland Street.

Dental Hospital of London and London School of Dental Surgery.—*Consulting Physician*, Sir J. Risdon Bennett, M.D. *Consulting Surgeon*, Mr. Christopher Heath. *Consulting Dental Surgeons*, Mr. S. Cartwright, Sir John Tomes. *Dental Surgeons*, Mr. Hepburn, Mr. R. Woodhouse, Mr. Gregson, Mr. Storer Bennett, Mr. Claude Rogers, and Mr. F. Canton. *Assistant Dental Surgeons*, Mr. W. Hern, Mr. L. Matheson, Mr. E. Lloyd Williams, Mr. G. Parkinson, Mr. L. Reed, and Mr. C. E. Truman. *Anæsthetists*, Mr. Braine, Mr. Bailey, Mr. Bird, and Mr. Mills. *Assistant Anæsthetists*, Dr. D. W. Buxton, and Dr. F. Hewitt.

Lectures are given at this School on Mechanical Dentistry by Dr. J. Walker, at 1 P.M., on Wednesdays in October, November, and December; on Dental Surgery and Pathology, by Mr. Hutchinson, at 8 A.M., on Wednesdays and Fridays, in May and June; on Dental Anatomy and Physiology (Human and Comparative), by Mr. A. Underwood, at 8 A.M., on Tuesdays and Thursdays, in May and June; on Metallurgy, in its application to Dental purposes, by Professor A. K. Huntington, at noon, on Tuesdays, in October, November, and December.

Twelve senior dressers for extraction under anæsthetics, and eighteen junior dressers for ordinary extractions, are appointed every two months.

The Saunders Scholarship of £20 is awarded to the student who has obtained the largest number of first-class prizes in the winter and summer session. A prize, value £5 5s., is given for the best essay on some Surgical subject connected with Dental Surgery. First and second prizes are given in each class.

Fee for two years' hospital practice or lectures, each £15 15s. for hospital practice, perpetual, £21. Single courses: Dental Anatomy and Physiology, Dental Surgery, Dental Mechanics, and Metallurgy, each one course, £3 3s.; two courses, £5 5s.

Further particulars may be obtained on application to the Dean, Mr. Morton Smale, at the Hospital.

Queen's College, Birmingham.—The teaching of Dentistry is undertaken by the Queen's College, acting in association with the Birmingham Dental Hospital and the Birmingham Clinical Board, so that students may fully qualify themselves for the dental diploma of the Royal Colleges. The Dental Hospital is situated near the College, and is open daily (Sundays excepted).

Lectures on the special subjects are delivered as follows: Winter session: Anatomy and Physiology, by Mr. John Humphreys, Thursday, 5 P.M.; Dental Surgery and Pathology, Mr. C. Sims, Friday, 5 P.M.; Dental Metallurgy, Professor Tilden, at the Mason College. Summer session: Dental Mechanics, Mr. W. Elliott, Wednesday, 5 P.M.

The Birmingham Dental Hospital is open daily at 9 A.M. The staff is constituted as follows: *Consulting Physician*, R. M. Simon, B.A., M.B.Cantab.; *Consulting Surgeon*, Mr. Wilders; *Consulting Dentists*, Mr. T. R. English, Mr. Adams Parker, and Mr. C. Sims; *Dental Surgeons*, H. B. Neale, F. E. Huxley, J. Humphreys, and F. W. Richards. *Assistant Dental Surgeons*, Frank H. Goffe, W. R. Roberts, G. O. Richards, and W. Palethorpe.

Clinical Demonstrations are given from time to time by the staff upon cases of particular interest; also upon the preparing and

filling of cavities, and other operations upon the teeth and contiguous structures.

Dresserships in the Extraction-room are held for three months by senior and junior students at the hospital.

The *fee* for each of the special courses in Queen's College is £4 4s.; for Dental Hospital Practice, two years, £14 14s.; one year, £8 8s.; six months, £5 5s.

BRISTOL GENERAL HOSPITAL.—Mr. Parson gives practical instruction in Dental Surgery, at 1 P.M., on Tuesdays and Fridays.

OWENS COLLEGE, MANCHESTER.—Arrangements have been made for dental students to attend the hospital practice at the Manchester Royal Infirmary, and the practice at the Victoria Dental Hospital. Lectures on the special subjects will be given in the College as follows. Winter session: Dental Mechanics, Mr. Tanner, Thursday, 4 P.M. Summer session: Dental Anatomy and Physiology, Dr. Paterson, Tuesday, 11 A.M., Friday, 12. Dental Surgery, Mr. Campion, Monday and Friday, 4.30 P.M. Dental Metallurgy, Dr. Burghart, at an hour to be arranged.

Fees.—For course of Metallurgy, £3 3s.; other lectures, one course, £3 3s.; two courses, £4 4s. Dental practice for two years at the Manchester Royal Infirmary, £10 10s.; at the Victoria Dental Hospital at Manchester, £12 12s., paid in advance.

At the Victoria Dental Hospital, patients attend at 8.30 in the morning daily, and at 7 P.M. on Monday, Wednesday, and Friday. The staff of the hospital is as follows: *Consulting Physicians*, Sir W. Roberts, F.R.S., Dr. H. Simpson, Dr. J. E. Morgan, Dr. D. J. Leech, Dr. Lloyd Roberts. *Consulting Surgeons*, Mr. E. Lund, Mr. F. A. Heath, Mr. W. Whitehead, Mr. T. Jones, and Mr. J. Hardie. *Consulting Dental Surgeons*, Mr. H. Campion, Mr. S. A. Rogers, Mr. Parsons Shaw. *Dental Surgeons*, Mr. G. G. Campion, Mr. E. P. Collett, Mr. W. Dougan, Mr. L. Dreschfeld, Mr. J. W. Dunkerley, Mr. W. Dykes, Mr. W. Headridge, Mr. H. Mann, Mr. J. H. Molloy, Mr. H. Planck, Mr. I. Renshaw, Mr. W. Simms, Mr. G. N. Skipp, Mr. W. Smithard, Mr. T. Tanner, Mr. H. Wood. *Administrators of Anæsthetics*, Mr. Alexander Wilson, Dr. J. P. Stallard. *Dean*, Mr. H. Planck, to whom all communications are to be addressed at the hospital.

UNIVERSITY COLLEGE, LIVERPOOL.—The lecturers in the Schools of Dental Surgery in connection with this institution are as follows: Dental Surgery, Mr. E. J. M. Phillips; Dental Mechanics, Mr. E. A. Councell; Dental Anatomy and Physiology, Mr. F. T. Paul, and Dental Metallurgy, Mr. J. Royston. Lectures are given once or twice weekly, by arrangement. The fee for each course is £3 3s.; for a second course, £2 2s.

The curriculum in Dental Surgery includes Lectures and Demonstrations on all the subjects required for the Licences in Dental Surgery of the Royal Colleges of Surgeons of London, Edinburgh, and Dublin, and of the Faculty of Physicians and Surgeons of Glasgow.

Practical instruction in Dentistry is given at the Dental Hospital in Mount Pleasant. The fee is £8 8s. for two years' course.

EDINBURGH DENTAL HOSPITAL SCHOOL.—*Consulting Physician*, Dr. A. Peddie. *Consulting Surgeon*, Mr. Joseph Bell. *Consulting Surgeon Dentist*, Dr. John Smith. *Dental Surgeons*, Mr. C. Matthew, Mr. W. B. Macleod, Mr. M. Finlayson, Mr. A. Wilson, Mr. M. Macgregor, Mr. G. W. Watson, Mr. J. S. Durward. *Assistant Dental Surgeons*, Mr. J. Macintosh, Mr. J. Lindsay, Mr. W. Forrester, Mr. J. S. Amoor, Mr. J. G. Munro, Mr. Wm. Wilson. *Tutorial Dental Surgeon*, Mr. F. Page. The following lectures are given in the School: Dental Anatomy and Physiology, Mr. A. Wilson, Tuesday and Friday 8 (winter); Dental Surgery and Pathology, Mr. G. W. Watson, Tuesday and Friday, 8 (summer); Mechanical Dentistry, Mr. W. B. Macleod, twelve lectures, on Wednesdays; Practical Mechanics, Mr. J. S. Durward. The fee to Hospital Practice, including one course of Demonstrations in Gold-fitting, is £15 15s.; one course of Dental Anatomy, Dental Surgery, and Mechanical Dentistry, £9 15s.; one course of each subject separately, £3 5s.; second courses of the lectures, £2 4s. each. *Dean*, Mr. W. B. Macleod.

GLASGOW DENTAL HOSPITAL.—*Consulting Physician*, Professor W. T. Gairdner, M.D. *Consulting Surgeon*, Sir G. H. B. Macleod, M.D. *Dental Surgeons*, Mr. J. A. Biggs, Mr. W. S. Woodburn, Mr. R. Price, Mr. J. Cumming, sen., Mr. J. R. Brownlie, Dr. J. C. Woodburn, *Assistant Dental Surgeons*, Alexander White, L.D.S. Glas., W. F. Martin, L.D.S.Glas., J. M'Cash, L.D.S.Glas., James Cameron, L.D.S. Glas. *Chloroformists*, J. Brown, M.D., A. Mechan, M.B., James Wyllie, M.B. Dental Anatomy (summer), Dr. J. C. Woodburn, Wednesday and Saturday, 8 A.M.; Dental Surgery (summer), Mr. J. R. Brownlie, Tuesday and Friday, 8 A.M.; Mechanical Dentistry (winter), J. A. Biggs, L.D.S.Glas., Friday, 7 P.M. Dental Metallurgy (winter), Mr. R. Price, Wednesday 7 P.M. *Fees:* Each course of lectures, £3 3s.; this includes two summer sessions. Hospital Practice, two years, as required for the Licence in Dental Surgery, £12 12s. Composition fee for Hospital and lectures, £23 2s. *Dean*, Mr. J. R. Brownlie.

GLASGOW ROYAL INFIRMARY SCHOOL OF MEDICINE.—Dr. J. C. Woodburn attends at the Royal Infirmary, at 3 P.M., on Mondays, Wednesdays, and Saturdays, and gives a course of Dental Surgery on these days in summer. The following course in the curriculum can be taken at this School: Anatomy, six months; Practical Anatomy, nine months; Physiology, six months; Chemistry, six months; Practical Chemistry, with Metallurgy, three months; Surgery, six months; Medicine, six months; Materia Medica, three months; Clinical Surgery, six months; Dental Surgery, six months; and attendance for two years on the Dental Department of the Hospital. The attendance on the dental clinic is free to students of the Hospital; to dental students, one year, £5 5s.; perpetual, £10 10s. Lectures on Dental Surgery, £2 2s.

REGULATIONS TO BE OBSERVED BY CANDIDATES FOR ADMISSION INTO THE NAVAL, ARMY, AND INDIAN MEDICAL SERVICES.

MEDICAL DEPARTMENT OF THE ROYAL NAVY.

1. EVERY candidate for admission into the Medical Department of the Royal Navy must not be under 21 nor over 28 years of age on the day of the commencement of the competitive examination. He must produce an extract from the register of the date of his birth; or, in default, a declaration made before a magistrate, from one of his parents or other near relative, stating the date of birth. He must also produce a certificate of moral character, and a recommendation, signed by a clergyman or magistrate to whom he has been for some years personally known, or by the president or senior professor of the college at which he was educated. 2. He must be registered, under the Medical Act in force, as possessing two diplomas or licences recognised by the General Council, one to practise medicine, and the other surgery, in Great Britain and Ireland. 3. He must sign a declaration that he is a British subject, the son of parents of unmixed European blood, that he labours under no mental or constitutional disease or weakness, or any other imperfection or disability which may interfere with the most efficient discharge of the duties of a medical officer in any climate; and that he does not hold, and has never held, any commission or appointment in the public services. He must also declare his readiness to engage for general service at home or abroad as required. He must be free from organic or other disease, and his physical fitness will be determined by a Board of Medical Officers, who are to certify that his vision comes up to the required standard, which will be ascertained by the use of Snellen's Test Types. 4. Candidates will be examined by the Examining Board in the following compulsory subjects, and the highest number of marks attainable will be distributed as follows: *a*, Anatomy and Physiology; *b*, Surgery; *c*, Medicine, including Therapeutics and the Diseases of Women and Children; *d*, Chemistry and Pharmacy, and a practical knowledge of drugs, each 1,000 marks.

The examination in Medicine and Surgery will be in part practical, and will include operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside. The examination in Chemistry will be limited to the elements of the science, and to its application to medicine, pharmacy, and practical hygiene.

No candidate will be considered eligible who shall not have obtained at least one-third of the marks obtainable in each of the above compulsory subjects. 5. Candidates may be examined in the following voluntary subjects, for which the maximum number of marks obtainable will be: French and German (150 each), 300 marks; Natural Sciences, 300 marks. A number less than one-third of the marks obtainable in each of these voluntary subjects will not be allowed to count in favour of the candidate who has qualified in the compulsory subjects. The knowledge of modern languages being considered of great importance, all intending

competitors are urged to qualify in French and German. The Natural Sciences will include Comparative Anatomy, Zoology, Natural Philosophy, Physical Geography, and Botany, with special reference to Materia Medica. 6. The appointments announced for competition will be filled up from the list of qualified candidates arranged in the order of merit, as finally determined by the total number of marks each has obtained in both the compulsory and voluntary subjects. 7. Successful candidates, immediately after passing the examination, will receive commissions as Surgeons in the Royal Navy, and will undergo a course of practical instruction in Naval Hygiene, etc., at Haslar Hospital.

ARMY MEDICAL STAFF.

1. EVERY candidate for a commission in the Army Medical Staff must be 21 years of age and not over 28 years,[1] at the date of commencement of the competitive examination. He most produce an extract from the register of his birth, or, in default, a declaration made before a magistrate by one of his parents or guardians, giving his exact age. He must produce a recommendation from some person of standing in society—not a member of his own family—to the effect that he is of regular and steady habits, and likely in every respect to prove creditable to the department if a commission be granted, and also a certificate of moral character from the parochial clergyman, if possible. 2. The candidate must sign a declaration on honour that both his parents are of unmixed European blood, and that he labours under no mental or constitutional disease, or any hereditary tendency thereto, nor any imperfection or disability that can interfere with the efficient discharge of the duties of a medical officer in any climate; also that he does not hold, and has never held, any commission or appointment in the public services. His physical fitness will be determined by a Board of Medical Officers, who are required to certify that his vision is sufficiently good to enable him to perform any surgical operation without the aid of glasses. A moderate degree of myopia will not be considered a disqualification, provided it does not necessitate the use of glasses during the performance of operations, and that no organic disease of the eye exists. The board must also certify that he is free from organic or other disease, and from constitutional weakness or tendency thereto, or other disability of any kind likely to unfit him for military service in any climate. 3. Certificates of age, registration of diplomas, etc., and of character, must accompany the declaration when signed and returned. 4. Candidates will be examined by the examining board in the following compulsory subjects, and the highest number of marks attainable will be distributed as follows: *a*. Anatomy and Physiology, 1,000 marks; *b*. Surgery, 1,000 marks; *c*. Medicine, including Therapeutics, the Diseases of Women and Children, 1,000 marks; *d*. Chemistry and Pharmacy, and a Practical Knowledge of Drugs, 1,000 marks. The examination in Medicine and Surgery will be in part practical, and will include operations on the dead body, the application of surgical apparatus, and examination of medical and surgical patients at the bedside. The examination in Chemistry will be limited to the elements of the science, and to its application to Medicine, Pharmacy, and Practical Hygiene. No candidate will be considered eligible for the Army Medical Staff who shall not have obtained at least one-third of the marks obtainable in each of the above compulsory subjects. 5. Candidates may be examined in the following voluntary subjects, for which the maximum number of marks obtainable will be—French and German (150 each), 300 marks; Natural Sciences, 300 marks. A number less than one-third of the marks obtainable in each of these voluntary subjects will not be allowed to count in favour of the candidate who has qualified in the compulsory subjects. The knowledge of modern languages being considered of great importance, all intending competitors are urged to qualify in French and German. The Natural Sciences will include Comparative Anatomy, Zoology, Natural Philosophy, Physical Geography, and Botany, with special reference to Materia Medica. 6. The appointments announced for competition will be filled up from the list of qualified candidates arranged in the order of merit, as finally determined by the total number of marks each has obtained in both the compulsory and the voluntary subjects. 7. After passing this examination, every successful candidate will be required to attend one course of practical instruction at the Army Medical School as a surgeon on probation on (1) Hygiene; (2) Clinical and Military Medicine; (3) Clinical and Military Surgery; (4) Pathology of Diseases and Injuries incident to Military Service. 8. All surgeons on probation will be required to conform to such rules of discipline as the Senate may from time to time enact, and provide themselves with uniform, namely, the regulation undress and mess-uniform of a surgeon, but without sword. 9. They will be required to attend the medical staff mess at Netley, and to conform to the rules and regulations thereof.

Every candidate for appointment to the medical ranks of the Army Medical Staff must possess two diplomas or licences recognised by the General Medical Council—one to practise medicine, and the other surgery, and shall be registered under the Medical Act in force in the United Kingdom at the time of his appointment. A public and open competition will be held twice in the year for the admission of qualified candidates as probationers. The number of appointments so competed for will be not less than half of the number of vacancies which shall have arisen in the last completed half-year ending on June 30th or December 31st.[2] Not less than half the number of vacancies will be filled up by competition, and it will be competent for the Secretary of State to fill up the remaining number from such qualified candidates as may be proposed by the governing bodies of public schools of medicine in the United Kingdom, or in the Colonies, as he may think proper. Every candidate so proposed must be certified by the governing body so proposing him to be duly qualified according to a standard to be laid down by the Secretary of State, and must be approved by the Director-General. The Secretary of State will from time to time fix the order of precedence and the proportion in which the several schools of medicine shall be offered the nomination of candidates. A surgeon on probation, on being so nominated, will be sent to some large station for instruction in ambulance and hospital corps duties, until the commencement of the next course of study at the Army Medical School. After passing through such course at the Army Medical School as the Secretary of State shall decide, the surgeon on probation, after passing a qualifying examination in the military medical subjects taught there, and satisfying the Director-General that he is a person of proper skill, knowledge, and character for permanent appointment in the Army Medical Staff will be commissioned as surgeon. The surgeons on probation who pass out of the Army Medical School at one qualifying examination will take precedence among each other as surgeons as follows: (*a*) those appointed on nomination according to their date of joining on probation; (*b*) those appointed on competition according to the last day of the competitive examination, and in the order of merit at such examination, with priority over any joining under subsection (*a*) on the last day of the competitive examination. A surgeon's commission will bear the date of the day of his passing out of the Army Medical School.

INDIAN MEDICAL SERVICE.

1. ALL natural-born subjects of Her Majesty, between twenty-two and twenty-eight years of age at the date of the examination, and of sound bodily health, may be candidates. They may be married or unmarried. They must possess a Diploma in Surgery, or a licence to practise it, as well as a Degree in Medicine, or a licence to practise it in Great Britain or Ireland. 2. The candidate must subscribe and send in to the Military Secretary, India Office, Westminster, so as to reach that address at least a fortnight before the date fixed for the examination, a declaration, stating his readiness to engage for the service and to proceed to duty immediately on being gazetted; also that he labours under no mental nor constitutional disease; nor any imperfection or disability that can interfere with the most efficient discharge of the duties of a medical officer. A schedule of the degrees or licences possessed by the candidate, with the sources and dates thereof, must be appended. 3. This declaration must be accompanied by the following documents: (*a*) proof of age, either by extract from the register of the parish in which the candidate was born, or, where such extract is unattainable, by his own declaration (pursuant to the Act 5 and 6 Will. IV., c. 62), form of which can be obtained at the India Office; a certificate of baptism, which does not afford proof of age, will be useless; (*b*) a recommendation from some person of standing in society—not a member of his own family—to the effect that he is of regular and steady habits, and likely in every respect to prove creditable to the service if admitted; and a certificate of moral character from a magistrate, or a minister of the religious denomi-

[1] Extended to 30 for officers who join expressly for service on West Coast of Africa. After three years' service on the Coast they become eligible for general service.

[2] This rule has never been acted on, as a sufficient number of candidates under the last warrant has always been forthcoming.

nation to which the candidate belongs; (*c*) a certificate of registration, in accordance with the Medical Act of 1858, of the degrees, diplomas, and licences possessed by the candidate. 4. The physical fitness of candidates will be determined previous to examination by a Board of Medical Officers, who are required to certify that the candidate's vision is sufficiently good to enable him to perform any surgical operation without the aid of glasses. A moderate degree of myopia will not be considered a disqualification, provided it do not necessitate the use of glasses during the performance of operations, and that no organic disease of the eyes exists. Every candidate must also be free from all other organic disease, and from constitutional weakness, or other disability likely to unfit him for military service in India. 5. On producing the foregoing qualifications, the candidate will be examined by the Examining Board in the following compulsory subjects, and the highest number of marks attainable will be distributed as follows: (*a*) Anatomy and Physiology, 1,000 marks; (*b*) Surgery, 1,000; (*c*) Medicine, including Therapeutics, the Diseases of Women and Children, 1,000; (*d*) Chemistry and Pharmacy, and a Practical Knowledge of Drugs, 1,000. The examination in medicine and surgery will be in part practical, and will include operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside. The examination in chemistry will be limited to the elements of the science, and to its application to medicine, pharmacy, and practical hygiene. No candidate will be considered eligible who shall not have obtained at least one-third of the marks obtainable in each of the above compulsory subjects. 6. Candidates may be examined in the following voluntary subjects, for which the maximum number of marks obtainable will be: French, German, and Hindustani (150 each), 450 marks; Natural Sciences, 300 marks. The Natural Sciences will include comparative anatomy, zoology, natural philosophy, physical geography, and botany with special reference to materia medica. A number less than one third of the marks obtainable in any of these voluntary subjects will not be allowed to count in favour of a candidate who has qualified in the compulsory subjects. The knowledge of modern languages being considered of great importance, all intending competitors are urged to qualify in French and German. 7. The appointments announced for competition will be filled up from the list of qualified candidates arranged in order of merit, as finally determined by the total number of marks each has obtained in both the compulsory and voluntary subjects. The Examiners in London will prepare a list in order of merit, with the marks affixed in the different subjects, to be transmitted to the Director-General, and communicated to the Professors of the Army Medical School. If any candidate is found to be deficient in any particular subject, this shall be stated, in order that he may receive special instruction on the point at Netley. 8. After passing their preliminary examination, candidates will be required to attend one entire course of Practical Instruction at the Army Medical School, as surgeons on probation, on 1. Hygiene; 2. Clinical and Military Medicine; 3. Clinical and Military Surgery; 4. Pathology of Diseases and Injuries indident to Military Service. These courses are to be of not less than four months' duration; but candidates who have already gone through a course at Netley as candidates for the Army or Navy Medical Service may, if thought desirable, be exempted from attending the School a second time. 9. During the period of his residence at the Army Medical School, each candidate will receive an allowance of eight shillings per day, with quarters, or, when quarters are not provided, with the usual lodging and fuel and light allowances of subalterns, to cover all costs of maintenance; and he will be required to provide himself with uniform (namely, the regulation undress uniform of a surgeon of the British service, but without the sword). 10. All candidates will be required to conform to such rules of discipline as the Senate may from time to time enact. 11. At the conclusion of the course, candidates will be required to pass an examination on the subjects taught in the School. The examination will be conducted by the Professors of the School. The Director-General, or any medical officer deputed by him, may be present and take part in the examination. If the candidate give satisfactory evidence of being qualified for the practical duties of an Army Medical Officer, he will be eligible for a commission as surgeon. 12. The position of the candidates on the list of surgeons will be determined by the combined results of the preliminary and of the final examinations; and, so far as the requirements of the service will permit, they will have the choice of Presidency in India, according to their position in that list. The next examination will be held in February, 1889.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, SEPTEMBER 8TH, 1888.

THE MODERN MEDICAL CURRICULUM.

THOUGH the regulations made by the General Medical Council for the conduct of medical education in the United Kingdom are simple in principle, yet their practical application by the numerous Universities and Corporations involves a good deal of complexity. The Council lays down a minimum curriculum and a minimum standard of knowledge, and no student can be admitted into the profession who does not attain to this standard. Broadly speaking, the regulations amount to the following. (1) The would-be student must pass an examination in general knowledge. A long list of the examinations which are considered adequate will be found on the first page of this number of the JOURNAL. Having passed this test, the student can enter his name on the *Students' Register* kept by the General Medical Council. He is next required (2) to pass through a course of instruction in the preliminary sciences, Chemistry and Biology, and to pass an examination therein. (3) He next receives instruction in Anatomy and Physiology—that is to say, the structure and functions of the body in health, and is examined in these subjects. Finally, the concluding part of the obligatory curriculum is given to (4) the study of diseased processes; and the student must pass examinations in Medicine, Surgery, and Midwifery before obtaining a degree or diploma entitling him to practise.

The medical courses of all the Universities and Corporations run on parallel lines, and the familiar simile is peculiarly applicable in this instance, for as two parallel lines can never meet however far they may be prolonged, so the curricula of the Universities and Corporations never intersect, and the student once committed to a particular line finds it always difficult and often impossible to reach another, and as it may then appear to him more desirable, line without retracing his steps nearly to the beginning. An initial mistake therefore is liable to entail very serious consequences. The possession of the degree of M.D. is rightly regarded by all practising medical men in this country as a distinct advantage, yet a very large proportion find themselves debarred from obtaining it, because the Conjoint Boards of England, Ireland, and Scotland, formed by the union of the Medical Corporations in London, in Dublin, and in Edinburgh and Glasgow respectively have no power to grant degrees. A Royal Commission is now sitting to inquire into the needs of the higher education in London, and it will in all probability recommend such reforms as will place degrees in medicine within the reach of

all diligent medical students in London. Meanwhile, remembering the uncertainty of legislation, and the dilatoriness of Government offices, it is the part of prudence to advise every young man at the outset of his career to consider well whether the degree of one of the existing Universities be not within his means. The facilities for obtaining such degrees have notably increased within the last decade. The medical school of Cambridge, for instance, has grown to be one of the largest and most important in the country; the teaching, organised with the greatest care, is carried on by professors of the highest eminence, who have the command of excellent laboratories, and all the most approved educational appliances. While this school is taking its proper place in the life of its University, the medical teaching of the sister University has also been brought into a state of great efficiency, and the course of study for the degree of M.B.Oxon has been carefully arranged to meet the needs of the modern student. Even the University of London, which has so long maintained an obstructive, if not retrograde, attitude, has promised certain important reforms which will make it possible to obtain its degrees at a less sacrifice of time and of opportunities for gaining practical knowledge. The official publication of these alterations cannot be much longer delayed. Whatever may be the outcome of the present agitation a metropolitan student who has passed the earlier examinations of the University will find himself at the least in as good a position and not improbably in a better than those who may wait in the hope that "something may turn up." The creation of the Victoria University and the affiliation with it of the Owens College in Manchester, the Yorkshire College in Leeds, and the University College in Liverpool, is another of these changes of recent years which have brought medical degrees within the reach of a much larger proportion of students; those who enter at one of these medical schools with a view to the degree of the Victoria University will not regret their choice. The University of Durham, with which the medical school of Newcastle-on-Tyne is affiliated, offers opportunities for gaining a degree in medicine of which students have been perhaps too slow to take advantage. There is therefore an extensive choice before the student, who will moreover find that all the English Universities, with the exception of the Victoria University, allow a good deal of latitude in the choice of a school. Students at Oxford and Cambridge for instance after passing examinations in Anatomy, Physiology, and the preliminary sciences can proceed to a metropolitan hospital, and take advantage of the unrivalled advantages for gaining clinical knowledge which London affords.

Of the four Scotch Universities it is not necessary to speak here at length; the advantages which they offer to students are sufficiently evidenced by the large number who annually cross the Tweed in search of medical education and medical degrees in Scotland. Each University is a world sufficing for itself; between them there is no reciprocity, and their regulations are inelastic; Edinburgh, however, permits its undergraduates to pass limited periods of study in certain other schools. In Ireland, degrees in medicine are granted by both the Universities, and the regulations of the Royal University will be found to have been drawn up in a liberal and practical spirit, in sympathy with the circumstances of modern life.

The choice of the student who is content to forego the possession of the degree of M.D., or to trust to the chapter of accidents to place it within his reach in the future, has been considerably limited in recent years by the formation of Conjoint Boards. In England he must choose between the Conjoint Board of the Royal College of Physicians and Surgeons, and the Apothecaries' Society; the former will present him with the double diploma ("a triple qualification") of the two Colleges, and hopes before long to be able to grant also the degree of M.D.; the latter gives him its licence, which is also a "triple qualification." In Ireland there are at present two Conjoint Boards, and in Scotland one, each granting a triple qualification.

This slight sketch may serve as a clue to the great body of information contained in the preceding pages, and in conclusion we would again impress upon intending students and their friends the paramount importance of looking far to the future before taking the first step; it is a source of regret that this is so, and there is reason to hope that before many years are passed important reforms may be achieved, but meanwhile we have to deal with rules and regulations as they are and not as they ought to be.

CHANGES IN THE MEDICAL SCHOOLS.

The past year has not been marked by many changes in the staff of the medical schools. The following are the most important which we have to record:—

At Charing Cross, Mr. Edward Bellamy has been appointed to the Chair of Surgery; Mr. Stanley Boyd succeeds to the Chair of Anatomy, with Messrs. Marmaduke Sheild and Wainewright as Demonstrators. Dr. H. Montague Murray will lecture on Pathology. Dr. F. W. Mott has been elected Medical Registrar, and Mr. Stedman Surgical Registrar.

At St. George's, Dr. Ewart has been appointed full Physician, and Dr. Arthur Gamgee Assistant-Physician. Mr. Timothy Holmes, who has become Consulting Surgeon, will occasionally deliver lectuers as Hunterian Professor of Clinical Surgery; Mr. Bennett has been appointed Surgeon, and Mr. G. R. Turner Assistant-Surgeon. Dr. Buckmaster lectures on Physiology, in place of Dr. Sheridan Delépine, who has succeeded Dr. Whipham as Lecturer on Pathology; Dr. Penrose has been appointed Demonstrator of Pathology.

At Guy's Hospital, Dr. Perry has succeeded Dr. Frederick Taylor as Dean of the Medical School; Mr. Bryant, having reached the limit of age, has retired from the active staff, and has been appointed Consulting Surgeon; Mr. Clement Lucas has been promoted to be full Surgeon, and Mr. Arbuthnot Lane has been elected Assistant-Surgeon. Mr. Durham and Mr. Howse now lecture on Surgery; Mr. Davies-Colley and Mr. Lucas on Anatomy; and Mr. Jacobson and Mr. Charters Symonds on Practical and Operative Surgery. The class in Morbid Histology is taken by Dr. Pitt and Mr. Lane. A new pathological laboratory has been built adjoining the *Post-mortem* Theatre, and increased accommodation has been provided in the Physiological Department by the erection of two new class-rooms fitted with the necessary appliances.

At King's College Hospital, Mr. Watson Cheyne has been appointed Surgeon, and Mr. W. J. Penny Assistant-Surgeon; Dr. Duffin takes charge of the Skin Department, and Mr. A. Gibbings has succeeded Mr. Cartwright as Dental Surgeon.

At the London Hospital, Mr. Curling, the Senior Consulting Surgeon, has died. Dr. Anderson and Mr. F. S. Eve have been appointed Pathologists in addition to Dr. Sutton and Dr. Turner. Many more demonstrations will be given in the Pathological Department than heretofore. Dr. Sutton will also give a course of lectures in the winter as well as in the summer. Mr. Openshaw has been appointed Curator of the Pathological Museum, in place of Dr. Turner, resigned.

At St. Mary's, Dr. Broadbent has been appointed to the Chair of Clinical Medicine, and Dr. Lees will lecture on Medicine in conjunction with Dr. Cheadle. Dr. Sidney Phillips has been appointed Lecturer on Materia Medica and Therapeutics. Mr. Edmund Owen has been appointed Joint Lecturer with Mr. Herbert Page on Surgery; Mr. Norton will lecture on Clinical Surgery. Instruction in the use of surgical apparatus will be given by Mr. Walter Pye, the operative surgery being retained by Mr. Pepper. Mr. Ernest Lane has been appointed Lecturer on Anatomy, in place of Mr. Owen, resigned. Dr. E. Weymouth Reid has been appointed Assistant Lecturer on Physiology. Dr. Walter Pearce succeeds Dr. S. Phillips as Medical Tutor. A special Orthopædic Out-patient Department has been established, under the charge of Mr. W. Pye. Dr. Scanes Spicer has been appointed Physician for Diseases of the Throat.

At the Middlesex Hospital, Mr. Andrew Clark has been appointed full Surgeon and Dr. J. J. Pringle Physician to the Skin Department in succession to Dr. Liveing appointed Consulting Physician. Dr. C. Y. Bliss will lecture on Materia Medica in place of Dr. Thorowgood resigned. Mr. W. H. Vickery has been appointed third Demonstrator of Anatomy.

At St. Thomas's, Mr. E. Nettleship has succeeded Dr. Ord as Dean of the Medical School. Dr. Gervis has been made Consulting Obstetric Physician, and Dr. C. J. Cullingworth, who has succeeded him as Obstetric Physician, will lecture on Diseases of Women during October, November, and December. Mr. Shattock has been appointed Lecturer on Surgical Pathology (winter session). Mr. Ballance has replaced Mr. Clutton as Assistant-Surgeon for Diseases of the Ear; Dr. H. P. Hawkins has been elected Resident Assistant-Physician, Mr. H. B. Robinson, Resident Assistant-Surgeon, Dr. Mackenzie, Medical Registrar, and Mr. E. Solly, Surgical Registrar. An additional Laboratory has been provided for the teaching of advanced physiology for the higher examinations.

At the Westminster Hospital, Dr. P. S. Abraham has taken the place of Dr. Heneage Gibbes as Lecturer on Physiology; and Messrs. Harrison and De Renzi have been appointed Demonstrators of Anatomy.

At Oxford, a Lectureship on Materia Medica has been established, to which Mr. Wyndham Dunstan has been appointed.

At Bristol University College, Dr. Markham Skerritt and Dr. R. S. Smith will Lecture on Medicine; Dr. Wishaw has been appointed Demonstrator of Anatomy; Dr. Prowse will fill the Chair of Materia Medica, Dr. Baron that of Pathology.

At Queen's College, Birmingham, a special Chair of Gynæcology has been created, to which Mr. Lawson Tait has been appointed. Mr. Bartleet has been appointed Lecturer on Operative Surgery, and will give one course in the winter and another in the summer session. Dr. Hogben has been appointed Assistant-Physician, and Dr. Mahood Assistant-Medical Tutor.

At Owens College, Manchester, Mr. A. W. Hare has been appointed Professor of Surgery, in the place of Mr. Lund, resigned; and Dr. W. J. Sinclair has succeeded Dr. Cullingworth in the Chair of Obstetrics.

In the University of Edinburgh, Dr. Balfour has been appointed Professor of Botany in place of Dr. Dickson, deceased.

In the School of Medicine, Edinburgh, Dr. A. James has been appointed a Lecturer on Medicine. Mr. Hodsdon and Mr. Scott Lang will lecture on Surgery, Dr. Noel Paton on Physiology, and Mr. Ivison Macadam on Chemistry.

In the Glasgow Western Medical School, Dr. Walker-Downie has been appointed Lecturer on Diseases of the Ear, Throat, and Nose, Dr. Freeland Fergus on Ophthalmic Surgery, and Dr. Murray on Diseases of the Skin.

In Anderson's College, Glasgow, Dr. Napier has succeeded Dr. Morton in the Chair of Materia Medica.

OPENING OF THE MEDICAL SCHOOLS.

THE practice, formerly almost universal, of inaugurating the Winter Session in each Medical School by the delivery of an address is still maintained by the majority, though at some Schools it has been replaced by a *conversazione*, dinner, or prize distribution, and at others no ceremony marks the commencement of another *annus medicus*. The following list shows the dates at which the Schools will begin the business of the Winter Session, 1888-89, and the nature of the opening ceremony, if any.

METROPOLITAN.

St. Bartholomew's Hospital—October 1st.

Charing Cross Hospital—October 1st.

Guy's Hospital—October 1st; 7.30 P.M., meeting of the Physical Society, which past and present students are invited to attend.

King's College—October 1st; 4 P.M., annual distribution of prizes; address by Professor J. E. Erichsen, LL.D., F.R.S., President of University College.

London Hospital—October 1st; 7.30 P.M., old students' dinner in the New Library, Mr. Jonathan Hutchinson, F.R.S., Emeritus Professor of Surgery, in the chair.

Middlesex Hospital—October 1st; 3 P.M., annual distribution of prizes by Sir Arthur T. Watson, Bart., Q.C.; introductory address by W. Foster, Esq., M.A., F.C.S., Lecturer on Chemistry; reception in School Buildings; 7 P.M., annual dinner of past and present students and friends at the Holborn Restaurant, Dr. Sidney Coupland in the chair.

St. George's Hospital—October 1st; 4 P.M., introductory address by Dr. Ewart; after which the distribution of prizes will take place.

St. Mary's Hospital—October 1st; 3 P.M., introductory address and presentation of prizes by Dr. A Walker. 8.30 P.M., *Conversazione* in the School Buildings. October 2nd, 7 P.M., annual dinner at the Holborn Restaurant, Mr. Howard Hayward in the chair.

St. Thomas's Hospital—October 1st; 3 P.M., introductory address by Dr. Cullingworth.

University College—October 1st; 4 P.M., introductory lecture by Dr. W. Ramsay, F.R.S., Professor of Chemistry.

Westminster Hospital—October 1st; 4 P.M., introductory address by Mr. Charles Stonham; distribution of prizes by Professor W. T. Thisleton Dyer, F.R.S., C.M.G.

London School of Medicine for Women—October 1st; 3 P.M., introductory address by Miss Walker-Dundas, M.D.

PROVINCIAL.

Birmingham, Queen's College—October 1st.

Bristol, University College, Medical Department—October 1st.

Leeds, Yorkshire College, Medical Department—October 1st.

Liverpool, University College, Medical Department—October 1st.

Manchester, Owens College, Medical Department—October 1st; 4 P.M., Introductory Address by James Ross, LL.D., M.D., Professor of Medicine.

Sheffield, Firth College, Medical Department—September 29th.

Newcastle-on-Tyne, University of Durham College of Medicine—October 2nd.

SCOTLAND.

Aberdeen University; Faculty of Medicine—October 16th.

Edinburgh University—October 16th (Practical Anatomy begins on October 1st). Opening Address by the Principal, Sir William Muir, K.C.S.I., D.C.L., LL.D., at noon on October 27th.

Edinburgh School of Medicine—October 17th.

Glasgow University—October 23rd.

Glasgow, Anderson's College—October 23rd.

Glasgow, Royal Infirmary—October 24th. Introductory Address by James M. Milne, Ph.D., Lecturer on Chemistry.

Glasgow Western Medical School—October 24th.

A MEDICAL DRAMATIST.

WE are informed that a play by Dr. G. H. Roqué Dabbs, of Shanklin, will be produced under the auspices of Mr. H. J. Leslie at a special *matinée* at the Prince of Wales's Theatre early in October. The title of the piece, which is said to deal somewhat largely with medical matters, is "Blackmail"—certainly a most ominous name in connection with our profession. We wish Dr. Dabbs all success in his new character, but we cannot refrain from expressing a hope that his play may not be founded on the surgical and pathological horrors which are so much in favour with a certain school of writers of fiction at present.

SCHOOL OF HYGIENE AT ROME.

SANITARY science is beginning to be cultivated in earnest in Italy. A School of Hygiene has been established in connection with the Institute of Experimental Hygiene in Rome. Instruction in matters relating to public health and sanitary engineering will be given to medical men, engineers, veterinary surgeons, and pharmacists, and the technical researches on subjects relating to sanitation, ordered by the Italian Board of Public Health, will be carried out. The course will include practical exercises in physical and microscopical investigation, and chemical analysis as applied to hygiene. A certificate will be given after due examination to those who have gone through the whole course. Professor Pagliani, Ordinary Professor of Hygiene in the University of Turin, has been appointed Director of the School, in which he will also fill the Chair of Sanitary Engineering.

DR. GRANT BEY.

WE regret to learn that, on the night of August 21st, thieves broke into the house of Dr. Grant Bey, at Cairo, and stole a quantity of valuable scarabæi and other antiques. They then set fire to the house, causing considerable damage and destroying the greater portion of the museum of Egyptian antiquities which Dr. Grant Bey has been industriously collecting for twenty-three years. The majority of the articles can never be replaced. Three MS. volumes of a history of Egypt, at which Dr. Grant Bey has been working for seven years, were burned. We are sure that Dr. Grant Bey will have the deepest sympathy of his professional brethren, and of all literary men and collectors, in his irreparable loss.

A RESIDENTIAL COLLEGE FOR GUY'S MEN.

WE are informed that a residential college in connection with Guy's Hospital is in course of erection on a site fronting one of the gates of the hospital. The Treasurer and Governors have recognised the advantages to the institution likely to result from the existence of such a college, and have co-operated heartily with the medical staff in supplying what has long been a recognised want in connection with this medical school. In addition to rooms for the house-physicians, house-surgeons, obstetric residents, dressers for the week, and externs, it is proposed to provide accommodation for about fifty students, who will be under the supervision of a resident Warden. The building will contain a large dining-hall and reading-room, open on payment of a small yearly subscription to all the students of the hospital, where breakfasts, luncheons, and dinners can be obtained at reasonable rates. The estimated cost of erecting and furnishing the building is £20,000. It is expected that it will be ready for occupation in October, 1889. It should be stated that the required sum has already been subscribed, and that no portion of the Special Appeal Fund has been spent upon the present undertaking.

THE OXFORD MEDICAL SCHOOL.

WE are pleased to observe that this great university is striving to wipe out the reproach, which, but a short time ago, it fully deserved, of being a "lost medical school." In the course of last winter a lectureship on Materia Medica was established, an annual sum having been previously voted by Convocation for the salary of the lecturer. The first course was given during last summer term. The instruction given comprises lectures on the chemistry of the *Pharmacopœia*, besides practical work in chemical pharmacology in a laboratory which has been specially fitted up for the purpose. A most competent teacher has been found in the person of Mr. Wyndham Dunstan, Professor of Chemistry to the Pharmaceutical Society. Ever since Dr. Burdon-Sanderson went to Oxford, he has been untiring in his efforts to revitalise its withered medical faculty, and it is gratifying to see that his energising influence is making itself felt. There is really no reason why Oxford should not be as flourishing a medical school as the sister university has become under the care of Professor Humphry and Dr. Michael Foster. Such a condition would strengthen the university itself, besides being an immeasurable gain to scientific medicine.

DR. GAMALEIA.

Dr. NICHOLAS FEODOROVITCH GAMALEIA, of Odessa, whose name is at present so prominently before the scientific world in connec-

tion with his alleged discovery of an anticholeraic vaccine, is a young man of about thirty. He was educated at the Universities of Odessa and St. Petersburg, from the latter of which he received his Doctor's degree. He afterwards studied at Vienna, Strasburg, and particularly Paris, where he worked under M. Pasteur. In 1886 he established a bacteriological station at Odessa, where he has since performed daily inoculations for hydrophobia on numerous patients from all parts of Russia, Turkey, and South-Eastern Europe, besides superintending the vaccination of cattle and sheep for Siberian plague or anthrax. He has now taken this latter department also into his own hands in consequence of an unfortunate mistake made by one of his assistants, which threatened to discredit the method. It appears that the intensive virus was injected into some 5,000 sheep, which had not been previously subjected to the mild inoculation, with the result that all the animals died within forty-eight hours. Dr. Gamaleia has such confidence in the value of the Pasteur method that he has undergone three courses of antirabic inoculations, although he has never been bitten by a mad dog. In the same spirit he has now made three inoculations of his new anticholeraic vaccine on himself. With regard to the latter he is now "waiting for developments." He intends, it is said, to go to Paris in October or November, in order to repeat his experiments in M. Pasteur's laboratory before a Commission of the Académie de Médecine. M. Pasteur, after reading to the Academy the communication from Dr. Gamaleia, of which we gave a summary last week, begged the President to refer it to the Committee of the Bréant Prize, which is offered for the discovery of a means of curing or preventing cholera. It is stated that Dr. Jaime Ferran, of Barcelona, has lodged a counter-claim to the prize, on the ground of his having anticipated Dr. Gamaleia, but it is not likely that any serious notice will be taken of his application. Whatever may be the final verdict as to Dr. Gamaleia's discovery, there can be no doubt, we think, that he is a genuine scientific worker of the highest aims, and an experimenter of remarkable boldness. From such an investigator much may be expected.

MEDICAL MEN AND THE LAY PRESS.

We have every sympathy with editors who at at this dull season find it difficult to fill their columns, and there is no reason why medical subjects, if handled in a proper spirit, should not help to cover the space left bare by the ebb of the political tide. But when papers on practical subjects, which have been read before scientific meetings, are reproduced in popular style with sensational headlines like the latest murder, we think it time to protest, in the interest of the authors as well as of the public. It must be torture to the feelings of a respectable practitioner to see what was meant solely for the edification of his professional brethren served up as light literature for general readers. On the other hand, it is hardly fair to sufferers that a man who might probably be able to relieve them should be discredited in their eyes by being made against his will to figure before the public as an advertising quack. Two particularly flagrant instances have been recently brought to our notice. The first relates to no less a person than a member of the General Medical Council, who has been subjected to the indignity of having a modification which he has devised in an operation on the eye trumpeted forth to the world as an epoch-making discovery. By a special unkindness of fate, for which he is to be sincerely commiserated, the first notice of this gentleman's achievement appeared in a paper with which he is known to be closely connected, thus, possibly, awaking in profane breasts suspicions for which we are sure there cannot be the least foundation. In the other case the victim is a gentleman who has added one more to the hundred and fifty infallible cures for stammering, which "have their day and cease to be." He has been doing good by stealth in a special hospital, and now no doubt blushes to find it fame. We do not know whether these justly aggrieved gentlemen have any remedy against the newspapers which have taken such liberties with their names; probably not, or they would not have accepted the affront so meekly. For our own part we only wonder, like Mr. Crummles, who it is that sends these things to the papers.

SCOTLAND.

DEATH OF A MEDICAL MAN BY OPIUM POISONING.

Dr. Donald Currie, who, only a few months ago, took up practice in Salen, Mull, died on August 28th, apparently as the result of an accidental overdose of opium. He was discovered at night in an unconscious condition by a fellow practitioner of Glasgow, who happened to be living in the same house, and who applied restorative treatment in vain. Dr. Currie was quite young and unmarried.

DEATH OF DR. LOGGAN, KNOYDART.

On August 24th, Dr. Loggan, Knoydart, and Rev. Mr. McElvin were fishing on Loch Nevis, and when on their way home were overtaken by a squall. The boat was capsized and both men were thrown into the water. The doctor, who was unable to swim, was assisted by the priest, but seeing there was no chance of escape, he told the latter to save himself. Dr. Loggan remained above water for a short time and then sank. Mr. McElvin, after a struggle, managed to swim ashore. Dr. Loggan belonged to England, was 24 years of age, and unmarried.

DEATH ON THE MOORS.

The recent death of Sir John Rose, while out shooting at Langwell, Caithness, is deeply regretted. Sir John, who was 67 years of age, was out deer stalking. He had fired at a stag, and, while in the act of again firing, suddenly dropped, and almost immediately expired. The severe exertion and excitement were doubtless too much for an enfeebled heart. Lord Alfred Paget has also died in consequence of a chill caught on the moors on one of the first days of the shooting season. Such cases ought to form a powerful warning to gentlemen in the pursuit of health and pleasure in the moors against unnecessarily overstraining and exposing themselves to the weather, especially during the earlier days of the shooting season.

THE AMALGAMATION OF DUBLIN MEDICAL SCHOOLS.

After several sittings, the Council of the College of Surgeons have agreed upon a scheme for the amalgamation of the School of the College with the Carmichael and the Ledwich. This will be submitted to a special meeting of the College for approval, and will, it is expected, meet with some opposition from those who have been "left out" in the proposed appointments. It has, of course, been found impossible to find places for all, but an effort has been made to meet such cases by compensation. Dr. Thornley Stoker will voluntarily retire from the Chair of Anatomy, and Dr. Mapother from that of Physiology—each receiving compensation.

The professors and teachers after the amalgamation will be as follows: Anatomy: A. Fraser, F. T. Heuston, F. A. Nixon. Surgery: Sir W. Stokes, E. Hamilton, A. Corley, W. Stoker. Physiology and Histology: J. A. Scott, T. Mason. Medicine: A. W Foot, J. W. Moore. Chemistry: Sir Charles Cameron, E. Lapper Midwifery: W. Roe, A. V. Macan, S. Mason. Materia Medica: R Macnamara, G. F. Duffey. Medical Jurisprudence: E. Davy, H. Auchinleck. Botany and Zoology: H. Minchin, E. M'D. Cosgrave. Pathology: (Not appointed.) Ophthalmology: A. H. Jacob, C. E. Fitzgerald, J. B. Story. Hygiene: Sir Charles Cameron. Dentistry: R. Theodore Stack. College Anatomists: J. F. Knott, H. Broomfield, E. Ledwich. Senior Demonstrator: H. MacHugh.

As vacancies occur in the chairs they will not be filled up, so

that in time there will only be one professor in these subjects: Medicine, Botany, Chemistry, Materia Medica, Midwifery, Medical Jurisprudence, and Ophthalmology. In Surgery there will be only two professors alternately. Certain deductions will be made from the fees to form a general fund, which shall be devoted to the purchase of the Carmichael and Ledwich Schools, to pay retiring allowances to certain professors, and to guarantee a fixed income to a Professor in Anatomy and one in Physiology, who shall devote their whole time to the duties of their offices. The Carmichael School is to be paid £500 a year for the goodwill of the School, and for the Carmichael Fund, for fourteen years, if the gross income of the amalgamated schools amounts to or exceeds £6,900 per annum; but, if the gross income fall short of £6,900, the Carmichael School shall be paid 7¼ per cent. on the gross income for the said fourteen years, or such portion of the fourteen years as may not have expired. The payments at the rate of 7¼ per cent., in case the gross income falls short of £6,900, are to be continued, if necessary, beyond fourteen years, until the capital sums of £5,000 to the Carmichael School and £4,750 to the Ledwich School shall have been discharged in full, with interest at the rate of 5 per cent. on the balance due.

The Council of the College is recommended to buy the buildings of the Carmichael School, and such apparatus and plant as may not be private property, for a payment of £200 per annum for fourteen years, in addition to the ground rent and taxes—altogether £350 per annum.

The proprietors of the Ledwich School are to be paid £475 per annum for fourteen years for their goodwill, if the gross income of the amalgamated schools amount to or exceed £6,900 per annum; but, if the gross income fall short of £6,900, they shall be paid 7¼ per cent. on the gross income for the said fourteen years, or such portion of the fourteen years as may not have expired, and £125 shall be paid for rent and taxes of the School for three years, if not previously let or disposed of.

The amalgamated schools will not continue night lectures longer than shall be necessary to allow those pupils who are now so entered to complete their course.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING FOR 1888. ELECTION OF MEMBERS.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

A meeting of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

Reports upon the two remaining inquiries, namely, that into Diphtheria, and that into the Geographical Distribution of certain Diseases, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the Etiology of Phthisis.

A fresh inquiry into the Origin and Mode of Propagation of Epidemics of Diphtheria has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

East Anglian Branch: Essex District.—The next meeting will be held in the Town Hall, Clacton-on-Sea, on Saturday, September 15th, at 2.30 P.M. Dr. E. G. Barnes will preside. Dr. Stretch Dowse will give a Demonstration of the Massage Processes, with special reference to their Use in Trophic Muscular Changes. Members wishing to bring forward subjects for discussion are requested to communicate with the Honorary Secretary, C. E. Abbott, Braintree.

North of England Branch.—The autumnal meeting will be held at Middlesbrough on Thursday, September 20th, at 2.45 P.M. Dr. Hedley will introduce a discussion on the Recent Epidemic of Pneumonia in the Middlesbrough District. Dr. Rutherford Morison will exhibit gall-stones removed by operation, and will read Notes of a Successful Case of Removal of Bladder Tumour by Suprapubic Operation, with microscopic specimens and drawings of the tumour. Dr. Drummond will exhibit some pathological specimens. Dr. Oliver will read a paper on Adonidine in the Treatment of Heart Disease. Dr. Ellis will read a paper on the Treatment of Noises in the Head. Dr. Hinshelwood will read Notes on some Interesting Cases of Syphilis. The dinner after the meeting will be at 4.30 P.M.—G. E. Williamson, F.R.C.S., Honorary Secretary, 22, Eldon Square, Newcastle-upon-Tyne.

South-Eastern Branch: East Sussex District.—A meeting of the above district will be held at the Station Hotel, Hayward's Heath, on Thursday, September 27th; Dr. Braid, of Burgess Hill, in the chair. Meeting at 3.45 P.M. Dinner at 5.45 P.M. Charge, 6s., exclusive of wine. Dr. Talfourd Jones will give a summary of his paper on Mercury as a Diuretic, read at the last meeting, and discussion will be invited. Members of the Branch or others desirous of contributing papers or cases are requested to communicate at once with the Honorary Secretary, T. Jenner Verrall, 97, Montpellier Road, Brighton.

South-Eastern Branch: East Kent District.—The next meeting of the above District will be held at Dr. Lovegrove's house, The Oaks, Hythe, on Thursday, September 13th, at 3 P.M. The Chairman, Dr. Lovegrove, will be pleased to see members and their friends to luncheon at his residence between 1 and 2.30. The dinner will take place at 5 P.M., at the Swan Hotel, price 6s. (exclusive of wine). All gentlemen proposing to dine are particularly requested to inform the Honorary Secretary by Tuesday, September 11th, that proper arrangements may be made. Agenda:—Dr. Boswell: On some cases of Typhlitis. Dr. F. Eastes: On Four Successful Cases of Tracheotomy. Dr. Stretch Dowse (London): Some Demonstrations of Massage bearing on the Weir-Mitchell Treatment of Disease.—W. J. Tyson, Honorary Secretary, 10, Langhorne Gardens, Folkestone.

NEW SOUTH WALES BRANCH.

The seventy-second general meeting of the Branch was held in the Royal Society's Room, Sydney, on Friday, July 6th, 1888, at 8.15 o'clock. Dr. Chambers (President) in the chair. There were thirty-two members present.

New Members.—The President announced the election of the following gentlemen as members of the Branch:—Drs. Lamrock, A. P. O'Reilly, Shand, and Lyden.

Jockel Fund.—Dr. Garrett was elected Honorary Secretary and Treasurer to the Jockel Relief Fund.

Cases, etc.—Dr. Chambers exhibited a specimen of an Extra-uterine Fœtation. A discussion ensued, in which Drs. Wilson, Worrall, Fiaschi, Twynam, Sir Alfred Roberts, and Dr. Sydney Jones took part. Dr. Chambers replied.—Mr. G. T. Hankins explained a case of Excision of the Knee-joint, and exhibited the patient.—Dr. Roth exhibited some "Sanitas" preparations.

CORRESPONDENCE.

CIGARETTE SMOKING.

Sir,—As a late contributor to the *Times* discussion upon cigarette smoking, I desire usefully to emphasise the point sought to be conveyed by my letter appearing on August 25th, under the signature "M.D.," and that of "A Country Doctor," August 24th. This point is, that the enormously increased use of cigarettes accounts for a set of symptoms not hitherto recognised as being due to the abuse of smoking. The evidence contained in these letters clearly suggests the wisdom of keeping our minds on the alert upon this subject. Speaking for that which I know best, I state that a relative of mine came to this country from Philippopolis to be treated for an irritative form of chronic bronchitis. I may add here that this was occasionally accompanied by bleeding from the fauces. Prominent physicians in London were consulted, and threw no light upon the nature of the case as subsequently unfolded. Returning through Paris, the sufferer, unrelieved, consulted a first authority there, and again in Vienna a physician of European repute. Being still no better, a German physician in Constantinople was recommended, and he, being possessed of the experience now claimed by "A Country Doctor," at once attributed the disease to its true cause—inordinate indulgence in cigarettes—a cure being readily effected on their discontinuance.

I trust "A Country Doctor" may be induced to describe in your columns what he recognises as the "cigarette throat." My

view is that undue cigarette smoking is capable of doing mischief beyond its local effect, from the inducement it offers to the full inhalation of the smoke. This accounts for the class of cases so promptly diagnosed by a physician practising in the metropolis of Turkish cigarettes.

There is much to be said for the suggestion in your note that "cigarettes are largely indulged in by many who are intolerant of tobacco in any other form." Further, the exceptional heat and acrid quality of burning paper is well known, and enjoyable cigarettes are often smoked to a very fine stump. In Russia especially the quality of the paper is constantly under suspicion as a source of mischief.—I am, etc. DAVID R. PEARSON, M.D.Edin.

Kensington.

MEDICAL NEWS.

MEDICAL VACANCIES.

The following Vacancies are announced:

BELGRAVE HOSPITAL FOR CHILDREN.—Resident House-Surgeon and Assistant Secretary. Appointment for six months. Salary at the rate of £30 per annum, with board and residence. Applications by September 15th to the Honorary Secretary, 79, Gloucester Street, S.W.

CHELTENHAM GENERAL HOSPITAL.—Resident Surgeon for the Branch Dispensary. Salary, £180, with partly furnished house, etc. Applications by September 15th to the Honorary Secretary.

COUNTY ASYLUM, Shrewsbury.—Junior Assistant Medical Officer. Salary, £100 per annum, with board, lodging, etc. Applications by September 18th to the Medical Superintendent.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Resident Clinical Assistant. Board and lodging. Applications by September 28th to the Secretary.

EDINBURGH CITY POORHOUSE, Craiglockhart.—Resident Medical Officer. Salary, £80 per annum, with board. Applications by September 12th to Mr. G. Greig, Inspector.

FULHAM UNION.—Assistant Medical Superintendent. Salary, £100, with board and furnished apartments, etc. Applications by September 24th to the Clerk to the Guardians, Fulham Palace Road, Hammersmith.

GENERAL INFIRMARY, Hull.—House-Surgeon Salary 100 guineas per annum, with board and furnished apartments. Applications by September 17th to the Chairman of the House Committee.

GENERAL INFIRMARY, Leeds.—Resident Medical Officer and Pathologist. Salary, £100 per annum, with board, residence, etc. Applications by September 15th to the Secretary of the Faculty.

MANCHESTER ROYAL INFIRMARY, DISPENSARY, AND LUNATIC ASYLUM.—Honorary Assistant Physician. Applications by September 18th to the Chairman of the Board.

MIDLETON UNION.—Medical Officer, Workhouse. Salary, £110 per annum, with free residence and £25 per annum as Consulting Sanitary Officer. Applications to Clerk of Union. Election on September 8th.

NEWPORT AND COUNTY INFIRMARY AND DISPENSARY, Newport, Monmouthshire.—House-Surgeon. Salary, £100 per annum, with board and residence, etc. Applications by September 13th to the Secretary.

ROTHERHAM HOSPITAL.—Assistant House-Surgeon. Board, residence, etc. Applications by September 8th to the House-Surgeon.

SALFORD ROYAL HOSPITAL.—House-Surgeon. Salary, £120 per annum, with board and lodging. Applications by September 17th to the Secretary.

SALFORD ROYAL HOSPITAL, Pendleton Branch Dispensary.—District Surgeon. Salary, £80 per annum, with board and lodging. Applications by September 17th to the Secretary.

UNIVERSITY OF ABERDEEN.—Chair of Chemistry. Applications by September 15th to R. Walker, Esq., M.A., University Library, Aberdeen.

WEST LONDON HOSPITAL, Hammersmith Road.—House-Surgeon. Board and lodging. Applications by September 20th to the Secretary Superintendent.

MEDICAL APPOINTMENTS.

BEAUMONT, W. M., M.R.C.S., appointed Surgeon to the Bath Eye Infirmary, *vice* F. Mason, deceased.

BLACKER, A. B., M.B., B.S.Durh., L.R.C.P., M.R.C.S., L.S.A., appointed Clinical Assistant in the Special Department for Diseases of the Ear to St. Thomas's Hospital.

BRISTOWE, H. C., L.R.C.P., M.R.C.S., appointed Clinical Assistant in the Special Department for Diseases of the Skin to St. Thomas's Hospital.

BROOK, W. F., M.R.C.S., L.S.A., appointed House-Surgeon to St. Thomas's Hospital.

CALVERT, J. T., M.B.Lond., L.R.C.P., M.R.C.S., appointed House-Surgeon to St. Thomas's Hospital.

COOK, S. B., L.R.C.P., M.R.C.S., appointed Assistant House-Surgeon to St. Thomas's Hospital.

COOKE, C. W., L.R.C.P., M.R.C.S., appointed Resident House-Physician to St. Thomas's Hospital.

COTTER, J., M.D., appointed Medical Officer of Courceys Dispensary District.

ECCLES, C. H., L.R.C.P., M.R.C.S., appointed Non-resident House-Physician to St. Thomas's Hospital.

FAWSSETT, F., L.R.C.P., M.R.C.S., appointed House-Surgeon to St. Thomas's Hospital.

HOBHOUSE, E., M.A., M.B., B.S.Oxon., M.R.C.S., appointed Assistant House-Surgeon to St. Thomas's Hospital.

HOUSMAN, B. W., M.R.C.S., L.R.C.P., appointed Resident Physician to the Queen's Hospital, Birmingham, *vice* W. A. Loxton, M.R.C.S., resigned.

JAMES, C. H., L.R.C.P., M.R.C.S., appointed Resident Accoucheur to St. Thomas's Hospital.

KEILLER, Wm., L.R.C.P., L.R.C.S.Ed., L.F. and S.G., appointed Assistant Medical Officer to the Edinburgh Provident Dispensary, *vice* A. A. Matheson, M.D., resigned.

KERR, James, M.A., M.B., B.C., D.P.H. (Cantab.), appointed Resident Medical Officer to the Swansea General Hospital, *vice* R. Nelson Jones, resigned.

LIGHT, E. M., M.A., M.B., B.C.Cantab., L.R.C.P., appointed Clinical Assistant in the Special Department for Diseases of the Throat to St. Thomas's Hospital.

LUARD, H. B., M.B., B.C.Cantab., L.R.C.P., M.R.C.S. (Extn.), appointed Resident House-Physician to St. Thomas's Hospital.

MATHESON, A. A., M.D., M.R.C.P.Ed., appointed Medical Officer to the Edinburgh Provident Dispensary.

ORD, W. W., M.A., M.B., B.Ch.Oxon., M.R.C.S., appointed House-Surgeon to St. Thomas's Hospital.

RIDLEY, G. P., L.R.C.S.I., L.M.K.Q.C.P.I., appointed Surgeon to the King's County Infirmary, Tullamore, *vice* James Ridley, L.K.Q.C.P.I., deceased.

SANSOM, H. A., L.R.C.P., M.R.C.S. (Extn.), appointed Clinical Assistant in the Special Department for Diseases of the Skin to St. Thomas's Hospital.

SEDDON, H. B., L.R.C.P., M.R.C.S., appointed Assistant House-Physician to St. Thomas's Hospital.

BEQUESTS.—Mrs. Catherine Henrietta Law French, of Gateacre, near Liverpool, bequeathed £1,000 to the Margate Sea Bathing Infirmary, and as follows to the Liverpool medical charities—namely, £1,000 to the Royal Infirmary, £500 to the Northern Hospital, £500 to the Southern Hospital, and £500 to the Hospital for Cancer and Skin Diseases.—Count Carlo Angiolini Clericetti, of Brighton, Officer of the Order of the Crown of Italy, bequeathed £1,000 to the Sussex County Hospital, £300 to the Brighton, Hove, and Preston Provident Dispensary, and £200 to the Sussex Eye Hospital.—Mr. Samuel Harwood, of Tuddenham Hall, Suffolk, and Tuddenham House, Leamington, bequeathed £100 to the East Suffolk Hospital, Ipswich.—The Richmond (Surrey) Hospital has received £1,000 under the will of Sir Henry Watson Parker, K.C.M.G., and £100, less duty, under that of Miss Garratt.

PRESENTATION.—Mr. J. J. de Zouche Marshall, L.R.C.S.I., etc., who, after fourteen years' residence in Lamberhurst, has removed to Hastings, was presented last week by his numerous friends and admirers with a testimonial, which took the form of an illuminated address and a purse containing £25 10s. Other addresses were subsequently presented.

LAMBETH INFIRMARY.—Within the past two years twenty members of the nursing staff of this infirmary have availed themselves of the midwifery practice of this poor law institution, under the supervision and direction of Dr. Rugg, Senior Assistant Medical Officer, and have obtained diplomas as certified midwives after examination from the Obstetrical Society.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

BUSH.—August 31st, at 13, Lansdown Place, Clifton, the wife of J. Paul Bush, M.R.C.S., of a daughter.

MACINTYRE.—At No. 2, Portland Terrace, Troon, on the 31st ult., the wife of Alexander Macintyre, M.B., L.R.C.S. and P.Ed., of a son.

SKRIMSHIRE.—On August 25th, at The Park, Blaenavon, Mon., the wife of Chas. P. Skrimshire, M.R.C.S., etc. of a son.

MARRIAGES.

JEFFERIES—BOLDING.—September 5th, at St. John's Parish Church, Bromsgrove, by the Rev. A. E. Seymour, Vicar, Horace Jefferies, M.R.C.S.Eng., etc., 46, St. George's Road, Bolton, third son of W. Jefferies, Battlefield, Bromsgrove, Worcestershire, to Katherine Agnes, youngest daughter of the late William Bolding, Bromsgrove.

RAKE—SHANNON.—On August 30th, at Bessbrook, Ireland, by special licence, Herbert Vaughan, L.S.A. and M.R.C.S.Eng., fourth son of Beaven Rake, L.S.A. and M.R.C.S.Eng., of Fordingbridge, Hants, to Louisa, youngest daughter of Thomas Shannon, of Newry, Ireland.

READ—LAWFORD.—On the 31st ult., at Wandsworth, by the Rev. W. G. Tarrant, B.A., Mabyn Read, M.D.Cantab., of 63, Battersea Rise, to Isabel Margaret, daughter of George Lawford, Esq., of Sherbrooke Lodge, Nightingale Lane, Balham.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL, are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications, should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

E. S. writes: Was Mr. Eassie cremated? If not, why not? as he was one of the pillars of the system.

YELLOW FEVER.

FELIX would be grateful for information regarding the present epidemic of yellow fever in the Southern States of America.

SYPHILITIC ULCERATION OF TONGUE.

SENEX is most anxious about a case of syphilitic ulceration of tongue which has baffled all his efforts to cure. The patient has been a heavy smoker, but has almost quite discontinued the habit. The disease was acquired some five years ago, and the tongue has been affected more or less for the past three years. Can any member suggest treatment? Of course, internal mercurial treatment was thoroughly carried out.

RHEUMATISM.

A SUFFERER writes: Can any of your readers tell me where any information is to be obtained as to the direct exciting cause of rheumatism? I can find nothing beyond the fact that lactic acid injected into the peritoneum caused peri- and endo-carditis, while it is not denied that any other acid or acrid substance would probably produce the same result. That muscular exertion produces lactic acid, which is rapidly absorbed on the stoppage of perspiration, seems a reasonable enough hypothesis; but I can find nothing to confirm it beyond the experiment above mentioned.

NOTES, LETTERS, ETC.

ERRATA.

THE names of Dr. Jenkyns, of Belize, British Honduras, and Dr. Mapother, 32, Cavendish Square, W., were accidentally omitted from the list of members present at the Glasgow meeting of the Association.

In Dr. W. G. Bower's query in the JOURNAL of September 1st, as to the treatment of salivation, it is stated that belladonna was applied *internally* to the glands. It should have been *externally*.

THE ANNUAL MUSEUM, GLASGOW.

THE Brougham Fever Ambulance exhibited at the Glasgow meeting by the Glasgow Corporation was not, as we stated, designed by Dr. Wilkinson, of Sydenham, but by the manufacturer, Mr. T. S. Norton, Grange Road, Bermondsey. The carriage designed by Dr. Wilkinson is Mr. Norton's accident ambulance, shown at Liverpool in 1886, the exhibit of the two ambulances gaining him a gold medal.

We omitted to include in our report of the Annual Museum the exhibit of Messrs. De Hoghton and Co., which consisted of samples of their peptic-digestive powder and pills, and also of their peptic cholagogue.

With characteristic enterprise, Messrs. Burroughs, Wellcome, and Co., distributed among the members present at the Glasgow meeting some pleasing photographs of interesting features of the city, on the back of which was given a list of their products exhibited in the Museum. Copies of these, we believe, are still to be had on application.

CHLORAL-HYDRATE IN MIDWIFERY.

DR. C. R. ILLINGSWORTH (Clayton-le-Moors) writes: For the last three years I have invariably used chloral in preference to opium for the treatment of "false" pains, that is, for those pains to which many neurotic women are subject before actual labour begins. I give a scruple at bedtime, and I now combine it with the same dose of antipyrin, with excellent effect. In many cases false pains begin a long time before the obliteration of the cervix, and it is in these that the value of chloral and antipyrin is especially noticeable.

COMMUNICATIONS, LETTERS, etc., have been received from:

Surgeon Alfred Corrie, R.N., Hull; Dr. John G. Carageorgiades, Limassol; Dr. Herbert Snow, London; Mr. E. H. Ryan-Tenison, Bexhill; Mrs. Gardner, Bath; Dr. J. Lindsay, Belfast; Mr. Oliver McEwan, London; E. S.; Dr. W. S. Robertson, Port Said; Dr. Matthew Purcell, Leeds; Surgeon G. H. Fink, Mozuffemaggar; The Military Secretary, India Office; Mr. S. Snell, Sheffield; Dr. Sidney Martin, London; Dr. W. S. Paget, Liverpool; Mr. S. C. Noble, Kendal; Dr. C. Davidson, London; Mr. Parker, Cork; Mr. John M. Scott, Penicuik, N.B.; Mr. J. R. Upton, London; Mr. Nathaniel Giles, Christchurch, Barbados; Mr. R. M. Craven, Southport; Dr. A. W. Edis, London; Mr. G. E. Williamson, Newcastle-on-Tyne; Dr. C. R. Illingworth, Accrington; Messrs. J. S. Fry and Sons, Bristol; Dr. Dabbs, Shanklin; Mr. W. E. Scott, London; Mr. H. A. Latimer, Swansea; Mr. W. Buchanan, Chatham; Our Glasgow Correspondent'; A Member; Dr. T. G. Nasmyth, Cowdenbeath; Dr. Keay, Colne; Dr. Vinrace, Birmingham Our Liverpool Correspondent; Dr. J. Jenkyns, Aberdeen; Messrs. C. Green and Co., London; Messrs. Orridge and Co., London; Messrs. Garrard and Cowan, Sheffield; Mr. G. Vincent, Downham; Dr. G. H. Mackenzie, Edinburgh; Dr. R. H. Lucy, London; Messrs. J. F. Beaudes, Senior, and Co., London; Messrs. John Dewar and Sons, Perth; Mr. G. R. Leeper, Kesh; Mr. J. Arthur West, London; Dr. T. Oliver, Newcastle-on-Tyne; Mr. T. F. H. Ellerton, Shrewsbury; Journal of Commerce, Liverpool; Dr. Keppel Reed, Beeralston, Roborough; Dr. James Hamilton, Glasgow; Dr. Hunt, London; Mr. Beaven Rake, Fordingbridge; Mr. E. Caudwell, London; Mr. Fitzgerald, Birmingham; Dr. J. Whitson, Glasgow; Miss Michels, London; Dr. F. E. Townsend, Eston; Mr. M. E. Puddy, London; Mr. J. R. Seymour, London; Mr. T. J. Verrall, Brighton; Mr. L. H. Brown, London; Mr. G. Rendle, London; Dr. Macpherson, London; Mr. T. Rogerson, Bradford; Mr. A. M. Beaumont, Bath; Mr. W. Horrocks, Bradford; Dr. J. M. Watson, Lanark; Mr. W. B. Hemsley, Kew; Mr. Adams Frost, London; Mr. J. Holroyde, Chatham; Mr. R. B. Sellers, Rochdale; Mr. J. Pollard, Glasgow; Mr. A. R. Graham, Holmwood; Surgeon W. S. Reade, Penally; Mr. A. Hudson, Ovoca, co. Wicklow; Dr. G. W. Isaac, London; Mr. R. J. Farman, Ely; Dr. F. H. Sinclair, Belfast; Dr. R. Neale, London; Professor B. Sauderson, Plymouth; Dr. W. H. Murray, Galashiels; Mr. B. Roth, London; Mr. C. W. Robinson, North Shields; Mr. A. Jackson, Sheffield; Mr. J. R. Seymour, London; Mr. R. C. Benington, Rimswell Dr. Tatham, Salford; Dr. F. H. Spencer, Exeter; Mr. A. S. Gubb, London; Dr. Theodore Williams, London; Dr. Freeland Fergus, Glasgow; The Sanitas Company; Mr. T. B. Browne, London; Messrs. F. Ad. Richter and Co., London; Dr. G. W. Thomson, Haywood, N.B.; Dr. James Kerr, St. John's College, Cambridge; Dr. Scatliff, Margate; Messrs. Rayner and Cassell, London; Mr. F. L. Carte, Dublin; Dr. Thin, London; Dr. F. H. Davies, Tilbury; Mr. C. Skrimshire, Blaenavon; Mr. H. Hutchinson, London; Mr. T. F. Hugh Smith, Farningham; Dr. R. H. Lloyd, London; Mr. E. Ceiffert, London; Mr. J. J. de Z. Marshall, Hastings; Mr. J. P. Rice, Castleisland; Mr. R. Urquhart, Edinburgh; The Secretary of the Royal College of Surgeons, Dublin; Mr. A. R. Ackland, Clifton; Dr. Cremen, Cork; Dr. A. E. Garrod, London, Mr. F. Page, Newcastle-on-Tyne, etc.

BOOKS, ETC., RECEIVED.

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Men and Women of the Day. No. 8.

Atlas of the Pathological Anatomy of the Lungs. By the late Wilson Fox, M.D., F.R.S. London: J. and A. Churchill. 1888.

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BRITISH MEDICAL ASSOCIATION.

FIFTY-SIXTH ANNUAL MEETING

PROCEEDINGS OF SECTIONS.

ON THE USE AND ABUSE OF LOCAL TREATMENT IN DISEASES OF THE UPPER AIR-PASSAGES.

Read in the Section of Laryngology and Rhinology at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

By F. de HAVILLAND HALL, M.D., F.R.C.P.,
Physician to Out-patients and Physician in Charge of the Throat Department at the Westminster Hospital.

If, at the beginning of this century,[1] Mr. Abernethy felt that the artificial division of the healing art into the medical and surgical departments was an evil, what would have been his sentiments could he have foreseen the further divisions these departments would undergo in the course of time? He complained that the attention of the physician and surgeon was too exclusively directed to those diseases which custom had arbitrarily allotted to their care, and that, in consequence, the effects of local disorders upon the constitution had been too little attended to, and that the reciprocal operation of constitutional disorders upon local diseases had obtained still less attention. There never was a time when his statement, "No part of the animal body can in general be very considerably disordered without occasioning a correspondent derangement in other parts of the system," required more careful attention than at the present moment. While I am ready to admit that little advance would be made in any of the branches of medicine and surgery were it not for the exertions of enthusiastic specialists, I see clearly that there is a danger lest this exclusive devotion to one, may be, limited sphere should warp the understanding and lead men to unduly exalt the importance of their own special work. I could have wished that a man of the shrewd common sense and great experience of Mr. Abernethy were in my place, in order to do adequate justice to the task that I have before me—namely, to open the discussion on the use and abuse of local treatment in diseases of the upper air-passages." However, as our President has entrusted to me this important duty, I will do my best to make some remarks which may serve as the basis for discussion, as I clearly recognise that the object of a paper such as I am reading should be to bring into prominence points which are still under dispute, in the hope that in the debate which follows the views of those best qualified to speak on the subject may be elicited, with the result that, in the conflict of opinion, truth may be attained.

I will first consider the use and abuse of local treatment in diseases affecting the nasal and naso-pharyngeal cavities. The nose, as is well known, subserves two purposes; it is the organ of one of the special senses, and it is the natural passage of air on its way to the lungs. With the former of these functions I have nothing to say on the present occasion, but I wish to direct your attention to the importance of nasal respiration to the healthy performance of the functions of the larynx.

During quiet respiration we usually breathe, or ought to breathe, through the nostrils, the mouth being closed. The current of air as it passes through the pharyngo-nasal cavity is warmed and rendered moist, and small particles of soot and other foreign bodies adhere to the mucous membrane, and are thus prevented irritating the more delicate lining membrane of the larynx. Hence the importance of seeing that there is no mechanical interference with the passage of air through the nose. It will need no words of mine to convince a meeting of specialists, such as I see before me, of the necessity of removing any obstacle to nasal respiration. This, I take it, is the first indication for local treatment in the nose and naso-pharyngeal cavities, and here it is that surgery has recently achieved some of its greatest successes.

In the young the two most frequent causes of breathing with the mouth open are enlarged tonsils and adenoid vegetations in the naso-pharyngeal cavity, so that, given the absence of enlarged tonsils, it may almost be assumed as a matter of course that the impediment to nasal respiration is to be looked for in the existence of adenoid vegetations.

There is now a consensus of opinion among laryngologists as to the need of operating in these cases, and I am happy to say that the leaven infused by their instrumentality into the general body of the profession is working, so that, even outside the ranks of specialists, men are getting to recognise the signs of this affection. Here then I can claim, without any fear of being controverted, an example of the use of local treatment; the only point in dispute is the method best adapted for the removal of the growths. I have had many opportunities of seeing two plans carried out, namely, that in which the growths are removed piecemeal without the aid of an anæsthetic, and the other in which the patient is placed under the influence of chloroform and the growth removed at a single sitting. This latter procedure is, in my opinion, as great an improvement over the former plan as Bigelow's method of litholopaxy is over the old plan of crushing a stone at repeated sittings.

In connection with obstructed nasal respiration, one naturally turns to the other causes of occlusion of the nares. Foremost among these come polypi. Though nasal polypi have been recognised from the earliest ages, it is only comparatively recently that scientific methods have been applied to their removal. The introduction of the nasal speculum into common use effected a revolution in the treatment of these troublesome growths, and allows us to make use of a treatment which is local in the strict sense of the word, whereas by the old method the forceps were passed up the nostril and anything which could be seized was grasped and forcibly torn away. Now, by rendering the mucous membrane anæsthetic by means of a 20 per cent. solution of cocaine, which also has the valuable property of constringing the mucous membrane and thereby increasing the space in which we have to work, the galvano-caustic wire can be passed painlessly around the polyp, tightened, and the pedicle can be burnt through. Finally, the base of the growth can be destroyed by the galvano-cautery, equally without pain, to prevent recurrence. This is another example of local treatment, and I cannot understand the *rationale* of those who recommend a course of mercurial treatment in cases of nasal polypi, and think there must be some other explanation of a statement of Mr. Abernethy's,[2] to the effect that he has "known several instances of persons who have for a long time been subject to polypi of the nose, in which the polypi ceased to grow after some attention had been paid to correct a disorder of the digestive organs."

The next condition producing obstructed nasal respiration to which I will direct your attention is hypertrophy of the mucous membrane. Various methods for its treatment have been suggested. One of the most efficacious is that introduced by Dr. Jarvis, of transfixing with a needle the part which is to be removed, and then passing a loop of steel wire over it, the loop being gradually tightened, or the galvano-caustic loop may be employed in the same way. In less severe forms I have obtained very good results by scoring the thickened mucous membrane with the galvano-cautery; as healing occurs a scar is formed, and by the gradual contraction of this a free passage through the nose is attained. Deflections of the nasal septum play an important *rôle* in preventing the satisfactory performance of nasal breathing, and it is very curious to note that even if on one side there is free passage for air, the obstruction on the other side is still a cause of trouble. It appears to me that a good deal of unnecessary tinkering with Nature's handiwork is done to the septum. Some surgeons seem to think that unless the septum be perfectly straight, measures ought to be taken to rectify its faulty position. When one reads that in the space of two years one specialist has operated on 166 patients for deformities of the nasal septum, in private practice alone, I think you will agree with me, that in all probability his zeal for the rectangular was greater than his judgment. This is on a par with what took place when attention first became directed to displacements of the uterus, every trifling departure from the normal position was thought to require a special pessary, and to be the cause of innumerable ills, now, however, common sense is reasserting itself, and it is allowed that the uterus need not be in exactly the same position in all women. While then admitting that under certain conditions it may be necessary to rectify the position of the septum or to remove pro-

[1] *Surgical Works*, vol. i, p. 1.

[2] *Loc. cit.*, p. 15.

jections from it, there is on the other hand a danger lest abuse should creep in and surgeons be tempted to interfere unnecessarily. But it is only when we turn to the various reflex symptoms associated with nose affections that we find the greatest difference of opinion as to what is use and what is abuse in local treatment. Hack certainly did good service to medicine by insisting on the connection between migraine, asthma, hay fever, and other affections and diseased conditions of the nasal passages, but, like all enthusiasts, he was led into certain extravagances, and he had later on to admit that some of the views he had at first propounded could not be substantiated. Still there is daily accumulating a mass of evidence in favour of energetic local treatment in affections due to a reflex nasal neurosis. Taking asthma as an example, I would quote the figures given by Schech, the well-known specialist in throat and nose affections. He states that in 1885–86, he had 47 cases of asthma under treatment, in 30 of these, that is to say, in 63.8 per cent., there were unmistakable and pronounced changes in the nasal mucous membrane. Of these 25 were treated locally—in 11 the attacks were absent up to present time—Schech does not make use of the expression, cured—5 were improved, 3 remained without benefit, and in 6 the result was unknown. These figures are surely sufficient to lead all medical men having cases of asthma under treatment to examine the noses of their patients, and if distinct signs of any morbid change be present, to take measures to rectify them.

My own experience has been limited to cases of asthma, persistent sneezing, and hay fever, and the success which has attended the removal of polypi and the free application of the galvano-cautery to the mucous membrane covering the inferior and middle turbinated bones is such as to encourage me to persevere with it in similar cases. Though, as I have just said, I am convinced that a certain number of affections result from a reflex nasal neurosis, the importance of treating the body as a whole should never be forgotten. The symptom, cough, will furnish abundant proof of the interdependence of the various organs of the body.

Ear-cough is well known to all physicians, and cases have been recorded in which all symptoms disappeared after plugs of wax had been removed from the ears, and so with all the other organs of the body; hence the risk specialists run in confining their attention to too narrow limits. I trust that a little more common sense will be brought into play, and that the poor nose, after having suffered unmerited neglect for many years at the hands of physicians and surgeons, is not in danger of being treated somewhat too zealously. If I wished to select an example of a disease in which local treatment is all in all, I would certainly point to ozæna, using this term in the restricted sense as equivalent to atrophic rhinitis. In my experience ozæna, for the most part, occurs in persons otherwise fairly healthy, though frequently somewhat anæmic, and I have not found general treatment of much use, with the exception of the administration of iron.

The relief, for cure is hardly to be expected, of ozæna is to be sought for in the thorough and efficient cleansing of the nostrils. The only satisfactory way of effecting this is by spraying some disinfecting and detergent solution up the nostrils. After the nostrils have been freed from the retained secretion, iodoform or iodol may be insufflated, or Gottstein's tampon may be employed. From the systematic use of these and like measures a most beneficial result may be confidently expected, and the patient can be assured that though a complete cure is unlikely, careful local treatment will free him from the most troublesome of his symptoms. One form of neglect of local treatment supplies the aural and throat specialist with many patients—I mean the unpardonable disregard of the naso-pharynx and adjacent passages during the course of the exanthemata and other acute affections. It is really lamentable to reflect on the amount of misery caused by the failure of the medical man in attendance to appreciate the consequences of purulent discharges from the nose. I am of opinion that a large number of the cases of deafness due to otitis media supervening upon scarlet fever might be prevented, if only the practitioner would institute the necessary local treatment. Just as ophthalmic surgeons have stirred up their professional brethren to recognise the importance of preventing the ophthalmia neonatorum which so commonly ends in blindness, so we who take special interest in diseases of the nose and throat should endeavour to impress upon the mind of the general practitioner, for he holds the key of the position, the danger of allowing a purulent catarrh of the nose to exist without proper treatment.

The posterior wall of the pharynx, on account of its accessibility, has for some time past furnished a convenient opportunity for the display of excessive local treatment. If a patient complained of dryness and irritation in the back of the throat, it was decided that he was suffering from granular pharyngitis, and various local measures, such as the insufflation of sedatives or astringent powders, the application of London paste, the use of the galvano-cautery, etc., were at once had recourse to. Now I do not mean to say that there is no scope for local treatment in affections of the posterior wall of the pharynx but I do wish to state most emphatically that the constitutional and the remote causes underlying this condition must be sought for and recognised, if efficient treatment is to be carried out. It is not sufficiently appreciated, certainly not by the general body of the profession, how intimate a connection exists between a dry and irritable condition of the pharynx and obstructed nasal breathing. Till this latter is treated all the local treatment directed to the pharynx is thrown away. Then again, constitutional conditions, such as gout, exercise a powerful influence in creating and maintaining pharyngeal irritation, and that repletion of the system which so commonly manifests itself in a tendency to hæmorrhoids is also characterised by a granular condition of the pharynx, accompanied by dilatation of the vessels of the part. In these cases it is advisable to diet the patient and unload the portal system by saline aperients before attention is directed to the pharynx, and when the patient has been placed in a good general condition, the judicious use of the galvano-cautery may succeed in effecting a great improvement in the local trouble. Certain conditions of the stomach giving rise to dyspeptic symptoms will often cause unpleasant sensations in the pharynx, suggesting the need of local treatment. Here the gastric affection should be treated before attempts are made to attack the pharynx.

The abuse of local treatment is seen in certain cases of nervous laryngeal cough. I have myself tried all forms of local treatment in these cases without the slightest success, and for the future I would advise my patients to take a sea-voyage. Sir Morell Mackenzie describes this as being "the most certain means of curing this troublesome affection," and our President, who recently gave me the benefit of his advice in a case of this sort, mentioned to me several cases of his own which confirm in a remarkable manner this favourable opinion.

It was but natural that the subjection of another organ of the body to the possibility of local treatment should at the outset lead to a somewhat excessive therapeutic interference, consequently the introduction of the laryngoscope was the signal for a vigorous attack on the various morbid conditions of the larynx. As soon as medical men were able to inspect the interior of the larynx local treatment in the proper sense of the term began to exist, and against the cases of abuse of local treatment which have occurred may fairly be set the cessation of much indiscriminate medication which existed in the pre-laryngoscopic days. Of this I need cite but one example—given a man who had suffered from syphilis and who subsequently became affected with hoarseness, and the chances were that the unfortunate individual was salivated to the great impairment of his health, and supposing the hoarseness was the result of a neoplasm the mercurial treatment would be entirely useless, if not harmful. I do not wish to defend the abuse of local treatment, but simply to point out that, admitted it has been abused, this abuse is more than compensated for by the diminished amount of general medication in laryngeal affections. There can be no sort of doubt that many cases of laryngitis are due solely to nasal obstruction, and it is perfectly useless to attempt to cure the larynx by astringent preparations until the nasal trouble has been removed. In acute laryngitis, if local treatment were carried out, except the use of soothing inhalations, this would furnish an example of its abuse. The great requisite in the treatment of acute laryngitis is to obtain physiological rest of the affected organ as far as possible, and it is from the lack of attention to this point that cases drift on, become chronic, and then require local treatment. It will be only necessary for me to indicate that rest of the larynx means rest of its two functions, the phonatory and the respiratory. The former is pretty much under our command; rest of the respiratory function is to be sought for by reducing exertion to the minimum and by avoiding all emotional excitement, by these means the number of respiratory acts will be diminished. The application of astringents to the larynx must be guided by the same rules as are applicable to their use in other parts of the body. It may therefore be laid down as a general rule that astringent remedies should not be employed during the acute stage of laryngeal catarrh. But, having satisfied oneself that remote and constitutional causes are non-existent, or have been removed as far as possible, and that

the acute symptoms have passed by, then comes the opportunity for careful local treatment.

As an example of the method of local treatment to be carried out in cases of chronic laryngeal catarrh I cannot do better than refer to a paper read by our President (Dr. Semon) before the East Surrey District of the South Eastern Branch of the British Medical Association and published in the JOURNAL of January 24th. 1880. Here precise and clear directions will be found as to the class of cases suitable for treatment and the best remedies to be employed.

As regards neoplasms, two groups may be made, namely, malignant and non-malignant. It will generally be agreed, I think, that the less local treatment malignant growths in the larynx receive the better for the patient. As soon as the surgeon has removed a portion, and after microscopic examination this has been shown to be of a malignant nature, his duty is clearly to point out to the patient the inadvisability of further endo-laryngeal procedures, and to lay before him the chances offered by extirpation of the growth by thyrotomy or resection of the larynx.

There are of course exceptional cases in which it may be possible to remove the whole of the growth *per vias naturales*, but even in these cases recurrence is almost certain. When we come to consider the non-malignant new formations the rule is just the converse, and the law laid down at the International Medical Congress in 1881 still holds good, namely, "that extra-laryngeal operations are only to be adopted after an actual attempt made by a skilled laryngologist at proceeding endo-laryngeally has failed."

The statistics so carefully collected by Dr. Semon, in the *Centralblatt für Laryngologie*, amply disprove the assertion that there is any considerable risk of intra-laryngeal manipulation converting innocent into malignant formations. Therefore local surgical treatment is imperatively demanded in these cases. "Although admitting that a time may come in the life of any papilloma when its activity ceases and absorption takes place, we have unhappily, no means of determining when this fortunate moment will arrive. Possibly not before the larynx has become occluded, necessitating tracheotomy, or else leading to the fatal results familiar to us in so many cases in the ante-laryngoscopic days, and handed down to us in Ehrmann's classical monograph."[3]

In cases where adhesion between the vocal cords is threatened as occasionally occurs in syphilitic affections of the larynx, prompt and energetic local treatment is requisite to prevent the glottis becoming stenosed. Should adhesion take place to any considerable extent tracheotomy may be required, and when this has been done it is much more difficult to keep the larynx patent. In syphilitic cases, where the cords have become adherent to each other, the patient must be put under specific treatment and the adhesions broken down at once. If local treatment be neglected the patient may have to wear a cannula for the rest of his life.

When we come to consider laryngeal phthisis, the use and abuse of local treatment take a prominent place. I suppose that there is hardly any question upon which laryngologists are so divided as that of the local treatment of laryngeal phthisis. Some physicians regard this disease as practically incurable, and therefore, acting on this pessimistic view, do nothing. On the other hand, there are optimists who profess that they can cure almost any tubercular ulcer of the larynx. In this, as in many other questions, the middle course is the safest. My own experience, however, does not incline me to take a very favourable view, though I do not for a moment deny that, under the influence of local treatment, ulcers of the larynx can be healed. M. Gouguenheim,[4] for example, at a meeting of the Société Médicale des Hôpitaux, described the results obtained by M. Ehring. The treatment consists in scraping and cleansing the ulcerations, or, when this is impracticable, in making lactic acid or iodoform injections under the laryngeal mucous membrane after the application of cocaine. Of 200 patients thus treated, 28 were cured. Any plan of local treatment which promises such a degree of success in so intractable a disease as laryngeal tuberculosis certainly deserves a fair trial. The great difficulty in these cases is to prevail upon patients to submit to the protracted treatment which may be necessary if the physician, as he is in duty bound, states at the outset that he cannot promise a cure. Cleansing the ulcerated surface by disinfecting and detergent sprays, and then the application to the affected part of iodol, iodoform, corrosive sublimate, or other remedies of a similar nature, will certainly exercise a beneficial effect upon the disease. The same cannot be said for scarification of a tubercular larynx; this I should regard as the abuse of local treatment. Scarification may undoubtedly give relief from some of the immediately urgent symptoms, but ulceration is very liable to occur at the site of the punctures, and to result in an extension of the diseased process. I would also most emphatically condemn, as an unjustifiable extension of local treatment, the proposal which I see Massei has recently endorsed, to extirpate the larynx in cases of primary laryngeal tuberculosis.

In my opinion the performance of tracheotomy in cases where this operation is not demanded, on account of laryngeal obstruction, is unjustifiable, though to a less degree. I cannot at all agree with Dr. Beverley Robinson[5] "that it is certainly a palliative procedure of much value; that it may ultimately be found a direct curative means, yielding very favourable results; and that it seems indicated not to delay the operation to a late date."

The comparatively recent introduction of cocaine has furnished us with a means of relieving one of the most distressing of the symptoms of laryngeal phthisis, namely, the dysphagia which so frequently attends the close of the disease. The application of a 10 to 20 per cent. solution of cocaine by the spray-apparatus to the larynx five minutes prior to the act of swallowing will deprive this act of most of its terror.

Many more examples of the use and abuse of local treatment in diseases of the upper air-passages might have been selected, but I trust that I have adduced sufficient to afford an opportunity for a useful discussion, and it only remains for me to thank the President for the confidence he put in me by entrusting to me the important task of opening this debate, and you, gentlemen, for the patience and courtesy with which you have listened to my remarks.

[3] F. H. Hooper, *Archives of Laryngology*, vol. iii. p. 339.

[4] BRIT. MED. JOURNAL, vol. i, 1887, p. 1409.

ON THE USE AND ABUSE OF LOCAL TREATMENT IN DISEASES OF THE UPPER AIR-PASSAGES.

Read in the Section of Laryngology and Rhinology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY GEORGE STOKER, M.K.Q.C.P.I.,
Physician to the London Throat Hospital.

IN opening this discussion on the use and abuse of local treatment in diseases of the upper air-passages, one is much impressed with the importance of the subject. We all agree that it entails considerations of the broadest nature, which, viewed from any point, whether surgical or medical, operative or otherwise, must affect the existence and credit of our speciality.

Of such moment is the subject that it is hard to do it any kind of justice in the space of time placed at one's disposal, and however inclined one may be to generalise as far as as possible, I conceive that the clearest way of putting one's views will be by illustration and example.

In the use of local treatment we find the pride, and in its abuse the opprobium, of our speciality. In the exhibition of local remedies suggested, tried, and proved by long experience, which brings relief to suffering, cures disease, advances the cause of science, or increases the importance of our speciality, we find a just and natural pride and satisfaction. But, on the other hand, when local treatment is carried out at haphazard without attention to general conditions or obvious personal idiosyncrasies, where it is prolonged indefinitely, and a palliative employed, where a radical form is plainly indicated, we feel the opprobium stage is reached and discredit reflected on the cause we advocate, These, it may be remarked, are truisms; no doubt they are—often told, but not always appreciated.

Let us, as a matter of illustration, consider one or two forms of local treatment, and see where we can find their use and abuse, and then let us take one or two conditions known generally as disease, and see when local treatment can be used or abused in reference to them.

First then, for forms of treatment, let us consider insufflation and the galvano-cautery. Insufflations are no doubt a very easy and very rapid means of local treatment, but their actual influence either as palliative or radical forms of treatment are apt to be much overrated. How often we see them used without proper precautions, most notably in cases of laryngeal phthisis? Into a larynx whose surface is completely covered with adhesive secretions, we see powder blown, how much of that powder ever reaches the

[5] *Archives of Laryngology*, vol. iii, p. 246.

parts on which it is intended to take effect? How seldom is the laryngeal spray first used to clean the diseased surface, and even then, owing to intense irritability, is not a large quantity of the powder instantly expelled? Under such circumstances as these, we find, in a measure, one form of the abuse of insufflations, and are the conditions uncommon? Were it not better in such cases to use a spray containing the liq. morph. acetat. in the desired quantity of an ascertained strength after the cleansing spray has been employed?

To my mind, for the best example of the use of insufflations, we must turn to syphilitic largynitis with ulceration, or to cancer of the larynx. As is well-known in either of these cases we are almost certain to find great fætor, alike unbearable to the patient, the physician, and those surrounding the former. Under these circumstances, having used the spray for cleansing purposes, what is better calculated to overcome and prevent the smell than insufflations of iodoform?

When properly and reasonably applied, the galvano-cautery is of the greatest use in carrying out local treatment in diseases of upper air-passages. It has in a measure almost superseded the use of caustics and pastes; still it is liable to abuse. Let us take a very common and plain example—follicular pharyngitis: here we have minute glands studding the pharynx, becoming the subject of chronic inflammation; their mouths become blocked, their secretion retained, and they then appear as hard excrescences protruding from the mucous membrane. Around their bases are often seen enlarged veins caused by the pressure and obstruction offered by the hypertrophied follicles. It were surely reasonable under such circumstances to treat the cause and not the result, destroy the follicles with the galvano-cautery; but why punish the veins that are after all sinned against, not sinning? Still we know that it has been recommended to destroy the veins with the idea of withering the follicles. To me this treatment seems rather to increase the evil; it is true it may partially stop the supply of blood coming from the diseased follicle: but unless the supply of blood going to the follicle is arrested, I do not see how the treatment could be effective.

To my mind another case in which the use and abuse of the galvano-cautery is often seen is in the treatment of nasal polypi. A galvano-snare is passed round the growth or growths, and they are burnt off; and the patient is informed that, having been burnt off, they cannot recur again. They do, however, and in a few weeks or months all the unpleasant symptoms recur. If after the removal of the growths the case were watched for a few weeks, and when the sloughs separated the stumps or buds were freely cauterised, they would not recur. I know more than one instance where the cautery has been condemned by patients, and only because it had not been given a fair trial.

Another example of the abuse of the galvano-cautery is employing it for the purpose of removing enlarged tonsils. I have seen more than one case where the patient has been subjected to operation after operation, where one sitting with the use of the tonsillotome might have entirely relieved him of his trouble. Examples such as these quoted above might be repeated *ad infinitum*, but no good purpose can be served by useless repetition.

Let us now turn our attention for a moment to the forms of disease or pathological conditions where local treatment can be used and abused. Let us take a simple case of pharyngitis occurring in a person who is the subject of general plethora. We find, on examining the pharynx, general congestion of the mucous membrane, especially low down near the base of the tongue and epiglottis, and a considerable amount of varicosity of the veins in this region. It is recommended and practised to at once begin on these varicose veins, and with laboured exactness to destroy or burn them by applying the galvano-cautery to each varicosity. In such a case a little further examination would probably show us the liver protruding several inches out of its normal position. If we were very enterprising and went a little further, the patient would be discovered to have piles and extreme congestion of the mucous membrane of the rectum. Here surely general treatment, free purgation, restricted diet, etc., would be the reasonable course to pursue.

As opposed to this hyperæmic condition, let us select one of an anæmic nature. We have no doubt often noticed that, generally speaking, there are two forms of ozæna: 1. That known as syphilitic, and 2, that which might be accurately described as anæmic ozæna; with the former we have nothing to do at present. The second is found occurring in young girls who have pronounced symptoms of menstrual disturbance, usually great dysmemorrhœa, and are of a chlorotic appearance. Under these circumstances there is little use attempting local treatment unless we first discover the general disease, and exhibit suitable remedies. It is futile to advise lotions, douches, insufflations, etc., until we have satisfied ourselves of the necessity that exists for the internal administration of iron or other suitable remedies.

How, it may be asked in conclusion, are abuses to be avoided and "uses" to be encouraged in reference to local treatment in diseases of the upper air-passages? By specialists spreading abroad as far as ever they can the knowledge and experience which they derive from their special opportunities of observation; by teachers and examining bodies in turn instructing in, and demanding a knowledge of, those specialities; by practitioners giving careful attention to general symptoms before treating special ones; by adopting at once radical forms of treatment instead of indefinitely carrying out palliative ones; by adopting that line of treatment which they are persuaded will confer the greatest benefit on the patient regardless of other considerations; by strict attention to those grave and great principles which should control the ethics of our professional life; by the formation of societies of specialists for the discussion of special subjects. This system has already proved successful in relation to every other speciality, then why should it not prove so in relation to ours? Our presence here to-day in special Section is an undoubted proof of what I state.

The PRESIDENT thanked the openers for their addresses. He referred to the opinion, widely spread in the profession, that there was too much local treatment in laryngology; it was, therefore, important to have an expression of opinion on this subject from the Section.—Dr. DUNDAS GRANT felt that, from a considerable experience as a general practitioner, he was justified in expressing the strongest acquiescence in the views of the openers as to the necessity for general treatment. He had found great advantage in general practice in making use of the local methods of treatment, as of antiseptic nasal douches in exanthemata. In cases of nasal stenosis the specialist ought to have before his mind the influence of the vasomotor system, and the action on it of such conditions as leucorrhœa, subinvolution, or others, in which the gynæcologist's or general practitioner's counsel or aid was required. He had in several cases observed the disappearance of the symptoms of ozæna after marriage, and thought that this indicated the potent influence of the sexual system on the nutrition of the nasal organs. On the whole, he considered that local and general treatment must go hand in hand if the best results were to be obtained.—Dr. HODGKINSON referred to the importance of recognising the fact that nasal obstruction in children was due either to nasal polypi or adenoid vegetation. A deflected nasal septum was not nearly so frequent a cause of obstructed nasal respiration as was commonly believed. The deformity was usually confined to the anterior portion of the septum, and hence any encroachment on the one nasal passage was compensated for by enlargement of the other passage. He endorsed the opinion that in all inflammatory conditions of the pharynx and naso-pharynx the portal system should be attended to, and would add to these the advantage of fresh air and removal of irritating fumes. In the local treatment of tubercular ulceration of the larynx he had seen undoubted benefit from the local use of lactic acid, and that in cases where there was evidence of pulmonary mischief. He would also advocate the use of the galvano-cautery in certain cases of hypertrophied tonsils. In certain cases of enlarged tonsil the enlargement was confined to the deep-seated portions of the gland, and rendered its ablation by the use of the tonsillotome exceedingly difficult. In such cases the enlargement was often nodulated, and such nodules might be made to shrink, from the contraction which attended the touching of the remains with the cautery.—Dr. SCANES SPICER said the best defence against the accusations that had been made against overmeddling with local treatment would be the publication of the gist of the remarks made by the openers and speakers in this discussion. Perhaps when local treatment was first brought into vogue, and when it was in a more experimental state, it having been found useful in many cases, it was tried in others on the chance of doing good, and that with perfectly honest intent. He disagreed with Dr. De Havilland Hall that enlarged faucial tonsils alone, without post-nasal growths, caused buccal respiration. He referred to the danger of allowing large spurs from the septum to remain, on account of their enabling a slight catarrh to set up swelling of mucous membrane lasting over long periods; and recommended their re-

moval by the electric trephine, an operation which, properly performed, was a simple, painless, and efficient one. He called attention to the great superiority of the porcelain cautery over the platinum one in treating hypertrophy of the lingual tonsil, it being quicker, safer, and more effectual. He pointed out that the granules in chronic granular pharyngitis were not glands, but hypertrophied lymphoid follicles—that is, essentially tonsils.—Dr. MACKENZIE JOHNSTON agreed with the two gentlemen who had introduced the subject, and said that he wished to add his voice to theirs. The subject might be considered under the headings (1) of abuse of operative interference, and (2) the abuse of local medical treatment. In the first class, he referred specially to operations for hypertrophy of the turbinated bones and deviated septum. For the credit of the profession, he thought, no operation should be undertaken unless they clearly knew what they were operating for and what result they expected. Many of these cases he was satisfied would do well with treatment of a less violent description. He agreed with Dr. Spicer that deviation of the septum was a cause of nasal disease, but he was certain that the majority of deviations should be left alone, as causing no harm. In granular pharyngitis and hypertrophy of the follicles at the base of the tongue, too often general treatment was neglected for local. Anæmia was generally associated with these cases, and, therefore, iron and attention to the general health would often be found sufficient without more violent local remedies.—Dr. MACINTYRE could not agree with Dr. Hodgkinson in his statement about the correction of the septum in these affections. He had seen cases where the obstruction on one side was followed by swelling of the mucous membrane on the other side, even in cases of foreign body. Again, mischief in the Eustachian tube and middle ear would follow on the one side. With regard to phthisis laryngea, he was not one of those who could boast of cure from any of the methods of treatment tried, although he had faithfully tried every method. Amelioration of the symptoms and alleviation of the suffering we could do by many aids. He had tried menthol faithfully, lactic acid, etc., but the result was the same. A method of treatment he would have liked to hear about was the use of the constant and interrupted currents in disease of the throat, as a considerable amount of abuse took place.—Dr. JACOB thought that this discussion showed that general treatment was as valuable in this speciality as in other diseases. It was unfortunately painfully easy when cases were sent for throat examination to forget the other organs of the body, paying attention only to the prominent symptoms in the throat. He had known a paralysis of one of the vocal cords due to an aortic aneurysm treated by galvanism.—Dr. JOSEPH NELSON, of Belfast, said with regard to the age at which we could deal with naso-pharyngeal growths in little patients, it depended partly on the patient—partly on the surgeon. He had found that little children, even as early as seven years old, were quite amenable, if only approached in a judicious and patient way by the surgeon. He considered that this preliminary treatment was of more importance than the operation which was to follow, for without the former the latter could not be carefully or successfully carried out. He found that once the confidence of the little patient was gained, the remaining treatment was easy—and the after-cleansing, which had to be continued for a considerable time by the general practitioner or the parents, could be properly and thoroughly carried out. For a long time he had practised the shaving only of enlarged tonsils, and the after-application of the porcelain cautery—but an important point was not to expect too much at a time—it was better to allow patients to have a respite for a few months, that contraction or shrinking might occur. The improved appearance of the parts after two or three months was very marked—and of course less cauterisation needed. In the treatment of nasal polypi he wished to add his testimony to the great service rendered by Zaufal's long dilator—especially where there was simple deflection of septum. In cases of muco-purulent discharge from under the middle turbinated bone, and from the higher parts, he found a very thin long tube fitted on a Higginson's syringe of great advantage, and the chief point was to teach the patient how to insert the end of the tube right under the middle turbinated bone, and thus ensure thorough cleansing.—Dr. HALL stated that several of the points that had been raised in the discussion he had mentioned in his paper, but that he had been unable to read the whole on account of the shortness of time. He was glad that Dr. Dundas Grant's experience in general practice corroborated the views he had expressed as to the necessity of local treatment in purulent rhinitis occurring during the course of the exanthemata. As regarded the age for operation in cases of adenoid vegetations, Dr. Hall thought that between the fifth and fifteenth year was the most favourable time. Under five one could not be certain as to the amount of obstruction, and moreover the passages were very narrow for operative proceedure; about fifteen, and still more above twenty, changes had been already produced which the removal of these growths would not alter. As Dr. Hall advised that the patient should always be operated on while under chloroform, intractability of the patient need not be considered.—Mr. STOKER thought adenoid growths of the naso-pharynx occurring in children should be removed as early as possible, in fact, as soon as they were diagnosed. Physiological idleness produced arrest of development, and the sooner the obstruction was removed the less the deformity. Sigmoid deviations in the cartilaginous part of the septum were the only class that caused occlusion of both nostrils.—The PRESIDENT remarked on the unanimity in favour of the necessity of local treatment, but of not exaggerating its value, to the neglect of constitutional. He emphasised the necessity of varying the local treatment to suit the case, especially in phthisis. He considered that all local remedies recommended had occasionally some value; but that which had given relief in one case might fail in a second similar one. He considered that no cure would be found for laryngeal phthisis till an antidote for tuberculosis was discovered. Lactic acid was useful in some cases, but should not be used indiscriminately in cases in which the constitutional disease was advanced, as its application was often very painful, and a temporary relief of dysphagia was dearly bought at the cost of several nights rendered sleepless by pain.

ON THE USE OF ELECTRICITY IN DISEASES OF THE THROAT.

Read in the Section of Laryngology and Rhinology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By JOHN MACINTYRE, M.B.
Assistant-Surgeon Glasgow Royal Infirmary.

[A table was exhibited, worked partly by secondary and partly by bichromate cells. In the circuit for heating and lighting were placed: 1. Contact breaker; 2. Nussbaum's resistance; 3. Switch for four incandescent lamps and one head lamp; 4. Resistance coil for these; 5. Fuse to prevent breakage of lamps. In the second circuit, there were: 1. Hirschmann's galvanometer rheostat and reverser; 2. Alternating machine and continuous current transformer; 3. Arrangements for giving constant or alternate currents with the same wire.]

THE switch table exhibited at this Section is intended to show the apparatus required in the treatment of all affections of the throat by electricity.

As in other branches of surgery, we require the electric current for three purposes: first, the illumination of the cavities, although this is not yet universally employed; secondly, the heating of metals, such as platinum, for cautery purposes; lastly, the application of constant and alternate currents in nervous and muscular lesions.

Taking first into consideration the illumination of the cavities, it might be argued that the ordinary oil and gas light are quite sufficient for our purpose. In fact, in illuminating the cavities of the body, a broad distinction should be drawn between those cavities, such as the bladder, which can only be illuminated by means of an incandescent lamp, and others, such as the throat and nose, which can be quite well seen by reflected light from whatever source.

The last-mentioned can be illuminated by the electric light in three ways: first, by means of an electric lamp taking the place of the ordinary gas, and using the mirror on the forehead, but the incandescent carbon filament is exceedingly trying to the eye of the observer; secondly, the light may be placed on the forehead after Trouve's method; thirdly, by placing the light inside the cavity to be examined. The advantages of illuminating by an incandescent lamp are certainly great, and were pointed out by the writer in the *Glasgow Medical Journal* in January, 1885, and also by our President, Dr. Semon, in the *Lancet* a few weeks later. By means of the incandescent lamp, one can obtain a clear white light, with simple portable arrangements, and at the same time allow of an examination of the patient in any position. This method has some disadvantages, inasmuch as secondary cells require attention, and primary batteries give some trouble; and

moreover, the lamps are rarely well made, and therefore do not last long. The use of the galvano-cautery is now so universal that nothing need be said with regard to its place as a surgical instrument, the only consideration for us now being the best methods of producing the current, and the improvement of the apparatus required. The treatment of nervous and muscular affections by means of the continuous and alternate currents, when properly applied in suitable cases, is of the greatest possible advantage. That its use, however, has been overestimated is probable, and it is often used in cases in which it could not be expected to be of service.

The recent advances made in the study of electricity enable us to obtain our supply from many sources. Until a few years ago, primary batteries only were at our disposal, and so great were the difficulties in their use that the best authorities in medicine often despaired of obtaining a reliable apparatus. Now, however, we have the current produced by motor power and the dynamo, secondary cells; and still more recently transformers, continuous or alternate, have rendered the production of the current as reliable as any source of light or heat at our disposal. For example, the secondary batteries or accumulators, although requiring to be recharged at intervals, being so clean, free from smell, and requiring no lifting of plates, are so convenient and reliable that they bid fair to displace the primary batteries altogether. One great advantage we have in using them is that one can tell beforehand how much electricity remains in a cell, and to that extent we can fully rely upon it. No doubt, attempts have been made to improve the primary batteries; but, if we are to be guided by the tendencies in the arts, the indications are rather against than in favour of the primary cells. At present, although many praiseworthy attempts have been made to improve the latter, it may be said that, where high electro-motive force is required in medicine or surgery, Leclanché's cells are used; and, for cautery purposes, bichromate and chromic acid are the most popular.

When we consider the various currents used in surgery a considerable range is necessary in the number of ampères and volts, on account of the difference of resistance which the current will meet in the circuit; for example, in using the cautery we may require twenty ampères and two volts; when lighting a lamp, one ampère of current and five to ten volts probably; when stimulating muscles a range of one to twenty milliampères of current will suffice, but we may require an electro-motive force as high as thirty or forty volts to overcome the resistance of the tissues. In other words, for medical purposes we may require a high current and low electro-motive force, or a low current and high electro-motive force. To overcome this, the methods at present adopted are, in the former, to arrange the cells in series, and in the latter in parallel, and thereby increase the current; or it may be, instead of a number of cells in parallel, to increase the size of the plates and thereby diminish the internal resistance of the cells. The table exhibited to the members is built up on these principles. In it, two circuits are present, one for the cautery and electric light, the other for the constant and interrupted currents. The first circuit is worked by secondary cells, E.P.S. form. The other circuit for constant and alternate currents by means of Leclanché cells.

By whatever method we endeavour to get the various currents from cell batteries, it means great expense, rearrangement of cells before using, and apparatus not easily carried about; so the question naturally arises—Could not batteries be replaced entirely by some such arrangement as the motor, dynamo, or transformer? That this can be done is almost certain, and a cheap, portable arrangement of this kind, suitable for all medical purposes and thoroughly reliable, will, in the future, be obtained most probably in the form of the transformer. By this means, batteries as a source of electricity in surgery will be reduced to a minimum, if not entirely done away with.

BORACIC ACID IN MALARIAL FEVER.—In the *Vratch*, No. 18, 1888, p. 338, Dr. N. A. Bükhaloff writes that, during the last three years, he has treated malarial fever by the internal administration of boracic acid, in doses of from twenty to twenty-five grains, once or twice a day. In a majority of the cases the drug proved to be a very effective substitute for quinine. Sometimes, however, it remained quite inactive, whilst cure rapidly followed the administration of quinine. Since boracic acid is a very cheap antimalarial drug, Dr. Bükhaloff thinks that it is worth while to give it a more extensive trial. In other febrile diseases boracic acid seems to be of no use whatever.

THE CAUSES, EFFECTS, AND TREATMENT OF NASAL STENOSIS.

Read in the Section of Laryngology and Rhinology at the Annual Meeting of the British Medical Association, held at Glasgow, August, 1888.

BY E. CRESSWELL BABER, M.B., Lond.,
Surgeon to the Brighton and Sussex Throat and Ear Dispensary.

WHEN, at the request of the officers of this Section, I undertook to open a discussion on nasal stenosis, its causes, effects, and treatment, I felt that, owing to the extent of the subject, it would be impossible to give a full account of it in the limited time at my disposal. By tracing an outline, however, and by dwelling especially on debatable points, I trust to be able to leave a discussion of some interest to those present.

Taking the term nasal stenosis in its widest sense as any obstruction to passage of air through the nose, its causes fall naturally into those affecting the nasal cavities and those situated in the naso-pharynx—intranasal and naso-pharyngeal, as they may be respectively termed. The intranasal causes may, for the sake of convenience, be divided into—(1) Changes affecting the turbinated bodies; (2) Changes affecting the septum; (3) Changes affecting both inner and outer wall of the nasal cavity; (4) New growths; (5) Foreign bodies.

1. *Changes Affecting the Turbinated Bodies.*—These are: Simple erection of the inferior turbinated body (which, if extreme or of long duration, assumes a pathological character); true hypertrophy of the soft parts of the inferior turbinated body (either at its anterior, middle, or posterior part); and hypertrophy of the inferior turbinated bone itself. The latter I have usually seen associated with a septum deflected to the opposite side, in which case it only appears to protect an unusually roomy nasal cavity. Hypertrophy of the middle turbinated body causes obstruction of the upper part of the nasal cavity, but unless extreme does not of itself involve the inferior meatus.

2. *Changes Affecting the Septum.*—The most common of these are deflections, more or less marked, occluding one nasal cavity, dislocation of the triangular cartilage from the inferior maxillary crest, and bony or cartilaginous projections on its surface. The bony projections generally take the form of ridges or conical eminences, either at the anterior or posterior part of the septum. Hypertrophy of the mucous membrane of the septum is a rare cause of nasal obstruction, unless we include under this head a pathological enlargement of the projections seen normally on either side of the posterior margin of the septum. Swelling of the tubercle of the septum, which may be temporary in character, helps to occlude the middle but not the inferior meatus. Hæmatomata and abscesses on the septum are occasional causes.

3. *Changes Affecting both Inner and Outer Wall of the Nasal Cavity.*—Under this head we may range the somewhat rare cases of congenital occlusion of the nares, either anterior or posterior, the septum in the former case being usually membranous, in the latter bony or cartilaginous. Also transverse membranous bands (synechiæ) extending from the septum to the inferior turbinated body (which are not uncommon in my experience), and cicatricial narrowing of the nasal cavity, the result either of accident, syphilis, lupus, or the injudicious use of the galvanic cautery.

4. *New Growths.*—New growths obstructing the nasal cavity include mucous and fibrous polypi, cysts, sarcomatous and carcinomatous growths, papillomata (on the inferior turbinated body), also osteomata, enchondromata, and true exostosis of any of the bony parts. Nasal obstruction also occurs in the rare disease termed rhinoscleroma, in cases of hydrencephalocele and in tubercular disease of the pituitary membrane. Syphilis may cause nasal obstruction by the formation of gummata as well as by the loosening of sequestra. A formation of teeth in the nose has also been described.

5. *Foreign bodies and rhinoliths* are often the cause of nasal obstruction. The former include both animate and inanimate objects; the latter usually have a foreign body for nucleus; in the rhinoliths I have seen this has invariably been the case.

Nasopharyngeal causes of nasal obstruction comprise adenoid vegetations of the naso-pharynx (called by some "enlargement of the pharyngeal tonsil"), mucous and fibrous polypi of the naso-pharynx, the rare disease of naso-pharyngeal enchondroma, and finally adhesion, more or less complete, of the soft palate to the posterior pharyngeal wall.

Effects.—The immediate effect of nasal stenosis, even if not complete, is that the mouth is held more or less open in order that respiration may take place through it. In consequence, the cold and unpurified air passing directly into the mouth causes irritation of the pharyngeal, laryngeal, and even bronchial mucous membrane. The breathing is often noisy, especially at night, (when the patient snores, and at times "fights for his breath,"), and during eating. Sleep may in consequence be impossible or disturbed, but not necessarily so, in my experience. The infant's nasal obstruction may have serious consequences on account of the impediment to sucking which it presents. According to Carmichael[1] it also plays an important *rôle* in the production of collapse of the lungs. The physiognomy of an habitual mouth-breather is characteristic: the nose has a pinched aspect; its alæ are pressed against the septum and wasted, the folds between the nose and upper lip obliterated, and the inner canthi of the eyes drawn down. The face altogether assumes an elongated aspect, and has a dull listless expression. The effect of nasal stenosis on the speaking voice varies according to the situation of the obstruction, from the altered resonance due to closure of the anterior nares to the "complete deadness of speech" found when the naso-pharynx is obstructed, the latter consisting, according to Meyer, of two elements, inability to pronounce the nasal consonants M and N, and loss of resonance in the anterior and posterior nares. Impairment of the upper notes of the singing voice is present in nasal stenosis. According to Freudenthal stuttering may be produced by nasal obstruction due to adenoid vegetations. Two senses can mainly suffer in nasal stenosis, the olfactory and the auditory. Obstruction of the nasal cavities, according to whether it affects the front or the back part, impairs or does away with the sense of smell or of the taste of flavours. Impairment of hearing in nasal stenosis may be due either to an extension of the inflammatory condition of the nose up the Eustachian tubes, or to the interference with the proper ventilation of the middle ear. With complete intranasal stenosis, at each act of deglutition Toynbee's experiment is performed, but it is astonishing in practice how little one finds deafness associated with even marked intranasal stenosis. Distinctly the most common form of obstruction associated with impaired hearing is that due to adenoid vegetations, and the reason appears to me to be that the full action of the dilator muscles of the tubes is mechanically interfered with by the growths, thus rendering a proper separation of the Eustachian walls at each act of deglutition impossible. This explains the immediate improvement in hearing often resulting from a removal of the growths. Certain observers attribute what are usually termed reflex nasal phenomena, such as asthma, to the mechanical effects of obstruction. I am not inclined to agree with them, but a passing notice is necessary as it will be interesting to have the opinion of members of the Section on this point. The effect of nasal stenosis on the thorax, to which attention was drawn some years ago by Loewenburg, and more recently by Chatellier, is most marked in adenoid vegetations. The theory is that the partial vacuum in the chest caused by the obstruction to the ingress of air into the lungs, either from involuntary mouth-closing or from interference of the velum during sleep, causes the ribs to be laterally compressed, and pigeon-breast to result. I saw a well-marked case recently in which the two conditions coexisted, but how often they bear the relation to each other of cause and effect is a question open for discussion. Freudenthal's[2] recent observations on the effect of nasal stenosis in producing hernia are of interest. He examined the noses of 500 patients suffering from rupture, with the result that 143 were found affected with marked nasal obstruction. He attributes the hernia to the increased abdominal pressure due to the frequent and long-continued efforts on the part of the patient to get rid of the secretion from the obstructed nasal cavities. The point certainly deserves consideration. General ill-development of the nasal cavities and a high arched (V-shaped) palate are said by Chatellier to be the result of adenoid vegetations in childhood, and the excessive arching of the palate in its turn is considered to give rise to deflections of the septum.[3] Without being able to speak positively from my own experience of the production of high palates from this cause, I think most of us will agree that undeveloped nasal cavities are often met with in neglected cases of adenoid vegetations. How far scoliosis of the septum is associated with these cases is a point on which it will be of value to hear the opinion of the Section. These few remarks will show that nasal stenosis produces serious and far-reaching effects, greatly in excess of what at first sight might appear. That it even attracted the attention of the laity years ago is shown by Catlin's quaint little book,[4] of which it may be fairly said that its illustrations are more true than its theories.

Treatment.—The treatment of nasal stenosis resolves itself into a treatment of the various causes already enumerated. Simple erection of the inferior turbinated bodies may be reduced temporarily by cocaine in 4 to 10 per cent. solution. For a temporary condition, such as occurs in acute nasal catarrh, hay fever, etc., this often suffices; but for chronic erection the application requires renewal so frequently that its use is apt to become an injurious habit—injurious not only on account of the subsequent relaxation of tissues which it produces, but also on account of the pernicious effect which it exerts on the general system, as pointed out by Whistler. As an alternative, and for weaning those suffering from "cocaino-mania" from a use of the drug, I have found great service from alcohol used as a spray into the nasal cavities, commencing with a 25 per cent. mixture of rectified spirit and water, and gradually increasing the strength. The spirit has a bracing effect on the nasal mucosa, and leaves the nose with a comfortable feeling. If these means fail and the erection is still troublesome, I cauterise with one of Hack's long points, furrowing the turbinated body deeply from behind forwards. Another method which I saw in use at Berlin last year consists in introducing a long cautery point into the anterior end of the inferior turbinated body, and running it directly backwards between the bone and the mucous membrane, thus obliterating the erectile tissue submucously.

True hypertrophies of the inferior turbinated body, which are, of course, unaffected by cocaine, require, if small, to be burnt away with a pointed or flat electrode, or, if large, to be removed with the galvanic or cold loop, if necessary, after transfixion. Applications of chromic and nitric acids are favourite methods of treatment for this condition in the hands of some observers. Hypertrophy of the middle turbinated body, unless associated with more serious affections, does not often require treatment. If necessary, it can be carried out on the above lines.

Deflections of the septum, when acquired by accident, may be treated by forcible reposition with Adams's forceps, the septum being retained in position by means of plugs or by detachable blades of the forceps. When cartilaginous the deflections may first be divided with the knife. Congenital deflections are more commonly associated with thickening of the septum, and in these cases relief may be attempted by sawing off the projecting portions of bone with a fine nasal saw. Drilling away portions of the septum, applications of chromic acid, and punching out pieces are methods recommended by some observers. Before operating on the bony septum for nasal stenosis in any case, attempts should be made to clear the passage sufficiently by reduction of any swollen or hypertrophied portions of the opposing turbinated body, in order, if possible, to avoid the more serious operation. So-called dislocations of the triangular cartilage, which, as Stoker says, are probably often only outgrowths of cartilage, should be cut or sawn off, care being taken not to cut through the septum. There is no occasion to attempt a resection of the mucous membrane. Bony projections from the surface (exostoses or spines) may be taken off with a fine nasal saw attached to a bent handle (after Krause's pattern, two being at hand, one cutting upwards, the other downwards). The operation—which is to be done under good illumination, after the application of cocaine—is easy when the projection is near the front, but becomes considerably more difficult when it is situated near the choanæ. In a case recently under my care I sawed off a projection extending right across the nasal cavity, at a distance of two inches and a half from the anterior nares, and behind it found a nasal polypus. For treatment of the puffy swellings at the sides of the posterior septum, galvano-cauterisation, as recommended by Cohen, may be employed. Ziem in these cases guides the electrode by means of a finger introduced into the naso-pharynx.

Abscesses of the septum require evacuation generally on both sides in order to insure free drainage. Hæmatomata usually need similar treatment. Congenital occlusion of the nares by a membranous or osseous septum may be conveniently cut or drilled

[1] *Edin. Med. Journal*, October and November, 1886.
[2] *Monatsschrift für Ohrenheilkunde*, November and December, 1887, and January and February, 1888.
[3] See also Schaus *Centralblatt für Laryngologie*, October, 1887, p. 116.
[4] *The Breath of Life* (monograph). By George Catlin. London: Trübner and Co. 1886.

through and afterwards dilated. In a case of congenital bony occlusion of the choanæ, Schrötter obtained a good result by means of the galvanic cautery and the use of a fine guarded chisel introduced from the front. Synechiæ extending across the nasal cavity, if membranous, may be cut through or severed with the galvanic cautery. If bony, they will require the methods mentioned for exostosis on the septum.

Cicatricial contraction of a nasal cavity is best treated by gradual dilatation with wool plugs, laminaria or sponge tents, bougies, etc., aided, if necessary, by incision or galvano-cauterisation.

New Growths.—For the removal of mucous polypi, I take up the position that forceps should be entirely rejected in favour of the snare, either the galvanic or the cold. (The structure of these growths and their shape render them much more easily grasped by the snare than by forceps.) Personally, I give preference to the cold snare; it is more handy, can be more easily applied (if used with No. 1 steel piano wire), and though it may at times combine some avulsion with the mere abscission, it leaves less irritation in the nasal cavity than the galvanic loop. In many cases of nasal polypus I find that the least galvano-cauterisation gives rise to considerable subsequent irritation in the form of soreness, erection of the turbinated bodies, watery secretion, etc. The resiliency of the wire above mentioned allows it to be inserted through the nostril as a small loop, which, on pressing down the cross-bar of the snare (a form made for me by Down Brothers), expands to a size sufficient to include any nasal polypus. The grasping of the polypi is facilitated by the use of a little steel hook, which is fixed into the growth, and the loop passed round it. After all that is possible has been snared off, the roots should be touched with a cautery point. This should certainly be done if there is any tendency to recurrence, but in cases in which there is not any evident tendency, I have latterly come to limit my surgical treatment to the accurate removal of all the growths with the snare, and am not sure that my results have not been equally good. For shrinking the roots of the mucous polypi the alcohol spray above mentioned (first recommended for this purpose by Dr. Miller, of Edinburgh), is useful, and its employment should not be omitted.

Fibrous polypi may be attacked with the galvanic cautery (as in a case recently described by Casselberry,[5]). Papillomata on the inferior turbinated body are to be snared off, or burnt away with chromic or nitric acids; or, failing this, with forceps. Sarcoma and carcinoma may at times be treated in similar manner, though they usually require more radical treatment at the hands of the general surgeon. Osteomata in the nasal cavities may sometimes be cut through with bone forceps. Rouge's operation need only be performed if they cannot be removed *per vias naturales*. Enchondromata may be cut through with forceps or snare. Obstruction due to rhino-scleroma is to be treated in the ordinary way by dilatation and incision. The disease has been recently successfully treated by Stakowenco with injections of 1 per cent. of carbolic acid. Nasal tuberculosis is such a rare disease that experience as to its treatment is scanty. Foreign bodies may be removed with forceps, scoop, or snare, and in cases in which they are situated far back, it may be necessary sometimes to push them into the naso-pharynx. Rhinoliths, if large, require breaking up with bone forceps or lithotrite before removal, which may be accomplished in the same manner as for foreign bodies.

The treatment of adenoid vegetations of the naso-pharynx is a large subject, on account of the immense literature to which it has given rise. There are, indeed, almost as many operations and instruments as there are operators. The ring knife of Meyer, the forceps of Catti, Loewenberg, Woakes, etc.; the gouge of Hartmann, the various galvano-caustic electrodes, etc., are only a few of the instruments which might be mentioned. On the whole, however, I think the great majority of operators are in favour of removing these growths either with the unarmed finger nail, or with curved forceps introduced behind the soft palate. When they are removed without chloroform I prefer to do so with the finger nail; this usually takes four sittings, though much may be accomplished even at one sitting. This method has the great advantages of simplicity and absence of risk. Its great drawback is that, with timid children, it is difficult to get them to submit to the successive scrapings, and that parents, especially in the upper classes, seeing that their children are frightened, are apt to stay away with them before a satisfactory result has been obtained. This drawback is completely avoided by removing the growths at a single sitting under chloroform or ether. Guiding the instrument by means of my left forefinger in the naso-pharynx, I remove the largest of the vegetations with Catti's forceps. Afterwards I scrape away the remaining vegetations with my finger nail, examining each wall carefully.

Blood running down the pharynx is removed by frequent mopping with small sponges on sticks. Some surgeons operate with forceps without inserting the finger simultaneously, but I think Meyer's is a very good rule to hold by,[6] namely, that no instrumental removal of these growths should be attempted unless the instrument is guided either by sight or touch. Why, it may be asked, should we operate blindly in this cavity when we are able to operate accurately by means of one of the senses mentioned? I have operated on a certain number of cases in this manner since 1881, and have not found any bad results. I have done it with the head hanging down, with the patient recumbent, and with him in a semi-recumbent position in a chair or sofa (and perhaps on the whole the latter is the best position). My own idea is that the practitioner should be guided in his choice between the above two methods (that is, with the use of an anæsthetic and without) by the character of the patient and by the severity of the case, but I shall be glad to hear the opinion of members on the subject. Galvano-cauterisation of vegetations with Voltorini's gouge is sometimes useful, but if they are at all large it is, according to my experience, a mere tinkering at growths which can be otherwise much more easily got rid of. They may also be removed with the cold snare through the anterior nares.

Fibro-mucous polypi originating from the choanæ are, I imagine, except from their histological characters, difficult to distinguish from nasal polypi projecting backwards through the choanæ. They can be removed without difficulty by introducing a wire snare through the nasal cavity, and insinuating it round the growth by means of a finger in the naso-pharynx. The method recently recommended by Lange, of Copenhagen, of inserting a strong blunt hook through the nasal cavity with the hook turned downwards, grasping the pedicle of the growth and pulling it forwards, deserves a trial. I have not yet failed to remove these polypi with the snare, but if need be I should certainly employ this very simple method. The treatment of fibrous tumours originating in the vault of the pharynx is a more serious matter. If they can be got at early and attacked with the galvanic electrode, snare, or forceps, well and good. In advanced cases, however, they can often only be removed after serious preliminary operations have been carried out. Needless to say that these operations should only be performed in the event of necessity, and that the occasional spontaneous retrogression of these growths after the age of 25 should be remembered. Galvano-puncture certainly deserves a trial in severe cases.

Adhesions of the soft palate, if extensive, must be divided, re-adhesion being prevented by cauterising the edges and by constant dilatation.

Finally, in any case where the perviousness of the nose has been restored after long-standing stenosis, especially in adenoid vegetations, it is necessary for the patient to be taught to keep his mouth closed. At night this can be facilitated by the use of a chin bandage or of Guye's coated respirator. It takes time for the muscles of the jaw to acquire the tone necessary to keep the mouth habitually closed, and the perhaps thick and weakened palate requires education in order that the normal voice may be restored.

I have already trespassed sufficiently upon your time with this paper, but if, in spite of its many omissions, it assists in eliciting the opinions of members on some of these important subjects, it will not have failed in its object.

Nasal Obstruction. By J. DUNDAS GRANT, M.A., M.D., F.R.C.S.Ed., Surgeon to the Central London Throat and Ear Hospital.—The paper was founded chiefly on the features presented by about 200 cases in which there was obvious impediment to nasal respiration. The conditions occasioning obstruction were: hypertrophic rhinitis, affecting chiefly the inferior turbinated bodies, 96; hypertrophic rhinitis, affecting chiefly the middle turbinated bodies, 4; hypertrophic rhinitis, affecting chiefly the tubercle of the septum, 2; subacute rhinitis, 1; polypi, 8; septal deformity (uncomplicated), 12; septal deformity, with hypertrophic rhinitis, 55; septal abscess (following hæmatoma), 1; post-nasal adenoids, 18; post-nasal adenoids, with hypertrophic rhinitis, 3. In most cases of hypertrophic

[5] *Journal of the American Medical Association*, April 21st, 1888.

[6] *Centralblatt für Laryngologie*, August, 1888.

rhinitis there was a combination of vascular turgescence, infiltration, and hyperplasia, in varying proportions. In very few cases could rough bone be detected, although carefully sought for. The author had, however, under his care a case of between three and four years' duration answering closely to the description of the most extreme form of what Dr. Woakes called necrosing ethmoiditis. Among the causes, exposure to dust, irritating fumes, and cold or damp were the most frequent. Nervous exhaustion was associated with nasal obstruction in a number of cases, both as a cause (through vasomotor influences) and as an effect, the coexistence of the two conditions acting in a vicious circle of reciprocal intensification. The most frequent subjective symptoms, results, or accompaniments were deafness (92 cases), tinnitus (32), hoarseness (27), sore throat (24), dryness of mouth (21), accumulation of "phlegm" in the throat (15). Snoring, mouth-breathing, vertigo (with aural complications), cough, disturbed sleep, dyspnœa (sometimes paroxysmal), were complained of in a smaller number of cases. In one there were nervous tremors, and in one of (adenoids) stammering. Among the objective accompaniments were chronic dry and suppurative catarrhs of the middle ear (61 and 31 cases), chronic pharyngeal and laryngeal congestion, hypertrophy of the lingual tonsil, and varix of dorsal lingual veins. The frequency of the middle-ear complication was no doubt in part due to the fact that the cases were seen at a hospital where ear-disease was specially treated. It was found, however, that out of 61 consecutive cases of middle-ear catarrh, 37, or 60.6 per cent., had nasal obstruction. Nervous disturbance was, no doubt, a more frequent result than the author's experience would go to show, as patients so affected would consult a general physician rather than a rhinologist; and it was not always in cases of the greatest obstruction that the most striking nervous symptoms presented themselves. General treatment depended generally on other circumstances rather than on the mere presence of nasal obstruction. There was great necessity for combating the nerve exhaustion which was so often both cause and effect. The local treatment had for primary object the restoration of nasal breathing. In all cases the patient should be instructed in the mode of breathing through the nose. In many of the minor chronic cases the use of a mild alkaline and antiseptic douche (used with a simple glass syringe rather than a siphon), followed by the application of a mild antiseptic ointment, was sufficient to effect a subjective cure. In acute cases lotions should be avoided, and relief afforded by means of a weak (2 to 5 per cent.) solution of cocaine applied by spray or pencil. In cases slightly less acute, an ointment containing cocaine and (say) eucalyptus or thymol gave great relief. When the thickening of the mucous membrane was slight and accompanied by a moderate degree of septal deviation, the continued use of graduated dilating tubes was sufficient and desirable, especially in those cases where the patient declined more expeditious and effectual operative treatment. In the numerous cases where the obstruction was due to enlargement of the turbinated body, and that in large measure of an erectile character (as shown by pitting and resiling under the probe, and by subsiding under cocaine), a most successful and rapid result followed galvano-caustic puncture through the mucous membrane into the cavernous tissue. In all of 23 cases this treatment gave immediate and lasting benefit. The superficial application of the galvano-cautery was followed by greater reaction, and by less immediate relief. It was sometimes only after some weeks or months that its full results were attained, as if the shrivelling of the tissues depended on the gradual contraction of a cicatrix. Of chemical caustics the author only used chromic acid in the form of deliquescent crystals. Its application was much facilitated by the use of Dr. W. Hill's guard. It was an admirable escharotic when the galvanc-cautery was not at hand, but less easy to limit or extend in its application, and leaving a larger margin of non-success. For pendulous outgrowths or polypi the galvano-caustic snare was certainly best, on the score of freedom from pain and hæmorrhage, and probably from diminished chance of recurrence. The placing of the snare was in many cases facilitated by the introduction of a finger into the naso-pharynx, and in the use of the cold snare it was advisable to use a thick wire (so as not to cut), and to rotate the snare several times, so as to twist the vessels and make the root of the polypus into a rope. Its application, especially with fine platinum wire, was often difficult or impracticable; and then a cold-wire snare, followed by a free application of the cautery, was necessary. Deviations of the septum not yielding to the dilating tubes were in several cases treated by forcible straightening, followed by the application of the author's nasal splint. In general the discomfort of an instrument retained in the nose made operative treatment more desirable. In a few cases, where there was antero-posterior flexion of the septum, comfort was easily restored by perforating the septum behind the obstructing angle by means of the galvano-cautery. As a rule it was necessary to remove the redundant portion of the septum rather than to straighten it. For this purpose, especially for vertical projections, the most rapid and painless method was the use of Dr. Curtis's nasal trephine, worked by means of a dental engine or electric motor. In most cases one application was enough, but the ridges remaining above or below the round opening could be removed by an extra touch with the trephine or with a nasal saw. Of ten recent cases, nine were entirely free from inflammatory reaction, but one was characterised by a mild erythema, which lasted for a few days. After the operation the nostril should be plugged with iodoform wool for a few hours, and the patient should take an aperient and remain at home for a couple of days. The nasal saw was used in five cases with immediate relief, and without palpable hæmorrhage or inflammatory reaction. After trephining or sawing, the nasal tubes were called for in a few instances, as also the galvano-caustic puncture when the mucous membrane encroached on the newly-acquired space. As regards post-nasal adenoids, the author relied on the finger-nail alone in only the slightest cases. His practice was to scrape them up into a heap at the vault of the pharynx by means of the nail at the time of diagnostic examination, and then to remove the heap by means of Schech's handy post-nasal forceps. For the protection of the finger an inexpensive leather finger guard, covering the knuckle, was found to permit of greater freedom of movement and greater protection than the more complicated articulated guards. The author desired increased special enlightenment on the part of general physicians and increased general enlightenment on the part of rhinologists as a means towards the solution of problems connected with this subject.

The PRESIDENT suggested that the discussion should be limited to stenosis of the nasal cavity, to the consideration of reflex nasal symptoms, and the removal of nasal polypi.—Mr. STOKER (London) considered that there were three conditions which justified in operating for nasal stenosis: (1) To relieve obstruction to nasal respiration; (2) for the cure of reflex symptoms; and (3) to remove great deformity. He drew attention to two points in connection with operations for nasal polypi. 1. The necessity that existed of keeping the patients under observation for some months, owing to their tendency to recur, or spring up when pressure was removed. 2. The necessity of fully dilating the nasal cavities to restore physiological activity. He recommended bougies or tubes of a concave-convex form, the convexity of the obstruction being received into the concavity of the instrument; round or oval bougies or tubes having a tendency to slip upwards or downwards.—Dr. SCANES SPICER (London) had used the nasal electric trephine in a large number of cases for removal of spurs causing nasal obstruction. He found that any asperities or projections left after tunneling were very satisfactorily trimmed with a pair of fine scissors. Amongst other cases in which he would remove nasal obstructions were those in which they were associated with recent and gradual loss of smell, and he detailed two cases in which he had, by operation, restored complete sense of smell to two patients engaged in the tea trade, and whose living depended upon the efficiency of their smell. He referred also to the obstruction of the transverse nasal arch as a mark of obstruction of the spheno-palatine foramina, either associated or not with grosser nasal obstruction. He strongly recommended Mr. Thomas Smith's forceps for dealing with localised deflections of the nasal septum.—Dr. DE HAVILLAND HALL (London) was of opinion that punching out a piece of the septum for the relief of nasal stenosis due to deflection of the septum was based upon an erroneous idea, and was not to be advocated. For the removal of polypi he preferred the use of the galvano-caustic loop, employing steel wire for the purpose (No. 6 or 7 piano wire). The loop should be passed down to the base of the polyp, tightened, and the wire heated to a red heat. For the after-treatment in cases in which th galvano-cautery could not be employed, Dr. Hall had obtained excellent results from the application of a 90 per cent. solution of carbolic acid to the base of the polyp.—Dr. MCBRIDE (Edinburgh) thought that they ought to be guided, as to operating, simply by the question whether the discomfort produced by the stenosis was greater than the pain due to the operation was likely to be. They were not likely to err if they only operated in such conditions as, if they had them in their own persons, would induce them to consent to operative treatment. Hypertrophy of the middle turbinated bodies

was referred to by Dr. Macintyre as causes of red nose and anosmia. For the removal of polypi, he considered that the cold snare was much to be preferred to the galvano-caustic snare for the common pear-shaped polypi, because in these cases if they dragged away the growth it generally yielded at or near the point of attachment, whereas they could rarely push up the snare so far as this. For diffuse polypoid fringes the electric wire was undoubtedly to be preferred. Of course the pedicle or its point of attachment must afterwards be touched with the electric cautery or chromic acid. As to the great question of nasal reflex neuroses, he thought they had got no further than to be able to say that in certain cases of migraine, asthma, etc., the nasal mucosa was a good point at which to apply counter-irritation; which of course showed a connection between the nerves of the nose and the pneumogastric, etc. —Dr. ROE (Rochester, New York), thought that the answer to the question, "When is operatic interference required in nasal stenosis?" could be formulated into one comprehensive proposition, that is, when there is insufficient breathing space, and when there is contact between parts that should normally be separated, the obstructing portion should be removed. He had not heard any mention made of the treatment of stenosis due to a simple chronic engorgement and distension of the vessels of the turbinated bodies, a condition closely resembling in appearance hypertrophy of the turbinated bodies, except that there was sometimes a difference of colour. The differential diagnosis was, however, readily made by the application of cocaine, which expelled the blood from the tissue. This condition was usually much aggravated when the patient lay down, especially when, as was often the case, it was largely confined to the posterior portion of the turbinated bodies. He recommended the making of linear incisions through the tissue to the bone, with a slender galvano-cautery point. This proceeding led to the obliteration of the enlarged vessels, whilst the healing of the burn led to the contraction of the tissues, pruning them down to the turbinated bone. He preferred the nasal saw to the drill for the removal of angular projections from the septum, and had found a saw which he had devised, to which a to-and-fro motion could be given by means of an electro-motor, very serviceable. Dr. Roe did not approve of the use of the punch for the removal of angular deflections of the septum, regarding it as bad surgery. He decidedly preferred the cold snare for the removal of polypi, the bases being afterwards touched with the galvano-cautery. He held that no promise that they would not recur could be given, unless it was absolutely certain that they had reached every portion of the surface of the nose from which the polypi grew.—Dr. HUNT (Liverpool), supported the opinions expressed by Mr. Baber and Dr. McBride in regard to the value of the cold snare in the treatment of nasal polypi. He did not think that the galvano-cautery snare prevented recurrence any more than the simple snare. He also employed the cold snare for removal of hypertrophies at the ends of the turbinated bones, and had never seen the severe hæmorrhage which was sometimes said to follow the removal of the "mulberry" hypertrophies of the posterior ends of these bodies. Dr. Hunt admitted that the cautery was of great value in the more diffuse forms of turbinated hypertrophy. He also frequently used chromic acid as a caustic in nasal disease, and beyond a few cases in which vomiting followed some time after the application of the acid, he had never seen any toxic symptoms.—Dr. HODGKINSON (Manchester), would add his testimony as to the value of the cold loop for removal of nasal polypi. He preferred it in most cases to any form of forceps, but considered that cases did occur in which the latter might be used with advantage. With regard to the loop or snare, he preferred that form which allowed of easy sliding movement for the tightening of the loop, so that one might feel when the growth was grasped, and when torsion should commence. This latter procedure not only tended to prevent bleeding, but also often enabled one to pull away a much larger portion of the growth. He did not regard the removal of the hypertrophied posterior ends of turbinated bodies by the snare as by any means so simple an operation as some seemed to think, and preferred, in most instances, to destroy the hypertrophied mass with the galvano-cautery, through the naso-pharynx.—Dr. DAVID NEWMAN (Glasgow) remarked that with the limited time at his disposal he would only take up the attention of the meeting by briefly alluding to the following points:—First, in respect to operations upon the nasal septum, he expressed his belief that there was a great tendency on the part of those who devoted their attention exclusively to rhinology and laryngology to operate more frequently than was really necessary. In his experience there were very few cases of deformity of the nasal septum which could not be relieved by milder treatment. The same remarks applied in a less degree to nasal obstruction resulting from enlargement of the turbinated bodies. In cases, however, where there was considerable hypertrophy, failing to be relieved by general constitutional and mild local treatment, in place of using the electric cautery as generally recommended, Dr. Newman employed the thermo-cautery at a white heat, after having sprayed the parts with a solution of cocaine. The operation caused less pain when the cautery was at a white heat than when at a lower temperature, and the parts were rapidly and completely destroyed, one application being sufficient. In introducing the instrument the septum was protected by a shield, and the cautery, all but the point, was guarded by a tube speculum. Another mode of treatment suggested was the employment of local blood-letting, either by leeches or by incision of the hyperæmic tissue. Local bleeding, as a therapeutic agent, was at the present time too much neglected. In respect to the contending claims of the cold snare and the electric *écraseur*, the former instrument was not always properly employed. In the removal of mucous polypi the purpose which the snare fulfilled, or should be made to fulfil, was not that of a cutting instrument, but of a grasping one. If the wire was permitted to cut through the soft tissue of the growth a certain portion of the neck not afterwards accessible to the electric cautery was permitted to remain, and formed the starting point of a new growth. But if, instead of cutting with the wire, the polypus was grasped by it and dragged from the nose by a sudden jerk, the whole of the pedicle, and sometimes a part of healthy mucous membrane, was dragged away, and a surface which healed by granulation and ultimate cicatrisation resulted. By this treatment of mucous polypus, hæmorrhage was usually trifling, recurrence in the proper sense of the term seldom occurred, although other new and separate growths might subsequently develop. It was in fibrous polypus that bleeding was more apt to be profuse. In these cases it might be generally avoided by removing the tumours slowly by means of the screw *écraseur* while the patient was under chloroform. The employment of the electric snare by many operators prevented one from expressing an unguarded opinion as to its value, and one could not help feeling that the employment of one instrument in preference to another was determined largely by individual custom as much as by experience. In Dr. Newman's hands the cold wire snare fulfilled all that was required in the great majority of cases, and although at one time he largely employed the electric snare and cautery, he only now used these instruments in exceptional cases.—Dr. HUNTER (Linlithgow) called attention to the importance of taking cognisance of the effects of position, stimulants, and irritants, in bringing into prominence nasal stenosis, stenosis being pronounced on getting up in the morning or after taking stimulants. He considered that it mattered little whether cold or hot snare were used for the removal of nasal polypi, as long as the stumps were destroyed by galvano-cautery. With fibrous polypi bleeding might, for a time, interrupt the operation, moreover the painful tug consequent upon using the cold snare was very unpleasant to the patient, whereas with the hot snare these drawbacks were avoided. He drew attention also to the importance of removing muco-purulent crusts following upon galvano-caustic removal, and to the necessity for caution in employing vigorous syringing of the nares as the risk of intromission of fluids into the Eustachian tubes was not a trivial one. He expressed approval of the simple form of nasal washing recently recommended by a writer in the *Berliner Klinische Wochenschrift*.—Dr. MACINTYRE in reply, thanked the members for the reception given to his paper. He had limited his remarks to the subject of simple catarrh of the turbinated bones, but would like to say a word or two about the removal of nasal polypus. The cold snare had been advocated more than the hot. He thought the patients had something to say to it, and after careful inquiry it seemed to him that they preferred the latter. He did not think any one method of treatment applied to all cases and all individuals. He used cold or hot snares, but thought that it was necessary to destroy the base with some agent, such as the cautery, to prevent recurrence.—Mr. CRESWELL BABER was gratified to find that the majority of those present were in favour of the cold snare, but he was not prejudiced in favour of either method of treatment, although he had obtained very good results with the cold snare, and by the use of his little hook he had never failed to grasp the polypus. —Dr. DUNDAS GRANT, in replying, dwelt upon the necessity of considering not merely the degree of stenosis actually present, but as Dr. Hunter had pointed out, the condition during recumbency and other circumstances. He preferred the galvano-caustic snare.

but admitted that its application was not always possible. He had met with severe hæmorrhage in one case after the use of the cold snare, but the patient was the subject of abnormally violent arterial pulsation of neurotic origin. He considered an ordinary glass syringe preferable to any form of douche for the patient's use.—The PRESIDENT summarised the discussion. He pointed out that the preference for the cold or hot snare depended in many instances upon the tendency to prefer the instrument with which one was most familiar. He expressed an opinion that many of the so-called recurrences of polypi were really developments of polypi already existing at the time of the operation, but invisible in consequence of their deep-seated origin, the growth of which was previously kept in check by the presence of the larger ones, removed by the operation. He insisted upon the necessity of the patients remaining under observation, or presenting themselves for examination at regular intervals, over a considerable period; not on account of a return of symptoms, but in order to avoid, if possible, their return. In conclusion, he urged the impossibility of promising definitely that no recurrence would take place, whatever method of removal were employed.

REMARKS ON THE PATHOLOGY OF ECCHONDROSIS OF THE TRIANGULAR CARTILAGE, WITH A NEW OPERATION.

Read in the Section of Laryngology and Rhinology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY GREVILLE MACDONALD, M.D.LOND.,
Physician to the Throat Hospital, Golden Square.

THE usual co-existence of deflection of the cartilaginous septum in conjunction with ecchondrosis points to some one common cause. Asymmetry of the fossæ is unknown in infancy, and is therefore not congenital. It is frequently developed at puberty, or in early adult life, and in many cases there is good evidence to show that an ecchondrosis may form at any subsequent period of life.

Occasionally the nasal obstruction is dated from the time of a severe blow on the nose. This, coupled with the fact that men are three or four times as frequently affected as women, and that boys are far more liable to blows in this region than girls, indicates very strongly a traumatic element in the production of the deformity. In these cases we have only to suppose a fracture of the cartilage, the callus thrown out being inversely proportionate to the degree of the angle of deflection; in fact, the size of an ecchondrosis has generally this relation to the angle of deflection. We need but infer that the callus, together with any organised blood-clot, becomes gradually indistinguishable, histologically, from the structure it supports, as obtains in the case of fractured bone, and we have the condition under discussion. But other cases occur in which there is absolutely no traumatic history. Two patients, both medical men, in the last month have assured me they have watched the tumour growing for the last twelve or eighteen months. In both, as in the great majority of others, there was a general condition of chronic rhinitis, with a marked tendency to hypertrophy; and herein I discover a clue to the probable etiology and pathology.

The mucous membrane of the nose lies in such intimate connection with the perichondrium or periosteum that we are very liable to have the deeper tissues involved with the more superficial. This is well seen in the osteophytic periostitis of the middle spongy bone. Over the cartilage we may similarly have a chondriophytic perichondritis, which results practically in a general state of hypernutrition in every diameter. Now, seeing that vertically the cartilage lies between fixed limits, any increase in this direction must result in its being bowed to one side or the other; while the increased nutrition laterally accounts for the formation of the neoplasm. One occasionally finds a similar condition in the thyroid cartilage.

The operation I have lately adopted has given better results than those I have formerly practised. Bosworth's operation is admirable for many reasons; the most important being the facility of its performance. The objection to it lies in the substitution of a non-secreting, non-ciliated cicatrix for the normal membrane. My method of operating is as follows: A single linear incision is made from behind forwards down to the cartilage. With a raspatory the perichondrium is then turned up and down sufficiently to expose the portion to be removed. Next, the superabundant cartilage is separated with a gouge, or saw if it prove to be ossified. Finally the flaps are allowed to fall together and the fossæ stuffed with iodoform wool, which should remain untouched for twenty-four hours. Healing generally appears to take place by first intention.

Dr. SCANES SPICER (London) could not agree that there was any danger of a permanently dry condition of the mucous membrane over the seat of operation, if due care were taken not to remove too much mucous membrane. Some could be spared, because the mucous membrane covering the spur was larger than was required to cover the plain bone.—Dr. MACDONALD, in reply, admitted that the danger of dryness was much less after the trephine than the saw, nevertheless he maintained his operation to be superior, in that the whole hypertrophied mass could be at once so evenly and completely removed.

ON HAY FEVER AND ALLIED CONDITIONS.

Read in the Section of Laryngology and Rhinology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY P. McBRIDE, M.D., F.R.C.P.E., F.R.S.E.,
Aural Surgeon and Laryngologist, Royal Infirmary, Edinburgh.

IN discussing hay fever and allied conditions, I have no desire to enter more than can be helped upon the vast subject of nasal reflex neuroses, nor do I propose to interlard my paper with literary references to the numerous authors who have contributed or attempted to contribute to our knowledge of the unpleasant affection which renders summer and sunshine so disagreeable to its victims. Further, I shall assume that the symptoms of hay fever are more or less familiar to all present.

Although I have so far used the term hay fever, it seems to me that the expression is by no means a happy one; although it is now in such constant use that further criticism in this direction might run a risk of being termed captious.

It is hardly necessary to remind anyone here that the nose contains erectile tissue, and that although the cavernous structure in most marked under the mucosa of the inferior turbinated body, it yet exists in other situations. Everyone accustomed to examine the nose must have seen for himself how truly erectile this structure is, and how, almost in a moment, the application of cocaine or menthol may reduce a tumour-like swelling of the inferior turbinated body by a half or more. The connection between this erectile mucous membrane and summer catarrh was pointed out years ago by Hack, but does not seem to have been sufficiently noticed in recent works. During the period of erection the lining membrane of the nose is of course swollen, and upon the intensity of the process it will depend whether or not the stage of exudation—in other words, actual inflammation—be reached. It therefore seems to me that in discussing anomalies produced by the erectile nature of the nasal mucosa we must sharply distinguish two groups of cases according as the symptoms are caused by: (1) simple erection of the mucosa; (2) erection followed by exudation, one form of which is hay fever. This latter division might again be subdivided as follows: (*a*) cases in which the symptoms are those of simple coryza; (*b*) cases in which asthma is also present.

1. *Simple Erection of the Mucosa.*—In this affection the parts most involved are, as might be expected, the inferior turbinated bodies. The troubles produced by this simple erection—often uncomplicated by other lesions—have so far been too much overlooked. Every year I see a number of cases in which the patients complain of nasal obstruction; not always present, but coming on at intervals. In these cases examination of the nose reveals no definite lesion except undue enlargement of the inferior turbinated bodies, which immediately subsides after the application of cocaine, and leaves nasal respiration perfect.

The class of persons who suffer most are (1) men (usually young adults) undergoing hard brain work, or of very neurotic temperament; (2) young women of the neurasthenic type. Medical students who are working for an examination furnish, in my experience, quite a large proportion of examples coming under the first category. One of these assured me that when sitting over his books at night a tumour sometimes actually protruded beyond the nasal orifice. Among women—as is well known—erection of the tur-

binated bodies tends to increase during the menstrual periods, whether the nasal obstruction be associated with catarrh or not. The discomforts caused by this simple erectile swelling of the turbinated bodies have often seemed to me to be quite out of proportion to those likely to be caused in a robust individual by temporary occlusion of the nose; but I presume that in the nervous irritability which, according to my experience, always exists in such cases the explanation of this apparent anomaly is to be sought. I shall now turn to the second group of cases, namely:

Those Cases in which Erection is Associated with the Symptoms of Coryza.—Hay fever is an affection which, as you are aware, is said to be, and probably is, due to the contact of pollen from certain grasses with the nose. The symptoms come on suddenly, and practically resemble those of a common cold. I do not propose to enter into a discussion of the vexed question as to whether pollen or dust causes hay fever. I should like, however, to point out that in quite a number of cases other causes produce phenomena perfectly analogous to those of hay fever. It is hardly necessary to mention the odours of certain flowers, the emanations from some domestic and wild animals, drugs, etc. It seems to me, therefore, that the name "vasomotor coryza," used now by not a few American authorities, is much more appropriate than such appellations as hay fever and rose cold, which yet leave a number of cases nameless. Without doubt the sudden and rapid occurrence of the symptoms after exposure to irritation can be well explained on Hack's hypothesis that erection of the turbinated bodies follows such exposure; and I would further venture to suggest that those who reject this view will find considerable difficulty in, to use a political phrase, framing an alternative and plausible explanation of the chain of symptoms under discussion. Of course it is difficult to understand why in one individual the pollen of grasses, in a second the odour of a rose or other flower, in a third ipecacuanha, in a fourth the presence of or contact with some animal, should produce erectile swelling of the nasal mucosa. We must fall back upon a name—which is after all but a mask for ignorance—idiosyncrasy. The same mystery, however, shrouds the causes of other individual peculiarities: thus one person cannot eat eggs, which to most are a wholesome form of nourishment; another cannot swallow with impunity even a small quantity of crab or lobster. Even in matters of everyday life we meet with similar experiences, if not quite enough to prove, at all events enough to illustrate, the idea conveyed in the old proverb, "What's one man's food is another man's poison." I suspect that in this question of hay fever and allied conditions we can get nearer the mark than is the case in most of the examples just used. Leaving quite out of account the importance of heredity, etc., in the causation of hay fever, I think most of those present will agree with me that, if the erectile theory be correct, we must assume that the nerves which govern the swelling of the turbinated bodies are in the victims of vasomotor coryza unduly irritable. Manifestly such irritability may depend upon general hyperæsthesia of the whole nervous system, or upon hyperæsthesia affecting only the nerve endings within the nose; in other words, the actual immediate etiological factor may be some general neurotic tendency—as for instance neurasthenia—or it may be due to local changes within the nose. Further, it is not improbable that in certain persons channels of reflex action are more developed than in others, that is to say, without any observable change, a tendency to certain reflexes exists. As an example closely allied to the subject in question, I need only mention the inclination to sneeze which occursin some people on exposure to a bright light. I would submit, then, that in cases of undue tendency to erection on the partof the nasal mucosa we should seek the etiology in one or more of the following conditions: (1) general neurasthenia or a neurotic temperament; (2) organic changes in the nose; (3) hyperæsthesia of the nasal mucosa, as evidenced by a more than normal tendency towards sneezing and running of the nose when certain parts of the lining membrane are touched with a probe.

Let us now, before discussing treatment, turn for a moment to *those cases in which asthma is also present.* Most of those who interest themselves in nasal diseases are aware that asthma is one of those neuroses which has been frequently cured or relieved by treatment directed to the organ of smell. This may, I think, be accepted as an incontrovertible fact, whatever be the explanation. Asthma being a more or less pure neurosis—at least in many cases—it is thus shown that there exists between the nerves of the nasal mucous membrane and those nerve channels which produce asthma a very close sympathy. It follows, then, that when asthma succeeds hay fever, or any analogous affection, it is, in all probability, a nasal reflex neurosis. It may be remembered that, not very long ago, Sir Andrew Clark, in an able effort to revive the congestive theory of asthma, began his paper by an extended reference to hay fever. His argument seemed to me, however, to ignore altogether the possibility of asthma being, in certain cases, a nasal reflex; and, in the second place, it missed its mark by being unaccompanied by any proof of the existence of erectile tissue beneath the bronchial mucosa. I have no wish to enter into the various theories as to the causation of asthma; but it does appear to me that the chain of events is not altogether unparalleled by the act of coughing. We know that on inspiration the glottis opens more widely; it is not impossible that the trachea may also extend its lumen, and it is not outside of the bounds of possibility that the bronchi should play a similar part. In expiration the glottis tends to close, and, for all we know to the contrary, the trachea and bronchi may become narrowed. A cough is a full inspiration, followed by an attempt at expiration, which is cut short by the closure of the glottis becoming complete. Is it not possible that the trachea and bronchi may follow suit? If this hypothesis should prove correct, it seems possible that in certain cases of asthma the phenomena of the attack may be explained by the want of correspondence as to contraction and dilatation in different parts of the respiratory tract. Be this hypothesis right or wrong, however, we must yet look upon cough and asthma as so far similar that in both the relation between inspiration and expiration is altered. Sneezing is, of course, to be placed under the same category. So far as I have been able to observe cases of nasal asthma, it has seemed to me that, when there is a distinct relation between the nasal condition and the neurosis, touching certain areas within the nose with a probe gives rise, not to sneezing, but to cough. I am, therefore, inclined to look upon the production of cough by touching the nose as indicating that treatment of the nose should be attempted in any given case. If the occasional connection between nasal disease and asthma be once admitted, it is by no means difficult to trace the sequence of events in so-called hay asthma and allied conditions.

Let us now turn to the treatment of the class of cases we are considering. With regard to simple erectile swelling of the inferior turbinated bodies without discharge, the treatment should be energetic exactly in proportion to the amount of discomfort caused by the abnormal condition. As these patients are usually of what we may term the nervous temperament, it is well to make an attempt to get rid of this etiological factor by attention to regimen and general health. If these measures fail, or if the discomfort experienced by the patient be very great, the application of cocaine to contract the erectile tissues, followed by the galvanic cautery, with a view to the production of an adherent cicatrix, in order to tie down the mucosa to the periosteum, will, I believe, generally have a satisfactory result.

In considering the treatment of hay fever and allied conditions we are treading upon more difficult ground. As you are aware, there are at present held by authorities two more or less opposing views as to the etiological significance of nasal disease in the production of hay fever. Certain authors, such as Daly and Roe, are inclined to the belief that some nasal abnormality always exists in the victims of summer catarrh. Here I must, however, turn aside to ask, "What is a normal nose?" The question may appear absurd; but I am willing to run this risk if, by putting it forward, I can do a little towards moderating the enthusiastic zeal with which certain surgeons attempt to restore the noses of their patients to what to each individual operator is his particular ideal of a normal nose. I have taken the liberty of making this observation because I have for ten years examined the noses of almost all the cases of chronic non-suppurative middle-ear disease which have come under my notice during that time in private, hospital, and dispensary practice, and have found that, even when what to the rhinologist's eye would appear very grave changes are present, the patients frequently deny any nasal symptoms. Of course, in a number of these cases the pathological condition cannot be denied, and its presence accounted for the existing ear affection for which advice was asked. Yet the fact that in a large number of cases—capable of being counted by thousands—marked changes, such as hypertrophy and more or less marked projections from the septum, can exist without the presence of any discomfort referable to the nose, would incline me to believe that deviations from the normal are by no means always to be looked upon as fair game for the operator. Speaking

merely from a surgical point of view, and apart from the subject of hay fever and its allies, it seems to me that no condition of the nose should be looked upon as pathological which may be present in a number of healthy persons without causing any uncomfortable symptoms. It would occupy too much space to justify the position I here take up from an otological point of view; but, if required, I shall be glad to do so during any discussion which this paper may elicit. It is, however, not uncommon to meet with hay fever in persons in whose noses even the most fastidious stickler for the ideal would find it difficult to discover objectively a pathological condition. In such cases we must refer the undue sensibility of the nasal mucosa either to local or general hyperæsthesia—in other words, to undue irritability, either confined to the nasal nerves or extending also to the whole nervous system. As a matter of fact, I believe that in most cases the two factors are combined, except when within the nasal cavities we have a state of congestion which produces local hyperæsthesia. Last autumn I met with a most interesting example of nasal asthma which occurred in a gentleman who, although not a medical man, is well known to science. It would take too long to touch upon all the points of interest contained in the elaborate notes of the case with which my patient kindly supplied me. The points of special importance were these:—

1. The asthma occurred only in winter, and was much aggravated by hoar frost.

2. To quote the patient's notes: "For many years before, that is, the first attack of asthma, I had a cough. . . . . Previous to having asthma of the chronic form . . . I used to catch periodical colds; and when true cold came along with the acute asthma, I was very much distressed. Since the chronic (that is, sneezing, coughing, phlegm, and eyes watering), I have scarcely ever had a real cold."

3. The patient was muscular, in perfect general health, and certainly not neurasthenic.

4. Strict dieting, anti-asthmatic remedies, and especially bromide of potassium, taken before going to bed, often gave relief.

The patient was brought to me in September, 1887, by Dr. Carmichael, and, considering his physique, and the treatment he had tried, the neurasthenic element could be easily excluded. Dr. Carmichael had already considered the question of the asthma being nasal, and in this view I was confirmed by the fact that the interior of the nose was extremely hyperæsthetic, so much so that the moment even the hairs at the orifice were touched, cough and involuntary jerking of the head were produced. The interior of the nose was congested, and there was a marked tendency to erection of the inferior turbinated bodies. At first chromic acid was used in this case, and afterwards the galvanic cautery, with which the most sensitive areas were thoroughly scarred. The most hyperæsthetic parts were the anterior extremities of the inferior turbinated bodies, and a point near the junction of the septum with the anterior wall of the nose. I need hardly say that before each cauterisation cocaine was freely used. Three or four applications of the electric point produced such a beneficial effect, that on February 2nd, 1888, a probe could be freely moved about in either nostril without the production of cough or spasm.

This local improvement was associated with a very marked diminution of the cough and asthma. I may add that, as an adjunct to the caustic treatment, the patient was in the habit of painting his nose internally with menthol solution whenever a paroxysm threatened.

Whether this patient is permanently benefited or has only been temporarily relieved I cannot, of course, say; but that good accrued from the treatment adopted will be gathered from the following extracts from his notes:—

"January 18th, 1888. No asthma, no sneezing nor coughing, and very slight catarrh just in the morning; menthol usually stops it; menthol a splendid thing."

"February 4th, 1888. I need not say how grateful I feel to you for the immense amount of relief the treatment has given me, whether it prove temporary or permanent."

I have outlined this case for several reasons. In the first place, it is a typical example of so-called hay fever, yet the attacks were produced not by pollen, but by hoar frost, and also by some subtle undetectable cause. Further, the relation between the nasal hyperæsthesia and asthma was marked, and when the former ceased the latter diminished. Finally, it shows that in some cases, at all events, destruction of sensitive areas in the nose, and the application of such an anæsthetic as menthol, which, I believe, is better than cocaine, in so far that it does not tend to become less efficient through repeated use, and in that it produces no toxic effects, is not only rational, but also the only effective treatment.

In the gentleman whose case I have outlined nerve tonics and the like were not indicated. In quite a number of cases, however, the use of arsenic, quinine, and valerianate of zinc is followed by distinct improvement. In these patients the hyperæsthesia of the nose is merely a local manifestation of a general neurosis, which can usually be detected by a careful investigation. To the question, "Is the galvano-caustic treatment contra-indicated in such cases?" I would answer in the negative. General nervous irritability is not always amenable to treatment, and it then behoves us to endeavour to allay the local hyperæsthesia, which is its most disagreeable manifestation. I have had under my care within the last two years a young lady who derived great benefit from cauterisation of the nasal mucosa, and also from nervine tonics. That is to say, the cauterisation delayed and modified the outbreak of the hay fever, and when it did come on the use of quinine and valerianate of zinc again checked it.

I have no absolute cures[1] of hay fever, or of allied conditions, to relate as a result of either cauterisation or nerve tonics, but I have seen very marked benefit from both. I believe that the introduction of the electric cautery has not rendered us independent of all the aid we can derive from cocaine, menthol, sedatives, coloured glasses, plugging the nose, and the seaside. Although I have used both general and local treatment in such cases as I have met with, I am painfully conscious that failure has been more frequent than even partial success. In one neurasthenic lady, who suffered from periodic attacks of nasal obstruction at all times, and who experienced very marked exacerbations during early summer, without there being any pathological condition of the nose further than the remains of adenoid hypertrophy in the naso-pharynx, and undue tendency to erection on the part of the inferior turbinated bodies, relief was obtained during the whole of last summer by the frequent application at home of a solution of nitrate of silver to the interior of the nose and the internal administration of tonics. In spite of this, and in spite of destruction of the mucosa over the anterior extremities of the inferior turbinated bodies, undertaken afterwards, I hear that the distressing symptoms have recurred this year.

It is necessary to state that in all my cases of hay fever, neurasthenic coryza, nasal asthma, etc., I always explain to the patient that in each case the application of a caustic or the cautery is of the nature of an experiment, and that no positive result can be guaranteed. It goes without saying, that in neurasthenic patients the general health should be attended to, nerve tonics administered, fatigue avoided, and full diet with long hours of sleep enjoined.

It may be that some of us have failed in getting the best possible results from surgical interference owing to undue timidity, and the successes recounted by Roe, who certainly does not err in this direction, give much food for reflection. Although I do not agree with him that in all cases of hay fever the nose is in a pathological condition, yet it may be that he has a very high ideal of what the interior of the nose ought to be; and thus, either in his attempt to produce this ideal, or in his subsequent efforts to destroy every sensitive area, does more thorough work. Theoretically it seems to me that destruction of the sensitive areas of the nose, if only carried far enough, and if it can always be carried far enough with perfect safety, must be the best treatment for any coryza which has been proved to result from the contact of an irritant with the nerve-endings of the nasal mucosa. When Sir Andrew Clark uses carbolic glycerine, quinine, and perchloride of mercury as an application to the interior of the nose, and succeeds in relieving hay fever, he produces, I take it, temporary anæsthesia of the part, and so renders it less susceptible to the action of irritant particles. Probably the carbolic acid is the active therapeutic agent, and it might be worth considering whether the use of the pure acid might not be serviceable in certain cases.

Before concluding this paper I must touch upon one other point. Probably in most cases of summer catarrh and allied conditions the nose is the sensitive point. It may, however, be that in others the erectile swelling within the nose tends to be produced by irritation of more remote parts. It is certain that in some persons a very strong light will produce a miniature attack. It therefore behoves us to study each case by itself, for it is only

[1] Years of observation would manifestly be required to establish the existence of an absolute cure.

thus that we can hope to arrive at a perfect knowledge concerning hay fever, nasal asthma, and allied conditions—not to speak of reflex nasal neuralgia, a much commoner affection I believe than it is generally considered.

The paper was discussed by Dr. ROE (Rochester, New York) and Mr. CRESWELL BABER (Brighton), who thought that the term "hay fever" ought to be strictly confined to cases in which the disease was due to pollen. He considered hay fever to be simply a neurosis of the nasal mucous membrane, accompanied by certain reflex symptoms, which at particular seasons of the year was produced by the pollen of plants in persons specially predisposed to it. He thought that, speaking generally, unless they were convinced that any abnormality in the nose was producing harm, either locally or to the general system, they were not justified in its operative treatment. He mentioned the frequent occurrence of vasomotor coryza, unconnected with pollen, especially in young women, and had seen two cases in which an attack was immediately brought on by sleeping with the arms out of bed. In cases of this description he had often found great benefit in arresting the attacks of sneezing, watery secretion, and erection of the turbinated bodies from the use of a spray of rectified spirit and water. Applications of cocaine solution, by means of a glass medicine dropper, and valerianate of zinc internally, were also useful.—Dr. MCBRIDE, in reply, said he was much interested in Dr. Roe's observations and in his view that the nasal irritation caused the neurasthenia. He thought that so much benefit was often obtained from nerve tonics alone that it was difficult to adopt Dr. Roe's view. Dr. McBride had never seen cases to corroborate Hack's view that swelling of joints resulted from nasal disease. In using rectified spirit he had always a fear of its possible effects upon the sense of smell, although he had never met with any fact to justify his fear. The connection between nasal erection and menstruation was well known, and he thought that there was also a connection between nasal erection and priapism with emissions. The whole matter was, however, one the investigation of which required great delicacy and tact.

ON A CASE OF TUMOUR OF THE NASO-PHARYNX.

Read in the Section of Laryngology and Rhinology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By R. MCKENZIE JOHNSTON, M.D., F.R.C.S.E.,
Surgeon to the Ear and Throat Dispensary, Edinburgh.

TUMOURS of the posterior nares, from the situation which they occupy, attract attention even when of but moderate size. The following case I wish to record not so much on account of any difficulty either in its diagnosis or treatment, but rather because the growth differs from any of the tumours in this situation that I have found described.

A boy, aged 13, came to consult me at the Ear and Throat Dispensary in May, 1886, complaining of noisy and heavy breathing, especially at night, difficult nasal respiration, and deafness. These conditions had been gradually increasing for the last three years, when they first began to attract attention. His mother stated that for a long time he had been looked upon as not strong owing to liability to colds, coughs, and occasional asthmatic attacks. He was the youngest of a large family, none of whom had suffered in a similar manner. His father was not strong, a sister had died of phthisis, and another had had hip-joint disease, but the others were all healthy.

He was a well developed, muscular boy, accustomed to a country life, with good surroundings. He had the characteristic dull countenance of a mouth-breather, with the muffled voice of nasal obstruction. His chest was well-formed and roomy, and the lungs normal, except for a few mucous *râles* at the base. He could not breathe with his mouth shut, and only a small amount of air could be drawn in through the nostrils on inspiration, the obstruction being greatest on the right side.

On examining the interior of the nose from in front, it was seen to be full of mucus, but no evident cause of obstruction could be found. On passing the finger into the posterior nares, a firm, smooth, oval mass was felt, apparently sessile and broadly attached above and behind, and about the size of a small walnut. It did not bleed, nor had it the feel of adenoid vegetations. After a considerable amount of muco-purulent discharge was brushed away, it was seen with the rhinoscope to be of a pale red colour, like a naso-pharyngeal polypus, and to have a shallow transverse depression.

The membrana tympani were much indrawn, and could not be inflated by Politzer's method. By means, however, of the Eustachian catheter, which could only be passed through the left nostril, the hearing was improved from right $\frac{3}{60}$, left $\frac{5}{60}$, to about treble that distance, and eventually under treatment became normal.

The removal of the growth being evidently indicated, I tried to effect this with the cold *écraseur* in the presence of my friend, Dr. McBride. I passed a catheter along the floor of the left nostril into the mouth, and by this means guided the wire into position. With a finger in the naso-pharynx to press the wire over the growth, the *écraseur* was gradually tightened up; but each time, owing to the smoothness and sessile nature of the growth, it slipped the moment tension was applied. Finding this plan unsuccessful, I proceeded to remove the growth, bit by bit, with cutting forceps, under chloroform. I repeated the operation on two separate occasions until I was satisfied that I had got away the bulk of the mass. The pieces removed varied from the size of a raisin downwards, and, when collected, more than half filled a two-ounce bottle. The hæmorrhage, though sharp, was easily controlled without special means. A weak boracic douche was used for some days after each operation. The boy was kept under observation for some time; but, as the nasal breathing was immediately benefited and his hearing good, he was allowed to return home. A year afterwards he was able to give a most satisfactory account of himself. His nasal breathing was perfect, his sleep at night quiet, his hearing acute, and he was making rapid progress at school, and he was able to hold his own in the playground in a way that he could not do before. His mother said that his general health was improved, that he had been free from colds, and that he had had no asthma since the operation. The tumour was sent to Dr. Alexander Bruce, who kindly examined it for me. He reports it to be a true adenoma covered by cylindrical epithelium, and containing small mucous cells like those seen in a simple polypus.

REMARKS.—This case is a good example of the effects of nasal obstruction upon the general health. The constant mouth-breathing not only exposes the lungs to a supply of air which is dry and unwarmed, but to air carrying irritating particles of dust, besides probably germs of various kinds which might have been detained in their passage through the nose. The deafness complained of seems to have been the result of a purely mechanical interference with the function of the Eustachian tubes, and there was no evidence of any chronic inflammation of the canals or of the middle ear.

Thudichum[1] and many others have shown the connection which not uncommonly may exist between nasal polypi and bronchial asthma. It is therefore interesting to note that asthma occasionally appeared in this case apparently as a result of the growth in the naso-pharynx. It is not quite clear how this reflex condition was brought about; whether by direct pressure on the pharyngeal branch of the fifth nerve producing reflex irritation of the pneumogastric, or whether the growth may, by causing disturbance of the local circulation, have been brought into contact with the erectile tissue at the posterior part of the inferior turbinated bone, and, in the manner described by J. N. Mackenzie,[2] the reflex phenomena produced. It is possible also that the cough may have been sometimes induced in a similar manner. I have not been able to find any recorded case of an adenoma in this site. The only growths described by Morell Mackenzie[3] as occurring in the naso-pharynx are fibrous polypi, fibro-mucous polypi, enchondroma and malignant tumours. Professor Lefferts[4] mentions the existence of adenomata in this situation, which he says "are developed from the glands of the mucous membrane, and may not only attain a great size, but may reach from the nasal passages into all the adjacent cavities." He adds they are very infrequent. The removal of naso-pharyngeal growths, when they are not too hard, by the cutting or crushing forceps, provided too much force is not necessary, has the approval of Schech, and I am satisfied that by this means the removal in this case was more complete than if I had been successful with the wire snare.

Dr. HILL (London) alluded to four cases which he had seen, in

[1] *Lancet*, 1880.
[2] *New York Medical Record*, 1884.
[3] *Diseases of the Throat and Nose*, vol. ii.
[4] Lefferts, in *Ashhurst's Surgery*, vol. v, p. 474.

which the pedicles of the naso-pharyngeal polypi were distinctly fibrous. Dr. Hill thought that such polypi were evidently mucous at first, but attributed the fibrous degeneration to mechanical irritation in eating and speaking.

A CASE OF FIBRO-MUCOUS POLYPUS OF THE NASO-PHARYNX.

Read in the Section of Laryngology and Rhinology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By CHARLES WARDEN, M.D., F.R.C.S.Ed.,
Senior Surgeon, Birmingham Ear and Throat Hospital.

W. B., aged 12, residing in Birmingham, of anæmic and delicate constitution, came to me at the Ear and Throat Hospital about two years ago, suffering from mucous polypi in both nostrils and a small growth lying at the back of the uvula and hanging down from the roof of the soft palate and posterior surface, which appeared of a much denser structure, tough, smooth, and pyramidal. His mother informed me that his throat had been affected three years following an attack of scarlet fever. After recovering from the fever his mouth was superficially ulcerated, he talked thickly, complained of his throat, some dysphagia, and was generally out of health, his mother took him to the Children's Hospital and the doctor (a lady) told her there was a growth in the throat, which was corroborated by others. The mucous polypi were removed from the nostrils, and after a time I operated upon the fibrous growth by the electric cautery, but, the wire loop giving way, recourse was had to the curved blunt-pointed scissors, and there was very little hæmorrhage, the boy convalescing in a few days. About a year ago the mother again perceived the substances in the nostrils, and brought him to me. On examination I found mucous polypi in both, and a reappearance of the fibrous growth behind the uvula in the post-nasal space. The fibroma increased in size, and after endeavouring to rid the nares of the mucous polypi from time to time, under the impression that the two growths were not connected, at length detecting a small mucous appendage growing from the apex of the fibrous cone, I came to the conclusion that the nasal polypi were connected with the other fibrous one; the fibroma was shaped like a pyramid with apex downwards; and was attached to the upper and posterior surface of the soft palate, being about the size of a walnut. He never had any defect in hearing, or tinnitus, but vertigo at times; was of very excitable and nervous temperament; breathing was difficult, but no dysphagia, and unable to breathe through the nostrils, especially the left, in which the largest polypi existed; neither was he able to blow through them: snores in his sleep, with open mouth and has headache. The first operation was on November 5th, 1887, under chloroform of course; the second was delayed on account of his bad and unsatisfactory state of health, which improved under tonic treatment with iron, etc. On July 6th, 1888, I again operated with the electric cautery, the wire again gave way by the extreme temperature from the battery, and I had again to use the scissors, the growth being pulled well forward by bull-dog forceps, completely turning the soft palate inside out as it were. The line of attachment was very distinctly marked and the growth easily separated and cut through with the scissors, and although it had a broad base there was very little hæmorrhage comparatively, and he recovered from the effects of chloroform with very little vomiting, which was mixed with blood. The growth on examination was of a dense fibrous texture, smooth, round, and attached by a broad base as seen in the specimen; with a small mucous polypus on the apex of the cone and under the microscope showed characteristic structures of fibrous tissue, the smaller appendage being distinctly mucous. Fibromata of the soft palate are usually small and pedunculated, and they occur most frequently on the posterior surface of the palate and are slow in growth. The true fibrous polypus usually arises from the base of the skull, according to Cohen. Nélaton asserted that fibrous naso-pharyngeal polypi never originated from the cervical vertebræ as they were supposed to do in many instances, but they were from the periosteum, which covers the inferior surface of the occipital and body of sphenoid bones. As to the cause of fibromata, it is obscure, and seems to be difficult to form an opinion on this subject. Some authors state that they are rare. In my own practice privately, and at the Birmingham Ear and Throat Hospital, I have seen several, and it appears more common among the French than in this country. The pathology of these tumours has been well considered by Panas, who has shown that the mucous membrane round the posterior nares and in the immediate neighbourhood of these orifices presents a kind of transitional form between the mucous membrane of the nasal fossæ and the dense closely adherent fibro-mucous lining of the pharyngeal vault. Growths in these situations are composed to a great extent of the structural elements of the tissue from which they originate, and whilst a polypus springing from the pituitary membrane may be expected to be of mucous texture, one from the under surface of the basilar process is likely to be fibrous; and a tumour taking origin from the membrane round the posterior nares, where the fibrous and mucous elements are mingled, will probably present a corresponding fibro-mucous structure. In this case, in which the tumour had branches extending both into the pharynx and into the nasal fossæ, the pharyngeal part was fibrous, with a small mucous polypus at its apex, the nasal offshoots being mucous in character. July 9th: Came to hospital and no trace of fibrous tumour or mucous polypus, either in pharynx or nares, to be seen, being also quite well in himself and looking very cheerful and happy.

HÆMORRHAGES FROM THE PHARYNX AND LARYNX, AND OTHER HÆMORRHAGES THAT SIMULATE THESE.

Read in the Section of Laryngology and Rhinology, at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By PERCY KIDD, M.D., F.R.C.P.,
Assistant-Physician and Pathologist to the Brompton Hospital for Consumption and Diseases of the Chest.

I DESIRE, in the first place, to thank you, Sir, for the honour you have done me by your invitation to open the discussion to-day. I should feel more anxiety as to my ability to perform this task but for the knowledge that the responsibility which you have laid upon me is to be shared with another gentleman.

The few remarks that I have to make must, of necessity, be restricted to certain aspects of the question; and no attempt will be made to discuss in detail all the possible causes of hæmorrhage from the throat. This, I believe, will be no disadvantage, as there are doubtless others present who will refer, from a larger experience, to some of the rare causes of pharyngeal and laryngeal hæmorrhage over which I shall have to pass very lightly.

It seems that hæmorrhage from the throat is likely to become a fashionable complaint, judging from the somewhat indiscriminate use of the expression at present in vogue. At the same time, it must be admitted that the employment of the phrase is not limited to the laity, and, in all probability, its introduction is due to the frequency with which medical practitioners themselves attribute hæmorrhage to the throat. The public think that loss of blood from this part of the body is a comparatively trivial matter, and to be regarded in quite a different light from "blood spitting," "bursting a blood-vessel," "hæmorrhage from the lungs," etc., and, consequently, they are ready and willing to refer hæmoptysis to the throat. This is especially the case among the upper classes, who are more alive to the significance of this symptom; but even hospital patients at times volunteer a similar explanation. The causes of hæmorrhage from the pharynx and larynx may be divided into general and local. The first class includes diseases characterised by changes in the blood, and possibly in some cases in the small vessels also, which permit the escape of blood in various parts of the body—for example, purpura, hæmophilia, leukæmia, pernicious anæmia, etc. The second group comprises ulceration of different kinds—suppuration, traumatism, the so-called hæmorrhagic laryngitis, and, perhaps, a varicose or dilated condition of the veins. An actual discharge of blood from the pharynx or larynx, as the result of the diseases enumerated under the first heading, is quite exceptional, and rarely assumes important proportions. Submucous extravasations are less uncommon, but they seldom lead to serious results, though, in one case of hæmorrhagic small-pox, it is recorded that an extravasation of blood beneath one of the ventricles of Morgagni gave rise to fatal œdema of the larynx. As a rule, such extravasations attract little attention, the local lesion being dwarfed by the general condition of the patient.

Hæmorrhage resulting from local affections of the pharynx

and larynx is of more importance, though here also the occurrence of serious bleeding is very uncommon. The dilated veins so frequently met with in the pharynx may possibly at times permit a slight oozing of blood, sufficient to streak the saliva or expectoration, but such hæmorrhage requires no further notice. It is probable that, under the term "hæmorrhagic laryngitis," several different conditions are included. Some of the cases that have been so designated seem to have been instances of purpura or hæmophilia. It appears to be exceptional to meet with an actual discharge of blood in these cases, and, when this occurs, it rarely amounts to more than a staining of the secretions. More often the blood is effused into the submucous tissue, causing little inconvenience and becoming quickly absorbed. Instances of this description have been met with in singers and in persons compelled to use their voice a great deal, in whom rupture of small vessels may have been the result of forced or prolonged vocalisation. My experience of hæmorrhagic laryngitis is limited to two cases that I saw in Vienna, some years ago, in Professor von Schrötter's *clinique*. In both instances, I believe, the patients were public singers. In one variety of chronic laryngitis, "laryngitis sicca," in which there is a tendency to formation of crusts on the surface of the mucous membrane, small submucous extravasations occasionally occur, and it is said that detachment of the crust is apt to give rise to slight bleeding. Hæmorrhages have also been described in acute laryngitis, and in laryngitis occurring in women at the menstrual periods and during pregnancy; but such cases are rare, and of no great importance. Whether or no there is a special form of laryngitis deserving the term "hæmorrhagic," is a question which need not detain us now; but there can be little doubt that a limited extravasation of blood may complicate various morbid conditions of the larynx. In any case, however, hæmorrhagic laryngitis is a rare affection; and, as we have seen, the hæmorrhage that takes place may be described as interesting rather than important.

The causes of serious bleeding from the larynx and pharynx are three in number—namely, ulceration, suppuration, and traumatism.

Under the head of traumatic causes, we may include injuries of all kinds and surgical operations. I shall not attempt to enter into the important question of hæmorrhage due to such causes in the presence of our surgical colleagues, from whom we may expect some interesting information on this point; but they will probably agree with me in saying that endo-laryngeal operations do not, as a rule, cause any serious loss of blood. It is perhaps worthy of mention that extravasions of blood in the larynx have appeared to be the result of swallowing hard food. As evidence of the possible danger of suppuration in these regions, it should be remembered that abscess of the tonsil has more than once led to such serious hæmorrhage as to necessitate ligature of the common carotid artery, and has even caused death from perforation of its internal branch.

Cancerous ulceration is more liable to give rise to bleeding than other forms of ulceration, but syphilitic ulcers of the larynx occasionally perforate vessels of considerable size, and in a classical case recorded by Türck fatal hæmorrhage resulted from this cause. It has been said that tuberculous ulceration of the larynx may occasion hæmorrhage. Such an event must be extremely rare. The tubercular process is rarely complicated by any considerable loss of blood when it attacks mucous membranes, and the pathology of tuberculosis, with its slow progress and tendency to obliteration of vessels, affords a ready explanation of this fact. I have never myself seen or known any hæmorrhage result from tubercular ulceration of the pharynx or larynx, though I have had ample opportunities of studying this disease. Appearances suggestive of laryngeal hæmorrhage may perhaps be due occasionally to retention within the larynx of blood coming from the lungs or bronchi. In cases of death from hæmoptysis, clots of blood are sometimes seen adhering to ulcers in the larynx or trachea, when the blood really came from a ruptured aneurysm in a distant cavity in the lung. My experience of the morbid anatomy of phthisis, based on more than 500 necropsies, including a large proportion of laryngeal tuberculosis, roughly about 50 per cent., has not furnished me with a single instance of laryngeal hæmorrhage resulting from this disease. That it may possibly occur cannot be denied, but I believe it to be one of the rarest accidents of the tubercular process. We should not be warranted then, I maintain, in attributing hæmoptysis to tubercular ulceration of the larynx, even if some blood can be seen lying on its walls, unless an actual bleeding point can be recognised. If we find a tubercular lesion of the larynx, we may be almost sure that similar disease exists in the lungs also, whether direct physical evidence of its presence be forthcoming or not. At the same time it is not denied that a primary laryngeal tuberculosis may occur in exceptional cases. Such an event, however, is so rare as not to invalidate the general accuracy of the above statement.

Isolated instances have been published where persistent spitting of blood has been traced to a bleeding point in the larynx, without obvious disease of the mucous membrane. It is difficult to account for free hæmorrhage in the absence of any surface lesion, though it has been suggested that it was due to rupture of capillary vessels which had undergone fatty or other degeneration. This explanation is purely hypothetical, and cannot be regarded as satisfactory. It is conceivable that a small varicose vein in the mucous membrane of the larynx might become ruptured in consequence of violent coughing fits, but I know of no facts that support this supposition. The pathology of such cases is very obscure.

After this superficial survey of the causes of pharyngeal and laryngeal hæmorrhage, let us now turn to the second part of the subject announced for discussion, which is equally important, namely, the question of spurious hæmorrhage from the throat. In the great majority of cases in which bleeding is attributed to the throat, the blood comes from some part of the respiratory tract below the glottis, nearly always from the lung. Less frequently the nose, gums, or cavity of the mouth supply the blood which is believed to come from the pharynx or larynx.

It is no exaggeration to say that most of the so-called hæmorrhages from the throat occur in persons suffering from early pulmonary phthisis, the blood being actually derived from the lung. What, then, is the reason of the mistake? The explanation is probably to be found in a belief that when hæmorrhages take place from the lungs physical evidence of pulmonary disease must be forthcoming. If no abnormal physical signs are detected a pulmonary origin is eliminated, and by a process of exclusion the hæmoptysis is attributed to the throat. There could be no greater error than this, and I would not for a moment suggest that such a belief is general; but a notion of this sort does exist, and may lead to misconception. It is of course admitted, especially by those who see much of chest disease, that a complete absence of physical signs of phthisis does not preclude the existence of pronounced pulmonary lesions; but it may be doubted whether the recognition of this important fact is as general as it should be.

If a patient has hæmoptysis without other definite pulmonary symptoms, but happens to be suffering from laryngeal catarrh at the time, we cannot be surprised if he is tempted to ascribe the hæmorrhage as well as the laryngeal symptoms to the throat; and it should be remembered that it is just in these cases of so-called "phthisis ab hæmoptoë" that pulmonary and constitutional symptoms are apt at first to be very slight, or even completely absent. I may give a brief illustration of this point. A short time ago a young woman came to the out-patient room complaining of bleeding from the throat, to use her own words. She stated that she had suffered from two separate attacks of hæmorrhage accompanied by loss of voice, the last having occurred a few days previously. Her general condition was fairly good, and there were no marked constitutional or pulmonary symptoms, but she was completely aphonic. A careful exploration of the chest revealed no definite signs of disease. The larynx was somewhat congested, and there was paresis of the adductors of the vocal cords, but no further affection of the throat. The absence of physical signs of disease of the lungs or heart precluded a positive diagnosis, but it was thought probable that the patient was suffering from phthisis. The sputum was then examined, and found to contain tubercle bacilli in small numbers, and thus our suspicions were confirmed. Two months later slight signs of phthisis were detected at the apex of one lung. In this case the coincidence of hæmorrhage and loss of voice on two different occasions had no doubt impressed the woman herself very much. Indeed, to anyone inclined to find in hæmorrhage from the throat an easy explanation of doubtful cases of hæmoptysis, this patient would have appeared as a veritable *deus ex machinâ*.

We must all be familiar with cases of a more or less similar character, which often present much difficulty. But because we fail to find evidence of some pulmonary affection, we should not be content to ascribe the hæmoptysis to the throat, unless gross disease of the pharynx or larynx is present. In the comparatively few cases where we have the opportunity of witnessing an attack of hæmoptysis ourselves, it is inadvisable and often impossible

to make a critical examination of the patient while the bleeding continues, though the characters of the blood and the method of its expulsion will usually enable us to decide whether it comes from the lung or not. But, as a rule, we have to trust to the patient's account of the hæmoptysis, and from this it is often difficult to decide where the blood came from, assuming, of course, that an examination of the chest yields a negative result. In such cases a careful inquiry into the general health, especially as to the presence or absence of such symptoms as pyrexia and loss of flesh, will not infrequently prevent us from underestimating the importance of what may appear to be an obscure or trivial hæmorrhage. Valvular affections of the heart and pulmonary hyperæmia from any cause may, of course, give rise to hæmorrhage from the lung, in the absence of any disease of these organs. But as we are not now concerned with the pathology of hæmoptysis, which is a sufficiently large subject in itself, we need say nothing further on this point.

Our present object is to emphasise the distinction of pulmonary from laryngeal or pharyngeal hæmorrhage. But while we recognise the extreme rarity of hæmorrhage from the throat as compared with pulmonary hæmorrhage, we must not fall into the opposite error, and attribute every hæmoptysis to serious disease of the lung. Bleeding from the nose, especially if it take place during sleep, is apt to be mistaken for pharyngeal or laryngeal hæmorrhage, the blood trickling back into the larynx, and being expelled by coughing. A concomitant catarrh of the throat will, of course, tend to foster this impression. In the same way, bleeding from the gums, from whatever cause, may simulate hæmorrhage from the throat. Difficulties of diagnosis more often arise in the case of the female sex. For not only are women more liable to the less severe or spontaneous variety of hæmophilia, a disease which is almost invariably congenital and hereditary, but they are also prone to a hæmorrhagic tendency acquired after the age of puberty. Epistaxis especially is much more common in females than males, whether as the result of true hæmophilia, an acquired hæmorrhagic diathesis, or of other causes. The active hyperæmia of the erectile tissue of the nose, which is the immediate cause of the bleeding, has in all probability intimate reflex relations with the menstrual function, and with profound nervous impressions of various kinds through the medium of the vasomotor system. Anæmic girls not infrequently complain that their mouth and throat is full of blood in the morning, or that they find blood on the pillow on rising from bed. This is often found to consist of a thin, reddish, watery fluid, apparently blood-stained saliva, quite unlike the blood expectorated from the lung. On examination, no disease of the mouth, nose, throat, or lung can be detected, and the blood seems to have oozed from the gums or mucous membrane of the mouth, rather by a process of diapedesis than by rupture of vessels. Such patients generally manifest no serious impairment of their general health. We must, of course, be on the watch for imposture, especially in the case of hysterical girls, who sometimes inflict small wounds on their gums or mouth, and encourage bleeding by suction. In order to eliminate fallacies of this kind as far as possible, a careful examination of the mouth, nose, pharynx, and larynx should be instituted. As a rule, no source for the loss of blood will be discovered, unless the hæmorrhage be of recent occurrence, and our conclusions must be drawn from the history, aspect, and condition of the patient, tempered largely by the teachings of experience and pathology. Not infrequently, a careful inquiry into the nature of the attack, with the subsequent and previous train of events, especially with reference to any discharge of blood from the nose, or staining of the nasal secretions, will suffice to determine the occurrence of epistaxis. However, it must be confessed that the utmost care will not prevent mistakes in exceptional cases. We shall best guard ourselves against error by a close investigation into the features of each individual case, coupled with an intelligent appreciation of the pathology of the subject.

I must now sum up with the expression of a belief that, excluding the bleeding that may complicate ulcerating carcinoma, suppuration, or traumatism, hæmorrhage from the throat is extremely uncommon, nearly always slight, and for the most part devoid of importance. In the large majority of cases thus described, the larynx and pharynx are not actually concerned; the blood comes either from the lung or from the cavity of the nose or mouth.

I cannot conclude without apologising for the very insufficient manner in which I have dealt with the subject; but if my remarks should succeed in stimulating discussion and eliciting the views of others, I shall venture to hope that they have not altogether failed in achieving some measure of their humble purpose.

HÆMORRHAGES FROM THE PHARYNX AND LARYNX, AND OTHER HÆMORRHAGES THAT SIMULATE THESE.

Read in the Section of Laryngology and Rhinology, at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By ALEXANDER HODGKINSON, M.B., C.M., B.Sc.,
Honorary Physician to the Hospital for Consumption and Diseases of the Throat, Manchester.

HÆMORRHAGE from the air-passages is always an important event, not only on account of the moral effect which it usually produces in the individual who is the subject of it, but also and chiefly because it is almost universally recognised as an unmistakable sign of serious organic disease.

It would, on the present occasion, be out of place to dwell on the moral effects of blood-spitting, but I would in passing suggest that it is far too often lost sight of in estimating the importance of this physical sign from a prognostic point of view. Every one engaged in active practice must have noticed how frequently this is the first indication which induces those in whom it occurs to seek professional advice. Many indeed never seem to recover from its depressing effects.

It is, however, as an indication of serious organic mischief that hæmorrhage from the air- and communicating passages assumes its most important significance, a significance which, possibly to a varying extent, is admitted by all who give consideration to the subject. Granting its importance is practically admitting the importance of its correct diagnosis, and this brings me to the immediate object of the present discussion, since I take it that such object is to elicit the opinion of those present as to the correct interpretation to be applied to the signs and symptoms which accompany hæmorrhages from the respiratory and communicating passages, according as such hæmorrhage arises on the one hand from the pharynx or larynx, on the other from the nose, mouth, gullet, stomach, lungs, or windpipe.

Now, to enter into a long disquisition on every form and condition of bleeding of various parts, in which, owing to their anatomical and physical relationship the extravasated blood appears in the pharynx, would, I think, lead us from the main object of the present discussion. Neither shall I extend the length of my communication by describing the various forms of pharyngeal and laryngeal hæmorrhage.

Though hæmorrhage from the nose, mouth, gullet, and stomach do occasionally closely simulate pharyngeal and laryngeal hæmorrhage, the true difficulty appears to me to be in the case of those slight hæmorrhages from the lungs, occurring in otherwise apparently healthy individuals. Such individuals are often physically robust, leading active lives, possibly given to field sports, athletics, etc., and lose no opportunity of impressing on one the fact that they have never been ill in their lives. Such individuals, from hearsay and other sources, are often fully alive to the importance of blood-spitting, and are therefore alarmed when they first notice, perhaps on waking in the morning, that the mouth or lips are slightly blood-stained, or possibly that during the day mucus slightly tinged with blood is expectorated, or in more marked instances that blood seems to well up into the throat in a morning, or on slight exertion apparently unattended with any effort of clearing the windpipe. In order, therefore, to confine the discussion within reasonable bounds, I shall limit my remarks to the hæmorrhage from the windpipe or lungs as a simulation of laryngeal and pharyngeal hæmorrhage. To distinguish pulmonary hæmorrhage from bleeding from the throat, might, on the face of it, seem a matter of no difficulty, but my experience is that such is by no means the case, and that in numerous instances the distinction between the two forms of hæmorrhage is a matter of the greatest difficulty, and, in the absence of other indication than the mere presence of extravasated blood, often impossible.

Doubtless it must have occurred to most members attending this Section to have had sent to them individuals suffering from hæmorrhage from the air-passages, and in whom the physical examination of the chest has yielded negative results. On the strength of such negative evidence the hæmorrhage is declared of throat origin, and in the throat we are expected to discover its source. There seems, in fact, to be a widespread impressio

amongst members of the profession that hæmorrhages from the pharynx and larynx are of common occurrence. It is for you, gentlemen, whose presence in this Section proves you to take a special interest in this subject, and most of whom therefore occupy positions affording opportunities for acquainting yourselves with the truth—it is for you to say whether your experience leads you to consider hæmorrhage from the pharynx or larynx a phenomenon of common occurrence. My experience, and in a most suggestive communication from our President on this subject he draws my attention to the same fact, is that pharyngeal and laryngeal hæmorrhages are of comparatively rare occurrence.

If such experience is general, it certainly is desirable that it should be widely known, since, however pleasing it may be to gain consolatory advice, it is not a justifiable pleasure when it leads to the neglect of precautions in just those early stages of chest disease when they are most amenable to treatment.

Admitting then that cases do arise in which it is impossible to ascertain the source of the hæmorrhage, the question naturally arises what is the cause of this difficulty in differential diagnosis? I think this difficulty is owing to two causes. First, small pulmonary hæmorrhages give no appreciable evidence of their existence either in the form of rise in temperature or stethoscopic signs. Secondly, the anatomical and physiological relationship of the parts in question are so close that extravasated blood passes from one region to the other with the utmost facility. That blood can pass from the pharynx to the larynx I had evidence of only last week; I had been operating on the naso-pharynx of a patient, and noticing blood running down the posterior pharyngeal wall, I took the opportunity of examining the larynx, and found the blood was trickling over the interarytenoid fold into the larynx, and apparently gave rise to no laryngeal irritation. From this, therefore, we see that blood extravasated in one region may pass to another part, remain there for a period, and, passing out of the system in this indirect way, lead to the supposition that the hæmorrhage has its source in the latter region. Seeing that bleeding from the peripheral portions of these passages simulates hæmorrhage from their more deeply situated parts, how much more likely are hæmorrhages from the pulmonary portions of the air-passages to be mistaken for bleeding from the larynx and pharynx, since in the latter case the anatomical arrangement is such as to render it necessary that the blood in gaining exit from the body shall pass through these parts! This passage of blood from one region to another also interferes much with the value of microscopical examination of the sputa stained with blood, since they may contain elements from regions from which the blood has not been extravasated.

Admitting, then, that cases do occur in which it is impossible to determine with certainty the source of the hæmorrhage, it may naturally be asked what principle should guide us in the treatment of such condition. In all such doubtful conditions I would urge, first, the desirability of withholding a definite expression of opinion until such is justified by unmistakable signs; secondly, I would advocate the importance of treating such cases on the assumption that the bleeding is of pulmonary rather than of throat origin, until further observation renders the diagnosis certain.

The PRESIDENT explained the reasons which had led to the selection of this subject. Patients in whom some bleeding from the upper air-passages have occurred are often sent to laryngologists from brother practitioners, with the distinct expression of an opinion that, as no lesions could be found in the chest, the hæmorrhage must come from the throat. The question before the Section was, whether hæmorrhage from the throat, occurring in the abscence of ulcers, injuries, etc., were at all frequent in the experience of those present. It seemed desirable that the opinions of many experts, qualified to speak from large experience, should be elicited, as the ideas prevalent in the profession on this most important question might be materially influenced by a decided expression of opinion by the Section. In inviting discussion, the President pointed out the necessity of stating whether the bleeding point or a distinct clot were seen in cases reported as instances of hæmorrhage from the throat, as otherwise such cases were of little value.—Dr. SCANES SPICER (London) described cases in which he had seen points of rupture in varicose veins at the base of the tongue. According to his observations, hæmorrhage from these vessels was slight and venous in character. It occurred in men or women past middle age and often addicted to alcohol, and usually came on in the morning, after repeated and violent hawking and retching. He believed it to be associated with the nasal obstruction due to alcoholic irritation of the erectile tissues of the nose, with consequent buccal respiration and dryness of the tissues about the tongue and epiglottis. Cough and hawking were necessary to relieve discomfort, causing further distension of the dilated vessels, and the scraping together of the parts either ruptured the vessels or, short of that, allowed capillary leakage through the thinned wall. He believed that it was possible, however, for serious hæmorrhage to take place, from the fact that he had seen one case in which severe laryngeal obstruction had been due to unilateral hæmatoma.—Dr. HILL (London) remarked that he had, during the last two years, been making observations on the subject of blood-spitting in connection with varicose conditions of the base of the tongue. In his experience real bleeding into the fauces from the rupture of veins was rarely seen. He had more frequently observed small submucous extravasations from the veins, but the only symptoms exhibited in such cases were slight taste of blood in the morning and occasionally a feeling of discomfort. Before going carefully into the subject he had been under the impression that pharyngeal hæmorrhage was of much more common occurrence.—Dr. MCBRIDE (Edinburgh) said he must at once state that he had never seen a bleeding point in an otherwise healthy larynx or pharynx, although many cases of suspected throat hæmorrhage had been examined by him. As to varicose veins at the base of the tongue, he was almost inclined to look upon them as a normal condition, in those who had occasionally suffered from pharyngitis. In all the cases he had insisted on seeing the patient immediately after a hæmorrhage, and had almost invariably found blood in the trachea. In several instances the patients were also simultaneously examined by chest experts, and no crepitation could be detected. By a process of exclusion he had sometimes felt inclined to arrive at the conclusion that the bleeding point must be in the trachea.—Dr. WALKER DOWNIE (Glasgow) described a case which had occurred in his practice, and which he published some time ago in the *Edinburgh Medical Journal*, under the title of "Hæmorrhage following Tonsillotomy." Hæmorrhage immediately followed the operation, was very profuse, but was checked by treatment, and the patient became well and strong again. Six months after blood-spitting recurred, and for a time the most careful examination failed to determine the source of the hæmorrhage, small blood-clots lying upon the vocal cords and naso-pharynx, tending to mislead those who examined the patient. No pulmonary abnormality could be detected. At the end of six or eight weeks the patient developed many of the symptoms of acute phthisis pulmonalis, under which he rapidly sank. Dr. Downie agreed with Dr. McBride in considering simple hæmorrhage from the upper air-passages as distinctly rare. He considered that in those cases in which there was a taste of blood in the morning this condition was due to a spongy condition of the gums.—A communication from Dr. CARTAZ (Paris), who had hoped to be present, was read, in which he described two cases of pharyngeal hæmorrhage. The first was that of a man, aged 55, who had chronic pharyngitis resulting from excessive smoking. This patient was suddenly seized with a violent spasmodic cough and hæmoptysis. There was some chronic bronchitis, but no marked physical signs were found in the chest. Examination of the throat showed the mucous membrane to be congested and reddish, with enlarged follicles and enlarged varicose vessels on the lateral parts of the pharynx behind the posterior pillars. On the left side a clot was observed situated over a laceration in an enlarged vein. The bleeding ceased entirely in a few days, and the patient had only suffered from very slight bleeding at times since the attack, which was seven years ago. The second case was one in which the bleeding took place from a syphilitic ulcer of the back of the pharynx.—Dr. HUNT (Liverpool) had seen two cases in which hæmorrhage, as far as one could determine, really came from the pharynx without serious local disease being present: One case, in which blood could be seen coming from a superficial erosion on the roof of the pharynx, and another in which the patient stated she had seen the blood coming from a distinctly enlarged vessel on the left tonsil. After destruction of this vessel there was no repetition of the hæmorrhage.—Dr. A. E. GARROD (London) supported the view that true throat hæmorrhage, apart from definite ulcerative changes, was a clinical curiosity. He disagreed from Dr. McBride in thinking that the absence of pulmonary physical signs could not be taken as evidence of the absence of deep-seated mischief in the lungs. He thought that hæmoptysis of laryngeal or pharyngeal origin was

occasionally met with in elderly people, with degenerated arteries after violent cough, and quoted an instance, in which, however, no bleeding point could be made out. He was of opinion that unless they could clearly be shown to be of another nature, cases of hæmoptysis should always be treated on the assumption that they were of pulmonary origin. In connexion with a case related by Dr. Kidd, he asked whether in Dr. Kidd's experience functional aphonia was common in early phthisis?—Dr. WALTER WOLSTON (Edinburgh) said the outcome of this discussion, must, he thought, without doubt, be the establishment of the fact that hæmorrhages from the pharynx and larynx, unconnected with ulcerations or neoplasms, were very rare indeed. In a professional life of a quarter of a century he had not seen one clear case, and only one in which the matter was doubtful. This occurred in a young man of 29, who had repeated slight hæmorrhage, lasting two or three weeks. Careful examination of the chest revealed no mischief there, nor could a bleeding point be detected in the naso-pharynx or larynx. The hæmorrhage abated after the use of a tannic acid spray, but, notwithstanding this, the pharyngeal origin was rendered, at least, doubtful by the fact that phthisis existed in his family, a younger brother having just died of it, and he should not be surprised to learn that the subject of the hæmorrhage eventually succumbed to phthisis himself. —Dr. DAVID NEWMAN (Glasgow) said that he had listened to the discussion with great interest because of its important bearing upon many obscure cases, and in view of the prevailing belief that small hæmorrhages might take place from the upper air-passages, independently of any organic lesion. The opinions expressed by various speakers was of very high value, not only to specialists but also to practitioners in general. In his experience coughing, *per se*, even although severe and protracted, very rarely led to hæmorrhage so long as the mucous membrane of the larynx was healthy, but judging from analogy he thought that it could not be denied that hæmorrhage might take place from these parts without any discoverable alteration in structure, just as might occur in other mucous surfaces. But, as far as his individual experience went, a cause of the loss of blood could always be discovered by a careful physical examination. The most important point raised in this discussion was the relationship between hæmorrhages from the upper air-passages and phthisis pulmonalis, and in reference to this subject, Dr. Newman called attention to three cases which had been under his observation for more than four years, during which time they had been regularly examined at short intervals. The first two cases were seen in 1883, and the histories then given by the patients were practically identical, namely, that for some time they had observed small clots of blood in their expectoration. After repeated laryngoscopic examination the opinion was formed that the blood proceeded from vessels distributed over the anterior portion of the larynx close to the commissure. Careful and repeated examinations of the chest failed to show any signs of pulmonary disease. In a third case, which at first was equally doubtful, and in many respects closely resembled the two cases just described, the progress of the disease was less favourable. After repeated small hæmorrhages occurring over a period covering at least three years, (the patient during that time suffering from no symptoms of pulmonary phthisis) gradually signs of pulmonary tubercular disease manifested themselves, and now one lung contained a considerable cavity. These cases raised two important questions, the first being the advisability of making repeated periodical examinations, and the second, the inexpediency of expressing a definite opinion in regard to the prognosis until some time had elapsed. Another question, which was perhaps strictly speaking beyond the scope of that discussion, was whether or not hæmorrhages from the upper air-passages might act as a predisposing cause to tubercular disease. In illustration of this question Dr. Newman described a case of papilloma attached to the posterior pharyngeal wall, in which repeated and sometimes copious hæmorrhage took place. The blood escaped by the nose and mouth, but on several occasions it flowed into the trachea and was subsequently coughed up. For six months these hæmorrhages were observed to occur at irregular intervals, and no symptoms developed nor physical signs could be discovered to support a suspicion of pulmonary disease, the patient being in perfect health with the exception of the growth in the pharynx. At the beginning of last year, however, the condition of the left upper lobe became suspicious and within three months, marked signs of consolidation developed. The question raised by this case, and also by the one described by Dr. Walker Downie, was whether or not they were examples of phthisis ab hæmoptoë, the blood being derived from the upper air-passages and inspired into the minute ramifications of the lung instead of, as was commonly the case from blood vessels within the substance of the lung. That tubercular disease might develop as a consequence of pulmonary hæmorrhage was a well ascertained fact in general pathology, and might be explained by supposing that the blood simply acted as a nidus for the propagation and multiplication of tubercular bacilli, should it be infected by inspiration of these organisms. In other words, the inhaled blood was simply dead organic matter, offering no resisting power to the action of specific micro-organisms, and when it became infected it induced changes in the surrounding pulmonary tissue which led to consolidation, and terminated in tubercular phthisis pulmonalis.—Dr. MCKENZIE JOHNSTON (Edinburgh) wished to mention his experience of this class of cases. He did not believe that hæmorrhage from the healthy pharynx or larynx ever occurred. The blood, he thought, either came from the lungs or from the nose, or naso-pharynx, and that on investigation these regions would be found diseased. Sometimes the lungs would be passed as sound at the time of the hæmorrhage, and yet, sooner or later, chest symptoms would develop.—Dr. KIDD, in reply, said he was glad to see that there was so general an agreement among members present with the views which he had expressed. Several positive instances of hæmorrhage from the pharynx, in the absence of coarse disease, had been narrated by Drs. Spicer, Hill, McBride, Cartaz, and Hunt. He had found that the moral effect of hæmoptysis was equally marked in hæmorrhage from cardiac and other cases, as in phthisis. He did not consider that varicose veins in the pharynx were confined to any age or sex, nor that they had any necessary relation to varicose veins elsewhere. He thought that the taste of blood in patients who had spat no blood at all was, perhaps, due to pharyngeal catarrh. He had not found functional aphonia especially common in early phthisis. Hæmoptysis had appeared to him to be the result of arterial disease in three or four cases in elderly people, as suggested by Dr. Garrod. —Dr. HODGKINSON, in reply, said he could not help remarking upon the singular unanimity in the belief in the comparative rarity of hæmorrhages from the larynx and pharynx, a belief which, when made public, could not but influence the significance which would be attributed to this sign, with a view to treatment. With regard to the dilated and prominent condition of the veins at the base of the tongue, his experience was that it was so frequently unattended by any inconvenience whatever, that it might be regarded as a normal condition. He could not acquiesce in the belief that small pulmonary hæmorrhages were ever attended by any consequent rise in temperature. Aphonia accompanying the early stage of laryngeal phthisis he had always attributed to the anæmic condition which was present. He had been struck by the comparative rarity of hæmorrhage in tubercular ulceration of the larynx.—The PRESIDENT, in summing up the discussion, pointed out that there was an evident opinion among those present that hæmorrhages from the previously healthy larynx and pharynx were extremely rare, far rarer than was supposed by the profession at large, and that, in any case of hæmorrhage into the upper air-passages, of obscure origin, it was probable that the hæmorrhage was due to pulmonary tuberculosis, even in the absence of physical signs of that condition.

NOTES ON TONSILLITIS AND TONSILLOTOMY.

Read in the Section of Laryngology and Rhinology, at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY CHRISTOPHER LEWIS, M.D.,
Assistant-Surgeon Ear and Throat Hospital, Birmingham.

THESE notes bear upon some points of interest gathered from a number of cases of diseased tonsils which have come under my observation during the last five years.

Incision in Acute Tonsillitis.—I have for so long experienced the excellent effects of an early incision into the inflamed tissue that I am strongly of opinion that this mode of treatment needs more consideration. I do not wait until pus is formed, but when the induration and swelling become marked and the patient complains of the tearing dragging pain which indicates extreme tension of the tissues, then an incision should be made without delay. I maintain that a free incision, applied at a proper time, gives considerable, and frequently instantaneous, relief, for if pus has formed it encourages its flow, and if not, I believe that resolution of the inflammatory material is thereby hastened. I can

speak from personal experience, as one who has suffered from tonsillitis, of the comfort thus afforded, and only those who have suffered can form an adequate idea of how days of torture are spared by this treatment, as compared with the weary waiting and watching for Nature to do its work. By an application of cocaine the incision is painless, and the after-treatment of steam with tincture of benzoine relieves the soreness of the wound.

Cocaine, in the form of spray or pastille, affords temporary relief in tonsillitis, but this sometimes occasions uncomfortable paresis of the pharynx and palate, which, in a few instances, was so objectionable to the patient as to compel its disuse. On the other hand, in other cases, while the act of swallowing previous to its use has been almost unbearable, immediately afterwards fluid food could be taken with tolerable ease. Again, some patients are exceedingly susceptible to the toxic effects of this drug; so, in all cases, its administration should be watched.

Of drugs for internal use, salicylate of soda is the only one upon which I think any reliance can be placed in acute attacks, for it generally gives relief even in those cases where there is no history of rheumatism. When the sub-acute stage has arrived I have found that the old-fashioned mixture of iron and chlorate of potash is of good service. Guaiacum is so uncertain in its action that I rarely prescribe it.

Gargles I have abandoned for some time, for they worry the patient without affording any relief. While on the subject of acute tonsillitis the following two cases simulating this condition are worthy of note:—

A child, aged 2 years, was suffering from all the symptoms of an acute inflammation of the gland. On examination a red circumscribed swelling occupied the position of the right tonsil, which at a cursory glance might easily have been mistaken for this condition; but, on closer inspection, it was found to be due to a post-pharyngeal abscess, arising from the lateral wall of the pharynx, the sac of which had become inflamed. Aspiration only afforded temporary relief, and an incision had to be resorted to before the recovery was complete.

The second case was one of phlegmonous inflammation of the tonsil and palate, causing alarming symptoms of obstruction. The patient, aged 38, given to dissipated habits, had a slight attack of erysipelas of the face with what was then thought mild tonsillitis, which apparently subsided in five or six days. When I saw him, in consultation, I was informed by his medical attendant that his great difficulty of breathing and swallowing had become rapidly worse during the night. I found the right tonsil and palate occupied by a large inflammatory swelling, which almost obliterated the opening between the fauces. An incision was urgently called for, and about one-third of a pint of ropy pus and blood was thus evacuated, giving instantaneous relief, and his breathing was fairly good during the day, but at night—twelve hours after—he died suddenly in bed while talking to his wife, it was thought from embolism of the pulmonary artery.

Phlegmonous inflammation is usually accompanied by grave constitutional disturbance, and the prognosis should be an extremely guarded one.

The Connection between Rheumatism and Tonsillitis.—It cannot be doubted that in a certain percentage of cases there is some connection between the two diseases. I have confined my inquiries to cases with an undoubted history of acute rheumatism, for I think one is able to obtain more reliable information under this head than in the chronic type. And I find that about 10 per cent. had a clear history of rheumatic fever, and those in whom I could trace in one of the parents a decided history of this fever, amounted to about 5 per cent. In addition to these there is a fair percentage of cases in whom the rheumatic diathesis is unmistakably present, so that the connection between the two diseases is greater than is generally supposed.

The following case is interesting:—A girl, aged 15, with a history of acute rheumatism, applied for treatment in April, 1887; both tonsils were considerably hypertrophied, and excision was called for, the patient being rather fractious and my tonsillotome horribly blunt I did not succeed in removing so much of the gland as was requisite. The next day the remaining portion became acutely inflamed, and on the fourth or fifth day was followed by an attack of rheumatic fever, which ran a long course. Some six months afterwards I removed the other tonsil, and, strange to say, the child was laid up in a few days with a slight attack of the same fever. I have seen cases, too, whose convalescence from acute tonsillitis has been prolonged by attacks of subacute rheumatism, and in patients who previously never suffered from any such pain. It is clear, then, that not only may rheumatism in a subject excite tonsillitis, but tonsillitis may determine an attack of acute rheumatism.

From a clinical point of view, we know that acute tonsillitis, from whatever cause, may run the same course; but, from careful observation of the disease in subjects with a rheumatic diathesis, it appears to me that the distinguishing features of this form are—

1. The induration is more marked in the peritonsillar connective tissue.

2. That the inflammation is less prone to suppurate; and, if suppuration takes place, spontaneous discharge of the pus is certainly delayed.

3. That subacute attacks with a moderate-sized gland are more frequently than not of rheumatic origin, particularly when the sanitary surroundings are good.

4. That in the rheumatic type the induration and thickening of the adjoining tissues are more marked.

In order to further elucidate this matter, I submitted to Dr. Crooke, a distinguished pathologist, typical specimens of both varieties; and his report, which I will read in detail, bears out, I think, the conclusions I arrived at.

"*Microscopic investigation* presents some points of difference between the tonsillitis of rheumatic origin and simple chronic inflammatory hyperplasia. In the enlarged tonsil of rheumatic origin the changes are more active, so as to form almost a subacute variety. There is considerable cellular proliferation in the lymph follicles, and also infiltration of the fibrous and retiform tissue, especially of the peritonsillar connective tissue, where the cell infiltration is prominent in the adventitia of veins and small blood-vessels. Amidst the lymphoid cells numerous germinative or "keim" centres are found; these have been described by Flemming and his pupils in hyperplasia of the tonsils, and similar lymphoid follicles in other parts of the body. In places the leucocytic infiltration of the epithelial covering is so intense as to totally obscure the structural details of it, overreaching certainly the bounds of leucocytic infiltration of the epithelial covering described by Stohr as a normal condition. The crypts are often found with mucous and pus cells. There is no necrosis, as is observed in the acute tonsillitis accompanying the acute specific febrile diseases; but it is easy to suppose that such rheumatic tonsils are especially prone to acute attacks, and then liable to suppuration. No organisms were found in these tonsils.

"Regarding the chronic hyperplased tonsils, the connective tissue and supporting stroma was much less infiltrated with cells and more fibrous in character. The hyperplasia seemed to be limited to pre-existing lymphoid follicles, some of which were enormously enlarged, and showed the clear germinating centres, where the nuclei were larger and polymorphous, and evidently in active proliferation. But the smaller and younger germinating centres seen in such numbers in the rheumatic tonsil were much fewer here, neither was there such intense leucocytic infiltration of the covering epithelium. The lumen of the crypts was considerably narrowed by the projection beneath the epithelium of the hypertrophied lymph follicles."

Gout of the Tonsil has not been marked in the cases which have fallen under my observation by any induration or hypertrophy of the gland; the mucous membrane appears abnormally red, sometimes glazed, and the patient generally complains of dryness and irritation in the throat, which often resists ordinary treatment.

I have under my care a typical case. A gentleman, who, with attacks of gout in the form of a scaly eruption on hands and feet, has simultaneously an affection of the tonsil and fauces. A slight gluey muco-purulent secretion forms in the sulcus between the tonsil and posterior pillar, and the mucous membrane of the tonsil and pillar is red, glazed, and velvety in appearance. The only treatment which has benefited him is Kronenquelle water taken internally, and used as a gargle or spray.

The frequency of the presence of adenoid vegetations with hypertrophied tonsils is now well recognised. My statistics, drawn from a large number of cases, show that in 30 per cent. of those requiring excision, there existed also an adenoid growth of sufficient bulk to necessitate removal.

When should a Tonsil be Removed?—In all cases of marked hypertrophy of the gland extending some distance beyond the pillars of the fauces, and, further, in those cases where the gland, although not particularly hypertrophied, is the seat of recurring acute or sub-acute mischief. This is a point which hardly re-

ceives the attention it deserves, for there seems to be very little room for doubt in removing such diseased glands we, in a large majority of cases, prevent those frequent attacks, and in others so modify them as to justify the removal.

I excised, between two and three years ago, a gland about the size of a hazel nut, which had been for years the bane of the patient's life. In the twelve months previous to my seeing him he had eight attacks of acute tonsillitis, which, in the aggregate, confined him to his room for four months.

Another patient had thirteen attacks in a few years, and four in the year I saw him. In neither case has there been any recurrence of either acute or subacute trouble.

The advantage of the guillotine over all other modes of excision is so universally admitted, that I need not discuss the question. It is necessary, in order to make a thorough removal of the gland, to have an assistant at hand to press the gland inwards. In many oval-shaped tonsils, and in those where there is no line of demarcation between the gland and the surrounding tissue, the guillotine does not always work satisfactorily, for I have found that frequently in our anxiety to remove posterior and inferior parts, that an anterior flap of tissue is left; this is easily removed by the aid of vulsellum forceps and a well protected knife. There can be no objection to the use of the knife in this manner, as only superficial tissues need dividing.

Severe and dangerous hæmorrhage after tonsillotomy with guillotine is rare. I have met with only three cases which could be considered such, the one in a girl, aged 18, with a medium-sized gland, where a vessel behind the anterior pillar gave me some trouble, the tissues being so brittle that all attempts at torsion failed. Finally, combined pressure with finger, both externally and internally, checked the flow.

The second case, that of a man, aged 21, with large fibrous tonsil, profuse hæmorrhage, which poured freely from his mouth, came on five hours after the operation, and kept up for a considerable time. I think in this case large doses of ergot helped to arrest the bleeding, combined with repeated pressure of a perchloride of iron swab.

In the third case the hæmorrhage was dangerous, for although tolerably free after the excision, it was arrested by ordinary means; but some two hours afterwards I was summoned to the hospital, and found the patient, a middle-aged woman, in an alarming condition. The floor and utensils were deluged with blood, and her condition approached a fatal collapse. The blood flowed down from the inferior angle of the wound too rapidly for her to spit up, and entered the stomach, which, when it became distended, vomited its contents, amounting, perhaps, to half a pint at each effort. Here firm pressure with a swab of perchloride of iron and free doses of brandy stopped the hæmorrhage.

Before operating on a tonsil see that the knife is sharp; tearing of the tissue, which takes place with a blunt tonsillotome, more frequently than not leads to free hæmorrhage. For arresting obstinate hæmorrhage large swabs of cotton-wool, fixed on a long handle and dipped in a solution of perchloride of iron, and firmly pressed against the wound is the most reliable method of checking the flow, assuming that the vessel cannot be secured. It is as well to remember that all clots should be removed before using the iron.

Mackenzie's solution of tannic and gallic acid has generally failed in my hands, for it frequently excites vomiting, the very condition of all others to guard against. Ergot should be used in persistent oozing. I have sometimes thought that the hæmorrhage has been less after the use of a 10 per cent. solution of cocaine in the form of a spray.

THE RÔLE OF THE VARIOUS TONSILS.

Read in the Section of Laryngology and Rhinology, at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

By WILLIAM HILL, B.Sc., M.B.Lond.,

Assistant in the Aural Department, and Senior Demonstrator of Anatomy at St. Mary's Hospital; late Registrar at the Central Throat and Ear Hospital.

It is a curious fact that though the histological structure of the various tonsils are so well known, definite statements as to function are not to be found in modern textbooks of physiology. Certain medical writers, in face of the silence of professed physiologists, have, however, from time to time suggested that the tonsils serve to lubricate the bolus of food, that they act as plugs *in utero* to prevent the swallowing of amniotic fluid, that they absorb the excess of the buccal and pharyngeal secretions, and, perhaps, some of the products of salivary digestion. This latter view is the most recent, and has been put forward by Hingston Fox some two years; it has been quoted with approval by Lennox Browne, Delavan, Spicer, myself, and others. The fact, however, remains that probably most specialists still regard the various tonsils as organs whose *rôle* has yet to be satisfactorily explained.

If analogy of structure teaches us anything, then there can be no doubt that the primary function of a tonsil is the same as that of a lymphatic gland—namely, a leucocyte manufactory for the supply of the blood with corpuscular elements. An ordinary lymph gland is situated in the course of the lymph stream, the raw materials necessary for lecocyte production being conducted to the manufactory by the absorbent lymphatic vessels. Now the tonsils have no large afferent ducts as have the ordinary lymph glands, but they are situated on the banks of a canal, the alimentary canal, along which flow abundant raw material in the shape of the products of salivary digestion, and the excess of salivary and other secretions; these secretions are absorbed by the buccal and faucial mucous membranes, and they enter the small lymphatic vessels which converge towards and enter the tonsils. The sum of these small lymphatic vessels therefore make up potential afferent ducts, and the homology between the tonsil and its physiological prototype would thus be established were it not for the fact that the tonsils are only separated from the adjacent alimentary tract by a thin layer of epithelium, which mucous surface is further largely increased in area by a complicated cryptic arrangement.

These two morphological points, namely, its situation and its extensive and cryptic mucous covering, are such marked departures from the ordinary lymph gland, that the primary leucocyte-manufacturing *rôle* of the tonsil has been lost sight of, or, at all events, not insisted on by physiologists; and even if it be admitted that the primary function of all lymphoid structures like the tonsil is the production of corpuscular elements for the blood, the significance of its cryptic mucous covering has still to be explained.

Hingston Fox suggests that the buccal fluids accumulate in the crypts, and pass through the absorbent mucous membrane direct into the tonsil; in this way the sponge-like tonsil is supposed to absorb direct from the nutrient stream; and the writings of Fox would seem to indicate that he regards the tonsils as primarily organs of absorption, and that their *raison d'être* is to take up the excess of the buccal secretions, and thus prevent waste. Fox has endeavoured to show that *materies morbi* in a number of septic diseases enter the system through the crypts of the tonsil, and have their primary manifestations there. It cannot be doubted that the mucous membrane covering the tonsil, in common with other mucous surfaces, does absorb, but it is equally certain that it, in common with other mucous surfaces, secretes; and the question arises whether either or both of these processes is of any real significance.

It must be remembered that the lymphatics from the neighbouring mucous membrane for some distance converge towards the tonsils, so that the admittedly early tonsillar lesion in such diseases as scarlet fever and diphtheria does not necessarily imply any marked absorbent action by the tonsillar mucous membrane, for the *materies morbi* may for the most part have entered by the general buccal mucous membrane, and have been conveyed to the glands by the converging absorbent lymphatic vessels. Last year, at the suggestion of the staff of the Throat and Ear Hospital, I made some experimental investigations as to the direct absorbent function of the tonsils; but, as I was unable to eliminate such sources of error as absorption by the adjacent mucous surfaces and lymphatic conduction, I abandoned the inquiry. Two points, however, not bearing on the absorption theory, struck me very forcibly; first, the strongly amylolytic action of watery and glycerine extracts of the tonsillar tissues; and secondly, the extreme tenuity of the mucous lining of the crypts at places, with the outward migration of leucocytes from the follicles between the epithelial cells into the crypts. Neither of these observations is really new, but one was led to speculate as to what extent does this leucocyte migration usually go on, and if it is pretty constant, as I am led to believe, what is the significance of the migration? Do these strongly amylolytic leucocytes play any important or even subsidiary *rôle* in the digestive pro-

cesses? Is the function of the cryptic reduplication of the mucous membrane really to aid "the direct passage of fluid substances from the alimentary tract into the lymphoid follicles of the tonsil, or do amylolytic leucocytes accumulate in the crypts, to be forced on to the bolus of food by muscular action during its passage through the faucial passage?

If, whilst admitting the primary corpuscular manufacturing *rôle* of the tonsils, we are so much in the dark as to the meaning of its morphological departures from the ordinary lymph gland as to whether such departures imply a direct absorptive or a migratory function, or both, it is no wonder that the etiology of tonsillar disease is still imperfectly understood; we may, however, state pretty confidently that most diseases of the tonsils are in relation with contaminated buccal, nasal, and pharyngeal secretions. The sources of contamination may be extensive, in the shape of impure air, water, milk, and other liquids and foods; the irritating material passing through the mucous membrane, and enters the tonsil either direct or by the way of the crypts or by the lymphatics from the neighbouring mucous membrane.

Diphtheria and the exanthemata may be taken as types of disease of extrinsic origin. In these conditions the primary lesion is often slight, but is of importance in relation to the tendency to chronic hypertrophy which it initiates.

On the other hand, the buccal secretions may be intrinsically contaminated by reason of general diseased states of the system, whether constitutional or not. In those conditions in which a morbid product is circulating, the blood and the organism make an effort to get rid of this product, not only by the excretory channels, but the secretory organs, become, for the time being, extraordinary channels of excretion; and thus the composition of such a fluid as the saliva becomes not only profoundly modified but actually contaminated by the irritating morbid products. Rheumatism may be taken as a type of an acute disease with modified buccal secretions, and producing inflammatory changes in the faucial and lingual and pharyngeal lymphoid tissues; tension results, and is relieved by exudation from the follicles into the crypts. Should this exaggeration of a normal process not ensue to a sufficient extent to relieve the inflammatory tension, fatty degeneration and abscess will follow.

The strumous diathesis may be instanced as a chronic diseased state associated with contaminated and irritating secretions and hypertrophy of tonsillar and other lymphoid masses. It is generally admitted that enlarged tonsils, whether faucial, pharyngeal, or lingual, are more often seen in connection with this diathesis, though an acute septic disease doubtless often acts as the exciting factor.

The fact that the faucial and pharyngeal tonsils are so much more developed, as well as more prone to disease in the young than in adults, is explained by the fact that there is a far greater demand on leucocyte-producing organs during the period of growth.

SECTION OF LARYNGOLOGY AND RHINOLOGY.

Demonstration of some of the Muscles of the Larynx—"Hyo-epiglottidean." By Dr. JOHN MACINTYRE.—Dr. John Macintyre showed a dissection of the human larynx in which four hyo-epiglottidean muscles were exposed, also a number of preparations of the larynges of mammals, and said that his attention had been called to the existence of these muscles in man while preparing a series of dissections of the arteries of the throat. Four muscles are seen, namely—two median and two lateral. The first mentioned are seven-eighths of an inch in length, consisting of a slender, flattened band arising from the posterior surface of the body of the hyoid bone near the middle line. Passing backwards and slightly downwards they are inserted into the anterior surface of the base of the epiglottis, where they spread out a little so as to touch the lateral pair in their insertion. The latter arise half an inch external to the former, from the great cornua of the bone and thyro-hyoid membrane, measure one inch in length, are flattened from side to side. Passing backwards, inwards, and slightly downwards, they are inserted by an expansion of the tendon into the anterior surface of the epiglottis near the preceding pair. The muscles lie in a mass of adipose tissue, and are covered with the mucous membrane passing between the tongue and the epiglottis. Thirty-seven specimens have since been dissected, but in no instance, as yet seen, are they defined as in the specimen shown. This may account for the absence of the description of them in standard works. No reference is made to them in the ordinary textbooks of anatomy, nor in works devoted to this special branch of surgery. Luschka *(Der Kehlkopf des Menschen)* refers to two median muscular bands having been described in 1743 by Morgagni and a few others since, but no reference is made to the lateral pair. A large number of dissections were also made of the muscles of the throat in mammals, some of which are exhibited. It will be seen from the latter that the two median muscles are often present, and, as might be expected, they are described in the works devoted to such. For example, Cheveau mentions "a small cylindrical fasciculus, whose fibres are buried in the middle of a mass of adipose tissue." After enumerating the muscles of the larynx in a paragraph preceding the above, he says, "all are pairs, excepting the last (arytenoideus) and the hyo-epiglottideus." In all standard works four depressors of the epiglottis are described, viz.:—two lateral and two median. In the dissection shown we have the same number and arrangement in these elevators, a fact to be remembered when we consider that the muscles of the larynx generally are arranged in opposing groups.

Two Cases of Complete Laryngeal Stenosis produced by Wounds of the Larynx in Attempted Suicides, treated successfully by means of Tents. By DAVID NEWMAN, M.D. (Glasgow).—The two cases in their etiology, progress, and treatment are identical, and may be described as one case. The wound was situated immediately below the cricoid cartilage and extending transversely across the trachea so as almost completely to separate the larynx from the windpipe. A tracheotomy tube was introduced by a medical attendant and retained in position for many months, during which time the larynx became completely stenosed, and no air passed through it; but, nevertheless, speech was possible in an almost inaudible whisper by the vibration of air in the oral and buccal cavities. On admission to Glasgow Royal Infirmary, after repeated attempts, a narrow sharp probe was successfully passed from the mouth through the larynx, and out by the tracheotomy wound. To the end of the probe two strands of silk ligature were fixed, and these were dragged through the larynx and mouth, and the two free ends were tied externally. The day following these were untied, and four strands of ligature were substituted, and so on. The thickness of the skein was increased day by day until the larynx was dilated sufficiently to admit a No. 10 urethral catheter. A tupelo wood tent was then inserted in the larynx by dragging it upwards through the tracheotomy wound by a cord; and by fixing its lower end to the tracheotomy tube, any danger of displacement upwards was obviated. In the course of a week the larynx was dilated sufficiently to admit the pharyngeal limb of an artificial larynx, and the patients are now able to follow their occupation, breathe entirely by the mouth, and speak in a whisper, or, by the insertion of a reed, in a loud monotone. The method of treatment adopted in these cases is novel and highly satisfactory, but the question still remains, can anything further be done, or must the patients wear the artificial larynx during the rest of their lives? So long as the artificial larynx is retained breathing is easy and comfortable, but naturally one feels that attempts should be made to remove the tubes and close the wound in the neck. Such a procedure can only be justified when one is satisfied that contraction of the cicatricial tissue will not take place.—Dr. MACINTYRE pointed out the importance of the study of diseases of the nose, and said that of late great attention had been paid to it; in fact, it was possible that some surgeons had carried their theories too far, but the result of obstruction in the nasal passages were so far reaching that it was necessary to correct the conditions as early as possible. Dr. Macintyre went on to classify the conditions grouped under this head, some of which were common, others rare. While the latter were interesting to us, the former gave us most trouble, and the long course taken in many of these cases induces us to try every means in our power for their removal. He would limit his remarks to simple catarrh of the turbinated bone, its sequelæ and treatment. The symptoms were numerous, often conflicting and difficult to explain. For example, while cough, asthma, cranial neuralgia, deafness, and alterations in the contour of the chest could be understood, but the subject of the reflex neuroses was one of great difficulty, for acne, epilepsy, and more remote conditions have been said to be produced by this means. The pathology was next described, in order that the treatment might be properly directed. With regard to treatment, he paid great importance to prevention, especially in children, in view of the serious results which slowly but surely follows, and this could not be too strongly insisted upon. No treatment could be of avail which omitted constitutional as well as local treatment. Dr. Macintyre next spoke of the use of

the galvano-cautery in these affections, which he largely employed, and afterwards showed the instruments designed for himself, for this and other affections of the nose.

The Removal of Naso-Pharyngeal Polypus.—Dr. LEWIS (Birmingham) said: The difficulties frequently met with in the removal of these tumours, so large as to be visible behind the uvula, may be overcome by using a Jarvis's snare with a pharyngeal curve in the following manner. The snare is threaded with the ordinary piano wire, but the ends, instead of being short and fixed, are at first left long and free, and the loop at the pharyngeal end only made wide enough to admit the tip of the little finger, for with this width it can easily be passed into the pharynx. The finger pushed up behind the soft palate seizes the wire, which, being loose in the shaft, can be drawn down to such a length as will be required to encircle the polypus; this done the wire is shortened by pulling upon the free ends. When the pedicle has been grasped, the wire is firmly fixed to the shaft by the screw, and the ordinary movement of the instrument is brought into play. We shall the more readily secure the entire removal of the pedicle if, when it is tightly gripped by the wire, traction with a slight twist in the movement be resorted to in preference to allowing the wire to cut its way through the growth. A large polypus removed in this manner was exhibited, with a mass of adenoid vegetations, these growths forming an obstacle to the free passage of the wire. The presence of both polypus and adenoid vegetations in the same individual is not frequently met with, more particularly in one as old as the patient, whose age was 25.

Some Unusual Laryngeal Neuroses.—Dr. ERNEST H. JACOB described the following cases. I. A man, aged 40. Three years before he had had an attack of left hemiplegia. A week afterwards his voice became of falsetto quality. At intervals he had spoken properly, but for the last five days had spoken in falsetto. During laryngoscopic examination he spoke plainly, and his voice continued good. II. A man, aged 25, choir master. Five days previously he sang with the trebles in church, straining his voice, and was rather hoarse afterwards. Any attempt at phonation produced a glottic spasm, with rapid breathing of hysterical nature. After a cocaine spray he spoke easily, but rather hoarsely. The slight laryngitis disappeared on treatment, and there was no return of the spasm. III. A boy, aged 12. Five months ago, it was said, he was knocked down by a teacher in the school, and his throat grasped and hurt. He had not spoken properly since. Attempts at phonation resulted in explosive monosyllables. On the application of the constant current he spoke properly, and the improvement was permanent. It was doubtful whether the effect was due to the electricity or the moral effect produced by the galvanisation.

A Case of Lupus involving the Upper Respiratory Tract, with Small Tumours (Lupoid?) of the Larynx. By SCANES SPICER, M.D.—Cases of lupus of this area have been but rarely described, and this one has a special interest in that extensive destruction of nasal supports enabled the alæ to fall together and cause complete nasal obstruction, and that two small tumours were seen to exist in the larynx. E. D., aged 18, was sent to me at the Throat Department of St. Mary's Hospital, by Mr. Malcolm Morris, from the Skin Department, on account of complete nasal obstruction. She had had lupus of the skin for eight years, which had been slowly extending. It covered the cheeks, nose, lips, and both eyelids on both sides Her general health was good, there was no evidence of struma, tubercle, or syphilis, and she had never heard of any one in her family being affected with any skin disease. She occasionally had attacks of hoarseness lasting three weeks. and has had extreme tinnitus of a whistling character. Examination of the respiratory tract disclosed absence of the lateral cartilages and triangular cartilage of the nose, causing the soft parts to fall together, producing complete nasal obstruction, buccal respiration, and much annoyance, owing to filling of the nasal passages with dry crusts, and the patient was extremely miserable. There were lupus ulcerations and granulations extending along the floor of the nose. There was no affection of the pharynx or lingual tonsil, soft palate, uvula, or epiglottis, but in the larynx there were two symmetrically placed tumours placed on the ventricular bands just behind their anterior attachment. These tumours were each of the shape of an Indian club, attached by their constricted part; they projected about one-sixth of an inch over the vocal cords, at phonation, but did not touch them, and at deep inspiration could hardly be distinguished. They were of the colour and appearance of the normal mucosa—smooth, pink, and shining surface; there were no other abnormal appearances in the larynx. All the time she was in hospital there were no laryngeal symptoms of any kind, and no alteration in the condition of the tumours. Coincidently with the treatment of the skin affection by Mr. Malcolm Morris, my attention was directed to the relief of the intense distress of the patient on account of the nasal obstruction and other symptoms. The crusts were thoroughly removed by oleaginous applications and the alkalina nebula, and all nodules that could be seen removed with a scoop. I then introduced into each nostril a cannula formed of the cylindrical portion of an ordinary quill pen, which was well trimmed and smoothed at the ends and surrounded with lint and iodoform ointment, which not only enabled nasal respiration to be performed perfectly, but kept the parts sweet, lessened the discharge, and gave the patient great relief from her distressing symptoms. She now attends to the tubes herself, twice daily, and has worn them day and night for two months. It has not been considered advisable to meddle with the small laryngeal tumours up to now, as they are causing no symptoms or impairing the work of the larynx, or extending; and the case is briefly described in this Section owing to the rarity with which one meets with accounts of the larynx in lupus, and also that the author has never seen an account of structures exactly like those in this case.—Dr. PERCY KIDD (London) was interested in the small laryngeal tumours described, considering the close connection now believed to exist between lupus and tuberculosis, as they reminded him of cases of tuberculous tumours of the larynx, of which he had now met with seven instances. He hoped that Dr. Spicer would keep his eye upon the patient, with a view to the possibility of the development of tuberculosis.—The PRESIDENT asked what treatment was intended to be adopted for the laryngeal tumours.—Dr. SCANES SPICER replied, that as there were no symptoms and the condition appeared quite stationary, it was not proposed to attack the tumours at present.

Clinical and Pathological Observations on the Tonsils, Faucial, Pharyngeal, and Lingual, in the Light of Recent Views as to Their Functions. By SCANES SPICER, M.D.Lond., Physician to the Throat Department of St. Mary's Hospital.—The author commenced by referring to the views published two years ago by Dr. Hingston Fox as to the functions of the faucial tonsils being essentially those of absorbing the buccal secretions, and so preventing fluid waste in the economy and of the manufacture of leucocytes. He then glanced at the facts, anatomical, histological, and physiological, on which such views were based. He next proceeded to give reasons for maintaining that the pharyngeal and lingual tonsils and the discrete follicles of the pharynx held a very similar position with reference to the spent nasal and lachrymal secretions, the pharyngeal tonsil in the horizontal position of the body, and the lingual in the vertical one. He referred incidentally to Dr. Horace Dobell's observation on the functions of the uvula being to drip or conduct the nasal secretions on to the base of the tongue in front of the epiglottis. The author thought that the relations of the tonsils to the organism generally would be best indicated by calling them sewage farms. Clinical and pathological observations bearing on the question were then detailed, the various means by which the nasal and lachrymal secretions were altered so as to excite inflammation and hypertrophy of the pharyngeal tonsil being considered; and it was pointed out that we had in this theory a complete and satisfactory explanation of the pathogeny of post-nasal growths. Among other causes mentioned were changes in the quality and characters of the inspired air, occupation, habits, specific germs, endogenic and exogenic poisons, and specially chronic nasal catarrh. With reference to the lingual tonsil, the same factors were considered, and also others arising from the nature of the alimentary ingesta, alcohol, tobacco, etc., and attention was called to the fact that morbid conditions of the lingual tonsil were the anatomical cause of many of the paræsthesiæ and dysæsthesiæ of the throat. The affections of the faucial tonsils, as depending almost entirely on the abnormal states of the secretions, which were brought to them to deal with, were next considered, and the conviction expressed that the tonsils were the site at which the poisons of diphtheria and scarlatina usually entered the organism, and the reasons for that view given. It was claimed that faulty voice production had an important influence on tonsillar affections. Lacunar, or so-called follicular tonsillitis, was described as being of two different types, and its treatment referred to. Chronic granular pharyngitis was essentially an irritative and hypertrophic change in the discrete tonsils of the pharynx. The

treatment of morbid affections of the tonsils, in the light of their recently discovered functions, was then outlined, and was attended with unusually satisfactory results. The chief indication was the ensuring of physiological rest for the tonsils by drying up or lessening the amount of secretions with which they had to deal, or by removing from these secretions any irritating components. Besides this, all causes of irritation in the inspired air and in the ingesta must be removed, and any morbid diathesis attended to on general principles. Further, any hypertrophy occluding a physiological channel, or irritating mechanically by its presence, must be removed by some of the numerous approved methods now available. The paper concluded as follows:—1. The significance of the various tonsils is in their physiological relation to the blood-manufacturing system and to the outpour of copious secretions which they reabsorb. 2. If any of these secretions become contaminated in any way with irritating matters, whether generated in the system or introduced from without, those tonsils in physiological correlation with the affected secretion show irritative changes varying in degree. 3. The functions and affections of the various tonsils afford the key-note to the comprehension and scientific treatment, and to the prevention of recurrence, of many of the most intractable and otherwise recurrent disorders of the nose and throat.

Laryngeal Stenosis Cured by Ablation of One Vocal Cord.—Dr. GREVILLE MACDONALD presented notes of this case. J. V., aged 35, single, clerk, was attacked with syphilis about 1880 or 1881. The secondary symptoms were unusually severe. He was under mercurial treatment for about twelve months. In October, 1883, he had an attack of hemiplegia of the left side, from which he recovered almost completely after six weeks' treatment. Soon after his voice became hoarse, and gradually grew worse, until he came under Dr. Macdonald's care in August, 1887. His symptoms then were almost complete aphonia, with occasional attacks of dyspnœa. The condition of the larynx was as follows: General and almost uniform and symmetrical hypertrophy of the structures surrounding the glottis; the vocal cords, which were slightly congested, their margins rounded, and much thickened in their subglottic parts, being principally affected. The arytenoid cartilages moved freely, although the vocal cords were too wide to admit an aperture sufficient for respiration. During attempts at phonation the cords were so pressed upon one another that vocalisation was almost impossible, and only the hoarsest whisper resulted. There was no sign of ulceration or cicatrices, while the congestion was so slight as to afford small hope of benefit from local or general medication. The patient had been taking ten and fifteen grain doses of iodide of potassium almost continuously for the past year, the only apparent result of which was a strong susceptibility to catarrh. For three weeks various astringents were frequently applied to the larynx, without result. On August 30th the patient was seized with alarming dyspnœa; and the following day Dr. Macdonald performed tracheotomy. On September 10th he was well enough to walk out, and on the 20th Dr. Macdonald began the course of treatment described further on. It extended over a period of seven months, the cannula being finally removed on June 14th, while at the date of the report the patient breathed with perfect ease *per vias naturales*, and his voice, though still raucous, was loud and intelligible enough for ordinary conversation. The following was the plan adopted by Dr. Macdonald: Seeing that the vocal cords were so closely approximated, it occurred to him that the destruction of one of them would not only widen the glottis, but probably improve the voice. Accordingly, he destroyed the posterior third or so of the left vocal cord with the galvano-cautery, in eight or nine successive sittings. Next he removed the greater portion of the cord, apparently somewhat softened by the neighbouring cauterising, with sharp-cutting laryngeal forceps (Mackenzie's lateral), nibbling it away, as it were, at successive sittings. The laryngeal appearances at the date of the report were as already described, except that the left vocal cord was deficient in the posterior four-fifths of its length. It was neither easy nor necessary to remove the anterior fifth.

Acute Epiglottitis: A Question of Nomenclature.—Dr. J. MIDDLEMASS HUNT presented the following case. W. L., aged 50 years, caught cold on May 1st, and on the same night had a slight rigor and felt feverish; and during the night he vomited. Next morning he began to suffer from dysphagia, which soon became so severe that he could not swallow his saliva. Dr. Hunt saw him on the evening of May 2nd, and found him sitting up in bed expectorating large quantities of viscid saliva. He had neither dyspnœa nor hoarseness, but complained of severe pain on attempting to swallow, and a constant feeling "as if he had a potato in his throat." His temperature was 101 and his pulse 110. The pharynx presented nothing abnormal beyond some relaxation of the soft palate, but without any trace of congestion. The laryngoscope showed the epiglottis to be intensely congested, thickened, erect, and stiff, and with its superior border bent forwards so as to show its laryngeal surface. The rest of the larynx was practically normal. The treatment adopted was the application of ice externally, with inhalations of tincture of benzoin and hypodermic injections of pilocarpine. The patient was soon relieved, but remained unable to swallow till mid-day on May 3rd, twenty-four hours from the onset of dysphagia. In four days all pain had gone, and the epiglottis, though still heightened in colour, had returned to its natural shape and position. It was well known that attacks of acute inflammation might be limited to the epiglottis, and a milder degree of the affection just described was not uncommon. The symptoms, however, were often attributed to pharyngitis. It was true that in the majority of cases there was a concomitant laryngitis or pharyngitis, but the inflammation might be not only limited to the epiglottis, but to some particular part of it, as to its anterior or posterior surface, its free border or lateral half. A severe form confined to the anterior surface had been described by Michel, of Cologne, under the name of "Angina epiglottica anterior." Before the invention of the laryngoscope, independent inflammation of the epiglottis was recognised and classified as epiglottitis, and the earlier laryngologists, Türck, Semeleder, Störk, and Ziemssen, retained the term. Recent writers, however, of whom he might mention Lennox Browne and Schrötter had classified all inflammations of the epiglottis under the head of laryngitis. Such a classification was unsatisfactory, for such affections of the epiglottis presented a group of symptoms quite distinct from those of laryngitis. In the former the functions of the pharynx and not of the larynx were involved. There was no hoarseness nor dyspnœa and little or no cough, but on the other hand there was marked interference with deglutition, which was not commonly present in acute laryngitis, unless the pharynx was affected. The other symptoms were the feeling of a lump in the throat which could not be got rid of, frequent inclination to vomit and sometimes actual vomiting, and an excessive secretion of mucus and saliva. There might also be localised tenderness on pressure over the hyoid bone, and in severe cases laryngeal spasm on attempting to swallow. The term "acute epiglottitis" should therefore be retained as indicating a distinct clinical variety of laryngitis.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

THE QUEEN'S HOSPITAL, BIRMINGHAM.

(1) CASE OF MOTOR APHASIA: APHEMIA. (2) URÆMIC AMAUROSIS.

(Under the care of C. W. SUCKLING, M.D.Lond., M.R.C.P., Physician to the Queen's Hospital).

MOTOR APHASIA: APHEMIA.

S. H., a girl aged 19, a dressmaker, was admitted into the Queen's Hospital, September 12th last, complaining of inability to speak, and loss of power in the right arm and leg. Her father suffers from chronic rheumatism; her mother is healthy, and has had four children, who are all healthy, and one miscarriage. The patient has never had rheumatic fever. About eleven years ago she had erysipelas in her face, and about eight years ago she had a slight sunstroke, but was well again next day. She has suffered from sick headache two or three times a week for some years. She was not subject to fits previous to her present illness. There is no history of syphilis, rheumatism, Bright's disease, or of any specific fever; nor has there been any cerebral injury.

On January 10th last she was attacked suddenly while sitting at her work; she felt giddy and became unconscious, falling to the floor. The coma lasted for an hour, and on recovering she was found to be paralysed in the right side of the face, right arm and leg, and to be speechless. She was unable to protrude her tongue after the attack, and fluids ran out of her mouth when she was fed. Her leg improved, so that she could walk in

about a month from the attack. The face and tongue recovered in about three or four months, the paralysis of these parts having been very pronounced. Shortly after the commencement of her illness the patient had several fits, the right arm and leg with the right side of the face alone being affected, the attack being of the nature of Jacksonian epilepsy, and evidently being due to cortical mischief. The fits lasted about five minutes, and were accompanied by slight loss of consciousness. For a week after the onset of her illness, she was both speechless and wordless, but apparently appreciated what was said to her; at the end of the week she could only say "mother" when pressed to speak, though by gesture she would indicate approval or dissent.

When admitted into the hospital she was found to be suffering from severe hemiplegia, with late rigidity on the right side, the deep reflexes being much exaggerated and ankle clonus being well marked in the right foot. The right side of the face was also still slightly paretic, and the tongue when protruded was deflected slightly to the right. There was no disturbance of sensation on the right side; there was no change in either fundus oculi, no heart mischief, and no albuminuria. The patient, when told to repeat words, always answered "mother" or "yes, sir." She would do what she was told, and when a request was made in writing she understood it and responded. She could read, and she could write with her left hand fairly well. She recognised objects, but could not name them; though she called them "mother," "nurse," etc., she would shake her head, knowing it was the wrong word, and would assent by gesture when the proper name was uttered. She was quite unable to repeat by words, but could write from dictation. She was intelligent and perfectly rational; there was evidently no sensory aphasia; no word-blindness and no word-deafness; the motor functions of speech, moreover, were not quite lost, for she could write tolerably well with the left hand, there being no agraphia. The defect in speech was solely limited to the articulation of words—the so-called aphemia.

During the patient's stay in hospital she was taught to utter a few other words, but there was otherwise very little improvement in her condition.

As to the nature of the lesion in this case—the sudden onset shows that it was either a vascular lesion or hysterical. Aphasia is a well recognised symptom of hysteria, and is usually of the nature of aphemia—the patient being completely wordless—but the hemiplegia in this case was certainly due to gross organic changes, the face and tongue being markedly affected, and there being no hemi-anæsthesia or amblyopia. There was also a complete absence of any sudden variations in the symptoms. The attacks of partial epilepsy, moreover, were proof of cortical injury, and in these attacks the right side of the face was much convulsed, and loss of consciousness was observed. The lesion, then, must have been a vascular one, and either embolism, thrombosis, or rupture of the left middle cerebral artery. Embolism is excluded by the absence of any heart disease or other source from which an embolon might have started. Cerebral hæmorrhage is very rare in young subjects, except as the result of rupture of aneurysms of the cerebral arteries, but in this we should expect to obtain a history of chorea or rheumatism—embolism being a common cause of such aneurysms. In the absence of the causes of embolism and hæmorrhage I am driven to suppose that the lesion was thrombosis, and that possibly the cerebral arteries are diseased, though no history of syphilis can be obtained. As to the seat of the obstruction in the left middle cerebral artery—there can be no doubt that the artery is plugged before it gives off its perforating branches, and as these arteries supply the internal capsule and are terminal, there being no possibility of any relief for them by collateral circulation, the permanence and intensity of the hemiplegia is explained. It is probable that at the onset the aphasia was mixed, both motor and sensory, for it is rarely that a pure motor aphasia accompanies severe hemiplegia. The recovery of the sensory aphasia, if present at the onset, might be explained by the fact that the cortical arteries vary in their distribution, and do anastomose to some extent—this anastomosis varying in different individuals and being more apt to occur in young subjects from the elasticity of the vessels.

The aphemia is due to occlusion of the inferior frontal branch of the left middle cerebral artery, and its persistence shows that the cortical centre in the posterior portion of the third left frontal convolution is destroyed. Agraphia is usually associated with aphemia, the two cortical centres being close together. The centre for writing is placed by Exner in the posterior part of the second left frontal convolution, and this convolution must have escaped.

URÆMIC AMAUROSIS.

J. S., a man aged 57 years, a baker, was admitted into the Queen's Hospital on October 31st last, complaining of sudden loss of sight. There was no family history of any importance. The patient had been a heavy drinker of beer and spirits but had never been laid up with any illness until the present attack. A month before he lost his sight, he suffered from severe frontal headache—this continued until a day or two before admission. The day before he lost his sight he read the paper, killed a pig and went to bed all right except for his headache; on waking in the morning he found that he was blind.

Mr. Fitzpatrick, of Moseley, sent the patient to Mr. Priestley Smith, who recognized the condition and its gravity and asked me to admit him into the hospital. When admitted I found that the patient was quite blind. The optic disc was very pale and the vessels small in each fundus oculi. The urine contained albumen and casts. The pulse was hard and of increased tension, and there was hypertrophy of the left ventricle. The pupils responded to right and accommodation. The patient rapidly became worse, complaining of headache and being very restless. He had several epileptiform attacks, the right side being chiefly affected, with conjugate deviation of the eyes and rotation of the head and neck to the right, and gradually became comatose and died a few days after admission.

The usual treatment for uræmia was adopted without any appreciable effect. Purgatives, pilocarpine, venesection, cupping to the loins, and vapour baths. At the necropsy the kidneys were found to be small and contracted with cysts and adherent capsules. The left ventricle was hypertrophied and the optic nerves and commissure atrophied. No change was discovered in the cortical centres for sight or in any part of the brain.

REVIEWS AND NOTICES.

THE CHILDREN: HOW TO STUDY THEM. A Course of Lectures by FRANCIS WARNER, M.D., F.R.C.P., F.R.C.S. London: Francis Hodgson. 1887.

INFANT HEALTH: THE PHYSIOLOGY AND HYGIENE OF EARLY LIFE. By H. PERCY DUNN, F.R.C.S., Assistant Ophthalmic Surgeon and Pathologist to the West London Hospital, etc. London: Kegan Paul, Trench, and Co. 1888.

OUR CHILDREN: HOW TO KEEP THEM WELL AND TREAT THEM WHEN THEY ARE ILL: A Guide to Mothers. By ROBERT BELL, M.D., F.F.P.S.G., Physician to the Glasgow Institute for the Diseases of Women and Children. Glasgow: David Bryce and Son. 1887.

THE HEALTH OF CHILDREN. By ANGEL MONEY, M.D., B.S., M.R.C.P., Assistant Physician to the Hospital for Sick Children and to University College Hospital. London: H. K. Lewis. 1888.

THE idea that to understand children, their mode of growth in mind and body, and the disorders from which they suffer, we must systematically study the phenomena which they present, for investigation is slowly beginning to make ground.

Dr. WARNER's work in this direction has been that of a pioneer; in many directions he has broken new ground and has had to pay the penalty of originality by finding the importance of his method and results somewhat misunderstood. We are glad to think that this stage is now passing away, and that under the auspices of the Froebel Society, and most recently in the University of Cambridge, he has had the opportunity of addressing audiences willing to learn to know children by studying them. The little volume before us has grown out of these lectures, and will be found a valuable guide by all persons who, as parents or teachers, are responsible for the care of children. The notion popular, at least, until recently, that the adult can teach, train, and understand children without studying their ways and natural mode of development appears absurd when seriously regarded. One fact alone ought to be enough; we none of us have any distinct recollections of the feelings or sufferings of our childhood. The memory of a child may be shown by observation to be remarkably short; a child of four remembers next to nothing of what happened to it when it was three years old. How much less

shall the adult man or woman recall the feelings of the first quinquenniad. Dr. Warner's handbook makes a serious attempt to build up on a rational basis a real science of pediatrics.

Mr. PERCY DUNN has been prompted to write the second book on our list by a desire to place in a popular light many of the various details of interest and importance which belong to the physiology and hygiene of infancy and early life. With a view of depriving "these facts of their austerity," he has adopted a somewhat conversational style, and occasionally lapses into passages which recall the engaging method of Mrs. Mangnall. If ladies can be interested in the study of physiology it would be a material gain, though they may perhaps regard the statements that the "total work of the heart in twenty-four hours is about 124 foot-tons," or that the bile has "a precipitative action upon the peptones," as somewhat austere. The older ladies will be glad to find Mr. Dunn supporting the belief, rather gone out of fashion with physicians and chemists, that "one cow should always furnish the supply of milk to the nursery." Whether the recommendation to a mother to administer "a dose of grey powder or calomel (p. 22) and expectorants in bronchitis," or to take "quinine combined with some pleasant bitter, as orange peel," on the advent of "irresistible lassitude" during lactation (p. 47), or to bathe a sore nipple with a weak solution of nitrate of silver (p. 48), are recommendations which come within the scope of a book on physiology and hygiene, we will leave it to the readers of this JOURNAL to decide.

Compared with Dr. ROBERT BELL, however, Mr. Percy Dunn appears a model of reticence; this "guide to mothers" is almost as full of prescriptions as Burton's *Anatomy of Melancholy* of quotations. Dr. Bell in his preface is careful to say that it is "always desirable to call in the family medical attendant at the earliest opportunity when disease exists, and only in his unavoidable absence, or until he arrives, should one trust to the guidance afforded by any book." Among the drugs recommended in subsequent pages we find chloral hydrate and bromide of potassium in the same prescription (p. 47); bromide of potassium, belladonna, and cocaine in another (p. 88); Dover's powder and calomel in a third (p. 99); and, perhaps most surprising of all, iodide of silver in a fourth. Nor is it only in the matter of drugs that Dr. Bell, in this book, intended as "a guide to mothers," advises the use of powerful remedies; for in speaking of the treatment of "gastric, enteric, or typhoid fever," he writes: "If the temperature rises very high, which is most likely to occur at night, this may be reduced by the application of a bag of ice over the heart or abdomen" (p. 137). We cannot share the grave responsibility which Dr. Bell has incurred, by recommending a volume containing such passages as a safe "guide to mothers."

Dr. MONEY'S unpretentious little volume is a reprint of a lecture delivered at the Parkes Museum; it contains much sensible advice on the hygiene of infancy and childhood.

REPORT OF THE GENERAL PURPOSES COMMITTEE OF THE CENTRAL LONDON SCHOOL DISTRICT ON OPHTHALMIA, together with Report of S. G. LITTLEJOHN, M.B., Medical Officer. Ash and Co. 1888.

THE Committee, in their report, do little more than introduce that of Dr. LITTLEJOHN and endorse some of his suggestions; and then, feeling they may have gone too far, they add that "while attaching great importance to these suggestions, they do not recommend their immediate adoption, but are of opinion that they should be borne in mind if any future arrangement of the schools should present an opportunity for their being carried out."

The medical officer's report is based upon information derived from three sources: 1. Records and information from officials as to ophthalmia in the Hanwell Schools; 2, information obtained by visiting other schools; 3, replies received to a circular of questions addressed to other schools. Notwithstanding the recommendation of the Committee that managers of schools should "carefully study" these replies, we must agree with Dr. Littlejohn that they might be better employed; for it is evident that the term "ophthalmia" has a different meaning attached to it in different schools. Unless the questions were addressed to the medical officer, which does not appear to have been the case, the query as to whether any special treatment, and if so what, had been found useful, would have been better omitted. The answers, as might be expected, are valueless: thirteen give a simple negative, one replies "yes," but affords no clue as to the nature of the treatment. It appears that at Stoke-on-Trent only one relapse has occurred, and that flogging is the means adopted to prevent its recurrence.

The first reliable information that Dr. Littlejohn has been able to obtain as to ophthalmia in the Hanwell Schools is from a report dated October 1st, 1861, although Mr. Bowman appears to have made an examination and report in 1858. This report is by Mr. Haynes Walton, who considered that the disease was not contagious and that isolation was unnecessary. In spite of this, it increased to an alarming extent, apparently owing to the admission of a bad case of purulent ophthalmia; and in March, 1862, Mr. Bowman again examined the school and reported. There is evidence that this was a very severe epidemic, Dr. Armstrong, who was then medical officer, stating that about 800 children were affected. Reliance was placed on the supposed non-contagious nature of the disease, and the affected children were allowed to wash in the same water as the others; the dormitories were crowded, several children sometimes sleeping in one bed. Many eyes were lost both among nurses and children. Mr. Bowman's report appears to have been the first attempt to grapple seriously with this formidable scourge. At this time 686 children are said to have had ophthalmia, 92 being separated cases, and presumably severe, 198 slight cases, and 396 relapsing cases. They are classified into four groups: A. cases with slight redness and discharge; B. with much yellowish, flaky, or stringy discharge, and lids granular; C. true purulent cases; D. convalescent, or apparently cured, but liable to relapse. Many of the recommendations as to treatment still hold good; they are, absolute separation of the various groups, those in D not being allowed to mix with other children till a month after the disappearance of all symptoms. The highly contagious nature of the affection is pointed out, and valuable general directions are given as regards adequate medical supervision, and the arrangements for washing, nursing, ventilation, etc.; daily rigid inspection by a medical officer of all the healthy eyes, so as to detect the earliest symptoms, is insisted on. The extreme chronicity of the disease is recognised and pointed out. It seems that these measures were only partly carried out, D cases being allowed to mix with healthy children, and the school being still overcrowded. The virulence of the epidemic was checked, but four months later there were still 416 cases, but most were of a mild type. No epidemic of equal severity has since occurred in these schools, but a fluctuating amount of ophthalmia has always been present, and we fear that the general tone of this report rather gives colour to the entirely erroneous, but conscience-soothing, belief that this is inevitable.

Dr. Littlejohn's suggestions as to the measures to be taken to keep ophthalmia in check would be of value as far as they go, if the managers would carry them out in their entirety. The actual medical treatment, being in his own hands, is not spoken of, and there are many other points which would have been of great service to the managers of other schools, but which are, no doubt, purposely omitted, either because they do not concern the Hanwell Schools, or because the managers are familiar with them. We think that sufficient importance is not attached to examining all children on admission to see that they are free from infection. It would indeed be an excellent rule at all large institutions of this kind if all fresh admissions were subjected to a strict quarantine for a fortnight; in this way the introduction of other contagious and infectious disorders besides ophthalmia would be guarded against. Again, although there was no need to give the methods of treatment with any detail, we think it should have been pointed out that it was absolutely necessary that the medical officer should examine all the eyes once daily, and that cases in Group C require seeing twice a day. From these considerations it is evident that it is impossible to cope with an epidemic of ophthalmia in a large school unless there is a resident medical officer.

Of late years the subject of hygiene has become more widely understood, and the insanitary conditions which were common a quarter of a century ago are hardly likely to be reproduced, but it cannot be too strongly impressed upon boards of guardians and managers of schools, that if precautions are neglected, ophthalmia introduced from outside may soon establish itself in a school, and when once it has gained a footing it will require many months of unremitting exertion to get rid of it. In view of these facts we cannot but think that it would be well if the appointment of a resident medical officer were made compulsory for all schools with over 300 children.

NOTES ON BOOKS.

Eye Diseases: What the Public should Know of them. By C. S. JEAFFRESON. Two Lectures. (Walter Scott. 1888.)—There are few things more difficult than to give in a small space useful information on a technical subject to those who have not mastered its rudiments. Dr. Jeaffreson has, we think, done well to confine his remarks to a comparatively small number of subjects, and has contrived to give some sound advice with a tact and good taste which are sometimes conspicuous by their absence in lectures which are intended for the laity. His remarks on the urgent necessity of removing an eye which is hopelessly injured, and on the manner of instilling drops into a child's eye, are particularly valuable. The lecturer's remarks also on charlatans, quacks, and those who, without any knowledge of anatomy, physiology, or pathological structure, functions, or diseases of the eye, profess to be able to prescribe glasses for it, are amusing, and would do much good if the public would bear them in mind. Perhaps on the subject of the influence of tobacco and alcohol on the eye too much stress is laid on matters which are not universally accepted, but on the whole the public may read these lectures and accept all the statements contained in them without question and with much profit.

Anatomische, Physiologische, und Physikalische Daten und Tabellen. Dr. HERMANN VIERORDT. (Jena, 1888.)—This is a formidable book, not to be lightly taken in hand. Its title indicates the nature of its contents, for it consists of three parts, an anatomical, a physiological, and a physical, besides an appendix of tables for practical medicine and surgery. Within these hundred pages are condensed an enormous mass of statistics of every imaginable sort. It would be impracticable to enter into a detailed criticism of these, but they have been compiled from recognised authoritative sources, and have the appearance of being correct. In most cases, however, it is not stated how the results given have been arrived at, and this, as can easily be imagined, rather detracts from their usefulness. We can find comparatively few omissions. Perhaps it might be as well in giving the length of the intestines to mention that of the sigmoid flexure. Many are unaware of the length of this portion of the alimentary canal, and yet it is of much practical importance. The incubation stages of infectious fevers and of other diseases is given, but no endeavour is made to estimate the duration of their transmissibility. The decimal system of weights and measures is used throughout this volume, which we can recommend as a very well arranged and useful book of reference.

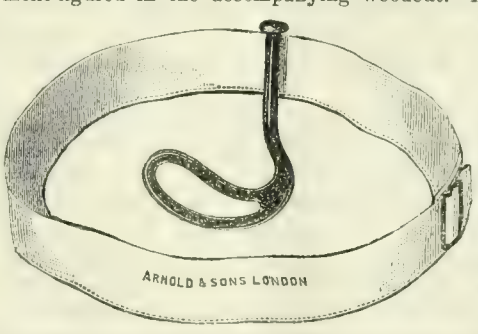
The George Town Hospital Reports for 1887. Edited by E. D. ROWLAND, M.B.Edin., Resident Surgeon of the Public Hospital, George Town, British Guiana. (Demerara: Printed by Baldwin and Co., George Town. 1888.)—This volume affords striking proof of the excellent scientific and practical work done by officers of the medical service of British Guiana; the first article, on the form of surgical dressing used in the Public Hospital, George Town, is by the editor. The lotion used is a solution of perchloride of mercury, made by dissolving the salt in glycerine, and diluting with water to the required strength; cotton wool prepared by soaking it in a solution of perchloride (1 to 1,000) and drying, and then soaking in tincture of benzoin and again drying, is used for covering and enveloping all operation wounds; strictest antiseptic precautions are observed, the wound being irrigated throughout the operation with perchloride solution; cotton wool is used in place of sponges, and, after securing vessels, the wound is washed with hot lotion to stop oozing. The results as tested by the statistics of 68 amputations are remarkably good, and the whole article shows the care, skill, and thought given by the surgeons of the hospital to the management of the cases under their care. How numerous these patients are is seen from the article on "Hospital Statistics for 1887," also prepared by the editor; the total number admitted during the year was 9,509, the average daily number resident being 762.4; in addition there were 29,639 out-patients. The percentage mortality was 10.9, but in this was included 163 cases which died within forty-eight hours of admission; excluding these the mortality sinks to 9.2 per cent.; it ought also to be mentioned that considerably more than half the deaths were due to phthisis and to Bright's disease. The death-rate from phthisis would seem to be disproportionately high in the colony, where the climatic conditions are certainly not peculiarly favourable to the disease; the high rate suggests that there must be conditions either in the habits of the people or in their sanitary surroundings which need amendment; another paper in this volume, by Dr. James E. A. Ferguson, moreover appears to prove that the prevalence of the disease is very rapidly increasing. Dr. Ferguson, indeed, holds that the climate is favourable to the production of the disease in persons who are ill-homed or insufficiently clothed at night, and his able paper, containing much original matter, calls for serious study at the hands of physicians specially interested in this ubiquitous disease. "The Nepaul Case" lends special interest to a case of abscess arising as a direct sequence of simple fracture of the thigh and leading to death, reported from the Public Hospital. Mr. A. T. Ozzard contributes a short note on the occurrence of anchylostoma duodenale in cases of tropical anæmia in British Guiana, and it is to be hoped that further information on this most interesting subject may come to us from this quarter. Drs. J. R. Hill, W. F. Law, and Ozanne also contribute to the volume, which is intended to be the first of a series of reports which promises to be of great value.

WE have received from Messrs. T. and R. Annan, photographers and fine art publishers, 153, Sauchiehall Street, Glasgow, a series of three photographic groups taken at the annual meeting of the British Medical Association at Glasgow. No. 1 portrays the members of the Association present at the garden party given by the President and Fellows of the Faculty of Physicians and Surgeons of Glasgow in the Botanic Garden, Kelvinside. No. 2, a photographic group taken on the same occasion, but with the addition of the ladies present; while No. 3 gives those present at the Mausoleum, Hamilton Palace. As specimens of photographic art they are excellent, No. 2 being especially so, and many of those present will no doubt be glad to secure copies of these pleasing souvenirs of the Glasgow meeting.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

PESSARY FOR PROLAPSE OF THE BLADDER.

BEING dissatisfied with other instruments, I had made the instrument figured in the accompanying woodcut. It was originally constructed for a special case, in which it succeeded admirably, and it has been used successfully in several cases since. The material is vulcanite. It consists of a horse-collar-shaped loop, to the small end of which is attached the stem, bent about two inches from the loop, so that the stem is about 90° with it. The loop, with or without cross-bars, is passed into the vagina, and when the instrument is fixed, supports the anterior wall of the vagina and prevents it descending. The stem passes up over the pubes, where it is fixed by a broad band passing round the pelvis in the position of an ordinary truss. It is so fixed in the broad band that the instrument is unable to descend, and the broadness of the band prevents the instrument being forced out of the vagina. On the other hand, it does not exert any injurious pressure, but acts purely as a support, preventing the bladder from descending rather than exerting any lifting force upon it. It is stated to be quite comfortable to wear, and it successfully keeps the parts from prolapse. It is very essential that the stem passing up over the pubes should be fixed in a band at least two inches in width. Messrs. Arnold and Sons have well carried out my instructions.



T. FREDERICK PEARSE, M.D., F.R.C.S.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, SEPTEMBER 15TH, 1888.

THE PROGRESS OF SANITATION.

PUBLIC opinion has for the most part ranged itself on the side of the sanitarian; but still it is too true that it is characteristic of the common state of the popular information that, while a single death from violence or passion excites general attention, deaths day after day from preventable causes pass without any notice whatever. Filth, whether in the individual or in communities, has long since been shown to be one of the most fruitful sources of disease and death, with all their attendant misery and waste of human energy, and consequently an increased appreciation on the part of the general public of the truth of the aphorism that "cleanliness is next to godliness" is one of the first wishes of the sanitary reformer. But for the fulfilment of this wish we must look to the spread of education and the dissemination of information on the subject, especially amongst the rising generation. Hence every opportunity of demonstrating the benefits of proper sanitation should be utilised, and from this point of view, apart from its special merits, the address recently delivered at the meeting of the Association of Public Sanitary Inspectors at Brighton, by one so specially qualified to speak on the subject as Mr. Edwin Chadwick, deserves to be widely read.

Mr. Chadwick is one of the earliest of the pioneers of modern sanitary reform, and for fifty years he has been a leading spirit in securing the application of sanitary principles and the diffusion of sanitary knowledge. He has consistently condemned filth of every kind, and has lived to witness the enormous benefits which have ensued from even a partial application of the principles which he and a number of other ardent reformers have advocated. He can remember the fearful havoc wrought by the cholera and fever epidemics of the present century before the era of sanitary reform, and he has seen the death-rates of both civil and military communities reduced by the introduction of greater cleanliness and the enforcement of proper sanitary principles. And yet he points out that much, very much, still remains to be accomplished.

As regards the metropolis, his indictment against those responsible for its sanitary affairs is very heavy. He considers that, if the soundest principles of sanitation had been followed, the death-rate, which has laudably been reduced from 24 to 14 or 15 per 1,000, could have been brought down to 12 per 1,000; and, by aid of Dr. Farr's estimate of £159 for every human being, he puts the daily loss of lives in money value at £15,523, the weekly loss at £108,963, and the yearly loss at £5,666,059.

Sewerage and drainage, with proper arrangements for removal of filth and refuse, and pure water, are among the essentials of good sanitation; but the benefits derivable from works of this kind are often counteracted by the evils of overcrowding. Thus, in Glasgow, it has been shown that there is an excessive death-rate in single-roomed tenements, but a lower death-rate in double-roomed tenements, and a still lower death-rate in the three-roomed tenements. Increased living-room space must be paid for, but, asks Mr. Chadwick, is it not worth while for the mechanic who is getting his twenty-five shillings a week to pay two shillings or three shillings a week more for such space as he may get in a model dwelling, in which it is proved that, on an average, he obtains fully ten years more of life and working ability? Compare this with the fate of a man who emigrates to a city in the United States, or to one of the Australian colonies, where the death-rate is 27 in the 1,000, and who will lose by one-third his chances of life and working ability, and, if he have a family, will see one-half of his children in their graves by their fifth year.

One economical effect of good sanitation observed in the German army is referred to by Mr. Chadwick, and is certainly noteworthy. He has learnt from Mr. Aird, and the English contractors for sanitary works in Berlin, that by the manual instruction and industrial exercises given in the three years' military training, the recruits come out with an improved industrial aptitude, which imparts to them 30 per cent. of higher value in the labour market. He has confirmed this by his own observations at the Norwood Schools, and he asserts that all the industrial, military, and combined industrial training in the adult stages may now be best accomplished in juvenile stages of life. This is an important thesis in connection with physical training in national education, and shows the productive value of all that are born if they are properly trained.

The veteran lecturer does not fail to notice the fallacious Malthusian theory which is held in some quarters in disparagement of sanitary progress, that "pestilence is the great check to the growing excess of population." He calls attention to a report by himself in 1842 in which this subject is dealt with, and points out that "pestilence is attended by a rapid augmentation of births, and does not reduce the numbers of populations, but only weakens them, and augments the proportions of dependent pauperism. In the highest sanitary condition it is observable that the proportion of births to deaths is rather reduced than otherwise." He has dealt with this subject in greater detail in the interesting paper read for him before the members of the British Association at Bath on Wednesday last. In that paper he pointed out that in his investigation of the subject of poor-law relief he found that in the healthy agricultural districts the interval of births where the mother suckled her own children was about two years, and where there was a family of eight children the eldest would be 16 years of age, the second 14, and the third 12, capable of earning their own subsistence. In the depressed districts, on the other hand—the slums of the metropolis, more heavily ravaged by epidemics—the intervals of birth

were only one year. As health and the duration of life were advanced, the proportion of births appears to be diminished, as with the well-to-do classes.

The sum total of Mr. Chadwick's interesting and instructive address at Brighton is that sanitary science has now obtained a firm foothold in our social system, that it has already effected a vast amount of good both to the nation at large and to individual inhabitants, but that perfection has not by any means been yet obtained. Whether or not the ideal death-rate of 10 per 1,000 will ever be attained time alone can show. Much, however, will depend upon the energy and intelligence with which the sanitary inspectors, to whom Mr. Chadwick's address was specially delivered, perform their responsible duties.

SOLDIERS' RATIONS.

This question was lately brought before Parliament, and has been discussed, further, in the columns of several of our contemporaries, in a correspondence generally fair, but sometimes with curious inaccuracies and obvious exaggerations. When a correspondent in the *Standard* says, for instance, that a few Sundays ago his mess was served with "some beef that was perfectly rotten," we cannot take the statement as literally accurate, for it could not have passed the kitchen, or been cooked in such a condition. But, setting aside such clear exaggerations, there is little doubt the soldier's free or government ration is often not what it ought to be, either as regards quality or quantity.

The subject should be discussed with entire impartiality, and we are glad to think that in such a spirit doubtless the War Minister and the military authorities are now looking into the matter.

In all that concerns food and drink quality should be considered before quantity; for even if the latter is ample it would not make up for poor or unpalatable quality. Now it is asserted the soldier's ration of bread and meat, but especially the latter, is often of poor quality; if so, why should it be? We fear the accusation is true, and the explanation lies in the low prices paid to contractors. A good article of food commands a good price in the open market. We have no means of verifying figures put forward as contract prices by correspondents, but they remain uncontradicted, and there is no reason for supposing them to be untrue. Moreover, the War Office itself, when it gives a man, out of mess, 6d. a day in lieu of rations, shows what it considers the true value of the soldier's pound of bread and three-quarters of a pound of meat.

We find (as we write) that in metropolitan markets beef is classified as "first," "second," and "inferior," and the current price of each per 8 lbs., sinking offal, to be about 5s., 4s. 8d., and 2s. 4d.; this gives as the price per pound in pence 7 5-8d., 7d., and 3 5-8d.

A correspondent "Miles" in the *Standard* asserts that in the South-Eastern Military District the contract price for meat varies from 4.23d. at Canterbury to 7½d. at Shoreham, the average in the District being 5.62d. The cost of the soldier's ¾ lb. of meat would therefore be about 4¼d. in that District. The question remains, Can an average honest contractor supply even "seconds" at these prices? No doubt, if he slaughters his own beasts he has the offal to the good, but against it must be put slaughter-house expenses of all kinds. It is certain no contractor will, if he can help it, supply meat at a loss; and so we must conclude that if the meat is inferior—that described as derived from "aged bulls," "old cows," and foreign sources—the chief reason lies in the too finely-cut prices. To improve quality a better price must be paid, although that will be open to the serious objection of a substantial increase in the Commissariat Vote. A better price will bring better contractors to the front, and the soldier will be a clear gainer.

The public, however, might pay even a top price and yet get an inferior article unless constant check be maintained over the contractors and all those coming within range of their influence. It is with much satisfaction we learn that a step has been taken by the military authorities in this direction, by instructing regimental officers in the mysteries of meat inspection; to his company officers instead of the quartermaster should the soldier look in the matter of his rations. In former times the regimental medical officer often had to pronounce upon the daily rations; but now, when one medical officer has perhaps charge of an entire brigade, he cannot possibly do it.

There is much less excuse for giving the soldier inferior bread than meat; the price of the loaf is within the means of the poorest labourer, and the best household bread within the reach of all. But, indeed, the bread ration is as a rule unquestionably very good, and the tales of "mouldy crusts" falling to the soldier are utter nonsense. If anything, the bread served out is too new, and not stale enough; a pound of it is very unlikely to become a mouldy crust in the hands of a hungry soldier!

In passing from quality to quantity, we come to matter of fact and solid ground. The free ration consists of 1 lb. of bread and ¾ lb. of meat, bone, etc., included. We fully agree with what seems to be the universal opinion of all experts, that the meat ration at home, as abroad, should be increased to 1 lb. At present what with bone, gristle, and waste in dividing and cooking, practically nothing beyond a poor ½ lb., if as much, of eatable flesh finds its way on to the soldier's plate at dinner time; this, whatever it might be for other races, is not enough for the average Briton. Dinner is the soldier's only substantial meal. Beyond the free ration, all other food is provided from his scanty pay. A writer in the *St. James's Gazette* includes a pound of potatoes in the free ration. The soldier would be glad if this was a fact; but it is only a sample of an inaccuracy. All vegetables, tea, sugar, and the condiments which go to season food come from the so-called grocery ration, for which the soldier pays 3d. per day. The addition of potatoes would, indeed, be a boon. It would save a penny or two with which a bit of cheese might be bought for supper.

But we cannot at present discuss the questions subsidiary to those of the rations, such as variety in cooking, proper time for dinner, something for supper, etc. Such questions are, indeed, of much importance, for next to quality and quantity a proper distribution of food over the twenty-four hours would go far to satisfy the cravings of Nature, and prevent undue resort to alcoholic stimulants.

THE BRITISH ASSOCIATION MEETING.

The meeting of the Association, which has just concluded at Bath, has been a very successful one, though the numbers who have attended it have been smaller than at the two previous meetings, when the Association met respectively at Birmingham and Manchester. From a medical aspect there have been several papers and discussions of much interest read in the Chemical, Biological, and Anthropological Sections. Amongst these may be mentioned a discussion which was opened by Professor Michael Foster, of Cambridge, on the Nature of the Chemical Problems presented by Living Bodies. In order to have the subject discussed from the chemical as well as the physiological aspect, the Chemical and Biological Sections met together in the rooms of the Chemical Section. It is to be hoped that the backward condition of physiological chemistry in this country will be stimulated by this united action on the part of the presidents and committees of two important sections of the British Association. Dr. Collins's paper on the "Effect of Various Substances upon the Rate of Secretion and Constitution of the Bile," and the Report of the Committee on the Physiology of the Lymphatic System were also of interest and importance.

The "Constitutional Characteristics of those who Dwell in Large Towns," by Dr. Barron, of Southport, was a paper which dealt with the medical aspect of the question, and on which there was a good deal of discussion. Perhaps the question which has been most warmly discussed is the effects of stays and waistbelts. Professor Roy and Mr. Adami read a paper on this subject in the Biological Section, speaking favourably of the use of those articles of dress. The discussion which followed showed that the medical opinion regarded them in a very different aspect. In the Anthropological Section, Dr. Garson, on the occasion of his communicating the Report of the Anthropological Laboratory at the Manchester meeting, brought forward the results of observations on the Breathing Capacity in Females as Compared with that of Males. He had not much difficulty in showing that even moderate lacing had a very deleterious effect on the system generally. Several medical men took part in the discussion, and the opinion seemed to be universal amongst them that the results of the observations brought forward by Dr. Garson were in accord with the results of experience in medical practice. This report contained many other subjects of interest regarding the physiological and anatomical development of the body, which we hope at an early period to be able to place before our readers.

SCHOOL TRAINING AND PUBLIC MORALS.

Complaint is often made that crime and pauperism—twin evils of society—remain prominent among us, and some disappointment is not unnaturally expressed that our system of national education has not done more to eradicate these evils. The medical man must always look upon human action as the outcome of action within the body, stimulated by present surroundings, or by those that acted upon the ancestors of the individual. Remedial measures for the correction of defects in the constitution of the individual, whether these be inherited or due to the impress of circumstances, should be applied early, while the brain is growing and developing, and its spontaneous action is still capable of easy control from without. We look to the school-teachers as those who have power to do much for the improvement of the brains and brain-action of the rising generation by wise training and wholesome discipline. Children, as a rule, present much spontaneous action of brain, and this needs to be cultivated and trained into mental action and good behaviour in harmony with the surroundings. The child's brain-action is controlled in the school by the teacher's looks and words, as well as by the sight of the black board and the books. When conduct is exceptionally different from what it should be, and cannot be thus easily controlled, it is the imperative duty of the teacher to use other means of discipline, and employ corporal punishment if necessary. There are, however, exceptional cases. All children are not cast in the same mould; and it is these exceptional children—whose inherited conditions or whose brain-state as induced by circumstances are exceptionally difficult to control — who need the teacher's eye constantly upon them, and therefore require exceptional methods of education. There is strong reason to suspect that among these exceptional children we have many of those whose conduct, both while in school and when they leave it, induces many people to look upon national education as a failure in preventing ruffianism and defective social morality.

We have a mixed population, particularly in London, and foreigners are free to settle among us; this adds to the importance of the problem, "What is the condition of brain power among the average of our population?" We do not say that all criminal acts are to be looked upon as the outcome of mere brain-defects, but one means of preventing such criminal tragedies as have been too frequent of late is to try and detect, during the period of early education, the make or constitution and the tendencies of young people, and deal with them accordingly, taking care as they grow up not to place them in positions for which they are obviously unfit. Much can be done by school training and discipline to correct defects and improve conduct and character. When one method fails others may be tried, but we must insist on the importance of founding all methods of exceptional education on experience and on the study of the individual children. The great social and moral success of such institutions for training children of feeble and defective brain power, as the Royal Albert Asylum, Lancaster, gives a hopeful view of the effect of school training in improving public morals, for it is found that but few, if any, of those discharged from that establishment fall into crime or evil ways. Some people put their faith in local government to the extent of looking to it as a panacea for social evils. The *Times*, in a recent article, puts forward some such hope in the following words: "There are probably few directions in which it might be exercised more beneficially than in the case of schools. It is like a vision of Utopia to think of a school board which was left at liberty to neglect the various 'standards,' and to teach the children the principles and results of conduct, instead of the rudiments of literature. Such teaching comes to the children of the better classes as part of the floating information of the family circle, and it it is not easy for unimaginative people to realise how

completely the children of the poor are deprived of it. A knowledge of the ordinary sequences of events, of what will happen to those who do so and so, of the consequences of thrift, of honesty, of careful work, of sobriety, and of their opposites, to which might be added a knowledge of the effects of dirt and of overcrowding, would do much to remove the evils complained of."

We understand that Professor Humphry has kindly consented to distribute the prizes to the students of St. George's Hospital immediately after the delivery of the Introductory Address at the opening of the session on Monday, October 1st.

The annual dinner of the past and present students of the Medical Faculty of University College will take place at the Freemasons' Tavern on Monday, October 1st, at 6.30 P.M. Dr. Russell Reynolds will preside.

THE CROONIAN TRUST.

We regret to learn that Dr. Donald MacAlister, who has so ably filled the post of Croonian Lecturer at the College of Physicians on the wider basis established in 1887, is now compelled by the pressure of other engagements to resign that office. The appointment is in the hands of the President and Censors of the College, who, in selecting a successor to Dr. MacAlister, will no doubt keep in view the purposes to which it was intended that the increased income derived from the Trust should be applied. The scope of the lectures and investigations as defined in the new regulations is essentially practical; the lecturer is expected to choose a subject connected with the "prevention, control, and cure of diseases." Dr. MacAlister's lectures on Antipyretics carried out the object here indicated in the most admirable way, giving, as they did, the results of scientific research on matters of the highest clinical and therapeutic interest. It is most important that the precedent thus happily established should be strictly followed by future lecturers and there is fortunately no want of men among the younger Fellows both able and willing to use the magnificent opportunities offered by such an appointment to the best advantage for the furtherance of practical medicine. Is there any reason why the President and Censors of the College should not invite men prepared to work on the lines laid down for the holders of the lectureship to send in their names as candidates for the post?

LECTURES AT THE SANITARY INSTITUTE.

The sixth course of lectures for the special instruction of sanitary inspectors and other persons desirous of obtaining a practical knowledge of sanitary requirements and regulations will begin on September 25th. The course will consist of twelve lectures, which will be given in the Parkes Museum on Tuesdays and Fridays at 8 P.M. A nominal fee of five shillings for the course will be charged to cover expenses, and students attending the course will be granted free admission to the museum and library during September, October, and November. The following is the programme of the lectures;—September 25th. (1) Introductory Lecture; General History, Principles, and Methods of Hygiene; Dr. George Vivian Poore, F.R.C.P. September 28th. (2) Drainage and Construction; Professor Henry Robinson, M.Inst., C.E. October 2nd. (3) Water Supply, Drinking Water, Pollution of Water; Dr. Louis Parkes (Pub. Health Cert.Lond.). October 5th. (4) Ventilation, Measurement of Cubic Space, etc.; Sir Douglas Galton, K.C.B., F.R.S. October 9th. (5) Sanitary Appliances; Professor W. H. Corfield, M.A., M.D. October 12th. (6) Scavenging, Disposal of Refuse and Sewage; Mr. H. Percy Boulnois, M.Inst.C.E. October 16th. (7) Food (including Milk), Sale of Food and Drugs Act; Mr. Charles E. Cassal, F.C.S., F.I.C. October 19th. (8) Infectious Diseases and Methods of Disinfection. October 23rd. (9) General Powers and Duties of Inspectors of Nuisances; Method of Inspection: Mr. J. F. J. Sykes, B.Sc. (Pub. Health), M.B. October 26th. (10) Nature of Nuisances, including Nuisances the Abatement of which is Difficult; Mr. J. F. J. Sykes, B.Sc. (Pub. Health), M.B. October 30th. (11) Sanitary Law—General Enactments, Public Health Act, 1875; Model By-Laws: Dr. Charles Kelly, F.R.C.P. November 2nd. (12) Sanitary Laws and Regulations Governing the Metropolis; Mr. A. Wynter Blyth, M.R.C.S.

ICE-CREAM POISONING.

An inquest held last week by Dr. Danford Thomas, at the St. Pancras Coroner's Court, on the body of a child, aged 3½ years, directs renewed attention to the subject of poisoning by ice cream. The evidence of the mother showed that a few weeks ago the deceased purchased some ice cream from a stall in the streets, which the child and a lodger's child ate at home. Both were ill, and the deceased died on August 21st. The coroner said that the vendors of cheap ice cream, instead of flavouring with pure lemon, used tartaric and other acids. The cream, which was often made in vessels not of the cleanest description, sometimes turned sour. Dr. Bennett stated that the symptoms of the child's illness pointed to lead or pewter poisoning, and no doubt death resulted from eating the ice cream. The jury returned a verdict of death from exhaustion, probably caused by ice-cream poison purchased in the street, and suggested that the sanitary authorities should give their attention to the matter of the sale of ice cream with a view to its being analysed.

DEATH UNDER CHLOROFORM.

The following particulars of the death of a patient under chloroform at Westminster Hospital have been furnished us by Mr. E. Caudwell. H. L., aged 46, came to the hospital on July 22nd, in order to undergo an operation for malignant growth at the back of the pharynx. On August 21st he was placed under the influence of chloroform, taking the anæsthetic well, and was fully under in about two minutes and a half. While being got under, the pulse remained strong, and there was no lividity. The house-physician then directed that the patient should be carried into the adjoining operating theatre, and left off the chloroform, which he had been giving by means of Junker's inhaler. Before, however, the man could be moved, he suddenly (about ten seconds after the anæsthetic had been discontinued) turned livid, and stopped breathing. Efforts were at once made to restore respiration, but to no purpose. The heart continued to beat for about two or three minutes longer, and then stopped. The amount of chloroform given was a drachm and a half. At the *post-mortem* examination, twenty-four hours after death, the lungs were found to be emphysematous, but not markedly congested. There was a small amount of decolorised clot in the right ventricle, but no engorgement of the heart. The endocardium was normal, the valves competent, the heart-muscle firm and red. The pericardium was adherent over an area equal to a sixpenny piece about the middle of the left ventricle. The adhesion was old. The rest of the organs were healthy. There was a faint odour of chloroform on opening the thorax. The patient died from sudden arrest of the respiratory function, probably due to mechanical causes. The soft structure of the back of the mouth being relaxed by the anæsthetic allowed the tumour suddenly to occlude the entrance into the larynx. Death could not have occurred from sudden arrest of the heart's action, for the organ continued to pulsate after respiration had ceased, and there was not enough lividity or congestion to justify the supposition that death was caused by an excessive formation of carbonic acid.

IRREGULAR BURIAL OF STILLBORN INFANTS AT PORTSMOUTH.

THE Births and Deaths Registration Act, 1874, states that the person who has the control over, or ordinarily buries, dead bodies at cemeteries, shall not permit to be buried in any such burial ground the body of any deceased child as if it were stillborn, and shall not permit to be buried or bury in such burial ground any stillborn child before there is delivered to him either a written certificate that the child was not born alive, signed by some person who would, if the child had been born alive, have been required by the Act to give information concerning the birth to the effect that no medical practitioner was present at the birth, or that his certificate could not be obtained, and that the child was not born alive. A midwife was summoned at the Portsmouth police court for contravening this Act in the case of an infant at whose birth she was present, and which survived an hour and a half; she placed the body in a box, and took it to the cemetery. The clerk of the cemetery gave the woman a certificate of burial, and it appears to be his custom to take the unsupported statement of any midwife that any such "box" presented does contain the body of a stillborn child. It appears that, perhaps, 100 to 120 burials of this kind are made at this cemetery in a year. The magistrates looked upon the case as a serious one, inflicting a mitigated fine of £3, including costs, and passed censure upon the clerk of the cemetery, stating that, if prosecuted, he would be liable to a penalty of £10 for allowing such laxity as to the burial of stillborn infants.

SARCOMA OF THE VAGINA IN CHILDREN.

DR. SCHUCHARDT read before the second congress of the German Gynæcological Society at Halle, last May, a paper on two cases of Malignant Disease of the Vagina in Children. Both had undergone operation in Professor Volkmann's wards. Seven cases have already been recorded in medical literature by Ahlfeld, Sänger, Babès, Demmel, Soltmann, Hauser, and Heinthal. In only one case was the tumour noticed at birth; the ages of the patients, when observed by the above authorities, ranged from two to five. The growth usually appeared as an irregular prominence, like a bunch of grapes, and always proved very malignant in its clinical history. The first case occurred in a child, aged 7, who died from recurrence of the sarcoma two months after operation. The second patient was about five years of age. She had fallen ill early in 1885; her nurse then noted that a swelling, the size of a bean, protruded at the vulvar aperture when she coughed. The growth was excised, together with a piece of the vaginal wall, "the size of a ten-pfennig piece," in September, 1885. Six months and two weeks later, local recurrence was detected; a tumour, about the size of a walnut, was removed, and with it was taken away the lower half of the posterior vaginal wall. The cut margin of the upper half was drawn down and sewn to the perineum. The patient made a very good recovery, and there was no sign of recurrence in May, 1888. The new growth was in both cases papillomatous; the internal structure bore the microscopic characters of a round-celled sarcoma. Dr. Schuchardt believed that the tumour took its rise from certain papillary structures which naturally exist in the region of the vulva.

OPERATIVE TREATMENT OF PERITONITIS.

PROFESSOR LUECKE, Strasburg, has reported the following case (*Versammlung Deutscher Naturforscher und Aertzte, Wiesbaden*). A youth, aged 16, drank a glass of beer, and soon afterwards felt severe abdominal pain. He was admitted into hospital with all the signs of acute peritonitis; temperature, 106°. The abdomen was opened the same evening, and half a litre of pus removed; it was then washed out with weak sublimate solution, and a thick drainage-tube was placed in Douglas's pouch. The patient went on well for six weeks, when a subphrenic abscess developed on the right side, which soon broke into the pleural cavity. Resection of the seventh rib was performed, and drainage instituted with perfect success. There was doubtless a latent intestinal ulcer with first perforative peritonitis, and subsequently localised peritonitis, which broke through the pleura. Dr. Heuser, of Barmen, has lately operated in three cases of perforation of the vermiform appendix. Two of the operations were successful, but in the third there were metastatic abscesses in the liver, which soon caused death. In each case the abscess was sharply defined, though without extensive adhesions. Dr. Heuser thinks that many such cases which end fatally might be saved by surgical treatment. Professor Czerny, of Heidelberg, operated in perforative peritonitis in an obscure case; a large quantity of odourless gas escaped, and the stomach was found adherent to the liver and anterior abdominal wall. The intestines were normal. Unfortunately no attempt was made to free the stomach, and the patient died on the fourth day. On *post-mortem* examination there was found a gastric ulcer and subphrenic peritonitis. An odourless gas in such cases indicates perforation of the stomach; a fœtid gas intestinal perforation.

A CASE OF SPLENECTOMY.

IN *Lo Sperimentale* for August, Dr. Carlo Liebman, of Trieste, describes a case in which he successfully removed an enlarged and floating spleen. The patient was a woman, aged 28, who in her third pregnancy noticed a hard round tumour in her abdomen towards the left side, below the level of the umbilicus. For some time the swelling remained stationary, but five months before she came under the care of Dr. Liebman, it began to grow rapidly and to cause great pain, especially when she moved about. She became quite unfit for work, and on November 24th, 1887, was admitted into the Ospedale Civico. On examination, the liver and spleen appeared to be normal in size, the area of dulness corresponding to what was supposed to be the latter, extending in the left axillary line from the eighth to the tenth rib, whilst its vertical diameter seemed to be about seven centimètres. The abdomen contained a roundish but somewhat oblong tumour about the size of a small adult head, which appeared to rest on the upper margin of the pelvis. The mass, which was situated rather to the left of the middle line, was evidently intraperitoneal. Its surface was smooth, with a kind of notch in the middle. It was movable in every direction, and could be carried up to the margin of the ribs on the right side as well as on the left, but could not be pushed into the hypochondrium beyond that point. There was no adhesion to the abdominal wall in front. A distinct systolic *bruit* could be heard over various parts of the mass. The uterus was normal, but followed the tumour when the latter was pushed towards the right, but not when it was carried over to the left side or in an upward direction. The tumour could be freely handled and moved about without pain There was no albumen in the urine, of which rather more than a litre was passed in the twenty-four hours, and there was no disturbance of digestion. A diagnosis of ovarian or mesenteric tumour was made, and laparotomy was determined on. On December 13th Dr. Liebman opened the abdominal cavity by a median incision 18 centimètres in length, and divided the peritoneum, which was remarkably thin and transparent, along the whole length of the wound. The ovaries were atrophied, and neither they nor the uterus had any connection with the tumour. On drawing the latter out of the abdomen it proved to be the spleen, enlarged to four times its natural size; whilst *in situ* its convex surface had been directed upwards and forwards, and was adherent for a great part of its extent to the omentum. The mesenteric vessels were tied and all the attachments of the tumour carefully divided between double ligatures, till only the pedicle (formed by the

vessels, etc., entering the hilum), which was as thick as the little finger, remained. This was then divided into three bundles, each of which was tied separately, the end of the last ligature being finally passed round the whole for additional safety. The pedicle was further secured by a second ligature two centimètres and a half higher up, and lastly it was again tied close to the spleen. It was then divided between the two last-mentioned ligatures, and the spleen removed. The organ measured 17 centimètres in length and 10 in width, and weighed 600 grammes Having satisfied himself that there was no blood in the peritoneal cavity, the operator closed the abdominal wound with seven deep sutures taking in the peritoneum, and five superficial ones. A Listerian dressing was applied. The patient rallied from the operation, and, with the exception of a good deal of tympanites, did well till the eighth day, when the sutures were removed, the wound having healed without suppuration. On the night of December 21st menstruation began. A good deal of pain accompanied the discharge, and there was some pyrexia. Soon extensive parametritis set in, which, however, yielded to general treatment. The patient remained weak and anæmic for some time, but finally left the hospital completely cured on March 25th.

A TRUSS FOR MOVABLE KIDNEY.

Dr. Niehans, of Berne, has recently devised a special truss for the palliative treatment of movable kidney. The instrument is described in the *Centralblatt für Chirurgie*, March 24th, 1888. He observes that Lindner, who has recently written on the affection in question, strongly recommends treatment by bandaging, since it palliates the severe pain which so often accompanies the displacement of the kidney. Extirpation of the kidney is a perilous proceeding, not only on account of the risk of the operation itself, but also because the surgeon cannot always feel certain that the opposite kidney is in working order. We may note that Landau, in his standard work, translated for the New Sydenham Society by Dr. Champneys, in 1884, strongly discountenances the operation, and shows that not only is the fellow kidney occasionally diseased, but that Beumer has collected, out of a long series of cases of movable kidney, no fewer than forty-eight where only one kidney was found. Nor, Landau warns us, must we assume that one healthy kidney can always satisfactorily discharge the renal functions. Dr. Niehans does not think that the published results of nephrorrhaphy, or stitching the kidney, on Hahn's principle, are encouraging. Pads, such as those advocated by Guéneau de Mussy and Lindner, are hot, uncomfortable, and readily displaced; and Dr. Niehans does not notice Landau's "artificial abdominal wall," simply stays lengthened as far as the pubes and Poupart's ligaments. He had under his care in August, 1887, a woman, aged 23, who suffered from pallor, dyspepsia, constipation, nausea, and other symptoms, as well as the usual pain caused by movable kidney. That condition evidently existed in her case, and she wished the offending organ to be extirpated. Dr. Niehans, however, contrived an apparatus which afforded her great relief. On the principle that the basis of support should be at the pelvis, he made an ordinary double inguinal truss. To this was fitted a steel spring, which ran vertically upwards for a few inches and then bent inwards, fitting by a ball-and-socket joint into the back of a concave steel pad, oval, with its long axis horizontal. The spring was contrived so that it could be fixed on the truss in such a position as to allow the pad to lie over the right place on the abdomen. The pad, well lined with soft material, was held in place by an elastic waistband which buttoned on to its right and left borders. This band was made light and not too strongly elastic, lest it should pull up the truss. The pad was thus placed at the proper level, the spring next made fast to the truss, and then the kidney was pressed backwards and the waistband fastened; the patient in the meanwhile lying on her back. The apparatus was taken off at night. The patient was delighted with the result, all unpleasant symptoms disappeared, and she was recently in excellent health, able to do her housework. Whenever she omits to replace the truss in a morning before beginning to dress, she feels the old local pain, which lasts for about a quarter of an hour, but steadily disappears after the apparatus is adjusted.

ANGIOMA OF THE FOREHEAD.

The *Revista de Ciencias Medicas*, of Havana, of August 20th, contains an account of a case of angioma of the forehead which was successfully treated by electrolysis. The patient, who was under the care of Dr. Raimundo Menocal, was a little girl, aged 2 years. The tumour, which was of the size of a large filbert, was smooth and soft; it was of violet colour, and could be reduced by steady pressure. It had appeared soon after birth, and was growing gradually larger. Elastic compression had been tried without result. On August 6th Dr. Menocal applied electrolysis, introducing the needles in various parts of the tumour, but always with the points towards the centre of the mass. The application, which was continued for three minutes at a time, was repeated every three days. The tumour was somewhat diminished in size after the first sitting; at the fourth, eschars were observed about the negative pole, which were thrown off a few days later. This was followed by a little suppuration, but there was no hæmorrhage. At the date of the report no trace of the tumour remained except a few tiny scars.

WOUND OF INTERNAL MAMMARY ARTERY: HÆMATOMEDIASTINUM.

A remarkable case under the care of Professor Madelung has been reported in the *Berliner Klinische Wochenschrift*, and in the *Centralblatt für Chirurgie*. No. 19, 1888. On September 2nd a man, aged 39, was stabbed with a knife in the head, thorax, and abdomen, but little hæmorrhage was noticed. He walked one hundred paces, reaching his dwelling, where it was found that intestine had prolapsed through the abdominal wound. Twenty hours after the injury he was taken in a waggon to the Rostock Infirmary, after a journey of over an hour. The intestine was reduced, having been left alone till admission, and the abdominal wound sewn up. The thoracic wound was on the right side, parallel to the third rib, beginning close to the border of the sternum. It was four-fifths of an inch long, and no blood escaped from it at the time: it was drained and sutured. There were no signs of cardiac or pulmonary mischief. On the evening of September 13th, after doing well for many days, pain and dyspnœa troubled the patient, and hæmorrhage occurred from the thoracic wound, which recurred on the evenings of the 14th and 15th, so that the patient became anæmic. On September 16th Dr. Madelung opened the wound. The right third costal cartilage was cut through close to the sternum. Arterial hæmorrhage was observed above and below the cartilage, about an inch of which was resected. A cavity in the anterior mediastinum, "the size of a goose's egg," was exposed; it was full of clot. An inch of the fourth costal cartilage was resected; in so doing the operator opened the pericardium. Apparently that serous sac had been opened by the stab, and had speedily closed, the operation breaking down the adhesions which closed it. Much hæmorrhage accompanied the opening of the hæmatomediastinum, the blood gushing from the lowest part of the wound. Dr. Madelung therefore tied the internal mammary artery in the fifth intercostal space, in its continuity, when the hæmorrhage ceased. The cavity was packed with iodoform gauze, and a tampon of the same material was placed over the wound in the pericardium. The patient recovered. Dr. Madelung believed that the abdominal wound did well because no clumsy attempt to reduce the gut had been made by the patient's friends. He insists that, when the in-

ternal mammary artery is divided, both ends should be secured, on account of the innumerable anastomoses, especially with the deep epigastric.

A GERMAN APOLOGIST FOR SIR MORELL MACKENZIE.

We have received a copy of a pamphlet from the pen of Dr. J. L. Kleist, which has recently been published at Charlottenburg. The author discusses various matters connected with the illness of the late Emperor Frederick, and protests strongly against the attacks which some of his countrymen have made on Sir Morell Mackenzie for his management of the case. The highly polemical report, "drawn from official sources," which was issued not long ago from the Imperial Press at Berlin, is criticised with considerable severity, and the personal animus which detracts from the scientific value of that document is freely exposed. There is no particular novelty in Dr. Kleist's line of argument, which is based on the uncertainty of the diagnosis, and the inexpediency, under the circumstances, of attempting an operation dangerous in itself and only too likely to prove ultimately useless. Dr. Kleist is to be congratulated on his courage in giving such frank expression to views which must be extremely distasteful to some of the most powerful among the leaders of the profession in Berlin.

SOLDIERS' RATIONS.

The recent correspondence in the *Standard* has ventilated the soldier's complaints as to the deficiencies and insufficiencies of his rations. A young man in the army cannot grow and develop unless he be well fed, but as we ordinarily see him in his soldier's uniform, he appears better nourished than his fellows of the labouring class from which he is drawn. This fact, however, does not prove that sufficient and proper food is provided for him, since the private soldier finds some rations at his own cost. Grounds have been given for suspecting that an efficient and accurate supervision of the supplies sent by contractors, and a greater variety in the kinds of food and manner of cooking, might improve the diet without adding to the cost. It is satisfactory to see that an order has been issued from the Horse Guards that classes are to be formed for the special instruction of officers in the task of judging the qualities of food and forage. It is granted that the bread ration is sufficient, and three-quarters of a pound of meat should suffice, but is the meat sent with "a fair proportion of bone," and without "the knees included," as complained of by Lord Wolseley? A part of his eating and drinking the soldier provides for himself, and there is great opportunity for reform in the canteen of the barrack room. The soldier likes something to drink at night, and that in company; this he should be able to get at the canteen or club-room, without going to the public-house for it.

SCOTLAND.

UNIVERSITY COLLEGE, DUNDEE.

On Wednesday, September 12th, the Council of University College, Dundee appointed Mr. Patrick Geddes, of Edinburgh, to be Professor of Botany, and Mr. Andrew Paterson, lecturer at Owens College, Manchester, to be Professor of Anatomy.

GREENOCK BUCHANAN NIGHT ASYLUM.

The annual report of this institution shows that, during the last year, 6,919 persons were admitted, of whom 3,903 were Scotch, among them 853 women and 173 children; 787 were English, among them 54 women and 8 children; 2,163 were Irish, among them 191 women and 14 children; and 39, including 7 women, were foreigners. The income showed a balance of £30 over the expenditure, which, added to the surplus of previous years, made up a sum of about £160.

GLASGOW SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.

The usual monthly meeting of this Society was held on September 6th. The Superintendent's report showed that during August 87 new cases, involving the welfare of 119 children, had been dealt with; 102 children had been sheltered and fed. Twenty-five children had been placed in industrial schools, 7 in work or private homes, 1 in hospital, 48 in school, 20 in the various poorhouses, and 16 left with their parents. Fifteen parents have been prosecuted or punished.

NEW HOSPITAL AT PAISLEY.

A new hospital is being erected at Paisley for the accommodation of the sick poor of the Abbey Parish. It will accommodate 100 patients, and is estimated to cost altogether £10,000. The memorial stone of the hospital was laid last week. The Chairman of the Board contrasted the state of the parish now as regards pauperism with what it had been at previous periods of its history. Last year only £4,000, raised by a total rate of 8½d., had been required. In 1866 the rate had been 2s. 0½d.; but in 1847 £12,000 were required, the rate being 3s. 10½d.; and in the following year it had risen to 5s. 4d. The great diminution in the amount required had been due not only to a diminished number of paupers, there being now 504, against 816 in 1845, but also to careful administration of the Poor-law Act, and to the Board having the poorhouse, in which relief could be given.

GLASGOW CITY PAROCHIAL BOARD.

At a recent meeting of this Board exception was taken to the requirements of space in workhouses, as now set forth by the Board of Supervision. The Board of Supervision now requires 600 cubic feet for infirm persons, 400 for ordinary adults, and 200 for children under eight years of age. In connection with common lodging-houses it was pointed out that only 300 cubic feet for adults and 150 for children under eight were required. The Parochial Board determined to urge the withdrawal of the recent limitations of the Board of Supervision, and express regret at the tendency continually to increase their requirements, thus restricting accommodation in the poorhouse further than seemed necessary. The effect of the present demands of the Board of Supervision would be to limit the accommodation in the City Parish Poorhouse to 1,523 adults, instead of 1,611. The new requirements would make the building of a new poorhouse necessary, while a lunatic asylum was more urgent, new cases requiring at present to be sent to Dumfries.

GLASGOW MATERNITY HOSPITAL.

An appeal for increased funds for this hospital has just been issued. The present building was opened in 1880, free of debt, but increasing demands have been made upon the institution; and, though great economy has been practised, the annual expense has regularly exceeded the income, debt being warded off only by using legacies and donations. It was also found necessary to open a branch place of call in the western part of the city, and this has entailed considerable initial outlay, and will involve an annual expenditure of about £200. The number of indoor cases last year was 367, and of outdoor cases 1,639. Under these circumstance, the directors have found it necessary to issue a special appeal for increased subscriptions.

RECREATION GROUNDS FOR CHILDREN.

At Greenock it is expected that the effort to induce the School Board to throw open the school playgrounds for children will soon be crowned with success. This is the result of some recent attention having been directed to the need of recreation ground, other than the street, for children in large towns. In Glasgow the effort to induce the Board to take a similar step has hitherto been

in vain, partly because, perhaps, it has not been sufficiently energetically urged. Perhaps the anticipated success at Greenock may reopen the question.

LIBRARY ASSOCIATION OF THE UNITED KINGDOM.

GLASGOW is at present the happy hunting ground of literary and scientific societies, and associations of all kinds, learned and unlearned. A week or two ago it was the Archæological Association that held its annual meeting, the members occupying themselves in examining the Cathedrals of Glasgow and of Dunblane, the Roman wall, and other objects of special interest to them. More recently the Library Association met, under the presidency of Professor Dickson, of Glasgow University. The meetings extended from Tuesday to the end of the week. The Association was welcomed by the Lord Provost, occupied itself in visiting the libraries and places of interest in the city, and was hospitably entertained by the Corporation and the local committee.

GLASGOW ASSOCIATION FOR THE DEAF.

SOME correspondence which recently appeared in the *Glasgow Herald* has culminated in the formation of an Association for the Deaf. The preliminary meeting was held in the Ear Institution, under the presidency of Dr. James Erskine. He explained that it was the desire of a number of the deaf residents in Glasgow and neighbourhood, who were able to speak, to form an association for the purpose of practising spoken conversation among themselves, and to acquire the power of lip-reading to enable them to converse with others without the use of the dumb alphabet. He and Dr. Robb, who was associated with him in the Ear Institution, were willing to provide accommodation for them there if it seemed desirable. Rooms could be set apart for reading and recreation. An association was accordingly formed, Dr. Erskine being appointed chairman, Dr. Robb, treasurer, and a secretary and other members of committee being duly elected. Meetings are to be held on the evenings of Wednesday and Saturday of each week.

GLASGOW TOWN COUNCIL AND DWELLINGS FOR THE POOR.

IT appears from the annual report of the Sanitary Inspector of Glasgow that the Town Council, in the person of its Improvement Trust, is the proprietor of certain property in the poorest and most crowded parts of the city, which is in a very bad sanitary condition. The inspector pointed out that little could be done with private owners of similar property so long as the Corporation maintained its own in bad condition. The death-rates in these districts is respectively 35.6, 35.22, and 29.44, and they are the main factors in placing the city in the unenviable position at the head of the death record in the Registrar-General's return. The Health Committee reported to the Council on the subject, recommending that the buildings referred to should be taken down, and this the Council agreed to. Some vigorous and timely speaking was, however, indulged in. One Councillor said, "The condition of some of these properties was such that no gentleman would allow his horses to be kept in them." He suggested the formation of a limited liability company for the purpose of providing dwellings that would admit plenty of fresh air and light, and with the best sanitary conditions, and expressed the opinion that if such a company were formed there would be found many willing to aid in its success. The opinion was strongly expressed that the Improvement Trust was the defaulting body. They had torn down buildings and dislodged the people, making no provision for them elsewhere, and it was urged that properties should not be taken down till they were prepared to reconstruct them. The whole tone of the discussion indicated that the Council was beginning to realise that it had some duty to discharge towards the poorest of the citizens, in the way of insuring that, as far as possible, they could live under sanitary conditions. There is no doubt that much of this is the result of the facts which Dr. J. B. Russell, the medical officer of health, has succeeded in bringing so prominently before the public.

GLASGOW ROYAL INFIRMARY.

A VALUABLE addition to this Infirmary has been made in the form of a nurses' home, erected to the east of the main building. The home is four storeys in height, 164 feet long by 38½ feet wide, and overlooks the Cathedral and Necropolis. It contains 85 bedrooms, besides superintendents' rooms, recreation room, bathrooms, etc. The heating is effected by a system of hot-water pipes, and the ventilation by Tobin's tubes. The rooms have been well and tastefully furnished, with a view to the pleasure as well as comfort of the nurses. At the back of the building a tennis-court has been laid out. A covered way, 180 feet long by 15 feet wide by 12 feet high, connects the home with the infirmary. It is intended to utilise this to some extent as a promenade for convalescent patients. The roof is arched and glazed. Heating arrangements are also provided, and when the present intention of furnishing it with plants is carried out, it will be an admirable exercising gallery in winter as well as summer. The total cost of the building is estimated at over £8,000. The business capacity of the late Chairman of the House Committee, Mr. McEwen, secured the ground on which the building is erected at little cost. The directors bought the ground, according to Mr. McEwen, from the Corporation of the city, and made a pretty fair bargain, for he acquired it for £2,000, and when they had taken off as much as they wanted, they sold the remainder back to the Corporation for the price they had paid for the whole, and they bound down the Corporation never to put any building upon it in all time coming. The home was opened on August 31 by the Right Hon. Sir James King, Lord Provost of the city. Mr. Brown, Chairman of the House Committee, gave an account of the efforts of the directors to provide satisfactory accommodation for the nurses of the institution. He mentioned that the infirmary had now single rooms for nurses, unconnected with wards, to the number of 120. The new Home liberated 40 beds in the hospital, available for patients, and the old recreation-room, which might also be utilised for their benefit. The only other great improvement to be effected in connection with the infirmary was the erection of a convalescent home to which patients could be sent, and where they would still receive the attention of nurses. Dr. Dunlop contrasted the nurse of to-day with the nurse of twenty-five years ago, and thought the nursing staff deserved the credit of the low mortality of which they could boast in the Royal Infirmary. He had been called on to speak in the absence of Dr. Macewen, to whose ability the great and extended reputation of the Infirmary was due. The meeting, which included a large number of the prominent citizens of Glasgow as well as Dr. McVail, Dr. E. C. Duncan, Dr. Jas. Morton, and Dr. Thomas, the Superintendent, was subsequently addressed by Sir James Watson, the Lord Provost, and others.

THE AUTHOR OF THE "BIBLIOTHECA BRITANNICA."

MR. MASON, Glasgow, read an interesting paper at the Congress of Librarians in Glasgow, on the life and work of Dr. Watt, a medical practitioner in Glasgow in the early years of this century, who found time in the midst of a busy practice to compile the *Bibliotheca Britannica*, though he did not live to see it published. Born in 1774, Watt entered the University of Glasgow at the age of 18, and seems, even as a student, to have had his mind directed to the value of a systematic and readily available record of literature, for it is known that he began to collect materials for the *Bibliotheca* in 1799, the year he took his degree. He first of all began to form an index of medical subjects, then law and divinity were added, and then he set to work to form an index for

ready reference of the whole body of British literature. Dr. Watt first practised in Paisley, but removed to Glasgow in 1810. While in Paisley he produced several works on medical and philosophical subjects, but he became more and more engrossed with the materials for his great index. His health failed, and in 1817 he retired from practice, and for the last two years of his life was a confirmed invalid. He died in 1819, at the age of 45, leaving the *Bibliotheca* complete and ready for the printer. Mr. Mason paid a high tribute to Dr. Watt as the king of bibliographers, and concluded his paper by suggesting the formation of a Bibliographical Society upon a wide basis, to index everything written and printed by English-speaking people throughout the world.

IRELAND.

CONSUMPTION HOSPITAL, THRONEMOUNT, BELFAST.

A LARGE additional ward has been added to the accommodation of this institution, giving increased space, which was very urgently needed, the number of applications for admission being at all times far in excess of the capacities of the institution.

BELFAST ROYAL HOSPITAL.

AT the quarterly meeting of this institution, held upon August 27th, two members of the attending staff, Dr. J. W. T. Smith and Dr. T. K. Wheeler, were unanimously re-elected for a further period of four years, the chairman of the meeting congratulating the institution upon retaining their valuable services. At the end of the financial year the debt against the hospital was £1,233, but this has since been reduced by about one-half.

HOSPITAL SATURDAY IN BELFAST.

SATURDAY, August 25th, was fixed for the annual street collection on behalf of the Royal Hospital, Belfast, the sum realised being a little over £200. This is the smallest amount raised by this agency since its institution five years ago. The first year produced £564, next year showed a fall to £406, and since then the decline has gone on year by year until the present small amount has been reached. This steady fall year by year shows clearly that something is wrong, and calls for the best consideration of the well-wishers of medical charities. In the present year the strike of the large body of workers upon the Queen's Island may have injuriously affected the collection, but, on the other hand, the exceptionally fine weather must be counted upon the other side, especially as the last two collections were made upon very unfavourable days. The cause of failure obviously lies deeper, and may be most probably attributed to the lack of sufficiently combined effort. It is evident that such an appeal as that of Hospital Saturday should not be made, as is the case at present, upon behalf of any one institution, however important and deserving, but on behalf of all the medical charities of Belfast. If this were done, a much larger body of workers would probably co-operate, more general enthusiasm would be aroused, and the result would certainly be more worthy of so wealthy and progressive a city as Belfast.

LUNATICS IN WORKHOUSES.

THE mentally affected in these institutions on November 31st last amounted to 3,961, a number which exceeds that of the preceding year at the same date by 120. It would be erroneous, however, to regard these as being composed of lunatics in the ordinary acceptation of the term, the larger proportion of them, or 2,183, belonging rather to the epileptic and idiotic classes, a considerable portion of whom were imbecile from birth, or, being in early life affected by some type of insanity, in the process of time became idiotic. Were an average to be taken, each poorhouse would have about 25 patients in it out of the 3,961 already referred to; but in a few there are not more than 3 or 4, while in others there may be from 15 to 30, and in some from 100 to 500, as in Cork, Belfast, Limerick, and Dublin Unions. In large towns the epileptic and demented ingredient proportionately to population would seem to predominate.

MELANCHOLY FATALITY AT THE BELFAST ROYAL HOSPITAL.

A SAD misadventure, resulting in the death of a patient, took place at the Royal Hospital, Belfast, on the evening of September 6th. One of the nurses administered a dose of crude carbolic acid in mistake for "black draught" to a male patient, named Jeffers, who at once cried out that he had got the wrong medicine. The nurse then swallowed a portion herself, and discovering the mistake raised the alarm. The house-surgeon, Dr. McQuitty, and the house-physician, Dr. Mackisack, were at once in attendance, and every means was employed to save life, but without avail. The patient gradually sank and expired in about a couple of hours. The nurse, who had fortunately swallowed only a small portion of the acid, was seized with severe symptoms, which, however, yielded to treatment, and she is now progressing favourably. She has been in the institution for over a year, and has hitherto borne a good character for carefulness and efficiency, so that her mistake is the more extraordinary. The bottle containing the carbolic acid was labelled, and in any case it is remarkable that the strong odour of the poison did not attract her attention. The circumstances are being inquired into by a coroner's jury, which has adjourned pending the time when the nurse will be able to give evidence.

THE WET SUMMER AND THE HEALTH OF BELFAST.

THE abnormally wet and cold summer which has prevailed in the North of Ireland, as elsewhere over western Europe, has not had an injurious effect upon the public health. The death-rate of Belfast has been lower during the summer months than for a long time previous, epidemic disease has been almost absent, and the only class of malady which has shown a frequency at all above the average has been diseases of the respiratory organs.

QUEEN'S COLLEGE, CORK: ANNUAL REPORT.

THE total number of students on the books of the college for the past session was 247, of whom 234 were matriculated. The President, in successive annual reports, has pointed out the necessity for a new chemical laboratory. The present laboratory was constructed for thirty-two students, while the class in practical chemistry last session numbered eighty-six. The place, it may be added, which is occupied by the present chemical department is required for the fitting-up of a proper physical laboratory. Owing also to the large class of ordinary students, there is no room for the most important of all chemical students—those who propose to devote themselves exclusively to chemistry as a profession. The hope expressed in the last report respecting the enlargement of the teaching staff of the medical school is still unfulfilled; and the Corporate Body have drawn up a memorial which it is intended to present to Her Majesty's Government.

PUBLIC APOLOGY FOR SLANDER.—A lady, named Tomkinson, published in the *Buxton Chronicle* of August 11th the following apology for slandering Mr. James Dewar, of Buxton:—To James Dewar, of 12, St. James's Terrace, Buxton, Esquire, Fellow of the Royal College of Surgeons, Edinburgh. I regret that I have repeated certain slanderous statements made to me respecting you which have no foundation, and I beg you to accept my sincere apology for having thus caused you any annoyance. In acknowledgment of my regret, I have handed to you £5 5s. as a contribution to the funds of the Manchester Royal Infirmary, and paid your solicitor's charges in the matter.—SARAH TOMKINSON, 28, Bath Street, Buxton, August 2nd, 1888.

RESEARCH LABORATORY OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.

THE question of equipping a research laboratory has for the past three years occupied a very prominent position in the discussions of the Royal College of Physicians, Edinburgh, but it was only last year that the Committee appointed by the College was able to throw the plans into a feasible, and at the same time thoroughly acceptable, shape. When the matter had been taken in hand the Committee entered into the scheme with great energy and thoroughness, and within a very short time suitable premises were acquired, the necessary structural alterations were at once commenced, a superintendent was appointed, and apparatus was ordered and fittings were put in hand to be ready for use as soon as the building should be prepared for their reception. The premises are well adapted for the purpose for which they were acquired. They consist of a three-storeyed house, No. 7, Lauriston Lane, near the Royal Infirmary, to which had been added a large detached room in the back court. There are also commodious outhouses and a plot of ground of considerable size at the rear of the building.

Commencing on the ground floor we first come to the room in the back court set apart for experimental physiology, 32 feet in

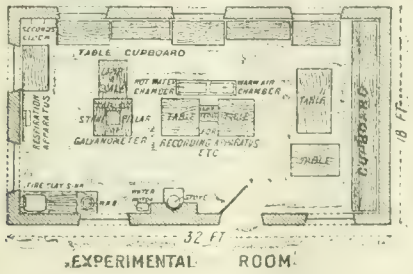


Fig. 1.

length, 18 feet in breadth, and 14 feet high; it is well lighted by seven windows, three of which facing to the west are fitted with tables for microscopic work. Between each of these tables is a cupboard and a range of shelves for the reception of material. On the south wall is fixed the Cambridge Scientific Instrument Company's respiration apparatus driven by water power. On the east side at the south corner are drainer and wash basin. Near to this is a small Thirlemere water motor used for driving light (1 inch) spindle shafting which is fixed to the wall by six brackets placed above the windows and doorway. From this, recording apparatus may be driven at any part of the room at any of 360 different speeds. The northern end of the room is occupied by a large cabinet, in which are stored the various pieces of apparatus. Near the south end is a stone pillar bedded in the ground, so arranged as not to be affected by movements in the room. There being no thoroughfare in the Lane no disturbance can arise from wheel traffic. Around it is fixed a table to which the galvanometer wires are attached. The galvanometer is placed on the stone pillar in a glass case with a hinged door, and is always kept ready for use, short wires being carried from the table to the instrument. A hinged lamp table and brass rods over which curtains are hung complete the galvanometer fittings. Work tables occupy the remainder of the centre of the room. Electrical, time marking, and other apparatus, tuning forks, perfusion apparatus, shunts, compensators, etc., constitute the greater part of the instruments in this room. Marriott's arrangement for obtaining regular pressure for injecting and other purposes is hung from the roof at two points. At each window table on the west side is a bell jar used for protecting the microscope from dust. This is counterbalanced by a weight which runs on a brass guiding rod, so that there is no danger of breakage to the window through swinging of the weight. When not in use, the bell jar is drawn up out of the way towards the ceiling. Such an arrangement economises room, and prevents breakages. On each microscope table, which is painted and hard varnished, a white band, about four inches broad, is painted four inches from the edge of the table. Some of the tables, instead of being varnished, are covered with plate glass, painted as above on the under surface, and embedded in felt. On these glass-covered tables the microscope stands on a felt circle, to diminish the risk of breakage when the bell jar is lowered over the microscope. The sink and drainage apparatus in this room may be taken as a type of those throughout the whole house. It consists of a large earthenware sink, on one side of which is a grooved draining board covered with lead, the grooves all leading to the sink. A swan neck tap supplies the water; to this tap are two nozzles, to one of which is wired a piece of india-rubber tubing, used to connect the Geissler exhaust pump, and similar apparatus; the other nozzle gives a steady unbroken jet of water three-eighths of an inch in diameter. The wall behind the sink is leaded for about three feet up; at the upper part of this are a couple of shelves, the upper one perforated, for draining flasks and bottles, the lower one grooved, and with a gentle slope to carry all moisture to the sink. Below these shelves are a couple of rows of wooden pegs fixed into the wall at an angle of 45°. These are very useful for draining all kinds of glass vessels. In the main building in the lower flat is a large entrance lobby, to the left of which is a part of the laboratory assistant's quarters.

At the back, with an outlook into the court, and on to the experimental department is a large room, which has been fitted up with a bench and tools for carpentering, metal and wire

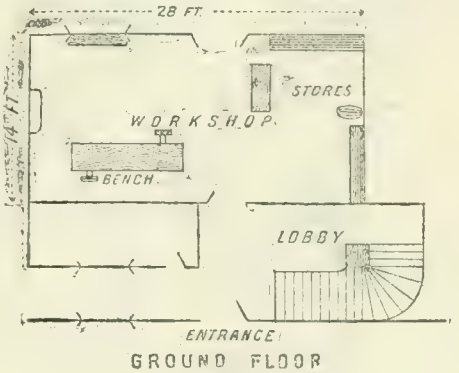


Fig. 2.

working, etc. In this room is also a large Bruce microtome, with which sections of whole organs are made.

On the second flat, three of the five rooms are fitted up for the accommodation of the resident laboratory assistant. Of the others, a large room is set apart for Committee meetings, and is used as a library and museum. It is

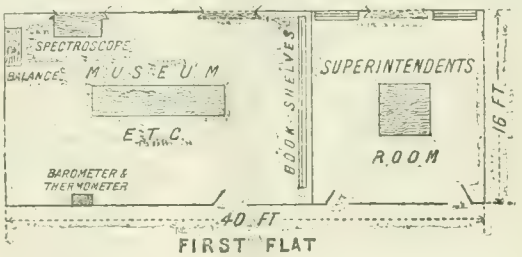


Fig. 3.

also fitted with Oertling's short beam balance, supported on a solid iron bracket let into the wall. A certificated barometer graduated in inches and millimètres, and a thermometer with centigrade and Fahrenheit scales is placed here for pressure and temperature corrections. There is also a large spectroscope made by the Cambridge Scientific Instrument Company with Steinheil's prisms. It is protected when not in use by a glass case, which is counterbalanced in the same way as are the bell jars at the microscope windows. The fifth room on this flat is the superintendent's private room, where the administrative work of the laboratory is carried on.

On the next landing are six rooms. The first of these, a small one, is used as a stillroom; the still is connected with the water-pipe and is self-feeding, so that, to obtain a supply of distilled water, all that is necessary is to turn on the tap and light the Bunsen burner. A second room, the chemical room, is fitted with

a good supply of water and gas. There are eight taps in the room, seven of which are swan-necked, with the double nozzles. Two ends of the room and the evaporating chamber are fitted with ten-inch basins, and in the corner is a sink with drainer and pegs, similar to those already described. The room is lighted by half a dozen gas brackets, and for the gas supply for Bunsen and movable lights, there are eighteen connections. On three sides of the room are three shelves at intervals of 9 and 15 inches.

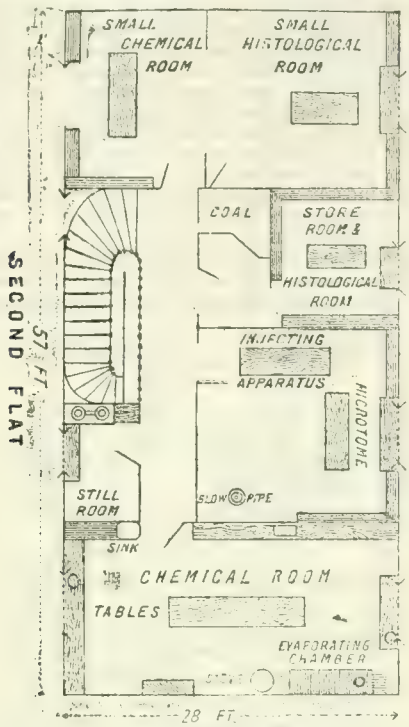


Fig. 4.

On the fourth side of the room is a large evaporating chamber, divided into two by a hinged window. The two compartments are ventilated separately into a metal chamber opening into the flue. In this metal chamber a Bunsen may be kept burning, to keep a current from the evaporating chamber into the flue. At one end, and opening into the chamber, resting on the stone slab continued outside the chamber, is one of Fletcher's sand-baths. This room is stocked with most of the apparatus necessary for carrying on physiological chemical work, the analysis of air, water, food, and the rest. The next room is set apart for blowpipe work, metal injections (Cathcart's method) embedding in paraffin and celloidin, and section-cutting. It is also used as a storeroom for some of the glass apparatus, and the window is fitted with a table for histological work. Next door, on this same floor is a small room used as a storeroom for reagents and other chemicals. The window is fitted with a table for microscopic work. Then comes another small histological room, set apart for the estimation of urea, albumen, sugar, etc., in urines in connection with clinical work undertaken by the Fellows of the College.

On the top storey are three splendidly-lighted rooms, all of which are devoted to microscopic work. In the south room the apparatus necessary for bacteriological research is collected. Two large projecting roof or dormer windows face east and west respectively. Each is fitted with a table covered with a sheet of plate glass, on the under-surface of which are painted three strips, the first 4 inches broad, black; then a similar white band, and then a broad black band extending to the back of the table. On each side are shelves from the floor for about 5 feet up. These are within reach of anyone sitting at the table. On each side is a drawer $3\frac{1}{2}$ inches deep; but the remainder of the space under the table is left quite open, in order that earthenware jars for the reception of chemicals, washings, and *débris* may be accommodated. On the left side is fitted a rack for test-tubes, and in front and to the right are stands for ordinary histological reagents. Above the level of the table in front are four small shelves, on which are placed covered vessels for clean and dirty slides and cover glasses. A syphon arrangement for distilled water, a bell jar with counterpoise running on a brass rod, a Bunsen burner, and a lamp complete the fittings at this table. One of Browning's microspectroscopes has also been fitted up in this room. Racks, for series of Hesse's tubes, and shelving complete the fittings here; but opening out from it is a small room with a sink and large sloping drainer, at which most of the glass apparatus is washed.

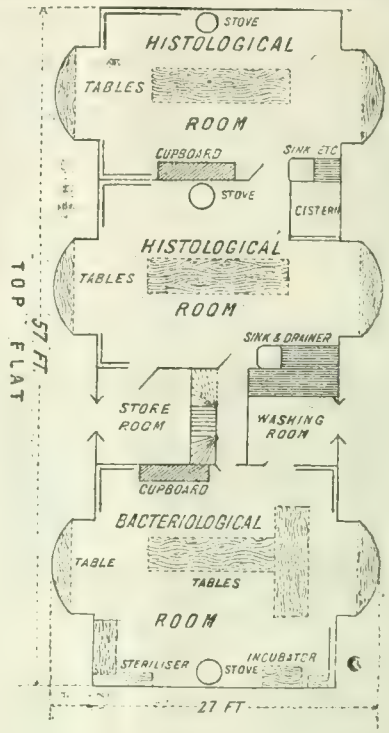


Fig. 5.

The other two rooms in this flat are fitted up for histological work, with window tables, sinks, cupboards, spirit vessels, and shelving, each for two workers. In connection with the histological department, apparatus for micro-photography has been fitted up by Mr. Forgan.

The arrangements for conducting the work are somewhat as follows: The College has established and will maintain the laboratory for the prosecution of original research. To facilitate such work the Council of the College "appoint a scientific superintendent, who must devote such portion of his time as may be determined by the Council to the work of the laboratory, where, under the supervision of the Curator and committee, he shall himself undertake the prosecution of original research, and be prepared to assist, if required to do so, in the work of other investigators. Under like supervision, he shall also be prepared to furnish the Fellows of the College with reports upon such matters as the histology of morbid specimens, and of the chemical and microscopic characters of urines," in which work he is assisted by the resident assistant.

The laboratory is open without fee to Fellows and Members of the College, "to any Licentiate who shall obtain the sanction of the Curator and Committee to use the laboratory for the purpose of scientific research," and "to any medical man or investigator who shall obtain the sanction of the Council of the College as well as of the Curator and Committee to use the laboratory for the purpose of scientific research."

The institution is open for research work daily, Sundays excepted, from 10 A.M. till 5 P.M., except on Saturdays, when it is closed at 1 P.M. A special arrangement may be made by those desirous of working after the usual hours of closing, but for this the written permission of the superintendent must be obtained.

Investigators are entitled to the assistance of the laboratory officers or servants in the preparation of apparatus; but the actual

work of carrying on experiments, cutting and mounting specimens, etc., must be done by the investigator himself.

The whole of the expense of establishment and maintenance has been and will be defrayed from funds placed at the disposal of the Committee by the Council of the College. Of this, an initial grant of £1,000 was made with which to adapt and furnish the house, and buy apparatus, instruments, and chemicals. In addition to this, an annual grant of £650 is made, from which all salaries, rents, and taxes are paid, and stock is kept up. Of these sums, only about £830 of the original £1,000 and £600 of the annual grant was spent during the first twelve months, so that the whole equipment and fittings of the laboratory, together with the current expenses during that period cost only £1,430.

During the year there have been twenty-three medical men, nine Fellows and four Members of the College, and nine other qualified men engaged in pathological, physiological, chemical, or bacteriological investigations, some of which have been completed and will shortly be published. In addition, nearly one hundred tumours or other histological preparations have been examined, and numerous analyses have been made by or for the Fellows of the College and others. The laboratory has also been used for examination purposes in connection with the diplomas in Public Health granted by the College.

THE BRITISH ASSOCIATION.

At the meeting of the British Association at Bath on Friday, September 7th, the most interesting event was the conference which took place in the Chemical Section between the physiologists and the chemists, on the problems presented by living bodies. Professor Michael Foster brought forward the case of the physiologists. Their science, he pointed out, was not confined to a compact set of phenomena, but its investigations were so mixed up with other sciences that it had been said to live upon them all. Physics, electricity, optics, acoustics, and chemistry had to be appealed to; but the answers were not satisfactory. The materials they had to do with were not pure and simple, and unless their requirements could be clearly stated, there was little hope of satisfactory results. In dealing with living beings, the primary matter was a living substance, the first structural form of which was a cell. This living substance was mainly built up of carbon-dioxide and water. Out of this rudimentary material three classes of organic substances were produced—the proteids, the fats, and the starches or sugars. But whilst the animal and plant were alike compounded of this elementary substance, the plant first eliminated the materials from their sources, and the animal acquired the products ready made. By the degradation of this living substance, it was by decomposition returned into its original elements. In the act of building up the living substance energy was taken in and energy was given off. The action might be likened to a double flight of stairs with vitality at the apex. Life, indeed, even there, was only a fountain continually flowing. How did these primary simple cells feed themselves? By what process did they convert their food when they had acquired it? Digestion in the higher animals was a process probably allied to fermentation. Starch could be changed into sugar, and ferments could be obtained from the animal body which would produce this change. What the physiologists wanted to know from the chemists was the exact nature of these and other changes. If they would furnish the lock of chemical knowledge, the physiologists would supply the key to the analogous organic processes employed by Nature in living objects. In the case of the proteids, some would coagulate at 50° of temperature, whilst another would show no change under 70°. But why should this difference be? By the action of the rennet on milk a solid curd, real casein, was deposited; could chemists give even a hint how to get nearer to the origin of this change? There was the analogous clotting of the blood; could the cause be explained? The relations of water with living matter were very close and intimate. Our solid flesh consisted of 80 per cent. of water. The plant-cell was largely swollen with water; and then this escaped or disappeared. The secretions of a living body offered like phenomena. The salivary glands, providing in the mouth a fluid for digestion of the food, were now distended with red blood, and the saliva flowed in copious streams; then some other emotion might exert its influence, and not a drop would flow from the parched organs. But whilst such effects arose from nervous or other vital influences, similar results might be effected by chemical means. From the smallest portion of belladonna applied the secretions would be excited in floods; by the minutest fraction of aconite the springs would be dried. It was in these first elementary actions that the physiologist needed the chemist's aid.

Mr. Thiselton-Dyer (President of the Biological Section) dwelt on the wants of physiological botanists. Reviewing the courses pursued in the synthetic construction of chemists, it was imputed that, although their results in producing some of the vegetable substances in remarkable perfection was nothing less than wonderful, their procedures were not based on natural operations, and were not the same as those by which Nature worked in living structures. There was this distinction between the plant and the animal—that in the latter economy in bulk was an object in regard to its locomotion, and waste products were got rid of; whilst in the plant there was no removal of the rubbish, and the products not essential to its vitality were retained, as in a storehouse, in the formed materials of the bark and wood. Thus the attack for chemical knowledge would be best made upon the plant; for as both useful and waste products were retained, there should be a better means of finding out the immediate causes of the physiological actions which had taken place. Too much distinction had been made between animals and plants; the support of both was governed by the same laws. The plant by its own synthesis contributed to its nutrition, like animals. The potato tuber was a mass of cellular tissue, compacted with starch in grains; but there was a residue of the protoplasm which, when the tuber began to grow, set free a ferment which changed the starch into sugar, or some carbon-hydrate; and this action was carried on through the life growth of the plant.

Professor Armstrong replied, on the part of the chemists, that their present defective ignorance was due to their being born too soon, and that knowledge, not having advanced to the stage required, the physiologists had not yet been in a condition to put their questions clearly. He considered, however, that the synthetic processes successfully adopted by modern chemists in their methods of artificially producing vegetable products were, in the main, on the like roads with the processes employed by the plant, and that, properly considered, scientific physiological information should flow from such sources. These physiological questions were, undoubtedly, at the outset, questions of great difficulty for chemistry to solve. Not only were the materials to be dealt with not clear, as chemistry required them, but many were so much alike, and yet had such different properties, that such a vast amount of research would be required to solve the various problems, that nothing short of an extensive and amply supported laboratory, with a trained body of operators, could possibly solve them. He considered the basis of the whole series of changes lay in the decompositions of the carbon-dioxide and the water. What the form of energy was which accomplished this could not be precisely stated; but a great deal of work must be attributed to the sun. By a long series of chemical notations, he showed how more and more advanced sets of chemical productions could follow from the one beginning referred to, and how the chlorophyl of plants could play an important part in some of the transformations. He also, finally, dwelt upon the conversions which could be produced by ferments in regard to the fatty acids, and how, by the successive elimination of oxygen, the series might be carried all through, up to the production of oleic acid, the typical fat.

Sir H. Roscoe and several others took part in the discussion of these subjects, and it was universally considered that by the open ventilation of physiological-chemical difficulties the physiologists would begin to see how they could best, by the study of the causes which produced essentially different qualities in plants by culture and treatment, find out essential aids to the chemist's researches, which would give important insights in the most promising directions for working.

In the Biological Section the subject of stays and tight-lacing was discussed in a separate department. The attendance of ladies was especially large. Dr. C. S. Roy, Professor of Pathology at Cambridge, and Mr. J. G. Adami, University Administrator of Pathology, who had announced a joint paper on "The Physiological Bearing of Waistbelts and Stays," said they had lately been making some pathological experiments, and had found that a slight pressure upon the abdomen resulted in the giving out of considerably increased quantities of blood from the heart in a given time. A good deal of the blood stored uselessly in the abdominal veins was, by this pressure, placed advantageously at the disposal of the muscles, brain, and skin. This explained how men, as well as women, instinctively employed some method of abdominal compression, wearing waistbands or belts, or the more

elaborate corsets, at periods of increased activity. No doubt fashion had sometimes led to the distortion of the female figure by means of stays; but, if not laced too tightly, the modern corset, by clasping the waist and supporting the bosom and back, constituted a convenient combination of the different forms of girdle, which had been found useful by the women of all civilised nations from the remotest time. Of course, during sleep they were put off, but during hours of exertion, social or otherwise, reasonable tight-lacing was fitted to increase mental and physical activity. They, however, cautioned young ladies against carrying this to an injudicious extreme. By the way, it was suggested to trainers of horses that, if they girthed the racing saddle behind the ribs, instead of over them, they would thereby gain for the horse the same advantage as was experienced by the long-distance runner from his broad, tight leather belt.

Dr. WILBERFORCE SMITH said that he considered this a most dangerous paper to be read to such an assembly. He declared the evils of tight lacing to be manifold and terrible, and that it was perfectly refreshing to find a girl, the muscles of whose back had not been withered by wearing stays. As a matter of beauty, not one woman in twenty who wore stays was presentable as a model.

Dr. JOHNSTON LAVIS expressed astonishment at hearing pathologists justifying the habit of wearing stays.

Miss LYDIA BECKER declared for the stays and tight-lacing in a moderate degree, as conducive to comfort, as well as appearance.

Another lady strongly denounced their use, and pointed to herself as proving the possibility of doing without them.

Dr. HOYLE attributed many of the internal displacements from which women suffer to stays, remarking amid general laughter, that many ladies do not feel properly dressed unless they are slightly uncomfortable.

Dr. ANDERSON remarked that the authors of the paper had given a rational explanation of the cause of many of the diseases in women which baffled physicians. The pressure of the stays on the abdomen increased the work of the heart; that caused palpitation and shortness of breath; the blood being driven to the head accounted for giddiness; driven to the nose, it produced its redness; driven to the uterine organs, it accounted for congestion; driven to the legs, it produced swelled ankles and varicose veins; driven out of the abdomen, it accounted for indigestion.

Mr. J. G. ADAMI replied with a further vindication of the conclusions of himself and his coadjutor.

THE M.D.BRUSSELS.

THE following particulars as to the conditions on which the degree of Doctor of Medicine can be obtained by English practitioners from the University of Brussels will no doubt be interesting to many of our readers. Their accuracy is guaranteed by Dr. Warwick C. Steele, of 1, Florence Terrace, Ealing, the Honorary Secretary of the Association of Brussels Graduates, to whose courtesy we are indebted for the information.

The University of Brussels admit to examination for the M.D. degree all British and other practitioners holding proper medical and surgical qualifications. Residence is not required, but no degrees are granted *in absentiâ*. All candidates must leave their diplomas with the Registrar of the University, and no one is admitted to examination until this condition has been complied with. The fees are:

	£	s.	d.
For inscription of name	8	12	0
„ examination	13	0	0
„ legalisation of diploma	0	8	0
	22	0	0

These conditions are for candidates who present themselves for the three examinations at once. Those who come up for the first examination only have to renew the payment of the inscription fees, £8 12s.

Candidates who fail to satisfy the examiners may present themselves again three months later, provided their second appearance be in the course of the same academical year (October 1st to June 30th), otherwise they have to pay the inscription fee (£8 12s.) over again. Candidates who have paid the fees for the three tests in advance, and are successful in the first, can have the fees paid for the second and third examinations returned, and those who fail in the second, recover the fees paid for the third examination. The examination consists of three parts, namely:—

First Doctorate: General therapeutics, including pharmodynamics (therapeutical action of drugs), special pathology, therapeutics of internal diseases, mental diseases, general pathology, and pathological anatomy, with the use of the microscope.

Second Doctorate: Surgical pathology, including ophthalmology, theory of midwifery, public and private hygiene, medical jurisprudence (not including toxicology).

Third Doctorate: Examination at the hospital of one of two patients under medical and surgical treatment; examination in midwifery, consisting in obstetrical operations on the mannequin (model of pelvis); examination in operative surgery, consisting in the performance of the usual operations; regional anatomy and the dissection of a part of the dead body.

The examinations take place on the first Tuesday in November, December, February, May, and June. They are conducted *viva voce*, and generally occupy a little over a week. Candidates who do not speak French can be examined in English through the medium of an interpreter; but most of the examiners know English well, so that his services are not often required. Candidates are requested to appear at the University at the latest at 2 P.M. on the day preceding the examination, for the purpose of paying their fees and depositing their diplomas. The examination is exactly the same as that passed by Belgian students, but the degree does not give foreigners who have not gone through the ordinary course of study prescribed for natives the right to practise, except under special circumstances. The examination, which is held in public and which anyone who pleases can attend, commences at 6 P.M. on the Tuesday evenings. Each candidate is examined in turn, according to the number he has drawn, only four being examined in an evening. The first examination for the Doctorate occupies about four hours, and there are four tables. Throughout the whole examination, the examiner confines his questions to one subject. Thus, in medicine our informant was asked about epilepsy, in therapeutics about digitalis, in pathology about tape-worm, and in general medicine and mental diseases about alcoholism and alcoholic insanity. At the second Doctorate examination, in medical jurisprudence he was examined as to the evidences of death; in surgery, as to acute suppurative inflammation of the palm of the hand; in midwifery, as to *post-partum* hæmorrhage and the development of the placenta; and in hygiene, the examination of water. At the third Doctorate examination, he had, in clinical surgery (three-quarters of an hour), a case of whitlow; in clinical medicine, one of typhoid fever; in operative surgery, ligature of the radial artery, amputation of thumb, and removal of submaxillary gland; in practical midwifery, application of long forceps; and in anatomy, dissection of the popliteal space. The practical test in anatomy just referred to, and the subject of anatomy generally, is a frequent cause of failure; the same may be said of pathology, the examination in which is decidedly stiff. It is somewhat difficult to advise intending candidates as to the best course of reading for them to pursue. If a man knows the ordinary English textbooks well, he will be pretty safe. It may be mentioned, however, that Quain's *Dictionary of Medicine* will be found decidedly useful. We have Dr. Steele's permission to state that he will be happy to give any further information that may be required.

INSTRUCTION IN HOSPITALS, ETC.

THE following particulars were forwarded to us too late for insertion in their proper place in the Students' Number.

WEST LONDON HOSPITAL, HAMMERSMITH, W.—This hospital has 101 beds, about 1,300 in-patients, and 16,000 out-patients, whose attendances number nearly 50,000, are treated annually. There are appointments for a House-Physician and two House-Surgeons, with board and residence, tenable for six months, also appointments for a limited number of Clinical Assistants. *Physicians*, Drs. D. W. C. Hood, F. G. D. Drewitt, and W. P. Herringham. *Physician for Diseases of Women*, Dr. Albert Venn. *Surgeons*, Messrs. C. B. Keetley, F. Swinford Edwards, and W. Bruce Clarke. *Surgeon for Diseases of the Eye*, Mr. B. J. Vernon. *Assistant-Physicians*, Drs. J. B. Ball, Seymour Taylor, and A. E. Garrod. *Assistant Physician for Diseases of Women*, Dr. J. A. Mansell-Moullin. *Assistant-Surgeons*, Messrs. C. A. Ballance, H. F. Weiss, and S. Paget. *Assistant-Surgeon for Diseases of the Eye*, Mr. H. P. Dunn. *Surgeon Dentist*, Mr. H. L. Albert. *Pathologist*, Mr. H. P. Dunn. *Physician in Charge of Throat and Nose*

Department, Dr. J. B. Ball. *Aural Surgeon*, Mr. S. Paget. *Physician to Skin Department*, Dr. F. G. D. Drewitt. *Surgeon to Skin Department*, Mr. H. F. Weiss. *Surgeon in Charge of Orthopædic Department*, Mr. C. B. Keetley. *Physician in Charge of Electrical Department*, Dr. W. P. Herringham. *Administrators of Anæsthetics*, Messrs. T. Gunton, Alderton, and Rickard W. Lloyd. *Secretary*, Mr. R. J. Gilbert.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, CITY ROAD, E.C.—*Physician*, Dr. F. de Havilland Hall. *Surgeons*, Messrs. Allingham, and Alfred Cooper. *Assistant Surgeons*, Messrs. D. H. Goodsall, and F. Swinford Edwards. 322 in-patients, 2,040 out-patients. Clinical instruction is given by the Surgeons both in the out-patient department and in the department and in the wards. The practice of this hospital is free to medical men and students. Operations on Mondays and Tuesdays at 2.

ERRATUM.—The name of the lady who is to deliver the Inaugural Address at the London School of Medicine for Women is Miss Walker Dunbar, M.D., not "Dundas," as printed in the Student's Number of the JOURNAL.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING FOR 1888.
ELECTION OF MEMBERS.

ANY qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

A meeting of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary*.

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

NORTH OF ENGLAND BRANCH.—The autumnal meeting will be held at Middlesbrough on Thursday, September 20th, at 2.45 P.M. Dr. Hedley will introduce a discussion on the Recent Epidemic of Pneumonia in the Middlesbrough District. Dr. Rutherford Morison will exhibit gall-stones removed by operation, and will read Notes of a Successful Case of Removal of Bladder Tumour by Suprapubic Operation, with microscopic specimens and drawings of the tumour. Dr. Drummond will exhibit some pathological specimens. Dr. Oliver will read a paper on Adonidine in the Treatment of Heart Disease. Dr. Ellis will read a paper on the Treatment of Noises in the Head. Dr. Hinshelwood will read Notes on some Interesting Cases of Syphilis. The dinner after the meeting will be at 4.30 P.M.—G. E. WILLIAMSON, F.R.C.S., Honorary Secretary, 22, Eldon Square, Newcastle-upon-Tyne.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—A meeting of the above district will be held at the Station Hotel, Hayward's Heath, on Thursday, September 27th; Dr. Braid, of Burgess Hill, in the chair. Meeting at 3.45 P.M. Dinner at 5.45 P.M. Charge, 6s., exclusive of wine. Dr. Talfourd Jones will give a summary of his paper on Mercury as a Diuretic, read at the last meeting, and discussion will be invited. Members of the Branch or others desirous of contributing papers or cases are requested to communicate at once with the Honorary Secretary, T. JENNER VERRALL, 97, Montpellier Road, Brighton.

SOUTH MIDLAND BRANCH.—The autumnal meeting of this Branch will be held at Oundle on Tuesday, October 2nd. Gentlemen who are desirous of bringing forward communications, etc., are requested to inform the Secretary of their intention as soon as possible. CHARLES J. EVANS, Honorary Secretary.

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

The Congress on Tuberculosis.

[*Continued from page 267.*]

M. DE BRUN, of Beyrout, read an interesting paper on the antagonism existing between paludism (ague or marsh fever) and tuberculosis. In Syria he had never met with tuberculosis among persons suffering from intermittent fever, whereas among the negroes, who were exempt from this affection, tuberculosis was very frequent. M. Piot had observed similar facts in Egypt. M. Arloing had made several experiments with the view of discovering some means of preventing tuberculosis. So far he had failed, but he still did not despair of success. Excision of the glands in relation with the seat of inoculation was ineffectual in arresting the course of the disease. Vaccination with tuberculous and scrofulous virus did not prevent a second inoculation from taking effect. M. Babès demonstrated to the Congress that in children the bacillus of tuberculosis was nearly always associated with other micro-organisms, almost as injurious as "Koch's bacillus." It was necessary to realise the fact that latent encysted tuberculosis, which was extremely common among children under the form of glandular tuberculosis, could assume an acute and serious character under the influence of the associated microbes, which were often undeniable factors in the development of the disease. M. Landouzy read a paper on paternal hereditary tuberculosis, in which he stated that children whose mothers and wet nurses were perfectly healthy and free from any taint of tuberculosis, but whose fathers had succumbed to the disease, might develop tuberculosis. In such cases, which are evidently examples not of tuberculous contamination but of autochthonous tuberculosis inherited from the father, it was a question of infection of the ovum by the spermatozoon. It has been observed that subsequent conception results in the birth of weakly marasmic children, or in repeated miscarriages.

M. Hureau de Villeneuve protested against the custom of feeding phthisical patients on raw meat and blood. He maintained that healthy people would run the risk of contracting tuberculosis; and, moreover, such articles of food were not suitable to the digestive organs. M. Arloing, on behalf of M. Galtier, observed that patients ought not to eat raw meat unless it were mutton or goat's flesh; he added that the only milk free from the taint of tuberculosis was goat's milk. M. Legroux mentioned two cases of tuberculous infection resulting from drinking unboiled milk furnished by tuberculous cows, and urged that strict sanitary measures be taken concerning cow's milk; the sale of ass's and goat's milk should be encouraged. M.M. Cornil and Toupet described a lesion observed in an oyster, which, morphologically, closely resembled that of tuberculosis. These pseudo-tuberculoses were very difficult to detect. It was only by inoculations and cultivation that they could be identified.

During the Congress, several visits were paid by the members to the different Paris laboratories. One of the most interesting was that to the veterinary school at Alfort. The Director, M. Nocard, showed the visitors all the arrangements, and observed that equine tuberculosis, though known to occur, was so rare that some authors denied it, and spoke at length on the pseudo-tuberculosis or farcy of Guadeloupe oxen, a special micro-organism which had been detected as characteristic of the bovine affection. M. Proust showed the visitors in his "Musée d' Hygiène," a model of MM. Genesti and Herscher's disinfecting stove, and said soon every transport boat, every steam packet, would be provided with one. For disinfecting rooms in which tuberculous patients had dwelt, M. Proust recommended sending a spray of sublimate solution on the walls. In the Paris hospitals spittoons are cleansed by boiling water; the bacilli are surrounded by water at 90° C., which suffices to kill them. The Congress terminated with a banquet at the Hôtel Continental, at which M. Monod, the accomplished Director of the Ministerial Department of the Assistance Publique, made an excellent speech, furnishing another proof of his scientific

knowledge and liberal views, which render him so eminently fit for the high position he holds. He assured the Congress of the practical support of Government, which would furnish the means, in the form of hard cash, to carry out the reforms scientific research showed to be needful. This Congress may be considered a success. Science has worked, and is working, and Government authorities say, "What you wish to be done, that we will do."

ITALY.

[FROM OUR OWN CORRESPONDENT.]

Experimental Extirpation of the Pancreas.—Enchondroma of the Breast.—Hot Water Baths in Chronic Synovitis of the Knee.—Education of Midwives.—An Epidemic of Congresses.

At a meeting of the Reale Accademia di Medicina of Turin on July 20th, Dr. G. Martinotti described certain experiments he had made as to the effects of excision of the pancreas in dogs and cats. He had first removed the horizontal portion of the organ, and later on the vertical part, taking care to perform both operations at equal intervals of time after the animals had been fed and when the digestive function was in a state of inactivity. On comparing the two portions he found no evidence of compensatory hyperplasia in the one removed last. On removing the whole organ at once, however, except a tiny piece attached to the duodenum and in normal relation to the excretory duct, the stump examined after a certain time had elapsed presented different characteristics according to the extent to which it had been affected directly by the operation. The portion in immediate contact with the duodenum was unchanged, whilst the other extremity, which bore the amputation scar, showed signs of regeneration of the gland structure. There was no sign of increased activity in the liver or in Brunner's glands, which Landois is inclined to look upon as functionally analogous to the pancreas; on the other hand, the intestinal glands had evidently had an increased amount of work thrown upon them. At another meeting Dr. Martinotti exhibited the viscera of dogs from which he had removed the whole of the pancreas; the animals had been killed and dissected in the presence of several medical men the day before. In none was there a trace of peritonitis or of extravasated blood. In a dog on which the operation had been performed on June 23rd, the intestinal coils were healthy, and quite free from adhesions. A piece of pancreas, of the size of a small chestnut, was attached to the duodenum, with which it communicated by a special duct. In an animal operated on on June 25th, and in another operated on on July 14th, almost precisely similar conditions were found, the portion of pancreas in the former being of the size of a filbert, and in the latter of a lentil. The gastro-duodenal mucous membrane and the abdominal viscera were normal. On the other hand, in a puppy operated on on July 15th, which at first appeared to rally from the operation, but which afterwards began to waste rapidly, no trace of pancreas was found; the duodenum was bent upon itself, and was adherent to the wound in the mesentery. Through the loop thus formed a knuckle of small gut was strangulated, and the lower part of the intestinal canal was entirely empty. Dr. Martinotti pointed out that the small portion of pancreas left in these cases was utterly insufficient to discharge the functions of the organ; he regarded them as proofs of attempted regeneration, as he was certain he had removed every particle of the gland, with the exception of a few acini, which were intimately connected with the walls of the duodenum, the bile duct, and the blood vessels. These acini had formed the starting point of the regenerative action. He concludes that the pancreas can be removed (from dogs) without any ill effect, if the operation is done with proper precautions, especially as regards antiseptics. The greatest danger connected with the operation is the formation of adhesions, which may lead to strangulation of intestine.

At a meeting of the Società Medico-Chirurgica of Pavia on July 14th, Dr. Domenico Stefanini showed microscopic sections of an enchondroma which had been removed by Professor Mazzuchelli from the right breast of a woman, aged about 50. The tumour had existed to the patient's knowledge for about twenty-five years, but had never given her any trouble till six months before, when she began to suffer from lancinating pains in the affected part. The tumour, which was about the size of a small hen's egg, was situated on the outer part of the breast, and was hard and nodulated; the skin over it was natural and not adherent; there was no trace of glandular enlargement. After removal it was found on section to present a homogeneous structure, the cut surface being grey in colour, glistening, and compact throughout, except a small portion in the middle, where there was an appearance of atrophy. The whole mass was enclosed in a capsule of tough fibrous tissue. Microscopically it was seen to consist of every variety of cartilage with cells and fibres of connective tissue; here and there was some interstitial infiltration of fat globules. Dr. Stefanini affirms that there are only five recorded cases of cartilaginous tumour of the breast previous to the date of his communication, namely, those of Astley Cooper, Nélaton, Velpeau, Cruveilhier, and one recently reported by E. Leser.

Dr. G. Allexich, of Crema, states that he has used hot baths with good results in six cases of chronic synovitis of the knee, in some of which the affection was of many months' standing, and had resisted all ordinary treatment. Dr. Allexich makes his patients keep the knee immersed in hot water for half-an-hour at a time. The joint is placed in the water in a flexed condition, and the patient stands upright, resting the weight of his body on the sound limb and supporting himself with his hands on the backs of two chairs. When taken out of the bath the knee is carefully dried and wrapped in cotton wool, the joint finally being carefully bandaged. For some days the patient should only go about on crutches. Dr. Allexich thinks that the virtue of various hot springs renowned for the cure of joint affections (such as Acqui, Abano, Viterbo, Ischia, etc.) consists not in their chemical composition, but in their temperature, and that equally good effects can be got at home by the simple means just described.

The Director of Public Health, Dr. Pagliano, has sent a circular to the Prefects of the various provinces throughout the kingdom setting forth the desirability of giving some elementary instruction in obstetrics to the women who practise midwifery in rural districts without qualification of any kind. With this object it is proposed that practical courses shall be held, each lasting fifteen days, in the obstetric clinics of the universities and schools of midwifery. The instruction is to be of a strictly elementary character, and is to include some general knowledge of the pelvis and its contents, of gestation and the changes which it causes in the uterus; the position of the fœtus at term; the general mechanism of parturition; the importance of strict antisepsis and the means of ensuring it; when to send for medical help; abnormal presentations and various accidents; convulsions; the lochia; rise of temperature; first aid in flooding, etc.; management of the newborn babe. The examination of candidates is to be half an hour in length and is to be strictly practical in scope. Such a measure is greatly needed in this country, where midwifery in certain remote districts is of a highly primitive description.

There is a perfect epidemic of medical congresses in Italy at present. Gynæcologists, ophthalmologists, hygienists, hydrologists, have met and listened to each other's eloquence, and exchanged compliments and recounted their triumphs to their admiring friends. The great Medical Congress which is to be held at Rome in October will be the first of its kind; and Dr. E. Maragliano and his lieutenants are sparing no pains to make it a success. About the same time another hygienic congress will meet at Bologna.

LIVERPOOL.

[FROM OUR OWN CORRESPONDENT.]

Stanley Hospital: Committee Meetings, Deficiency of Funds.—Woolton Convalescent Home.—Park Hill Fever Hospital, resignation of Dr. Hope.—Fatal Case of Mussel-Poisoning.—Death under Chloroform.

The Committee of the Stanley Hospital have adopted the practice of holding quarterly meetings near the Exchange in order to facilitate the attendance of those members who, on account of the distance, cannot spare time to attend the monthly meetings at the hospital. The present Mayor of Liverpool has granted the use of a room in the Town Hall for those meetings during his year of office. The Stanley Hospital is situated in one of the poorest neighbourhoods of the city, within easy reach of the North Docks, where most of the great American liners are berthed, and where accidents are constantly happening. Its position enhances its usefulness, but its distance from the resorts of the wealthier classes seems to cause its claims to be often overlooked, and the Committee have great difficulty in providing funds. At present there is a debt of more than £3,000 due to the bankers, and although the building is made to hold 104 beds, only sixty can be kept in use.

The annual report of the Woolton Convalescent Home shows the financial condition of that institution to be in a highly satisfactory state, and patients will in future be received on payment of 7s. 6d. a week instead of 10s. as hitherto.

Dr. Hope has resigned the appointment of visiting physician to the Park Hill Fever Hospital on account of the wish of the Health Committee that he should take the entire control of the sanitary department, and that he should also be able to devote more time to his increasing duties in his capacity of Assistant Officer of Health. In accepting Dr. Hope's resignation the Hospitals' Committee passed a resolution recording "their satisfaction with the great skill and diligence he has displayed in carrying out his duties as visiting physician, and presenting him with a honorarium of 25 guineas for his extra services in connection with the fever patients during the past nine months."

The following fatal case of mussel-poisoning occurred here recently. A shipwright, aged 50, while looking for work at the docks, found a quantity of mussels adhering to the bottom of a flat, and ate from three to four quarts of them, some boiled and some raw. In a few hours he was seized with vomiting and violent pains in the abdomen, and was conveyed to the Northern Hospital, where he was found to be quite unconscious and with all his muscles paralysed, including those concerned in respiration. As asphyxia seemed imminent, Dr. Permewan, senior house-surgeon, resorted to artificial respiration, which was carried on for nine hours. For six or seven hours the pulse remained good, but, in the absence of the slightest attempt at automatic breathing, it gradually failed and death took place. Two police constables rendered valuable assistance in the prolonged employment of artificial respiration, their practice gained as members of the St. John Ambulance Association enabling them to do so most effectively. Another man, who partook of the mussels to a less extent, and only of those that were boiled, also manifested symptoms of poisoning, but speedily recovered.

A death has occurred during the inhalation of chloroform in the Northern Hospital. A man, aged 42, a turner, injured his hand with a circular saw, and was admitted into the hospital, where it was found that two of his fingers required amputation, which was done under chloroform. Subsequently the hand was attacked with cellulitis, and on September 4th it was proposed to remove another finger. The patient, a fairly robust man, was apparently in average health; his heart was auscultated, and no murmur was heard. Dr. Permewan, the senior house-surgeon, was going to operate, and one of the assistant house-surgeons administered chloroform. During the inhalation, and before any incision had been attempted, the patient began to struggle violently, and at the same time the pulse was observed to become feeble. The administration of the anæsthetic was accordingly suspended at once, but the pulse became imperceptible. Artificial respiration was immediately resorted to; ether was injected under the skin, amyl nitrite was exhibited by inhalation, and warm counter-irritants were applied to the præcordia. There was, however, no sign of a restoration of the pulse, although some attempts at automatic breathing were apparent for about three minutes after the former had ceased. At the necropsy the heart was found to be in a state of extreme fatty degeneration, it weighed 13½ ounces and was much dilated, though the walls were not above the average thickness; The valves were healthy; the kidneys were cirrhotic and cystic. The case is important as showing that the pulse may give the first indication of impending danger.

CORRESPONDENCE.

CARCINOMA OF BREAST.

SIR,—I am afraid that Mr. Clement Lucas has not fully understood the meaning of my recent communication to the JOURNAL on the subject of operations on carcinomas of the breast. If, as he implies in his letter in the JOURNAL of September 1st, he thinks that I, or the members of any school of surgeons that I know of, inspired "by timidity, fostered by ignorance, and justified only by senility," would refrain from removing cancerous breasts when the axillary glands have become implicated, he is obviously misled as to my meaning; for I there especially state that I have repeatedly removed such breasts, and have thoroughly emptied the axilla and its neighbourhood of enlarged lymphatic glands, and that there has been a speedy recurrence of the disease, very often in deeper seated parts, in spite of quick and satisfactory healing of the wound of operation.

The doctrine I am anxious to enforce is the one of careful selection of cases for operation, and the desirability of early operating on all suspicious nodules and lumps about the breast. I was so struck with the truth of Mr. Macnamara's remarks on this point that when I read his lectures in the JOURNAL I at once sat down to write in endorsement of them. That it would be good for the practitioners of surgery to take them to heart I feel sure, for Mr. Lucas and all other surgeons will agree with me when I state that it is rather the exception for cases to be sent them in the early stage, when the knife has a fair chance. Indeed, the contrary rule seems mostly to prevail, and whether from timidity on the part of the patient, or from procrastination, sufferers from cancer of the breast do constantly come before the notice of the hospital surgeon when their disease has attained a stage at which, notwithstanding what Mr. Lucas may say when bringing forward a few cases of recurring operation, operative treatment neither prolongs life nor lessens the development of the disease.

I would operate in early cases; in more advanced conditions of disease, where the patient is strongly desirous of my doing so; and when it is desirable to substitute for a painful discharging surface, a temporary condition of cure. But I would not remove large and rapidly growing cancerous tumours with any expectation of either a prolongation of life or of a retardation of secondary growth taking place. And, what is more, I reiterate my belief, founded upon observation, that the operation in such cases in itself gives a fillip to the constitutional disorder, and favours rapidity of progress in the disease.

I should like Mr. Clement Lucas to state what stage the scirrhus cases which he mentions as having operated on with so much benefit were in. I rather fancy he is speaking of just the variety that any man, with any judgment whatever, would have attacked. I am thoroughly with him in thinking that early scirrhous cancer should be removed with the knife, and that any recurrence should be dealt with. But I do not believe that any of the loosely constituted, soft-tissued, rapidly growing, malignant tumours, are either cured or temporarily arrested in their growth by removal.

The question of timidity is out of place in this discussion. The use of the knife is adopted or refrained from on quite other grounds. The point to be determined is, shall the knife be used indiscriminately, or shall each case be weighed on its own merits and dealt with accordingly? That it is a proper method of treatment in early stages of mammary cancer no one doubts, and that it should then be used far more frequently than, as a matter of fact, it is, admits of no question. But a man may well withhold it in other cases, when it is not a suitable method of treatment, without incurring the risk of being regarded as ignorant, timid, or senile in mode of thought.—I am, etc.,

H. A. LATIMER, Surgeon to Swansea Hospital.

THE DRAINAGE OF WEYBRIDGE.

SIR,—There seems to me that there is, in the otherwise accurately written letter of your correspondent on this subject, an error, which, for the credit of the inhabitants of Weybridge, should be corrected.

The opposition therein mentioned has at present, I fancy, but a feeble existence, although in past time it has been very strong; not, however, so much for the reasons adduced by your correspondent, which (being selfish and insufficient) would be very discreditable to the people of Weybridge, but because there have been and still are great local difficulties in disposing of the contents of the sewers.

That the place should be drained is, in my opinion, most necessary, but it is also needful that the scheme should be a carefully considered one; for, if not, Weybridge will not in future show that excellent sanitary return which our medical officer of health has been able to publish in the past.—I am, etc.,

ARTHUR R. GRAHAM, M.A., M.B.Cantab.

Holmwood, Weybridge.

HESSE'S APPARATUS.

SIR,—Dr. Tomkins does not follow me, in the paper which he quotes from. This no doubt is my fault. What I meant to affirm in the objection I pointed out in regard to Hesse's tube was this, that from the moment a hole is made in the india-rubber diaphragm over the end of the tube, diffusion of gases takes place from within out, and from outside to inside. Thus

a mixture of sterilised air and air from outside occurs just in front of the diaphragm: this is immediately sucked in by the aspirator, so that actually a litre of *outside* air will not pass in. Further, the mixture inside is swept out before it has had time to deposit its contained particles. This is the most serious objection, and I have proved this by experiments repeated again and again, but which at this time I need not further refer to. At the Laboratory of the Royal College of Physicians, Edinburgh, we have begun to use an improved apparatus, which to a great extent, does away with the most serious fault in Hesse's tube, viz., the air being dragged through the tube before all particles have deposited themselves.—I am, etc.,

T. G. NASMYTH, D.Sc., D.P.H., Cantab. F.R.S.E.

Cowdenbeath.

ABSENCE OF RIGHT PARIETAL BONE.

SIR,—The case described by Dr. G. W. Isaac under this heading in the JOURNAL of September 1st seems to bear a much more simple explanation than that suggested. It was clearly a case of cephalhæmatoma, or effusion of blood between the periosteum and the parietal bone, complicated, it may be, with an ordinary caput succedaneum, and not, as suggested, absence of the bone itself. Churchill, in his *Theory and Practice of Midwifery*, 6th ed., 1872, p. 221, describes the condition, and mentions that a semicircular ridge or boundary can be felt by the finger. No doubt they are frequently the result of pressure, but not always. The severity or great length of the labour has no influence upon its production.

Dr. Isaac's description of the disappearance of the swelling and "the way in which the bone was developed" proves incontestably that the theory suggested is the right one. Ossification of the parietal bone does not commence at the circumference and progress inwards.—I am, etc., ARTHUR W. EDIS, M.D., F.R.C.P.

Wimpole Street, W.

MEDICO-LEGAL AND MEDICO-ETHICAL.

FALSE CHARGES INSTEAD OF PAYMENT.

B. H.—If the accusation is not promptly denied, it will be impossible to escape the stigma, or successfully to deny it hereafter. A short letter repudiating all participation in any unlawful operation had better be written; and an action should at once be commenced in the county court to recover the fees. The man may not be worth powder and shot, but the character of a practitioner is generally considered worth a few pounds, and the necessary expenses of fighting the case properly should be incurred, even though there is no chance of getting them out of the defendant.

PROFESSIONAL TITLES ON LABELS.

JUSTITIA.—To add the name, titles (that of "Apothecary" excepted), and full address of the "Physician and Surgeon" alluded to, together with his hours of attendance at the surgery, on the printed medical labels—as on that submitted for our opinion by "Justitia"—may possibly be regarded by the triple Licentiate in question as an astute proceeding. It is, however, from our point of view, a covert and derogatory way of advertising himself, contrary to the usages and dignity of the profession, and in contravention, also, we apprehend, of the disciplinary rules of the Royal Colleges of which he is a member, and to the Councils of which—if the trade-like device be persisted in—we would suggest that our correspondent should, in the interest of the profession, forward a copy, and solicit their attention to the unprofessional incident; and if, moreover, his letter relative thereto be supported by the signatures of two or more local medical men, it will probably induce the College authorities to request an explanation from the offending practitioner.

THE APOTHECARIES' SOCIETY AND THE TITLE OF "DR."

B. A. DANIELL (Aberavon) writes: Can anything justify an M.R.C.S. and L.S.A. using the prefix "Dr." on his bills? If not, would the Society of Apothecaries take cognisance of it?

*** We have referred the question to Mr. J. R. Upton, Solicitor to the Apothecaries' Society, who replies as follows: "The Society of Apothecaries' powers are limited entirely to dealing with unqualified persons. The subject of your correspondent's complaint is one coming under the Medical Act of 1858; but the cases decided on the point show that it is practically impossible to stop the alleged grievance."

A QUESTION OF TRAVELLING EXPENSES.

FIBULA writes: Some little time ago I was acting as assistant in a practice over 250 miles from London. I replied to the advertisement of a medical man residing in the south of England, who required an assistant. In answer to my application I received a telegram, asking me to meet him in London for a personal interview. I complied with his request, and he engaged me. I had to return for a few days before going to my new appointment, the term of my former engagement not having expired. Am I not justified in charging my present employer with my expenses to and from London for the personal interview which he desired?

*** There seems to be good reason why the payment should be made, and a contract to pay reasonable expenses would probably be inferred.

MEDICAL ETIQUETTE.

A MEMBER writes: Mr. S. calls in Dr. R. to attend him for an affection for which he had treated him a year ago. After about a month, as there is no appreciable improvement, Mr. S. writes Dr. R., saying that he must have fresh advice, and intends asking Dr. M. to come and see him; that he does not by any means cast any reflection on Dr. R.'s treatment, but, on the contrary, he believes that all has been done that could have been done, and that he is certain he will eventually have to go home (we live abroad); but before doing so, and in order to satisfy his friends, he wishes Dr. M. to have him under his treatment for a week or so. To this Dr. R. replies that of course he may call in any doctor he likes, but points out that the correct thing to have done would have been to have asked Dr. R. to have brought Dr. M. to meet in consultation over his case. Mr. S. replies that, had he had any doubt as to Dr. R.'s treatment, he would at once have asked for a consultation; but that, under the circumstances, he does not think it necessary, and hopes that, when all is explained, Dr. M. will have no difficulty in taking over his case.

Dr. M. duly receives Mr. S.'s letter, but replies that he cannot see Mr. S. except in consultation with Dr. R. To this Mr. S. replies that he has written Dr. R. on the subject and explained everything, and that if he (Dr. M.) will not come and see him, he must telegraph home for his brother to come out, and go home himself, which would seriously upset all their former arrangements. On receipt of this second letter, Dr. M. goes to Dr. R. and tells him he has been asked by Mr. S. to take over his case, and asking what he should do. Dr. R. replied that Dr. M. could only see Mr. S. in consultation with himself, to which he replied, "I have said so; but Mr. S. in reply says that if I do not see him," etc. (see above). "Now, what," says Dr. M., "am I to do under these circumstances?" to which Dr. R. replies that he fails to see how Mr. S.'s private affairs affect the main question, and refers him to his knowledge of medical etiquette and his own conscience. Dr. M. visited Mr. S. that evening, and has attended him ever since (five days).

Kindly give me your opinion of Dr. M.'s conduct towards Dr. R., and state what should for the future be the attitude of Dr. R. towards Dr. M. professionally.

*** There cannot be a doubt that "A Member" has mistaken his real position in the case in question. Having pointed out to Mr. S. what he conceived was his ethical duty towards Dr. R., and received from him a courteous reply and explanatory reason for changing (temporarily, at least) his medical adviser, the latter should, in our opinion, have accepted the inevitable; and, further, when Dr. M. called to explain to and consult him with reference to Mr. S.'s letter of request, he (Dr. R.) would have acted wisely in at once withdrawing from the case. We deem it judicious to add that Dr. M.'s conduct in the matter was in entire accord with the true principle of medical ethics, and Dr. R.'s "future professional attitude" towards him should certainly be that of a courteous and friendly brother practitioner.

PARTNERSHIPS.

A. B. D. writes: A. goes down to a town of about 60,000 inhabitants to inspect a partnership and to act *pro tem.* as assistant. He finds it does not suit him, and leaves after a fortnight. Is he prevented by medical etiquette from going into partnership with another practitioner in the same town? He has signed no bonds or papers of any sort.

*** In the absence of any known rule bearing on the exceptional point submitted by our correspondent, we can only express our personal views thereon, and which we would premise are entirely uninfluenced by the statement that "he has signed no bond or paper of any sort"—a factor which, in such a case, cannot for a moment be entertained. Looking at it, therefore, purely as a question of medico-ethical morality, we fail to see that any practical damage is likely to accrue to the principal in the case from the fact that A. acted as his *pro tem.* assistant for a fortnight—a period very far too short to enable him (A.) to prejudicially influence an old-established practice in a town of 60,000 inhabitants. We are of opinion, therefore, that A. would not, under the circumstances related, act unjustifiably in going into partnership with another practitioner in the same town.

MEDICAL SECRETS.

W. H. M. writes: Will you kindly advise me in the following case? Some years ago I attended a young lady of means, who was suffering from over-indulgence in stimulants. The friends were informed by me of the cause of her illness, and thereafter took steps to prevent a repetition of the abuse. This not being to the mind of the young lady, she left home and resided with some friends who were more indulgent. To make a long story short, she died of delirium tremens this year, and has left her whole property to the strangers with whom she made her home. To-day I am sent for by the solicitor of the young lady's relations, who informs me that an attempt is being made to dispute the will, and requests to precognose me anent my knowledge of the deceased's habits. Am I justified in telling what I know, the party concerned being dead? Should I refuse to be precognosed and compel them to summon me?

*** Medical secrets are not privileged from disclosure, and a practitioner may be compelled, when in the witness-box, to say what he knows of a patient's health or habits. There is, however, no necessity for him to tell anything beforehand to the solicitor in charge of a case. In the present instance we see no special reason for refusing information to the solicitor; but it is a matter in which each person can please himself.

"OPEN SHOP."

A LICENTIATE WHO DOES NOT KEEP AN OPEN CHEMIST'S SHOP writes: Up to 1882 the Edinburgh College of Physicians prohibited its Fellows and Members from keeping an open chemist's shop. Perhaps Dr. J. Gage Parsons can inform me when the law was altered so as to include Licentiates.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

THE Admiralty have approved the following proposals of the Inspector-General of Haslar Hospital relative to a course of lectures, etc., for medical officers of all ranks:—All senior medical officers of ships and establishments at Portsmouth are invited to attend the laboratory at Haslar Hospital as frequently as their duties will permit to carry out a course of practical analytical instruction. The surgeons of ships and establishments are to attend the course of lectures and practical work in the laboratory as regularly as their ordinary duties will permit. Medical officers of all ranks on half-pay resident in the neighbourhood will have the privilege of attending the lectures and working in the laboratory, and also of being present at *post-mortem* examinations. No expense of any kind is to be incurred in carrying out these courses.

THE following appointments have been made at the Admiralty: W. D. LONG, FIELD, Fleet-Surgeon to the *Himalaya*; G. J. IRVINE, Staff-Surgeon to the *Flora* additional; W. E. BRETON, M.D., Staff-Surgeon to the *Active*.

Fleet-Surgeon J. D. SMITH, M.D., has been placed on the retired list at his own request. His commissions are dated: Surgeon, December 8th, 1863; Staff-Surgeon, April 14th, 1877; and Fleet-Surgeon, January 26th, 1885.

Fleet-Surgeon W. H. STEWART has been appointed to the *Malabar*, and Fleet-Surgeon R. S. P. GRIFFITHS to the *Serapis*.

THE MEDICAL STAFF.

DEPUTY SURGEON-GENERAL E. H. ROBERTS retires on temporary half pay from September 14th. He entered the service as Assistant-Surgeon June 23rd, 1854; became Surgeon, August 7th, 1866; Surgeon-Major, March 1st, 1873; Brigade-Surgeon, November 13th, 1881; and Deputy Surgeon-General, May 4th, 1886. He served with the 72nd Highlanders in the Crimea from June 13th, 1855, including the expedition of Kertch, siege and fall of Sebastopol, and attacks of June 18th and September 8th (medal with clasp, and Turkish medal). He was with the 79th Highlanders in the Indian Mutiny campaign of 1857-58, including the siege and capture of Lucknow, attack on the Fort of Rooyah, action of Allygunge, and capture of Bareilly (medal with clasp).

Surgeon R. C. G. DILL, who is serving in the Bengal command, has leave of absence for six months on medical certificate.

Surgeon A. E. TAIT, serving in the Madras command, is appointed to the civil medical charge of the Minbu District, Burmah, and its police, *vice* Surgeon F. W. Wright, M.B., D.S.O., relieved.

Surgeon D. M. SAUNDERS, M.D., having reported his arrival from England, has been directed to proceed to Jhansi for duty in the Gwalior District.

Sir SAMUEL ROWE, M.B., K.C.M.G., late Governor of the British settlement of Sierra Leone, died at Madeira on August 28th. He entered the service as Assistant-Surgeon, April 16th, 1862; became Surgeon, July 4th, 1870; and Surgeon-Major, March 1st, 1873; he was placed on retired pay, December 4th, 1886, with the honorary rank of Brigade-Surgeon. He served throughout the Ashanti war of 1873-74, and was sent as Special Commissioner to the kings and chiefs of Fanti, on the invasion of the Protectorate by the Ashantis in January 1873; he was with the force under Colonel Festing at the defeat of the Ashantis in the two engagements at Almina, on June 13th, and was mentioned in despatches as having "acted in more capacities than those of his own profession," and as having "rendered valuable assistance on all occasions." He joined Glover's expedition, to which he served as Chief of the Staff (several times mentioned in despatches, medal with clasp). He was nominated a Companion of the Order of St. Michael and St. George, in 1874, and Knight Commander of the same order in 1880. Sir Samuel was landed from the African Company's steamer *Nubia*, at Madeira, about a fortnight ago. He was then suffering very severely, being in extremely bad health when he embarked on board the steamer about a week previously at Sierra Leone. For about thirty years Sir Samuel has occupied various important Government positions, being Colonial Surgeon at Lagos, Governor of the Gold Coast Colony at Bathurst, and last of all of the Sierra Leone Settlement. His Excellency has undertaken many missions for the pacification of the interior of Africa, and almost his last efforts were to establish peace in the Sherbro River, and with the tribes immediately behind Sierra Leone. Sir Samuel Rowe was the best known official on the West Coast of Africa, and it is probable that no one so well as he knew how to deal with the native races all along the coast. He left England about two years ago for Bathurst, River Gambia, to make certain investigations for the Colonial Office, and after adjusting matters there he proceeded to his previous post at Sierra Leone, in which vicinity he remained until he contracted the illness, which ended in his death. His Excellency had the entire confidence of the English as well as the native traders on the coast and in England. His death is another instance of a life lost through a strict adhesion to duty on the unhealthy African coast.

Brigade-Surgeon J. T. M. SYMONS, M.D., has been granted retired pay. He entered the service as Assistant-Surgeon, December 8th, 1857; became Surgeon, March 1st, 1873; Surgeon-Major, April 1st, 1873; and Brigade-Surgeon, July 31st, 1883. He has no war record.

Brigade-Surgeon LAURENCE CORBAN, M.D., is also granted retired pay. His commissions bear date: Assistant Surgeon, September 30th, 1864; Surgeon, March 1st, 1873; Surgeon-Major, September 30th, 1876; and Brigade-Surgeon, February 24th, 1888. Dr. Corban (says *Hart's Army List*) was specially thanked by Lord Napier of Magdala, Commander in Chief in India, in General Orders, for services during an epidemic of cholera in Oude, in 1872. He served in the Egyptian war of 1882, in medical charge of the 2nd Battalion Duke of Cornwall's Light Infantry, and was present in the engagements at El Magfar and Tel-el-Mahuta, in the two actions at Kassassin, and at the battle of Tel-el-Kebir (mentioned in despatches, promoted Surgeon-Major, medal with clasp, and Khedive's star), and with the Nile Expedition in 1884-85 as Senior Medical Officer to the Camel Corps, Medical Field-Inspector on the Lines of Communication, and Senior Medical Officer at Abu Fatmeh (clasp).

Quartermaster THOMAS THOMPSON has likewise retired. Entering as Lieutenant of Orderlies, September 30th, 1874, he became Captain of Orderlies, September 30th, 1880; and Quartermaster from July 1st, 1881; he was granted the honorary rank of Captain, September 30th, 1880. He was engaged in the campaigh in the Soudan in 1885, and received the medal with clasp, and the Egyptian bronze star granted therefore.

Surgeon S. C. PHILSON, serving in the Madras Command, is granted leave for 182 days on medical certificate.

Deputy Inspector-General D. S. E. BAIN, M.D., died at Worthing on July 22nd. His commissions were dated: Assistant-Surgeon, January 23rd, 1846; Surgeon, November 3rd, 1854; Surgeon-Major, January 23rd, 1866; and Honorary Deputy Inspector-General, March 8th, 1871, when he retired. He served in the Crimea from May 13th, 1855, and was at the siege and fall of Sebastopol (medal with clasp and Turkish medal).

ARMY MEDICAL RESERVE.

SURGEON-MAJOR MATTHEW BAINES, M.D., has resigned his commission, which bore date April 25th, 1888.

Acting-Surgeons E. W. SKINNER, M.B., 1st Cinque Ports Volunteers; A. A. WATSON, 3rd Lancashire Volunteers; and J. H. ANDERSON, M.D., 5th Volunteer Brigade, Gordon Highlanders (formerly the 1st Kincardine and Aberdeen), to be Surgeons (ranking as Captains).

Surgeon D. DE LA P. BERESFORD, 2nd Volunteer Battalion Shropshire Light Infantry (late the 2nd Shropshire), and Acting-Surgeon PATRICK KYNOCH, 1st Roxburgh Border Mounted Rifles, are appointed Surgeons (ranking as Captains).

INDIAN MEDICAL SERVICE.

SURGEON S. J. THOMSON, Bengal Establishment, Deputy Sanitary Commissioner, 2nd Circle, North-West Provinces and Oude, is appointed to officiate as Sanitary Commissioner of those provinces during the absence of Brigade-Surgeon J. Richardson, M.B., who has been granted special leave for six months on urgent private affairs.

Surgeon G. H. BAKER, Bengal Establishment, is appointed to officiate as Residency Surgeon in Nepaul, *vice* Surgeon R. Shore, M.D., transferred.

Surgeon E. H. BROWN, Bengal Establishment, is appointed Officiating Medical Officer to the 2nd Infantry, Hyderabad Contingent, *vice* C. L. Swaine, transferred to the 1st Cavalry.

Deputy Surgeon-General R. LIDDERDALE, M.D., Bengal Establishment, Sanitary Commissioner, Bengal, has leave of absence for 177 days on medical certificate.

Surgeon W. H. BOALTH and J. C. PINTO, Madras Establishment, doing duty in the Eastern District, are directed to do general duty in the Burmah Division.

Surgeon M. P. KHAREGAT, Madras Establishment, on arrival for duty from on leave, is ordered to do duty at Quilon.

The Queen has approved of the following admissions as Surgeons to the Indian Medical Service. *Bengal.*—D. G. MARSHALL, D. M. MOIR, H. F. WHITCHURCH, J. R. ROBERTS, F. W. GEE, KANTA PRASAD, P. W. O'GORMAN, W. H. GRAY, and G. T. MOULD. *Madras.*—A. E. GRANT, and F. C. PEREIRA. *Bombay.*—J. E. HOJEL, H. C. L. ARNIM, and G. S. THOMSON.

The services of Surgeon P. MULLANE, M.D., Bengal Establishment, are placed temporarily at the disposal of the Government of Bengal.

The services of Surgeon-Major T. HUME, M.D., Madras Establishment, are replaced at the disposal of the Military Department.

Surgeon E. H. BROWN, Bengal Establishment, is appointed Officiating Medical Officer of the 3rd Infantry Hyderabad Contingent, *vice* Surgeon H. G. L. Wortabet, M.B., on furlough.

Surgeon O. C. H. STRICKLAND is admitted to the Madras Establishment from April 22nd, the date of his arrival in India.

THE VOLUNTEERS.

SURGEON H. P. WELCHMAN, of the Staffordshire (Queen's Own Royal Regiment) Yeomanry, has resigned his commission, which bore date July 30th, 1877.

Mr. GEORGE MILES, late Honorary Assistant-Surgeon, is appointed Acting-Surgeon to the 2nd Volunteer Brigade Western Division Royal Artillery (late the 2nd Devon Artillery).

Acting-Surgeon T. P. DEVLIN, of the 1st Orkney, has resigned his commission, which was dated September 25th, 1886.

Acting-Surgeon J. R. ROLSTON, of the 2nd Volunteer Battalion Devonshire Regiment (late the 2nd Devonshire), is now appointed Second Lieutenant in the same corps.

Surgeon P. B. MILES, of the 1st Hereford, is granted the honorary rank of Surgeon-Major.

Mr. A. W. BARNLEY is appointed Acting-Surgeon to the 1st Volunteer Battalion Leicester Regiment (late the 1st Leicester).

Surgeon and Honorary Surgeon-Major C. H. BENNETT, M.D., of the 3rd Loudon, has resigned his commission, which was dated August 6th, 1873. He is permitted to retain his rank and uniform.

Mr. JAMES MACKAY is appointed Acting-Surgeon to the 6th Volunteer Battalion Black Watch (late the 1st Fife).

Mr. EDWARD LISTER is appointed Surgeon to the 1st Volunteer Battalion South Lancashire Regiment (late the 9th Lancashire).

PASS LETTERS IN ARMY LIST.

A CORRESPONDENT points out that when military officers pass a higher examination the fact is noted by certain letters after their names; he suggests that likewise when medical officers pass, say, for the Fellowship of a College, or for a degree in State medicine, it ought to be noted after their names.

*** We scarcely see the analogy; the military officer's passing, say, through the Staff College is a purely military affair, the medical officer's Fellowship a civil. It is, however, a mere detail, and might be done just as M.D. or M.B is placed after the medical officer's name.

THE SIX YEARS' TOUR IN INDIA.

WE would inform a "Retired Medical Officer" that from what we hear it is not intended to make the six years' tour applicable to officers at present serving in India; the application of the rule will be prospective, not retrospective.

PUBLIC HEALTH
AND
POOR LAW MEDICAL SERVICES.

THE TRUE DEATH-RATES OF LONDON DISTRICTS DURING THE SECOND QUARTER OF 1888.

In the accompanying table will be found summarised the vital and mortal statistics of the forty-one sanitary districts of the metropolis, based upon the Registrar-General's returns, for the second quarter of the current year. The mortality figures in the table relate to the deaths of persons actually belonging to the respective sanitary districts, and are the result of a complete system of distribution of deaths occurring in the institutions of London among the various sanitary districts in which the patients had previously resided. By this means the precise number of deaths of persons actually belonging to the respective sanitary districts is known, as all deaths occurring in institutions of persons who had previously resided in another district have been excluded from the total number of deaths in the district in which the institution is situated, and credited to the districts from which they came. By this means alone can trustworthy data be secured upon which to calculate reliable rates of mortality.

The births registered in London during the second quarter of the current year were equal to an annual rate of 30.6 per 1,000 of the population of the metropolis, estimated at 4,282,921 persons, which showed a further decline from the rates recorded in the corresponding periods of recent years. The birth-rates in the various sanitary districts last quarter showed the usual wide variations, the sex and age distribution of the population differing greatly. In Kensington, St. George Hanover Square, St. Martin-in-the-Fields, London City, and St. James Westminster, the birth-rates were considerably below the average; while in East London, St. Luke's, St. Olave Southwark, and Fulham, where the population contains a large proportion of young married persons, the birth-rates showed a marked excess.

The 17,752 deaths of persons belonging to London registered during the quarter under notice were equal to an annual rate of 16.6 per 1,000, which was below the mean-rate in the second quarter of the ten preceding years, 1878-87, and was lower than that recorded in the corresponding period of any year on record. The lowest death-rates among the forty-one sanitary districts last quarter were 11.6 in Hampstead, 12.9 in Plumstead, 13.9 in Battersea, 14.0 in Camberwell, and 14.1 in Islington; in the other districts the rates ranged upwards to 22.5 in St. Giles, 23.3 in Holborn, 24.3 in St. Saviour Southwark, 26.4 in St. George-in-the-East, and 32.3 in St. Olave Southwark. During the quarter under notice 1,902 deaths resulted from the principal zymotic diseases in London: of these, 798 were referred to whooping-cough, 247 to measles, 246 to diphtheria, 236 to diarrhœa, 229 to scarlet fever, 145 to different forms of "fever" (including 1 to typhus, 136 to enteric or typhoid fever, and 8 to simple and ill-defined forms of fever), and 1 to small-pox. These 1,902 deaths were equal to an annual rate of 1.8 per 1,000, which was below that in the corresponding period of any year on record. The lowest zymotic death-rates during the three months under notice were recorded in St.

Analysis of the Vital and Mortal Statistics of the Sanitary Districts of the Metropolis, after Complete Distribution of Deaths occurring in Public Institutions, during the Second Quarter of 1888.

Sanitary Areas.	Estimated Population middle of 1888.	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Zymotic Diseases.	Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric Fever.	Simple and Undefined Fever.	Diarrhœa.	Deaths of Children under one year of age to 1,000 Births.
LONDON	4,282,921	32,584	17,752	30.6	16.6	1.8	1,902	1	247	229	246	798	1	136	8	236	125
West Districts																	
Paddington	112,781	683	432	24.3	15.4	2.5	70	—	9	3	20	29	—	2	—	7	116
Kensington	193,247	951	695	19.8	14.4	2.3	110	—	33	8	11	43	—	—	—	8	158
Hammersmith	98,823	707	366	28.7	14.9	1.4	35	—	2	8	5	10	—	2	—	8	141
Fulham	62,556	736	319	47.2	20.5	2.5	39	—	6	3	1	17	—	3	1	8	133
Chelsea	102,106	831	491	32.7	19.3	2.0	50	—	5	5	2	32	—	—	—	6	146
St. George, Hanover Square	88,024	435	354	19.8	16.1	1.3	28	—	—	2	15	7	—	1	—	3	129
Westminster	55,406	386	235	28.0	17.0	2.4	33	—	—	4	2	20	—	3	—	4	140
St. James, Westminster	27,528	160	112	23.3	16.3	0.8	6	—	—	1	—	3	—	1	—	1	181
North Districts																	
Marylebone	150,053	1,130	694	30.2	18.6	1.2	44	—	12	3	2	17	—	3	1	6	120
Hampstead	56,565	348	164	24.7	11.6	1.1	15	—	—	1	3	9	—	—	—	2	108
St. Pancras	244,703	1,807	1,044	29.6	17.1	1.7	101	—	14	9	11	40	—	13	—	14	137
Islington	332,163	2,349	1,163	28.4	14.1	1.2	100	—	12	9	14	45	—	4	1	15	115
Hackney	238,374	1,643	855	27.7	14.4	2.2	131	—	49	10	28	31	—	6	—	7	102
Central Districts																	
St. Giles	40,061	295	224	29.6	22.5	1.2	12	—	2	—	3	3	—	3	—	1	146
St. Martin-in-the-Fields	15,125	59	69	15.7	18.3	1.3	5	—	—	4	1	—	—	—	—	—	203
Strand	29,309	182	148	24.9	20.3	0.8	6	—	—	—	1	4	—	—	—	1	154
Holborn	30,489	214	177	28.2	23.3	2.2	17	—	1	—	3	8	—	2	—	3	168
Clerkenwell	70,308	572	323	32.7	18.4	1.7	30	—	4	1	6	14	—	1	—	4	154
St. Luke's	52,000	511	261	39.4	20.1	2.6	34	—	1	7	3	14	—	1	—	8	145
London City	38,528	201	215	20.9	22.4	1.4	13	1	1	2	2	5	—	1	—	1	134
East Districts																	
Shoreditch	135,396	1,153	574	36.9	18.4	2.0	62	—	3	7	6	21	—	8	—	14	121
Bethnal Green	131,347	1,247	591	38.1	18.1	2.1	70	—	8	14	7	25	—	7	—	9	112
Whitechapel	67,389	677	321	40.3	19.1	1.7	28	—	7	1	3	9	—	2	—	6	115
St. George-in-the-East	46,229	451	304	39.2	26.4	2.5	29	—	10	—	3	10	—	4	—	2	186
Stepney	58,802	464	300	31.7	20.5	2.6	38	—	7	5	4	14	—	3	1	4	140
Mile End Old Town	114,444	950	452	33.3	15.9	1.8	51	—	11	7	7	15	—	6	—	5	114
Poplar	186,200	1,496	713	32.2	15.4	2.1	98	—	8	25	13	33	—	9	—	10	107
South Districts																	
St. Saviour, Southwark	27,230	237	165	34.9	24.3	1.6	11	—	1	1	1	6	—	—	—	2	169
St. George, Southwark	59,864	540	323	36.2	21.7	2.2	33	—	—	3	3	22	—	2	—	3	130
Newington	121,123	1,023	516	33.9	17.1	1.3	39	—	1	5	3	20	1	2	1	6	130
St. Olave, Southwark	10,053	105	81	41.9	32.3	1.6	4	—	1	—	—	1	—	—	—	2	152
Bermondsey	89,802	798	432	35.7	19.3	2.5	56	—	3	4	3	31	—	5	—	10	134
Rotherhithe	43,072	360	166	33.6	15.5	1.7	18	—	2	3	1	6	—	5	—	1	108
Lambeth	284,809	2,240	1,184	31.6	16.7	1.6	114	—	1	15	15	58	—	9	—	16	119
Battersea	160,377	1,200	557	30.0	13.9	1.7	68	—	7	13	5	30	—	3	3	7	141
Wandsworth	128,448	1,051	504	32.8	15.7	2.0	64	—	2	7	9	36	—	6	—	4	121
Camberwell	256,404	1,766	892	27.6	14.0	1.7	108	—	8	21	8	48	—	5	—	18	106
Greenwich	156,169	1,284	681	33.0	17.5	1.6	61	—	6	10	9	26	—	3	—	7	128
Lewisham	59,837	428	233	28.7	15.6	2.1	32	—	9	2	3	15	—	2	—	1	110
Woolwich	37,098	293	162	31.7	17.5	1.0	9	—	1	2	1	3	—	1	—	1	100
Plumstead	80,739	621	360	30.9	12.9	1.5	30	—	—	4	9	15	—	1	—	1	—

James Westminster, Strand, Woolwich, Hampstead, Marylebone, Islington, and St. Giles, in each of which sanitary districts it was less than 1.3 per 1,000. The zymotic death-rates ranged upwards in the other districts to 2.5 in Paddington, in Fulham, in St. George-in-the-East, and in Bermondsey, and 2.6 in St. Luke's and in Stepney. Compared with the preceding quarter the fatality of each of the principal zymotic diseases, except measles and diarrhœa, showed a decline. Only one death from small-pox (which belonged to London city) was recorded in London during the three months ending June last. The number of small-pox patients under treatment in the Metropolitan Asylums Hospitals was only 2 at the end of the quarter under notice, and 23 cases were admitted during the quarter, against 38 in the first quarter of the year. Measles showed the highest proportional fatality in Kensington, Hackney, and St. George-in-the-East; scarlet fever in Bethnal Green and Poplar; and diphtheria in Hackney, Paddington, and St. George Hanover Square. The number of scarlet fever patients in the Metropolitan Asylums Hospitals, which had been 1,087 at the beginning of the quarter, steadily declined, and was 844 at the end of June last. The admissions to these hospitals of persons suffering from scarlet fever, which had been 2,186 and 1,416 in the two preceeding quarters, further declined to 1,025 during the three months ending June.

Infant mortality last quarter, measured by the proportion of deaths under one year of age to births registered, averaged 125 per 1,000, against 124 and 128 in the corresponding periods of 1886 and 1887. Among the various sanitary districts the rates of infant mortality were lowest in Plumstead, Hackney, Hampstead, Camberwell, and Poplar; whereas they showed the largest excess in Holborn, St. Saviour Southwark, St. James Westminster, St. George-in-the-East, and St. Martin-in-the-Fields.

THE RIVER WEAR AND THE SEWAGE OF DURHAM.

A VERY pretty quarrel is going on at Durham in which it appears to us neither party is in the right. The facts of the case, as we gather from the correspondence in the local papers, which has been submitted to us, are shortly these. This ancient city is built within and around a loop of the river Wear, which thus encircles a large portion of the town. Into this river, between the baths and the Prebends' bridges, a distance of about three-quarters of a mile, no fewer than 42 street sewers empty themselves, and of these 24 have their outlets from 3 inches to $2\frac{1}{2}$ feet above the water level at the present time, when, owing to the heavy rains, the river is higher than it usually is at this season of the year. That the effluvia escaping thence are most offensive we do not doubt, and that the sight of the sewage trickling therefrom is a grievance to the eye need surprise no one. We agree, too, with our correspondents in connecting the alleged prevalence of fever, though not the recent outbreak of small-pox, with the insanitary state of the river, but we must demur to the proposed remedy—namely, the raising of its level by adding eighteen inches to the height of the Museum Weir. This weir is the property of the Dean and Chapter, who have been called on by the Board of Trade to construct an improved fish pass therein, and they suggest the expediency of taking the present opportunity of raising the weir to the height named with the effect of submerging all but four of the sewer outlets, and thus removing the eyesore of which they complain. The cost of this operation, which, as they naively observe, they are under no obligation to carry out, will be about £120, and they are willing to contribute the sum of £50 if the remainder be raised by public subscription; but we are at a loss to conceive what sanitary advantage will be gained thereby. The sewer air which escapes so palpably from these openings, and, as they somewhat inconsequentially conclude, is now "blown into the streets and houses," would be penned in by their submersion, and the stagnant sewer gases forced upwards by every accession to the volume of the sewage by heavy rains, or by back watering consequent on a rise of the level of the river.

The true cause of the evils of which they justly complain is to be found in the antiquated method of sewage disposal, and the twenty-four sewers in question are probably less injurious to the health of the population than the sixteen already discharging themselves under the level of the stream. The sole remedy would be to carry out a new system of sewerage, diverting the sewage from the river and submitting it to purification by downward intermittent filtration on some eligible low-lying land. To submerge the whole of the outlets could have no other result than to aggravate the admitted insanitary condition of the town, while in no way improving that of the river. Indeed, such an ostrich-like policy, based on the proverb that "what the eye does not see the heart does not grieve for," would rather tend to render the river even fouller than it now is, for the inevitable effect of weiring up a river is to increase the deposition of mud in its bed, and in the case in question this mud must largely consist of sewage matters, street washings, and other solids temporarily held in suspension.

In this respect our forefathers were wiser than the men of this generation. The very first act on our statute book enacts that all weirs on the Thames, Medway, and other rivers "shall be utterly put down," and one of Henry IV complains of "the outrageous enhancing and straitening of weirs, etc."

There can be no doubt that the alternation of water famines and destructive floods from which this country suffers year after year, notwithstanding its exemption from the consequences of the melting of mountain snows, is owing to the disafforesting of uplands, the obliteration of the smaller streams, and the silting up of the beds of the larger by the soft surface soil carried down without hindrance by the rainfall coursing rapidly to the nearest rivers. Instead of weiring these up and thus checking their course, increasing the silting, and occasionally having recourse to embanking with the view of restraining them within their ever shallower beds, the proper course would be the reafforesting of hillsides where denudation is going on, and the planting of trees along the banks of all streams, meanwhile scouring and excavating their channels, and spreading the mud over the adjacent meadows. The practice of weiring up is radically wrong, aggravating the evils it appears to palliate for the time; and, supplemented by raising the banks for the prevention of floods, will, if persisted in long enough, bring us into the almost ludicrous position of a district in Japan, where the rivers have been raised so high above the general level of the land, that a railway has had to be carried by a series of tunnels beneath their beds, instead of as elsewhere crossing over them by bridges.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

OPENSHAW (Population 18,000).—Dr. H. Pell-Ilderton's report for 1887 is largely supplemented by tables, which show very clearly the standing of the township as regards vital statistics and sanitary condition. Infectious diseases, principally scarlet fever and measles, prevailed to some extent, thereby raising the zymotic death-rate to the highest of the past five years. The usual precautions were taken, but the want of hospital accommodation and carelessness as to isolation considerably discounted sanitary efforts. Dr. Pell-Ilderton states that the five fatal cases of enteric fever could not be associated with any sanitary defects. The death-rate for the year was 24.6 per 1,000. Only once during the last five years has the rate fallen to 20.6.

TUNBRIDGE WELLS (Population 26,984).—*Low Mortality Rates: Useful Sanatorium.*—The year 1887 was, like its predecessor, a very favourable one in point of mortality in this district. The death-rate (13.4 per 1,000) was lower than it has ever been before, and the zymotic rate (0.4) is unusually low. Dr. Wm. Stamford reports that in this latter class of disease only 13 deaths were registered during the year, as against 20 in 1886, 21 in 1885, 37 in 1884, and 36 in 1883. It will thus be seen that the loss from zymotic diseases during the year is about one-third of what it was about five years ago. This freedom from infectious diseases is perhaps the more remarkable considering the proximity of London and other towns, where scarlet fever was epidemic. As it was, 30 cases came under treatment, many of them having been imported; but, thanks to the means of isolation afforded by the sanatorium, the disease was kept well in hand, and only one death ensued.

BLACKPOOL (Population, 20,380).—*Value of Sanitation: Compulsory Notification of Infectious Disease: Some Patients for Pasteur.*—The satisfactory death-rate which Dr. Welch is able to report for the year 1887 augurs well for the popularity of this important watering-place during the coming season. It was the lowest rate yet recorded, being nearly 3 per 1,000 less than that of 1886—16.0 against 18.9—and 3.5 per 1,000 lower than the average for the five previous years. It may reasonably be assumed that the increased efficiency of the drainage and scavenging during this period has had something to do with this great decline. There has at the same time been a substantial reduction in child-

mortality, and also in the deaths from zymotic diseases. The only increase has been under the heads of whooping-cough and diphtheria, and in regard to the latter Dr. Welch thinks the increase has been more apparent than real, many cases of fatal throat affection being now termed diphtheritic which would formerly have been differently classed. During 1887, the death-rate from zymotic diseases was 2.5 per 1,000, scarlet fever and whooping-cough accounting for one-half the total deaths from these disorders. The number of deaths from scarlet fever (12) was the highest since 1882, and the number from whooping-cough (14) was the highest since 1878. Dr. Welch considers the latter disease can scarcely be included under the term "preventable." The deaths from the other preventable diseases of this class fell from 46 to 29. Diarrhœa caused 18 deaths, all in the third quarter of the year; of these, 13 only were under 5, against 21 in 1886, when the total number was 25. Every precaution is taken to protect the inhabitants and visitors from infectious diseases. Blackpool is one of the few health-resorts where a compulsory system of notification exists, and the report contains an interesting account of its working. Dr. Welch acknowledges the readiness of the medical practitioners in the town in giving him all information and assistance in carrying out the notification clauses, so that the public may reap all the benefit expected from them. Their co-operation is doubtless all the more ready since the health officer is not their rival in practice. The system of notification in force (by both medical attendant and householder) is practically notification by medical attendant alone. This works well in Blackpool, but, in Dr. Welch's opinion, the duty should be thrown on the householder. Some children, bitten by a rabid dog, were sent to Paris and underwent Pasteur's preventive treatment, and, up to the present time, they have escaped hydrophobia.

Bethnal Green (Population, 129,895).—*High Death-rate High Birth-rate.*—The summary which prefaces Dr. G. Paddick Bate's report for 1886 is sufficient of itself to convey an adequate idea of the state of the public health in this parish during the year. It is followed, however, by more extended information, a close comparison being instituted between the statistics of the district and those of London generally. The total number of deaths during the year was 3,040, yielding a death-rate of 23.45 per 1,000. This was 1.37 above the rate of 1885, and considerably in excess of the general metropolitan rate. The birth-rate of 40.0 per 1,000, on the contrary, was much higher than the general rate, 32.3, and Dr. Bate has little doubt that this high birth-rate accounts for a good deal of the mortality. No other metropolitan district had so many births in proportion to its population. As usual, nearly half the deaths were those of children aged less than five years. Of 540 deaths from zymotic diseases, no fewer than 436 were in the first age-period, and, of these, 209 were during the first year of life. Measles caused 108 deaths, 166 were from diarrhœal diseases, and 148 from whooping-cough. The increased mortality from the last-named disease was local, as the deaths from this cause over London were below the average. There was no death from small-pox during the year, and scarlet fever showed a considerable decrease. [Since this report was written an official inquiry has been carried out by Messrs. Cubitt Nichols and Shirley F. Murphy on behalf of the Government, in consequence of a complaint by the Mansion House Council on the Dwellings of the People. We have dealt separately with the inspectors' report, which showed the difficulties surrounding sanitary work in Bethnal Green, and made several suggestions for securing increased supervision and enforcement of the various sanitary statutes in the parish.]

Bisley (Population, 5,255).—*Hospital needed.*—Dr. Partridge's report for 1886, though clearly showing that every part of the district has been kept under careful supervision, does not contain any information of special interest. Reference is made to the various forms of zymotic diseases, of which whooping-cough seems to have been most prevalent and fatal. Scarlet fever and measles each caused one death. The general death-rate was 19.2 per 1,000, and this Dr. Partridge considers unusually high, the increase being due to the large number of deaths in the first and second quarters of the year from diseases of the respiratory organs. For 1887 the death-rate was only 13.2 per 1,000, and was thus much below the average of the previous three years, as well as of the two quinquennial periods preceding. Two deaths took place from scarlet fever, a disease that was prevalent during the year, especially in one part of the district (Eastcombes), where there were nine cases. The usual means were taken, in the absence of some hospital accommodation, to prevent extension of the disease. In one instance the parents removed a child with the eruption out upon it to another house. A severe reprimand was given, and proceedings threatened. Two other cases were visited in the Stroud Rural District that probably contracted the diesase at the schools they attended in Bisley. Measles were also prevalent in a mild form. On this account one school was closed during the latter part of the year by the proprietor's own action, rather earlier than usual for the Christmas holidays.

Whitechapel (Population, 72,142).—*Influence of Common Lodging-houses on Vital Statistics.*—Although the death-rate of this district for 1886 showed an increase of 3 per 1,000 upon the general London rate, yet Mr. Loane reported that, all things considered, Whitechapel should be congratulated upon producing such good results with certainly not the best materials. The common lodging-houses, with their varying population of persons not in the best condition to withstand the risks of disease, undoubtedly influence adversely the sickness and death-rates, while adding little to the birth-rate. Assuming that the average occupation of these dwellings, of which 149 exist in the district, equals their power of accommodation, Mr. Loane states that there is then a death-rate of nearly 34 per 1,000 referable to them. Diarrhœa, as usual, stood high in the mortality returns, chiefly among infants and young children, the deaths registered being mostly in the third quarters of the year. Only 6 cases of small-pox were heard of, against 56 cases in 1885, and 151 during 1884. Scarlet fever contributed 79 cases, against 40 and 119 cases respectively in the two preceding years, and 13 cases of enteric fever and 1 case of typhus fever were recorded, being the average number for the past three years. It has hitherto only been the custom in this district to disinfect bedding, rooms, etc., where cases of the above-named and similar diseases have occurred; but, in view of the fact that measles and whooping-cough add so largely to the mortality returns, Mr. Loane is not certain that wisdom would not be exercised by carrying out the same procedure in these diseases. In fact, during the year he placed deaths from measles upon the list when other young children were found to be resident where deaths took place from that disease.

Scarborough (Population, 35,000). *Excessive Mortality among Illegitimate Children.*—Dr. J. W. Taylor's annual report for 1887 is very favourable, showing that with reference to the control of diseases of a preventable character, Scarborough is maintaining its high position as a health-resort. The greater its popularity, however, the greater the danger of imported disease; but by the forethought and vigilance of the Sanitary Committee, this danger is reduced to a minimum. The record of deaths from zymotic causes was among the lowest during the past fifteen years, only 31, or a death-rate of 0.8 per 1,000 being registered. No history is given of any epidemic, and in the list of death causes there is no reference to small-pox or typhus fever. Dr. Taylor principally concerns himself with the still excessive mortality among illegitimate children, and the merits of the compulsory notification system. With regard to the former, he points out what a serious effect it has upon the infantile death-rate, indeed, upon the death-rate generally, though he can suggest no means by which it can be checked. It is, perhaps, only fair to state that in some of the years, where the fatality in this class has been heavy, those years have been characterised by a large proportion of deaths from diarrhœa, which affected infants generally; still, the deaths from the same cause amongst illegitimate were in greater proportion than amongst legitimate children. With regard to notification, Dr. Taylor states his opinion somewhat strongly that it will be utterly impossible to deal promptly or efficiently with zymotic diseases, until a compulsory notification of every infectious case as it arises is insisted upon.

Wellingborough Rural (Population, 24,300). *Case of Suspected English Cholera.*—The death-rate of this district for 1886 showed a decided increase over that of the previous year; 17.5 per 1,000, against 16.4 for 1885. Though scarlet fever was much less fatal, and the character of the epidemics was on the whole milder in form, yet measles and whooping-cough were very prevalent, and largely affected the infant mortality rate. An unusually large number of deaths were registered from typhoid

fever, but in many instances Dr. Thomas did not agree with the cause assigned. These cases of fever were all, with the exception of two, separate and distinct, and had no connection one with another. With regard to a death registered as from English cholera, Dr. Thomas states that he was informed that death ensued from blood-poisoning, and he thinks this the more probable cause, from the fact of there being no other case, and in view of the rare occurrence of cholera in this country. The vital statistics for 1887, show a great improvement over those for 1886, the general death-rate having sunk to 14.9 per 1,000, and the zymotic rate to 1.4 per 1,000. The improvement was general; as regards age, there was an increase in the deaths of people over 60, and a falling off among younger persons. Deaths from consumption showed a diminution, and also those from cancer, and the epidemics that occurred were altogether of a less fatal type. The mortality from "zymotic" diseases was as follows. Whooping-cough, 18; diarrhœa, 7; typhoid fever, 5; scarlatina, 3; and diphtheria, 2. There was no outbreak of measles recorded, and for the fifth year in succession no case of small-pox came to the knowledge of the health officer.

St. Pancras (Population, 242,000).—Dr. J. F. J. Sykes's report for 1886 is a careful compilation of statistics, accurate and comprehensive to the highest degree. The death-rate, 19.8 per 1,000, was slightly below that for all London, but rather in excess of the rate for the parish for the previous year. The subdistrict of Somers Town had the highest birth-rate and the highest death-rate; but the lowest excess of births appeared in the Gray's Inn Lane subdistrict, and the highest in Kentish Town, which had also the lowest death-rate. It was in the last-named district that the greatest number of deaths occurred from zymotic diseases. Dr. Sykes states that 190 deaths were referred to Kentish Town, out of a total of 616 for the entire parish. These numbers are rather more favourable than were those of 1885. Small-pox, measles, and scarlatina showed a decided decrease; but, on the other hand, the deaths from diarrhœa were more than doubled, and there was a considerable increase in the mortality from whooping-cough.

Health of English Towns.—During the week ending Saturday, September 1st, 5,484 births and 3,153 deaths were registered in the twenty-eight largest English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had been 16.4 and 18.1 in the two preceding weeks, declined again to 17.5 during the week under notice. The rates in the several towns ranged from 10.1 in Plymouth, 11.5 in Bristol, 12.0 in Nottingham, and 14.9 in Blackburn to 22.3 in Newcastle-upon-Tyne, 22.7 in Preston, 24.1 in Manchester, and 25.3 in Leeds. The mean death-rate in the twenty-seven provincial towns was 18.5 per 1,000, and exceeded by 2.1 the rate recorded in London, which was 16.4 per 1,000. The 3,153 deaths registered during the week under notice in the twenty-eight towns included 582 which were referred to the principal zymotic diseases, against numbers increasing from 311 to 639 in the six preceding weeks; of these, 379 resulted from diarrhœa, 53 from measles, 52 from whooping-cough, 39 from "fever," (principally enteric), 35 from diphtheria, and 2 from small-pox. These 582 deaths were equal to an annual rate of 3.2 per 1,000; in London the zymotic death-rate was 3.1, while in the twenty-seven provincial towns it averaged 3.3 per 1,000, and ranged from 0.0 in Huddersfield, 0.5 in Derby, and 0.6 in Wolverhampton to 5.7 in Leicester, 6.1 in Preston, and 7.6 in Leeds. Whooping-cough caused the highest proportional fatality in Norwich and Halifax; "fever" in Birkenhead and Sunderland; and diarrhœa in Brighton, Sheffield, Salford, Leicester, Preston, and Leeds. The 35 deaths from diphtheria in the twenty-eight towns included 23 in London, 3 in Manchester, 2 in Portsmouth, and 2 in Newcastle-upon-Tyne. Small-pox caused 2 deaths in Preston, but not one in London, or in any of the twenty-six other great towns. The Metropolitan Asylums Hospitals contained only 2 small-pox patients on Saturday, September 1st, and no new cases were admitted during the week. These hospitals also contained 738 scarlet-fever patients on the same date, against 716 and 727 at the end of the two preceeding weeks; there were 86 admissions during the week against 60, 62, and 76 in the three previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 1.6 per 1,000, and was considerably below the average.—In the twenty-eight large English town, including London, which have an estimated population of 9,398,273 persons, 5,539 births and 3,205 deaths were registered during the week ending Saturday, September 8th. The annual rate of mortality, which had been 18.1 and 17.5 per 1,000 in the two preceding weeks, rose again to 17.8 during the week under notice. The rates in the several towns ranged from 12.7 in Bristol, 13.9 in Brighton, 14.2 in Portsmouth, and 15.1 in Nottingham to 22.8 in Leicester, 24.4 in Leeds, 24.8 in Preston, and 25.1 in Norwich. In the twenty-seven provincial towns the mean death-rate was 19.3 per 1,000, and was 3.3 above the rate recorded in London, which was 16.0 per 1,000. The 3,205 deaths registered during the week under notice in the twenty-eight towns included 414 which were referred to diarrhœa, 66 to whooping-cough, 55 to scarlet fever, 41 to measles, 34 to "fever" (principally enteric), 28 to diphtheria, and not one to small-pox; in all, 638 deaths resulted from these principal zymotic diseases, against 639 and 582 in the two preceding weeks. These 638 deaths were equal to an annual rate of 3.5 per 1,000; in London the zymotic death-rate was 2.9, while it averaged 4.1 in the twenty-seven provincial towns, and ranged from 0.5 and 1.0 in Derby and Birkenhead to 8.9 in Norwich, 9.6 in Preston, and 10.3 in Leicester. Measles caused the highest proportional mortality in Leeds; scarlet fever in Blackburn; whooping-cough in Norwich; and diarrhœa in Bolton, Sheffield, Leeds, Norwich, Leicester, and Preston. Of the 28 deaths from diphtheria recorded during the week under notice in the twenty-eight towns, 18 occured in London, 3 in Newcastle-upon-Tyne, 2 in 2 in Brighton, Manchester, and 2 in Sheffield. No fatal case of small-pox was registered in London or in any of the other great towns. No small-pox patient was under treatment in the Metropolitan Asylums Hospitals on Saturday, September 8th. These hospitals contained, however, 755 scarlet-fever patients on the same date, against 706, 727, and 738, at the end of the three preceding weeks; 76 cases were admitted during the week, against numbers increasing from 60 to 86 in the four preceding weeks. The death-rate from diseases of the respiratory organs in London was equal to 1.8 per 1,000, and was slightly below the average.

Health of Scotch Towns.—In the eight principal Scotch towns, 792 births and 407 deaths were registered during the week ending Saturday, September 1st. The annual rate of mortality in these towns, which had been 17.3 and 16.7 per 1,000 in the two preceding weeks, further declined to 16.1 during the week under notice, and was 1.4 below the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns, the lowest rates were recorded in Greenock and Dundee, and the highest in Glasgow and Paisley. The 407 deaths in these Scotch towns during the week included 44 which were referred to the principal zymotic diseases, equal to an annual rate of 1.7 per 1,000, which was 1.5 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Perth and Glasgow. The 176 deaths registered in Glasgow included 15 from diarrhœa, 4 from scarlet fever, 1 from diphtheria, 1 from whooping-cough, and 1 from "fever." The death-rate from diseases of the respiratory organs in these towns was equal to 2.5 per 1,000, against 1.6 in London.—During the week ending Saturday, September 8th, 738 births and 405 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had declined from 17.3 to 16.1 per 1,000 in the three preceding weeks, further fell to 16.0 during the week under notice, and was 1.8 below the mean rate during the same period in the twenty-eight large English towns. Among the Scotch towns, the lowest rates were recorded in Greenock and Leith, and the highest in Glasgow and Paisley. The 405 deaths in these towns during last week included 51 which were referred to the principal zymotic diseases, equal to an annual rate of 2.0 per 1,000, which was 1.5 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic rates were recorded in Perth and Paisley. The 187 deaths registered in Glasgow during the week included 14 from diarrhœa, 6 from diphtheria, 4 from measles, 3 from whooping-cough, and 2 from "fever." Two deaths from scarlet fever occurred in Dundee, and 2 in Perth; and 4 fatal cases of measles in Paisley. The death-rate from diseases of the respiratory organs in these towns was equal to 3.1 per 1,000, against 1.8 in London.

Health of Irish Towns.—During the week ending Saturday, September 1st, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 17.1 per 1,000. The lowest rates were recorded in Waterford and Galway,

and the highest in Dublin and Wexford. The death-rate from the principal zymotic diseases in these towns averaged 2.0 per 1,000. The 138 deaths registered in Dublin during the week under notice were equal to an annual rate of 20.4 per 1,000, against 18.2 and 17.9 in the two preceding weeks. These 138 deaths included 19 from the principal zymotic diseases (equal to an annual rate of 2.8 per 1,000), of which 8 were referred to "fever," 7 to diarrhœa, 2 to scarlet fever, 2 to whooping-cough, and not one either to small-pox, measles, or diphtheria.—In the sixteen principal town-districts of Ireland the deaths registered during the week ending Saturday, September 8th, were equal to an annual rate of 19.5 per 1,000. The lowest rates were recorded in Londonderry and Sligo, and the highest in Kilkenny and Armagh. The death-rate from the principal zymotic diseases averaged 2.2 per 1,000. The deaths registered in Dublin during the week under notice were equal to an annual rate of 21.7 per 1,000 (against 17.9 and 20.4 in the two preceding weeks), the rate for the same period being only 16.0 in London and 15.1 in Edinburgh. The 147 deaths included 25 which resulted from the principal zymotic diseases (equal to an annual rate of 3.1 per 1,000), of which 12 resulted from diarrhœa.

NOTIFICATION OF INFECTIOUS DISEASE.

MR. D. BIDDLE (Kingston-on-Thames) writes: In the JOURNAL of August 25th, 1888, appeared a paper with the above heading by Dr. Tatham, Medical Officer of Health for Salford. In it Dr. Tatham says: "It is not my object to-day to elicit further controversy on the so-called 'burning question' which has been so warmly discussed of late in our leading periodicals. I am content to record, and to gratefully realise, the fact that, having had experience in my own borough of the concurrent advantages of disease notification and hospital isolation, for a period of nearly six years, I find that these systems have been productive of substantial benefit to the health of the people, and that the advantages which we derive from notification accumulate steadily as time goes on." He then goes on to say that, since the beginning of this year, he has (in conjunction with several other medical officers of health) carried out a "project of collecting and circulating returns of infectious sickness," and hopes it will become general throughout the country.

With your permission, I should be glad to draw attention to a somewhat cruel commentary upon this *nimia diligentia*, which is to be found on p. 457 of the same JOURNAL. We there have presented to us "Public Health Statistics relating to Twenty-eight Large English Towns, for the Second Quarter of 1888," and we find, under the head of Annual Death-rate from the Principal Zymotic Diseases, that Salford actually has the highest, namely, 3.14 per 1,000! Manchester (also under the dual system of notification) is next below it, with 2.65 per 1,000. But Liverpool, with a population three times as numerous and nearly three times as dense as that of Salford, but with no system of notification, has a zymotic death-rate of only 1.48 per 1,000 for the same period.

We here have the stern criticism of facts, gathered from an independent source, and I trust that Dr. Tatham and those who think with him will take it to heart, and cease their meddling.

MEDICAL OFFICERS OF HEALTH.

PERPLEXITY writes: Will you please explain Section 18 Subsection 1 of the Local Government Act, 1888, which requires every medical officer of health to be "legally qualified for the practice of medicine, surgery, and midwifery?" Please give the names of the various qualifications to practise midwifery, one or other of which every medical officer of health must now possess.

*** The qualification required by the Local Government Act for a medical officer of health in the first instance does not seem to differ from that previously required by the Public Health Act, the words of which are "legally qualified medical practitioner." Under both Acts it is necessary for the medical officer of health to be on the *Register*. The Medical Act of 1886 defines the qualifications which are necessary in order to entitle a man to be on the *Register*, and we presume that anyone who has these qualifications, and is on the *Register* accordingly, may be selected by a County Council to be their medical officer of health. If there is any doubt as to the efficiency of a particular diploma, we will hereafter endeavour to solve it.

EXTRAORDINARY MIDWIFERY.

MR. WALTER BUCHANAN (Chatham) writes: I was greatly interested in reading the short account concerning the Sheffield guardians' return to the Local Government Board with regard to extraordinary midwifery. At first sight the proportion of 124 to 329 seems "astounding," as one of the guardians remarked, especially when the matter is considered by one incompetent to judge. Now, speaking from an experience of over 20 years, I think that what I write will quite modify the opinion. 1. Difficult midwifery exists more frequently in different districts. 2. The nature of the employment of the female inhabitants must be taken into account. 3. General custom of the accoucheur.

I recollect, just after qualifying, passing a few months with a friend. The first case I attended for him was one of placenta prævia, about three miles from home. I was quite proud of my case, for it did well; but my conceit was quite taken down by my friend stating that these cases were very common in the neighbourhood, owing to the stooping occupation of agricultural women. I found he was right, for I had three cases there in three months, and I have only had eight since in my own practice in nineteen years. In a lace-making county I found forceps were often necessary; the reason given was that the sedentary occupation of young women in bad atmosphere, inclined over their work for the greater part of the day, caused pelvic deformity.

Now, with regard to the line of practice, some medical men dislike forceps so much that they prefer trusting to Nature for expulsion, and risking *post-partum* hæmorrhage and its consequences; whereas others more cautious wish to assist Nature when they find its efforts are ineffectual, thereby saving the risk.

Coming more closely to the point, in towns such as Sheffield and the one I live in, the midwifery, to the extent of 80 per cent., is conducted by ignorant women (too old or lazy to do hard work), who know nothing whatever of what they profess to undertake, and the consequence is that only the difficult ones out of this number—which, in many cases, are almost exhausted—fall into the hands of the district medical officer. In my pauper midwifery, I average about one extraordinary case in four, and attend not more than twenty pauper confinements in a year, whereas I vaccinate over 500, nearly all of which are midwives' cases.

When the midwife retires from a case, the responsibility falls upon the medical man, who has a private practice at stake; and is the fee of £2 too much in such instances—not only cases of anxiety and dirt, but which often have to be attended in some hovel in which a guardian would be sorry to stable his horse or soil his pig by allowing it to live therein?

HOSPITAL AND DISPENSARY MANAGEMENT.

CORK LUNATIC ASYLUM.

AT the monthly meeting of the governors held last week, the report of Dr. Nugent, Inspector of Lunatic Asylums in Ireland, in which he recommended the building of a second asylum for the West Riding of the county, was under consideration. The proposal, as might naturally be expected, was not approved of by the resident medical superintendent, while the Mayor believed that the establishment of a second asylum would considerably increase taxation. Dr. Nugent directed attention to the fact that out of 991 inmates 226 were from the West Riding, and said that the matter would be brought under the notice of the Board of Control. He considers that no further additions ought to be made to the asylum, however requisite for the wants of the district, even were they feasible, bearing in mind the fact that the city has, owing to its vicinity, more than twice its legitimate porportion, and that it would not be equitable to entail on the more remote portions of the county an expenditure on buildings from which they would derive but scanty benefit, the city being essentially a gainer. Apart, however, from any outside consideration, the land attached to the asylum is ill-adapted and much too small for the proposed scheme.

INDIA AND THE COLONIES.

TWENTY-THIRD ANNUAL REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA, 1886.

THE report opens as usual with a summary of the meteorological phenomena of the year. The health of the European garrison of India appears to have been better than in the previous year; the number of admissions was less, but the mortality was greater, and the number of serious cases was in excess of the average, facts explained by the influence of active military operations going on in Upper Burmah. The strength of the European Army for the year was 61,015; the number of admissions was 1,514; the daily sick 75; the deaths 15.18; the invaliding 21; the total loss 36 per mille of strength. The death-rate was the highest since 1881, but was 4 per 1,000 less than the average of 1870-79. Madras "was the chief contributor to the increase of the death-rate," explained by the fact that Burmah is included, where active operations were going on. There was a considerable decrease in the loss from invaliding. The total loss from death and invaliding was as above, 36 per mille, a ratio lower than that of any year since 1870. In Bengal the average strength of European troops was 38,784, the admissions 1,559, the daily sick 73, the deaths from cholera 0.64, from other causes 14.88; total 15.52; invaliding 18 per 1,000; total loss 34.

In Madras the average strength was 11,181; the admissions into hospital, 1,380; daily sick, 82; deaths from cholera, 0.09; from other causes, 16.37; total, 16.46; invaliding, 24; total loss, 40 per 1,000.

The average strength of the European army of Bombay was 11,050; admissions into hospital, 1,490; daily sick, 73; deaths from cholera, 0.36; from other causes, 12.31; total, 12.67; invaliding, 28; total loss per 1,000, 41. The chief diseases causing invaliding were, in order, circulatory diseases, anæmia and debility, phthisis, hepatitis, syphilis, dysentery, injuries, mental affections, rheumatism, ague, and malarial cachexia. Malarial fevers as

usual caused a large proportion of the sickness in the three presidencies; venereal diseases head the list in Madras. It is a serious fact that the ratio of admissions from the disease increased in all three presidencies—that of Bengal by 31 per mille, that of Madras by 44, and that of Bombay by 99. So much for the legislation forced on the Government of India by the advocates of respect for the feelings of prostitutes at home and abroad. It is a notable fact that the death-rate from enteric fever (5.70) exceeded that of the other chief diseases in all three presidencies. Next to it come hepatitis, 1.26, as usual highest in Madras; then dysentery, 0.91; then apoplexy and heat-stroke, 0.88; remittent and simple continued fever, 0.83; cholera, 0.64.

This admirable report as usual is quite a storehouse of valuable information on all health questions of interest. We regret that the weekly increasing pressure on our space prevents us from presenting an analysis of its contents; we can only commend it to the careful study of military medical officers and students of tropical medicine throughout the world.

CYPRUS.

THE CYPRUS SOCIETY.—Princess Christian has become the president of this society, which has been formed for the advancement of hospital and educational work in Cyprus. The society proposes to establish a hospital at Kyrenia, where there is none at present, with the prospect of its subsequent development into a convalescent hospital. Kyrenia, situated on the north coast, is admirably adapted for this purpose, being one of the healthiest parts of the island, and remarkable for its beautiful scenery. In accordance with the wish of the donor of the site, it will be named the "Gordon Hospital," in memory of General Gordon. After the hospital—which will be of the nature of an English cottage hospital—has been built and equipped, the society hopes to train native nurses and establish travelling dispensaries, or ambulances. The society also hopes to found technical, industrial, and agricultural schools. The society is in no way political, but only seeks to supply that which is beyond the province and resources of the government. The honorary secretaries are William White, F.S.A., and Miss S. Chapman Hand, of whom further information can be obtained.

OBITUARY.

JAMES SYMES, L.R.C.P. and S. EDIN.

WE regret to have to record the untimely death of this gentleman, which occurred on July 29th, at Malvern, where he had gone for the benefit of his health. Mr. Symes, who was 47 years of age, had been in practice for a considerable time at Briton Ferry, Glamorganshire, where he was extremely popular socially as well as professionally. The deceased gentleman was the second son of Mr. James Symes, solicitor, of Dublin, who survives him. He was educated at Trinity College, Dublin, and obtained the licence of the Edinburgh College of Surgeons in 1862, and that of the College of Physicians in 1864.

Mr. Symes had a thoroughly sound knowledge of his profession, and was a very successful practitioner. Whilst his medical skill made him the trusted adviser of a large number of sufferers, his kindness of heart and utterly unselfish disposition made him universally beloved in Briton Ferry and the neighbourhood for a wide distance around. His funeral was of an impressive character, and bore eloquent witness to the sorrow felt by all classes of the inhabitants for the loss of one who had spent his life among them in doing good.

JAMES BELL JARDINE, M.D.EDIN.

WE regret to announce the death of this venerable practitioner, which took place at his residence in Chatham on August 24th. Dr. Jardine was one of the oldest members of the profession, having attained the ripe age of 81. In 1827 he became Licentiate of the Royal College of Surgeons, Edinburgh, and in 1831 he took the M.D. degree in the University of Edinburgh. Nearly half a century ago he settled in Chatham, where he remained in active practice until a few days before his death, which resulted from an overdose of morphine. He had been suffering from diarrhœa, accompanied by great pain, for nearly a week; and on the evening of August 23rd, in the presence of one of his relatives, he poured out and drank (without measuring) about half a wineglassful of liquor morphiæ acetatis, *B.P.*, in order, as he said, to get a little sleep. From the effects of this he died after twenty-five hours' narcosis. His funeral took place on August 28th, amid many tokens of respect from the inhabitants of the town, and was attended by several of his brother practitioners, by the members of the Chatham Board of Health, and numerous patients and friends. The deceased held the appointment of Medical Officer of Health for Chatham, and was formerly senior visiting surgeon under the Contagious Diseases Acts. He was widely known, and greatly respected, his kindly genial manner endearing him to all classes.

MEDICAL NEWS.

SOCIETY OF APOTHECARIES OF LONDON.—The following gentlemen, having satisfied the Court of Examiners as to their knowledge of the science and practice of Medicine, Surgery, and Midwifery, received certificates entitling them to practise as Licentiates of the Society, in August, 1888:—

Adams, Campbell Rutherford, St. Thomas's Hospital and Newcastle-on-Tyne.
Cochrane, James Mackeand, M.D., C.M.Ontario, Toronto Hospital.
Davis, Harry, University College.
Francis, Lloyd, M.D.Oxon., M.R.C.S., L.R.C.P.Ed., London Hospital.
Livsey, William Edward, University College and Liverpool Royal Infirmary.
Masters, Alfred Thomas, St. Mary's Hospital.
Mitchell, Elizabeth Simpson, Kingston General Hospital, Canada.
Preston, Francis Harrison, St. Bartholomew's Hospital.
Stover, Herbert Charles, Guy's Hospital.

The following passed in Surgery.

E. Knight, University College, Bristol; R. T. Hewlett, King's College; P. P. Baly, Queen's College, Birmingham; J. C. Hoyle, St. Bartholomew's Hospital; E. S. Snell, University College; C. E. Baxter, Charing Cross Hospital; W. L. Bentley, Owens College, Manchester; W. Case, King's College; H. A. Rudyard, University College; F. C. Spurgin, Middlesex Hospital.

The following passed in Medicine.

J. E. Foster, Birmingham; F. Brightman, University College; W. B. Slyman, St. Bartholomew's Hospital; J. H. Gordon, Birmingham and University Durham; A. J. Horton, Queen's College, Birmingham; H. Vermack, Queen's College, Birmingham; C. F. Marshall, Owens College, Manchester; F. L. Wood, Owens College, Manchester.

The following passed in Midwifery.

A. Crompton, St. Bartholomew's Hospital.

MEDICAL VACANCIES.

The following Vacancies are announced:

BELGRAVE HOSPITAL FOR CHILDREN.—Resident House-Surgeon and Assistant Secretary. Appointment for six months. Salary at the rate of £30 per annum, with board and residence. Applications by September 15th to the Honorary Secretary, 79, Gloucester Street, S.W.

CHELTENHAM GENERAL HOSPITAL.—Resident Surgeon for the Branch Dispensary. Salary, £180, with partly furnished house, etc. Applications by September 25th to the Honorary Secretary.

CITY OF LIVERPOOL—City Hospital, Parkhill, and City Hospital, Grafton Street.—Visiting Physician. Salary, £100 per annum. Applications by September 25th to the Chairman of the Hospitals' Committee, Town Clerk's Office, Liverpool.

COUNTY ASYLUM, Shrewsbury.—Junior Assistant Medical Officer. Salary, £100 per annum, with board, lodging, etc. Applications by September 18th to the Medical Superintendent.

DENTAL HOSPITAL OF LONDON, Leicester Square.—Lecturer on Dental Surgery and Pathology. Applications by October 8th to the Dean.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Resident Clinical Assistant. Board and lodging. Applications by September 28th to the Secretary,

FULHAM UNION.—Assistant Medical Superintendent. Salary, £100, with board and furnished apartments, etc. Applications by September 24th to the Clerk to the Guardians, Fulham Palace Road, Hammersmith.

GENERAL INFIRMARY, Hull.—House-Surgeon. Salary 100 guineas per annum, with board and furnished apartments. Applications by September 17th to the Chairman of the House Committee.

GENERAL INFIRMARY, Leeds.—Resident Medical Officer and Pathologist. Salary, £100 per annum, with board, residence, etc. Applications by September 15th to the Secretary of the Faculty.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Physician Applications by September 29th to the Secretary.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—House-Physician. Salary, £50 per annum, with board and lodging. Applications by September 29th to the Secretary.

MANCHESTER ROYAL INFIRMARY, DISPENSARY, AND LUNATIC ASYLUM.—Honorary Assistant Physician. Applications by September 18th to the Chairman of the Board.

NORTH SHIELDS AND TYNEMOUTH DISPENSARY.—House-Surgeon and Dispenser. Salary, £130 per annum, with furnished house, etc. Applications by September 27th to the Honorary Secretaries, 99, Howard Street, North Shields.

PARISH OF DORNOCH.—Medical Officer. Salary, about £40 per annum. Applications by September 18th to the Rev. Neil Taylor, Chairman of the Parochial Board, Dornoch, N.B.

PARISH OF LAMBETH.—Assistant Medical Officer and Dispenser. Salary, £125 per annum, with board and lodging, etc., and £6 per annum in lieu of beer. Applications by September 18th to the Clerk, Guardians' Boardroom, Brook Street, Kennington, S.E.

ROYAL UNITED HOSPITAL, Bath.—House-Surgeon. Salary, £60, with board and lodging. Applications by September 21st to the Secretary Superintendent.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Resident Medical Officer. Salary, £105 per annum, with furnished apartments, etc. Applications by September 24th to the Secretary.

WEST LONDON HOSPITAL, Hammersmith Road.—House-Surgeon. Board and lodging. Applications by September 20th to the Secretary Superintendent.

WESTMINSTER GENERAL DISPENSARY, Gerrard Street, Soho.—House-Surgeon. Salary, £100 per annum, with apartments. Applications by September 22nd to the Secretary.

WESTMINSTER HOSPITAL, S.W.—Fourth Assistant Physician. Personal application on October 2nd.

WESTMINSTER HOSPITAL, S.W.—Administrator of Anæsthetics. Personal application on October 2nd.

MEDICAL APPOINTMENTS.

GARRETT, John Henry, M.D., B.S., L.S.Sc.Univ.Durh., appointed Resident Medical Officer to the City of Liverpool Southern Hospital for Infectious Diseases.

GOUGH, H. E., M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant Surgeon to the Liverpool Dispensaries, *vice* H. E. Brodrick, M.B., resigned.

KERSHAW, E. E., M.R.C.S., L.R.C.P.Lond., appointed House-Physician to the Middlesex Hospital.

NASON, W. S., M.B.Edin., appointed Assistant House-Surgeon to the General Hospital, Birmingham.

PAYNE, Charles A., M.R.C.S.Eng., L.S.A.Lond., appointed Resident Medical Officer to the General Hospital, Hobart, Tasmania, *vice* C. J. Parkinson, resigned.

HOME FOR INEBRIATES.—The eighth report of the Inspector of Retreats, under the Habitual Drunkards Act, 1879, for the year 1887, recently published, shows that sixty-six persons in the aggregate were admitted to the seven retreats during the year, as against seventy-three in the previous year. Several patients obtained their discharge for various reasons before the usual time. Very satisfactory work was reported from all the retreats.

EDUCATION OF PLUMBERS IN FRANCE.—A School of Sanitary Plumbing has lately been established by the Council of the Association of Working Plumbers in the Department of the Seine, for the purpose of giving these artisans better instruction in the practical part of their trade, and a competent knowledge of the principles of hygiene relating to their work. Besides technical courses, Dr. A. J. Martin will lecture on the hygiene of the dwelling, and M. L. Masson on sanitary plumbing.

PRESENTATION.—The medical practitioners of Swansea held a meeting on August 31st for the purpose of presenting Dr. William T. Davies with an illuminated address and a case of instruments on the occasion of his leaving the town to practise at the Cape of Good Hope. The address was signed by almost all the members of the medical profession in Swansea, and the warmest wishes for Dr. Davies's success in his new sphere were expressed. Dr. W. T. Davies is the son of Mr. Ebenezer Davies, an ex-President of the South Wales and Monmouthshire Branch of the British Medical Association.

BRUSSELS EXHIBITION.—Mr. W. E. Bush, F.C.S., a member of the firm of Messrs. W. J. Bush and Co., manufacturing chemists, London, has been appointed British Juror in the Chemical Section of the Brussels Exhibition.

THE Managers of the Central London District Schools, Hanwell, have voted £100 to Dr. Littlejohn for his extra services in having for a time superintended the schools, in addition to his own official duties as Medical Officer.

MEDICAL MAGISTRATE.—Dr. Adam Fletcher has been placed on the Commission of the Peace for the borough of Bury.

BEQUESTS.—Mr. Capel Carter, formerly of Woodford, but late of Bath, bequeathed £3,000 to the London Hospital, £3,000 to the Charing Cross Hospital, and £2,000 to the Dental Hospital of London.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

MARRIAGE.

EWART—MULLER.—At St. Mary's, Swilland, Suffolk, on September 1st, by the Rev. J. D. Brown, Rector of Witnesham, assisted by the Rev. J. Wickham, Rector of Swilland, Charles Ewart, M.D., L.R.C.P., M.R.C.S.Eng., of 58, Queen's Gate Terrace, South Kensington, S.W., to Maud Muller, daughter of William Muller, Esq., of 17, Prince's Square, W.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's —1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

Training of Deaf and Dumb Child.

L. N. would be glad to hear of any home for the training of a deaf and dumb child with very limited means.

Waterproofing Cloth.

A Member would be glad to know the simplest mode of waterproofing cloth for a coachman's cape, etc.

Filters.

L. C. wishes to know which is the best and cheapest filter for soft water, to render the ordinary town rainwater free from sooty matter and dust, for making tea, etc.

"Port-wine Stain."

R. P. J. will be extremely obliged if anyone will inform him what is the best treatment for a case of slight "port-wine stain" on the side of the nose. He has a patient who is slightly marked in this way, and who is most anxious to get rid of what he considers a disfigurement of his manly beauty.

Obstinate Secondary Syphilis.

P. M. S. writes: A gentleman contracted syphilis about eighteen years ago, and informs me that he has undergone a course of mercurial treatment, but nevertheless has constantly what appear to be secondary symptoms, such as ulceration of the skin of the nose, the mucous membrane of the mouth, and of the tongue, which disappear rapidly on the internal administration of iodide of potassium or mercury. I should be glad if any member could inform me how long after the symptoms have subsided the patient should continue anti-syphilitic treatment, and if there is any hope of permanent cure. I may mention that two of his children suffer from skin eruptions which have all the appearance of syphilis.

ANSWERS.

A Member would like to know the best work to read on the kidneys, also on practice of medicine, for a man in general practice.

*** Roberts, *Renal and Urinary Diseases*, 4th edition; Dickinson, *Diseasse of the Kidney;* Ralfe, *Diseases of the Kidneys*. In general medicine, the text-books of Fagge and Bristowe.

Syphilitic Ulceration of Tongue.

M.D. writes: If your correspondent "Senex" will apply acid nitrate of mercury freely by means of a mop of cotton-wool he will find the syphilitic ulcerated tongue rapidly take on a healing action. Perhaps it would be well to anæsthetise with cocaine before using the caustic. I shall be pleased to hear the result, as I feel confident it will be successful. I trust, therefore, "Senex" will in a future Journal report and thank me, and thus show himself more grateful than the generality of my patients.

Dr. G. R. Young (Birmingham) would strongly recommend "Senex" to try for syphilitic ulceration of the tongue: glycerin. acid. tannic. ʒi, heated to boiling point with sodii biboras ʒiii; extract all decayed teeth; discontinue both pot. iod. and hydrarg.; give fresh decoct. sarsæ., and put the patient on tonic treatment.

Mr. W. B. Holderness (Windsor) writes: I can strongly recommend "Senex" to treat his case of syphilitic ulceration of the tongue with calomel fumigation, locally applied. I have just had a most successful case.

Climate for a Phthisical Practitioner.

Carbon writes: I should be much obliged if any of your readers would give me some information about Colorado. Is there a fair opening for practice, and are British diplomas sufficient? Would the climate be likely to suit a medical man aged 25 suffering from hæmorrhagic phthisis? The first bleeding occurred about two years and a half ago, when in perfect health, after severe exertion, and was not preceded nor followed by cough nor expectoration until some months after. Last summer (1887) all signs of disease disappeared until August, when, after enteric fever, the apex of the right lung became consolidated, a large cavity formed, and he suffered from repeated hæmorrhages, coughs, and hectic fever (without sweating) all last winter and spring. There have been no severe hæmorrhages lately, and the general health is somewhat improved. Would Australia suit better than Colorado?

*** "Carbon" would probably have no difficulty in getting his English diploma officially recognised in Colorado. The climate (Manitoba and Colorado Springs) might suit him, as far as climate goes; but the manner of living—the hygienic and dietetic arrangements—are at least as important, perhaps more so, than the mere climate. If our correspondent has means to live for a year or two at Colorado without practice, he could attend to the dietetic and hygienic details suitable for his case. If he has no means, it would be better to think of an appointment to a ship going to New Zealand.

Diphtheria and Diabetes.

Dr. Richard Neale (South Hampstead) writes: Up to date I see no reply to "D.," at page 330, who asks if diabetes has ever been noted as a sequela of diphtheria. A reference to the Appendix of the *Medical Digest*, Section 821: 1, shows that Dr. Allbutt, of Leeds, published in 1884 a remarkable case occurring in a medical man, stating at the same time that the relation between the two diseases was far from being unknown.

Removal of Superfluous Hairs.

Inquirer writes: With reference to your reply to Dr. Harris in the Journal of September 1st, regarding the removal of superfluous hair, I should feel very much obliged if you could give me any London address where I could see the removal by electrolysis actually performed.

*** The purpose for which the removal of hairs by electrolysis is usually performed prevents its being done in public; but if "Inquirer" were to communicate privately with any gentleman actively engaged in the practice of dermatology, it is probable that the opportunity he wishes for would be given him.

Treatment of Salivation.

Dr. G. W. Thomson (Haywood, N.B.) writes: In answer to "W. G. B.," I would advise him to try a strong form of counter-irritation, say, with emplast. lyttæ, over the chest, and not to allow it to heal for some time. In a somewhat similar case to the one narrated by him such a form of treatment was successful, after all else I could think of had failed.

Dr. C. R. Illingworth (Accrington) writes: I once had a case similar to the one described by "W. G. B." Drugs were of no avail; but I cured my patient by getting him to swallow all the saliva and avoid spitting.

Medical Practice in Japan.

M.D. asks for information as to how a medical appointment could be obtained in Japan. What are the conditions of medical life in that country, and the inducements for an Englishman well qualified and experienced to go and settle there?

*** The medical appointments in Japan are unlikely to be open to foreigners at the present time, as there are now many Japanese with European diplomas who are fully competent to fill all the vacant posts, and the profession is yearly recruited from the graduates of the Tokyo University and other similar institutions. The temporary demand for assistance and instruction from foreign surgeons and physicians, beginning about 1870, is now at an end, and the foreign settlements in Yokohama and elsewhere are already liberally supplied with medical aid.

Stoves.

Calorifaciens writes: I shall be very much obliged if you or any of your readers who can speak from personal experience will be good enough to suggest to me the best form of stove for heating small rooms (especially bedrooms), having regard to three requisites—efficiency, economy, and saving of trouble to servants. Is gas or coal to be preferred? I have a favourable knowledge of George's Gas Calorigen; but it is costly to buy and troublesome to fix.

*** Stoves to burn either coke or anthracite coal are readily obtainable. They may be had of nearly all sizes and styles of ornamentation, some having mica panes through which the fire is visible. They will burn continuously from eight to twelve hours, or even longer if of large size, without any attention. The cost for fuel, in London, ranges, according to size of stove, from 2d. to 6d. for twenty-four hours. These stoves are smokeless. For obvious reasons particular tradesmen are not recommended; but it may be said that Messrs. H. Hunt, R. W. Crosthwaite, Musgrave and Co., and Yates, Haywood and Co. are among the makers. In using any stoves, particularly in bedrooms, attention should be given to ventilation. Objections are constantly made that stoves overheat the room and render the atmosphere unpleasant. There is no necessity whatever for these inconveniences to arise. They may be prevented by moderate attention to the ventilation. Some of the stoves referred to may be so fitted as to admit of the whole of the air required for the combustion of the fuel being drawn from outside the room instead of inside; while the products of combustion, being discharged into the chimney, will generally suffice to give such an upward current as to cause ample circulation of air in the room without any other arrangement. Some of the stoves have arrangements by which air may be warmed by passing between the inner and outer casings of the stove. This tends to prevent draughts of cold air from entering the room; but if the air gets overheated, as it is apt to do from the stove becoming overheated, the air feels dry and unpleasant. Although stoves are commonly abused, they may, with proper regard for ventilation, be used with the utmost pleasantness and advantage. Speaking generally, they can be used at less than one-half the cost for fuel of open fires; while, the dirt, etc., being less, the total economy resulting from the use of stoves is even greater than 50 per cent. With regard to the question of heating by gas, the cost in London is, speaking generally, three times greater than that of heating by solid fuel, assuming that the gas is burned in a stove placed in an ordinary fireplace in order to carry off the products of combustion. This is, however, reckoning only the cost of gas as compared with the cost of solid fuel. But, as a matter of fact, the convenience and saving of labour of all kinds resulting from the use of gas is so great that it is frequently more economical to use it.

Dr. Gaskell's Researches.

C. W. writes: Will you kindly give the title of Gaskell's work referred to by Dr. Hughlings Jackson (note 18) as "thoroughly practical work and brilliant generalisation?"

*** One of Dr. Gaskell's papers, "On the Structure, Distribution, and Function of the Nerves which innervate the Visceral and Vascular Systems," is to be found in the *Journal of Physiology*, vol. vi, No. 1, January, 1886. Dr. Gaskell, as Marshall Hall prizeman, gave an account of more recent researches at a special meeting of the Medico-Chirurgical Society a month or two ago.

NOTES, LETTERS, ETC.

Therapeutics of Coryza.

Dr. John G. Carageorgiades (Limassol, Cyprus) writes: Will you kindly allow me to add a word to what has been written as regards the treatment of coryza? In nearly all the cases I have observed (my own included), in which there are symptoms of violent sneezing, which sometimes is very troublesome, of burning and itching in nasal catarrh, both acute and chronic, very considerable relief may be obtained from the following medicine, which is to be snuffed up the nostrils several times a day: ℞ Pulv. iodoformi, pulv. acaciæ, āā ʒss; cocaine grs. ij. M.

Gibson and Wife v. Jeffries and Hills.

Mr. C. B. Keetley writes: The following are the contributions to this fund received since June 12th:—

	£	s.	d.		£	s.	d.
W. H. Hubert	0	5	0	R. R.	0	5	0
W. J. Pickup	0	10	6	T. A. White (L'Abri, Territet, Vaud)	1	0	0
P. Sheehy	0	10	0				
Mark Cahill	1	0	0	Anon	0	5	0
A. F. Street	0	5	0				

The total amount received and promised up to date is only £25 14s. 6d., exclusive of £50 from the Bower and Keates fund. About £70, therefore, still remains to be paid. As it may be difficult for some to look back for particulars of this case, and as they may have escaped the notice of many who would feel practical sympathy for Messrs. Jeffries and Hills, they are briefly as follows (the British Medical Journal, August 13th, 1887; *Lancet*, August 20th, 1887; and *Medical Press and Circular*, August 10th, 1887):

During an illness of Mr. Jeffries, Mr. Hills attended a primapara for him. Forceps being required, the perineum was unavoidably lacerated. This was promptly and properly attended to, as was shown at the trial, and partly healed. Subsequent additional treatment in hospital was required to complete the repair of the part. The plaintiffs (husband and wife) recklessly charged Mr. Hills with malpractice, and brought an action against him, including Mr. Jeffries as the person with whom the contract was made. The jury found for the defendants with costs. As is usual in similar cases, the plaintiffs pleaded no means, and the defendants are now looked to for their own costs. While such actions can be brought, who that follows the practice of midwifery can feel himself for one moment safe? Surely our medical brethren will not leave them unassisted in their trial.

Absence of Right Parietal Bone.

Dr. Reginald H. Lucy (General Post Office) writes: Under the above heading, Mr. Isaac describes, on p. 490 of the Journal of September 1st, a condition which I think admits of a simpler explanation.

Was it not a case of subpericranial hæmatoma, confined, as it always is, to one bone—in this case the right parietal—by the continuity of its sutural membrane with the pericranium? The subsequent progress of the tumour corresponds with such a supposition, and the nodulation felt on the bone was probably blood-clot. The increase in size was possibly a relatively softer and more fluid state of the tumour, due to separation of serum from blood-clot. The laxity of the connection of the parietal with surrounding bones makes it difficult even with firm pressure to make out the bony surface beneath the swelling, especially when the experiment is carried out in the mother or nurse's presence.

Although the condition I suggest is rare, it occurs most frequently in boys and the children of primiparæ. Mr. Isaac does not state whether there was pulsation or absence of discoloration of the tumour, or whether pressure on the tumour caused cerebral symptoms? If the bone had been absent, the three latter signs would have been elicited, while the first and third would be absent in hæmatoma beneath the pericranium.

Carcinoma of the Breast.

Dr. Herbert Snow (Bayswater) writes: Under this heading, Mr. Latimer (in the Journal for August 25th) discountenances operating upon cases in which there is extensive implication of the axillary glands. I have often thought it strange that no writer has (so far as I am aware) laid stress upon the relatively enormous immunity from future suffering conferred upon the patient by free removal of the axillary contents; even when the disease is likely speedily to reappear elsewhere. The very slight brachial œdema then seen presents a striking contrast to the torturing elephantiasis, abscesses, and fungous ulcers which occur when the axillary glands have not been interfered with. So that whenever it is possible to remove these completely, I hold it justifiable to scoop out the axilla solely as a palliative measure—more important really, under such circumstances, than the excision of the primary growth.

With Mr. Latimer's remarks on the local origin of cancer I cordially concur.

Orotava.

Mr. Edward H. Ryan-Tenison, M.R.C.S.Eng., L.S.A.Lond. (Bexhill) writes: As many people will be shortly leaving England for the winter, let me recommend the above to those who are suffering from scrofulous disease, pulmonary phthisis in its earlier stages, and kidney disease. I went there last year in October, suffering from overwork both bodily and mental, and from tubercular orchitis. I stayed there six months, and returned in April to all intents and purposes cured. Many of the invalids made good progress, more especially those who took care of themselves, and avoided the excitement and over-stimulation of civilised existence, as led by many at the hotels.

The distance is 1,440 sea miles from Plymouth; fare by the best boats, £14. There is a twenty-six mile drive from the port of landing, Santa Cruz, to Orotova; the country, at first disappointing, becomes with familiarity beautiful. Dr. G. V. Perez, who is a graduate of London University, is familiar with English practice, and can take care of all cases. There is an English church, at which the Rev. T. Gifford Nash is officiating priest.

Hypodermic Syringes.

Messrs. Charles Green and Co., write: We have noticed a letter in the Journal of September 1st, page 522, from Dr. Arthur Hill Hassall (Lucerne), anent hypodermic syringes, and we fully endorse the statements he makes concerning their unreliable dosages and general bad manufacture.

Our hypodermic syringes fulfil all the requirements of Dr. Hassall's letter, namely, they are of guaranteed accurate dosage, and show the graduations on the barrel in intense black letters and figures on an opal glass ground, instead of having the readings on the piston of the syringe, so that the doses can easily be seen to be read.

Syncope writes: Amongst the precautions mentioned in using hypodermic syringes, "a prick of the needle in the chest" is mentioned as causing instant death. I do not remember hearing of such a case; perhaps some member could inform me of some recorded cases.

The L.S.A. Qualification.

L.S.A. writes: A correspondent, signing himself "Fairplay," writing in the Journal of August 25th, p. 461, respecting the title of L.S.A., speaks of the great changes that have taken place in the extent and character of the examination since June, 1887. He claims that in justice to men who have passed since then (himself, I presume, being among the number) a change in the title should soon be made. Will you allow me to point out that for at least two years before that the Hall had imposed a searching examination in surgery on those not already qualified in that subject in addition to the examination in medicine and midwifery?

Papilloma of Cheek.

Mr. W. R. Ackland (Clifton) writes: The "papilloma of cheek" recorded by Mr. Vaughan, of Crewe, in the Journal of September 1st, p. 491, appears from its description to be very similar to the inflammatory growths one often sees in the situation described, caused by the irritation of the sharp edges of broken teeth. The treatment of these is very simple, namely, smooth the edges.

COMMUNICATIONS, LETTERS, etc., have been received from:

Dr. A. E. Garrod, London; Messrs. Burgoyne, Burbidges, Cyriax, and Farres, London; Dr. Freeland Fergus, Glasgow; Dr. William Hill, London; Dr. Francis Warner, London; Dr. C. Lewis, Birmingham; Mr. E. L. Walford, London; Mr. Charles White, Warrington; Mr. T. H. Williams, Oswestry; Mr. William Anderson, London; Mr. E. P. Manby, Brighton; Mr. H. W. McConnel, Knockdohan, Ayrshire; Dr. J. Carmichael, Edinburgh; Common Sense; Mr. C. Townsend, Kinsale; Dr. Cremen, Cork; Dr. Willoughby, London; A Volunteer Surgeon-Major; Mr. H. G. Edwardes, Bangor; Mr. W. P. Bridges, Cirencester; Mr. G. O. McKane, Whitburn; Mr. P. M. Scatliff, London; Mr. W. B. Holderness, Windsor; Mr. W. L. Braddon, Rangoon; Dr. S. F. Freyer, Umballa, India; Dr. Thin, London; Dr. D. Kydd, Forfar, N.B.; Dr. A. Thomson, Huntly, N.B.; Dr. W. Frew, Kilmarnock; Mr. C. J. Covernton, Knighton; Dr. C. J. Cullingworth, London; Mr. B. F. Hartzhorne, London; Mr. F. G. Heath, London; Mr. J. H. Butler, Sandiacre; Messrs. Charles and Tubbs, London; Messrs. J. Robinson and Co., Carlisle; Mr. F. Cadell, Edinburgh; Fleet-Surgeon W. Reid, Haslar; Mr. J. Willis, London; Mr. J. O'Connor, Manchester; Dr. Stewart, Glasgough; Our Glasgow Correspondent; Dr. D. J. Mackenzie, Glossop; Mr. G. Morgan, Brighton; Dr. Hubbard, Rugeley; the Secretary of the Society of Apothecaries, London; Dr. G. R. Young, Birmingham; Mr. D. Bradley, Dudley; Our Liverpool Correspondent; Mr. A. Collett, Chatham; Mr. A. H. Baines, Birkdale; Miss E. Noble, London; Mr. E. E. Kershaw, London; Dr. J. H. Garrett, Liverpool; Dr. C. R. Illingworth, Clayton-le-Moors; Dr. H. O. Grenfell, London; Mr. J. W. Wright, Glenbrook; the Secretary of St. Thomas's Hospital, London; Mr. R. T. Collie, Sunderland; Mr. C. B. Keetley, London; Mr. T. P. Pick, London; Dr. Cranstoun Charles, London; Mr. J. Hamilton, Newcastle-on-Tyne; Miss I. Thorne, London; Mr. L. Newton, Huntingdon; Dr. W. A. Algie, Port Patrick; Mr. S. A. Tidey, Acton; L. C.; Dr. Farquhar Matheson, London; Dr. P. McBride, Edinburgh; Mr. J. J. de Z. Marshall, Hastings; Dr. D. Thomas, Swansea; D. W. Currie, M.B., Tillicoultry; Mr. T. Rogerson, Bradford; Messrs. Orridge and Co., London; Mr. A. Stempel, London; Mr. A. W. Mayo Robson, Leeds; Mr. W. C. Thompson, West Drayton; the Secretary of Parkes Museum, London; Mr. H. Lyell, Lewes; Mr. C. A. Payne, Hobart, Tasmania; Mr. W. H. Hughes, Ashton-under-Lyne; Messrs. W. J. Bush and Co., London; Mr. S. G. Vintner, Torpoint; Mr. E. M. Kelly, Nottingham; Mrs. E. Sedgwick, London; Dr. R. N. Ingle, Cambridge; Mr. J. D. Hayward, Liverpool; Mr. H. Hutchinson, London; Mr. R. W. Dunn, London; Mr. W. Mansergh, Manchester; Mr. J. Picker, Parkgate; Dr. Grindrod, Malvern; Dr. J. D. Robertson, Penrith; Dr. J. S. Scriven, Driffield; Dr. Hughlings Jackson, London; Mr. Shirley Murphy, London; Mr. Arthur N. Turner, Anerley; Mr. J. A. Sharpe, Leeds; Mrs. Nunan, Cork; Mr. G. Neale, Cardiff; Dr. J. Rigby, Preston; Dr. Oliver Wendell Holmes, Boston, U.S.A., etc.

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BRITISH MEDICAL ASSOCIATION.

FIFTY-SIXTH ANNUAL MEETING.

PROCEEDINGS OF SECTIONS.

REMARKS ON THE NATURE AND TREATMENT OF DIPHTHERIA.

Read in the Section of Diseases of Children at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

By ABRAHAM JACOBI, M.D.,

President New York Academy of Medicine, Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, New York, etc.

No specific microbes of diphtheria have been isolated. That, moreover, there should be, as Gerhardt suggested, several species of them resulting in the production of different forms of diphtheritic deposits and degenerations, is an assumption which begs the question. It is true that according to the tendency of our pathological views it is generally assumed that every infectious disease, like the few in which the etiology is certainly bacteric, is due to a specific parasite; but to what extent this assumption is valid remains to be seen. My own position in reference to this question has always been this, that ptomaines—which need not be exclusively the results of the metabolism of bacteria—are the causes of many of them. As for diphtheria this much is certain, that the numerous microbes found in membranes are mostly confined to the surface, while the action of the virus penetrates to a great depth. Indeed, in many organs—particularly in the kidneys, for instance—where the diphtheritic changes are evident, no bacteria have been found.

More satisfaction is derived from clinical studies. Diphtheria is a contagious disease; severe forms may beget severe and mild cases, mild forms mild and severe ones; there is probably no spontaneous origin of diphtheria any more than there is a spontaneous origin of cholera or scarlatina. Foul air and sewer gas do not create diphtheria; they do create dysentery and typhoid, or such a condition of general ill health and *malaise* as to afford the diphtheritic virus a ready resting-place. There were plenty of malodorous privies and foul smells fifty years ago, but no epidemic of diphtheria. Besides, and mainly through the careful observations of English physicians, such as are contained in Dr. George Turner's report on diphtheria in lower animals[1] and many others, the sources from which diphtheria may come are very many. Pigeons, fowls, turkeys, chickens, pheasants, cats, horses, sheep, cows, are just as many sources of diphtheria for man. Foods of all kinds, vegetables and milk, wearing apparel, towels and tools will transmit it. It sticks to furniture, floors, and wall papers, railroad cushions, and school desks. No spontaneous generation is required to explain its ravages.

Like erysipelas, it avoids healthy surfaces, but the slightest wound or abrasion invites it. There is one normal condition only which admits it, namely, the interstices between the epithelium of the tonsil discovered by Stoehr; otherwise the integument must be sore, though ever so slightly. The removal of some epithelium in the mouth by a hot drink, or the presence of acid which dissolves the cell membrane, a follicular stomatitis in an infant, hot smoke from a cigar or a burning building, or steam, the resection of the tonsil, the presence of any wound in the mouth or on the surface through knife or vesicatory, or a cautery or caustic, offer an inlet to diphtheria.

Nor is the mucous membrane of the throat alone cursed with the privilege; the whole length of the respiratory tract, of the digestive tract, vagina, and bladder, cutis, every viscus may be invaded by it; and when every danger appears to have passed, it forces its triumphant entrance into the nerve tissue.

The sexes are equally represented amongst the victims of diphtheria. That of the larynx appears to attack more boys, but girls appear to recover from laryngeal diphtheria in larger numbers. Most of the victims are children; few of them are less than ten months old, for reasons which the limited time does not permit to discuss, very few less than four months, though I have met the disease amongst the newly born. Adolescents and adults have milder forms. Fatal laryngeal diphtheria is rare after puberty. Amongst my 600 tracheotomies there were but two after that period, one a woman of 32, one a man of 55, with an ossified trachea. Changing temperatures and exposure to colds invite it; dry air, particularly furnace air, predisposes to it. Some families exhibit a peculiar disposition, probably due to the large tonsils and vulnerable mucous membrane of the naso-pharyngeal cavity in all its members. Those who have had diphtheria once are more liable to have it again, either through permanent alterations in the mucous membrane and tonsillar tissue, or through storage of some virus in a lymph body and autoinfection from that receptacle. In some cases the virus appears to enter the circulation directly through inhalation.

A peculiar relationship to other infectious diseases is constituted by the fact that it shares with them a number of symptoms and localisations. In general, infectious diseases have their localisation, or rather a localisation, in almost every organ. There is in all, more or less, a stage of nervous prodromi, fever, albuminuria, angina, and some disorder of the serous membranes. The kidneys may be affected in scarlatina, morbilli, varicella, diphtheria, typhoid fever; the pharynx, this soft, moist, and vulnerable passage way, in every one of them; the serous membranes in rheumatism, gout, tuberculosis, blenorrhagia, scarlatina, and sepsis of any kind, the puerperal included; the lymphatic system in every one of them; the walls of the blood vessels exhibit the "hyaline degeneration" of Recklinghausen in very many. With a very few exceptions, temporary at that, diphtheria exhibits, as its pathognomonic symptom, its membrane. Where this is there is diphtheria, whether there are more or less severe symptoms attending a case or no, whether there is fever, albuminuria, nephritis, paralysis, death or no, is an indifferent matter compared with the characteristic membrane. This membrane has been examined and described a million times, and its general condition is the same wherever found, no matter whether the surface epithelium has undergone complete disintegration or no; the leucocytes are still entire and recognisable or no; the fibrillar network finer in the recent cases, coarser in the older; whether there are many or a few scattered areas of hyperplasia in the tonsillar follicles; whether the nuclei of the cells with which the follicles are filled are completely broken and necrobiosis accomplished or no; whether the nuclear juice, during the breaking up of the cell protoplasm, is already stainable or no; whether the coagulable hyaline network extends into the adenoid and connective tissue at all, or not at all, or very deeply; whether there is much or little hyaline degeneration of the blood vessel walls; whether the intima is affected and the lumen obstructed; whether the muscular and intermuscular tissue is drawn into the process or no, all this is a matter of degree only, not of kind.

Nor can a case be excluded from the list of diphtheritic affections, if not every organ or tissue which has been found to suffer in diphtheria is found to be affected in that individual case. The blood has been found thin and black; the heart granular, fatty, hæmorrhagic, thrombosic, endocarditic; the lungs, the seat of inflammation of different types, infarctus, œdema, emphysema; the spleen and liver large, hyperæmic, and softened; the kidneys congested and nephritic; the muscles ecchymotic, degenerated, atrophic; the glands swelled, ecchymotic, gangrenous, or suppurating; the intestinal follicles in part necrobiotic. But there are many cases—very many fortunately—in which diphtheria is present and the consecutive danger trifling.

The character of the membrane depends to a great extent on its locality. Cases in which there was a great deal of hyperæmia and some mucous secretion, with slight deposits of pseudo-membranes, have been called catarrhal diphtheria. Cases in which the membrane can easily be removed from the mucous membrane, and is liable to float on it, and macerate readily, have been called croupous; those in which the membrane is embedded into the tissue, so as not to be removable, but to give rise to more or less necrobiosis and loss of substance, have been called diphtheritic. This multiplication of names, introduced by the greatest medical mind of the century, has produced much confusion and uncertainty. Sometimes even Homer falls asleep.

I have been credited with elaborating the dependency of the pseudo-membranes on the locality in which they appear. On page 126 of my *Treatise on Diphtheria*, New York, 1880, I have published a schematic card, on which the mouth, tonsils, nose, epiglottis, larynx, trachea, and bronchi are compared in regard to their composition of elastic fibres, connective fibres, epithelium, whether basement, cylindrical, or fimbriated; lymph vessels,

[1] *Lancet*, 1887.

blood vessels, acinous muciparous glands, and nerves. The elastic tissue is least affected by chemical or organic influences. It has but few blood vessels, no nerves, few lymphatics, and undergoes metamorphosis of every kind, but very slowly. It is not present in the mucous membrane of the nose, but very abundant in the oral cavity, in the walls of the follicles of the tonsils, and in the trachea. Where it is present to a large amount, an antagonism to diphtheritic impregnation is maintained for a long time; but when it is obliged to yield, there is a corresponding resistance to recovery. But it is a powerful protection against systemic infection. Uncomplicated tonsillar diphtheria, or tracheal and bronchial diphtheria, so-called fibrinous bronchitis, may last ever so long without exhibiting septic symptoms.

Pavement epithelium yields a firm foothold to diphtheritic changes. Thus it is that the tonsils, not from their prominent situation alone, are favourable to the reception and further development of the virus. But it remains local, for there is the elastic tissue of the organ to shield the system, and such paucity of lymph vessels as to preclude absorption of the poison.

Ciliated epithelium is not easily affected; it occupies a higher rank in the scale of animal formation, has a more complex function, a greater power of resistance; and, moreover, is found in the neighbourhood of muciparous glands.

These muciparous glands prevent an extensive destruction of the tissues by diphtheria. The secreted mucus assists in removing epithelial masses, and even fibrinous exudations, from the surface; it macerates and floats them. Thus it is that the deposits in the respiratory portion of the nasal cavities are frequently cast off, and the tracheal membranes readily expelled through a newly made tracheotomy wound. The large number of muciparous glands in the ventricles of the larynx and the trachea are also a reason why the lymph apparatus of both can have no access to the loosely overlying membranes, why laryngeal and tracheal diphtherias have mostly a local character, and give rise to local symptoms only, without any constitutional complication.

In the larynx the mucous membrane is thin. The true cords and ary-epiglottic folds have pavement, the ventricles and trachea fimbriated epithelium. There are no lymph vessels on the true cords, none in the acinous glands of the ventricles. These glands are numerous, with cylindrical epithelium in the ducts, without lymphatics. No muciparous glands on the true vocal cords.

These vocal cords are the most prominent parts of the whole respiratory tract. Whatever has succeeded in passing the tonsils may still be caught by the cords. A certain moistness of the tissue is necessary for diphtheria virus to be retained, therefore it is that there is more croup in winter, during the time of catarrhal affections, than in summer, and, therefore, that children, after having been subject to catarrhal laryngitis (pseudo-croup) a number of times, may be taken suddenly with diphtheritic laryngitis. When the virus has been deposited and the membrane been formed, it is apt to persist long because of the epithelium being pavement. I have seldom been able to do without the tube in less than a fortnight after tracheotomy. Only the local irritation, or gentle pressure, or friction of the intubation instrument reduces that length of time. In my own observation, I know of but a single case of croup in which the intubation instrument remained a week. Most of those I have watched required four or five days, some but a single day. These were mostly those in which a severe coughing spell expelled the tube, and the dyspnœa, though great, was not dangerous enough afterwards to oblige the operator to place it again into position.

The persistence of the membrane is also explained by the absence of muciparous glands from the cords. The immunity of the system from constitutional symptoms is due to the absence of lymphatic communication with the rest of the body.

Thus the question, Does membranous croup occur apart from diphtheria? requires the answer, membranous croup, if the process be confined to the larynx, and not complicated with diphtheria of any other organ, is simply local laryngeal diphtheria. The true vocal cords, being covered with pavement epithelium, and having no lymphatics, and not even acinous glands to wash off and carry to neighbouring parts any portion of the macerated membrane, the larynx is the very organ for diphtheria to remain local; still more so than the bronchi, which are apt to harbour diphtheria a long time in the shape of a fibrinous bronchitis.

On the other hand, the relative dryness and protected location of the vocal cords render the cases in which diphtheria is exclusively laryngeal proportionately rare. During an epidemic there appears to exist such an amount of poison, that diphtheria appears to be universal; then, in most cases, the laryngeal diphtheria is the continuation of the pharyngeal process in the contiguity of the tissue; we, then, speak of a descending croup. In others it is ascending, and that occurrence is most formidable. A fibrinous bronchitis has existed for some time with but few, or without noticeable symptoms. All at once laryngeal stenosis sets in, with cyanosis and urgent strangulation. Tracheotomy is useless because at the same time the tracheal and bronchial exudations have increased in massiveness and dangerousness.

Cases of localised laryngeal diphtheria, pseudo-membranous croup, were more frequent—or perhaps only more frequently recorded—at times when diphtheria did not exist as an epidemic. In the same way, sporadic cases of measles, or scarlatina, or variola, or cholera, between epidemics, are apt to be less virulent in character. Perhaps we may be permitted to conclude that the diphtheria virus between epidemics—the last of which has now lasted thirty years—was less virulent, produced no constitutional symptoms, was readily eliminated when admitted to the circulation, was occasionally deposited in the laryngeal narrows, and proved dangerous or fatal only because of the locality of the invasion.

The diagnosis of diphtheria is but seldom doubtful. The greyish floors of the superficial ulcerations resulting from stomatitis follicularis cannot be mistaken for diphtheria; still, the latter can develop on the sore surface. Erysipelas of the fauces has no membrane, nor has phlegmonous inflammation. Remember, however, that the presence of one morbid condition does not exclude the others. Abscesses give rise to considerable tumefaction.

Now, suppuration in or about the tonsils is no pathognomonic symptom of the catarrhal or inflammatory form of amygdalitis, to the exclusion of diphtheria. It was B. Fränkel who made that assertion two years ago. Still, while the complication of diphtheria with abscess is rare, it exists; nor is there a reason why that should not be so. With the exception of those cases in which the diphtheria poison enters through the interstices of Stoehr, every case requires a previous morbid condition of the mucous membrane. This catarrhal or inflammatory condition can lead to abscesses in the interior tissue while diphtheria is superjacent. I have opened abscesses in the tonsils or in the peritonsillar tissue more than a dozen times.

The membranous sore throat of scarlatina has often been claimed as quite different from diphtheria. It appears the human mind has a great tendency to pigeon-holeing, division and subdivision, classification and subclassification. Thus, many have shown the greatest anxiety to tear asunder what belongs together, by appearance, properties, and even microscopical nature. The black, red, yellow, and white man, the curly- and straight-, black-, yellow-, and red-haired, the bald and woolly, the straight and hunchbacked—they all belong to the genus Man. But different appearances of the same diphtheritic process have been claimed as different diseases, though they all agree in this: that, under the influence of a poison, either chemical or bacteric, or both, the epithelium of the mucous membrane is either thrown off or subject to a peculiar change, and that emigrating leucocytes and fibrin, together with the changed epithelium and other material—part of which consists of neighbouring normal material, part of foreign (may be bacteric) addition—form a pseudo-membrane, which, according to the location in which it is found, is either imbedded into the tissue or loosely superjacent.

The pseudo-membranous sore throat of scarlatina has been declared to be obstinately distinct from diphtheria. The reasons which were given for this discrimination were many and various. "Scarlatinal diphtheria never descended into the larynx." That is not true There are many here who know better. "Scarlatinal diphtheria appears at a regular time, say about the fourth day." I wish that was true. For this class of cases runs, as a rule, a favourable course. Those, however, in which scarlatinal diphtheria appears with, or shortly after, or even before, the eruption are very ominous. "There is no albuminuria in scarlatinal diphtheria." This point has been made up outside the sickroom. As a rule, albumen, if at all, is found in the second and third weeks of scarlatina, it is true; but it is not infrequently found before, and particularly so in those cases which are complicated with diphtheria at an early period. Besides, it may be absent in diphtheria. The membrane of scarlatinal diphtheria is said to be "thinner." Thinner than what? There is no regulation size of any membrane, or of an eruption in scarlatina, or of an exudation in pneumonia, or an extent of erysipelas. There is even such a thing, at least temporarily, as diphtheria without any membrane, or visible membrane.

The membrane of scarlatina is said to be "non-removable," and the mucous membrane itself to "participate in the process." Exactly so, and for the very reason that in every case of diphtheria when it takes place on a membrane with pavement epithelium, as on the tonsils, the pseudo-membrane cannot be raised as it can in those localities in which the secretion of numerous muciparous glands keeps the superjacent membrane floating.

It has been claimed, microscope in hand, that there are "still epithelial cells in the membrane" in scarlatinal diphtheria, though it is admitted that they are no longer endowed with vitality. The same thing is found in every diphtheritic exudation which is formed quickly There is no microscopic difference between scarlatinal and genuine diphtheria, nor in its other behaviour. I have seen many nurses, male and female, occasionally a physician, and frequently a mother or other members of a family, contracting diphtheria without scarlatina from a patient sick with scarlatina and "scarlatinal" pseudo-membrane.

Let me now turn your attention to follicular amygdalitis ("tonsillitis") as "another form of sore throat." The tonsil is a conglomerate of follicles or lymph bodies of the very simplest form. They are connected with each other by a network of cellular tissue, in the meshes of which colourless and nucleated lymph cells and fine circular lymph vessels are contained. The surface of the tonsil is covered with a mucous membrane. Between it and the tonsil there is still a layer of parallel fibres of connective tissue. The mucous membrane has its own muciparous glands, and is covered with several layers of pavement epithelium. These epithelia, however, do not adjoin each other very closely; for, according to Stoehr, there are interstices between them which permit round cells to escape. The surface of the mucous membrane is not smooth and level; it has depressions which Luschka called lacunæ, Virchow crypts. It is never the entire mass of a tonsil which is affected by a disease. Even malignant maladies start from single localities or tissues. There may be an affection of the superficial mucous membrane or of its epithelial covering, the subjacent connective tissue, or the dense connective tissue between the follicles, or the follicles themselves with their scanty lymph ducts, and finally the cellular tissue in which the whole tonsil is imbedded.

The surface membrane of the tonsils, with its lacunæ (Luschka) or crypts (Virchow), may be the seat of catarrhal, inflammatory, and diphtheritic processes. There may take place accumulations of mucus, pus, pus and fibrin, and diphtheritic membrane, and mixtures of several of them. In the course of time the mucous membrane itself will undergo changes. Occasionally its muciparous glands exhibit an inflammatory exudation or effusion, also ulceration of vesicles, particularly during a universal attack of follicular stomatitis of infants. Smaller or larger abscesses within the deeper tissue, which perforate the surface, destroy part of the tissue, and give rise to persistent sinuses, which are found empty or filled with mucus or pus, or pus with fibrin, or cretaceous material consisting mostly of leptothrix, and permit of the introduction of a probe to the depth of from one to two centimètres. The superficial indentations and depressions also may become deeper and more irregular, in consequence of morbid processes of the surface or the deeper tissues. In these cases it is not always easy to tell the difference between a transformed crypt or an incomplete fistula resulting from an abscess. Anatomically, there is a difference. But clinically, and practically, it is useless to know that the former is covered with epithelium, and the latter has none. Diphtheria may occur on either.

The deepened crypts and the fistulous remnants of former abscesses may be the seats of different processes, as stated. No matter whether their contents consist of hardened muco-pus, or pus with cretaceous material, the appearance is alike in most cases. If the little dots formed in this way, sometimes two, sometimes a dozen at a time, remain distinct from each other, we speak of tonsillar follicles; if there be some hyperæmia and swelling, we proclaim it a follicular tonsillitis. If the dots will prove confluent, and coalesce with a contiguous membrane, we shall, or ought to, call this diphtheria. Such cases may run a mild course as far as fever and constitutional symptoms are concerned. In some there is fever. It has been claimed that diphtheria and "tonsillitis" differ in this, for the purposes of diagnosis, that the tonsillitis has more fever than diphtheria. But which is the regulation temperature of diphtheria? I cannot tell, nor can they. The fever depends on quite different things. A process which begins and runs its main course in the depth of the tonsil, in a fistulous sac with a narrow opening, is attended with high fever, no matter whether it be simple, or phlegmonous, or infectious; in the same way that a deep-seated abscess, or that an extensive galvano-cauterisation of the interior, through a narrow inlet, produce fever.

Thus the fever is certainly no diagnostic aid. What is? Is there a positive one? The diagnosis of diphtheria is easy enough when the six or ten points have melted together to-day into a membrane. Was it diphtheria yesterday? If not, why not? What is the regulation size of a diphtheritic membrane, a square foot, or the head of a pin? Either, certainly. On a conjunctiva, or cornea, we should be satisfied with the latter. This much is certain, that those cases which are evidently diphtheritic to-day were so when the process commenced yesterday, no matter whether in a crypt, or in an old sinus, or in the intra-epithelial interstices of Stoehr. The latter, which are normal occurrences, are particularly adapted to admit the virus in small deposits.

This conviction that many of the cases of so-called follicular "tonsillitis" are of diphtheritic origin and nature is an old one with me. I gave it expression in a paper On Diphtheria and Diphtheritic Affections, which I published in the *American Medical Times* of 1860, and claimed that the "herpetic angina" of the French was in many cases nothing but diphtheria.

Every new attack of inflammation of any kind, or suppuration, results in the destruction of the normal tissue of the tonsil, and the production of more connective tissue. Thus the small array of lymph-vessels and the blood-vessels are compressed and rendered atrophic, and on the surface the mucous membrane, with its epithelium, is replaced by cicatricial tissue. When the tonsil is thus changed, an invasion of diphtheria can but rarely form a large membrane. Thus it explains itself that large membranes are but rarely found amongst adults. Punctated diphtheria is, therefore, found amongst them, as it is in adolescents and such older children as have suffered from throat diseases a great many times. Enlarged tonsils and chronic pharyngitis are amongst the causes of pharyngeal diphtheria in the very young, and their frequent relapses. After, however, a number of attacks have been overcome, the same enlargement of tonsils, and chronic pharyngitis, with their final changes in the shape of hyperplasia of anæmic connective tissue, results in the suppression of the former acute and well-marked attacks, and the substitution of punctated membranes in their stead. But whether membrane or dot, the contagiousness of the disease is the very same. A mild variety begets that which is mild or severe, as the severe form may produce its like or a mild variety. This mild variety is that from which adults are apt to suffer. Permit me to repeat these verbal statements from a former paper on a similar subject. They made me proclaim the warning that there is as much diphtheria out of doors as in doors, as much out of bed as in bed. With this variety the adult is in the street, in business, in the schoolroom, in the railroad car, in the kitchen and nursery. With this variety parents, while complaining of slight throat trouble which they do not mind, kiss their children. It appears there is to be no escape from this mild murderous variety. But wherever it is suspected it ought to be looked after; where it is seen it must be isolated and treated, less, perhaps, for the sake of those who are sick, than of those who are in serious danger of being infected. Most of you have known families in which the different forms of membranous deposits and diphtheritic general affection occurred at the same time. One child has membranous croup, another dies of diphtheria and sepsis, another has pharyngeal diphtheria, another the "follicular" punctated and isolated deposits on the tonsils, and the adults complain of pain in deglutition, and general *malaise*. Is there no way to make the diagnosis between catarrhal, or cretaceous, or leptothrix, or diphtheritic forms of the follicular affection? Indeed, nothing is of more practical importance. The degree of congestion yields no positive information as to catarrh, phlegmon, or infection. When the congestion is unilateral, it is apt to be due to either trauma or local infection, catarrhal congestion being bilateral. The follicular dot, when benign, is easily brushed off or lifted out, or squeezed out, and rapidly replaced. The replacing of a diphtheritic deposit would take hours, at least. A catarrhal secretion is ever apt to change its place by the patient assuming another position. In any non-diphtheritic form a probe can be introduced into the dilated crypt or the sinus, simulating a pseudo-membrane; in the diphtheritic it is impossible, because it seldom leads into a sinus. Every attempt at removal of a diphtheritic deposit is rather difficult, and results in pain and a little bleeding. But the diagnosis is not always made. In that case the treatment ought to be that of diphtheria. The inconvenience of

isolation is of less annoyance to the patient than the omission of it is a great danger to others.

Is the presence or absence of fever of any value in the differential diagnosis of the different forms of amygdalitis—catarrhal, fibrinous, suppurative, and diphtheritic? The third form, the suppurative, shows this difference from the others, that it is not superficial, but in the interior of the tissue. The other forms are all more or less confined to the surface of the tonsil. They need not be so, and generally are not attended with fever; for this would be due to one of two causes, either copious lymph communication with the system or nerve irritation by pressure. The former does not exist in the tonsil to any great extent in the young, and hardly at all in the old. The latter cannot take place on the surface, but in the interior only. I will give you an example. When you thermo-cauterise or galvano-cauterise the tonsil, you will make the following observation: Touch the surface, and there is no fever afterwards; run your needle deep into the tissue with a narrow entrance, and you will be liable to produce fever like that of a deep-seated abscess; but if you introduce the needle in the same manner and do not withdraw it through the same opening, but run it through the whole organ sideways, so as to form a large superficial scurf, you have no subsequent fever. While this experience is of great practical importance, it illustrates what is going on in the usual morbid processes of that region.

In the same manner every morbid process, catarrhal or diphtheritic, which is limited to the surface of the tonsil, need not be feverish at all. The follicular affection is not feverish as long as the opening of the crypt is larger than the interior, and no bottle-shaped cyst formed. Surface diphtheria gives rise to no fever as long as there are no, or but few, lymph-ducts to carry the infection to the system. This is the case pre-eminently in the tonsils and in the vocal cords. Both are covered with pavement epithelium; both have but little lymph communication. Thus what I have said of uncomplicated diphtheritic amygdalitis is also valid for diphtheria of the vocal cords. A membranous croup—diphtheritic laryngitis, or laryngeal diphtheria—without diphtheria of other parts or complication with some other feverish disease, has no fever. Croup symptoms, with high fever, uncomplicated and otherwise, do not belong to the membranous form. It is catarrhal laryngitis that begins with fever, for here is a general affection, or rather infection. Even in cases of an existing punctated amygdalitis, when symptoms of croup make their appearance, the continuance of a low temperature characterises the affection as pseudo-membranous. If there be an access of fever, either the croup is catarrhal and permits of procrastination, and is quite amenable to medicinal treatment, or there is another feverish or inflammatory complication. I have often made the correct diagnosis of doubtful cases in this way; and the more I have seen since I first pronounced this alleged heresy many years ago, the more do I become convinced of the truth of that statement. The following case I have reported before, but it is more apt than most others to exemplify and corroborate what I have said.

On January 1st I diagnosticated the laryngeal stenosis of a boy eighteen months old, who had just arrived from Chicago, and might have been presumed to have been exposed while travelling, to be membranous because of the absence of fever, together with the absence of congestion, inflammation, or exudation in the throat. I was obliged to perform tracheotomy a few hours afterwards. Some membrane was expelled through the tube on the third and fourth days. There was none in the fauces. On the third day, when the wound became slightly diphtheritic, there was an increase of temperature amounting to half a degree. The tube was removed after a fortnight. The child remained well until he was taken with laryngeal stenosis and a temperature of 104° four weeks afterwards. He was attended by one of the gentlemen who had assisted me in the operation and heard me mention the points of differential diagnosis. He pronounced the laryngitis to be non-diphtheritic, and proceeded accordingly. The child recovered in the usual way.

The treatment must be mainly preventive. Every case of diphtheria must be isolated, during the winter, on the upper floor of the house, windows open as much as possible, furniture of any kind reduced to the least possible quantity, the room changed every few days. The sick in crowded houses and quarters ought to go to a special hospital; these hospitals must be small; or the well removed to a healthy place; in large cities to temporary homes provided for the purpose. The sick must be reported to the health boards. The well children of a family with diphtheria must not go to school or church; schools be closed when an epidemic makes its appearance; teachers instructed in the examination of throats. The condition of the house is to be examined into and improved; attendants, servants, nurses and cooks, seamstresses and laundresses, teachers, shopkeepers, restaurateurs, barbers, hairdressers, with their mild diphtheritic attacks and strong pecuniary interests, are frequent sources of infection. In times of common danger public places, theatres, ball-rooms, dining halls, public vehicles, hackney coaches, and railroad cars, must be superintended by the authorities. There must be no clashing permitted between the public good and the individual money bag. Clothing, bedding, room, and house must be thoroughly disinfected; articles used in the sick room burned or soaked in a disinfecting fluid in the room, not carried over the house in a dry state; the rooms thoroughly disinfected after a case terminated favourably or unfavourably; the corpse disinfected, the funeral private, nothing removed from the house unless disinfected, no pieces of carpets thrown away to be picked up by beggars, no mattresses benevolently donated to the unsuspecting poor.

Individual prevention amounts to a great deal. Diphtheria not attacking healthy integuments, these have to be kept so. Mouth-breathers are always in danger of diphtheria; therefore, catarrh of the mouth, nose, and pharynx must be treated in time, large tonsils either resected or trimmed with the actual cautery, a very simple procedure, the septum narium corrected, if actually required, by the urgent necessity of the case, beside the eager necessities of the local specialist; glandular swellings round the neck corrected.

To enumerate the medicines recommended in diphtheria would be to read off the *Pharmacopœia*, part of the Chinese and Paullinus' stinkpharmacy included. There are no specifics, no panaceas. Chlorate of potassium is a good adjuvant, because it is a good remedy in oral and pharyngeal catarrh. Give it often and in small doses, if at all, and remember that it may be a poison. When I sent out my warning in 1860 it was not heeded. Since my papers of 1876, in Gerhardt's *Kinderkrankheiten*, and 1879 in the *New York Medical Record*, the reports of deaths from potassic chlorate have been quite numerous. Most of the remedies recommended were for the purpose of either solving membranes, or of disinfection, not to speak at all of the burying of a throat membrane under varnish. Amongst the solvents are alkalies, lactic acid, steam, beneficent in many cases unless it softens and soaks too much, papayotin, and trypsin, active whenever it can be applied, and the cruel pilocarpin. The disinfectants comprehend all the phenols, alcohols, a number of metals, to a certain extent also the balsams. It is superfluous to tell the names. The story of the dread enemy and its frequent invulnerability is best told by recalling hydrogen hyperoxide, salicylic, carbolic, boracic, and hydrofluoric acids, creasote, corrosive sublimate, turpentine and eucalyptus, benzoate of sodium, and chinotin.

There are three great indications to be fulfilled in the treatment of every individual case: cleansing and disinfection of the surface from which systemic poisoning may take place by absorption, fitting the patient to fight his way out to a favourable end, and meeting local emergencies.

During the discussion I may have the time to give the rules for attending the nose, the throat, the conjunctiva, consecutive paralysis, etc. Whatever is done must be done very diligently, indefatigably, but without violence to the sore surface and the patient. No child will stand up against the alliance of diphtheria and doctor, or diphtheria and nurse. Besides, whatever you do, look for the protection of the healthy epithelium.

Amongst the medicines I have learned to respect the chloride of iron. The tincture may be given a drachm daily to a baby a year old, much more to older ones, in very frequent and small doses. It is mostly well to water. It is self understood that every bad symptom or occurrence must be attended to. High temperature, convulsions, albuminuria, have their own indications.

These fragments may suffice here. I must not trespass upon your time indefinitely. Still, I should wish to make the direction treatment has to take in general clear by stating my method of dealing with heart-failure, and making a remark on bichloride of mercury.

Beside sepsis, the great dangers in diphtheria are heart-failure and strangulation. The latter I shall not speak of in this connection, as it forms one of the special subjects which is to be considered by you; both tracheotomy and intubation have been

proposed as topics of discussion. Heart-failure is usually developed gradually. It is foreshadowed by an increasing frequency and weakness of both heart-beats and pulse, by an occasional intermission, by unequal frequency of the beats in a given period (say of ten seconds), or by the equalisation of the interval between systole and diastole, and diastole and systole. This latter condition, which is normal in the embryo and fœtus, is always an ominous symptom.

Heart-failure is due, beside the influences common to every disease and every fever, to tissue changes in the myocordium, in the nerves, or both. These changes may be due to the ill-nutrition of the tissues resulting from every septic condition of the blood, or specific alterations due to the diphtheritic process. Failure may either come on after having given warning, or it may be on you without any. Thus, there is no case of diphtheria—beyond, perhaps, those of the mild tonsillar form—but ought to make us anxious and afraid. Indeed, there is no safety and no positive prognosis until your patient is quite recovered, and even advanced beyond the period in which paralysis may develop.

Whatever enfeebles must be avoided; absolute rest must be enjoined. The patients must be in bed, without excitement of any kind; take their medicines—which ought to be as palatable as possible—and their liquid food, and evacuate their bowels, in a recumbent or semi-recumbent position; crying and worrying must be prevented; the room kept airy and rather dark, so as to encourage sleep if the patient be restless—and restless they are, unless they be under the influence of sepsis, and thereby subject to fatal drowsiness and sopor. In no disease, except, perhaps, in pneumonia, have I seen more fatal results from exertion on the part of the sick, or from anything more than a sudden change of posture. Unless absolute rest be enforced, neither physician nor nurse have done their duty. The latter must avoid all the dangers attending the administration of medicines, injections, sprays, and washes. Preparations for the same must be made out of sight, every application made quickly and gently. On no condition must a patient be taken out of bed for that purpose. I know of children dying between the knees of nurses who called themselves trained and had a diploma.

Pharmaceutical preparations, such as digitalis, strophanthus, spartein, caffein, besides camphor, alcohol, and musk, must not be postponed until feebleness and collapse have set in. They are at least possible, even probable; and this is certain, that a cardiac stimulant will do no harm. It is advisable to use them at an early date, particularly in those cases in which antipyrin or antifebrin are given. Besides, it is not enough that the patients should merely escape death; they ought to get up, *cito, tuto, et jucunde*, with little loss and speedy recuperation; a few grains of digitalis or their equivalent—preferably a good fluid extract—may or must be given in a pleasant and digestible form daily. When a speedy effect is required, one or two doses of 2 or 4 grains each are not too large, and must be followed up by smaller ones. When it is justly feared lest the effect of digitalis be too slow, I give, with or without it, sulphate of spartein. An infant a year old will take one-tenth of a grain four times a day as a matter of precaution, and every hour or two hours in an emergency.

Of the same importance are alcoholic stimulants. The advice to wait for positive symptoms of heart-failure and collapse before employing the life-saving apparatus is bad. There are cases which get well without treatment, but we do not know beforehand which they will be. No alleged mild case is safe until it has recovered. When heart-failure has once set in—and often will it occur in apparently mild cases—our efforts are too often in vain. Thus alcoholic stimulants ought to be given early and often, and in large quantities, thoroughly diluted. There is no such thing as danger from them or intoxication in septic diseases. A few ounces daily may suffice; but I have often seen ten ounces daily of brandy or whisky save children who had been doing badly with three or four.

Caffein, or, in its stead, coffee, is an excellent cardiac tonic, except in those cases in which the brain is suffering from an active congestion. For subcutaneous injections the salicylate (or benzoate) of caffein and sodium, which readily dissolves in two parts of water, is invaluable for emergencies, in occasional doses of from one to five grains in from two to ten minims of water. From five to twenty grains of camphor may be given daily, as camphor water or in a mucilaginous emulsion which is easily taken. It does not so disturb the stomach as carbonate of ammonium is apt to do. For rapid effect it may be administered hypodermically, in five parts of almond oil, which is milder and more convenient than ether. Strychnine may be added regularly from the beginning of failure, but mainly in cases with little increase of temperature. Its effect is more than momentarily stimulating. But the very best internal stimulant in very urgent cases is Siberian musk. I prefer to give it from a bottle, in which it is simply shaken up with a thin mucilage. In urgent cases it ought to be given in sufficient doses and short intervals. When ten or fifteen grains administered to a child one or two years old within three or four hours will not restore the heart's action to a more satisfactory standard, the prognosis is very bad.

Beside exhaustion on the height of the disease, we have paralysis during convalescence, or intense anæmia long after apparent recovery. This anæmia may be general, or is local, and then mostly cerebral. Both have indications of their own.

In urging upon you these remedial measures in the dangers of diphtheria, I beg of you not to take me for a meddler and interferer. Like yourself, I see many a case of sickness, and treat many without medicines. But there must be a reason for both non-medication and medication; and there must be medication when there is an indication for it. When there is, there is also an indication for a sufficient dose. I believe in Nature, and in spontaneous cures, but I know also that Nature destroys with the same equanimity and indifference with which it allows the getting well. I believe in the action of medicines, and the responsibility of the physician; I know that when a political Nihilist commits a single murder the newspapers of the world talk loudly of it. When a therapeutical Nihilist commits a hundred homicides a quiet certificate and the silent sod cover the sins of omission.

Perhaps the most useful internal remedy is mercury. Empiricism has often praised calomel in small and large doses. My acquaintance with mercury in this connection is not at all new. More than four years ago I published a number of cases which got well under its use; at the same time that Dr. Thallon, of Brooklyn, published an article on the same subject. Since I have employed it, I prefer the bichloride, my conviction of the utter uselessness of internal medication in laryngeal diphtheria, so-called pseudo-membranous croup, is thoroughly shaken. Until about six years ago I felt certain of a mortality of 90 or 95 per cent. of all the cases not operated upon. These figures were not taken from small numbers, for I compared those I found with my own. The latter are not a few neither; for within the last thirty years I have tracheotomised nearly 600 times, have assisted at as many more operations, and have seen at least 1,000 cases of laryngeal diphtheria which were not operated upon at all. During the last six years I have seen no less than 200 cases, perhaps many more. Amongst them recoveries have not been rare at all, at all ages, from four months upward. The uniform internal medication consisted in the administration of a dose of the bichloride every hour. The smallest daily dose ever given by me in the beginning was 15 milligrammes, $\frac{1}{4}$ grain, to a baby of four months; this was continued a few days, and the dose then somewhat diminished. Half a grain daily may be given to children of from three to five years, for four or eight days or longer. The doses vary from one-sixtieth to one-thirtieth. They require a dilution of 1 in 6,000 to 10,000 of water or milk. There is no stomatitis, gastric or intestinal irritation is very rare. It occurred in a few cases, but then it was found that the dilution had not been sufficient, 1 in 2,000 or 3,000 only. If ever it exist, small doses of opium will remedy it.

The benefit to be derived from the remedy depends greatly upon the time of its administration. Tracheotomy or intubation is required as a rule, after days only, and can often be avoided if mercury be given in time. If the operation become necessary after all, the treatment must be continued diligently. Never have I seen so many cases of tracheotomy getting well, since 1863, as when the bichloride was being used constantly in 1882, and the five subsequent years. Nor am I alone with these favourable results. There are dozens of practitioners in New York city with whose methods and results I am well acquainted, some of whom are connected with me, in some capacity or other, who confirm the above statements.

My experience with the bichloride is mainly gathered in cases of laryngeal and bronchial diphtheria, so-called pseudo membranous croup and fibrinous bronchitis; it is there where it has been particularly effective. Still, but few of these were quite localised affections. Our cases of diphtheritic laryngitis are mostly descending, and complicated with either diphtheritic pharyngitis, rhinitis, or both. Not a few, mainly of the latter kind, exhibit

constitutional symptoms of sepsis; many such have also got well.

It has so happened that cases of naso-pharyngeal diphtheria with septic symptoms have not often been treated by me with the bichloride. What little I have seen, partly in my usual consultation practice, partly in the results of the Willard Parker Hospital for diphtheria and scarlatina, where Dr. Priest has acted upon my suggestion, has confirmed the teachings of Lynn and Pepper, who rely on the bichloride of mercury, as their sheet anchor in the very worst form. The results are enviable when compared with others, nor is the reason for its efficacy very obscure. If an antiseptic which certainly enters the circulation without previous decomposition is required, and which at the same time is safe and efficient, it is the bichloride; if the virus be bacteria, so much the better. It is not necessary to introduce into the circulation, for the purpose of counteracting the effect of bacteria, solutions sufficiently strong to destroy them; for such doses would destroy blood cells first. According to T. Mitchell Prudden,[1] a solution of one-sixteenth of one per cent. of carbolic acid prevents the emigration of white blood-corpuscles under circumstances otherwise favourable to inflammation, and Koch found that though bacteria are not easily killed, their growth is stopped by a solution of one part of carbolic acid in 850, and their activity by one in 1,200. These effects are all that is required for practical purposes. If the growth and activity of the bacteria be stopped, the cells will see to it that the republic suffer no harm. Now, the bichloride of mercury is the most powerful of all the antiseptics. A child of from 35 to 40 pounds carries about 2 pounds of blood, equal to about 15,000 grains. One-sixth of a grain of bichloride floating in the circulation ought to be able to stop both the activity and the growth of parasites, if parasites there be.

SOME MOOT POINTS IN THE SURGICAL TREATMENT OF DIPHTHERIA.

Read in the Section of Diseases of Children at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By ROBERT W. PARKER, M.R.C.S.,
Surgeon to the East London Hospital for Children.

I HAVE gladly acceded to the request of the honorary secretary of this Section that I would open that part of this discussion which deals with the surgical aspects of diphtheria, because it is a subject in which I have long taken, and still take, a great interest. All difficult subjects are interesting, and this is one of the most difficult, and therefore most interesting, that surgeons are called upon to deal with. At present we know little or nothing of the essence of the disease, notwithstanding that it is being studied so closely; until we do, I take it that our treatment will have to be directed against the effects rather than against the disease itself. The printed programme only refers to tracheotomy and tubage, as though these measures constituted the whole gamut of surgical treatment. I shall presently give my reasons for not quite subscribing to this view.

I must say in advance that, as the time at my disposal is very limited, it will be difficult to do more than just enumerate some of the still unsettled questions of treatment; this will serve, however, to elicit an expression of opinion from those present for or against. If my statements appear dogmatic, it is chiefly because I have not the time to give the reasons at length which have led me to adopt the practice I am about to advocate. My first proposition, then, will be:

1. *Tracheotomy is not a Therapeutic Measure.*—I consider it essential to point out and to emphasise the fact that tracheotomy is not a therapeutic measure in the strict sense, that is to say, the operation cannot itself be regarded as treatment in the proper sense of the term; it is a mechanical means to avert a mechanical danger which is no essential part of the original disease; it leaves the disease exactly where it was before. Tracheotomy is a means to an end; it is undertaken to guard against death from suffocation from false membrane in the larynx; its chief value is to gain time, while therapeutic treatment, properly so-called, can be efficiently carried out. For the purposes of this discussion, then, I will assume that the surgical treatment of diphtheria will include all local applications as well as the more purely operative procedures. Though very much less so than formerly, there is still rather a tendency to suspend both local and general treatment as soon as an operation has been performed, as if the operation itself were really a curative measure. When I first began to work at this subject in 1872, the rule was to stand and look on, as though after operation everything had been done that could be done or ought to be done; and measures now adopted almost as matters of course were regarded even in hospitals as hazardous, not to say unwarranted.

2. *Surgical Definition of Diphtheria.*—In order to explain the *rationale* of what I consider the most appropriate surgical treatment, let me in a very few words define diphtheria as I understand it. Diphtheria is a local infective process, characterised by ulceration and by the production of "false membranes;" the local spread is brought about partly by the inherent tendency which this special ulcerative process possesses to spread at the margins, partly by the contagiousness of the material products of the local process and by their transference from place to place. Moreover, these membranous deposits, after removal or destruction, may recur again and again; and as the manifestations of an infective disease still active in the system, they are more dangerous than even the mechanical obstruction they give rise to when situated in the larynx, for tracheotomy relieves the one, but in no sense controls the other.

The Scope of Treatment.—This view of diphtheria teaches that in order to deal adequately with the disease, it is absolutely essential, in the first place, to endeavour to destroy or alter this infective property both of the lesion itself and of its products wherever they can be got at, in the pharynx, the posterior nares, the larynx, or the trachea. The effects due to general absorption of the diphtheritic poison lie quite outside the scope, and I fear that I must add the possibilities, of surgical treatment.

3. *Surgical Treatment of Diphtheria.*—The surgical treatment of diphtheria may be divided into—1, local measures; 2, operative measures.

I. LOCAL MEASURES.

(*a*) *Strong Caustics: (Alteratives).*—Bretonneau appears to have attached the greatest importance to prompt and vigorous local treatment. He used hydrochloric acid, diluted with three or four parts of water. I have used the acid diluted with three or four parts of glycerine, and have found it a most effectual application. From personal experience I can assert that it only attacks the diseased parts, or that it attacks these chiefly. When mucous membrane is inflamed or irritated it becomes covered with tenacious mucus, which protects it. The diseased and ulcerated portions not being so protected, the acid glycerine gets at them, and acts as a powerful caustic and alterative. I do not hesitate to swab out the pharynx and posterior nares very freely with this mixture once, twice, or oftener if necessary. Glycerine of carbolic acid may be used in the same way and for the same purpose. Such strong applications, however, must not be made too often. Two or three applications usually suffice in as many days. Great care must be exercised not to abrade the diseased parts or to tear away the false membrane; in fact, the greatest gentleness must be used in making the applications. But, besides these local caustics, I strongly believe in the use of weaker astringent applications, frequently applied. The former applications are intended to destroy the specific nature of the lesion, to set up a simple inflammation in place of the specific one, while the weaker solutions are to be applied frequently for the purpose of diluting, disinfecting, and washing away all local inflammatory products.

(*b*) *Sprays.*—The application of such washes as these may be very easily and effectually applied by means of a spray producer. The finer the spray the more effectually can it be applied, and for this reason a steam spray producer is better than one worked by the hand. By making the patient inhale through the nose, local applications can be very effectually applied to the tortuous passages of this region. Various solutions can in this way also be made to reach even the lungs. Sprays are equally useful and applicable whether tracheotomy has been performed or not.

(*c*) *Irrigation.*—This is an admirable method of washing away the products of the local lesion. In cases of severe nasal diphtheria I would even counsel the administration of chloroform if needs be, in order to secure a thorough cleansing of the posterior nares and adjoining pharynx. If an anæsthetic be given, and in the case of children, neutral solutions must always be used—either plain water (which has been boiled) or a solution of boric acid. For

[1] *Amer. Jour. M. Sc.*, January, 1881.

adults almost any kind of solution can be safely used; for, by holding the head forward and keeping the mouth open, the irrigated fluid will all pass out again, and none is swallowed. I have used solutions of sulphate of copper (gr. ij to ℥i), of corrosive sublimate (1 to 1,000), of quinine (gr. 5 to ℥i), without any drawbacks, according to the supposed needs of the case. A suitable tube is passed into the nostril, first the right and then the left, and a pint or more of the fluid irrigated through each. In this way patches of membrane, inspissated muco-pus, etc., can be washed away without difficulty or pain. Such irrigation is far more effectual and far less disagreeable to the patient than injections with a syringe. I believe we are indebted to Dr. Jacobi for this valuable suggestion.

(*d*) *Powders for Dusting.*—After irrigation, or in place of it, the application of antiseptic substances in the form of fine powder is a most useful proceeding. Thus iodoform, boric acid, may either be snuffed in or blown into the nostrils and on to the pharynx with a suitable dusting-machine.

II. Operative Measures: 1. Tubage; 2. Tracheotomy.

1. *Tubage* (*Intubation*).—I must confess at the onset that my experience is very small indeed; it is for this reason that I touch on tubage before the more important operation of tracheotomy. What experience I have had has not impressed me at all strongly in favour of tubage as a substitute for tracheotomy; least of all can I think that it will ever take the place of tracheotomy during the acute stages of diphtheria. I say this notwithstanding all I have heard and read in favour of tubage, bearing in mind that other methods of treatment, which have ultimately proved themselves useless, have at first been as highly vaunted as it.

In one case in which I inserted a tube, the membrane was raised up, pushed down into the larynx, and so occluded the tube, rendering its immediate removal necessary. In another case I could not get the tube into the larynx at all, the ary-epiglottic folds being so tumefied; the patient was a very small child, and the irritation caused by my unsuccessful attempt so increased the dyspnœa that I had to resort hurriedly to tracheotomy.

I feel that my experience on tubage is very small and quite too inadequate upon which to form an opinion. It is extremely probable that my failures were due to awkwardness or want of practice in the art of manipulating these tubes. I must trust to future speakers to point out the best method of applying these tubes, the class of case in which tubage is preferable to tracheotomy, and the after-management these patients require.

2. *Tracheotomy.*—I hardly know whether it will be necessary to discuss the desirability, or the contrary, of giving chloroform before operating. It is my own practice, and has been for many years past. I have never seen any ill-effects from its administration; on the contrary, I think it very materially facilitates the operation.

(*a*) *As to the Operation Itself.*—There is no longer any difference of opinion among surgeons as to the superiority of the high over the low operation; it will be superfluous, therefore, to lengthen these remarks by discussing the advantages of the former method; I shall take it for granted that the high operation should always be adopted unless there exists some special contra-indication.

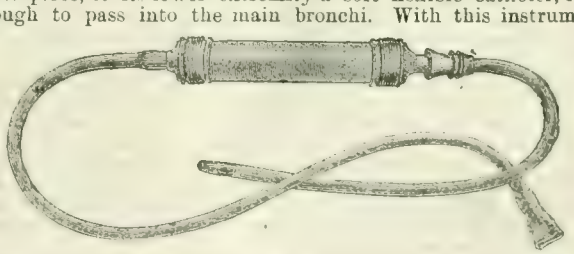
But the next point to consider, namely, how the operation ought to be done, is one on which there may legitimately be differences of opinion. Following in the traditions of my teachers, I have until recently operated by carefully dissecting down upon and exposing the trachea.[1]

At my last five or six operations I have entered the trachea by means of two incisions only, the first including the skin and fascia, the second opening directly into the trachea. Formerly, I regarded the operation of tracheotomy as of little moment in cases of diphtheria; but longer experience of such cases teaches me that the mere fact of incising the tissues of the neck adds a material danger to the original disease. Considered from the most modern standpoint, the local disease is due to the necrobiotic action of certain micro-organisms on the cells of the affected parts, and the constitutional symptoms are due to the absorption of poisonous substances (chemical or otherwise) which these micro-organisms produce. This being so, it is easy to conceive that an operation, and in such a region too, should be a source of danger. The tissues are incised, blood and lymph vessels are cut across, and intermuscular planes and the soft cellular tissue around the trachea are disturbed and exposed. Thus so many fresh channels through which septic materials may be absorbed are opened up to the infective surroundings, and to the discharges which begin to issue from the trachea as soon as the operation is completed, and it is well known how readily freshly incised wounds become infected when exposed to septic influences. In this connection it will be remembered that the late Professor Trousseau used to teach that a tracheotomy wound should be well painted with nitrate of silver from the very first in order to lessen the chances of septic infection. Under such circumstances, the obvious surgical indication is to try and secure a free opening into the trachea with the least possible disturbance of the surrounding parts. The more virulent the case, the greater the need of this care.

I find, as the result of five or six trials, that everything can be attained by the method of operating which I have just described, namely, by two incisions. In order to be perfectly safe, the incision must be in the median line. After the skin and fascia have been incised, the operator looks for the "white line," the linear interval between the muscles of the two sides. It will be remembered that the muscles do not quite meet, and that, in point of fact, there is nothing between the trachea except the cervical fascia (the so-called white line) passing across the muscles on the right to those on the left side. In short necks, and where there has been severe dyspnœa, some distended veins may be seen, but these can be avoided with a little care.

Having found this white line, a suitable narrow bladed scalpel is plunged into the trachea at the upper border of the thyroid isthmus, and made to cut its way out again just below the cricoid cartilage; or this latter may be divided, if necessary, to make more room for a good sized tube. A pair of dilating forceps is then passed in, and the opening kept patent. Should any vessel spurt, a pair of pressure forceps can be clipped on.

At this stage of the proceedings some operators insert the cannula without more ado. Personally, I regard such a practice as highly detrimental to the interests of the case. If the incision into the trachea is held open with the dilating forceps, all immediate danger to life is past, and the surgeon's opportunity for local treatment is now come. All false membrane and other inflammatory products should be cleaned out of the trachea and larynx before the cannula is inserted. For this purpose nothing better can be used than a long soft feather, and a solution containing either a little soda, potash, or borax. The feather is introduced and twirled about gently, so as to detach the loose membrane. The presence of the feather in the trachea causes a little reflex cough, and the loose membranes are ejected. Should this fail suction may be tried. I refer to suction in this place in order emphatically to condemn the practice of putting the lips to the wound. Direct suction has never proved of the slightest service to the patient, though it has cost many a man his life. The cases in which suction is likely to be beneficial are those in which the disease has passed down below the tracheal opening into the primary bronchi. In such cases I have many times seen life prolonged or saved by carefully applied suction. For this purpose a guarded catheter may be used if nothing better be at hand. I have, however, had a special instrument made for the purpose, which I always carry with me when about to operate. This consists of a tube of transparent celluloid, filled with antiseptic cotton-wool; attached to its upper extremity is a mouthpiece, to its lower extremity a soft flexible catheter, long enough to pass into the main bronchi. With this instrument

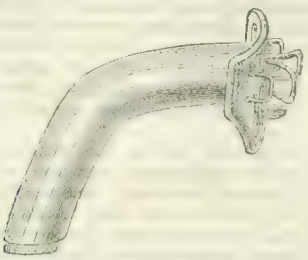


pieces of membrane or inspissated discharges, which may be blocking up the bronchus and impeding respiration, can be quickly dislodged, while the operator is absolutely protected from harm by the intercepting and antiseptic wool which the instrument contains.

(*b*) *The Cannula.*—After clearing out the trachea and larynx, the cannula may be introduced. The large number of differently shaped cannulæ which can be got at the instrument makers

[1] *Vide* author's *Tracheotomy in Laryngeal Diphtheria: Its After-treatment and Complications.* Second edition. Lewis. 1885.

sufficiently testifies to the differences of opinion existing among surgeons even on this point. For the purposes of this discussion I will say that all tubes with a rigid collar ought to be condemned as unfit for service. I think, too, that all quarter-circle tubes are unsuitable, and also that Fuller's bivalve tube should never be used in recent cases. An ideal tube would be one which, having a



movable collar, possesses a "cervical portion" (neck) just long enough to reach the trachea, and a "tracheal portion" (body) set on at such an angle with the cervical portion that the latter accurately follows the direction taken by the trachea itself on its way downwards to the lungs. The object of the movable collar is, of course, to permit the tube to follow the movements of the larynx and trachea in swallowing, etc., and so lessen the danger of ulceration from pressure or friction. In my "angular tube" these conditions are fairly fulfilled; and if an operator will have made and keep a good assortment of sizes, the requirements will be fully met.

[The diagrams sufficiently explain my contention.] The cervical portion of the cannula is that which lies in the neck of the wound; the depth will necessarily vary with the amount of swelling of the tissues in front of the trachea. In all cases there is some swelling after operation, while in a few cases it may be excessive; in one of my cases the nurse had to sit by the patient's side and hold in the tube, and even then it only just reached the trachea, so great was the inflammatory œdema of the neck. In the "tracheal portion" of the tube there is less need of variation; in all cases the tube should be as short as possible, as less effort is required to breathe through a short than through a long tube.

As regards this angular tube, I may say that it has been very generally approved, so far as its external shape is concerned. Criticisms upon it have been almost entirely directed to the inner tube, which has to be considerably cut away in order to allow it to pass through the angle of the outer tube. Certainly I must admit there is something in this contention, though I have not myself found therein any serious barrier to its successful use.

I attach less importance now than formerly to a double tube during the acuter stages of diphtheria, that is to say, during the first few days after tracheotomy; in many cases, in fact, an inner tube may be quite discarded, provided the patient be in charge of a well-trained nurse, who understands how to use the feather and how to keep the tube clean. I might here add that I consider a good nurse almost as essential as a good tube. In former times, when very little attention was bestowed on the after-treatment and on the management and cleansing of the tube, an inner tube was an absolute necessity; by simply withdrawing the inner tube, the previous neglect during hours was in a measure instantly atoned for. A further advantage gained by dispensing with an inner tube is the greater breathing space thereby obtained—a matter of great importance and comfort to the patient.

The only tube which I think in any way approaches the "angular tube" in its general adaptability is the tube invented by Mr. Durham; but the mechanism of this tube is not without its drawbacks when used for young subjects. As adjusted for a shallow neck, a very considerable length of tube projects from the level of the neck, and for a young patient this is a practical drawback of no little importance. I have known the whole tube displaced from the trachea in a moment by a restless child, who was nearly suffocated in consequence.

There is one other tube about which I will here say a few words, namely, the so-called bivalve (Fuller's) tube. This tube was evidently invented for the purpose of facilitating the performance of tracheotomy at a period when the operation was considered complete the moment a tube could be got into the trachea. The outer tube only is "bivalve;" it is collapsible, and becomes wedge-shaped when the two halves are pressed together; the tube can thus be introduced with great ease, even into an insufficiently large opening; but this is a delusive advantage, for except the opening into the trachea be large enough, and except any membrane there may be inside the trachea be first got rid of in the manner described, there may be danger rather than safety in inserting the tube. I would most respectfully advise that the "bivalve tube" be entirely discontinued, and that the dilating forceps take its place at recent cases of tracheotomy.

(*c*) *The Moment at which to Operate.*—One of the remaining points to consider in such a discussion as this is the most appropriate moment at which to operate. As a rule this question is raised at an earlier period, and I allow there is perhaps a chronological propriety in such a proceeding.

I have always thus far considered mechanical dyspnœa as the chief indication for the performance of tracheotomy; at this stage, however, it is no longer a question of choice, it becomes an actual necessity. In the earlier part of my remarks I pointed out that success in treatment depends very largely on other measures than tracheotomy, and why this is so. I stated my view that tracheotomy is not a curative measure at all, but only a mechanical expedient to prolong life while therapeutic measures can be adequately applied.

(*d*) *Prophylactic Tracheotomy.*—This being so, I will now ask for an expression of opinion, whether there are any cases of diphtheria in which a surgeon, being consulted, might reasonably recommend tracheotomy, even although at the moment the larynx was quite free from infection, that is to say, might recommend the operation on purely prophylactic grounds? Personally I am inclined to answer in the affirmative. Let me instance a case: Some time back I was asked to see a gentleman suffering from naso-pharyngeal diphtheria of a malignant type. The larynx was not affected, and the lungs also appeared to be free. I said there was no indication for tracheotomy; I afterwards learnt that this gentleman went on fairly well for a while, then signs of bronchopneumonia supervened, and he died. On thinking the matter over, I could not do otherwise than admit that the pneumonia was caused by the inhalation of air, which became charged with deleterious materials as it passed through the semi-gangrenous naso-pharynx; for the larynx was not appreciably affected, his voice remaining unchanged. Inhalation pneumonia is a well-known sequence of other diseases affecting the pharynx and larynx, for which prophylactic tracheotomy has often been advocated as well as practised. The question I would raise is this, would this patient of mine have been less likely to suffer from pneumonia had he been tracheotomised, and means taken to secure for him a supply of air fresh and aseptic? In the light of other similar cases I am now inclined to answer this question in the affirmative; I shall be glad to have an expression of opinion on this point from those who are present. This question of inhalation pneumonia is, in my opinion, an argument against tubage; for the respired air must still travel through the diseased pharynx, carrying with it into the lungs disease germs as well as grosser products of the inflammatory lesion. The vast majority of the fatal cases of diphtheria die of this pneumonia.

(*e*) *The Croup-Bed.*—This brings me to my last point; what are the best means to secure pure air for a patient with diphtheria? Besides destroying the local gangrenous processes, little can be done without tracheotomy. But after this operation something may be accomplished. The patient must be surrounded with air as fresh as possible; the mere fact that the respiratory air no longer travels through the diseased pharynx and larynx is a great gain. Whenever it is possible to do so, I surround my patient's bed with curtains; then I am free to open the window, and thoroughly ventilate the room; the curtains protect him from draughts, and keep the air immediately surrounding him at an equable temperature. With the assistance of the croup-kettle this enclosed bed can be ventilated and the air within it can be medicated, if it is thought well to do so. On this point also I should like an expression of opinion: Is steam useful, or the reverse? Opinions differ considerably. Personally I am very much in favour of its employment, provided it be used with discretion and in moderation, and that a proper steam apparatus be employed. In cases where the curtains cannot be applied, a cravat of cotton-wool between two layers of gauze is a substitute which is not to be despised.

Dr. RANKE (Munich) said that, in regard to the etiology of diphtheria, he wished to draw attention to the researches of his Munich colleague, Dr. Rudolph Emmerich, to whom he (the speaker) had given the opportunity of examining.

bacteriologically, not only diphtheritic membranes from the living, but also the different organs of children who had died from diphtheria immediately after, say, one hour after death. Dr. Emmerich always found a combination of infection. Of seven cases of diphtheria examined immediately after death, he found, by Koch's cultivation method, in five cases a very short bacillus, "Kurzstabchen," always combined with streptococcus or staphylococcus pyogenes aureus. The short bacilli were found not only in the mucous membrane of the larynx, the trachea, and the bronchi, but also in the pneumonic infiltrations, wherever such occurred. A few times they were also found in the blood taken from the heart, but were never in large numbers. On histological examination he found the following: Upon the diphtheritic membrane, and in the superficial layers of the same, a number of different bacteria, amongst which often Löffler's bacillus. In the deeper layers of the diphtheritic membrane, and principally in the superficial parts of the underlying mucous membrane, streptococcus or staphylococcus and the short bacillus, mostly in large numbers, not Löffler's bacillus. In the deeper parts of the mucous membrane larger numbers of the short bacillus, and now and then a few specimens of streptococcus or staphylococcus pyogenes aureus. By inoculation of the short bacillus on the mucous membrane of the larynx of young cats or rabbits, unmistakable diphtheritic membranes were obtained. So much for the bacteriological aspect of the question; but he wished to point out another etiological fact of interest. In the city of Munich, which formerly had a bad name on account of the frequent occurrence of typhoid fever, great sanitary reforms had been carried through in the course of the last ten or twelve years. The greater part of the town is now well drained, plenty of excellent water was procured from the mountains, all the slaughter-houses that formerly existed in the town were abolished, and a great central slaughtering place established. Now typhoid fever has almost entirely disappeared, and what was the effect of these sanitary improvements on diphtheria? Deaths from diphtheria are decidedly a little less frequent than formerly, but the diminution is very slight and cannot be compared with the diminution of typhoid fever. In regard to the question: Does membranous croup occur apart from diphtheria? he referred to former publications of his on this point, and wished merely to repeat here that, in all cases of membranous croup he could examine closely, he found invariably that they were somehow or other connected with a case of diphtheria of the fauces, occurring in the neighbourhood either before or after. He, therefore, believed that all cases of membranous croup were caused by the diphtheritic virus. Regarding pathological anatomy, he alluded to a paper he published last year on Noma, in the *Jahrbuch für Kinderheilkunde*, in which he described curious changes in the nuclei of cells, reminding one of karyokinesis, which changes he always found in cases of noma, in the neighbourhood of the necrobiotic zone. Now, exactly the same changes of nuclear structure were described by Professor Oertel, and depicted in his beautiful new Atlas of Diphtheria. This shows that necrobiosis plays a very important part in the pathological anatomy of diphtheria. As to the surgical treatment, he would only add a few words. He had formerly always done the higher tracheotomy. But he now decidedly advised never to cut through the cricoid cartilage, if possible, as he had seen one or two cases of contraction of that cartilage, which caused a great deal of trouble. He now always performed the operation below the thyroid gland. Another little point worth mentioning was that he latterly, after inserting the cannula, always filled up the wound with iodoform, before sewing it up. Since then he had never seen sloughing of the wound. As to the after-treatment, he still believed principally in extreme cleanliness and good ventilation, changing the patient, if possible, from one room to another. Besides that, he generally used nothing else but the inhalation of water vapour. His results at the Children's Hospital in Munich, where children of all ages are admitted, are a little more than 30 per cent. recoveries.—Professor GAIRDNER remarked that, in consequence of his having been in another Section, he had not been able to hear Dr. Jacobi, and only partially the remarks of Mr. Parker, by both of whom he had hoped to have been guided in the little that he himself had to say upon this very wide subject. It would be better, under these circumstances, to attempt only two aspects of the subject, and even on these only isolated remarks. The first of these was the etiology, on which Professor Ranke's observations were most interesting, but still left on his (Dr. Gairdner's) mind the impression that was there previously namely, that the practical etiology of diphtheria is almost unknown—it is a question of the future, on which, no doubt, a flood of light will come some day. It would be interesting to know if many of those now present had encountered an experience like the following: a family in which the proclivity to diphtheria was so marked that several children died of it, not in rapid or immediate succession, but at intervals of years, and under circumstances and surroundings so different as to have involved a complete change in the house with a view to obviate all possible causes dependent on locality. In this instance the parents were so convinced of the inherent predisposition in the family, that on the first appearance of symptoms in the throat of a child, they had almost made up their minds in advance to lose it. Whatever the explanation of this, it must have some bearing on the question of etiology, and he hoped by adverting to the fact to bring out more evidence on the subject. The only other point on which he (Dr. Gairdner) was tempted to remark was the one raised by Mr. Parker as to the expediency of early tracheotomy. It was very difficult to get clear evidence on this point, and so far as his own personal convictions went, Dr. Gairdner had not got beyond this, that tracheotomy should be done when laryngeal urgency was first declared—not sooner, probably, and certainly not later.—Dr. SPOTTISWOODE CAMERON gave some details of an outbreak in Huddersfield, of which he had been seeking for the causes. Previously to 1886 the death-rate in that town had for eleven years averaged only 0.06 per 1,000 of the population. In 1886 it rose to 0.14, and in 1887 to 0.42. There was no corresponding rise in the other large Yorkshire towns. The drought of 1887 was not confined to Huddersfield, and could not alone account for the increase. Some local cause must have been at work. Investigating 83 cases reported to him, Dr. Cameron found 30 patients in attendance at 13 different schools. One school had as many as 7 out of the 30 school attenders, none of the others more than 4. A careful examination of the school attended by the 7 revealed nothing in its structure sufficient to account for its special selection, though some minor defects were pointed out to the School Board clerk. The school was, however, a very large one in the neighbourhood of the greatest prevalence of cases. In the district in which this large and popular school was situated, the cases were nine times, and the deaths six times, as numerous in proportion to the population as in the borough as a whole; so that even 7 out of 30 school attenders was not an undue proportion. The 71 houses, in which the 83 patients lived, were supplied by 58 different milk vendors, no single vendor supplying more than four houses. Only one of the cases (No. 77), a doubtful one, occurred in what could be called an overcrowded dwelling. Of 70 houses, 15 had the old-fashioned midden, and 54 the pail privy; 7 had water-closets, the soil pipe unventilated in 1 of the 7. In ten houses the kitchen sink went directly into the drain, while a trap was interposed in 34. The sink pipe was trapped inside the house, and opened over a trapped inlet to the drain in 6 houses, and it was similarly cut off without the intervention of the inner trap in 16. In 4 there was no sink. In 32 houses there was no cellar drain. In 14 there was a trapped inlet to the cellar drain without special ventilation; in 1 case the trap was ventilated. There was more or less direct connection with its drains thus in 58 of the houses tabled. The average altitude of the houses tabled was 355 feet; 18 had an altitude of less than 250 feet, 17 were between 251 and 300 feet above the sea, 18 between 301 and 350; 3 occurred in the next 50, and 1 in the succeeding 50 feet; between 451 and 500, 3 of the houses occurred; the next 50 feet were blank; 3 houses stood from 551 to 600 feet high, and 7 from 601 to 650 feet, and 2 others in the next 50 feet. Excluding smaller beds, 36 strata occur in the borough; of these 36, 14 are coals or their underlying clays, and may be practically excluded, leaving 22 fairly thick beds. On these the 71 houses stood, but very unequally; 10 per cent. were on the alluvial beds, then followed 10 strata without any of the affected houses, several of these formations, however, cropping out on higher and less populous parts of the borough. Then followed a few strata with a few of the infected houses, and then the middleband sandstone and shale which gave foundation to 24 per cent. of the dwellings tabled. The strata following this, the soft bed series, bore 30 per cent. of the 71 houses, and less than 9 per cent. occurred on the beds below. If we select the soft bed flags, and the shales above and below this water-bearing sandstone, we shall find that 34, or nearly half the houses affected, stood on one or other of these three consecutive strata. Dr. Cameron gave in a table showing the strata a column showing the number of houses inhabited by one or other

of the 83 patients standing on each rock, and in a second column he placed alongside a similar classification, according to subsoil, of 43 deaths certified as due to croup or laryngitis as primary or secondary causes, or to diphtheria as a secondary cause of death, and not included in the 83 cases of the other table. Of these 43 houses, 14, or nearly 33 per cent., occurred in the three strata last mentioned. The question of shale or sandstone does not apparently go for much. Of the first group (reported cases), 31 houses stood on the sandstone, 33 on the shale or clay, and 7 on the alluvium. Of the second (or as it may be called conveniently "the croupous group"), 19 stood on the sandstone, 18 on the shale, and 6 on the alluvium. On the other hand, of the whole 114 houses, 26 stood on the soft bed flagstone, 18 on the shale overlying, and 4 on the shale underlying that formation, or 48 houses, that is, 42 per cent., on these three of the 22 strata. Dr. Cameron was not able to state even approximately the number of houses situated on each of these strata in the borough. Roughly it might be said that the "middle band" shale and sandstone cropped out under the most populous parts of the borough, and next would come the "hard bed" clays and shales; the "hard bed band" series and the "rough rock;" then probably the "soft bed" series. This statement was, however, not based on numerical data. There could be little doubt, however, that the "soft bed" flags and the shales above and below them, but especially the sandstone itself, had more than their due proportion of the infected houses of both series, but especially so of the less doubtful of the two series, that, namely, given in the detailed table. The special feature of this rock was its great variability, and the irregularity of its bedding. It was a stratum, also, cropping out from under strata on higher ground, and carried a good deal of water. Houses built on this rock, or on the shale above it, with cellarage in this rock, were apt to have the basement story damp, not to say wet. Another feature of the ground on which so many of the infected houses stood was steepness. On the north side of the borough, where so many of the houses stood on the soft bed flags, the descent was fairly gradual, and in the same direction as the dip of the strata. On the south side in the district already spoken of as specially infected, the strata were exposed on a very steep escarpment to the south of the junction of two small streams, the Holme and the Colne. These streams come from two thickly populated valleys outside the borough, and bring much sewage and manufacturing refuse into the borough; and during a large part of 1887, their bed, after their junction, was a mass of exposed filth. The districts named, along with other parts of the borough neighbouring and on the lee side of these streams, had been specially obnoxious to an outbreak of measles earlier in the year. Dr. Cameron summed up the probable causes of the outbreak as: 1. A general predisposition from previous attacks of measles, whooping-cough, and bronchitis specially prevalent in those districts afterwards most affected by diphtheria, and probably favoured in one of these districts by the near neighbourhood of polluted streams, and the persistence of a high barometric pressure, preventing the rapid removal by the wind and rain of the effluvia from the river. 2. An insanitary condition of nearly all the dwellings in which cases occurred, frequently from the contamination of the air in the houses from drains separated from the house, if at all, only by unventilated traps; the dryness of the season conducing to the foulness of these drains. 3. A special condition, in most cases, of a water-bearing subsoil, in which, owing to the drought, the water in the soil fell much below its ordinary level, its rise towards its natural level being accompanied by a great increase in the number of new cases of diphtheria. 4. In many cases the presence of scarlatina poison in the house, predisposing the fauces of those affected to an invasion of diphtheria. Dr. Cameron attached most importance to the third of these predisposing causes, as it was probably chiefly in the soakage of subsoil water into the house walls that Huddersfield differed from other towns in Yorkshire in 1887. Lastly, there could be little doubt that direct infection played an important part in the genesis of the disease. The infectious material was probably present in considerable amount in 1886, and while diminished in amount during the second and third quarters of that year, had apparently increased considerably in the fourth quarter after a disturbance of, and in some cases silting up of, drains due to an unusual access of storm water. This increased prevalence of the poison matter coincided unfortunately with the drought of 1887. The 83 cases included in the table occurred in these several quarters of 1887 as follows: first quarter, cases 15, deaths 7, rainfall 4.21 inches; second quarter, cases 19, deaths 9, rainfall 3.09; third quarter, cases 12, deaths 9, rainfall 5.47; fourth quarter, cases 37, deaths 17, rainfall 6.51. The following is the order of the strata found in the borough arranged as they would occur from above downwards. Each series is most conveniently named after the coal naturally lying above it; thus, "soft bed coal, clay, flags, and shale" would naturally succeed one another in that order, and if the shale were the outcrop on which a house was built, it would be called the soft bed shale. The figures in the first column to the right of the names of the strata give the number of houses from the list of 83 cases built upon those formations. Each house is only counted once, however many cases of diphtheria occurred in it.

		No. of houses in which cases of diphtheria, etc., were notified.	Houses in which deaths were certified from croup or laryngitis as primary or secondary disease, or diphtheria as a secondary disease.
Lower Coal Measures or Ganister Beds.	Alluvium	7	6
	* * *	—	—
	Clifton rock (sandstone)	—	—
	Shale	—	—
	* * *	—	—
	Better bed coal	—	—
	,, ,, clay	—	—
	,, ,, "hard bind"	—	—
	,, ,, shales	—	—
	Upper bed Greenmoor (or Elland) flagstone...	—	—
	,, ,, ,, shale ...	—	—
	Middle bed ,, ,, flags ...	—	1
	,, ,, ,, shale ...	1?	1
	Lower bed ,, ,, flags ...	4	4
	,, ,, ,, shale ...	3	5
	Upper band coal	—	—
	,, ,, clay	—	—
	,, ,, sandstone	—	1
	,, ,, shale	—	—
	* * *	—	—
	Hard bed band coal	—	—
	,, ,, clay	—	—
	,, ,, sandstone	—	—
	,, ,, shale	3	3
	Halifax hard bed coal	—	—
	,, ,, fireclay	—	—
	,, ,, clay...	4	—
	* * *	—	—
	,, ,, shale	5	4
	Middle band coal	—	—
	,, ,, clay	—	—
	,, ,, sandstone	4	1
	,, ,, shale	13	5
	Soft bed coal	—	—
	,, clay	—	—
	,, flags	18	8
	,, shale...	3	1
Millstone grit, upper layer.	Rough rock coal	—	—
	,, ,, clay	1	—
	,, ,, sandstone ...	5	4
		71	43

Mr. LENNOX BROWNE combated the following objections, which he said were the chief of those urged against intubation: 1. That the calibre of the tube was so small, that respiration was not adequately relieved. In reply to this, he showed sections of a number of larynges, which demonstrated the fact that the calibre of the intubation cannulæ was as large as the diameter of the normal glottis would admit, and that the relative size of intubation tubes was larger in proportion to the area of that part of the air passages into which they were introduced than tracheotomy tubes as ordinarily employed. 2. That the tube was likely to be coughed up or to slip down. This was overcome by first lengthening the tube; secondly, by weighting it; and, thirdly, by a bulging in the external wall, which prevented the tube from rising beyond the constricted and non-dilatable infraglottic region. The tube had been prevented slipping down the larynx by increasing the size of the head. 3. That swallowing was rendered difficult, and even dangerous, by food, and especially fluids, passing through the tube into the trachea. This was overcome by an artificial epiglottis, but from the examination of larynges of infants, it was probable that the lid action of the epiglottis was merely secondary to the squeezing of the laryngeal vestibule, which took place during the act of swallowing. 4.

That membrane was liable to be pushed down during introduction of the tube, and thus induce suffocation at a lower level in the air passages. 5. That the tube was liable to become blocked by false membrane and mucus drawn upwards into it on coughing. Practically, either of these dangers was just as likely to happen in tracheotomy; but in case the patient became cyanosed, the tube must be removed, cleaned, and reintroduced with the same promptitude that was so essential in like conditions with a tracheotomy tube. 6. That the vocal cords or some other portion of the air passages were liable to become ulcerated by pressure of the tubes. This had been obviated by a careful bevelling of the margins of the inferior orifice of the tube, and by an elliptical instead of a circular cannula. Lastly, Mr. Lennox Browne urged upon surgeons practising intubation that they should introduce the instrument with the aid of the laryngeal mirror, an easy process when the child's mouth was held open with a gag, and involving much less risk than the passing of the tube blindly on the guide of the finger. He also urged that intubation, being a much more successful operation on children under 3 years of age than tracheotomy, and being one to which assent was given by the parents much more readily, it was justifiable to adopt it at a much earlier period than would be the case with tracheotomy. 7. That the intubators were difficult to remove. This was perfectly true, but was overcome by skill and experience; and, moreover, in quite a majority of cases of recovery the tube was ejected naturally on coughing so soon as it had done its work at an interval of from two to five days. Dr. ALEXANDER ROBERTSON (Glasgow) said that, in the earlier years of his practice, he had held that croup and diphtheria were two distinct diseases. The distinguishing characteristics of croup were, in his view, the exemption of the fauces and other parts that might be seen from exudation, and the sthenic character of the general symptoms. He had at that time the opportunity of seeing, *post-mortem*, well-formed membranes in the larynx which did not extend to the throat. However, with the accumulation of experience, he had some reason to entertain grave doubts of the correctness of that conclusion; indeed, his mind now inclined to the view that there was no essential difference between the two conditions. The chief reason for this change of opinion was the wide differences, both in the local and constitutional symptoms, in different cases of undoubted diphtheria. Thus, in a brother and sister of one family, whom he saw in the early part of this year, the morbid exudation was confined to a portion of one tonsil in each case. The symptoms were not asthenic in either of them; indeed, it was with difficulty he could get the boy—about twelve years of age—to remain in bed. Their appetites were but little impaired, and they were apparently well in about eight days from the beginning of the attack. But within ten days more both presented decided paralytic symptoms; the boy had paralysis of accommodation of the eyes; of the palate, so that fluids regurgitated through the nose; of the lower extremities, so that he could scarcely stand; and to some extent of the bladder and bowels. The girl—about sixteen years old—had defect in articulation. He might mention that both recovered completely. Here, then, were clear cases of diphtheria with only slight constitutional depression, less than what he had seen in cases formerly regarded by him as croup. Further, in view of what was known of diphtheria—that the exudation might vary materially in its position in the throat, that it might appear on a blistered cutaneous surface or wound, or other mucous membrane—the mere fact of its occasional limitation to the larynx or trachea was not sufficient ground for regarding it as a distinct disease when situated there. Passing now to another question, Dr. Robertson said it was known that, in its most severe form, the diphtheritic poison might kill so quickly that there was no time for the exudation to be thrown out; but perhaps it was not equally realised that the amount of poison in the system might be so slight as apparently to be insufficient to give rise to exudation. A case, or rather a group of cases, that occurred in the Town's Hospital of Glasgow, about six or seven years ago, was suggestive of this explanation. In one of the dormitories for boys between six and fourteen years of age, a case of diphtheria occurred, and a second appeared a few hours afterwards; but the exudation in the throat was not so marked in the latter as in the former. Within the next twenty-four hours, five other cases of sore-throat occurred in the same dormitory, but no exudation was noticed in any of them. Examination showed that a large drain-pipe, under one end of this apartment, was choked and leaking—in fact, there was abundant cause for this strictly local outbreak of disease. All the children soon recovered. In this experience there seemed no reasonable doubt that all the cases, those without as well as those with exudation, were due to the same cause.—Dr. RENFREW (Glasgow) said that diphtheria was a zymotic disease. Germs entered the system by the lungs and stomach. The germs were thrown out of the blood by a particular part of the body: cow-pox by the point of introduction; small-pox by the skin; enteric fever by the lower part of the ileum; cholera by the stomach and bowels; in diphtheria by the fauces. Matters passing from the fauces into the stomach kept up a circle of infection.

A METHOD OF EXAMINING CHILDREN IN SCHOOLS AS TO THEIR DEVELOPMENT AND BRAIN CONDITION.

Read in the Section of Psychology, at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY FRANCIS WARNER, M.D.LOND., F.R.C.P.,
Physician to the London Hospital.

IT seems very desirable that we should have more knowledge as to the condition of our school children, who now form about one-sixth part of the entire population. It seems to be undesirable to obtain such knowledge by taking medical histories, and making personal inquiries in the school, and the only other method open to the scientific inquirer is by facts observed. I submit that there are two classes of facts available for such observations: (*a*) the form, proportions, and texture of the visible parts of the body; and (*b*) the signs of action in the central nerve-system, as seen in the muscles producing movements or attitudes or balances of nerve-muscular action.

(*a*). As the children sit or stand in class it is possible to observe the height, apparent nutrition of face and limbs, the colour and condition of the skin, the size of head, its angles and form, etc. The separate features may be noted: the ears, lips, forehead, position of malar bones, as well as the teeth and the eyes. Thus facts may be recorded as to development. Many such signs have been given by Dr. Langdon Down, Dr. Shuttleworth, and other writers on children of feeble brains.

(*b*). As to the signs of brain action, these are expressed by the muscles, their tone in the visible parts, and the movements or balances of action which they produce. I have for many years given much attention to describing such physical signs, which have been fully given in my writings elsewhere,[1] as well as to their physiological significance and analogies; it is then not desirable that I should repeat this at length, but I may give a few typical examples and practical illustrations of what I have seen in schools.

Having requested the teacher to make the children stand up and tell off their numbers so that they may be identified thereby, it is convenient to note in a schedule the facts in Group A first, then to note the nerve-muscular signs. As to the average postures of the head, the balance of spine, both laterally and in the antero-posterior direction; lordosis and asymmetry are common in feeble children. The face is a most important index, both of general nutrition and of the brain state.

In the frontal region may be noted frowning or corrugation, either may be fixed or often repeated: the circular muscle about the eyelids may be relaxed in tone—as in exhaustion and children who suffer from repeated headaches—such condition leads to a full under eyelid. The mouth may be open or closed, and in cases of low development the zygomas are often in frequent coarse action. The muscular tone in the face is lost in extreme fatigue, and is usually pale, shrunken, and expressionless. In such state we often see lateral movement of the eyes not controlled by sight of objects around: in such cases the posture of head and spine is usually asymmetrical. Then, asking the children to hold out their hands in front, the balance of parts may be noted. I have examined several thousands of children in this way, and find that in strong and healthy children the position of the body is symmetrical as to head and spine, the arms being held at about the same level, the fore-arm, metacarpus, and digits being all in about the same plane, and that any departure therefrom or spontaneous movements of small parts may be taken as indicative of some

[1] See Hunterian Lectures on "Anatomy of Movement," Kegan Paul and Co. "The Children: How to Study Them," Francis Hodgson, Farringdon Street.

nerve-muscular weakness. In a weak and nervous child the hand posture is not straight, there is usually flexion of the wrist, often with contraction of the metacarpus, as is so common in a hemiplegic limb; the digits may be bent backwards at the knuckles if there be much cerebral excitability, or if there be much weakness only they are slightly flexed. In such a case there is likely to be twitching of the fingers in flexion and extension, or very slight visible movement in the lateral direction, these are more characteristic of "nervousness."

In thus giving a sketch of the methods which may be employed in looking over a large body of children and filling in schedules of the facts seen in the classes, many physical signs and many details are here omitted from want of space, but I trust that enough has been said to show that such work is practicable and may be conducted with something like the scientific accuracy of clinical work, and in a reasonable period of time. A few words as to what I have seen in school children. There are cases of bodily deformities, such as hare-lip, congenital cyanosis, all the higher grades of idiots. Rickets of the skull is common, and signs of brain disease with congenital syphilis may sometimes be noted. Of course cases of low nutrition and starvation are common in certain districts. Of eye conditions I say nothing. All the grades of fatigue up to exhaustion apparently permanent, and nervous excitability of a definite kind may be seen in some children, while, with the help of the teacher, cases of *petit mal* may be found. It seems very desirable to ascertain by inquiry the average percentage of such children per 1,000, and it seems practicable to do so.

It would be most important to the public, as well as interesting to our profession, to know what proportion of our school population present obvious deformities or signs of defective development of body. What proportion in different schools are well nourished, starving, exhausted, or nervous; all these matters concern the national school management.

I lately visited some schools at Liverpool. In the Day Industrial School there were 281 children, about 14 per cent. of whom showed signs of defect in development or in the condition of the nerve system, but few of these showed signs of exhaustion. In the School for Truants there were 106 children, of whom about 40 per cent. showed some signs of defect in development or in the condition of the nerve system.

In the Truant School for Protestants there were 47 boys; the master reported to me 8 boys as "specially bad or troublesome," of these one showed signs of exhaustion; a boy who had attempted suicide attracted attention by his rigid features and immobile face and eyes; another by a stolid heavy look; a fourth, described as "a scamp," had a large head with large projecting ears (he was not rachitic); the fifth had very heavy large jaws below a small calvarium; the sixth, said to be "bad and of a bad family," attracted attention by the constant coarse action of the frontal muscles. In the two remaining "troublesome boys" casual observation showed no abnormality. On the other hand, ten boys, presenting signs of nerve-weakness, were described as "good, quiet, or decent."

In visiting the Roman Catholic School I was pressed for time, and had to see the children in the yard, where the sun shone so brightly as to interfere with the facial expressions. A girl, small for her age, presented club foot and weak hand postures; she was said to be very troublesome. Another child, also said to be "bad," had some deformity of the right side of the head, the face being smaller on that side, with excessive development of the epicanthic fold. The scientific examination of children in schools, as to their development and brain condition, appears to be practicable, and very desirable as a matter of social importance.

MERCURY AS A DIURETIC.[1]

By TALFOURD JONES, M.B.Lond.,

University Medical Scholar; Fellowes Gold Medallist; Filliter Exhibitioner; Consulting Physician (late Physician) to the Breconshire Infirmary.

We have all been taught that mercury exerts a special action upon inflammatory exudations of serous membranes, as for instance in peritonitis, in pleurisy, and in pericarditis; and it has usually been held to exert most influence on recent exudations, and especially on newly-organised lymph, for the presence of a serous or non-fibrinous exudation has by some been held to contra-indicate its use.

We are all conversant with the action of calomel as a cholagogue and purgative, but hitherto we have known but little of its action as a diuretic. My own attention was first called to the diuretic action of mercury by reading in the *Practitioner* for July, 1886, an account of Jendrássek's observations on the action of calomel on the kidneys.

A previous reference to Jendrássek's experiments, under the heading of "Calomel as a Diuretic," is to be found in the JOURNAL of February 13th of the same year, at page 310. Led on by the accidental discovery that in a case of cardiac dropsy small repeated doses of calomel induced marked diuresis, he used it in seven other cases, and in six out of the seven the results were most favourable. He gave generally three grains of calomel in powder three times a day; larger doses produced too much diarrhœa. The quantity of urine passed was often enormous, ranging from four to eighteen pints.

The diuresis generally commenced on the second or third day of treatment, and the best results were in most cases obtained when some signs of salivation were noticed. Two months later, in the September number of the *Practitioner*, an interesting paper on this subject was contributed by Mr. Spiller Locke, and his remarks are concisely reported in the *Year Book of Treatment* for 1886, by Dr. Mitchell Bruce, in the following words: "Mr. Locke observes that it has long been known that the action of squill and digitalis as diuretics is greatly assisted by the addition to them of a little mercury. The part thus played by the mercury has hitherto been never satisfactorily explained, though the recent work of Dr. Noel Paton[2] on the connection between bile secretion and the formation of urea seems to afford a clue. According to Dr. Paton, the increase of the bile secretion and of urea is due to the hæmolytic action of the mercury on the blood cells, and since, as is well known, an increased quantity of urea in the blood acts as a powerful diuretic, the good effects derived from the use of mercury in combination with squill and digitalis may be explained by its action on the blood corpuscles."

Mr. Locke, commenting on Jendrássek's paper, thinks the diuretic action of the calomel must be attributed either to the drug containing a trace of persalt or to its being converted to a slight extent into a persalt in the alimentary canal, since Rutherford has shown that calomel causes no increased secretion of bile. Mr. Locke also thinks that the powerful action of "Guy's pill," which contains blue mass, is due to the conversion of a portion of the mercury into a persalt. I will presently offer some remarks on these points.

Dr. Jendrássek observed that, if diarrhœa set in under calomel treatment, the diuretic action of the drug was lessened; and, to obviate this, he found it necessary in some of his cases to add, and with good effect, small doses of laudanum to the mercurial. If the dropsy did not soon disappear after the first continued administration of calomel, which result rarely happened, a further prolonged administration had no result; but a renewal of the drug after the lapse of some days always had the desired effect. The diuresis then continued till the dropsy and œdema entirely disappeared.

Dr. Leech, of Manchester, has published in the *Medical Chronicle* an abstract giving further evidence of the value of calomel as a diuretic, and other observers have confirmed the statements of Jendrássek.

Mendelsohn found it useful in cardiac dropsy when digitalis had failed. Three grains three times a day induced copious diuresis in forty-eight hours.

Weinstein and Terry record instances in which there was marked diuresis in cases of pleural effusion, cirrhosis, and Bright's disease. Stomatitis occurred in most of the cases, and the amount of urinary secretion seemed to be in direct proportion to the stomatitis. In some instances small doses of calomel were followed by most troublesome diarrhœa and stomatitis, and Weinstein uses words of caution respecting the evils that the drug may entail.

Until recently, whenever calomel has been employed in the treatment of dropsy, it has in almost every instance been used either as a purgative or cholagogue, or as a supposed hepatic stimulant; and, until I used it in the case which is about to be narrated, it was never prescribed by me with a clear belief in its diuretic action.

T. W., aged 67, farm labourer, was admitted into the Breconshire Infirmary under my care on January 27th, 1887, for swelling

[1] Read before the South-Eastern Branch of the British Medical Association at Hastings, June, 1888.

[2] JOURNAL, July 30th, 1886.

of the abdomen and legs. No history of specific disease; no cancer in family. He had been drinking a good deal of beer and cider of late years; he denied spirit drinking. For the last two years he had been troubled with piles. Four or five months back he vomited bright red blood. There had been occasional morning sickness and distaste for food for many months; no jaundice. About four months ago he noticed that his legs began to swell; and about that time, though he thought afterwards, his belly became swollen. The swelling gradually increased, and for the last month he had been unable to get about because of it and because of shortness of breath, which latter came on after the swelling.

His state on admission was as follows. He lay in bed, with head and shoulders supported by pillows. Complexion partly florid and partly sallow; a few venous stigmata on cheeks; conjunctivæ yellowish; sclerotics white. He was very short of breath, and his abdomen was full of fluid and very tense. Great œdema of both legs and scrotum. Circumference of abdomen at umbilicus 41 inches. The abdominal veins were full, dilated, and very conspicuous. Hepatic dulness on percussion commenced above in the right mammary line, at the sixth rib, and extended below into the general dulness of the abdomen. The tenseness of the swollen abdomen rendered an examination of the lower border of the liver impossible. Pulsation could be felt over the whole of the cardiac area. Apex-beat felt one inch below and just within left nipple, though cardiac dulness on percussion reached from mid-sternum to half an inch outside nipple-line. No murmur, but first sound muffled and prolonged. Pulse full and regular. Examination of chest showed signs of fluid at bases of lungs. Percussion dulness extended to angles of scapulæ. Anorexia. Tongue furred; bowels costive. Urine very scanty, 1020, dark from bile-pigment; no albumen. He was put on a milk diet, and ordered to take half a drachm of compound jalap powder every morning, and a mixture of acetate of potash with nitre, squill, and scoparium three times a day.

On January 31st it was noted that the bowels had acted freely; the urine was increased; œdema of legs less, but the abdomen still measured 41 inches. The jalap powders were omitted, and, bearing in mind the good results of Jendrássic's mercurial treatment, I ordered him three grains of calomel in powder, to be taken three times a day; but he was allowed to continue the diuretic mixture.

February 2nd. Bowels very loose; œdema less; abdomen 40 inches; urine 50 ounces in twenty-four hours; five powders taken. Patient felt sick and uneasy; his pulse was small and feeble, and the powders were stopped.

February 3rd. Urine 60 ounces, exclusive of some passed with three stools.

February 4th. Urine over 60 ounces, and some passed with three stools; specific gravity 1018; bile pigment; no albumen; girth 38 inches.

February 6th. Girth 37 inches; three pints of urine and three stools daily.

February 8th. Girth 37 inches; urine about three pints daily; breathing much improved; respiration heard at bases of lungs.

February 12th. Girth 36½ inches; veins of abdomen less dilated but prominent; urine 50 ounces daily the last three days.

February 14th. The following note was made: "Patient sleeps and eats well; hepatic dulness extends from sixth rib above to one inch below margin of ribs, where there is a feeling of resistance to sudden and deep palpation, but edge of liver cannot be felt. Girth 36½; bowels have acted twice daily since the 9th, but only once to-day; urine reduced to 40 ounces; œdema of legs almost gone; still some œdema of scrotum, but with regard to the ascites patient seems now at a standstill. To discontinue the diuretic mixture; to take three grains calomel in powder twice a day, and no other medicine."

February 15th. Took one powder last evening; bowels relaxed; urine of twenty-four hours 40 ounces.

February 16th. Bowels relaxed; passed 18 ounces urine in night; girth 36 inches.

February 17th. Got up about twelve times in the night to micturate; passed in twenty-four hours 60 ounces urine, *plus* that passed by stools.

February 18th. Œdema of legs gone, and scarcely any œdema of scrotum, but girth same, namely, 36 inches; six powders have been taken; urine very dark from bile pigment, 1022, acid; copious deposit of lithates; no albumen, sugar, or blood.

February 19th. Girth 34 inches; two stools a day; gums sore; calomel powders stopped; he has taken ten, that is, a total of 30 grains of calomel.

February 23rd. Girth 33 inches; no ascites or œdema; no uneasiness in breathing; respiration good at bases of lungs; edge of liver can now be easily and distinctly felt one inch below margin of ribs; mouth very sore; some salivation.

February 24th. Patient allowed to get up.

February 26th. Girth 33 inches: no œdema of any part of body; gums still a little sore.

March 7th. Patient gets up daily and walks about ward in comfort, and without the slightest dyspnœa; gums quite well.

March 14th. Went out of doors for a walk; no trace of dropsy in any part of body; urine scanty at times, with much lithates.

March 21st. Patient left hospital to-day, the fifty-third day since admission. He expressed his thanks repeatedly for the relief he had obtained. Before his departure the following was noted:

A. Upper margin of liver dulness: *a*, in right mammary line reaches to sixth rib; *b*, in median line lies between tip and base of ensiform cartilage.

B. Lower margin: *a*, in right mammary line can be felt hard and sharp one inch below ribs, and at one spot, in line with nipple, a small nodule can be distinctly felt; *b*, in epigastrium, edges of both lobes can be felt sharp and firm about an inch nearer to umbilical level than to tip of ensiform cartilage.

Extent of hepatic dulness: In right nipple line about five inches and a half; in mid-sternal line about three inches and three-quarters to four inches.

The area of splenic dulness is too much, but spleen cannot be felt. Superficial abdominal veins plainly visible, but not prominent. Heart somewhat lower in chest than on admission. Nothing distinctly wrong about it; no murmur. Lungs sound; breathing good.

It has been mentioned that on February 14th, a fortnight after the commencement of the first course of calomel, although the general œdema had almost disappeared, the ascites seemed to be then at a standstill, and I was about to introduce a Southey's trocar to remove the remainder of the peritoneal fluid, when the patient said he felt he had been so far relieved by the medicines that he would like the tapping postponed. I willingly agreed, and then put him on the second course of calomel, with the good results which I have described, and which quite astonished me.

The calomel treatment in this case was begun on the evening of January 31st, and was stopped on the morning of February 2nd. Patient took five doses of three grains each, a total of fifteen grains, in about thirty-six hours. Diuresis set in between the second and third day, and continued for about five days. The girth was reduced from 41 to 36½ inches. During the whole of this period he had also been taking the diuretic mixture.

On the evening of February 14th the urine stood at 40 ounces; the diuretic mixture was stopped, and a second course of calomel was begun, and no other drug was used. Diuresis again set in between the second and third day of administration, and continued until the 23rd of the month, when it was found that all the dropsy was gone, and the girth reduced to 33 inches.

This second course of calomel was stopped on the morning of the 19th, after the tenth dose had been given, or a total of thirty grains in five days, an average of six grains a day.

Ringer states that, according to his experience, we do not much increase the purgative effect of calomel by augmenting the size of the dose, a grain acting as energetically as five grains. This I have myself observed, and consequently rarely prescribe as a purgative more than one or two grains. But, in abdominal dropsy, one can fancy it may be better to use rather bigger doses, for calomel is very insoluble, and it may be necessary to get a fair quantity into the blood to stimulate the renal cells, and, indeed, the hepatic cells, too, for it is known to pass freely into the liver.

Murchison, speaking of the dropsy of chronic atrophy of the liver, says: "By acting on the kidneys we sometimes succeed in diminishing or retarding the increase of ascites; but when the ascites is already great, it must be confessed that diuretics are of little avail." And, again: "The perchloride of mercury with digitalis, or the compound digitalis pill (containing blue pill, squill, and digitalis) sometimes answers well." He also observes: "Collections of fluid in the abdomen are sometimes absorbed after the abdomen has been kept covered for some time with lint smeared with lin. hydrargyri." This good effect, however, is more likely to ensue when fluid results from chronic inflammation than when it is caused by portal obstruction.

Murchison quotes the case of a man with ascites due to cirrhosis, in which the dropsy was removed on two occasions by diuretics in combination with blue pill, *plus* the inunction of blue ointment, though the man died after a third recurrence of the dropsy.

Dr. Bristowe, speaking of the treatment of ascites, says: "Among diuretics must be signalised the combination of 'crude mercury, squills, and digitalis,' but he had never been satisfied of their efficacy in causing the complete removal of the dropsical fluid."

Sir William Jenner, in his practice at University College Hospital, employed occasional doses of blue pill, followed by compound jalap powder; but he taught that diuretics rarely did good in true cirrhosis. I well remember his saying he had never seen a recovery from cirrhosis, and it would not surprise me to hear him say the same now, for, knowing what he taught of the pathology of this disease and considering his intimate knowledge of the subject, it seems to me that one cannot reasonably look for a permanent recovery in an undoubted case of advanced and extensive cirrhosis with dropsy. Yet, several cases of cirrhosis of the liver with ascites are on record, in which, after tappings, the patient has had more or less permanent freedom from dropsy; and a few in which similar good results have followed that by diuretics and purgatives. In these recorded cases of recovery I have observed that blue pill or calomel has been used in most of them in conjunction with the other remedies.

It may be questioned, however, whether in these cases there was anything like an extensive and general cirrhosis of the hepatic tissues. Dr. Frederick Roberts has long advocated paracentesis in ascites due to uncomplicated cirrhosis of the liver, and in his experience it has often been followed by permanent recovery. In my practice it has never been curative, though I have invariably had recourse to it when it was thought necessary to relieve pressure symptoms, and I have known life much prolonged by repeated tappings, but have never seen a case of permanent recovery follow the operation in genuine cirrhosis. It is well, however, to be alive to the fact that a complete recovery from the dropsy may follow the removal of ascitic fluid either by tapping or by diuretics or purgatives.

In such cases, however, we may safely assume that the liver tissue must in part have been in workable order, and that in addition a more or less complete collateral circulation must have been established between the portal vein and the vena cava.

In my patient the epigastric and other superficial abdominal veins were markedly prominent, and when he left the hospital they were still unduly visible.

It is not improbable that some cases of latent peritoneal dropsy cured by tapping or by diuretics have been put to the credit side of the recoveries from cirrhotic dropsy. Dr. George Johnson, in his admirable volume of essays recently published, dwells on the importance, with reference to both prognosis and treatment, of distinguishing cases of subinflammatory effusion into the peritoneum, the result perhaps of a chill, from cases of cirrhotic ascites. He likens this form of peritonitis to the latent forms of pleurisy with effusion. It is a condition that, unlike cirrhotic dropsy, is very amenable to treatment.

My patient's case was, on admission, diagnosed as one of undoubted cirrhosis of the liver, but whether the liver was contracted or enlarged one could not then say. Ultimately, when the organ could be easily mapped out, it appeared to be one of those cases in which there were no signs of atrophy. The dimensions on the patient's discharge were those of a fairly normal sized liver.

It was an example perhaps of chronic interstitial hepatitis in which there was some cirrhotic contraction, and either some cirrhotic enlargement or some fatty degeneration. When the patient left the hospital there was no sign of any impediment to the flow of blood from his hepatic veins to his heart, and nothing to indicate that a former passive congestion of the hepatic tissue occasioned by heart or lung trouble had given rise to a so-called nutmeg liver. The absence of albuminuria was much in his favour.

It is foreign to my purpose to discuss minutely the pathological aspects of this case, but it may be mentioned that in some of the published cases of recovery from hepatic dropsy said to be due to cirrhosis, it appears to me highly probable that the obstruction to the portal circulation, and consequent distension of the radicles of the portal vein in the abdominal viscera, has not been due entirely to destruction or compression of the small branches of the portal vein in the hepatic tissue itself, but possibly to compression of the portal vein in the portal fissure, either by enlarged glands or by inflammatory exudation into the areolar tissue about the portal vein due to a partial peri-hepatitis. In either case the removal of the exuded lymph by any method of successful treatment might be expected to be followed by a permanent recovery. Such a result is, perhaps, more to be expected from the employment of mercury than from any other drug.

We do not accurately know to what extent the Malphigian corpuscles and the renal tubules take part in the secretion of urine. A diuretic may act either on the Malphigian bodies, increasing the flow of water, or on the renal tubules, increasing the amount of solids, or on both these structures.

Munk, in his experiments, has investigated the action of diuretics on the excised kidney, thus eliminating effects that might be ascribed to the heart and vessels, or to the nervous system. Under the same pressure he found that caffein, nitrate of potash, etc., increased the secretion of urine three to fifteen times, and he concluded that such diuresis could only result from a stimulation of the secreting cells of the kidney by the drug.

One of the most interesting papers I have ever read on the subject of diuretics is one that appeared in the first volume of the *Practitioner* for 1884, and has been republished by its author, Dr. Brunton, in his delightful work on *Disorders of Digestion*. He speaks of the diuretic action of urea, but is almost silent on the question of mercury, showing that up to that date but little was known about its use in dropsy. He says, speaking of dropsy consequent upon disease of the kidneys or liver: "When digitalis or squill are not proving efficacious, the addition of a little blue pill greatly assists their action, though it would be hard to say in what way it does so." And he expresses himself similarly in the first edition of his work on *Pharmacology*.

The experiments of Dr. Noel Paton prove that perchloride of mercury causes an increase in the excretion of water, urea, and uric acid, and we know that it increases the secretion of bile. It was for the latter reason that Dr. Paton selected the mercuric salt, for it has been conclusively settled by Rutherford's experiments that it acts as a cholagogue and hepatic stimulant. A course of experiments similarly conducted, but with calomel and blue pill in place of the mercuric salt, would be of considerable interest.

According to Dr. George Harley, calomel acts especially on the hepatic capillaries, and relieves a congested condition of the blood vessels, and so lessens the mechanical pressure on the liver cells. We may take it for granted that in a healthy man calomel does not increase the secretion of bile. It rather lessens it, but we know that it excites the duodenum and stimulates the gall bladder, and probably also the bile-ducts to contract, and it thus augments, in a marked way, as we know for certain, the excretion of bile. But in diseased conditions of the liver it appears to me highly probable that calomel, after first causing an increased excretion of bile, helps the liver to secrete fresh bile. It puts the liver into better working order by removing pent-up bile, by diminishing, as Harley says, congestion of the hepatic vessels, and by causing the absorption of any exuded lymph in or around the vessels, ducts, or cells of the liver. The hæmoglobin of the effete red blood-discs is then more readily acted upon by the hepatic cells, and is converted into bile pigments and urea; and the urea thus formed, acting as a diuretic, stimulates the secreting cells of the kidneys, and the urinary solids are consequently increased. In my case the purgative action of the calomel helped to lessen at the onset the pressure on the renal and portal veins, and on the vena cava, and the glomeruli then began to excrete more water.

Mercury is chiefly eliminated from the system by the kidneys, and we may safely infer that in its passage through the renal tubules it exerts a distinct influence on the secreting cells. It is also freely eliminated by the intestines, and when it causes purgation we may believe that it is eliminated more freely by the bowels than by the kidneys.

Absorption from the stomach and intestines is very slow when there is an impediment to the passage of portal blood through the liver. Hence, perhaps, the reason why in these cases calomel fails to produce much effect during the first forty-eight hours of its exhibition. In the intestines it stimulates the glands and vessels, and in diseased conditions of the portal system we may conceive that this action is beneficial, and may assist the glands and veins in their efforts at absorption, and so help the kidneys.

In my case the urinary solids were notably increased; urea, urates, and bile pigment were passed in quantity, and though we must take into account the fact of the absorption and excretion of the dropsical fluid and allow for this, still, clinically, the effects of the calomel, in this instance, on the secretion of bile and urea by the liver and their excretion by the kidneys were very similar to those caused by the perchloride salt in Dr. Paton's experiments. To my mind, therefore, it does not appear necessary to ascribe the good effects of calomel in these cases to a conversion in the human system of the subchloride into a perchloride of mercury, a change which most likely rarely, or never, happens.

I may add that, during the last year, I have observed in many instances of cardiac and hepatic trouble that the exhibition of small doses of blue pill or calomel has been followed by an increased urinary secretion.

GLYCERINE AS A SURGICAL DRESSING.[1]

By CHARLES E. S. FLEMMING, M.R.C.S.

The essential points of a good surgical dressing are: 1. It must be non-irritating, either directly or indirectly. 2. It must be antiseptic. Mr. John Wood has said that "antiseptics are the local use of applications calculated to prevent suppuration and putrefaction, and to promote quick healing." This admitted, antiseptics must be not only the use of some chemical which shall destroy septic germs or render their growth impossible; but also the use of such means as shall, by promoting quick healing and preventing suppuration, tend to render the presence of these germs less harmful. In considering these means we are brought to the third essential point, and that is quick and thorough absorption, and here it is that dressings in common use appear most to fail.

In most cases, no doubt, under the usual dressings the healing of wounds is both rapid and good, but in others, whatever has been used, after a short time the discharge becomes caked and hard and forms an impermeable barrier to all further secretion, such dressings become adherent to the wounded surface, causing injury and pain in removal. Most remedies that have been tried, to maintain constant absorption, appear to have some serious objection. The Mackintosh cloth retains all the watery vapours as well as the discharge, and acts like a poultice, the various greasy substances, including vaseline, while in the non-fluid state form an impermeable covering to the wounded surface, and when melted act like oil, which retards or prevents the discharge escaping, for it saturates the dressing and takes up the position the discharge should occupy, and also not being miscible with the discharge, prevents it passing on to any part of the dressing ready to receive it: a water dressing is very well while it lasts, but the heat of the body soon evaporates the water and we are no better off than before.

Now we want a dressing that is non-irritating, antiseptic, will not become adherent, will allow free drainage, will not allow the discharges to get hard and caked, will be freely miscible with the discharges, and not evaporate at any temperature of the body nor occupy the place intended for the discharges. We have I think what we want in the glycerine of starch of the *Pharmacopœia*, with some antiseptic dissolved in it; for example, corrosive sublimate 1 in 1,000 parts. The starch, added for convenience of applying the glycerine, in addition forms a non-irritating surface to apply to the wound and is a mechanical protection; it is most conveniently applied thickly spread on one or more layers of Gamgee tissue or some absorbent wool. This application is not irritating, is antiseptic, and is removed with the greatest ease from any wounded surface. As glycerine is freely miscible with the discharges it is quite absorbent, discharge in passing into and through the dressing becomes mixed with the glycerine, and as this does not evaporate, it is thus prevented from becoming caked or hard and dry. The glycerine, itself hygroscopic, does not usurp the place of the discharge nor prevent the free escape of the watery vapours. Such a dressing after several days will be found moist, soft, flexible, and easily removed: it is heavy with the quantity of fluid it contains, a proof of its absorptive powers. The discharges are not collected in one spot. Next the wound there is a jelly-like layer which is easily removed, having a clean surface, and the sutures, if any, distinct and easily taken out, not being caked with blood.

In my own practice I have found healing of incised wounds under this dressing quick and accurate, and the dressing of lacerated and contused wounds is absolutely painless and very quick: I have found it of much benefit in those chronic granulating wounds which every dressing seems to irritate, and have applied it with success as a daily dressing in two cases of purulent conjunctivitis. I have not had an opportunity of trying, but should think glycerine of starch might be used with advantage in skin grafting.

[1] Abstract of paper read before the Bath and Bristol Branch.

DENTAL SCHOOLS AS DEPARTMENTS OF MEDICAL SCHOOLS.

By F. NEWLAND PEDLEY, F.R.C.S. and L.D.S.,
Dental Surgeon to Guy's Hospital.

Every speciality of medicine should be taught in general medical schools, and there is nothing in dental surgery that cannot be done and taught in a general hospital. The institution of dental schools in general hospitals would place dental surgery on the same footing as the other specialities, and would open up a vast field for remunerative labour in the only speciality that is not crowded. For the last ten years no one has been allowed to adopt the dental profession without having obtained the L.D.S. diploma, and since that date the entry of qualified men has not been equal to the yearly losses. Last year 354 names disappeared from the *Register*, and only 45 additional licentiates entered the profession throughout the United Kingdom. Hence there will soon be a considerable demand for dental education, and fresh "special" hospitals will have to be opened, or dental surgery will have to be taught in general hospitals. Few will doubt that the latter course is preferable.

The following is an outline of the existing plan of dental education. It is a four years' curriculum from the date of registration as a student. The first two years are spent in a workroom as apprentice or pupil to a registered dental surgeon. The second two years are passed in hospital study. The apprenticeship extends over three years, but the third year of this term is allowed to run contemporaneously with the course of hospital study. At the end of the first two years the dental student enters a general hospital and a "special" hospital at the same time. At the former he dissects, and attends lectures on general surgery, medicine, etc. At the "special" hospital he attends lectures on dental subjects, and learns the practical work of his calling. There are two "special" hospitals, one in Leicester Square and one in Great Portland Street. On the completion of four years after registration the candidate is eligible for examination as licentiate of dental surgery. The L.D.S. diploma confers the right to practise dental surgery. Obviously great disadvantages beset this wandering existence between two hospitals, with both of which the dental student is connected, and to neither of which can he feel he belongs. He may be pardoned if in after life he is uncertain whether he represents a development of surgery or a "special" creation.

The great majority of dental students enter at Charing Cross or Middlesex, as these hospitals are conveniently situated for the "special" hospitals, and the lecture hours, etc., are harmonised to suit the practice and lectures of the "special" hospitals. This disjointed system was necessary in the past, because the new development was going through rapid transitional changes, and a complete special course of training had to be gradually elaborated. And here a pause should be made to offer a just tribute to the Dental Hospital, Leicester Square, whose staff have well completed their task, and, keeping their institution free from the objections usually attaching to "special" hospitals, have carried dental education forward to a point at which it may now be wisely transferred to general hospitals.

The hospital alluded to is incomplete as a dental school, in possessing no beds, and having no surgical and medical teaching within it; but there is no reason that a general hospital should not now include a dental school, whereby the necessary instruction could be afforded devoid of impediment. All that is needed is to secure daily attendance of dental officers to teach and demonstrate, and to appoint lecturers on the special subjects. This transfer would be fraught with great benefit to general hospitals, to dental students, and to medical students. The general hospitals would be enabled to treat a large class of disease which is at present very much neglected. The dental student would have an

opportunity of attending a great hospital, and receiving his complete education under one roof amongst medical students, and he could not fail to carry away with him traditions and friendships that would influence his professional career.

A fair proportion of dental students take the M.R.C.S. as well as the L.D.S., and, under favourable circumstances, most of them would find it well and easy to complete the requirements for the M.R.C.S., L.R.C.P., and L.D.S. They could distribute their dental studies over the whole hospital course. Such men would certainly be dental specialists. At present these candidates are practically precluded from attending great hospitals, for they lose so much time running backwards and forwards, and the lecture hours do not fit in. The writer does not forget his experience as a student at Guy's Hospital and Leicester Square Hospital contemporaneously. During two successive summer sessions, the student has to attend at 8 A.M., four days a week, at Leicester Square Hospital for special lectures.

Medical students would profit greatly by being able to familiarise themselves with the scope of the speciality, and by acquiring a general knowledge of the means adopted by dentists to alleviate dental disorders. They could continue to hold appointments of dental surgeons' dressers in the extracting-room, and would there learn what teeth should be removed, and what can be saved. They would have daily opportunities of witnessing the exhibition of nitrous oxide gas, alone or in combination with ether. A daily attendance of anæsthetists could easily be secured from amongst qualified students, and this appointment would be of great service to those who held it. Such tuition would enable a general practitioner to give an opinion on questions that will inevitably be asked him in practice, and at this point he may rest. I would strictly confine the practical work of the stopping-room to dental students. General practitioners should not fill teeth, and as students they should not waste their time in acquiring a mere smattering of that art. Another class of students would benefit greatly by facilities to take up dental surgery as a speciality. I refer to the numerous young qualified men wandering about every hospital, and with no prospects of making a practice in general surgery or medicine. Many of these would be glad to devote themselves to a specialty which is open to young men. For thoroughly educated young specialists of this description there is an unlimited field; and the College of Surgeons offers them every facility by modifying their curriculum and examination for the L.D.S.

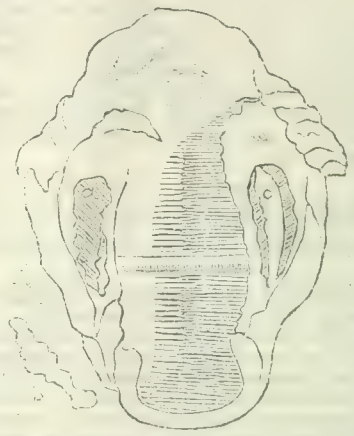
It is noteworthy that the British Colonies and India are practically without dentists. Granted the work is of a tedious nature, and, as a rule, fatiguing, yet the patients are not of a disagreeable class; the evening may be devoted to leisure, and sleep is undisturbed by the call of duty. Any first-rate operator, however young, can earn a fair living from the commencement, and it is quite his own fault if he do not eventually attain moderate worldly success. No one can be advised to enter the profession in a half-hearted way; bad mechanics and incompetent manipulators will assuredly fail to succeed, and rightly, too. Also, the tendency of bringing dental education within the scope of general schools would be to raise the standard and enhance the competition. On the other hand, when the dental speciality is taught and practised like the other specialities of medicine, there will be feeble prospects of competition from abroad, and an increased appreciation of the importance of the subject will create an enormous demand for this kind of skilled labour. Good operators have nothing to fear for many years, as the present *Dental Register* only contains 5,000 names, and not one thousand of these men are qualified.

ACUTE NECROTIC PERICHONDRITIS OF THE LARYNX IN A PIG.

By PROCTER S. HUTCHINSON, M.R.C.S.
Assistant-Surgeon, Throat Hospital, Golden Square.

As cases of idiopathic perichondritis of the larynx in the human subject are rare, and when they do occur the suspicion of syphilis as a cause is often difficult to eliminate, the following case happening in one of the lower animals is important. It occurred some years ago in a fat and otherwise healthy boar pig, and was obtained by my father, by whom the animal had been seen.

The animal suffered from symptoms exactly resembling croup, the breathing being stridulous and very difficult. The onset had been rapid; at any rate the pig had been urgently ill for only a few days. No special cause could be assigned for the attack. As there seemed no likelihood of recovery and the dyspnœa was great, the animal was killed. The subjoined woodcut shows the condition found *post mortem*. It shows the larynx divided posteriorly in the middle line.



The inflammation is seen to be around the cricoid cartilage, *c*, which is partially necrosed. On the left side is seen the inflammatory tissue, *a*, which has taken the place of the cartilage. A considerable portion of the cartilage had exfoliated, leaving only a small portion at the lower and inner part. The exfoliated portion is shown at the side in the long, irregular piece marked *b*. On the opposite side the same inflammatory tissue (shaded in the drawing) is seen around the cartilage, *c*; the inflammation is localised chiefly to this part, extending towards the front for a considerable distance and then ceasing. It is to be noted that no considerable suppuration had attended the process. The necrosed fragment was embedded in a soft granulation structure, with only a very small quantity of puriform fluid. There was general œdema of the larynx, which explained the dyspnœa. The other cartilages were healthy, and no breach of surface had taken place anywhere.

I have been unable to find in any of the books on veterinary subjects any mention of perichondritis of the larynx in animals. I find in Mackenzie's work *On the Larynx and Trachea*, p. 282, that he records three cases of primary inflammation of the cartilages, all in patients over sixty years of age—two men and one woman. It was the cricoid which suffered in each case of primary disease. He says: "The idea of Dittrich that the disease arises from ossification of the cricoid cartilage, leading to pressure on the soft parts against the vertebral column and subsequent necrosis, is probably erroneous." There was no ossification in this case; and the animal, although adult, was not senile. The specimen has been forwarded to the College of Surgeons' Museum, in which as yet there is no similar one.

It remains exceedingly difficult to suggest any plausible cause for such an attack of laryngitis as that described, but I may repeat that the case is very valuable as conclusive proof that such may take place quite independently of any specific influence. That the inflammation was catarrhal is perhaps most probable.

TUBERCULAR ULCER AND "PSORIASIS" OF TONGUE.

By H. A. THOMSON, M.B., M.R.C.S.,
Late Demonstrator of Pathology, University of Edinburgh.

THE combination of psoriasis and tubercular ulceration of the tongue is of rare occurrence, and presents considerable difficulty in diagnosis.

The details of the case are as follows: the patient, a man aged 51, was admitted to the Royal Infirmary, Edinburgh, under the care of Mr. Duncan, in November, 1886, with the history that he had had no previous illness, but that his tongue had been sore for

six months. He had been a heavy smoker, but was latterly obliged to give it up from the suffering it caused him. The tongue on examination showed two distinct conditions: there was an ulcer about the size of a florin along the left free margin of the tongue quite close to the tip; irregularly circular in shape, edges thickened and only slightly raised, the base a good deal excavated and occupied by somewhat prominent shreddy granulations of indolent type. Immediately adjoining the ulcer, over a circular area of one inch diameter occupying the central portion of the anterior half of the tongue, were a series of irregular polygonal plates of a greyish-white colour; contiguous, but separated from each other by deep fissures. Towards the margin of patch the plates were not so raised nor so defined, and gradually merged into the normal epithelium.

He had signs of phthisis in both lungs, and was treated on general principles, but he gradually sank, and died on December 18th, 1886.

Post-mortem examination showed advanced tubercular phthisis of both lungs. The tongue was prepared for microscopic examination, with the following result: the portion affected with psoriasis (leucoplakia) showed the characteristic changes in its epithelial covering which were first fully described by Schwimmer and Nedopil in 1877, and need not be again detailed; the subepithelial tissue throughout was infiltrated with small, round cells, here and there aggregated into more or less spherical masses, in many of which the centre was occupied by one or more giant cells of large size and typical structure. These cell masses were in some parts quite close to the epithelial covering, and in some there was evidence of commencing caseation. At the deeper part of the corium there was a considerable amount of fully-formed fibrous tissue, which also passed down between the bundles of the superficial lingual muscle, compressing these and causing their atrophy and absorption.

Towards the margin of the ulcer the cellular infiltration of the corium was greater in degree and depth, with more caseation and breaking down in the centre of the nodules, while the giant cells became fewer in number. At the site of the ulcer the epithelium was entirely absent, and the floor of the ulcer was made up of tubercle-follicles and small-celled infiltration breaking down towards the surface. The tubercular infiltration extended downwards irregularly throughout the substance of the tongue, the muscular fibres being in great part absorbed or wasted and replaced by giant cell systems and small-celled infiltration. Sections stained with gentian-violet after Ehrlich-Weigert's method, with eosin as contrast stain, showed tubercle bacilli in greater abundance in those follicles forming the base and edges of the ulcer, being aggregated in clumps in those nodules most advanced in caseation and disintegration. They were elsewhere more sparingly distributed.

With reference to the diagnosis in this case, all that was made out during life was that it was not malignant. The balance of opinion was in favour of syphilis, but the aid usually obtained by watching the effect of remedies was not forthcoming owing to the patient's phthisical condition and consequent death.

Viewing the treatment of such a case, with the supposition that there was no tubercle elsewhere and with the hope of eradication, it is obvious that the scraping of the ulcer with the sharp spoon would have been of doubtful efficacy, inasmuch as the tubercular infiltration of the subepithelial tissue had extended fully an inch beyond the margin of the ulcer, under the epithelium affected with "psoriasis."

A CASE OF PRIMARY SCIRRHUS OF THE PANCREAS: NECROPSY.

By ARTHUR TROWER, M.R.C.S.,
Broadstairs.

T. B., aged 45, was formerly a sailor in the navy, from which he retired some few years ago on account of bad health, being a victim to ague and asthma. For the last three years he had suffered from bronchitis, asthma, and dyspepsia.

In March, 1886, he came under treatment for a peculiar condition of the backs of the hands. On the right hand were three bullæ, two of one inch and one of half an inch in diameter; on the left was one bulla of two inches in diameter. All the bullæ were circular, situated on thickened and inflamed bases, and contained flaky serum; and, after persisting for about five weeks, they left raised and warty cicatrices, the skin not becoming natural till about ten weeks after their first appearance.

In the following July he was laid up with these symptoms:—Loss of appetite, great thirst, epigastric pain, and occasional vomiting, a thickly-coated tongue, and constipated bowels; he was passing a great quantity of pale urine, specific gravity 1002, containing no albumen; there was no hæmatemesis or melæna. He was said to be losing flesh. Malignant disease was suspected, but no tumour could be felt. After treatment, with rest in bed and very careful dieting for about a month, his condition improved considerably and he began to get about a little, though he still suffered from severe pains in the epigastrium. At this time his right leg became white, swollen, and œdematous, but recovered after a few days' rest and treatment.

In the following October the symptoms, as described in July, returned with renewed violence, the epigastric pain being very severe, and described as dragging and tearing him in half; he could retain no solid food, and liquids only in very small quantities; the vomit contained much bile; he was anæmic and slightly jaundiced, and was increasing in bulk from accumulation of fat. The liver was now found to be very much enlarged, extending four inches below the ribs and into the left hypochondrium. The pulse was feeble and rapid, and the heart-sounds weak. The urine, normal in quantity and of specific gravity 1003, contained no albumen. The symptoms increased, and he died the second week in October, after an attack of hæmatemesis.

Necropsy.—The lungs were natural, the heart small, the pericardium adherent all over from old deposit of lymph, the abdominal walls contained a layer of fat three-quarters of an inch thick, the omentum was nearly an inch thick with fat, the liver was of enormous size, pushing up the diaphragm and extending four inches below the ribs, the left lobe pushing against the ribs in the left hypochondrium, its substance pale and fatty; the gall-bladder contained about four ounces of black green bile, the duct being thickened but pervious; the mucous membrane of the stomach was thickened and grey, with petechial spots over large curvature; the pancreas was large and hard, and composed chiefly of various sized masses of scirrhus; no other organ was involved, and no scirrhous glands were found; the duct of the pancreas was thickened but pervious, the spleen was large and soft, the kidneys were natural. Specimens of the growth and of the liver were examined under the microscope.

REMARKS.—The chief features of interest in this case are the great accumulation of fat, the phlegmasia, the low specific gravity of the urine, and the condition of the hands. The chief office of the pancreas being that of emulsifying fat, it would seem that the increase of fat might be a valuable symptom in diagnosing this rare form of disease, although no mention of it is to be found in any recorded case. Phlegmasia is not uncommon in deep-seated cancer; in fact, Trousseau regards it as an important sign. The interference with the function of the hepatic cells, and with the circulation through the liver, owing to the fatty infiltration of that organ, will account for the diminished excretion of urea and consequent low specific gravity of the urine. Pemphigus, of which the condition of the hands was apparently a variety (hydroa?), has been noted in cases of degeneration of the liver and spleen and other wasting diseases.

A CASE OF TREPHINING THE SPINE FOR COMPRESSION OF THE SPINAL CORD.

By WILLIAM THORBURN, F.R.C.S.,
Surgical Registrar to the Manchester Royal Infirmary, etc.

AT the present time, when much interest is being aroused in the surgery of the spine, the following hitherto unpublished case may be of interest as one of the earliest operations undertaken with a view of removing pressure from the spinal cord. The fact that the patient was not markedly benefited does not appear to the writer any just ground for withholding this contribution to the data for a future verdict.

When I was house-surgeon to the Clinical Hospital in Manchester, I admitted, under the care of Dr. Maccall, on March 9th, 1885, a boy, aged 6 years. The history given by the father was that on March 2nd the child, having previously been well, began to complain of pain in his chest. On the night of March 5th he went to bed as usual, but on awaking on the morning of the 6th he was paralysed. Examination revealed marked prominence of the third

and fourth dorsal spines, with absolute paralysis and anæsthesia below the level of the third or fourth dorsal nerves. There was no hyperæsthesia, muscular spasm, or other sign of irritation of the cord or its nerves. Chest movements were very defective, and there was a large amount of mucus in the bronchial tubes. Respirations 44, temperature *(vespere)* 101°. The boy was placed in bed with the spine as straight as possible, and a stimulant expectorant mixture given.

On the following day the respirations became much more difficult, some dulness appeared at the right apex, and the temperature rose to 104.8°. A day later he was again worse, and was evidently sinking very rapidly.

In the meantime I had come to the conclusion that the source of the mischief was pressure upon the spinal cord, either by blood or by pus. The rapid onset negatived pachymeningitis and bony thickening, the absence of irritative symptoms appeared to render unlikely transverse myelitis, which is moreover uncommon, and pressure by *débris* would probably have been relieved by extension.[1] Under these circumstances it occurred to me that pressure would probably be relieved by opening the spinal canal, giving exit to pus or blood if, as I supposed, any were present, or removing the counterpressure of the arch if the mischief were due to a solid projection in front. I sent for Dr. Maccall and Mr. Southam, respectively the physician and surgeon to the hospital, and these gentlemen accepting my views, the operation was at once performed by the latter.

Chloroform having been given, a vertical incision, about three inches long, was made in the middle line, over the affected spinous processes; the soft parts were raised from the bones by a raspatory, and the laminæ of the third dorsal vertebra cut through by a Hey's saw and bone forceps. An opening about the size of a sixpence was thus made in the spinal canal, and about fifteen minims of pus at once escaped. At the bottom of the opening was seen the apparently healthy dura mater. A drainage-tube was then inserted, so bent that its convexity lay in the opening into the spinal canal, and the wound was sutured. The spray was used, with carbolised gauze dressings.

After the operation the breathing was distinctly better, but no other change could be discovered. On the following morning the improvement appeared to be maintained, but there was a good deal of pus in the urine. The wound being dressed, no more pus appeared to have escaped. On the afternoon of this day breathing again became much worse; the temperature, which had fallen to the normal, rose to 104.6°, and shortly after midnight the boy died asphyxiated. No *post-mortem* examination was permitted.

Although the result in this case was unsatisfactory, there could be no doubt that the patient's condition was improved by the operation, and it will be obvious that in the spinal canal of so small a child, even the slight quantity of pus which was discovered would constitute a serious source of pressure. Had the operation been performed at an earlier period, before the patient was already almost *in articulo mortis*, I cannot but think that the result might have been otherwise. At that time such a proceeding could only be regarded as justifiable in an extreme case; but, having regard to the experience thus gained, I should now certainly be strongly inclined in a similar case to operate earlier. The operation itself was by no means difficult, and there appears no reason why, with antiseptic precautions, it should not prove to be harmless.

[The above was written before the publication of Dr. Macewen's recent address, which demonstrates conclusively the feasibility of the operation.]

SURGICAL MEMORANDA.

THE "BLOODLESS" METHOD OF REMOVING VESICAL GROWTHS CONTROLLED BY ELECTRIC ILLUMINATION.

THE acme of perfection in the treatment of vesical growths would consist in their successful ablation through the urethra, without subjecting the patient to a cutting operation. Although five cases may be found in the literature which demonstrate the possibility of such a proceeding, yet the fortunate issue of these cases was more dependent upon chance than skill or science. In 1876 Maas,[2] of Breslau, thrice succeeded in removing small pedunculated mucous polypi from the male bladder by entangling the growth in the eye of a double-channelled catheter, and by snapping the stalk with the force of the outflowing current. Two other cases of unexpected but equally lucky removal have been recorded by Ultzmann,[3] of Vienna, and Mr. Bryant.[4] But this method could only be practised on the mere chance of a growth existing in the bladder, of its being small and pedunculated, and of its becoming engaged haphazardly in the eye of the catheter.

The following case will serve to show that this line of treatment has, however, now advanced to a practical possibility, for on discovering a small stalked tumour in the bladder by means of the electric cystoscope,[5] we can direct the eye of an appropriately curved tube towards its site, apply suction by means of an india-rubber ball with judgment and accuracy, so as to engage the growth in the eye and endeavour to jerk it from its attachment.

An old gentleman was sent to me by Dr. Travers Stubbs with a diagnosis of probable vesical growth. He had had a painless hæmaturia of five weeks' duration. On passing the incandescent lamp cystoscope a peculiar russet-grey lobulated growth (?) was seen to be hanging from the anterior wall of the bladder, and to be swaying freely upon a pedicle (Fig. 1). The mucous membrane in the immediate neighbourhood had an injected nodular appearance extremely suggestive of commencing carcinoma. The colour of the hanging body was very puzzling, for in my previous cases, six in number, the growths had appeared more or less florid. As there was a difference of opinion among those present as to its nature, I considered how it could be removed without a cutting operation. Remembering the above-quoted cases, I passed a large lithotrity tube and directed its eye towards the place where the tumour had been seen. The india-rubber ball was then attached, and suction made. Once or twice the eye was felt to become suddenly blocked, but on withdrawing the tube a little way its patency became re-established by the obstructing body slipping out. The third attempt was successful, and a large brownish-grey-looking body was brought away in the eye and the body of the tube. It looked like an old blood clot. On section it was subsequently found to be necrotic growth (?) and blood clot. The cystoscope was re-introduced and the diseased site re-examined. There was no bleeding. A patch of stunted processes (atrophied villi?) was seen where the stalk had been attached. As operative interference was contra-indicated by the cystoscope, injections were resorted to, and the hæmaturia has since been in a great measure controlled. This case is quoted as an evidence of the possibility of removing benign growths by means of suction in their earlier stages of development, those stages in which one is tempted to control the most alarming symptoms—the hæmaturia—rather than attack the cause.



Fig. 1.—Cystoscopic picture of hanging body.

Old Burlington Street. E. HURRY FENWICK, F.R.C.S.

LIPOMA OF THE PALM OF THE HAND.

LIPOMA of the palm of the hand is an affection of such rare occurrence that the following case is not unworthy of record.

The patient, a collier, aged 55 years, recently presented himself at the out-patient room of the Manchester Royal Infirmary with the following history. Eight years ago a swelling appeared in the centre of the palm of the right hand; for about six years, it slowly and painlessly increased in size, but during the last two years it has remained in a stationary condition. He does not remember ever having received any injury, though his occupation involves using a spade or pick, which exert considerable pressure on the palm.

On examination, a well-defined, soft, elastic swelling, which almost gave the sensation of fluctuation, was found to involve the entire width of the palmar surface of the hand, extending from the lower border of the annular ligament to a point about one inch from the clefts of the fingers. It was distinctly lobulated, being divided by three deep longitudinal furrows into four lobes (*vide* figure taken from a photograph). The skin covering it presented a normal appearance. The movements of the fingers and

[1] See Holmes's *System of Surgery*, third edition, vol. ii, p. 409.

[2] Maas, *Berlin. Klin. Woch.*, January 24th, 1876.

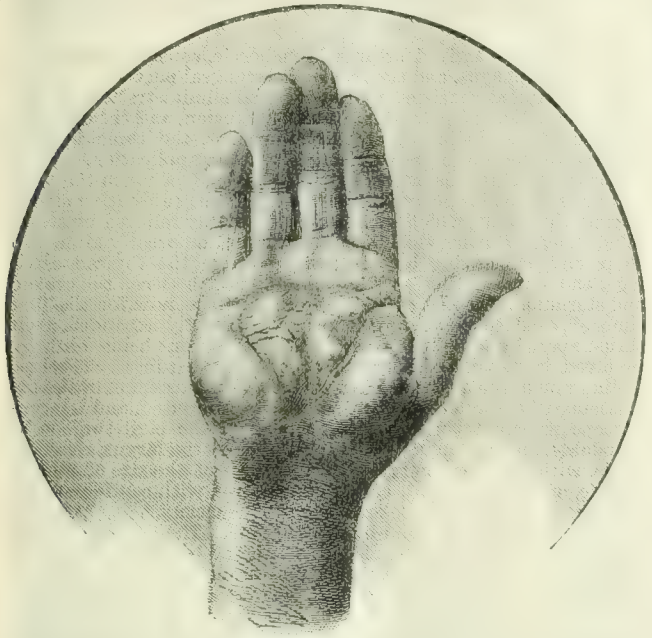
[3] Ultzmann, *Uber Hematurie (Wiener Klinik)*, p. 135.

[4] Bryant, *The Practice of Surgery*, vol. ii, p. 67.

[5] Author, the JOURNAL, February 4th, 1888.

thumb were perfectly free, and no pain was felt except when forcible pressure was exerted upon the swelling.

At first sight the case resembled one of compound ganglion, but the absence on palpation of the characteristic crackling, which is usually associated with the presence of melon-seed bodies, the shape of the swelling, and especially the fact that it was confined to the palm, not extending upwards beneath the annular ligament to the lower part of the forearm, pointed to a lipoma; its solid nature was verified by an exploratory puncture.



No attempt was made to remove the tumour, as it caused the patient so little inconvenience that he did not wish to undergo any operation. Moreover, its excision would probably have been attended by some difficulty, for lipomata in this situation extend deeply, originating in the fat beneath the palmar fascia and surrounding the flexor tendons, muscles, and other important structures in the palm.

F. A. Southam, F.R.C.S.,
Assistant Surgeon to the Manchester Royal Infirmary.

TRAUMATIC SEPARATION OF THE SUPERIOR TIBIAL EPIPHYSIS.

Till I read Dr. Heuston's remarks on his case of the above lesion in the Journal a few weeks ago, I did not know it was so rare. I send, therefore, short notes of a similar case that came under my notice a short time ago. A young man, aged 20, was riding a bicycle at a good pace, when he collided with a hansom cab, and was thrown off his machine. He remembered that in falling the crank axle of the bicycle struck the inner side of his left knee. On examination, there was a good deal of effusion into the left knee-joint, and below the knee on the inner side a distinct edge could be felt, apparently the upper edge of the diaphysis of the tibia. By manipulation this projection could be obliterated, and distinct movement obtained between the epiphysis and shaft of the tibia, accompanied by a slight cartilaginous crepitus. The limb was put up in plaster-of-Paris, and did very well.

Brighton. Edward Petronell Manby, M.B.Cantab.

THERAPEUTIC MEMORANDA.

HYOSCINE AS A HYPNOTIC.

A case has recently occurred to me which I should like to record, as bearing on the question of idiosyncrasy with regard to hyoscyamine. My patient was a lady, a little over 40 years of age, who for a long time past had suffered greatly from sleeplessness and restlessness at night. To relieve this I gave her one of Burroughs's hyoscyamine tabloids (one-eightieth of a grain) dissolved in water. Beyond some amount of dryness of the throat, and, if anything, increased restlessness, there was no result. The following night she took two tabloids, each containing one-eightieth of a grain of hyoscyamine. Her report of the effect produce was not encouraging. Never, she declared, had she experienced such a miserable night; the first unpleasant symptom was an intolerable dryness of the throat, to relieve which she took water, soda-water, and finally, with more effect, hot cocoa. No rest was obtained all night, and for a time she felt excited and nervous, this giving place finally to a feeling of considerable prostration. I think this case worth reporting, for the sake of comparison with that quoted by Dr. Sinclair Thomson in the Journal of August 25th.

King Henry's Road, N.W. J. Arthur West.

CLINICAL MEMORANDA.

A CASE OF TRISMUS—RECOVERY.

W. A., a drainer, had an attack of erysipelas, combined with bronchitis, early in the spring of this year. Circumstances forced him to return to his work before his strength was sufficiently recovered. On May 12th he experienced great difficulty in swallowing, and on the 14th there was complete trismus. On the 24th a second attack of erysipelas supervened, which lasted about eight days. Opisthotonos became marked, and the patient seemed in a desperate way. On the 18th of June the spasms at last relaxed, having continued the long period of thirty-five days. After this the man steadily recovered. The treatment was very simple: continual feeding in giving small quantities of milk, or beef-tea. Small doses of opium, belladonna, and chloral hydrate were administered, the chloral being the most useful, though strongly objected to by the patient until it was disguised.

Boroughbridge. Alex. D. H. Leadman, L.R.C.P.E., &c.

Erratum.—In an Obstetric Memoranda entitled "Absence of Right Parietal Bone," by Dr. G. W. Isaac, published in the Journal of September 1st, p. 490, it was stated that the deformity was *symmetrical*. This was an obvious misprint for *asymmetrical*.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

ROCHDALE INFIRMARY.

A FATAL CASE OF COMMINUTED FRACTURE OF THE CERVICAL VERTEBRÆ, WITHOUT IMMEDIATE SYMPTOMS.

(Under the care of Mr. R. Burdett Sellers.)

[Notes kindly taken by Dr. D. F. Whiteley, House-Surgeon.]

J. B., aged 17, stableboy, was admitted into the "Bright Ward" of this Infirmary, at 6.30 p.m., August 28th, 1888, for injuries received by falling through a trapdoor from a hayloft on to the stone floor of the stable beneath, a distance of about twelve feet, and it was stated that he had fallen on his left shoulder. Examination did not reveal any serious lesion. He only complained of some pain, on movement, situated at the back of the neck and shoulder. There was no abrasion of the skin anywhere. He was perfectly conscious and spoke sensibly; he could move all his limbs; the face was pale; pulse feeble and regular; breathing quiet; the pupils were slightly contracted; the temperature was subnormal, namely, 95°. He kept in this condition up to 3 a.m. next morning, when his breathing became irregular and shallow, and the temperature had begun to rise, the thermometer now registered 102.6°. At 7.20 a.m. it was 105°; at 8.20 it was 106.6°; at 9.20 it was 107.6°. He was still perfectly conscious, and spoke sensibly to the nurse. At 9 a.m. he began to vomit, and continued to do so till a few minutes before 10 a.m., when he died—sixteen hours and a half after receipt of injury. At 9.45 a.m. he had a slight convulsion. No symptoms of paralysis or dyspnœa were noticed at any time. A *post-mortem* examination was made six hours after death, when it was found that the third, fourth, fifth, and sixth cervical vertebræ were fractured as follows:

Third cervical vertebra: An incomplete fracture through three-fourths of the body, from behind forwards. Each lamina was

broken from its articular processes. Fourth cervical vertebra: The body was fractured into two lateral halves; the left pedicle was broken from the body, and the left lamina fractured into several pieces; the right lamina was broken from its articular processes. Fifth cervical vertebra: The body was fractured into two lateral halves; The laminæ were broken from the articular processes, on each side, and the right lamina was broken from the spinous process. Sixth cervical vertebra: An incomplete fracture through the body, the anterior surface alone being intact; also an incomplete fracture at the junction of the laminæ with the spinous process. The spinal cord and its membranes were found completely free from injury, but a blood-clot had formed between the broken bones and the spinal membranes. The head was opened, and the brain found normal, except some slight congestion on the upper surface. There were evidences of a large contusion on the vertex of the skull, but no fracture of the skull at any part.

Remarks by Mr. Sellers.—The special points in this case which I would call attention to are: 1. An injury of such a severe character, in which no special symptoms were noticed. 2. The apparent absence from injury to the phrenic nerve, although the third and fourth cervical vertebræ were more variously fractured than the rest. 3. The temperature, which was the first indication noticed of any serious lesion. The probable cause of death was, in my opinion, either (*a*) from pressure of blood-clots, noticed at the *post-mortem* examination, or (*b*) severe general shock, or (*c*) some profound disturbance of the nerve centres in this region, or (*d*) possibly a combination of all these three factors.

In conclusion, I may here say that, soon after the accident, the patient was very carefully placed upon an ambulance stretcher, and removed to the infirmary under medical supervision. Perhaps, if other means of conveyance (or any undue rough handling) had been adopted, some displacement of the bony fragments might have taken place, and thereby have given rise to a train of symptoms which we so naturally expect in any severe injury to this region.

NATIVE GENERAL HOSPITAL, MANDALAY.

CASE OF EPITHELIOMA OF THE LARYNX, COMPLICATED WITH BRONCHOCELE: DEATH FROM SUFFOCATION DUE TO BURSTING OF ABSCESS.

(Under the care of W. B. Bannerman, M.B., Surgeon I.M.S.)

Naik Abee Ram, 43rd Goorkha Light Infantry, aged 38, service twenty-one years, was admitted to the General Hospital for Native Troops, Mandalay, in the end of December, 1887, complaining of breathlessness, palpitation on exertion, and weakness.

Previous History.—His medical history sheet shows numerous admissions for bronchitis during the past four years; otherwise he has had good health during his service save for an occasional attack of ague. No family history bearing on the case was elicited.

History of Present Illness.—He began to be troubled with throat symptoms in August, 1887, while acting as a signaller at Mogók, Ruby Mines District. He was then transferred to headquarters at Bernard-myo, suffering from laryngitis and bronchitis in September, and remained under treatment there till his transfer to Mandalay in December last. In the end of October he first noticed a swelling in front of the neck, and at the same time he experienced difficulty of breathing and slight pain in swallowing.

Condition on Admission.—He was thin and weak, but not markedly anæmic. The face had an anxious, drawn expression, and the nostrils were dilated during inspiration. On account of breathlessness he could not lie down for any length of time, and he used to sleep for half the night in a sitting position. When asleep the breathing was laboured and stertorous, inspiration being very prolonged and audible to a considerable distance. When awake the breathing was less laboured, but with quickened rhythm and prolonged whistling inspiration. Voice husky and feeble; no fœtor of breath. Expectoration abundant and frothy; never contained any pus, but was once or twice streaked with blood. On inspection of the front of the neck a tumour was plainly visible, largest on the left side, and moving with the larynx during the act of swallowing. The tumour extended from the upper border of the thyroid cartilage to within an inch of the sternum, laterally as far out as the cornua of the hyoid bone, and on the left side it also extended deeply under the sterno-mastoid muscle. The mass in the upper part felt like a fibrous tumour, but lower down became much softer and more like a glandular swelling. The upper border of the thyroid was all that could be felt of the cartilages of the larynx, the tumour mass concealing the others. The pharynx was seen to be in a state of chronic congestion, large veins coursing over the back part. No examination of the larynx was at this time possible, as the laryngoscope is not part of field medical equipment. The tumour appeared to press on the œsophagus, as he complained of some little difficulty in swallowing, and of pain during the passage of solid food. All the systems of the body appeared to be normal, with the exception of the circulatory, where the first sound in the mitral area was accentuated and impure.

The diagnosis arrived at was bronchocele, causing pressure on trachea, œsophagus, and the recurrent laryngeal nerves.

The treatment consisted in the internal administration of bromide and iodide of potassium in bitter infusion, and the daily inunction of red iodide of mercury ointment, the tumour being exposed to the sun for half an hour after each application.

For the next ten days the patient remained in much the same state as regards his general health. He had one suffocative attack during the night, which was, however, quickly relieved by steam inhalations. During this time the tumour had greatly altered in shape and size, having become retracted from the thyroid cartilage, and now existing as a glandular mass between the cricoid and sternum. The alæ of the thyroid cartilage, now for the first time exposed to view, were found to be greatly expanded, as if thrust apart by some substance inside, the left one being likewise involved in a small-sized swelling of stony hardness, the whole feeling much like a "crustacean carapace." A suspicion of the coexistence of malignant dissase having been aroused, and a laryngoscope procured through the kindness of the civil surgeon at Mandalay, an examination of the interior of the larynx was now made, with the following result: A tumour of the size of a small marble, of a bright pink colour and covered with cauliflower excrescences, was found to be growing into the larynx, being attached to the left ventricular band by a broad base. The left side of the base of the epiglottis was also involved, and below the arytenoid cartilages another small tumour was seen, with two spots of ulceration exuding a little pus. The right side of the larynx was healthy, and there was sufficient space left, by the spreading apart of the alæ, to allow air to pass. The right vocal cord was healthy; the left could not be seen, owing to the overhanging mass of the tumour.

From these appearances, and the stony hardness of the tumour as felt from the outside, a diagnosis of epithelioma was arrived at. The advisability of performing tracheotomy was considered, but as the weather was very cold, and the after-treatment not easily carried out in the open zayat (wooden shed) in which the hospital was situated, it was thought better to send him at once to Calcutta for that purpose, where all comforts could be secured to the patient. A few days before the steamer sailed, however, he was one night found dead in his bed.

Post-mortem Examination.—Owing to caste prejudice an inspection of the whole body was not obtained, but leave was given to make an examination of the larynx alone. This was accordingly done six hours after death. The tongue, larynx, trachea, and œsophagus as far down as level with the top of the sternum, were removed through a median incision. On cutting into the mouth and pulling forward the tongue, the pharynx was found full of creamy pus which had flowed out from the top of the larynx, thus amply accounting for the sudden death.

The tumour was found to consist of two portions; one above, consisting of thyroid cartilage and the mass involving the left ala; the other below, composed of enlarged thyroid gland which measured six inches transversely and three inches and a quarter vertically. The only enlarged gland that was found was on a level with the top of the sternum, and so deeply placed by the side of the trachea as to be beyond the reach of palpation. The larynx and trachea being laid open the following was found: the whole left side of the larynx from the ary-epiglottidean fold above to a point half an inch above the vocal cord was involved in the disease. The arytenoids of both sides were involved, and the tumour here pressed on the œsophagus, causing the dysphagia complained of during life. On the outer aspect of the box of the larynx a mass of cancerous infiltration had formed of stony hardness; underneath this, and partly in its substance, the fatal abscess had formed, which, making its way between the cricoid cartilage and the lower border of the wing of the thyroid, had burst into the larynx at the point below the arytenoid, where a spot of ulceration was noticed during life. The left inferior

cornu of the thyroid cartilage was eaten away, and dislocation of the crico-thyroid articulation produced.

Looked at from behind, the alæ of the thyroid appeared to be expanded as it were by the pressure of the tumour growing from the ventricular band; they measured three inches transversely. There was no evidence of cancer in any other organ of the body.

REMARKS.—This case is interesting from the fact that the presence of the malignant disease was masked at first by the large bronchocele, and that a diagnosis could not positively be made till the shrinking of the tumour revealed the stony mass attached to the left side of the thyroid, and the expanded state of the alæ. This alone, even without a laryngoscopic examination, would have served to establish a diagnosis. The sudden termination of the case from the bursting of an abscess, the existence of which was wholly unsuspected, is also noteworthy. The co-existence of abscess with epithelioma is apparently rare, as no mention of it is made in Morell Mackenzie's book of *Diseases of the Throat*. Even if it had been looked for it is very doubtful if a diagnosis could have been made in this case, as the abscess was quite concealed by the stony tumour outside, and did not reveal itself by any visible signs inside the larynx. This case illustrates the difficulties sometimes experienced on field service from want of instruments and books of reference.

REVIEWS AND NOTICES.

A MANUAL OF GENERAL PATHOLOGY. By JOSEPH FRANK PAYNE, M.D.Oxon., F.R.C.P. One hundred and fifty Illustrations. Pp. 702. London: Smith, Elder and Co.

THIS work, designed as an introduction to the practice of medicine, demands attention, inasmuch as it comes from a well-known teacher attached to one of our largest metropolitan hospital schools. It is also of interest, for the author has (and we think wisely) not followed the stereotyped plan adopted by most lecturers and writers on pathology in Great Britain. It differs in the following points: Pathological histology occupies a less prominent part than usual; increased importance is given to etiology, and greater prominence is given to medical rather than to surgical pathology. The book is divided into two sections, the first dealing with "The Processes of Diseases;" the second is occupied with "The Causes of Diseases."

Chapters II to VIII treat of disorders of the circulation, and are devoted to such subjects as plethora, œdema, dropsy, thrombosis, and an interesting chapter on the "Pathological Relations of Blood Pressure." Chapters IX and X are devoted to inflammation; the description of the process is clear, concise, and contains a short account of intracellular digestion in relation to leucocytes, as well as a description of the part played by these extraordinary cells as carriers of insoluble matter, and their aggressiveness in relation to bacteria, etc. This is followed by a chapter on fever, which is an excellent summary of our knowledge regarding the variations of bodily temperature in health and disease. After this, necrosis, atrophy, and degenerations have each a chapter. Under the head of mucous degeneration we find a careful description of what is known regarding the pathology of myxœdema. In the portion devoted to calcareous degeneration, Dr. PAYNE makes a statement with which we are not at all disposed to agree. He says: "Since in all these cases degeneration, malnutrition, or even local death is the precursor of the process, calcareous degeneration is very properly described as a degenerative process." This places us in a difficulty, because in the cartilaginous framework of the mammalian embryo calcification occurs when the cartilage is becoming vascular, that is, during a very active stage. Again, the persistent cartilage skeletons of many fishes is richly impregnated with salts of lime.

The subject of hypertrophy is dealt with in a disappointing way; overgrowth, true hypertrophy, and inflammatory enlargement are incoherently jumbled together. Why enlarged prostate is still referred to as hypertrophy it is difficult to understand; it is still more puzzling that the milk-white patch on the ventricle of the heart should be regarded as hypertrophy; and even inflammatory thickening of the pleura, pericardium, dura mater, etc., are credited to this process. This chapter will certainly need rewriting in a future edition.

The subject of tumours, or new growths, is introduced by an interesting survey of our present position regarding their etiology, nature, and theories in fashion to account for them. Dr. Payne regards the specific nature of cancer as not yet proved; we agree with him, and the more carefully the term is used and restricted so as not to include many tumours which are infective granulomata, the less likely will cancer be found a specific disease. Cohnheim's theory of tumours is adopted with certain reservations, and this is gratifying, for here again restriction of the definition tumour to growths which are not infective granulomata will surely establish, in the long run, the pre-eminence of Cohnheim's theory. In discussing this question, as well as other doubtful points, Dr. Payne proceeds on the plan of never accepting an explanation as true until the supposed cause is proved to exist, and then it must also be shown that no other cause would produce the same effects. The histology of tumours is illustrated by numerous original drawings, which seem to be faithful copies of what the microscope shows, and not what the artist fancies they ought to be. Except the figures illustrating the sections of tumours, nearly all the woodcuts are borrowed from other works. Unfortunately, in this book, which in many points is a great advance upon recent textbooks of pathology, the terms homologous and heterologous are preserved. Nearly all neoplasms are homologous, in that they grow from pre-existing tissue similar to that composing the individual tumour, but are heterologous, inasmuch as they never exactly resemble the matrix tissue. Homologous and heterologous are terms which for classificatory purposes should not be retained in pathology. We are pleased to find the embryological basis adopted for the classification of neoplasms; it is by far the simplest, and certainly the most scientific. When describing the enchondromata, Dr. Payne seems to have overlooked the fact, now so well known, that the so-called malignant enchondromata, such as occur in the testis, are chondrifying sarcomata and not cartilage neoplasms primarily. It is also very unusual to find the bony and calcareous plates, so common in the choroid coat of diseased eyes classed among tumours; yet these and similar bony formations found in the membranes of the brain are classed as heterologous osteomata. Dr. Payne uses the term osteophyte to signify ossification in tendon and fascia, the rider's bone, and the drill bone. It is to be hoped that such vagueness in the use of this word will not be adopted in a future edition.

The chapter on cysts is the least satisfactory in the whole book. It is quite true that they are not dismissed as a mere unattractive list, but for some reason or other Dr. Payne has cramped into this part of the book things which he could not fit in nicely anywhere else, for it cannot be regarded a harmonious arrangement to class teratoid tumours with cysts, neither can it be justifiable to treat cysts cursorily on the ground that they are surgical rather than medical, for many of the most interesting cysts arise in the abdomen and pelvis, in which regions the physician very frequently encounters them. The classification adopted is far from satisfactory, no care being taken to discriminate between true cysts and those arising by softening and degeneration of tumours, parasitic cysts and diverticula. Under retention cysts we find certain cysts of the thyroid and ovarian follicles; this is of course erroneous, the term "retention cyst" means a cyst arising in consequence of obstruction to the excretory duct, and if the gland or cavity has no duct it cannot become a cyst by retention. The cysts classed under the heading "endothelial cysts" are not a natural group. Cysts containing air find a place in this group, and reference is made to the specimen in the Hunterian Museum obtained by Jenner from a pig and sent to Hunter; now cysts of this kind are very common in hogs dying in hot weather, and these cysts are nothing more than emphysema produced by gases evolved during the rapid decomposition of the hog, and certainly offer nothing very remarkable. The cystoid tumours are not clearly described or defined, and why Dr. Payne should adhere to the view that ovarian adenomata probably originate in Pflüger's tubes, mythical structures at the best, is incomprehensible. The chapter requires rewriting; cysts should be divided into two main classes, true and false, and the various subdivisions carefully defined. Dermoids and teratomata should be dealt with separately. The infective granulomata are removed from the section tumours, and described under the head of acute specific diseases.

By far the best portion of the book is that devoted to the "Causes of Diseases;" it presents the student with a careful and concise summary of the diseases arising from animal and vegetable parasites, and the various micro-organisms. These diseases are arranged in six classes; thus under Acute Specific Fevers we find scarlatina, with an account of Klein, Power, and Crookshank's work, measles, variola, varicella, plague, cholera, etc. As specific

inflammation we have pertussis, parotitis, diphtheria, tetanus, and hydrophobia. Contagious Suppurations include impetiginous eczema, soft chancre, gonorrhœa, pyæmia. Infective Granulomata comprise tubercle, lupus, syphilis, rhinoscleroma, leprosy, glanders, and anthrax. Miasmatic Diseases refer to ague, malaria, yellow fever, and dysentery; and the last class, Mycoses, include favus, actinomycosis, aphthæ, etc. A mistake occurs on page 659, in ascribing the discovery of the tubercle-bacillus by Koch to the year 1852, instead of 1882.

On the whole, we may recommend this book to students especially interested in medicine apart from surgery. The half of the book devoted to the "Causes of Diseases" is especially worthy of commendation, not only in the plan of arrangement but in the judgment exercised by the author in selecting his facts. The printing and general get-up of the book are excellent.

THE ORIGIN OF FLORAL STRUCTURES THROUGH INSECT AND OTHER AGENCIES. By the Rev. G. HENSLOW. London: Kegan Paul, Trench, and Co. 1888. Small 8vo. 349 pages and 88 woodcuts.

THIS little book forms the sixty-fourth volume of "The International Scientific Series," and will be found most useful by the student of vegetable morphology. Apart from any theoretical considerations, and as a mere store of facts, it is exceedingly interesting and instructive, conveying a great amount of information in an agreeable and attractive manner. Yet the object of the work is the accumulation of data regarded by the author as favouring the theory that morphological and anatomical structures are brought into existence by the influences of the environment.

Mr. HENSLOW concludes his brief preface, which is a concise history of the progress of this belief, with the following words: "I have attempted in the present work to return to 1795, and to revive the 'monde ambiant' of Geoffroy St. Hilaire, as the primal cause of change. My object is to endeavour to refer every part of the structures of flowers to some one or more definite cause arising from the environment, taken in its widest sense. To some extent the attempt must be regarded as speculative; and therefore any deductive or *a priori* reasonings met with must be considered by the reader as being suggestive only."

Whether the author has succeeded in his object we cannot stay to inquire, but as a collation of the literature of the subject and a record of observations and facts, we can safely recommend his book. Throughout he carefully cites his authorities, which alone is of no little value. As a critical examination of the work is beyond the scope of this notice, we cannot give a better idea of his treatment of the subject than by reproducing the titles of some of his principal chapters, or so much of them as to be intelligible. Following a short introduction on "general principles," he deals successively with the principle of number, of arrangement, of cohesion, and adhesion; the forms of floral organs; the origin of zygomorphism, of floral appendages, of conducting tissues; sensitiveness and irritability of plant organs; colours of flowers; the emergence and development of the floral whorls; heterogamy, autogamy, and heterostylism; sexuality and environment; degeneracy of flowers; progressive and retrogressive metamorphoses; phyllody of the floral whorls; fertilisation and the origin of species, etc.

From the foregoing it will be perceived that the author deals with a wide range of phenomena, many of which are still imperfectly understood, while the investigation of others, such as sexuality, has already shed considerable light on the value of the modifications of the floral envelopes and sexual organs in classification.

SANITARY ADMINISTRATION IN EGYPT. ANNUAL REPORT FOR 1887. Cairo: National Printing Office. 1888. Pp. 124.

WE have been favoured with the proof sheets of these reports, written some in English, others in French; one of the latter, that by Dr. Dimitri Wassili on small-pox at Port Said, having been translated by the author from the original Arabic. They present a curious and interesting record of a struggle with impecuniosity, apathy, ignorance, and prejudice, such as we in Europe have much difficulty in realising, a record however of "something attempted, something done."

The *personnel* of the department is divided into "Cadré," "Hors Cadres," and unpaid. The first or permanent staff comprises 24 inspectors, 51 medical officers, 27 apothecaries, 2 chemists, 45 midwives (certificated), 9 veterinary surgeons, and a number of clerks and others. Those *hors cadres* include artificers and labourers, hospital attendants, etc.; and the unpaid comprise 2,500 barbers and 4,600 midwives practising on their own account throughout the country, the barbers, as was formerly the case in Europe, performing minor surgical operations and vaccinations; they are encouraged, though with little success, to submit to examinations for certificates of proficiency, but are for the most part absolutely illiterate, having to employ the *sarafs* or tax-gatherers to make out their registers, and the same reluctance to undergo examination is exhibited by the midwives.

Owing to the small number of qualified medical men, native or foreign, their duties are arduous and multifarious, comprising medical and sanitary work, registration, and medico-legal assistance in the courts. Their purely medical labours have, however, been to some extent lightened by the opening of late of dispensaries in eight provincial centres remote from those few greater cities which were already provided with hospitals.

During the year, 744 analyses were performed, 264 gratuitously, of a very miscellaneous character, comprising not only foods and drugs, but metals, manures, etc., no fewer, however, than 297 having been of sugar.

Registration of births and deaths, though somewhat more accurate than formerly, is still very imperfect, despite the exertions of Dr. Engel in this department; for, to say nothing of the negligence and ignorance of the native registrars, the law cannot be enforced in the *Esbehs*, or proprietary domains, which include as many as 4,000 villages, and though foreigners are indirectly compelled to report their deaths in order to obtain permits for burial, they are exempt from the law requiring the registration of their births. The privileged position of the *Esbehs* as regards vaccination has led to many severe outbreaks of small-pox among the tenantry of those landed proprietors who were influential enough to resist its enforcement on their domains.

The sewerage of Cairo has hitherto been simply atrocious; the cesspits of the houses overflowing into sewers of rough porous stonework with flat inverts and no fall, which, passing through the town, discharged such crude sewage as escaped deposition into the Nile or the canals, whence the bulk of the population drew their drinking water. Many of the sewers are completely choked, and all attempts to clean out one had to be abandoned after several labourers had been asphyxiated by the effluvia. It is hoped that before long an entirely new system of sewerage may be carried out, the sewage being raised by pumping and disposed of by irrigation. Meanwhile, it has been determined to put the existing sewers out of use by disconnecting them from the cesspits, which are emptied by manual labour.

There is only one lunatic asylum in Egypt, at Abassieh, and it seldom has more than 300 inmates. Of its management and of the skill and zeal of the chief medical officer, Dr. Abdullah Effendi Chowkat, Mr. Greene speaks with the highest praise.

There is a melancholy monotony in the abstracts of the reports of the health officers; complaints of nuisances which the local officials refuse or neglect to abate, the continued use for drinking and other domestic purposes of foul water from *birkets* or stagnant pools reeking with sewage and garbage; the filling up of which they had urgently demanded; the persistent use of graveyards long condemned as pestilential, and the unscrupulous conduct of the barbers and *sarafs* in registering as successful vaccinations that had failed or had not even been attempted.

Unfortunately, the Europeans, as the Messageries Maritimes and the authorities of the Suez Canal, instead of setting an example, are the authors of the gravest nuisances; but more strange was the reluctance shown by the inhabitants of the European quarter at Port Said to report the cases of small-pox, to permit the carrying out of sanitary measures, or the vaccination and revaccination of their families during the recent epidemic, whereas Dr. D. Wassili, by open-air harangues, by individual persuasion, and by enlisting the co-operation of the priests from the pulpit, completely overcame the prejudices of the native population, with the result that, while in the Quartier Franc the deaths were 37, comprising 13 adults and 24 children, there were but 14 in the entire native community, and these exclusively of infants.

In the Arab quarter the last deaths occurred on March 9th, and the disease had disappeared by April 18th, whereas among the "Franks" the latest death was on May 26th, and the epidemic was not extinguished till June 5th, Dr. Wassili having at length obtained authority from the heads of the several Departments of State to enforce the vaccination of all officials and their families,

as well as of the troops and men of the corvette *El Sakka* stationed in the port.

Other reports given *in extenso* are those of the chief engineer to the Government, Mr. Price; the chief veterinary inspector, Mr. Littlewood; the chief sanitary inspector, Mr. A. H. Hooker, on scavenging, etc., in Cairo, Alexandria, and some other large towns; of Mr. Robertson, M.S., on the surgical practice in the hospital at Port Said; one by Dr. Winkler on the sanitary condition and development of Helouan les Bains, a rising place of resort on account of its sulphur springs and baths; and an excellent *resumé*, by Dr. Engel, of the proceedings of the Congress of Hygiene at Vienna, where he attended as the Egyptian delegate, though it has little, if any, connection with the actual sanitary administration of that country.

The vital statistics furnished by the local health officers are of very small value in the absence of any trustworthy estimates of the population on which to calculate the death- or birth-rates, even if the actual number of births and deaths could be relied on; and, in spite of Dr. Engel's praiseworthy exertions, the registration of the causes of death is, from the ignorance of the barber-surgeons, etc., so imperfect that no statistics of disease have been attempted. Even the cases treated at the several hospitals and dispensaries are classified merely as internal diseases and wounds, or, as we should say, medical and surgical, ophthalmic and venereal.

Ignorance, apathy, and corruption among the lower orders of officials, with venality and persistent obstruction on the part of the higher, render the work of the reformer a thankless task indeed. Of this obstructiveness we have just had a striking example in the transference from the post of Minister of Public Instruction of the ablest educationist the country could show, Yakoub Effendi Artin, to that of Director of Railways, for which he has no qualification beyond his energy and intelligence, but where his Christianity will have no opportunity of making itself felt.

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1. Klinik der Verdauung's Krankheiten (Diseases of Digestion). By Dr. C. A. Ewald, Professor in Berlin University. II. Die Krankheiten des Magens (Disease of the Stomach). Pp. x, 442. With 18 Woodcuts. Berlin: A. Hirschwald.

This work consists of lectures delivered before medical men. The author remarks in the preface that it may seem venturesome to publish these lectures at a time when new methods are being so diligently employed that almost every day fresh results bring us nearer to a full knowledge of the complicated relations of gastric pathology; but many definite conclusions may now be drawn as regards the chemistry of digestion, and Professor Ewald is of opinion that the present is an appropriate time for taking stock of our attainments in this difficult subject. The work before us is the most advanced that has hitherto been published on diseases of digestion viewed in their more scientific aspect, and it will repay a careful study. Opposing views by different observers are given with perfect fairness; and, while the most recent knowledge is embodied, an eye has been kept upon the past. "Nothing is better adapted," says the author, "to check any over-estimation of modern acquirements than the study of the past literature of the subject, especially that of the first half of this century." The lectures are eminently practical in character. One chapter, on the Nerves of the Stomach, by Professor R. Ewald, of Strasburg, more properly belongs to the first part of the work (*The Theory of Digestion*), which has been already published.

The first two lectures deal with various methods of investigation. Among the different ways of detecting H Cl in the stomach-contents, Gunzburg's phloroglucin-vanillin test receives praise. Laborde and Dusart first proposed the use of aniline colours for this purpose in 1874, and the author gives them full credit for this. It is of great delicacy, indicating $\frac{1}{2}$ H Cl per mille; and it is unaffected by organic acids. We are clearly shown in this work how to ascertain whether albumen and starch are properly digested, and an insight is given into the "technic" of the examination of the function of the stomach in general, including absorption and peristalsis. The importance of intestinal digestion is fully conceded, but the author does not agree with Jaworsky, who goes so far as to regard the stomach as a mere temporary reservoir, the pylorus acting as a sluice-gate. Air is preferred to CO_2 for inflation of the stomach for diagnostic purposes. In the treatment of pyloric stenosis mention is made of digital dilatation of the pylorus, as successfully performed by Professor Loreta, of Bologna; and the author here takes the opportunity to say that the operative treatment of the stomach has a great future, and that perhaps portions of the gastric wall may even be excised in certain cases of dilatation. Carefully-described clinical cases are given under each form of gastric disease, with full particulars of the manner in which the diagnosis was arrived at in each case. Cancer of the Stomach has a long chapter devoted to it. The author adheres to the statement, first made by himself, that the presence of H Cl in the stomach is strong evidence against the existence of cancer, but it is still uncertain how far the absence of H Cl indicates the presence of cancer, for other chronic derangements also prevent its proper secretion. Treatment of cancer by condurango bark, so warmly recommended by Friedreich, is amply discussed, but observations do not warrant the assertion of any specific influence, further than a general beneficial action.

Ulcer of the stomach remains an insoluble problem. The argument that the alkalinity of the blood saves the mucous membrane from erasion by neutralising the gastric juice falls to the ground, since it has been shown by Edinger (*Pfluger's Archiv*, Band xxix) that even the deeper layers of that membrane have an acid reaction. Samelson has even neutralised the blood by acids during life without causing self-digestion of the stomach. Again, acid secretives poured out of the gastric glands remain acid in the stomach, but acids introduced there from without are quickly neutralised. The author adds that we come no nearer to understanding this mystery by the use of such terms as "vital energy" or the "living principle" of Hunter. Regarding hyperacidity as a cause of ulcer, this old theory, lately strongly emphasised by Riegel, is not always found supported by clinical observation. The author relates a fatal case of chronic ulcer, in which the gastric secretions had been found to be of normal acidity during life, and one such case is enough to upset a dictum of this kind. Indeed, hyperacidity may as well be a consequence as a a cause of ulcer; at any rate, in its earliest stages. The distinctive diagnosis between nervous gastralgia, ulcer, and cancer is carefully entered into, and a table of their various symptoms is given for comparison with each other. Other lectures are devoted respectively to cardiac stenosis, pyloric stenosis, gastritis, chronic gastric catarrh (chronic glandular gastritis), the neuroses of the stomach (three lectures), and the inter-dependence of gastric and other organic diseases. The three lectures on the neuroses of the stomach form a valuable and attractive *ensemble*.

The clearness and simplicity of the author's style are well known. It may frankly be said that we have no such synopsis as this in the English language, and everyone who desires a summary of the recent rapid progress in the knowledge of the stomach and its disorders should study this work by Professor Ewald.

Bequests and Donations.—By the will of the late Mrs Margaret McAra, of Georgetown, British Guiana, the Glasgow Royal Infirmary has just received the handsome bequest of £20,000.—At the recent meeting of the Governors of the Dundee Royal Infirmary, a donation of £1,000 to the endowment fund of the institution was intimated from Miss Symes, St. Helen's.—Mr. Henry Soden, of Coventry, bequeathed to the local charities (on the decease of his wife) as follows: £1,000, the income thereof to the Coventry and Warwickshire Hospital; £1,000, the income thereof to be applied to the Coventry Provident Dispensary "for the maintenance of beds or other provision for in-patients, or such other purposes of that admirable institution as may not impair its self-supporting character; and he desires that the committee will, so soon as the funds permit, provide beds and sustenance for such poor patients as cannot be properly treated and provided for in their own homes, the committee, nevertheless, keeping in view the great principle of self-contribution, however small the amount may be;" and £100 each to the Church Lying-in Charity and the Union Lying-in Charity.—The British Home for Incurables has received £1,205 4s. 3d., being a portion of the "residue" of the estate of Mrs. Rachel Smith.—The Halifax Infirmary and the Royal Albert Asylum for Idiots and Imbeciles of the Northern Counties have each received £436 16s., being part of the "residue" of the estate of Miss Sarah Walton, of Lightcliffe.

Paisley Eye Infirmary.—Lord Lothian, Secretary for Scotland, has forwarded to Mr. Barbour, M.P., an intimation that the Queen has been graciously pleased to approve of the new Eye Infirmary in Paisley being named the Victoria Eye Infirmary, in remembrance of Her Majesty's recent visit to Paisley.

The new Children's Hospital, Newcastle-on-Tyne, erected by Mr. John Fleming in memory of his wife, will be opened on September 26th. It is capable of accommodating from sixty to eighty patients.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, SEPTEMBER 22ND, 1888.

THE WHITECHAPEL MURDERS.

WHEN any serious and unusually bloody deed is done the public, still possessed by the idea that the insane are all more or less fiendish, look for an insane agent. It is pretty certain that where a modern miracle takes place, or where any strange and uncanny performance occurs in a country village, a hysterical girl is at the bottom of it, and so there is some foundation for the belief in the unusual being often connected with insanity.

We must not, however, at once jump to a conclusion and set about to seek for an insane person, regardless of other clues. In life, truth is ever stranger than fiction, and coincidences are of every day occurrence. The physician meets with a new or rare case, and within a very short time several similar ones come before him. It is thus, too, with crimes; they occur in epidemics of a like kind, and we must not forget that besides this the perpetration of a striking crime attracts the attention of a very unstable class, who are ready to follow any lead but the right one. We may have had more than one person perpetrating these horrible crimes—one sane, another insane.

The most important question for us as medical men is as to what form of insanity is likely to give rise to such a series of acts. We may say at the outset that we do not recognise any definite form of mental disorder deserving the name "homicidal mania." Maudsley, Marc, and others have described forms of impulsive insanity in which murder was the common tendency; but in these there was, as a rule, a special antipathy; the insane correlative of love, the tendency of the loving husband to kill his wife, or of the doating mother to destroy her offspring. In the cases under discussion nothing of this kind is noticeable. There are certain epileptics who have a murderous and impulsive destructiveness; but in these there is a disregard of consequences and a recklessness which are wanting in the Whitechapel murders. Besides the above there are a few insane persons who seem to be affected by a literal thirst for blood: but in these the murdering is more general and not so specially selective as in the case under notice. In these b loodthirsty persons there is often a murderous attraction towar *d*s children and young women, who may be violated and then mutilated.

The ordinary maniac does not cunningly murder and at once conceal himself; if the acts are those of an insane person, it is probable that he is driven by some overpowering delusion. There are some lunatics who believe themselves to be persecuted, who will in the most cunning way avoid and even deny their delusions and yet act upon them. There are a number of young men who believe they are injuriously affected by women, and such a one might easily declare a vendetta against the class of unfortunates.

Such a one might be cunning in the extreme, avoiding notice because he believed that the class was against him and was on the look out for him. There are others who belong to the class of insane prophets who might be actuated by the feeling that they were the specially sent messengers to purge the world of its evils. Either a deep sense of wrong suffered or a profound feeling of the good to be done, might induce a young insane man to perform such acts as those recorded at Whitechapel; the fact which chiefly militates against this is the special mutilations which took place; these point rather to the person being actuated by some feeling of revenge. If the murderer turn out to be insane at all, he may not improbably prove to be a young man of some refinement who was driven by delusions and who had suffered from hallucination of his senses for some time. There are no overpowering reasons for suspecting any ordinary chronic lunatic who may have escaped from control.

Extraordinary criminals, like geniuses of high talent, are bred by inheritance and social surroundings and training Centres of crime in our cities are, to some extent, capable of control as to both these factors; in such neighbourhoods the children of those fallen in crime grow up surrounded by an utter absence of virtue, and all their bad tendencies are accentuated by the absence of the conditions of wholesome life. The attempt to disperse the inhabitants of such localities, and to prevent their congregating to form groups of the criminal class, might do real good. Letters in the *Times* from the Rev. S. Barnett, of Whitechapel, and from "S.G.O.," who know the population from long-continued work among them, refer to this aspect of the case as demanding serious attention. Mr. Barnett says that within the area of a quarter of a mile most of the evil may be found concentrated, and it ought not to be impossible to deal with it strongly and adequately. The remedies he suggests are: 1. Efficient police supervision, with a force adequate to suppress rowdyism and preserve order in the small streets, as is done in the public thoroughfares. 2. Adequate lighting and cleaning; in this matter local rates might need supplementing from some other source; such grants would be well expended if any benefit were obtained to public health and morality. 3. Removal of public slaughter-houses, the sights of which tend to brutalise a thickly-crowded population, and to debase the children. 4. Mr. Barnett would like to see the tenement houses owned and controlled by responsible landlords, without subleases. Such properties have been bought by rich men who desire to effect social reform, with results morally most satisfactory and economically not unsatisfactory. There are other improvements in the locality which are practicable, and ought to be carried out, in an attempt to elevate the people and improve their surroundings. The coroner's inquests in these cases show the want of a decent public mortuary, under proper supervision and regulations. Some of the new tenements in this neighbourhood show that it is possible to provide decent

dwellings for the masses of the population, and flowers in many of the windows indicate that the inhabitants are not unappreciative of some refinement. In many cases these new tenements occupy the sites of former dens of crime. It is to be hoped that due care is taken to see that the children in the localities referred to attend school. Much might be done by greater care in the cleansing of the streets, which is far below what is seen in the City. All civilising influences tend to improve the brain, especially in young people; and in this way the establishment of evening classes, well-conducted clubs, and athletics tend to lessen ruffianism; while throwing open the school play-grounds at all times, and maintaining discipline in school, may train the child to civilised life.

THE PROLONGATION OF HUMAN LIFE AND BRAIN WEAR.

How to prolong human life is a question of personal interest to every man, and the duty of making an attempt to do so is one that particularly rests with the medical profession. When an individual has attained to full development and sound health—say at forty—the expectancy of life may be twenty-five or thirty years; for the individual there are great risks, but with the aggregate of mankind such questions may be calculated with businesslike accuracy. There are two great factors which concern the prolongation of a human life—the inheritance, and the conditions which make up the life-history of the individual. The inheritance of longevity, from one or both parents, is a powerful factor, and one that carries great weight with life-insurance offices. This is a more important factor than an infancy free from weakness, provided that the infantile ailments be dependent upon temporary conditions of defective nutrition, or conditions incident to the stages of development only. The late Emperor William, and many other public men of great age and useful life, illustrate that a feeble youth may be followed by a robust and prolonged life. Even conditions of infantile marasmus may be followed by subsequent good development, as in the case of Sir Isaac Newton. We now proceed to speak of average people, for a "perfect man" can hardly be said to exist; we shall consider average people, especially as we see them in town life, and the special conditions we desire to note are the habits, diet, and the wear of life. There is no doubt as to the importance of the habits of life affecting longevity: temperance in all things, in activity and in restraint, in regularity in morning rising and in work, as well as in resting and sleeping; uniform industry is as conducive to health as is regularity in diet. The acquisition of regularity in habits is largely due to early training, and in this way a wisely directed school discipline probably does much to form a sound and steadily acting nerve-system, such as gives the man a power of resisting adverse influences, and prolonging physical health. From the period of infancy upwards a sound and well-knit brain has much to do with the permanence of a healthy constitution. The relation of diet to longevity has often been discussed. We can only say here that the diet should be adapted, in quality and in kind, to the work of the individual; while such articles as alcohol, tobacco, and tea, if used at all, should be employed in moderation by those who wish for a stable constitution and prolonged life.

Passing over such important considerations, as being familiar to most members of the profession, we come to the great question of the causes of wear in life—the outcome of the frictions of life which all must meet with, more or less. The various factors at work, especially in a town life, make impressions on the brain which lead to fatigue and premature wear. The strong-brained individual may not be hurt thereby: the weaker man is exhausted by such constant impressions from without, and a second generation under such influences is likely to suffer through loss of tone and vitality in cell-structures rather than in actual stature or measurement. City life necessarily produces a rapid and unceasing series of impressions, and calls for constant exertion. The laws of sanitation and cerebral hygiene should, then, be carefully studied.

It is very desirable to have what quietness is possible during brain work, and the necessity for proper ventilation as a means of maintaining mental energy is well known. It might lessen brain-wear in many offices if electric lighting were substituted for gas illumination. Good digestion is essential to continued work with good lasting power. Late rising and a hurried breakfast, a still more hurried luncheon and rush back to work, followed at the conclusion of the day by a heavy meal when the man is wearied, often tend to exhaustion, as much as the unavoidable pressure of business. A more rational refreshment after heavy brain work is to partake of light refreshment and then rest for half an hour before dinner; thus the power of digestion and social enjoyment are restored to the man.

Probably the chief means of preparing a man to withstand the wear of business life is by a careful training, both physical and mental, before he enters upon the struggle and wear of business. One means of increasing the chances of longevity is by training the child wisely. Many a premature breakdown of health is due to that want of preliminary exercise, which would not be neglected by the athlete without disaster.

THE OPERATIVE TREATMENT OF PULMONARY ABSCESS.

The success which has so far attended the treatment of abscesses in the lungs by operation constitutes the latter a legitimate department of surgery. Dr. Quincke, of Kiel, reports two cases thus successfully treated during the past year (*Berliner Klin. Wochenschr.*, No. 18, 1888). A year ago, Dr. Quincke also reported two cases treated by operation (*Berliner Klin. Wochenschr.*, No. 19, 1887). Taking this latter pair of cases first, in one a young man had a chronic abscess in the lower lobe of the left lung, apparently due to acute pneumonia two years previously. The abscess was opened, resection of the ribs being performed, and the man recovered in so far that he was able to work and felt quite well, but a permanent fistula remained. The inconvenience of this the man himself obviated by making a small tin receptacle, attached to his side, holding a little carbolic acid. When examined three years after the operation, the lungs expanded equally, and the chest was symmetrical except for a slight depression over the site of operation. There was no expectoration. The importance of securing adhesion of the pleural surfaces is shown by the next case, treated in 1877. Here the patient, a woman, aged 26, presented all the clinical signs of a large pulmonary abscess, including the expectoration of a large quantity of fetid pus.

An attempt was made to set up an adhesive pleuritis by the injection of iodine into the pleural cavity. This caused pain, and a friction sound was soon heard; but the adhesions gave way soon after the abscess was opened, and purulent pleuritis caused death in three weeks, in spite of incision and injections. The author, with his present experience, would resect the ribs at the site most convenient, and reopen the abscess, in such a case. It is more difficult to induce firm adhesion of the pleuræ than in the case of the peritoneum, owing to greater disturbance during respiration; and the adhesions must be really firm, in Dr. Quincke's opinion, so as to withstand the elastic retraction of the lungs from the chest wall. Complete success was obtained in the two cases treated last year. In the first of these a man, aged 32, after symptoms of apparently an atypic pneumonia of a chronic character, suddenly expectorated a very large quantity of fetid pus, and the clinical signs left no doubt as to the existence of a pulmonary abscess, and not an empyema communicating with a bronchus. Radical measures were adopted; the eighth and ninth ribs were exposed on the right side, by the use of chloride of zinc, after preliminary incision. They were then resected for four or five centimètres, and next day chloride of zinc paste was again applied to the bottom of the wound. After a week, a capillary thread was introduced, allowing the escape of fetid pus, and the canal thus formed was gradually widened by the thermo-cautery till a proper drainage-tube could be passed and the pus evacuated. Within three weeks, expectoration ceased altogether, and the man, who had improved daily during this time, convalesced steadily. The right side did not expand quite as fully as the left four months after operation; but the patient had gained 46 lbs. in weight, and felt quite well.

The other case was not so typical, but is also instructive. A man, aged 23, had an acute illness, the symptoms of which pointed to either abscess of the lungs, or empyema communicating with a bronchus. But a friction sound persisted; exploratory puncture yielded no pus, and the muco-purulent sputa often held blood. Cavernous signs were absent at first. The illness was too acute for bronchiectasis. The operative treatment was the same as the foregoing, and, after six weeks, the patient was sent home cured. The left side (the side affected) expanded a little less than the right; the wound had quite healed, and there was no expectoration. In this case the first incision was made in the ninth intercostal space, and chloride of zinc paste was frequently applied for eighteen days before the ninth rib (now laid bare) was resected about an inch. The abscess was never opened in this case, for the insertion of a hollow needle twice yielded no pus, and the man improved steadily from the date of operation, so that further interference was deemed unnecessary. Dr. Quincke considers such an operation suitable also for bronchiectatic and tuberculous cavities. Such treatment in these cases has not met with much success hitherto, because the lung is usually in too diseased a condition around the cavity to effect its closure by elastic compression. The chloride of zinc applications, by setting up local inflammation, induce the same effect ultimately by cicatricial contraction, and therein lies the chief advantage of this mode of operating.

BEQUESTS.—The London Hospital has received £50 anonymously, through the offertory in the chapel.

THE WHITECHAPEL MURDER.

DR. GEORGE BAXTER PHILLIPS gave some remarkable evidence at the adjourned inquiry respecting the mutilations found on the body of Mary Anne Chapman, who was found in the back yard of 29, Hanbury Street, Whitechapel, on the morning of September 8th. He expressed the opinion that the length of the weapon, which must have been very sharp, was at least five or six inches, probably more. The mode in which the knife had been used, he said, seemed to indicate some anatomical knowledge. The reports published in the daily press are incomplete; it is therefore desirable to state that the parts removed were a central portion of the abdominal wall, including the navel; two-thirds of the bladder (posterior and upper portions); the upper third of the vagina and its connection with the uterus; and the whole of the uterus.

THE BIRTH OF MAN.

THE ethical question how far it is pusillanimous and even religious to profit by the annihilation of pain which anæsthesia affords under surgical operation and in parturition has recently undergone discussion anew in some of the French papers. The discussion is antiquated and out of date in this country, and many of the stories told would hardly bear repetition in this serious country. Sir James Simpson long ago disposed of the argument now revivified, which charges the woman who accepts anæsthesia in childbirth with evading the Biblical injunction of pain. An indignant Frenchwoman has revived an old argument with some flippancy, but not without a reckless wit. "You quote," she says, "some verselets of the Bible against us; but let me remind you that the only one of your sex who took his part in the act of giving birth profited by anæsthesia; for when Adam gave up a rib towards the creation of Eve, he was first thrown into the deep sleep of insensibility."

COMPENSATION FOR DRINKING BAD WINE.

THE "affaire Villeneuve," in which a large number of persons were made ill by drinking adulterated wines, furnished by the Marquis de Villeneuve, has had a curious termination. A meeting of about 200 of the sufferers was called at Hyères on September 8th, to whom M. de Villeneuve's representative offered four plantations and 30,000 francs indemnity, as well as the alcohol recovered by distillation from the adulterated wines which they had purchased. This was unanimously accepted. A committee was appointed to divide the funds; and all parties separated, apparently well satisfied. It was noticed that when M. Floquet recently visited Hyères he did not hesitate to drink of the "vin d'honneur" that was offered to him, and he found himself none the worse for it; but no doubt it was selected with due caution.

LEGISLATION AGAINST ACCIDENTAL HOMICIDE.

THE brief report which we published last week of the administration of carbolic acid to a patient, in lieu of a black draught, has attracted particular attention, owing to the fact that it has occurred in a public institution, and that it was the hand of a skilled nurse which perpetrated the fatal error. The nurse herself has suffered severely from drinking some of the poison, apparently to satisfy herself of the nature of her mistake, and the circumstances are therefore emphasised in a double sense. The record of these fatal blunders is now a very long and peculiarly painful one. In the homes of the poor, such blunders happen so frequently as hardly to obtain even a passing line of newspaper record. Now and then, the peculiar horrors or the special administrative facts which surround the tragedy give to it a transient impressiveness. We have repeatedly urged that it is the duty of the Pharmaceutical Society to take steps to ensure that poisonous liquids shall be dispensed only in fluted and dark glass bottles, or

under some similar precautions. Hospitals and public bodies generally are, we think, under like obligations. But it is probable that only by well thought out legislation on the subject can an adequate remedy be devised. Such an Act would need to be drawn with care; but it would save many lives and much unhappiness. Meantime, a plain duty as to bottles and wrappers is incumbent on individuals and public institutions, which this sad incident once more enforces.

INQUESTS ON DEATHS FROM PREVENTABLE DISEASES.

At the Paddington Vestry on Tuesday last a resolution was submitted from the Sanitary Committee, setting forth that several cases of death from preventable diseases having been reported to them under circumstances which suggest that the cause has been defective sanitary arrangements, and that the Committee is of opinion that in all such cases application should be made to the coroner to hold an inquest as to the cause of death, and recommending that a copy of the resolution be sent to all the vestries and district boards of the metropolis. It was further suggested that copies should be forwarded to the medical practitioners in their respective districts. Dr. Danford Thomas approved of holding an inquest when there was evidence of gross sanitary neglect.

ELECTION TO ORPHAN ASYLUMS.

In the largest number of orphan asylums and cognate institutions which receive children as boarders on charity, the method of selecting candidates is by election through the votes of the governors, the number of votes being in proportion to the donations and subscriptions given. This plan has the obvious advantage of raising the interest of the governors in the periodical elections, and aiding the notoriety and the finance of the institution. On the other hand, this plan has a tendency to lead to the election of children with many friends rather than that of the more destitute orphans. In a few cases the non-canvassing system is employed, the elections being determined by a committee appointed for the purpose. The latter plan appears the more rational and least expensive; still, it presents some grave difficulties. A great responsibility is thrown upon the selecting committee, and it becomes their duty not only to examine with great care the applications made to them, but also to obtain skilled advice as to brain soundness and conditions of health in each case; for, when the nominating governors incur no responsibility, trouble, or expense when presenting a candidate for election, the great responsibility rests upon the institution of seeing that they do not admit cases unfitted by reason of their low development, a responsibility which is much lessened where a large body of governors take a practical part in the work of selection.

"HOBNAIL LIVER" IN A CHILD AGED SEVEN.

On Tuesday afternoon, Mr. S. F. Langham held an inquest at Guy's Hospital on the body of a boy, aged 7, who died from rupture of the spleen caused by a kick from a horse on September 15th. The house-surgeon, Mr. F. S. Hawkins, deposed that the spleen was ruptured, and that the other viscera were healthy, excepting the liver, which was of the "hobnail" type. The child was accustomed to carry beer and spirits to men in stables. The "gin drinker's" or "hobnail" liver, the result of atrophic cirrhosis or chronic interstitial inflammation of the liver, is one of the best known conditions in the whole range of pathology. In the hypertrophic form of cirrhosis the liver is enlarged instead of contracted, and its surface is seldom "hobnailed." This variety is generally believed to have no relation to intemperance, but Dr. Frederick Roberts thinks otherwise, on clinical evidence. Several specimens of "hobnailed" liver in childhood have been exhibited before the Pathological Society of London. On one occasion it was suggested that the wine in which a tonic had been administered for many months to the patient had caused the disease. In a case shown by Dr. Frederick Taylor in 1880, the child was a boy, aged 5 years, and had stated that he "knew the taste of brandy and gin, and liked them, and often had them at night." In 1881, Dr. Norman Moore showed a cirrhotic liver from a girl, aged 10, but there was no history of drinking, and the disease appeared to be associated with general tuberculosis. The late Dr. Murchison recorded a case in a boy, aged 9, where there was a distinct history of alcoholic excess. Mr. Samuel Osborn also exhibited a "hobnailed" liver from a boy, aged 9, in 1881, where the evidence was clear that the child did not care for intoxicants. In 1884, Dr. Hale White exhibited before the same Society an interesting specimen of hypertrophic cirrhosis of the liver of a child, aged 9, where, contrary to the rule in this variety of cirrhosis, the surface of the affected organ was "hobnailed." There was no history of alcoholic abuse.

ANTHROPOLOGY AND THE STUDY OF EVOLUTION.

Many people have very vague ideas as to the practical value of anthropology, and look upon this science as mainly concerned with making measurements, arranging statistics, and collecting skulls. The true study of anthropology is concerned with all the facts that give any evidence as to the evolution of the human species, in all its different branches. Such studies need to be illustrated by museums of wide scope, for the special study of man involves the study of his work at different epochs, and the purposes of such investigations need practical exemplification of the education of man, as indicated by archæological research. Thus the figure paintings on Etruscan vases may indicate to us the modes of brain action as they produced expression of the emotions in old world days, as has been shown by Dr. Francis Warner in the *Journal of Mental Science*. Objective teaching is the method of the age, and this requires an extension of the scope of our museums. Natural history and botany are represented in museums as systematic sciences, but where are the collections explanatory of the laws of evolution? We honour the name of Charles Darwin, and his statue is in the Natural History Museum at South Kensington, where a gallery might appropriately be arranged, demonstrating the views he expounded, and the results of the numerous experiments that he performed. We link together the study of anthropology and the study of evolution; and wish to point out that the natural connection between the two branches of study is such that they might well be jointly represented in one museum arranged to illustrate the forces at work in Nature, producing a continuous process of evolution, and at the same time illustrating the process as it has occurred, and is still progressing in the human species. In such museum there might appropriately be placed an educational section, analogous to the Education Museum at Brussels, illustrative of the methods used to advance brain culture at the present time and in the past.

MILK IN RELICS OF AMPUTATED BREASTS.

Dr. Auvard has written for the August number of the *Archives de Tocologie* an instructive clinical note on this subject. He has attended two women, each of whom had undergone amputation of the breast at a large hospital in Paris. The first patient was 24 years old; the left breast had been removed four years previously. Pregnancy was normal, the right breast increased in size, and there was no swelling on the left side until forty-eight hours after delivery, when a crescentic elevation was observed, its points being directed towards the sternum; it indicated the normal outline of the left breast. The swelling was exceedingly painful for twenty-four hours, then it began to diminish, and the pains abated. On the tenth day the patient left the midwife

in good health, suckling with the right breast; the swelling on the opposite side had almost disappeared. The second patient was 40 years old and exceedingly fat. In September, 1887, some time after her third confinement, the right breast was removed for a large tumour, the nature of which is not recorded. She again became pregnant; forty-eight hours after labour a crescentic swelling, as in the first case, appeared on the right side; its concavity embraced the cicatrix. For two days pain and swelling was intense, then these symptoms gradually abated, disappearing completely at the end of the first week. The patient only suckled her child with the left breast for a few days. The phenomenon here recorded may awaken the old neoplastic tendencies or predispose to abscess; but these cases do not support that theory. The moral, as far as surgeons are concerned, is evident—a breast when removed must be removed thoroughly.

CONGENITAL WRY-NECK.

In the *Archives de Tocologie* for August, 1888, MM. Auvard and Lefebvre published a case where a child was born with fibrous atrophy of the left trapezius, and contraction of all the posterior ligaments of the cervical vertebræ. The child's mother had already borne six children. There was no syphilitic history. The labour pains were so active, that although it appears that the forehead presented, the child was suddenly delivered. It was a female, dead, and eighteen inches and a half in length. The head was strongly inclined towards the left shoulder, the face looking upwards and a little to the right. A tense band passed from the left mastoid process to the spine of the left scapula. This band was not adherent to the integuments. On dissection, the muscular fibres of the left trapezius were found to be ruddy, and somewhat hypertrophied. The tendinous tissues, both at the origin and insertion of the muscle, were unusually tough and resistant. After dividing the occipital attachment, the head could be moved more freely; the left sterno-mastoid and all the muscles on the right side of the neck appeared normal. But the natural movements of the head and cervical vertebræ could not be restored until all the posterior ligamentous structures, as deep as the level of the lateral masses of the atlas, had been divided. The vertebral articulations were all sound. Hence, this was a case of truly congenital wry-neck, caused by disease of the trapezius and contraction of the supraspinous and interspinous ligaments of the cervical vertebræ. Mr. Thomas Smith and Mr. Edmund Owen have seen cases of congenital wry-neck due, apparently, to injury during birth; at least, histories of difficult labours were at hand. Yet children are not of necessity damaged in cross births and abnormal head-presentations, and, in MM. Auvard and Lefebvre's case, the pathological condition of the trapezius and vertebral ligaments could not have been suddenly produced at birth. In Dr. Frederick Taylor's case of induration of the sterno-mastoid muscle, in the twenty-sixth volume of the *Pathological Society's Transactions*, there was a distinct history of syphilis, and the muscular fibres of the sterno-mastoid were invaded by a free growth of fibrous tissue. The lump in the muscle was not noticed till the child was fourteen days old, and it lived six weeks. The French case was very dissimilar in many points. Of particular interest was the spontaneous delivery of the child, although the forehead presented, and the head was firmly fixed on the left shoulder.

PREGNANCY IN A DOUBLE MONSTER.

Dr. Lewis Whaley, of Blountsville, Alabama, relates a strange case of pregnancy, in the September number of the *Atlanta Medical and Surgical Journal*. In the spring of 1887 he was called in to attend Mrs. E., aged 19. She had been married about one year. Amenorrhœa and vomiting had persisted for two months. Dr. Whaley found, on examination, "four inferior extremities, two sets of genital organs complete, both external and internal; two pubes, two mons (*sic*) veneris, two urethras, two umbilices (*sic*), two distinct sets of bowels, and two ani. Both genitals and bowels entirely independent of each other," sometimes "one bowel would be loose, have diarrhœa, and the other be constipated." A woodcut of the patient is given; she appears as a well-nourished girl in full dress, the skirts raised to the knees, so as to expose two small, ill-developed legs hanging from between two which are more developed; the right outer leg, however, seems ill-nourished. As Dr. Whaley described a right and left set of parts, it is evident that the monster was simply double below the waist, and not an example of thoracopagous parasitic fœtus, like Lallo, whose portrait appeared in the Journal, vol. i, 1888, page 436. Each outer, well-developed leg is in reality the fellow of one of the smaller legs, which lie between and point forwards, but in the sketch it is difficult to make out whether the smaller be right or left. Dr. Whaley observed that the left abdomen was becoming enlarged; after further examination he told the patient that she was pregnant on the left side. She replied, "I think you are mistaken." He asked her why she thought so, and she answered, "If it had been in my right side I would come nearer believing that you are correct." As she was very ill, and as the outlet to the left pelvis was but two inches antero-posteriorly, and one and a half laterally, labour was induced by ergot and the introduction of the sound into the left uterus, which had to be passed twice. Next day, she was delivered of a perfectly formed fœtus, "of ordinary size for three and a half months' term." She made a good recovery. It is evident that a monster with fissure of the axis in the dorsi-lumbar region is more likely to grow to maturity, and to perform physiological functions, even gestation, normally, than the most perfect case of parasitic fœtus. The uterus existed in the right pelvis in this case, and the patient had menstruated regularly from both sides, simultaneously, till her pregnancy. From the patient's observations, it seemed that the right genitals were the most frequently used functionally. Unfortunately, the original notes of the case were lost, and no indication is given as to how far the pelves were fixed or separate. According to teratologists, the case would be classified under the head "posterior dichotomy," subvariety schizorachis.

HOSPITAL NURSES IN PARIS.

A visitor to Paris writes to us: The question of the laicisation of the nurses of the French hospitals continues to exercise the minds of the surgeons, and especially of the politicians, of France. M. Deprés, who is, however, usually somewhat reactionary in his scientific views, has for some time constituted himself the defender of the old system of nursing by "sœurs de charité," and has commenced a campaign against the trained lay nurses who, except in the Hôtel Dieu, the Hôpital de St. Louis, and certain other places where the founders have by will otherwise decreed, are now everywhere in Paris superseding the nuns. M. Deprés alleges that in his hospital service the mortality before the sisters left was only 1 per cent., but that since it has risen to 5 per cent. These statistics, however, require a good deal of revision. The nurses, he says, now are the dregs of the bars or of domestic service. The mortality of the French hospitals in 1845 he puts at 2 in 27, and now at 2 in 22. He admits that in the lying-in wards the mortality was 1 in 35, and that it is now only 1 in 104; but this eccentric gentleman does not admit that this is due to greater cleanliness and antiseptic precautions, but ascribes it to the alleged fact that nowadays a much more respectable and well-nourished class of women are not ashamed to abuse the hospitality of the hospitals, and that hence their mortality is necessarily less. He further charges the lay nurses with negligence and venality, and he promises to adduce instances. Obviously, if any of the newly-

trained nurses are venal, careless, or incompetent, this indicates insufficient training and imperfect selection and supervision. The experience of England, and of so many other countries, proves that these are not inevitable defects. The fact is that the nuns who had charge of the Paris hospital wards were never nurses in the sense in which that title is now everywhere understood and in the sense in which it has so long been interpreted in England. They were ward managers, housekeepers, kind and often even affectionate superintendents, especially to patients who were devoted to their religious duties. But of the actual duties of nursing and dressing they had rarely even an elementary notion; they were not instructed in them, nor did they pay the slightest efficient attention to the way in which they were carried out by the ward attendants. These latter were very frequently equally unskilled, and of a very low order of morality and intelligence. They were often excessively venal, and in the highest degree negligent. There are few students of the French hospitals at all sympathetic or kind to the patients who have not found it desirable to give to some poor creature destitute of the means to bribe the attendants a few *sous* for the purpose from time to time. The nursing of the Paris hospitals in past days was in fact a byword among nations. It is too much to hope that this will be remedied at a stroke. Had the French sisters of charity moved with the times, and established training schools, had they taken their part in the Nightingale movement in England or the Deaconess system of Germany, they might now be in a better position before the world. As it is they have still the opportunity to take the necessary steps to rival lay nurses in efficiency in the hospitals and asylums which remain to them in Paris and elsewhere in France. The hospital mortality of Paris was till recently a reproach to all France; it would still be found far in excess of what it ought to be. This is in no small measure due to want of scientific cleanliness in nurses (and doctors). To establish a healthy rivalry in efficient, cleanly, and devoted nursing between the lay and the religious nursing bodies would be a great boon to the hospital patients of Paris, and would redeem the city from the discredit into which its hospitals fell some years since in the eyes of foreign visitors, and from which they have not yet wholly recovered. Meantime, M. Bourneville and his colleagues on the Municipal Council are warned that in M. Deprés they have a vigilant and unsparing critic, and no doubt the training institutions and the hospital nursing service over which they preside will benefit by the caution.

FLOATING KIDNEY IN WOMEN.

Dr. Lindner has brought out a special work this year (published by Heuser of Neuweid) on the anatomy, etiology, and diagnosis of floating kidney in women. His views are startling. He boldly declares that floating kidney is the most frequent anomaly in the female subject. According to his experience, out of every five or six women one has a floating kidney. He is prepared to face the most violent opposition. Dr. Lindner, in examining the patient, always stands to her right side. He places the right hand against the anterior abdominal parietes, and presses the left against the back of the lumbar region, so as to press the kidney forwards. The patient is then placed on her side, with her knees drawn up. By sharply shaking her body the kidney, if movable, will fall forwards. In some cases Dr. Lindner did not detect the abnormality till after repeated examinations. He finds that floating kidney affects the peculiar nervous organisation of women more or less unfavourably; but he is opposed to operative measures, excepting when the patient's life is endangered, which must at least occur very seldom. He has collected records of thirty-six nephrectomies and twenty-nine nephrorrhaphies. Dr. Lindner is a great believer in the treatment of floating kidney by careful bandaging, and describes his method at length, adding twenty-four cases where bandaging proved successful. It is probable that Dr. Niehaus's truss for floating kidney or some kindred contrivance will prove more satisfactory in the long run. Dr. Lindner's opinions may be extreme or exaggerated, yet in the history of many another disease or malformation, as recorded in medical science, we find that it was first held to be a rarity, till some careful clinical observer discovered that it was relatively more or less frequent.

SCOTLAND.

THE ESTIMATED POPULATION OF GLASGOW.

In his last report to the Health Committee, Dr. J. B. Russell says that he has just received from the City Assessor the return of inhabited houses within the municipality, as at June 1st last, from which he annually makes his estimate of the population. The number of inhabited houses was 114,863, which multiplied by 4.745 (the average number of inhabitants per house in 1881) gives 545,025 persons. Adding to this 6,410, the number of inmates in institutions, as ascertained by special census, Dr. Russell finds that the total population of Glasgow on June 1st, 1888, was 551,435. This, as compared with last year, shows an increase in houses of 1,515, and in population of 7,440 souls. This estimate of the total population exceeds that of the Registrar-General by 25,347, and would make a difference of fully 1 per 1,000 in the death-rate.

IRELAND.

TYPHUS FEVER AT CORK DISTRICT LUNATIC ASYLUM.

Three cases of typhus fever recently occurred in this asylum, one of which was of a bad type and proved fatal. Dr. Nugent, in a late report, states that, of 991 inmates under treatment, 226 were admitted from the West Riding, out of 169,000 resident there. This affords a practical subject for consideration in reference to the future provision for the insane poor of the district at large, and will be taken into due account by the Board of Control. Dr. Nugent, it may be added, favours the erection of another lunatic asylum for the West Riding, which the Medical Superintendent of the Cork Asylum considers unworkable and unnecessary.

SELF-HELP FOR HOSPITALS.

Reverting to the subject of partial contributions from patients, as applied to hospitals and free dispensaries, we referred recently to the hesitation on the part of hospital authorities generally to depart from old-established usage in their administration of medical relief. This obstacle weighs heavily on all attempts at reform in hospital economy, and is a bar to the adoption of measures which in other civilised countries have long been found a boon to a class of the community who in consequence of this isolation have small chance of obtaining necessary home comforts when disabled by accident or disease.

It is argued that the constitution of our hospitals is entirely opposed to any system which partakes of reciprocity between the charity and the patient, that the privileges of the hospital are free to all, and that money payments might act injuriously on the medical schools, by arresting the flow of applicants for relief. These objections scarcely merit refutation, but there is another with which we have more sympathy, and which applies to medical men, the bulk of whose practice lies among the poor, and who it is thought, and not without reason, are deprived of a considerable portion of their earnings by competition with any system of gratuitous medical relief. We know from experience that provident dispensaries never flourish in the neighbourhood of hospitals, nor

for that matter has the sick assurance scheme introduced by the late Sir C. Trevelyan and others in various parts of the metropolis met with the success which it justly deserved. It would appear to be almost foreign to the instincts of the British workman to pay prospectively for medical requirements, which feeling becomes strongly accentuated by the knowledge that the hospital or free dispensary in his locality will supply himself and family with all they desire.

Backed by the moral and pecuniary support of many excellent men, the provident dispensary scheme has been on its trial for years without influencing in any appreciable manner the influx to hospitals of people in a position to contribute something, however small, towards the cost of their treatment. Notwithstanding the efforts made to develop it, it is officially stated that in London the whole organisation does not consist of more than 25,000 members, and of forty medical men.

If it be true that the great obstacle to the success of the provident dispensary scheme is due to the gratuitous relief afforded by the hospitals, surely some steps should be taken by hospital authorities to diminish the evil, for it is out of their power to prevent it entirely. What measures will prove most practicable and least offensive in their operation? We admit the subject is very difficult to deal with, and naturally divides itself into the two great classes of in- and out-patients; with regard to each very different proceedings will be found necessary. Nine-tenths of the patients admitted to the wards of hospitals are unable to contribute towards their maintenance, and it would be hopeless to expect anything from them in the shape of money contributions, while the remainder, if pressure were put on them, are able to pay from five shillings to a guinea a week, either of themselves or through their friends or employers.

Mr. Burdett-Coutts, in his remarks on the pay system in hospitals, speaks of its existence in a limited and scattered form in this country; but there is abundant evidence of its having already taken root, and of yielding substantial benefits where it has been introduced. The statistics published for the use of the Council of the Hospital Sunday Fund show that during the past year a sum of not less than £42,000 was contributed by patients, of which £30,617 went to swell the income of the hospitals, while the remainder had been paid by members of the public dispensaries. It may be assumed that the bulk of the money paid by hospital patients was charged for medical maintenance, although no doubt a considerable sum must have been obtained from out-patients, and there is every reason to believe that, if the system were more generally adopted, especially by the large hospitals, the annual contributions could be easily doubled.

What privileges should the pay system carry with it? is a question often asked and not very easy to answer. It would be hardly fair in the conduct of any curative establishment to permit it to be said that one patient was treated better than another, and, considering the excellent arrangements of our general and of many special hospitals, there is barely room for distinctions. Differences in payment in all hospitals are most likely to resolve themselves into questions of publicity or privacy, or, in other words, into treatment in the general wards among free patients, in separate wards reserved for paying patients, or in private rooms or compartments.

A graduated scale of charges, unless in the two main classes referred to, although attempted in numerous special hospitals, is inconvenient from its complexity. Consequently, in large establishments, as a rule, where the scheme is in operation, the payments are strictly limited in amount in each section. The London Small-pox and Fever Hospitals simplify matters by charging £5 5s. and £3 3s. respectively, which sums cover residential expenses, however long or short the period. Guy's and St. Thomas's reserve each a small number of beds in the general wards for persons who offer to pay £1 1s. a week towards their maintenance; and if they happen to have their residence protracted, and it is found that their means are limited, it is frequently found necessary to commute the charges. This arrangement has apparently worked well at Guy's, where there are seldom less than 24 beds out of the 500 at present in use occupied by pay-patients, but it does not appear to have met with similar success at St. Thomas's. The provision for private patients, who are charged at an average rate of £3 3s. a week at both institutions, must necessarily be attended with greater cost than that provided in ordinary wards, but since St. Thomas's Home has been established the published returns show a profit to the institution amounting to an average of £1,000 a year, and at Guy's the experiment has been conducted at no loss to the hospital. In the one case, however, the accommodation consists of 40 beds placed under favourable conditions in a separate block of the hospitals, whereas, in the latter, it is limited to 12 cubicles situated in a rather inaccessible part of the building.

The arrangements at the special hospitals for part-pay patients have been in operation for many years, in some, indeed, from their commencement, and the results, although a varying quantity in separate institutions, afford gratifying evidence of the success of the principle of self-help. At the London Fever Hospital during the past year a sum of £3,873 was contributed for the admission and maintenance of patients, while the hospitals for diseases of the nervous system, of the throat, ear, hip, and many others of a scientific as well as of a proprietary character, made up a large portion of their incomes from the patients or their friends. Apart from the indoor treatment, many special hospitals exact contributions in aid in the shape of registration fees from their out-patients. These vary very much in amount in different establishments, ranging from a shilling to half-a-crown, and operate effectively in limiting the number of applicants. In others again smaller sums are received, such as a penny at each visit, which arrangement could hardly be charged with the attempt at competition with the outside practitioner. The only large hospital which has had the courage to adopt semi-compulsory payments from its out-patients is Guy's, where the governors have given their sanction to a charge of threepence being made on such as are able to afford it, for their week's supply of medicine. This arrangement has certainly been successful in keeping the number of applicants within workable limits, besides being peculiarly advantageous to the hospital. The contributions average from £14 to £15 a week, but the amount realised has scarcely an equivalent in the numbers seen, since more than 10 per cent. have free prescriptions, while minor casualties, which form a large contingent of the out-patient practice of all big hospitals, also go free. It may be assumed that many who are dissatisfied with the arrangement go elsewhere, where there is no prohibitory tariff, and that those who remain rather value the privilege than otherwise. With the discussion induced by Mr. Burdett-Coutts's essay, an impulse will be given to the agencies at work to infuse a helpful and economical spirit among people who frequent hospitals, as well as among their main supporters and managers. The latter cannot help discerning the moral advantages of the provident system if applied to, or forming part of the organisation of, new hospitals, but they are indisposed to engraft it on the old; if the principle, however, is correct in the one case, it is surely equally justifiable in the other. The force of public opinion is certainly growing rapidly in favour of some modification of the motives which have hitherto guided the administration of gratuitous medical relief, and it requires little foresight to predict that the self-help element must become an important factor in the internal economy of every medical charity of the future.

THE INTERNATIONAL OTOLOGICAL CONGRESS.

THE Fourth Otological Congress, which met last week at Brussels, was important, not only on account of the large attendance of members, but also on account of the amount of scientific material submitted to it. In both these respects it exceeded any of the previous meetings. The members present numbered seventy-four, and included such well-known names as those of Professor Politzer (Vienna), Professors Knapp and Roosa (New York), Dr. Hartmann (Berlin), Professor Guye (Amsterdam), Dr. Sapolini (Milan), Dr. Lawrence Turnbull (Philadelphia), Drs. Gellé and Menière (Paris), Dr. Morpurgo (Trieste), Professor Scheffees (Liège), etc. The British practitioners present were Professor Urban Pritchard (London), Dr. Donald Stewart (Nottingham), Dr. Thomas Barr (Glasgow), Mr. Stone (Liverpool), Mr. Cresswell Baber (Brighton), and Dr. Kenny (Melbourne). Drs. Sapolini and Menière were present as delegates from the Italian and French Governments respectively. After the address of the President of the Committee of Organisation on Monday morning, in which allusion was feelingly made to the death of Dr. Burckhardt-Méran, President of the Third Otological Congress, held in Basle, Dr. Charles Delstanche (Brussels) was elected President of the Congress, Dr. Felix Delstanche (his father) and Dr. Sapolini being appointed Honorary Presidents. The meeting extended over four days, and on the first day three hours, and on the subsequent days, six hours were devoted to the scientific business of the meeting, including the reading of papers, the exhibition of anatomical and pathological preparations, and clinical demonstrations.

It is impossible in a few lines to give any idea of the work done. Elaborate investigations on the development of the auricle were described by Professor Gradango (Padua), and extensive researches on the pathology of the middle ear by Professor Politzer. Dr. Röhrer (Zurich) read a paper on the Value of Rume's Experiment in Diseases of the Labyrinth. Dr. Gellé detailed his observations on binauricular reflexes, giving a demonstration of a reflex oto-spinal centre. The President read an interesting paper on the Treatment of Sclerosis of the Middle Ear by means of Rarefaction, and gave a demonstration of his method at the Hôpiteaux St. Jean. Dr. Barr described some of Dr. Macewen's results in regard to the cure of cerebral abscess from ear disease by trephining, on which the meeting congratulated the English school of surgery.

Before the Congress closed it was decided that the next meeting should be held at Florence in 1892, and the following three subjects were proposed for special discussion on that occasion, namely: 1, the pathological anatomy of the internal ear; 2, the diagnosis and therapeutics of cerebral abscess in relation to ear disease; 3, the constitutional treatment of aural disease.

A reception at the Hôtel de Ville, a banquet in the *salons* of the Grande Harmonie, and an excursion to M. de Mayer's paper manufactory at Willebroeck were among the entertainments liberally provided by the Belgian hosts of the physicians of the Congress.

The courtesy and hospitality of the President and his Belgian *confrères* were unbounded; it was altogether a meeting which will be long remembered by those who were fortunate enough to take part in it.

INTERCOLONIAL MEDICAL CONGRESS, MELBOURNE, 1889.

THE arrangements for the Intercolonial Medical Congress are well in hand. The Organisation Committee have completed the division of Sections, and appointed officers thereto, as well as local secretaries for the various colonies. The provisional subcommittee has been converted into an Executive Committee, with power to add to its number, and the Executive so constituted has been authorised to make all other needful arrangements for the session, the Organisation Committee reporting to it from time to time. In addition to the Organisation Subcommittee, Reception and Literary Committees have been appointed. We are now enabled to give a complete list of the President and Vice-Presidents, etc., of the Congress.

President: Thomas Naghten Fitzgerald, F.R.C.S.I. *Vice-Presidents:* Charles Morton Anderson, M.R.C.S.Eng., President of the Canterbury Medical Association; Thomas Chambers, F.R.C.P., F.R.C.S.Edin., etc., President of the New South Wales Branch of the British Medical Association; William Edward Collins, M.B. Lond., M.R.C.S.Eng., President of the Wellington Medical Association; Daniel Colquhoun, M.D.Lond., M.R.C.P.Lond., M.R.C.S. Eng., President of the Otago Medical Association; The Hon. John Mildred Creed, M.R.C.S.Eng., L.R.C.P.Edin., M.P.; Frederick William Edmund Dawson, M.R.C.S.Eng., L.R.C.P.Edin., President of the New Zealand Medical Association and of the Auckland Medical Association; Henry Croker Garde, F.R.C.S.Edin., L.Mid. K.Q.C.P.I., etc., President of the Maryborough (Qu.) Medical Society; William Panton Grigor, L.R.C.S.Edin., President of the Southland Medical Association; Philip Sydney Jones, M.D.Lond., F.R.C.S.Eng.; Samuel Thomas Knaggs, M.D., Ch.M.Aber., F.R.C.S.I., etc., President of the Medical Section of the Royal Society of New South Wales; Joseph Henry Little, M.B.and C.M.Edin., President of the Medical Society of Queensland; Cosby William Morgan, M.D.Brux., M.R.C.S.Eng., etc., President of the Newcastle Medical Association; Henry Hayton Radcliffe, M.R.C.S.Eng., President of the Ballarat District Medical Society; Thomas Rowan, M.D.Sydney, F.R.C.S.Edin., etc., President of the Victorian Branch of the British Medical Association; James Patrick Ryan, M.K.Q.C.P.I., L.R.C.S.I., President of the Medical Society of Victoria; Thomas Christie Smart, F.R.C.S.Ed., President of the Hobart Branch of the British Medical Association; Edward Charles Stirling, M.A., M.D.Cantab., F.R.C.S.Eng., President of the South Australian Branch of the British Medical Association; Joseph Cooke Verco, M.D.Lond., F.R.C.S.Eng. *Treasurer:* George Graham, M.D.Melb., M.R.C.S. Eng., Church Street, Richmond. *Secretary:* Professor H. B. Allen, M.D. and B.S.Melb., Melbourne University. *Associate Secretaries:* J. W. Barrett, M.D. and M.S.Melb., F.R.C.S.Eng.; G. A. Syme, M.B. and M.S.Melb., F.R.C.S.Eng.

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Section of Surgery.—President: Edward Charles Stirling, M.A., M.D.Cantab., F.R.C.S.Eng. (Adelaide). *Vice-Presidents:* Charles Henry Haines, M.A., M.D., Queen's Univ. Irel., F.R.C.S.I. (Auckland); Henry Widenham Maunsell, M.B.Dub., L.K.Q.C.P.I.and M.R.C.S.Eng. (Dunedin); Richard Rendle, F.R.C.S.Eng. (Brisbane). *Secretary:* Frederick Dougan Bird, M.B., M.S.Melb., M.R.C.S.Eng. (Collins Street East, Melbourne).

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The following are the officers of Subsections:—

Subsection for Diseases of the Skin.—Secretary: James Patrick Ryan, M.K.Q.C.P.I., L.R.C.S.I. (Collins Street East, Melbourne).

Subsection for Diseases of Children.—Secretary: William Snowball, M.B., B.S.Melb., L.R.C.S.Edin. (Lygon Street, Carlton).

If practicable, special general meetings of the Congress will be held for the discussion of subjects such as "The Climates of Australasia," "Colonial Fevers," "Hydatid Disease."

Members coming from Europe, America, or India will receive free passes over all Victorian railways; and all members of the Congress will be entitled to return tickets at single fares, available for two months, over all the railways in Australia. Various shipping companies have consented to carry members of the Congress at special rates for the sea passage.

A payment of £1 1s. will constitute membership of the Congress, and will entitle each member to a copy of the transactions published. Subscriptions should be forwarded to the Treasurer, Dr. Graham, Church Street, Richmond; all other communications should be addressed to the Secretary, Professor Allen, University of Melbourne, or to the Secretaries of Sections.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held at the Offices of the Association, No. 429, Strand (corner of Agar Street), London, on Wednesday, the 17th day of October next, at 2 o'clock in the afternoon. FRANCIS FOWKE, *General Secretary.*

September 20th, 1888.

ELECTION OF MEMBERS.

CANDIDATES seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH.—The autumn meeting will be held at the Infirmary, Whitehaven, on Friday, October 20th, at 1 P.M. Notices of papers or communications of any kind should be sent to the Honorary Secretary. Dinner at the Grand Hotel after the meeting.—H. A. LEDIARD, 41, Lowther Street, Carlisle.

LANCASHIRE AND CHESHIRE BRANCH.—An intermediate meeting of the Branch will be held at Warrington, towards the end of October. Gentlemen wishing to read papers, make communications, or show cases, are requested to write at once to Dr. GLASCOTT, 23, St. John Street, Manchester, Honorary Secretary.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—The next meeting of the above District will be held at the Station Hotel, Hayward's Heath, on Thursday, September 27th, Dr. Braid, of Burgess Hill, in the chair. Meeting at 3.45 P.M. Dinner at 5.45, charge 6s., exclusive of wine. Dr. Talfourd Jones will give a summary of paper on Mercury as a Diuretic; and discussion will be invited. Dr. Stretch Dowse: Some Demonstrations of Massage Processes. Dr. Black: Diagnosis of Biliary Colic. Dr. Mackey: Cases of Cerebral Aneurysm, Abscess, and Tumour, with remarks.—T. JENNER VERRALL, 97, Montpellier Road, Brighton, Honorary Secretary.

SOUTH MIDLAND BRANCH.—The autumnal meeting of this Branch will be held at Oundle on Tuesday, October 2nd. Gentlemen who are desirous of bringing forward communications, etc., are requested to inform the Secretary of their intention as soon as possible. Mr. Calcott will introduce a discussion on the Treatment of Pleuritic Effusions. Mr. Hemming will read some notes from the late meeting at Glasgow. Mr. Calcott invites the members to luncheon from 1.30 to 2.30, and gentlemen accepting the invitation will kindly send their replies to the Secretary not later than Thursday, September 27th. The meeting will be held in the School Buildings, at 3 o'clock. Through the kind permission of the head master the members will have the opportunity of visiting the new school buildings, sanatorium, etc.—CHARLES J. EVANS, Honorary Secretary.

SOUTH-EASTERN BRANCH: EAST KENT DISTRICT.

THE last meeting of the above District was held at Hythe, on Thursday, September 13th, Dr. LOVEGROVE occupying the chair.

Chairman for Next Meeting.—Mr. E. J. Schön, of Littlebourne, was elected Chairman for the next meeting, to be held at Canterbury in November.

Typhlitis.—Dr. BOSWELL, of Faversham, read an interesting paper on Some Cases of Typhlitis, which gave rise to a good discussion; among those who spoke were Dr. T. EASTES, Dr. TRAVERS (London), Dr. STRETCH DOWSE (London), Mr. G. EASTES (London), Dr. TYSON, Mr. WHITEHEAD REID, and Dr. FITZGERALD.

Tracheotomy.—Dr. F. EASTES read a paper on Four Successful Cases of Tracheotomy. Dr. F. Eastes particularly emphasised the following three points to be carried out in the early after-treatment of tracheotomy: 1, the short period of time that should exist between the operation and the first withdrawal of the outer tube; 2, the daily withdrawal of the outer tube for as many minutes as can be borne by the patient; 3, the complete withdrawal of the outer tube as soon as possible.

Massage.—Dr. STRETCH DOWSE gave a practical demonstration of massage, bearing upon the Weir-Mitchell treatment of disease.

Dinner.—The members afterwards dined together at the Swan Hotel, under the presidency of Dr. Lovegrove.

EAST ANGLIAN BRANCH: ESSEX DISTRICT.

AN ordinary meeting was held at the Town Hall, Clacton-on-Sea, on Saturday, September 15th; Dr. EDGAR BARNES, President of the Branch, in the chair. There were also present fourteen members and six visitors.

Next Meeting.—It was decided that the next meeting be held at Maldon in March, 1889.

Medical Sickness, Annuity, and Life Assurance Society.—The PRESIDENT briefly addressed the meeting on the advantages offered by the Society, and specially directed attention to the economical conditions of management.

Communications.—Dr. STRETCH DOWSE (London) gave a practical demonstration of the Massage Processes. The most important manipulations were fully explained and shown, and the results in different cases described, "respiration of tissue" being one of the most important; also increase of nutrition and warmth. Massage was recommended in cases of incipient lateral curvature of the spine.

Bone-setters.—Dr. G. B. MEAD (Newmarket) read a paper, narrating a case in his own experience, where he and his partner were called in to attend a severe case of accident, with fracture and dislocation. The patient was in a very bad state of health, and narrowly escaped death from blood-poisoning. The apparatus used was of the very latest kind and from an eminent maker. During the night following the accident, the injured limb swelled enormously; instead of, as directed, communicating with the surgeon, a relative cut the bandages, and in the morning the foot was found displaced from the plate intended to support it. The patient and friends were strongly advised to allow an eminent consulting surgeon living near to be called in, but refused, and secretly telegraphed to a notorious bone-setter, with whom the patient was connected, to come and see him. The bone-setter did not turn up, but saw the case some months after, when he, of course, condemned the treatment, and advised the man to bring an action, which he did, claiming several thousand pounds damages. Dr. Mead at once instructed his solicitors to defend the case to the uttermost, and sought the advice of a number of eminent London and provincial surgeons, who soon placed him in a position to prove that the treatment adopted was correct, and the very slight lameness left was rather owing to the treatment of the bone-setter than to any neglect or want of skill on his part. After every legal means had been exhausted of annoying the defendants, finding the unsupported evidence of a bone-setter who dare not enter the witness-box would be insufficient, the action was withdrawn, the plaintiff paying taxed costs, and submitting to an order of the Court that the defendants should not be further troubled in the matter. Dr. Mead felt that there were members of the profession to whom such an attack might be a most serious matter, and recommended the members to consider the propriety of organised action to enable such to avoid serious injury, if not absolute ruin, and gave valuable information as to medical defence associations, recommending the localisation of one in East Anglia.—The PRESIDENT narrated a similar case which had come under his observation; after which Dr. S. HOLDEN (Sudbury) moved, and D. WHEELER, Esq. (Chelmsford), seconded, the following resolution: "That, in the opinion of this meeting, further consideration of the formation of a Medical Defence Union for these districts would be advisable." This was carried unanimously.

Circumscribed Scleroderma.—Dr. C. Y. BISS (London) exhibited for Mr. W. MAINE (Clacton), a case of circumscribed scleroderma with congenital pulmonary stenosis. Dr. Biss read the notes, and commented on the case.—In the discussion which followed, Dr. STRETCH DOWSE and E. W. HOLLAND, Esq. (Chelmsford) took part.—Dr. BISS replied.

At the conclusion of the meeting, Mr. Andrew Clark most hospitably entertained the members and their friends at his residence, Holland Lodge, a *recherché* cold collation being provided.

SPECIAL CORRESPONDENCE.

EGYPT.

[FROM OUR OWN CORRESPONDENT.]

The Nile in Relation to Mortality.—Advantage of Storing Water in "Sahariqs" or Cisterns.—"Barrages," and their Effect on the Quality of the Water-Supply.—Case of Sarcoma of Tibia, with Removal of Bone.

THAT the Nile is the life of Egypt is universally admitted, but the influence of the mighty stream in determining death has not been sufficiently appreciated. According to Parkes, water containing 0.0087 grains per gallon of albuminoid ammonia is impure, and only drunk with danger to health, if not life. Nile water never contains less than that amount, even when the current is strong; and when the river is nearly stagnant, during the summer months, the quantity is even greater, an analysis in July having shown no less than 0.0142 grains per gallon. It is true that Heisch's test for sewage gave negative results, still water containing such an enormous quantity of albuminoid ammonia, even though derived solely from vegetable sources, cannot be wholesome, and would in England be pronounced dangerous and undrinkable. During the eight weeks ending July 19th the deaths among natives in Cairo amounted to 4,004, being at the rate of 73 per 1,000 per annum. Of these, 3,056 were among little children under 5 years of age, representing 76 per cent. of the total mortality. These should be appalling figures, but, as a matter of fact, very little attention has been paid to the matter. The adult death-rate has not sensibly varied, hence the general apathy.

The only towns in Lower Egypt where infant mortality has not been excessive during the past two months are Damietta and Rosetta. Everywhere else the death-rate has exceeded the birth-rate, but in these the reverse has happily been the case. Now, it is either a strange coincidence or a valuable indication of the source of a preventable disease that it is in these towns only that, on account of its being too salt, the Nile water is not drunk at this season of the year. The inhabitants, owing to their proximity to the sea, are compelled to store water in cisterns during high Nile for use when the river falls so low that it can no longer repel the Mediterranean. These cisterns are known in the country as *saharigs*, and formerly their use was universal; of late years, however, they have fallen into disuse, especially where water companies exist, and there seems some reason to fear that the public health has thereby suffered.

A possible source of contamination of water-supply in Egypt, which probably never entered the minds of the Irrigation Department, is undoubtedly to be found in the *barrages* or weirs constructed in the Delta for the purpose of raising the level of the stream. In this way stagnation is encouraged, and the Nile for a considerable portion of the year is converted into what is neither more nor less than a gigantic cesspool. The fact is, these *barrages* are constructed at the wrong end of the river. Mr. Cope-Whitehouse and many others have had the sagacity to see this, and have proposed perfectly feasible schemes to remedy the defect, but for some abstruse reason there has been no encouragement so far, though much may be hoped for under the present *régime*, and while millions have been swallowed up in the Lower Nile, not a penny has been devoted to the Upper.

Ahmed, Egyptian, aged 8, was admitted to Kasr-el-Aini Hospital suffering from a tumour in the right leg. Five months before admission a tumour was noticed "in the bone" of the right leg; this tumour increased rapidly till it acquired its present dimensions. On examination, a tumour 5 inches in anterior posterior diameter, 4½ in lateral, and 4 from above downwards, occupying the middle third of the right tibia, skin over it ulcerated, enlarged, no glands in groin; general condition good. Diagnosis osteo-sarcoma; amputation proposed to parents, who refused, begging that some other method might be tried. After carefully pointing out the danger of recurrence, it was agreed to endeavour to take out the tibia, leaving the fibula, which, although its outline was much encroached on by the tumour, was probably unaffected. After application of Esmarch the tibia was exposed by an excision in its whole length, and the tumour isolated by a second incision passing round it. The skin and muscles having been reflected on either side, the anterior and posterior tibial arteries were laid bare in their whole course and carefully noted, the periosteum of the healthy portions of the bone was reflected with the muscles, and the shaft of the tibia separated from the upper extremity at the epiphysis. In attempting to separate the lower epiphysis, the ankle-joint was opened, and it was decided therefore to remove the lower extremity of the bone as well as the shaft. The fibula was found intact, but a large mass of muscle had to be removed with the tumour. After removal of the tibia the skin was not sufficient to entirely close the wound, which had to be left open at its upper extremity. It was dressed with iodoform and eucalyptus, and fixed on a McIntyre's splint. The boy is still (eighteen days after operation) under treatment, the lower part of the wound having healed by first intention, the rest is granulating. It is a recognised fact that for the treatment of osteo-sarcoma by amputation it is necessary to remove entirely the affected bone. The operation described above was undertaken on the supposition that the presence of the epiphyseal line of cartilage might serve to limit the infective process, and that the removal of the bone from epiphysis to epiphysis might obviate the danger of recurrence to the same extent as the removal of the whole bone in the adult. It yet remains to be seen whether the patient will have a useful leg; he has the knee-joint intact, he has the outer half of the ankle-joint and the fibula connecting the two. It is possible that the fibula will increase in volume in order to meet the new claims made upon it, and it will probably be assisted in this by the tibial periosteum left behind.

SHEFFIELD.

[FROM OUR OWN CORRESPONDENT.]

New Medical School Buildings.—The General Infirmary.—Corporal Punishment in Elementary Schools.—Scarlet Fever and Rural Schools.—News.

THE new Medical School is to be opened on September 29th. A *soirée* will be held, and Sir Andrew Clark has kindly promised to give an introductory address. The school has been built by the generosity of the people of Sheffield, who have nobly aided the efforts of the medical profession to provide a building which is thought to be as well suited as any provincial school for the purposes intended. It is to be hoped that, with such accommodation, and with the large clinical resources in the town, a bright and prosperous future is in store for the Medical School. The new building is situated in Leopold Street, close to Firth College, with which it is hoped it will shortly be amalgamated. It is handsome and commodious. It contains a large library, a good lecturer's room on the ground floor, a museum, and two excellent class rooms on the first floor; and an anatomical theatre, with a splendid dissecting room, at the top of the building. There is accommodation for 100 students, and the school is intimately connected with the General Infirmary and the Public Hospital and Dispensary. Numerous changes have taken place in the teaching staff. Dr. Porter has been appointed Joint Lecturer of Medicine, in the place of Dr. W. R. Thomas, resigned; and Dr. Sidney Roberts Lecturer on Medical Jurisprudence. Dr. Law and Dr. Thomas have resigned their respective positions of Physician to the Infirmary and Public Hospital. Each hospital has decided to have in the future only two physicians, instead of three as heretofore. Drs. Porter and Corking have been appointed Assistant-Physicians, and Messrs. Arthur Hallam and Charles Atkin Assistant-Surgeons to the Infirmary. Dr. Burgess, M.R.C.P., Fellow of Corpus Christi College, Cambridge, has been appointed Physician to the Public Hospital and Dispensary, in the place of Dr. Porter, resigned; and Dr. J. W. W. Martin Medical Officer to the Jessop Hospital, in the place of Mr. Woolhouse, resigned.

In the reports presented to the annual meeting of the governors of the General Infirmary, on September 5th, the Weekly Board regretted that, during the past year, the expenditure had exceeded the income by £177 0s. 1d., which was to be attributed to the falling off in the Hospital Sunday and Hospital Saturday collections and minor causes. The great benefit again derived from the Overend Convalescent Fund was recorded, and it was mentioned that by its means 115 patients had been sent to Bridlington and Southport. The Chairman, in speaking subsequently, alluded to the gratifying fact that the infirmary, with its 200 beds, notwithstanding the great prevalence in all parts of the town for so many months of small-pox, was spared any outbreak, strictly speaking, in the

wards. One or two cases had been removed to the Contagious Hospital, and the institution had been almost entirely free. This had been, he thought, brought about, among other reasons, by excluding visitors except under special circumstances.

The local newspapers have been much occupied with the subject of corporal punishment in elementary schools. A head schoolmistress was brought by the parents of a child before the stipendiary magistrate, and was fined for what he regarded as excessive punishment. The child, a girl, had been struck on the knuckles to compel her to open her hand for caning. The teacher and the Teachers' Association protested against the magistrate's decision, and friends of education and parents joined in the fray on one side or the other. The letters would, however, appear to disclose a disagreement as to the actual facts of the case.

There has been a good deal of scarlet fever in the Retford district, and, in order to stamp it out, several village schools have been, it is reported, closed, and the premises carefully cleaned and disinfected. Recently the medical officer of health, on visiting one of the houses where several children are suffering from the disease, was somewhat staggered to find that the mother was away at the board school, which she had undertaken to clean.

The authorities decided to appoint a resident medical officer at the Borough Hospital, Winter Street, as well as one at the new Fever Hospital at Lodge Moor. Mr. Joseph Pearson has been elected to the former office at £200 a year, and Mr. Percy Edwards to the latter at £150.

A vacancy occurred among the honorary surgeons to the Chesterfield Hospital, through the resignation of Dr. W. A. Walker. There were four local candidates. Dr. W. E. Fielden obtained, at the election, more votes than the other three candidates combined, and was accordingly elected.

CORRESPONDENCE.

LECTURERS AT THE COLLEGE OF PHYSICIANS.

SIR,—The present mode of appointing the Lecturers at the Royal College of Physicians is far from satisfactory, and I fully endorse the suggestion made in the last sentence of the paragraph published in the JOURNAL last week (p. 625). It is impossible that the choice of the President should always fall upon the Fellow most competent to fulfil the office; this competence depends upon a variety of circumstances. A man qualified by reputation may be pressed by other engagements, and yet loth to decline an honour which is offered to him. If it were the custom for the President to notify that he was ready to receive applications from Fellows anxious to discharge the duties of Croonian, Lumleian, Gulstonian, Bradshawe, or Milroy lecturer, many inconveniences would be avoided, and it might be that new men would be discovered.—I am, etc., A FELLOW OF OLD STANDING.

NAVAL AND MILITARY MEDICAL SERVICES.

RETIREMENT OF MR. T. CLARKE.—Alluding to the near retirement of Mr. Clarke from the office of Chief Clerk in the Army Medical Office, a correspondent, "Common Sense," congratulates that gentleman on his well-earned pension, and suggests that his successor should be a medical officer of executive rank, eligible for promotion to the rank of brigade-surgeon only. A good home appointment would be compensation for loss of promotion to the administrative grade. Such an officer would be in far better touch with his fellows than any civilian can possibly be, and through him "continuity" of administrative detail would be quite as well maintained as through any permanent civil official.

THE NAVY.

FLEET-SURGEON C. A. LEES, M.D., has been placed on the retired list at his own request, with permission to assume the rank of Deputy Inspector-General. His commissions bear date: Surgeon, February 7th, 1857; Staff-Surgeon, August 4th, 1867; and Fleet-Surgeon, September 1st, 1878.

Staff-Surgeon St. L. FERENCE-MULLEN, M.D., has been promoted to be Fleet-Surgeon. He entered the service as Surgeon, September 7th, 1868; and became Staff-Surgeon, December 24th, 1879.

Fleet-Surgeon J. T. COMERFORD, M.D., has been placed on the retired list at his own request, with permission to assume the rank of Deputy Inspector-General. Entering the service September 7th, 1863, he became Staff-Surgeon, April 14th, 1877, and Fleet-Surgeon, December 19th, 1883. He served as Assistant-Surgeon with the Naval Brigade in the attack on the batteries in the Straits of Simonosaki, Japan, in September, 1864, and was mentioned in despatches for his attention to the wounded under fire; in October, 1866, he was wrecked in the *Griffon* near Little Popo, on the west coast of Africa.

The following appointments have been made at the Admiralty: T. M. SIBBALD, Staff-Surgeon, to the *Canada;* W. G. AXFORD, Surgeon, to the *Bellerophon;* E. J. MORLEY, Surgeon, to the *Lion;* JAMES M'GAW, to be Surgeon and Agent at Killybegs and Tribane.

THE MEDICAL STAFF.

SURGEON-MAJOR W. M'WATTERS, who is serving in the Bengal command, has passed the examination in Hindustani by the lower standard.

ARMY MEDICAL RESERVE.

SURGEON S. P. SMITH, 1st Volunteer Battalion Royal Fusiliers (late the 10th Middlesex), to be Surgeon-Major (ranking as Major).

Acting-Surgeon A. D. FRASER, M.D., 4th Volunteer Battalion Argyll and Sutherland Highlanders (late the 1st Stirling), to be Surgeon (ranking as Captain).

INDIAN MEDICAL SERVICE.

THE retirement of Surgeon-Major D. R. THOMPSON, M.D., C.I.E., of the Madras Establishment, already announced in this JOURNAL, has received the approval of the Queen.

Surgeon C. E. SUNDER, Bengal Establishment, is appointed to the officiating medical charge of the 21st Punjab Infantry, *vice* Surgeon E. S. Brander, M.B., granted leave to Simla.

Surgeons R. J. MACNAMARA, M.D., C. E. SUNDER, A. BUCHANAN, A. E. ROBERTS, D. M. DAVIDSON, J. C. LAMONT, W. W. WHITE, R. C. MACWATT, J. K. CLOSE, M.D., all of the Bengal Establishment, and Surgeon W. E. JENNINGS, of the Bombay Establishment, have passed the examination in Hindustani by the lower standard.

Surgeon J. L. T. JONES, Bombay Establishment, is transferred from general duty, Bombay District, Northern Division, and Aden, to general duty in the Poona Division.

Surgeon A. R. JOLLIFFE, of the Bengal Establishment, who entered the service March 31st, 1887, died of cholera at Kohat, in the Punjab, aged 26, on August 13th.

Surgeon-Major R. CALDECOTT, Bombay Establishment, Medical Officer of the 2nd Central India Horse, and of the Western Malwa Political Agency, is appointed Medical Officer of the 1st Central India Horse and of the Goona Political Agency, but continuing to do duty with the 2nd Regiment until relieved.

Surgeon C. G. W. LOWDELL, Bombay Establishment, Medical Officer of the 2nd Native Infantry, and officiating Medical Officer of the 1st Central India Horse and of the Goona Political Agency, to be Medical Officer of the 2nd Central India Horse and of the Western Malwa Political Agency, but continuing to do duty with the 1st Regiment until relieved.

Consequent on the grant of furlough to Surgeon C. G. W. Lowdell, attached to the 1st Central India Horse, Surgeon G. H. D. GIMLETTE, M.D., Bengal Establishment, Residency Surgeon, Nepal, is appointed to officiate as Medical Officer of the 1st Central India Horse and of the Goona Political Agency.

THE VOLUNTEERS.

MR. C. W. DEAN is appointed Acting Surgeon to the 5th Lancashire Artillery.

Surgeon S. SMITH, of the Gloucester Engineers, is granted the honorary rank of Surgeon-Major.

Surgeon and Honorary Surgeon-Major W. C. BLACKETT, of the 4th Volunteer Battalion Durham Light Infantry (late the 4th Durham), has resigned his commission, which was dated December 11th, 1872.

CHANGES OF STATION.

THE following changes of station among the officers of the Medical Staff of the Army have been officially notified as having taken place during the past month:—

	From	To
Deputy Surg.-Gen. T. Rudd, M.D.	Egypt	Bengal.
Brigade-Surgeon J. Colahan, M.D.	Malta	Chatham.
,, R. W. Troup, M.B.	,,	—
Surgeon-Major F. Lyons, M.D.	Ipswich	Bombay.
,, J. J. Crean	Singapore	Dublin.
,, F. E. Barrow	Egypt	Chatham.
,, W. L. Chester, M.B.	,,	Mullingar.
Surgeon J. J. Morris, M.D.	Portsmouth	Parkhurst.
,, E. A. Roche	Ayr	Aldershot.
,, G. A. Hughes, M.B.	Devonport	Worcester.
,, B. W. Somerville-Large	Wicklow	Tullamore.
,, N. Leader	Cork	Ballincollig.
,, M. D. O'Connell	Jamaica	Dublin.
,, W. R. Henderson, M.D.	Mitchelstown	Sierra Leone.
,, A. P. O'Connor	Dublin	Curragh.
,, R. W. E. H. Nicholson	Jamaica	Netley.
,, D. Franklin	Shorncliffe	Dover.
,, M. G. D. Mosse	,,	Lydd.
,, R. Porter, M.B.	Netley	Bengal.
,, S. H. Creagh	York	Lancaster.
,, B. O. W. Norfor, M.B.	Lydd	Dover.
,, L. P. Mumby, M.B.	Honduras	Barbadoes.
,, A. R. Aldridge, M.B.	Chatham	Bengal.
,, R. J. C. Cottell	Hilsea	Gibraltar.
,, D. M. Greig, M.B.	Aldershot	Bengal.
,, J. Ritchie, M.B.	Lancaster	Strensall Camp.
,, H. St. G. S. Hore	Montrose	Stirling.
,, J. Minniece, M.D.	Dumfries	Perth.
,, J. C. Weir, M.B.	Barry Links	Aldershot.
,, A. Wright	Hamilton	Chatham.
,, H. S. Peeke	York	Southport.
,, J. Girvin	Tower	Colchester.

TREATMENT OF CHILDREN'S DISEASES.

An "Army Doctor" thinks "Army Surgeon's" remarks on this subject rather unkind; he should speak for himself if he is ignorant of children's diseases. The post of attendant on soldiers' wives and children is certainly not sought after; it means a maximum of responsibility, worry, and exacting duty without any extra pay or compensation whatever. Nevertheless, many medical officers are well acquainted with the diseases of women and children.

ARMY MEDICAL RESERVE.

A Correspondent points out that, in the *Gazette* of September 4th, the announcement is made:—"Surgeon-Major M. Baines resigns his commission." Many people are asking, how is this? Dr. Baines was one of the first to join the Reserve on April 25th last, and was its ardent champion in the columns of this Journal. Is he already tired of it, or of its exacting conditions? Or, as he qualified for practice as far back as 1845, has he attained the non-effective age of 65? If the latter, it only proves that, in order to make a show, the authorities were prepared to gazette gentlemen to the Reserve already on the verge of the age limit.

THE LATE SURGEON-MAJOR GARDNER.

A Correspondent sends us some cuttings from an Indian paper, from which it appears the deceased officer in question contracted disease in Burmah, on account of which he obtained leave through a medical board to proceed to Ceylon at his own expense, where he died. It is asked: "Why was such a recommendation as a journey to Ceylon made, and at his own expense?" And, further: "Why was approval given to such a step by the head of the department" (in India)? Our correspondent remarks that it is notorious medical officers do not meet with the same consideration by medical boards as combatant officers do.

THE RELATIVE RANK QUESTION.

Retired writes: Many civilian brethren have expressed surprise that medical men who enter the army are not satisfied with their status "as doctors," and have asked me the reason. The following has been my explanation. A young surgeon, who may have chosen the army as his future career, joins it proud of his profession. At his university or school he has been informed by his professors that he belongs to a "noble profession," and having gained some "kudos" in his studies, perhaps matriculated with honours, has been looked upon by his *confrères* as likely to prove an ornament to his chosen path in life. But alas for human aspirations! although he can, perhaps, write B.A., M.B., and F.R.C.S. after his name, he finds himself in military society looked down upon as a nobody, and that the last-joined "sub.," whose talents and attainments may not be of even moderate dimensions, treats him as an inferior order of the human species. Although in the early part of his military career the subject may not trouble him much, yet as he rises in the service he finds the shoe pinches more and more, as no matter how much he may wish to shut his eyes, the fact is ever before him that although his services have been distinguished, his devotion to his professional duties marked, his conduct without fault, yet that as a "doctor" he is looked upon by the military as deserving of about as much respect as a quartermaster; in other words, that his relative rank is a mild delusion, that "the only rank of any value is proper military rank and status." Hence it is that medical officers of the army wish for a proper rank and position, a demand which so puzzles some of our civilian brethren.

HIGH TEMPERATURES ON H.M.S. "TAMAR."

Member, B. M. A., writes: The following high temperatures, with recovery, are remarkable, and the efforts of the medical officers under such trying circumstances are worthy of recognition.

H.M.S. *Tamar* made a splendid passage with troops to Alexandria, and thence onwards towards the Cape, outstripping the mail, but she had a hot time of it in the Red Sea, and was not provided with double awnings or port wind sails. The night of 2nd to 3rd of August it was 92° F., and next day 168° in the stokehole. 4th and 5th of August the same. Four cases of heat apoplexy, with temperatures of 109°, 108°, and 106.4° among troops, and other cases among the sailors, the stokers giving up. Night 5th to 6th August, both dry and wet bulbs, 90°, and the consequent intense oppression may be imagined. August 6th. Twelve cases of heat apoplexy in the troops, one with temperature 109.4°; two sailors died. August 7th, 10 A.M. Perim was rounded, and a side breeze gave new life to all who felt they could not have survived another two days of it. None of the troops succumbed. This is the sort of service the A.M.D. are proud of, and the Albert medal has been given for deeds not more meritorious.

THE PRESENT STATE OF THE ARMY MEDICAL STAFF.

Senior Officer writes: In all probability many of your readers are somewhat weary of the recitals of our troubles; but, alas, our sorrows crowd thickly upon us; and unless the medical schools hear of our grievances through the Journal, those most concerned—medical students with military tastes—will hardly understand those daily and growing evils.

Since the beginning of 1887 we have had a series of knock-down blows, namely: 1, the deprivation of our army rank; 2, the reduction in the number of the medical officers; 3, the formation of the Army Medical Reserve; 4, the addition of one year to our foreign service all round; 5, the new rule insisting on a so-called "reasonable period" of service in the senior grades before retirement is permitted. Here is a pretty category for one year and eight months. Truly a quick succession of facers. Nos. 1, 4, and 5 are grossly unfair, and a breach of faith. No other branch of the service is tied down by any such restriction as this "reasonable period" clause. Why should the Medical Staff? Nos. 2 and 3 are just as damaging changes as the others, and are equally retrograde steps.

Deep and universal discontent, I may even say disgust, prevail among the officers of the Medical Staff at home and abroad. Is this for the good of the public service? Is it right or fair so to illtreat a large and important body of officers, who have ever done good and faithful service, even to sacrificing their lives and health in their country's cause?

Only two short years ago, and how different was the scene; everything going on smoothly, general satisfaction, and plenty of the best candidates. Now it is all changed in every respect for the worst, for we are the victims of wretched innovations, all injurious. We see clearly that the authorities are against us; that the intention is to convert us into a purely foreign service department, trusting to the Reserves for home work. Such is our position. Can you help us?

*** The abolition of relative rank and the addition of one year to the period of foreign service are accomplished facts, but the "reasonable period of service" in a rank before voluntary retirement can be claimed has not yet assumed shape. There are rumours that the period is to be three years; but, whatever may be fixed, we cannot believe the rule will be applied to the Medical Staff alone. It must be universal to all branches; what is sauce for the goose, etc.

THE ALEXANDER MEDICAL PRIZE.

An Indian Correspondent writes: In the Journal of March 24th, 1888, p. 47 (advertisement), I see advertised the subject for the next Alexander Medical Prize in the following sentence: "The Use of Drugs in the Treatment of Disease in the Army: the Principles on which Medicines should be Selected so as to meet the Requirements of Field Service."

Now the value to be attached to that grammatical stop following "army" in the sentence is a real puzzle to me, and, to my mind, renders the sentence ambiguous. I have spoken to several medical officers out here about it, but they are all equally puzzled. Most of us incline to the belief that this "stop" is meant for the word "and," which would make two different subjects for the essay. I hope you will kindly get the Honorary Secretary of the Fund to clear the ambiguity, as I need scarcely say that there ought to be no room for doubt left on the subject for an essay.

*** We confess to be somewhat puzzled over the whole sentence; the subject for the prize seems altogether misty. What difference can or ought there to be in the "use of drugs" in the army and in civil life? None that we know of. We presume it cannot be intended that the two parts of the subject disclosed in the sentence should be treated separately, but in their mutual bearings; instead of the conjunction "and" after the stop, we would suggest the word "including," etc.

The Indian Medical Service.—Subjoined is a list of the candidates for Her Majesty's Indian Medical Service who were successful at the competitive examination held at Burlington House on August 20th and following days. Twenty-two candidates competed for four appointments. Nineteen were reported qualified.

	Marks.		Marks.
H. E. Drake-Brockman ...	3,470	Samuel Esmond Prall ...	3,070
William Byam Lane	3,405	Philip James Lumsden ...	3,060

SOLDIERS' RATIONS.

A circular letter has been issued from the War Office by Lord Wolseley to the General Officers commanding at home and abroad, calling for a report as to what may be considered necessary to improve the diet of the troops and the method of cooking.

MEDICO-LEGAL AND MEDICO-ETHICAL.

MEDICAL ADVICE BY CORRESPONDENCE.

Griffiths writes: In November, 1883, I purchased a practice, paying cash in full at time of transfer. Clause 4 of agreement states: "Vendor shall never practise medicine in any branch in Newcastle, or within a radius of fifty miles."

Vendor now resides in Surrey, and since November, 1883, by correspondence, he has advised many of his old patients who still reside in Newcastle. Several old patients have consulted him at his present residence. One old patient put herself under his treatment while she stayed for two months or so in Surrey.

By taking legal proceedings can I prevent his doing so, and can I secure damages from his having done so?

*** Advising patients by correspondence has been decided to be practising. The agreement has therefore been broken, and an action will lie for the breach.

A TREACHEROUS FRIEND.

A Parish Doctor writes: Would you kindly give me your opinion on the following case? A. is a parish doctor, residing in a country village; B. a practitioner lately settled in a town eight miles distant. Until this occurrence they have been on the most friendly terms. A. having unbounded faith in the honour of B., introduced him to one of his patients, a chronic invalid, whose case he thought likely to interest him. A short time afterwards this patient takes diarrhœa; B. is sent for, and, without the slightest intimation to A., coolly takes over and treats the case. Some days after the patient wishes to see A. B. sends him a telegram asking him to consult at a certain hour. A. simply wires "No," and nothing further passes between them, B. sticking to the case assisted by another practitioner.

Is this gentlemanly or professional conduct of B.? If not, should I decline to have any professional connection with him in future?

Has A., who wishes to practise his profession in an honourable way, no protection from such men as B.?

*** If—and we have no reason whatever to doubt it—the statement made by "A Parish Doctor" correctly represents the facts of the case, it is scarcely necessary to remark that the alleged conduct of B. therein referred to was not only, in our opinion, grossly unethical, but, we regret to add, treacherous also towards his confiding friend A., who was more than justified in refusing to meet him (B.) in consultation in the case in question; and, in the absence of

an exceptional apology, we cannot blame him if he "declines to have any professional connection with him (B.) in future."

ASSISTANTS AND NOTICE TO LEAVE.

LOYALIST writes: I gave an unqualified assistant I have at a branch notice about six months ago that he could leave any time he liked. In the contract I made with him six months' "notice to leave" was to be given on either side. I find I have not signed this contract myself. I asked him the other day what he intended doing, as the six months were up; and he pretended that he never received a notice. I want to get rid of him, but do not want to be very harsh with him, as he is an elderly man with a large family. What would you advise me to do?

*** Whether proper notice was given is a question of fact. If it was, the best course is to decline to pay any further salary after its expiration, unless the assistant will sign a paper acknowledging that he is only remaining temporarily. To allow him to remain on as before without such acknowledgment would be to waive the notice, or admit that it was invalid.

MEDICAL MEN AND THE NEW COUNTY COUNCILS.

D.T. asks: Is a medical man eligible to act if elected as councillor of the electoral division of which he already acts as poor-law medical officer and medical officer of health, *re* Government County Bill?

*** This is a matter of some doubt. A person is disqualified for being a councillor if and while he has any share or interest in any contract or employment with, by, or on behalf of the Council. Poor-law medical officers and medical officers of health will in part be paid by the County Councils. But the contract of employment is made with other bodies, namely, the guardians or sanitary authority; and, on the whole, it seems that they will not be employed by, and will have no contract with, the County Councils, and will, therefore, not be disqualified for its membership.

PROFESSIONAL INDISCRETION.

DR. ANTHONY DALY DUNN, Ochiltree, Ayrshire, was tried at the recent Circuit Court, Glasgow, for an offence under the Criminal Law Amendment Act, alleged to have been committed on a young girl in his consulting-room on July 4th last. Evidence was heard with closed doors, and at the close the jury returned a verdict of not proven. The presiding judge, Lord McLaren, said it was with great satisfaction he was relieved from what would have been the painful necessity of dealing with this case after conviction; that the accused was acquitted of the crime imputed to him, and that nothing remained affecting his professional reputation beyond the charge of professional indiscretion, to which in a manner he had pleaded guilty in his declaration as to his manner of making a necessary examination.

OBITUARY.

THE REVEREND DAVID BELL, M.D., C.M.GLASGOW.

THE Reverend David Bell, who died in London on September 11th, was educated for the medical profession, and for some years was actively engaged in practice. He was a native of the district of Lochmaben, in Dumfriesshire, and graduated M.B., C.M., in the University of Glasgow in 1830. He subsequently resided for some years in Carlisle, and took an active part in local affairs, being elected a member of the Town Council at the first election held under the Municipal Corporations Act of 1835. After leaving Carlisle, he acted for a time as Physician to the Embassy at St. Petersburgh, and subsequently settled in Ludlow, in Shropshire, and acted as Physician to the Ludlow Dispensary. During his residence in Ludlow he became a member of this Association; he took an active interest in its affairs, and was among the earliest contributors to its Journal. In 1850 he resigned the practice of medicine and was ordained in the following year by the Bishop of Chester; he subsequently held several ecclesiastical appointments in the Diocese of Carlisle, and in 1855 became vicar of the important manufacturing town of Goole; here he took a prominent part in local affairs, and was for a time Chairman of the Local Board. He retained his interest in his old profession, and long remained a member of this Association. He attended the annual meeting at Newcastle-on-Tyne in 1870, and read a paper in the Medical Section, on The Beneficial Effects of Combining Tonics with Aperients in Chronic Constipation: this paper was published in the JOURNAL of the same year. During the present year, in consequence of his great age and increasing infirmities, he had been compelled to take advantage of the Incumbents' Resignation Act. He had been twice married, in the second instance to Lady Dillon, widow of Vice-Admiral Dillon, who survives him.

LUKE ARMSTRONG, M.D.DURH., L.R.C.P.EDIN.

THE death of Dr. Luke Armstrong has robbed Newcastle of one of its best known and most respected citizens. The deceased gentleman was a member of an ancient Tynedale family, and was born in that district on October 19th, 1834.

The greater part of his youth was spent at Whixley, in Yorkshire, of which parish his uncle was vicar. His early education was superintended by this gentleman, and was concluded at York. In due time he commenced his medical studies at the Newcastle College of Medicine, and was one of the most brilliant scholars of his time. The close of his college curriculum brought him to the beginning of a busy and successful professional career, which he commenced as apprentice to Dr. Robert Wallis and Dr. Leonard Armstrong, of South Shields. After qualifying, he became, in 1856, an assistant with Dr. Gibb, Newcastle, whom he afterwards joined in partnership, and enjoyed a large and lucrative practice. He received his diploma as a Member of the Royal College of Surgeons, England, in 1858, and he qualified as a Licentiate of the Royal College of Physicians, Edinburgh, in 1860. In 1872 he took the degree of Doctor of Medicine, Durham. As a member of the Newcastle College of Medicine he took an active part in the movement by which, in 1870, that institution became the University of Durham Faculty of Medicine, and equally interested was he, although here failing health somewhat hampered his action, in the measures taken for the construction of the new collegiate building, now rapidly progressing towards completion.

Dr. Armstrong's wide attainments and conspicuous skill as a physician and surgeon secured him many appointments. He was Lecturer on Operative Surgery, Registrar to the College, and President of the Northumberland and Durham Medical Society in the period 1879-81. It may be mentioned that his appointment as Lecturer to the College of Medicine dates from 1864, and he was appointed Registrar in 1870. In 1865 he was selected Surgeon to the Newcastle Dispensary, and for several years held that post. Three years after his reception of that appointment, he was elected Assistant Surgeon to the Infirmary, and in 1870 he succeeded to the post of full Surgeon to that institution. In 1885 his term of fifteen years' service in that capacity expired, and he was unanimously reappointed by the governors for another term of fifteen years. Amongst the other offices which he filled may be noted that of representative of the College of Medicine on the governing body of the College of Science. He also held the appointment of Surgeon-Major to the First Northumberland Artillery Volunteers.

He is described as being gifted with a handsome presence and a charm of manner, and originally a man of powerful frame and athletic habits, until an accident occurred six years ago, when he was thrown with considerable force from his dogcart. After that occurrence he never again enjoyed robust health, though he was unremitting in his devotion to his professional duties. So great had been his passion for aquatic pursuits, that he was at one time the captain of the Tyne Amateur Rowing Club, and in 1862 won the club silver cup and medal in a scullers' contest. Dr. Armstrong was highly skilled in his profession, and a man of considerable accomplishments in other ways. He was indefatigably industrious, and of a genial and charitable disposition. The deceased was married to Miss Armstrong, of Newcastle, and leaves a large family.

Dr. Armstrong's death was due to gout and diabetes. The funeral was attended by a detachment of his own corps, the Northumberland Artillery, and as an evidence of the great esteem in which he was held, it may be mentioned that among the mourners were many of his medical colleagues, and others, including representatives of the University of Durham, Newcastle Royal Infirmary, Durham College of Medicine, and the College of Science.

PUBLIC HEALTH
AND
POOR LAW MEDICAL SERVICES.

BELFAST MAIN DRAINAGE SCHEME.

THE large and comprehensive scheme for the thorough drainage of the city of Belfast, which has been so long under consideration, was inaugurated upon September 12th, when the first sod of the new works was cut by Mr. McCammond, J.P., the chairman of the Town Improvement Committee. As far back as the year 1866 it was felt that the thorough reorganisation of the sewerage of Belfast was an undertaking that could not be long delayed. In that year the then borough surveyor, Mr. Montgomery, presented to the Town Council an exhaustive report, which was endorsed by Sir Joseph Bazalgette. In the year 1870 a Bill was promoted in Parliament to carry out this scheme, but after many vicissi-

tudes it was finally abandoned by its promoters. It was not until the year 1885 that the corporation effectively grappled with the problem In that year the present borough surveyor, Mr. Bretland, C.E., laid before the corporation his design for outfall works and a high-level sewer, with provisions for a future low-level system, and this scheme also was endorsed by Sir Joseph Bazalgette. To carry this into effect the Belfast Main Drainage Bill was promoted, and finally became law in July, 1887. The Council was, however, debarred from spending any money under this Act until after the November elections of last year. Messrs. H. and J. Martin were finally chosen as the contractors, and the work has now been begun.

The main feature of the scheme is the construction of one great sewer to drain that portion of the town which is capable of being drained by gravitation. This sewer will begin in the Windsor district, and will run northwards, finally discharging into Belfast Lough, in the neighbourhood of Whitehouse Roads. The contract includes the formation of embankments to enclose an area of tidal lands, on which it is intended to construct the storage reservoir, which is to regulate the time of the sewage discharge prescribed by the Act. There is also to be an outfall sewer, extending from the pumping station at Dunerne Street to the reservoir already mentioned. The high-level district to be served by the principal sewer includes an area of 1,238 acres, of which the present population is 124,000. The works, however, are based on the calculation that the increase in the population of Belfast during the coming three decades will equal that during the corresponding period in the past; hence the high-level district is assumed to be likely soon to contain a population of 212,000 persons.

This high-level drainage scheme will be followed as soon as practicable by a supplementary scheme for the drainage of the low-lying districts of the city. The estimated cost is fixed at £300,000, and the works constitute the greatest engineering scheme ever attempted in the North of Ireland.

The advantages claimed for this great undertaking are: 1. The cleansing of the River Lagan, which is now in many places simply an open sewer, disgusting to the senses and perilous to the public health. 2. The interception of some smaller streams which at present flow through densely populated parts, and are fouled by the dirty water from the mills. 3. The improvement of the Ormean Park, one of the most important recreation grounds, which is at present deprived of much of its usefulness by the emanations from the sloblands of the Lagan at low water. 4. The carrying of sewage matter to a safe distance from the city into the waters of the Lough. 5. The prevention of floodings after heavy rains, which are at present very common, and mischievous in some of the low-lying parts.

The people of Belfast are to be congratulated upon the energy which they have shown in recent years. It is not long since some extensive improvements resulted in the clearing out of the worst rookeries in the city, and the construction of Royal Avenue, one of the handsomest public thoroughfares in Europe. This year provision has been made for a practically inexhaustible supply of good water, and now this drainage scheme comes to complete the works necessary for the health and prosperity of a great town.

TYPHUS FEVER AT PORT GLASGOW.

Dr. Grieve, Medical Officer for the Burgh of Port Glasgow, has reported to the Town Council that eighteen cases of typhus fever had occurred in the burgh during the month of August, and that the patients had been removed to Greenock Infirmary. The sanitary inspector called special attention to the want of a reception house and washing house for the clothes from infected houses. He has made repeated appeals to the Public Health Committee both for a reception and washing house, but as yet without effect.

MANCHESTER SEWAGE.

The Manchester City Council has applied to the Board of Trade for leave to borrow £450,000 for the purpose of sewerage and sewage disposal, and £40,000 for the purchase of land to be used as a place of deposit for the refuse. The scheme, which is on a very elaborate and extended scale, includes the construction of intercepting sewers, which would finally converge into one large outfall culvert, conveying the sewage to the site of the works at Davyhulme, about four miles from the city. There the sewage is to be disposed of by means chiefly of chemical precipitation, the effluent being turned into the River Irwell. The scheme has been in course of preparation between four and five years, and is, with some modifications, similar to the one in operation at Leeds. The sewers will be of sufficient size to deal with the refuse of half a million people using forty-four gallons of water per head a day, the two main arteries being capable of discharging over a million and a quarter gallons in the twenty-four hours. Some ninety-five acres of land have been purchased for the works. The outfall sewer, it was explained, would be relieved by an overflow into the Ship Canal, which could pass the entire sewage, if necessary, and the Corporation were to be compelled to make the effluent of a character satisfactory to the Canal Company.

Health of English Towns.—During the week ending Saturday, September 15th, 5,610 births and 3,187 deaths were registered in the twenty-eight largest English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had been 17.5 and 17.8 in the two preceding weeks, was 17.7 during the week under notice. The rates in the several towns ranged from 13.2 in Oldham, 13.4 in Wolverhampton, 13.9 in Leicester, and 14.2 in Hull to 25.7 in Manchester, 25.8 in Preston, 25.9 in Blackburn, and 26.2 in Norwich. The mean death-rate in the twenty-seven provincial towns was 18.9 per 1,000, and exceeded by as much as 2.7 the rate recorded in London, which did not exceed 16.2 per 1,000. The 3,187 deaths registered during the week under notice in the twenty-eight towns included 622 which were referred to the principal zymotic diseases, against 582 and 638 in the two preceding weeks; of these, 391 resulted from diarrhœa, 67 from whooping-cough, 57 from scarlet fever, 39 from measles, 35 from diphtheria, 32 from "fever" (principally enteric), and 1 from small-pox. These 622 deaths were equal to an annual rate of 3.5 per 1,000; in London the zymotic death-rate was 2.9, while in the twenty-seven provincial towns it averaged 3.9 per 1,000, and ranged from 0.8 in Oldham and 1.1 in Huddersfield to 6.1 in Leeds, 6.3 in Sheffield, 7.0 in Brighton, and 8.6 in Preston. Scarlet fever caused the highest proportional fatality in Derby and Blackburn; whooping-cough in Halifax and Norwich; "fever" in Birkenhead; and diarrhœa in Brighton, Leeds, Sheffield, Leicester, and Preston. The 35 deaths from diphtheria in the twenty-eight towns included 18 in London, 3 in Manchester, 2 in Brighton, 2 in Portsmouth, 2 in Salford, and 2 in Sheffield. Small-pox caused one death in Preston, but not one in London or in any of the twenty-six other great towns. There were no small-pox patients in any of the Metropolitan Asylum Hospitals on Saturday, September 15th. These hospitals contained, however, 779 scarlet-fever patients on the same date, against numbers increasing from 716 to 755 in the three preceding weeks; there were 89 admissions during the week, against 86 and 76 in the two previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 2.2 per 1,000, and slightly exceeded the average.

Health of Scotch Towns.—In the eight principal Scotch towns, 775 births and 405 deaths were registered during the week ending Saturday, September 15th. The annual rate of mortality, which had declined from 17.3 to 16.0 per 1,000 in the four preceding weeks, was again 16.0 during the week under notice, and was 1.7 per 1,000 below the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns, the lowest rates were recorded in Greenock and Edinburgh, and the highest in Perth and Paisley. The 405 deaths in these Scotch towns included 55 which were referred to the principal zymotic diseases, equal to an annual rate of 2.2 per 1,000, which was 1.3 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Leith and Paisley. The 169 deaths registered in Glasgow included 15 from diarrhœa, 5 from whooping-cough, 3 from scarlet fever, 2 from diphtheria, and 1 from measles. Three fatal cases of measles and 2 of "fever" were recorded in Paisley. The death-rate from diseases of the respiratory organs in these towns was equal to 3.0 per 1,000, against 2.2 in London.

Health of Irish Towns.—During the week ending Saturday, September 15th, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 18.0 per 1,000. The lowest rates were recorded in Armagh and Galway, and the highest in Drogheda and Waterford. The death-rate from

the principal zymotic diseases in these towns averaged 2.3 per 1,000. The 131 deaths registered in Dublin during the week under notice were equal to an annual rate of 19.4 per 1,000, against 20.4 and 21.7 in the two preceding weeks. These 131 deaths included 18 which were referred to the principal zymotic diseases (equal to an annual rate of 2.7 per 1,000), of which 10 resulted from diarrhœa, 3 from scarlet fever, 3 from whooping-cough, 1 from "fever," 1 from measles, and not one either from small-pox or diphtheria.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

HASTINGS (Population, 53,136).—*Low Death-rate.*—The very slight increase in the death-rate of this borough in 1887 must be attributed to accidental causes rather than to any falling off in sanitary effort, since the satisfactory returns of the past three years are strong witnesses to the excellence of the work carried out. During the year 747 deaths were registered, to which must be added the deaths of 28 parishioners in institutions situated outside the district, the death-rate being thus equal to 14.5 per 1,000. Of these 79 were attributable to the seven principal zymotic diseases, small-pox alone being absent from the list. Scarlet fever of a mild character appeared in scattered groups of cases, one group of 11 cases occurring in one house. The disease was most probably imported from London. Of 105 reported cases 59 were removed to the Sanatorium, where 4 proved fatal. There were 8 deaths from typhoid fever, 3 from diphtheria, and 21 from diarrhœa. Whooping-cough and measles were, as usual, fatal to children, the one disease causing 27 deaths, the other, with its sequelæ, causing 16 deaths. Of other zymotic diseases 1 was due to erysipelas and 4 to pyæmia. The deaths of "visitors" numbered 141, or 18.87 per cent. of the total deaths.

HANLEY (Population, 53,109).—*Excessive Infant Mortality.*—The number of deaths recorded in this borough, which had been 1,081, 1,002, and 1,043 in the three preceding years, was 1,011 in 1887, and was equal to a rate of 19.0 per 1,000 of the estimated population. The 131 deaths referred to specific febrile or zymotic diseases included 54 from diarrhœa, 42 from measles, 15 from whooping-cough, 6 from diphtheria, 5 from enteric or typhoid fever, 1 from scarlet fever, 1 from typhus, but not one from small-pox or any ill-defined form of continued fever. Thus 124 deaths resulted from the principal diseases of the zymotic class, against numbers steadily declining from 219 in 1883 to 142 in 1886. Dr. J. Swift Walker considers this important diminution to be due to the constant inspection that has been carried on. Zymotic diseases have gradually decreased as the department has improved in organisation, and he therefore urges upon the Sanitary Committee that money spent on sanitary improvements means saving of misery and sickness. The rate of infant mortality, however, still shows considerable excess, and until last year no noticeable decline in its proportion had taken place. The deaths of infants from measles and whooping-cough showed an increase, though it was but slight, considering the severity of the epidemic of measles. Dr. Walker very justly points out that in many cases no medical aid was sought until the children were in an almost hopeless condition, as many ignorant people imagine they are quite capable of treating an ordinary case of measles, forgetting that it is not the eruption, but the sequelæ or after-complications, that render this affection so fatal to children. In some epidemics and some cases it is the lung affections or affection of the chest that endanger life, and these can only be detected by a medical man.

WEM (Population, 10,565).—According to the reports of Dr. Giles, the death-rate for the year 1887 was 13.63, as compared with 18.4 in 1885 and 17.03 in 1886. During the greater part of 1886 infectious disease was very rife throughout the district, but the records are more favourable in respect of 1887. The first half of the year, as far as Dr. Giles could ascertain, was free from all forms of infectious sickness, except a few mild cases of measles, a continuation of the epidemic of 1886. Scarlet fever made its appearance and was prevalent towards the close of the year, but only two deaths resulted, which, with one from typhoid fever, made up the sum of the year's fatality from these causes. In connection with these cases of scarlet fever, it was remarkable that many occurred sporadically where no trace or history of infection could be found. Only a few cases of whooping-cough came under notice, and none of diphtheria or small-pox. With regard to these widespread epidemics, Dr. Giles very justly remarks that the very fact of an epidemic being of a mild nature increases the number of cases enormously, especially in a rural population, where a large proportion of these mild cases is never seen by a medical man. One or two cases are of sufficient interest to be recorded here; with regard to the epidemic of scarlet fever at Prees in 1886, no information of the existence of the disease reached the medical officer of health or the inspector of nuisances till about six weeks after the disease had broken out. Within the next three or four months there were two or three hundred cases. At Preston Brockhurst a platelayer, after feeling out of sorts for a day or two, broke out into a rash on Friday evening, but the following morning went off to Liverpool for a change. He returned on the Monday feeling very weak, but thinking he must be better, as the rash had gone. In a day or two he came under notice, suffering from a severe attack of suppressed scarlet fever.

KINGS NORTON RURAL (Population, 24,453).—*Influence of School-closing: Advantages of Hospital Provision.*—Mr. Francis Hollinshead's report on this district for 1887 is very comprehensive, and one which, from its instructive nature, should be freely circulated amongst the inhabitants. It is most important that parents should more fully appreciate than they do the dangers and trouble arising from errors in diet and general ill-management of children, and from neglect of sanitary precautions in the event of zymotic sickness, all of which questions largely affect the mortality statistics. While realising that much remains to be done to further reduce the mortality returns of his district, Mr. Hollinshead looks to improved education for great results; and to this end, under each zymotic heading, he seeks to convey some idea of the nature of the disease, together with the conditions likely to affect its spread. A fruitful source of development and propagation of some diseases—scarlatina, measles, and whooping-cough—is school attendance, and instances are on record of the spread of disease by this means. School-closing was resorted to during an epidemic of measles with most satisfactory results. Although the general death-rate, 12.7 per 1,000, was the lowest ever recorded, there was not a corresponding decrease in the zymotic-rate, which, although lower than in 1886, has not been exceeded in any other year since 1882. There were, however, no deaths from scarlatina or small-pox, and only one from diphtheria and diarrhœa respectively. Measles and whooping-cough were chiefly responsible for the continued high rate, as also for the high infant mortality. The temporary hospital did excellent work during the year, 53 scarlet fever patients being received, all of whom were discharged cured.

LIVERPOOL PORT.—*Supervision of Emigrants: Precautions against Cholera and other Infections.*—The value of port sanitary work, as described in Dr. J. Stopford Taylor's report for 1887, and as carried out by him during the year, can hardly be overestimated. Not only do vast numbers of ships undergo inspection and supervision, but the welfare and comfort of the thousands of emigrants who annually pass through the port are made the subject of consideration. The amount of sickness among them coming under notice during the year was small, but a constant supervision over the lodging-houses of the city was never relaxed; and, of the 237,999 emigrants who sailed from Liverpool, only 16 were detained on account of infectious disease. All ships arriving in the Mersey are promptly boarded by the Customs officers, and the existence of disease is by them notified to the health-officer. Further information has then to be sought before any action can be taken either for the inspection of ships or the removal of the sick persons to hospital. Dr. Taylor suggests that an office on the landing-stage, where immediate information could be given, with full particulars of each case, would greatly facilitate the work, and obviate the possibility of vessels being detained unnecessarily in the river and prevented from docking. It would also be an advantage to have a place for the reception of emigrants supposed to be affected with infectious disease, and to afford them shelter and isolation until arrangements can be made for their removal. In all, 73 cases of zymotic disease occurred on board vessels, including 3 of small-pox and 2 of cholera. With regard to the latter disease, which occurred on the ss. *Governor*, sailing from Calcutta, all trace of sickness had disappeared on her arrival at Liverpool; but the vessel was duly disinfected and cleansed before being allowed to enter the dock. There was an outbreak of measles on board the training ship *Conway*, lasting from February to the end of June, and nine of the cadets were sent to the Netherfield Hospital, other cases being treated at Birkenhead.

St. George, Hanover Square (Population, 89,573).—*Scarlet Fever in Condensed Milk.*—Judged by the increased death-rate the year 1886 cannot have been favourable to this district. Professor Corfield had to report that the rate, 17.17 per 1,000, was as much as 1 per 1,000 above its predecessor, and higher than in any year since 1879. This is not encouraging, but the district still holds its own in relation to others in London as well as to the larger towns of England. Perhaps some part of the increase may be accounted for by the greater accuracy of the present method of correcting the death-rate. Zymotic diseases had a share in the augmented rate, for the deaths numbered 153, against 136 in 1885, and were just above the average of the past three years. This must not, however, be taken as an evidence of insalubrity, as the rate afforded by these figures was only 1.71, or 1 per 1,000 less than that of London generally. Whooping-cough and diarrhœa were the chief factors, causing 40 and 45 deaths respectively. Diphtheria also caused 32 deaths. The mortality from scarlet fever was exceedingly small, and in connection with one group of cases, Professor Corfield relates an interesting experience. The only circumstance common to all the families attacked was that they used condensed milk of a particular brand. Samples were forwarded to Dr. Klein for analysis, and he reported that in one of them he found the organism which it is alleged is the cause of scarlet fever in human beings and also of a comparatively mild disease in cows.

Scarborough Rural (Population, 11,000).—The year 1887 was not productive of many or great changes in this district. The death-rate (13.3 per 1,000) was slightly below that of 1886, but about the average of the five previous years. Zymotic outbreaks were comparatively slight, and the fewness of the deaths that occurred therefrom bears testimony to a promptness and efficiency in their suppression. Dr. Cuff reports an entire absence of deaths from typhoid fever and small-pox; and measles, though appearing in epidemic form so that schools had to be closed, was not fatal in any case. One death occurred from diphtheria. Bronchitis and pneumonia caused rather more than the average number of deaths. Manure nuisances in this district seem to need special attention.

Cardiff Rural (Population 21,696).—*Diarrhœa due to Errors or Excess in Feeding: Small-pox in Unvaccinated Persons.*—The year 1887 witnessed several changes in the sanitary staff of this district. Dr. R. Prichard, who was appointed in August, and since then has sustained the loss of one of his inspectors, has, however, made the best report possible under the circumstances. The deaths numbered 373, giving a rate of 17.19 per 1,000. Of these, 16, or 0.78 per 1,000, were due to infectious diseases. Dr. Prichard excludes from the category of cases deaths from infantile diarrhœa, which he attributes almost entirely to errors or excess in feeding. Scarlet fever and measles were prevalent in a mild form, but there were no deaths from either of these diseases. An epidemic of small-pox at Caerphilly gave rise to some anxiety. The cases were isolated as much as possible, and revaccination performed, but the carelessness of the villagers counteracted nearly all the precautions taken. Seven cases occurred, two of which were fatal. Some of these cases were unvaccinated, and two had only very faint scars from their vaccination in infancy. Both the fatal cases refused to be revaccinated. One of the non-fatal cases was a child whose vaccination did not "take." It was a very mild attack.

Gloucester (Population, 41,593).—Mr. John P. Wilton's report for 1887 is extremely favourable, and contains statistics showing that the health of the town was very good. The death-rate of 13.2 per 1,000 was the lowest ever recorded in his experience. In 1886 there were registered 605 deaths of persons belonging to the district, producing a rate of 14.3 per 1,000; in 1887 the number was 570. Towards the close of the year scarlet fever and measles appeared and attacked many children. Enteric fever caused 7 deaths, diarrhœa 12, diphtheria 3, whooping-cough 2. Though the fatality was small, the only disease of the zymotic type really absent from the district was small-pox. Inspection of shipping and other work connected with the port have been duly carried out by Mr. Wilton.

Halifax (Population, 79,207).—*Satisfactory Experience of Isolation in Hospital: Unhealthy Dwellings: Smoke Nuisance.*—For the last five years the death-rate of Halifax has shown a tendency to rise and fall in alternate years. In 1886 a rise of 3.0 per 1,000 was recorded, and for 1887 Mr. David Ainley has reported a decrease of 1.7 per 1,000, so that the rate for that year stands at 21.0 per 1,000. The report is mainly statistical, there being apparently little to chronicle as to the introduction or spread of zymotic diseases. Scarlet fever was prevalent in a very mild form, as many as 727 cases being notified, but with the small percentage of 4.5 fatal cases. Diphtheria, measles, and enteric fever all showed a decline on the previous year, and though small-pox existed in neighbouring districts, only three cases came under notice, all of which recovered. Phthisis, however, exceeded its average of deaths, and respiratory diseases were more fatal than in 1886. The admissions to the borough hospital were more numerous than they have ever been, and it is very gratifying to find that not one of the patients died in the institution. Mr. Ainley thinks this should remove all remnants of prejudice against it from the minds of the people. The attention of the sanitary authority is specially called to the presence of many blocks of unhealthy dwellings in the town, and they are strongly urged to take this important matter in hand, and to clear away some of the overcrowded areas. The smoke nuisance from low chimneys is also a matter deserving more attention from the Town Council.

Preston (Population, 102,283).—*High Death-rate: High Birth-rate: Midden Privies Condemned.*—The statistics which Mr. H. O. Pilkington has collected in his report for 1887 do not show any great improvement in the position of Preston as regards other towns. The causes of the high mortality, 26.42 per 1,000, have frequently been discussed, and, so far as they could be attributed to insanitary conditions, have been battled with. It is in point of infant and zymotic mortality that the excess is so marked. Each year a wave of diarrhœa carries off many children, and epidemics of scarlet fever, measles, or whooping-cough constantly recur and prove fatal to young life. In the mortality from all these causes the high birth-rate, by furnishing children susceptible to the attack, and the employment of mothers in the mills, depriving children of maternal care and nursing, are important factors. Putting these aside, Mr. Pilkington thinks that the prevailing forms of sickness and the actual mortality will not be found much different from those of many other large towns. During the whole year the town was free from small-pox, until, in the last month, a case was imported from the neighbourhood of Sheffield. Deaths from typhoid fever amounted to 57, and from scarlet fever to 63. The death-rate from diarrhœa was 2.26 per 1,000, exceeding that of any of the other large towns, no less than 182 deaths occurring in infants, and 25 in children between the ages of one and five years. In one respect the epidemic of 1887 was remarkable, it began and ended so much earlier than usual, showing forcibly the influence which the temperature, the rainfall, and the air-movement have in increasing or reducing the severity of an outbreak and the length of its stay. The midden privy system in vogue in Preston is one of the greatest defects in the sanitary arrangements of the town. The sooner a radical change in this respect is effected the better it will be for the health of the locality.

Rastrick (Population 9,875).—*Suspected Identity of Swine Fever and Typhoid Fever.*—Although giving the statistics for the whole year, Dr. Bond's report for 1887 deals chiefly with the last quarter, that being the extent of his tenure of office. The death-rate from all causes was 19.7, and from zymotic diseases 2.5 per 1,000, which was not high, considering that scarlatina and whooping-cough were very troublesome. Typhoid fever was rarely absent from the district, though the cases were not always associated with sanitary defects. Dr. Bond shares the opinion that swine fever may be identical with typhoid, and that this may account for some of the cases. There were no cases of small-pox during the year.

Berkshire Combination (Population 143,736).—*Disease introduced by Tramps.*—A comparison of the districts under Dr. Woodforde's supervision, as regards their sanitary history during 1886 and 1887, does not disclose any striking contrast, but rather indicates a condition of public health of a uniformly satisfactory character. The death-rates of the past six years also exemplify this condition, as they varied only from 16.0 per 1,000 in 1882 to 16.8 in 1883, and fell again to 16.4 per 1,000 in 1886, and to 15.8 in 1887. There was a general absence of serious outbreak of zymotic disease, although isolated attacks and groups of cases cropped up

again and again, and received careful attention. This was specially the case with small-pox, which was repeatedly brought into the district by tramps during 1886. Strict precautionary measures in most instances prevented any spread of the disease. Scarlatina was conspicuous for its rarity, and the cases that did occur were of a mild character. Diphtheria was somewhat prevalent, and was usually found to be associated with polluted water or defective sanitary arrangements. At Woodcote, however, the disease, which lasted some months, was evidently spread by the intercourse of children at school. In 1886 the Easthampstead rural district had the lowest death-rate (12.3) and Wallingford urban had the highest rate (21.9 per 1,000). In 1887 the lowest rate (12.1 per 1,000) was again recorded in the Easthampstead District, and the highest (25.3 per 1,000) in Wallingford. This high mortality in Wallingford was mainly due to the large proportion of deaths from lung diseases and from infantile convulsions.

MID-WARWICKSHIRE COMBINED (Population 107,618).—*Fowls Suspected of Causing Diphtheria: Infrequency of Typhoid Fever: Small-pox Imported.*—The general health during 1887 seems to have been very satisfactory, and this is sufficiently indicated by the low general death-rate of 15.0 per 1,000, a low rate from zymotic mortality, and a rate of infant mortality amounting only to 91 per 1,000 births. Dr. Wilson has made his usual exhaustive report for the year, and states that with the exception of a limited outbreak of diphtheria, there was no serious epidemic of any kind. With regard to this outbreak the following particulars are given:—The disease first broke out in the family of a dealer in poultry, and though all the fowls had been removed before the cases were reported, it was admitted that some of them had been kept in the house as well as in the hen-coops outside. The fowls were purchased at various places in the surrounding neighbourhood, and at intervals were forwarded to the Birmingham market. As it has been pretty clearly established that outbreaks of diphtheria have been traced to fowls suffering from a diphtheritic affection in the throat, it was possible that in this instance the disease might have been so originated, but there was no direct evidence to support this view. The sanitary condition of the premises, however, was, in Dr. Wilson's opinion, sufficient to generate any filth-disease, for, in addition to general uncleanliness of the house itself, the well-water was found to be polluted, and there were drain nuisances at the back of the house. Small-pox was twice imported into Rugby, but the disease was on each occasion speedily stamped out, and the patients made good recoveries. The infrequency of typhoid and other "fevers," especially in the urban districts, affords gratifying evidence of the greatly improved sanitary conditions which prevail.

WAKEFIELD (Population 33,000).—Dr. Wade gives a very brief history of the zymotic diseases which were prevalent during 1887, and shows that measles was the most fatal, diarrhœa coming next on the list, but with fewer deaths than in 1886. Scarlet fever, endemic in the borough for the past two years, caused 15 deaths. Dr. Wade hopes that the new water supply will do much to eradicate this disease, as he has always been of opinion "that the river Calder has been the means of carrying and propagating the germs of this disease." The general death-rate was 20.8 per 1,000.

BELPER RURAL (Population 18,713).—*Hospital Provision greatly needed.*—Mr. J. Allen reports that during the year 1887 there was a comparative freedom from deaths from zymotic diseases, whilst the general mortality rate was reduced to 13.0 per 1,000—a lower rate than any he has previously recorded. Sporadic cases of infectious diseases were scattered about, but in no part of the district did they assume a virulent type. A note of alarm is sounded as to the need for preparation in case of serious outbreaks. As Mr. Allen remarks, it may be easy to deal with sporadic cases, and the sick may with some little trouble and inconvenience be separated from the rest of the community; but in case of a wider outbreak there are no adequate means for dealing with it, and he urges the desirability of providing either a central infectious hospital, or cottage hospitals in the different parishes, to which the infected sick could be removed. Of the whole number of 245 deaths registered, 13 were from diseases of the zymotic class, and of these 7 were from diarrhœa. There was a slight outbreak of small-pox about the end of May, but all the patients recovered. No death occurred from measles, and only one each from scarlet fever, diphtheria, whooping-cough, and croup.

MEDICAL NEWS.

MEDICAL VACANCIES.

The following Vacancies are announced:

ATHY UNION.—Medical Officer, Stradbally Dispensary. Salary, £135 per annum, and fees. Applications to Mr. John McLoughlin, Honorary Secretary. Election on September 28th.

BOROUGH HOSPITAL, Birkenhead.—Junior House-Surgeon. Salary, £50, with board, lodging, etc., and fees. Applications by October 2nd to the Chairman of the Weekly Board.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road.—Three Clinical Assistants.

CITY OF LIVERPOOL—City Hospital, Parkhill, and City Hospital, Grafton Street.—Visiting Physician. Salary, £100 per annum. Applications by September 25th to the Chairman of the Hospitals' Committee, Town Clerk's Office, Liverpool.

DENTAL HOSPITAL OF LONDON, Leicester Square.—Lecturer on Dental Surgery and Pathology. Applications by October 8th to the Dean.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Resident Clinical Assistant. Board and lodging. Applications by September 28th to the Secretary,

FULHAM UNION.—Assistant Medical Superintendent. Salary, £100, with board and furnished apartments, etc. Applications by September 24th to the Clerk to the Guardians, Fulham Palace Road, Hammersmith.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Physician. Applications by September 29th to the Secretary.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—House-Physician. Salary, £50 per annum, with board and lodging. Applications by September 29th to the Secretary.

MANCHESTER ROYAL INFIRMARY (Monsall Fever Hospital).—Assistant Medical Officer. Salary, £100 per annum, with board and residence. Applications by October 6th to the Chairman of the Board.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary, £120 per annum. Applications by September 26th to the Honorary Secretary.

NORTH SHIELDS AND TYNEMOUTH DISPENSARY.—House-Surgeon and Dispenser. Salary, £130 per annum, with furnished house, etc. Applications by September 27th to the Honorary Secretaries, 99, Howard Street, North Shields.

PAROCHIAL BOARD OF PENNYGOWAN AND TOROSAY.—Medical Officer. Salary, £100 per annum. Applications by September 24th to Mr. Alex. Macdougall, Inspector of Poor, Auchnacraig, Oban, N.B.

SALOP INFIRMARY, Shrewsbury.—Assistant House-Surgeon. Board, lodging, etc. Applications to the House-Surgeon.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Resident Medical Officer. Salary, £105 per annum, with furnished apartments, etc. Applications by September 24th to the Secretary.

ST. MARY'S HOSPITAL, Paddington, W.—Medical Superintendent. Salary, £150 per annum, with board and residence. Applications by September 29th to the Secretary.

STOURBRIDGE DISPENSARY.—House-Surgeon and Secretary. Salary, £130 per annum, with furnished apartments, etc., and an allowance for horse hire. Applications by October 6th to G. Perry, Esq., Fairfield, Pedmore, near Stourbridge.

THE COUNTY ASYLUM, near Dorchester.—Assistant Medical Officer. Salary, £120 per annum, with board, etc. Applications by October 7th to the Medical Superintendent.

TOWNSHIP OF MANCHESTER.—Assistant Medical Officer to the Workhouses at Crumpsall and New Bridge Street. Salary, £150 per annum, with furnished apartments, etc. Applications by September 26th to the Clerk to the Guardians, Poor-Law Offices, New Bridge Street, Manchester.

WESTMINSTER GENERAL DISPENSARY, Gerrard Street, Soho.—House-Surgeon. Salary, £100 per annum, with apartments. Applications by September 22nd to the Secretary.

WESTMINSTER HOSPITAL, S.W.—Fourth Assistant Physician. Personal application on October 2nd.

WESTMINSTER HOSPITAL, S.W.—Administrator of Anæsthetics. Personal application on October 2nd.

MEDICAL APPOINTMENTS.

BAIN, D., M.D., appointed Honorary Assistant-Physician to Dundee Royal Infirmary.

BARFORD, A. M., M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant House-Surgeon to the Liverpool Northern Hospital, *vice* W. Milligan, M.B., C.M., resigned.

BATTERSBY, J. H., M.B., C.M.Edin., appointed Assistant House-Surgeon to the Rotherham Hospital, *vice* F. W. Bryden, M.R.C.S., resigned.

BRAINE, C. Carter, M.R.C.S., L.R.C.P., appointed House-Surgeon to Charing Cross Hospital.

DUNCAN, P. J., M.R.C.S., L.R.C.P., appointed House-Physician to Charing Cross Hospital.

DUNLOP, —, M.D., appointed Medical Officer to Croaghmore Dispensary District, *vice* Robert Moore, M.D., deceased.

EDWARDS, Percy, M.R.C.S., appointed Resident Medical Officer to the Lodge Moor Hospital for Infectious Disease, Sheffield, *vice* J. Pearson, M.B., resigned.

ERSKINE, W., M.D., appointed Resident Medical Assistant to Dundee Royal Infirmary.

GRAVELY, R. T., appointed Assistant House-Surgeon to the Royal Berks Hospital, Reading, *vice* H. A. Kidd, resigned.

KENNEDY, John Murray Prior, L.K.Q.C.P.I. and L.M., L.R.C.S.I., appointed Medical Officer to Her Majesty's Prison, Tullamore, King's County, *vice* Dr. Ridley, deceased.

LAWTON, M., L.R.C.P. and L.R.C.S.Edin., appointed Medical Officer to the Midleton Union, Co. Cork, *vice* J. J. Foley, M.R.C.S.Eng., resigned.

LLOYD, Jordan, M.S.Durh., F.R.C.S.Eng., appointed Assessor in Anatomy for First (M.B) Examinations in the University of Durham.

NEALE, George, L.R.C.P., L.R.C.S.Edin., appointed Medical Officer to the Barry District of the Cardiff Union.

PEARSON, Joseph, M.B., C.M.Aberd., appointed Resident Medical Officer to the Winter Street Hospital for Infectious Disease, Sheffield, *vice* C. H. Willey, M.D., resigned.

RIDLEY, George, M.D., appointed Surgeon to King's County Infirmary.

STANLEY, W. H. R., M.D.T.C.D., L.R.C.S.I., appointed Medical Officer to the New Medical Aid Association, Ashford, Kent, *vice* Dr. RIX, resigned.

WHYTE, J. M., M.D., appointed Honorary Pathologist to Dundee Royal Infirmary.

LYTHAM COTTAGE HOSPITAL.—The last report of the Committee of the Lytham Cottage Hospital and Convalescent Home, erected and furnished by the late Mr. J. Talbot Clifton, for the accommodation of the poor of the district, shows that without some special effort the work of this beneficent institution is likely to suffer materially from lack of funds. In 1882-3 the building was enlarged at a cost of nearly £700, and it was decided to extend its benefits to other districts than its own. Corresponding support has not, however, been forthcoming; last year's working shows a deficit of £117, and the Committee are reluctantly compelled to recommend a return to the old system of admission. During last year 107 patients were received at the hospital, only 39 of whom belonged to Lytham. The remainder were from Liverpool, Manchester, Bolton, Preston, Blackburn, Haslingden, Blackpool, and more distant places.

DOCTORS OF MEDICINE IN GERMANY.—During the academical year 1886-87, the twenty Universities of Germany conferred the degree of Doctor of Medicine on 847 candidates, as against 689 in the previous corresponding period. The following are the numbers for each University: Berlin, 132; Bonn, 62; Breslau, 25; Erlangen, 35; Freiburg, 13; Giessen, 8; Göttingen, 19; Greifswald, 60; Halle, 26; Heidelberg, 13; Jena, 29; Kiel, 27; Königsberg, 26; Leipzig, 0; Marburg, 18; Munich, 124; Rostock, 4; Strassburg, 17; Tübingen, 21; Würzburg, 188. It is somewhat startling to find Würzburg so far ahead of Berlin, but as German students can graduate where they please, the relative mildness, real or supposed, of the examinations in the various Universities may furnish an explanation.

MEDICAL-DIRECTOR BROWNE has been selected by the President of the United States to succeed Dr. Wales, as Chief of Bureau of Medicine and Surgery in the Navy Department at Washington. Dr. J. M. Browne, who now attains the rank of Surgeon-General, has had a long and distinguished career in the American Navy. He saw much service during the American Civil War, and was surgeon of the *Keersage* in her memorable action with the *Alabama*, off Cherbourg, in 1865. He was deputed by his Government to attend the International Medical Congress held in London in 1881, when he made many friends amongst members of the profession in this country, particularly in the naval and military services. He was afterwards selected to organise and superintend the National Museum of Hygiene at Washington.

A MEDICAL CREW.—At the Folkestone amateur regatta, held last week, the race which produced the most interest was a four-oared galley contest, in which four crews competed, composed of members of the banking, legal, medical, and military professions respectively. At an early period of the race the doctors, who had the worst position, and the soldiers gradually came to the front; but the officers were unable to head the rival crew, who eventually won, amidst much applause, by three lengths. The following formed the crew of the leading boat:—Mr. R. Bowles, Dr. Frederick Eastes, Mr. Gerald FitzGerald, and Dr. C. E. Perry.

EXPERIMENTAL ENTOMOLOGY.—It is stated that a laboratory of "experimental entomology" has lately been established in the Cornell University with the object of investigating the action of insecticides on noxious insects. Whilst seeking for a means of exterminating the Colorado beetle and kindred scourges, travellers on the Continent and dwellers in London lodging-houses may, perhaps, be permitted to hope that the workers in this useful field of research will extend their philanthropic efforts to the suppression of meaner forms of insect life, which add a good deal to the sum of human discomfort.

THE FOOD AND DRUGS SECTION OF THE ANNUAL MUSEUM.—Mr. J. Dowling Allman desires to inform the numerous subscribers (forty-two in all), being nearly all the exhibitors in Section A, Food and Drugs, at the annual meeting of the Association in Glasgow, that he has completed his duties as treasurer to the testimonial to Dr. Thomson, Honorary Secretary of that Section, and that besides Ziemmsen's *Cyclopædia*, the subscriptions have entitled him to present Dr. Thomson with several other medical works, and a travelling clock for Mrs. Thomson. Dr. Thomson has acknowledged the receipt of the presentations, and desires his best thanks to all the subscribers.

VEGETABLE PATHOLOGY.—A laboratory of vegetable pathology for the study of the diseases of plants and the means of remedying or preventing them has recently been established in connection with the French Institut National Agronomique. This is certainly a step in the right direction, and one that might with much advantage be imitated elsewhere. Pathology will never be truly scientific till it is made to include the whole of organic life.

YELLOW FEVER IN FLORIDA.—At Jacksonville, the epidemic of yellow fever is said to be increasing. During the twenty-four hours ending 6 P.M. September 18th, 156 fresh cases of yellow fever and 20 deaths were recorded. Since the outbreak of the epidemic to the present time, 1,203 cases and 153 deaths have occurred. The Senate has voted 100,000 dollars for the relief of the sufferers.

NATIONAL REGISTRATION OF PLUMBERS.—At the Town Hall, Dundee, on September 15th, Mr. John J. Henderson, A.M.I.C.E., accompanied by Mr. W. Farquharson, Secretary of the District Council, presented eight certificates, which, along with those presented last week in Fife and Perth, make eighteen for this month.

ST. JOHN AMBULANCE ASSOCIATION.—At Strangeways, on the occasion of the last distribution of certificates, the stipendiary magistrate presented Mr. Darwin, L.R.C.P., of Didsbury, with a large gilt clock and ornaments, subscribed for by all the men of the Manchester division of the Lancashire constabulary.

MEDICAL MAGISTRATE.—Mr. William Hugh Hughes, medical officer of health, Ashton-under-Lyne, has been placed on the Commission of the Peace for the County Palatine of Lancaster.

UNIVERSITY OF CAMBRIDGE.—The examination in sanitary Science, University of Cambridge, will commence on Tuesday October 2nd; applications to be made to the Registrar of the University, Rev. Dr. Luard, on or before September 28th.

A SERIOUS outbreak of typhoid fever has occurred at the Lincolnshire County Asylum. Some of the attendants and patients are stated to have succumbed, and a large number of cases to be under treatment.

A GERMAN Hospital is to be built at San Remo, and subscriptions are being collected. The Emperor Frederick subscribed a considerable sum to this object, which he had much at heart.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTH.

JENNINGS.—On the 18th inst., at 33, Rue Marbeuf, Paris, the wife of Oscar Jennings, M.D., of a daughter.

MARRIAGES.

BOWER—RIDER.—On the 18th September, at Trinity Church, Hampstead, by the Rev. G. F. Head, M.A., Vicar of Christ Church, Hampstead, assisted by the Rev. T. C. Storrs, B.A., curate of Trinity, David Bower, M.D., of Springfield House, near Bedford, to Marian, daughter of William Ryder, of 22, Belsize Park Gardens, Hampstead, N.W.

CHURCH—SLIGHT.—At 11, Dryden Place, Edinburgh, on September 4th, Henry M. Church, B.Sc., M.D., F.R.C.P.Edin., to Christian, second daughter of George C. H. Slight.

MCCREERY—MOSENTHAL.—On the 13th September, at St. George's, Hanover Square, by the Rev. Canon A. Gore, M.A., Archdeacon of Macclesfield, and the Rev. H. W. McCreery, M.A., vicar of Doy Sandford, Oxford, cousins of the bridegroom, Surgeon-Major N. McCreery, Army Medical Staff, fourth son of the late J. McCreery, Esq., Fermoy, Co. Cork, and New Park, Co. Kilkenny, to Alice Mary, eldest daughter of the late Right Hon. Joseph Mosenthal, 55, Gloucester Place, Hyde Park, formerly J.P., and member o the Legislative Assembly, Cape of Good Hope.

DEATH.

DAVIES.—On Friday, September 14th, 1888, at his residence, 40, Warrior Square, St. Leonard's-on-Sea, late of 17, Lower Belgrave Street, London, suddenly, David Davies, M.D.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).;

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's —1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY .....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

SEBORRHŒA CAPITIS.

A MEMBER (Co. Derry) writes: Having under treatment a young gentleman with obstinate seborrhœa sicca of the scalp or pityriasis capitis, I should be glad if any of your readers could give some hints as to treatment. I have tried several applications without avail.

AURAL CHILBLAINS.

M.D. would feel obliged to any member who could inform him of some means to be employed to prevent the constant recurrence of chilblains on the helix of the ear of a young man in good health and of active habits. He does not suffer from chilblains on feet or hands. If there is no prophylactic, what is the best treatment for the chilblains when broken?

MORPHINOMANIA.

MORPHISM writes: A victim to the hypodermic use of morphine, and anxious to overcome it and to get freed from its fascination, would feel truly grateful to any of his brethren who would suggest the best means of doing so with the minimum amount of sacrifice to be undergone.

ANSWERS.

WATERPROOFING CLOTH.

DR. ROBERT J. COLLYNS (Dulverton) writes: In answer to "A Member," who asks for information about waterproofing cloth, the following method is excellent: Put six ounces each of alum and acetate of lead into a bucketful (about twelve quarts) of soft water. Stir at intervals during twelve hours. Pour off the clear solution, and into this put the cloth or garments and leave them for twenty-four hours; then hang them up to dry without wringing.

STOVES.

MR. GEO. A. RAE writes: In reply to "Calorifacieus," I can recommend Fagan's perfected bunsen-burner gas stove as being handy, as it can be used on one's writing-table; very clean and giving no trouble; easily regulated as to heat given off, as the tube may be slipped over a burner on the chandelier in a room; economical in gas consumption, and free from the objectionable products of combustion which render the use of an ordinary gas stove unadvisable unless these are discharged into the chimney. The retail price of the stove is 14s., and of the impermeable composition tubing 9d. per foot.

SYPHILITIC ULCERATION OF TONGUE.

MR. FRANCIS CADELL, F.R.C.S.Edin., M.B. (Edinburgh) writes: Let "Senex" prohibit entirely the use of tobacco, and paint the raw surfaces with chromic acid lotion, 15 grains to ℥i, night and morning.

DR. J. O'CONNOR, L.R.C.S. (Manchester) writes: If "Senex" will try powdered boracic acid, applied with a camel-hair brush, to the ulcer, together with hyd. perchlor. and pot. iod. internally, also a mouth-wash of pot. chlor., he will cure the ulcer. He might also get the patient to become a non-smoker.

ABSENCE OF RIGHT PARIETAL BONE.

DR. G. WASHINGTON ISAAC (7, Mornington Crescent) writes: In reply to Dr. Lucy's queries in the JOURNAL of September 16th, I beg to say that the case occurred in a boy, the child of a multipara, and the labour was a very rapid one. The tumour presented a reddish blush over its entire surface, and this remained during my attendance. There certainly was no distinct pulsation. I did not palpate with a view to produce cerebral symptoms, though I could and did depress my fingers sufficiently to enable me to discover the edges of the surrounding bones. The nodulation of the bone was very distinct, and remained so until the child's death, which occurred last week, from pertussis.

Whilst thanking Dr. Lucy for his explanation, I do not feel competent to accept it entirely, if he can account for the ease with which I could feel the edges of the neighbouring bones, and yet not the parietal, and also for the small space about the size of a shilling that remained open a month after birth, I see no reason why I should not accept his diagnosis.

NOTES, LETTERS, ETC.

THE GLASGOW MEETING.

THE name of Dr. James Gibson, of West Vale, near Halifax, was accidentally omitted from the list of members present at the recent meeting of the British Medical Association at Glasgow.

ATTEMPTED BLACKMAIL BY A REPORTER.

MR. BERNARD F. HARTZHORNE (Chiswick) writes: Some weeks ago I was called to see a woman, aged 81, who had fallen and injured her right thigh. I diagnosed intra-capsular fracture of the femur. The leg and thigh were supported upon pillows for six days, when she was removed to St. George's Hospital, where she died after a few weeks. An inquest was held on August 3rd, and on September 3rd a man, giving the name of George Richards, of 25, Sandal Street, West Ham, called upon me representing himself to be a newspaper reporter, and read me an account of the inquest from his notes, and told me that the coroner commented severely upon my line of treatment for not "setting" the broken bone, and that I was censured by the jury. The reporter then said that he knew if this was printed in the local papers it would do me much harm, and suggested I should give him a guinea to burn his notes. This I declined to do, being perfectly ready to defend my treatment, and forthwith made inquiries, when, by the courtesy of the house-surgeon at St. George's, I found that the diagnosis there was "intra-capsular fracture of the femur," and that nothing was said about my treatment at the inquest.

I felt somewhat "taken to" when confronted with the reporter's notes, and considered the possibility of my having made an error in diagnosis. A little while ago, when less firmly established in practice, I should probably have paid the guinea.

Scotch and Irish Diplomas and Public Appointments.

A Scottish Graduate writes: Mr. Reginald Harrison's letter in the Journal of August 18th, page 390, with reference to the degrees and diplomas which must be held so that candidates may qualify for appointments to the Liverpool Infirmary, settles only one-half of the question. Even in this respect the regulation regarding degrees for medical appointments is not always as open elsewhere. Candidates for the post of assistant-physician to the City of London Hospital for Diseases of the Chest, must be, whatever other degree they hold, Fellows or Members of the Royal College of Physicians of London. Similarly, applicants for the post of obstetric physician to St. Thomas's Hospital, and physician to the National Hospital for the Paralysed and Epileptic. Indeed, Mr. Harrison will find that as far as physicians' appointments are concerned it is an exceptional case to find such an open qualification as that at the Liverpool Infirmary. But could Dr. Banks or Dr. Gairdner, holding Irish and Scotch degrees, apply for a surgeoncy on the strength of the fact that the Scotch if not the Irish M.D. includes that of Master of Surgery?

It is true, no doubt, that a Scotch or Irish M.D. is sufficient qualification for many appointments on the medical side in English provincial hospitals, but how far can the same be said of surgical appointments? In only one English hospital that I am aware of, namely, the Manchester Royal Eye Infirmary, is it the sole requisite for a candidate for position on the staff that he be a "legally qualified medical practitioner."

The surgical examinations at the Scottish schools are not less vigorous than those of London. That of Glasgow is, perhaps, judging by the report of the Visiting Board, the most searching in the United Kingdom. The teaching of the Scottish universities is thorough, and yet the surgical degree of Master of Surgery of a Scottish university is of no value south of the border.

I have only one word more. The most talked of surgeon in this Kingdom, if not in Europe, at the present moment, is William Macewen. He is an M.D. of Glasgow University, and an F.F.P.S.G. There is no doubt that he is fully entitled to rank with Lister, Fergusson, and Syme, but as hospital rules stand he is ineligible for a surgeoncy at any of the London hospitals, and at most of the English provincial ones, which, as Euclid would observe, is absurd.

Cascara Sagrada in Solution with Iron and other Drugs.

Dr. John Irving (Leytonstone) writes: Cascara sagrada is now so valuable as a laxative, and for dehydrating the mucous membranes of the alimentary canal, that its exhibition in an attractive form, as well as in combination with other important drugs, is a matter of some moment to practitioners prescribing it. The addition of water to the *B.P.* liquid extract makes a muddy and rather repulsive-looking draught, which does not improve upon further acquaintance. This unsightliness may be entirely and satisfactorily obviated without the use of either glycerine or syrups. A very small quantity of liq. ammoniæ (*B.P.*) dropped into the watery mixture will clear it to a bright ruby colour, seen by transmitted light, the transparency of which is not altered by a flavouring agent such as tinct. aurantii, nor by a sweetener like saccharin: ℞ Ext. casc. sag. liq., ℿxxx; liq. ammoniæ, gr. iij; tinct. aurantii, ℿxv; liq. sacchar. (5 per cent.) q. s., aquæ ʒiss. M. Ft. haust.

Again, ammonia permits cascara to be dispensed with some preparations of iron, such as ferri et ammonii citras, the mixture, though dark in proportion to the amount of extract used, being a perfect solution; ℞ Ferri et ammon. citratis, gr. xxx; liq. ammoniæ ℿx; ext. cascar. sag. liq. ʒss—ʒj; liq. saccharin. q.s., aq. aromat. ad ʒvj. M. Cap. unciam ter in die.

This combination is especially serviceable, with (or without) small doses of digitalis, where the heart is enfeebled and constipation exists, with tendency to œdema of the extremities; in such a case the liquid extract of cascara, given with the iron in regulated small doses three or four times a day, serves a obvious twofold purpose: (1) it counteracts the binding effect of iron in relieving the bowels, and (2) assists the circulation by removing excess of fluid. In a similar way cascara may be combined with liq. bismuthi et ammon. citratis in digestive derangements. Numerous other mixtures will doubtless suggest themselves, the only point to be kept in mind is that the medicine containing the cascara must be somewhat alkaline, and made so with ammonia.

The Use of the Left Hand in Operations.

Dr. James P. R. Jamison (Broughshane, Co. Antrim) writes: At college, in books, and at examinations, we have frequently had hints as to the importance of using the left hand as much as possible (supposing we are "right-handed") so that operations on the eye, tonsils, palate, etc., may, if necessary, be performed as neatly with the left as with the right hand, according to the side of the patient we are to operate on. To become thus dexterous with the left hand, we are told to shave with it, carry our stick or umbrella in it, play the piano or violin.

These exercises, though useful to a certain extent, do not soon give that power over the left hand, already in possession of the right (if they ever do), in using small instruments, because in none of them are the lumbricales muscles which give precision in incision brought into play. These muscles, are, however, used in writing, the practice of which with the left hand, though awkward at first, soon gives the desideratum, and may prove a useful accomplishment supposing the surgeon meets with an accident to his right hand or arm, or has them paralysed.

Hyoscine as a Hypnotic.

Mr. J. J. Pitcairn (H.M. Prison, Holloway) writes: Dr. Sinclair Thomson, in the Journal of August 25th, contradicts my recent notes on the advantages of hyoscine because "one of Burroughs's hyoscyamine tabloids" produced alarming symptoms in "a fashionable lady of middle life." Dr. Thomson justifies his contention by the remark that the alkaloids are identical, implying that, because hyoscyamine produced dangerous symptoms, therefore hyoscine is also apt to cause them. I must protest against this conclusion altogether. I have now injected hyoscine subcutaneously with the greatest success in about twenty cases, and, if reference is made to my notes in the Journal of July 14th, it will be seen that no injections at all were made with hyoscyamine, which I know to be a dangerous and uncertain drug.

Again, Dr. Thomson appears to have administered a large dose of hyoscyamine by the mouth, a proceeding which is quite sufficient to explain the occurrence of widely different symptoms, even in experiments with the same drug. As a matter of fact, however, Dr. Thomson's administration of hyoscyamine and my injections of hyoscine are totally dissimilar experiments; for, although the two alkaloids are isomeric ($C_{17}H_{23}NO_3$), they are by no means identical. This is probably due, as in numerous other cases, to a different arrangement of the atoms, since hyoscyamine is crystalline and hyoscine amorphous.

In conclusion, I may add that I have never met with a case of "idiosyncrasy," unless the following be one. Quite recently I have witnessed the employment of five injections of hyoscine of medium strength during twenty-four hours, with no effect except considerable mydriasis. The patient was an unfashionable lady of early life. Hyoscine may not be a specific, but cautiously injected it is usually a safe and speedy hypnotic.

Mr. Robert Ruttle (Burnley) writes: In the Journal of August 25th there is a communication in which your correspondent goes on to state that he administered one-eightieth of a grain of hyoscyamine with good result, and then one-tenth of the same alkaloid with very unpleasant results. I leave to some better chemist to explain the difference between hyoscine and hyoscyamine, though I may point out that Ladenburg states that the latter "light atropine" and "light daturine" are identical; "that pure atropine, pure hyoscyamine, as well as hyoscine, are isomeric alkaloids, but possess different chemical and physical characters" (see *Extra Pharmacopœia*, Westmacott and Martindale).

I may be permitted to put on record that in three cases one-sixtieth of a grain of hyoscyamine produced dilated pupil, dryness of fauces, with dysphagia and oppression in the præcordia, in two of the above cases; and a third case that had never taken the drug, a dose of one-hundredth of a grain produced a like result. I may add that, with few exceptions, one-hundredth of a grain, when administered as often as three times a day, has produced mydriasis and throat dryness after two or three days.

With regard to hyoscine, sleep has been almost certainly produced by one-hundredth to one-fiftieth of a grain, even in two cases of puerperal mania, both of which benefited greatly by the administration of one-hundredth of a grain every fourth or sixth hour.

I should like to mention the extreme benefit derived by one patient from the instillation of a 1 per cent. solution (as suggested by Mr. Henry Power) as a mydriatic and sedative; the patient had a very distinct idiosyncrasy against atropine. A severe attack of iritis supervened on cataract extraction. Immediate relief and diminution of the symptoms followed the use of one drop of the above solution thrice daily. The case terminated favourably—L V=+20 D.J.12. Thus fair vision was restored where the man would most probably have been blind. He had unfortunately lost the right eye in other hands.

"M.S.Durham" for Practitioners.

A Grateful Practitioner writes: I think the same gratitude which prompts "M.D.Durham" to speak in gushing terms of his Alma Mater would apply to the holders of the M.S.Durham, with a few exceptions—the exceptions being those few students who began and continued their studies at the school of medicine connected with the University. "M.D., M.S." may be one of those exceptions; if not, I can only say that he has cause for gratitude—quite as much as we practitioners have, who have availed ourselves of the only opportunity of obtaining a degree.

I think that those who only spend one year at the Durham School of Medicine should not grumble that the University has opened its doors a little wider and admitted practitioners. If the examination was a farce, and every man who presented himself and jingled his fifty guineas passed, then, I say, it would be unfair. Instead of this, the examination is a sharp test of a man's knowledge, and, unless he has well prepared himself, he is bound to fail. I believe at the two last examinations at least half the men failed who presented themselves. Considering they were all qualified, some of them holding the best licences, we may fairly conclude the examination was a pretty severe test of a man's knowledge. Then why should men who have only spent one year grumble?—("M.D., M.S." may have spent his whole time at the University); but when I was in for the examination I heard several men grumble who were only putting in one year, and this not at all necessarily an extra year, as "M.D., M.S." suggests, but, in nineteen cases out of twenty, their last year. It is a much easier matter, and less expense, too—for time is money to a busy practitioner—to even put in an extra year at the end of his student life, than for a fifteen years' practitioner to read for at least eighteen months, and that carefully and well, before he can obtain the degree. Of the scores of letters which I had after I passed, asking for particulars of the examination, nearly the whole of the men saying they were reading hard for the degree, I have failed to recognise a single name in the pass-lists.

A Fallacy in Testing Urine for Sugar.

Dr. Hugh Woods (Highgate) writes: A case which lately came under my observation is, perhaps, worth mentioning, as showing a ready cause of error in testing urine for sugar. In the case I allude to there was a history of the diagnosis of diabetes and the detection of sugar in the urine by physicians of the highest standing, who would hardly be likely to fall into error. I first examined the urine by gaslight, using Fehling's solution, and just as it began to boil it assumed the appearance indicative of abundance of sugar; but noticing the somewhat transparent look of the fluid in the test tube, I felt very doubtful, and, on repeating the examination more carefully by daylight, I found that on heating the urine with Fehling's solution the blue colour was soon discharged, and a slight dirty grey precipitate was formed. This often occurs in healthy urine, and has not, I think, any pathological significance whatever.

On continuing to heat, however, just at the boiling point, the whole of the liquid assumed a bright red colour, and this gave the precipitate previously thrown down an appearance very closely resembling that of copper reduced by sugar. Thus the coincidence of two phenomena, of little account by themselves, simulated closely a much more significant one. Other tests convinced me of the complete absence of sugar. There was some albumen in the urine, and microscopic indications of chronic kidney mischief, which might have accounted for previous quasi-diabetic symptoms. Still, I think there probably had been glycosuria at that time, although appearances such as the above might easily deceive any but a thoroughly careful and practised observer.

Medicine and Atheism.

Dr. F. Willcocks (Mandeville Place, W.) writes: "Senior" makes an inquiry in the Journal of August 25th, p. 462, as to the origin of the "defamatory saying," *Ubi tres medici, duo athei*, quoted by Professor Gairdner in his recent address at Glasgow, and suggests further that it originated with Hoffman. The phrase occurs in the annotations that were first added to the edition of Sir Thomas Browne's *Religio Medici*, published in 1656, and these were subsequently reprinted along with Sir Kenelm Digby's observations in many of the earlier editions, as for instance in those of 1672 and 1736, which now lie before me.

The first annotation, the one in which the expression occurs, runs as follows: "Physitians (of the number whereof it appeares by severall passages in this Booke the Author is one) doe commonly heare ill in this behalf. It is a common speech (but onely amongst the unlearned sort) *ubi tres medici, duo athei*. The reasons why those of that profession (I declare myself that I am none but *causarum actor mediocris*, to use Horace his phrase) may be thought to deserve that censure, the author rendreth Section 19."

The authorship of these annotations was for long a matter of doubt, and was even unknown to Dr. Johnson when he wrote Sir Thomas Browne's life. The later researches of Wilkin, 1835, went far to show, however, that the author was probably Mr. Thomas Keck, of the Temple, and the personal description, given above, *causarum actor mediocris*, a moderate pleader of causes, lends some additional weight to this view.

If the Hoffman, to whom "Senior" refers, be the most eminent physician of that name, Friedrich Hoffman the elder, of Halle, the first professor of medicine in that university, he could not have originated the proverb, even admitting that it does occur in his writings, as he was not born until 1660, and this calumny and reproach, as Dr. Gairdner very appropriately terms it, was certainly, as has been shown above, "a common speech amongst the unlearned sort" as early as 1656, even if it did not exist long before. The phrase does not occur in the notes added by Moltkins (1652) to Merryweather's Latin translation of the *Religio Medici*. Dr. Gairdner tells us that he has been unable to trace the allusion to its source, but suggests that the proverb may have originally taken form as an expression of the mediæval intolerance of all investigation of Nature. Possibly Dr. Greenhill, of Hastings, a well known commentator on Sir Thomas Browne, may be able to add something further to our knowledge on the point.

Unknown Summer Holiday Resort.

A Correspondent writes: The suggestion made by a contributor to the Journal a year or so ago has always seemed to me to be a good and practical one, namely, that when a new and attractive summer resort is discovered the information should be conveyed while the memory of it is still fresh in the recollection of the discoverer. No apology is, I am sure, needed in these days of professional overcrowding and reduced incomes, for bringing under the notice of my brother practitioners a summer resort, where that entire change of environment which conduces so much to mental rest can be obtained at about half the usual cost of a holiday on the Continent.

The place from which I am now writing—Hohwald by Barr, Alsace—appears to be little known in England. I believe I am the only Englishman who has visited it this season, and a Dutch gentleman who has been a visitor for several years informs me that he has only met one of my countrymen during that time. This I can only attribute to the beauties and advantages of the place being unknown, as it is comparatively easy of access. The Great Eastern Railway Company issues return tickets to Strassburg at a moderate rate, and the journey may be accomplished in forty hours, twenty of which may be pleasantly spent in visiting one or two of the cities *en route*, as the journey may be broken at Antwerp, Brussels, Namur, Jemelle, d'Arlon, Luxemburg, Metz, or Strassburg. The journey from Strassburg to Barr by the local railway occupies two hours, and Hohwald is reached by omnibus in one hour and three-quarters more. Hohwald is a village of 682 inhabitants, situated in a sheltered and picturesque position in the Central Vosges Mountains at an elevation of 2,198 feet, and in the midst of large forests of pine trees, through which roads and footpaths lead in every direction to neighbouring towns, villages, and points of interest, at distances varying from one to six miles; and as the gradients are very easy I need scarcely indicate that it offers special attractions to middle-aged persons, those with weak hearts or lungs, or those who during the rest of the year lead sedentary lives.

The mean temperature during the season, which is from June 1st to September 30th, is 63.5° F. by day and 59.1° F. by night. Ozone in the air by day 7.2 per cent., and by night 8.8 per cent. The soil is so dry and porous that even after a thunderstorm the roads and paths quickly become dry. Owing to its elevated and sheltered situation the air is genial without being relaxing, and consequently a considerable amount of exercise can be taken with less fatigue than at many other health resorts situated at an equal height above the sea level. The Hotel du Hohwald has a special water supply from a very pure and elevated source, and the sanitary arrangements are good, the closets being isolated and otherwise well constructed, while the sewage is conveyed to a safe distance and disposed of by precipitation in a tank, and the effluent water is discharged into a rapid brook. There are good warm and douche baths adjoining the hotel; it is capable of accommodating 200 visitors, and the tariff is very moderate, varying of course according to the room or rooms occupied. The bill of fare is liberal and varied, and the quality of the food and the hours at which it is served will meet the requirements of most Englishmen.

Hitherto this place has been almost wholly monopolised by the Germans and French, but the new German passport regulations have this season practically excluded the latter, and it is believed that those regulations will in the future be more stringently carried out. I may add that it is difficult to speak in terms of sufficiently high praise of the civil and obliging proprietor Mr. J. H. Kuntz, and his wife, or indeed of the attendance generally. In the fear of appearing to be too laudatory in my remarks, and of trespassing too largely on your valuable space, I have confined myself to a bare recital of the natural and acquired attractions of Hohwald and its hotel, not the least of which is, I am sure, the attention paid to the sanitation of the latter.

Inheritance in Kittens of Deformed Tail from Accident to the Mother.

Mr. J. R. Seymour (Camden Town) writes: A short time ago I had a black cat given to me, which had a few weeks previously given birth to five kittens, two of which were black and white, the other three all black. Two of the black ones were born with deformed and stunted tails like the mother; the tails of the other three were normal. All the kittens were drowned save one of the abnormal tailed black ones, which I received with the mother. The abnormality in the mother was that the tail was very short, about 2¾ inches in length, and that in about the middle of its length the two portions were united at an angle of about 135° with each other. The joint between the first caudal vertebra and the sacrum was in all respects normal, but the joints between the other vertebræ were all more or less ankylosed, so that they did not admit of any appreciable movement. I suspect that the mother had at one time been snared in a gin or shut in a door-way, and had lost the greater part of her tail, the remaining portion, having been dislocated in about the middle of its length, had united at an angle. There was a scar in the skin at the extremity of the tail which was well covered with hair (not the scar, but the skin immediately surrounding). It may be that the deformity was handed down from two or more generations, but would the scar be then as plainly visible as it was now? The kitten that I had was of the female sex, and, like the mother, was also very dirty in its habits, so much so that I had to destroy them both. I am unable to speak regarding the sex of the other kittens, as I had not the opportunity of deciding. It is certain that the cat was an ordinary one and not a Manx breed, though many persons supposed it was, from the shortness of its caudal extremity.

COMMUNICATIONS, LETTERS, etc., have been received from:

Mr. H. Hutchinson, London; Lord Arthur Hill, M.P., London; Mr. C. Rowland, Georgetown; Mr. R. Garnett, London; Mr. E. Ady, London; Dr. B. Lane, Limavady; Surgeon G. G. Cardew, Meerut, India; Mr. F. R. Humphreys, London; Dr. J. G. Parsons, Bristol; Mr. R. B. Sellers, Rochdale; Dr. Robertson, Sherborne; The Lady Superintendent of the School of Massage and Electricity, London; Mrs. F. A. Symes, Bristol Ferry; Our Newcastle Correspondent; Mr. C. E. Abbott, Braintree; Mr. G. W. Isaac, London; Mr. R. J. Collyns, Dulverton; Dr. C. E. Moore, Downpatrick; Mr. H. V. Dillon, Cambridge; Messrs. Cassell and Co., London; Mr. J. J. Ideson, Colne; Surgeon-Major J. Nimo, Colchester; Dr. C. T. Williams, London; Mr. F. J. Smith, London; Mr. J. Olding, London; Dr. A. Gray, Leith; Dr. C. R. Drysdale, London; Mr. J. D. Allman, London; Dr. W. G. Barr, Leyland; Mr. H. P. Hawkins, London; Mr. P. F. Harrison, Shrewsbury; Mr. A. Duckham, Pontypool; Mr. W. C. F. Smith, Halifax; Dr. A. Duke, Dublin; Mr. G. A. Rae, Devonport; Dr. J. Cantlie, Hong Kong; Mr. J. Holmes, Redcliffe; Mr. J. P. R. Jamison, Broughshane; Mr. J. Gibson, West Vale; Dr. H. B. Allen, Melbourne; Mr. P. J. Duncan, London; Dr. Holt, Burnley; Dr. H. M. Church, Edinburgh; Dr. J. W. Ogle, St. Cergues, Switzerland; Mr. G. Greene, Ferns; Dr. E. F. Underwood, Bombay; Dr. J. F. Sutherland, Glasgow; Dr. C. J. Cullingworth, London; Mr. J. Munro Scott, London; Mr. L. Humphry, Cambridge; Miss Spring, London; J. W. Gainer, M.B., Thrapston; Mr. G. H. Darwin, Didsbury; Dr. J. Cran, London; Mr. W. Bartlett, Newcastle; Mr. R. G. Blair, Bradford; Dr. Schnee, Carlsbad; Mr. J. Bark, Bootle; Messrs. Sells, London; Professor B. Anningson, Cambridge; Mr. J. B. Petter, Yeovil; Mr. P. H. Watson, Newcastle-on-Tyne; Messrs. W. J. Bush and Co., London; Mr. W. H. Lake, Derby; Miss Howe, Hitchin; Mr. E. Macdonald, Manchester; Dr. A. Pullar, London; Mr. G. Blything, St. Albans; Messrs. Street and Co., London; Dr. F. W. Kidd, Dublin; Dr. H. Marcus, Paris; Mr. J. G. Houseman, Heywood; Messrs. E. J. and F. Crawford, London; Mr. W. Pocock, London; Mr. W. H. Sturge, New Eltham; Mr. Arthur Jackson, Sheffield; Mr. J. W. H. Feeny, Bitterne; Mr. R. J. Purdon, Belford; Mr. J. Taylor, Ticehurst; Mr. W. G. Axford, Thornton Heath; Mr. S. B. Muratti, Constantinople; Mr. T. J. Verrall, Brighton; Mr. R. Pollock, Tunbridge Wells; Mr. A. W. Thomas, Bangor; Dr. C. R. Illingworth, Clayton-le-Moors; Dr. Brailey, London; Mr. A. R. Gunn, Tarporley; Professor Humphry, Cambridge, etc.

BOOKS, etc., RECEIVED.

The Frog: an Introduction to Anatomy, Histology, and Embryology. By A. M. Marshall. Third Edition. Manchester: J. E. Cornish. London: Smith, Elder and Co. 1888.

The Diseases of the Chest. By V. D. Harris, M.D.Lond., L.R.C.P. London: J. and A. Churchill. 1888.

Massage and Allied Methods of Treatment. By Herbert Tibbits, M.D. Second Edition. London: J. and A. Churchill, 1888.

The Prevention of Disease in Tropical and Subtropical Campaigns. By A. Duncan, M.D., B.S.Lond., F.R.C.S. London: J. and A. Churchill. 1888.

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THE SECTION OF MEDICINE.

At the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By T. McCALL ANDERSON, M.D.,
Professor of Clinical Medicine in the University of Glasgow.

THE DIAGNOSIS AND TREATMENT OF SYPHILITIC AFFECTIONS OF THE NERVOUS SYSTEM.

In a paper published recently in the JOURNAL,[1] entitled "Is Mercury an Antidote to Syphilis?" I find the following remarks: "Diday, and in this opinion I am inclined to agree with him, considers that modern syphilis, as the present generation sees it, is, in most cases, a mild disease generally curable enough; and adds that but few cases are followed by visceral disease or affections of the nerve-centres. He in no way disapproves of mercury; but recommends it only when severe outbreaks of the disease take place in order to lessen their effects on the health. 'Mild' syphilis he treats without mercury."

But few cases of syphilis are followed by affections of the nerve centres, and mercury is only necessary for severe outbreaks of the disease! As I have reason to believe that these are not only the views of the writer of the paper, but also of a large number of our professional brethren, and as they are almost diametrically opposed to my own experience, it appears to me that the subject which I have selected for discussion is one of great importance in the interests of the community. My view may be stated thus—that just because "mild" syphilis is apt to be treated in a cavalier fashion, and without due care and persistence, disease of the nervous system is very apt to follow in its wake; and that such disease is much more common than is generally supposed. As a basis for the following remarks I have collected twenty-four cases which have occurred recently in my own practice, and of which I have sufficiently accurate records, although they constitute but a fraction of those which have come under my observation.

In order to pave the way for the subsequent discussion, perhaps my best plan is to consider, in a series of propositions, the grounds upon which the syphilitic nature of a lesion of the nervous system may be suspected. Many of these are, of course, familiar to all, but it is necessary to refer to them shortly in order to complete the picture.

1. *A History of the Entrance of the Syphilitic Poison into the System.*—Positive evidence of this is of great value, but negative evidence should not divert us from our suspicion, if, for other reasons, a syphilitic basis is probable. Many patients are ignorant of, or forget their having contracted syphilis (for the initial lesion is often a very trifling matter, and the poison may enter the system in a great variety of ways), while many are loath to admit that they have ever exposed themselves to such infection. The interval, too, which has elapsed since the time of infection is often so long as to put us off our guard, and to render it likely that we may fail to connect the disease of the nervous system with the syphilitic contamination as cause and effect; while, with certain limitations, it may almost be said that the longer the poison has lain dormant in the system the more likely are internal organs to suffer. Of the twenty-four cases above mentioned there were thirteen in which the time of infection was known, and in them the intervals elapsing before the nervous affection set in were 2½, 3½, 4½, 6, 7, 9, 10, 13, 13, 16, 18, 25, and 30 years. We must also bear in mind that diseases of the nervous system may be the result of hereditary syphilis, the history and evidences of which must be carefully inquired into.

2. *The Discovery of other Manifestations of Syphilis.*—In those comparatively infrequent cases of implication of the nervous system in the secondary stage of syphilis, we are pretty sure to find evidences of the disease on the skin, mucous membranes, etc. But as the nervous system generally suffers in the late stages, such evidences are not certain to be found, and, when present, they are usually much less numerous. What we must specially look for now are tubercular eruptions, serpiginous ulceration, gummy tumours in the subcutaneous tissues, deep ulceration of the palate or of one side of the throat, syphilitic disease of the tongue (which must not be confounded with the so-called tylosis linguæ), periostitis, enlargement of a testicle, or amyloid disease of internal organs without any other probable cause to account for it.

3. *The Discovery of Traces of bygone Syphilitic Manifestations.*—Amongst these may be mentioned a cicatrix upon the penis, usually slight, and not otherwise satisfactorily accounted for; circular cicatrices on the skin with sharply-defined edges, and often with coppery areolæ: these are especially valuable if not situated below the knee; scars at the angles of the mouth or on the palate or fauces; perforation of the septum nasi, atrophy of a testicle or indurations upon the superficial bones, the remains of attacks of periostitis.

The following case, which is of interest in other respects, illustrates the fact that evidences of a syphilitic taint may be very scanty and very readily overlooked. I give it in outline:—

A labourer, aged 40, the father of seven healthy children, came under observation on June 30th, 1885. Six weeks before this he began to experience a gradual loss of power, commencing in the feet and gradually spreading to the legs, inability to micturate, and loss of control over the rectum. He had, too, a feeling of numbness and coldness in the lower extremities, "as if standing in iced water," which gradually deepened into nearly complete anæsthesia, and was accompanied by severe pain. In about a fortnight the paralysis had so increased as to prevent him from walking, and he took to his bed. On admission it was found that the paralysis of the lower extremities was almost complete, while sensation was seriously impaired. There was incontinence of urine and fæces, and he had four large and deep sloughing bedsores, one on each ischial tuberosity and two over the sacrum. The only reason for suspecting that the lesion might be syphilitic was that his skin had a dirty earthy tint, and that a scar about the size of a crown piece, white in the centre and with deeply-pigmented edges, was discovered near the left anterior superior spine of the ilium. Treatment was commenced on July 3rd, and consisted of daily inunction of a drachm of Shoemaker's *mercurous* oleate ointment. By July 16th—a fortnight after the treatment was commenced—the anæsthesia had, in great measure, disappeared, and he could use his legs much better, the bedsores were nearly healed, the functions of the rectum were restored, but the incontinence of urine remained. From this time he improved steadily, and left the infirmary on November 4th nearly well. On August 1st, 1886, he walked some miles to the hospital to show himself. He was then perfectly well in every respect, except that he had cystitis, and could not retain his water for any time.

4. *The Presence or the History of Pain in the Joints, Bones, or Head.*—This feature is very suspicious if it is markedly worse at night. Indeed it may almost be said that pain which is agonising at night and disappears by day is pathognomonic of syphilis. At the same time the converse does not hold, for syphilitic pain is not always nocturnal in its exacerbations. When such pain is in the head it usually involves only a part of it—oftenest a lateral half—or it may be very localised, in which case it is often accompanied by tenderness on pressure. Sleeplessness is a frequent concomitant of headache, but it often occurs independently of it, and when met with in persons who are not advanced in years, and along with other symptoms pointing in the direction of syphilis, it is a very suspicious symptom. It may be permanent, or there may be intervals of comparative or complete immunity from it.

5. *The Appearance of the Patient.*—The syphilitic subject is very likely to have lost his healthy appearance, and to have a dirty, earthy, sallow complexion, which is all the more marked the longer the poison has remained unchecked in the system. This peculiar form of anæmia is not constantly present, but, when pronounced, it is very significant of syphilis to the skilled observer, especially if he knows the patient to have had a clear complexion in earlier years.

But although there is conclusive evidence that the patient has contracted syphilis, or even if he presents unmistakable symptoms of that disease at the time, it does not follow of necessity that the disease of the nervous system is syphilitic; for there is nothing to prevent a syphilitic subject from having a non-syphilitic nervous trouble. The combination may be a mere coincidence, although such cases are far from common, and demand very careful investigation into all their surroundings before concluding that the affection of the nervous system is not specific.

[1] November 27th, 1886. By Dr. Chas R. Drysdale.

6. *The Age and Sex of the Patient are very Important.*—Syphilitic affections of the nervous system are met with at all ages, but most usually at or before middle life. If, therefore, we are able to exclude other causes of the disease under observation which are common in comparatively young persons, the probability of syphilis is great. Thus, if hemiplegia occurs at the age of 30 or 40, and there is no kidney or heart disease, and no traumatic cause to which it can be traced, and no premature degeneration of the coats of the blood-vessels which are within reach, the suspicion of a syphilitic basis is strong. My experience coincides in this respect with that of Buzzard, who says that, "putting aside cases of injury, hemiplegia or paraplegia occurring in a person between 25 and 45 years of age, which is not associated with Bright's disease, nor due to embolism (from disease of the cardiac valves) is, in at least 19 cases out of 20, the result of syphilis."[2] Again, epileptic convulsions, due to syphilis, very rarely set in under 20, and generally long after that age, while genuine epilepsy, in a large proportion of cases, commences between 10 and 20 years (in 106 out of 172 cases [Reynolds]). Of the twenty-four cases above mentioned the syphilitic nervous affection occurred in nineteen between the ages of 24 and 45, and in the remaining five the patients were 48, 48, 49, 62, and 62 years old. The influence of sex is also well marked, there having been twenty cases in males to four in females, a circumstance which is due mainly to the fact that syphilis is much less frequently contracted by women than by men.

7. *The Occupation of the Patient.*—Syphilitic affections of the nerve-centres are believed by Lancereaux and others to be much more frequent amongst the members of the learned professions, and those who work with their heads, than amongst the lower classes, and those who work with their hands, owing to the demand for greater exertion of the brain, and I daresay, relatively, they are; but I am not inclined to make much of this from a diagnostic point of view, having encountered so many cases in hospital practice. This probably arises from the greater frequency of syphilis among the working classes, and from the very general absence of careful and prolonged treatment in the earlier stages of the disease.

8. *Syphilitic Nervous Lesions are frequently Multiple.*—Although often single, they have a great tendency to this characteristic, so much so, that, whenever we meet with symptoms pointing to the existence of two or more separate lesions of the nervous system—for example, paraplegia and paralysis of a cranial nerve—the suspicion of syphilis being at the root of them must be seriously entertained, especially if we are able to exclude such disorders as diphtheritic paralysis, which should not be difficult if we are on our guard. For instance, a gentleman, aged 30, whom I had treated for secondary syphilis in 1879, came to me in January, 1881, on account of diplopia, the result of slight paralysis of the left sixth nerve. Next month he had a typical epileptic convulsion, preceded and followed by nocturnal headache. All these symptoms speedily vanished under the influence of iodide of potassium; but some months later he had an attack of left hemiplegia, for which antisyphilitic treatment, followed by a voyage to Australia, was prescribed. Since then he has remained well, although he has never quite lost a slight limp in walking.

9. *The Variability of the Symptoms.*—If the symptoms of a brain lesion vary much from time to time, independently of treatment, and without any other obvious cause, the syphilitic basis of them is probable, for we rarely find this—to the same extent at all events—in the case of non-syphilitic affections. The following case illustrates this class very well. A gentleman, aged 38, consulted me on August 31st, 1886. "Between August 3rd and 5th," wrote Dr. Archibald Brown, of Mount Florida, who conducted the treatment, "Mr. A. experienced the first symptom of his illness, a slight difficulty in pronouncing certain words. On August 6th, on landing at Greenock after a sail on the river, he found himself unable to speak; but on arriving at Glasgow the power of speech had returned. For about ten days afterwards he felt an occasional numbness of the left cheek and point of the tongue, and experienced a distinctly metallic taste. On the evening of August 16th he suddenly suffered from a choking sensation, followed by contraction of the left side of the face and loss of speech. He was quite intelligent at the time, but felt some confusion of mind. The power of speech returned in about an hour, but from August 17th to 31st he became speechless four or five times. During all this time he was unable to make the simplest calculations and could not spell words correctly, with the single exception of his own name. On the advice of Dr. Moyes, of Largs, he took iodide of potassium for a week, but derived no benefit from its use."

When I saw him on August 31st there was a little permanent aphasia; he could not write very accurately (for example, when I asked him to write "Fairlie" he wrote "Fairlia," although he knew that he was making a mistake), and he was suffering from severe pain, chiefly in the back of the head, which set in some time after the onset of the aphasia. I suspected that these symptoms had a syphilitic basis on the following grounds: 1. Thirteen years before he had a solitary sore on the penis. 2. I found an ulcerated patch on one leg, the edges of which were perpendicular; it was circular in shape, and the skin around had a coppery colour. 3. There were coppery stains on the legs, and on one arm. 4. The pain in the head was nocturnal in character.

Treatment consisted of the inunction of a drachm of Shoemaker's mercurous oleate ointment daily, and was commenced on August 31st.

On September 4th I saw him with Dr. Brown. For the first two nights the pain in the head was worse, but, for the two nights before his visit it was much relieved. "In a very few days," wrote Dr. Brown, after beginning its use (mercurous oleate ointment), "under my observation, improvement in pronunciation and power of speaking set in. In three weeks all the symptoms had disappeared."

10. *In Cerebral Syphilis certain Fundamental Types are very often recognised.*—These, according to Heubner, are as follows:—

(*a*) Psychical disturbances with epilepsy, incomplete paralyses (seldom of the cranial nerves), and a final comatose condition, usually of short duration. This type usually depends upon the presence of a gumma in the subarachnoid space of the convexity of the cortex, which secondarily attacks the brain and leads to softening of the subjacent parts, or upon diffuse gummous meningitis.

(*b*) Genuine apoplectic attacks, with succeeding hemiplegia, in connection with peculiar somnolent conditions, occurring in often-repeated episodes; frequently phenomena of unilateral irritation, and generally at the same time paralyses of the cerebral nerves. This form is generally due to syphilitic disease of the arteries, leading to their obstruction and to softening of the motor ganglia, especially of the lenticular and caudate nuclei. It is often accompanied by a new growth, commencing in the membranes at the base and extending to a variable depth into the interior of the brain. The peculiar somnolent conditions common in this variety are probably the result of narrowing, without total obstruction, of a large number of arteries, thus making an injurious impression upon the whole brain.

The following case belongs to this class. A man, aged 29, a grinder by occupation, was admitted into the Western Infirmary on March 30th, 1882. For six months prior to this time he had been troubled with severe and steadily-increasing headache, which was limited to the left side. Four days before admission he was seized quite suddenly with paralysis of the left arm and leg, so that he was unable to walk, and the day following it was observed that he could not converse, answering "Eh" to every question that was put to him. The day before he came in, however, this symptom had, in great measure, disappeared, although, when he came into the hospital he was in a somnolent condition, had a dazed and stupid look, and answered questions in few words, or sometimes not at all, while the information which he vouchsafed was afterwards found to be quite erroneous. For a day or two, also, before I saw him the paralysis, which was quite complete at first (with the exception of the side of the face which, as usual, was only partially affected), became much less pronounced, so that he could move the arm a little and the leg with considerable freedom. But, on April 8th, nine days after he came under observation, he had an apoplectic seizure and remained unconscious for about a quarter of an hour, during which time there were convulsive movements of the palsied arm and leg. On recovering consciousness it was found that the paralysis was greatly aggravated, he being quite unable to move either arm or leg. The sensation, too, on this side was found to be rather defective as regards touch, pain, and temperature. Thus, when slightly pricked with a needle he thought that the hand was applied, and when hot and cold sponges were used he could discriminate cold but not heat.

The following considerations led me to suspect that the lesion was of a syphilitic nature:—

[2] *Clinical Aspects of Syphilitic Nervous Affections.* By Thomas Buzzard, M.D. London: Churchill. 1874.

1. The age of the patient (29), and the absence of any other apparent cause for the symptoms.
2. The hemicrania was markedly nocturnal in character.
3. The skin had an unhealthy, dirty, earthy tint.
4. The inguinal glands, and those on the inner sides of the upper arms near the elbows, were enlarged.
5. A large white scar, about the size of a sixpence, with dark edges, was discovered near the root of the penis, which, on inquiry, was admitted to have resulted from a venereal sore five years before.

The treatment consisted of mercurial inunction (℥j daily). This was carried out from April 2nd until June 2nd, with the exception of ten days (April 10th to 20th), when it was omitted through inadvertence.

On June 23rd, when he left the hospital, he was a very different man. The intelligence, which was at first so defective, was perfect; the nocturnal hemicrania had long disappeared; the paralysis of the arm was slight, as he could move it freely in all directions; and the dynamometer, on which at first the left hand made no impression, now registered 35 kilogrammes. The palsy of the leg was also slight, although rather more pronounced than that of the arm, and he walked a little lame and rather stiffly. This last symptom, taken along with the existence of some tremor when the limb was manipulated, and exaggeration of the knee-jerks (ankle clonus was not present), rendered it probable that secondary descending sclerosis had set in. As this lesion, though secondary to the lesion of the brain, is of a non-syphilitic character, it could not be influenced by anti-syphilitic treatment.

(*c*) Course of the cerebral disease similar to that of dementia paralytica (general paralysis of the insane), but frequently accompanied by epileptiform attacks, nocturnal headache, or implication of cerebral nerves. In this type there are no gross anatomical lesions, and it is supposed by some that repeated hyperæmias, affecting especially the grey cerebral cortex of the anterior lobes, may be the cause of the symptoms. But, in certain cases, there has been found an unusually marked proliferation of nuclei around the capillaries of the cortex, whose walls are thickened, sclerosed, and in a state of fatty degeneration, and which are apt to be obliterated.

When the spinal cord is attacked there is a great tendency for the disease to set in with symptoms of spinal irritation, followed by paralysis, which rapidly increases, and the affection progresses in the form of an acute spinal paralysis.[3]

The following is a good illustration of syphilitic disease of the cord.

Mrs. F., aged 39, was admitted into the Western Infirmary on December 5th, 1887. Her mother and two brothers died of phthisis, but there was no history of any tendency to nervous affections in the family.

Two years before admission, after having suffered for three months from persistent, painless diarrhœa, she began to complain of numbness and defect of sensation in the left leg, for which she was treated in hospital for a period of five months without material benefit. During her stay there she had retention of urine on several occasions, but was relieved without the use of a catheter, by the application of fomentations. Five months before I saw her the right leg became similarly affected, coincident with which she lost desire for sexual intercourse, and began to experience a feeling as if a cord was tied tightly round her waist. From the commencement of her illness her bowels became very costive, but, if she had diarrhœa, she was quite unable to retain her motions. For three months she had had frequent attacks of lightning pains, usually following the course of the sciatic nerves, but sometimes also shooting down the arms. She complained also of pain and tenderness over the fourth, fifth, and sixth dorsal, and over the twelfth dorsal and first lumbar vertebræ. For at least a year her eyesight had been failing. Drs. Reid and Wallace reported as follows with regard to the eyes:

"Both nerves are pale, retinal vessels congested; nothing pathognomonic of disease; vision of right eye normal, that of left rather defective, reduced about one-fourth. With glasses can see large type with left eye."—Dr. Reid.

"Both visual fields, as taken by the perimeter, are very much contracted, especially that for the left eye, which is irregular in outline, and not concentric like the right. There is a central scotoma in both, the scotoma being nearly proportionate to the area of the visual fields."—Dr. Wallace.

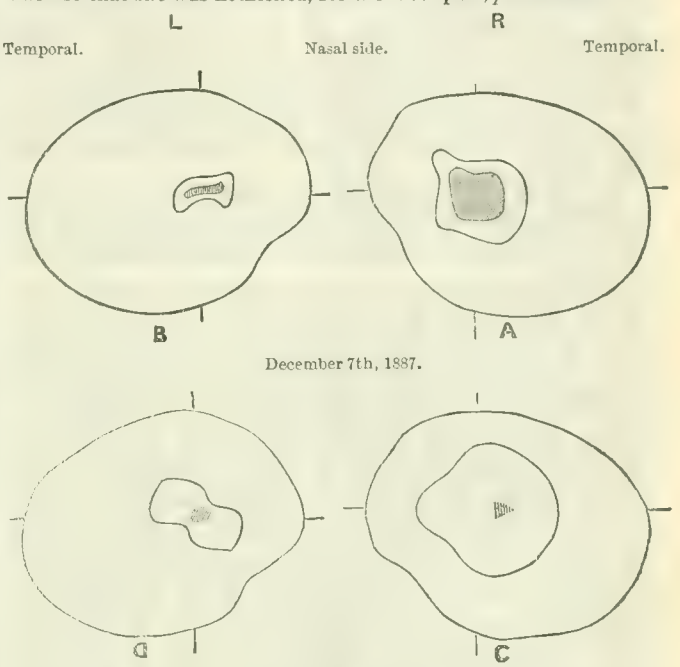
[3] For further particulars see *Cyclopædia of the Practice of Medicine*, edited by Dr. H. von Ziemssen. Article by Heubner, vol. xii, p. 293.

The left (first affected leg) was somewhat more wasted than the right, and she was quite unable to stand. Sensation was completely lost all over the body with the exception of the head and neck, and the reflexes, superficial and deep, were totally abolished.

On January 6th, 1888, it was noted that the disease had further progressed. The girdle sensation was felt higher up in the chest, and the anæsthesia extended to the lower half of the face.

On January 12th the girdle sensation was felt on a level with the clavicles, and the anæsthesia extended as far as the temples.

On January 17th the anæsthesia was universal, and dysphagia was so great that on one occasion she was nearly suffocated, and was only saved by the removal of a piece of meat which had lodged at the top of the larynx. At this time she was shown to the class, and her condition, shortly, was as follows: Lightning pains some time gone, after two powders of antipyrin (xv grains); paraplegia absolute, except that she could move the toes of the right foot slightly; anæsthesia universal and complete; unable to tie a knot or lift a pin, or to read small print; girdle sensation on a level with clavicles, reflexes absent, sexual power gone; micturition and defæcation difficult; dysphagia very marked, so much so that she was nourished, for the most part, *per rectum*.



VISUAL FIELDS OF DR. ANDERSON'S CASE.

Explanation of Plate.—The accompanying diagrams show the field of vision. A and B having been taken on December 7th, 1887, and C and D on February 5th, 1888. The outer line shows the shape and extent of the normal field; the inner line gives the proportional size and shape of the visual field in this case. The shaded portions in the centre mark the positions of a central scotoma. The vertical and horizontal lines would, if drawn so as to intersect, cut one another at the central point of the field—that is, at that point which corresponds to the macula. The blind spot indicating the situation of the optic nerve lies slightly to the temporal side of the field, corresponding to the nasal side of the retina. The fields are greatly contracted, especially those of the left eye, although a decided improvement is evident in those of the later date. A central scotoma for all colours is present in A, B, and D, while the small shaded area in C is a scotoma for red and green, but not for white. It corresponds exactly with the position of the blind spot.—W. W.

The family history might have led to the suspicion that the spinal disease was of a strumous character, but I was inclined to believe that it was syphilitic, for the following reasons:

1. She had a pallid and earthy complexion.
2. Before and for three years after her marriage (at the age of 23), she enjoyed exceptionally good health. She then became pregnant, and had an abortion, without any obvious cause, at the fourth month, and was much weakened by hæmorrhage. Two months after this she again became pregnant, and again aborted at the fourth month. Twelve months thereafter she was delivered

of an apparently healthy child at the full term. It is further worthy of note that her husband, being a soldier, was separated from her, and returned shortly before the first pregnancy set in, although, as far as she knew, he was in good health.

3. During the whole period of her first pregnancy, she had very severe headache, which was nocturnal in character.

Antisyphilitic treatment was commenced on January 17th, 1888, and consisted of iodide of potassium, 10 grains thrice daily.

On January 21st, four days after the treatment was commenced, she was found to be much improved. She looked better, and felt less languid. Power was returning to the lower extremities, especially to the right limb. The anæsthesia was nearly gone from the head, neck, and trunk, as far as the waist, and from the upper arms. The dysphagia was quite a subordinate symptom, and the girdle sensation had sunk to the level of the breasts. She could now tie a knot and lift a pin. It is worth noting, also, that, coincidentally with the diminution of the anæsthesia, the tenderness over the fourth, fifth, and sixth dorsal spines temporarily reappeared. She continued steadily to improve, and, when she was again shown to the class, on February 6th, twenty days after the treatment was commenced, the following was her condition: Her general health was much improved, and she had a much more healthy colour. She could move her legs freely in bed, and could walk with slight assistance. The anæsthesia was gone, except from the feet, where, especially on the soles, sensation was still much blunted. The dysphagia and girdle sensation had also disappeared, as well as the spinal tenderness. She could now read small print, and the improvement in the eyesight is further shown by the accompanying diagrams. Her bowels were now regular, and urination was much more natural, but the knee-jerks were still absent.

11. *Eye Symptoms.*—A careful examination of the eye and its appendages frequently helps us to the diagnosis of a syphilitic nervous affection, or, at least, arouses the suspicion that the patient is tainted with syphilis, for the two propositions are not identical.[4]

While any or all of the nerves supplying the muscles of the eyeball may be affected (ophthalmoplegia externa, and interna), the third and sixth are those which are most frequently implicated in syphilitic disease, especially that branch of the oculomotor for the supply of the internal rectus muscle; and nuclear paralysis of the sixth nerve, with conjugate deviation of the eyeball, is of more diagnostic importance, as far as syphilis is concerned, than peripheral paralysis of that nerve. The cornea and iris are the structures of the eyeball which are most frequently the seat of syphilitic affections. An intestinal inflammation of the cornea, accompanied by dulness of hearing and faulty development of the teeth, as pointed out by Hutchinson, may be regarded as distinct evidence of heredo-syphilis. More than 30 per cent. of all cases of iritis are said to be of syphilitic origin. It occurs usually during the secondary stage of the disease, and is generally symmetrical. When it is accompanied by the development of minute gummata along the margin of the pupil, or in the substance of the iris, it is pathognomonic of syphilis, and occurs, as a rule, at the close of the secondary or beginning of the tertiary stage of the disease. When the iritis extends to the choroid (irido-choroiditis), or when the whole of the uveal tract is simultaneously affected, associated with opacities in the vitreous, the disease probably has a very deep hold upon the system, and sooner or later symptoms of lesions in other organs, as the brain or spinal cord, may be expected to occur. On account of the intimate nutritive and anatomical relations of the choroid with the retina and optic nerve, these structures are often implicated, giving rise to dimness of vision, with atrophic patches in the choroid in the region of the macula, or at the periphery of the fundus. This form of inflammation occasionally ends in atrophy of the eyeball, and is of far more serious import than choroiditis disseminata, of which about one-half of the cases are said to be syphilitic.

Affections of the retina and optic nerve are comparatively rare apart from affections of the choroid; but in some cases of syphilis the patient complains of central dimness of vision, and in such cases the ophthalmoscope reveals a general mistiness of the whole retina, with veiling of the optic-nerve entrance. Such cases of retinitis usually implicate both eyes—the one after the other—are generally transitory, and are characterised by the fact that it is usually the central region which is most affected. The optic nerve may be affected in various ways (neuro-retinitis, neuritis, atrophy), but the appearances presented on ophthalmoscopic examination do not present any characteristic features to distinguish them from those which accompany non-syphilitic affections of the brain or cord, or of their membranes.

12. *Syphilitic Affections of the Nervous System are generally unaccompanied by Syphilitic Affections of the other Viscera, and vice versâ*—a circumstance which should be borne in mind, lest erroneous inferences might be drawn. Of the twenty-four cases already referred to, there was not a single one in which there was clinical evidence of the implication of any other internal organ.

13. *The Results of Treatment.*—In all cases in which there is a suspicion of the syphilitic basis of an affection of the nervous system we should give the patient the benefit of the doubt and put him upon anti-syphilitic treatment. If the symptoms unmistakably yield, our suspicion becomes a certainty, although the converse does not always hold good. A syphilitic lesion, even although we succeed in removing it by treatment, may have so compressed and damaged the tissues in which it was imbedded as to preclude the possibility of a complete restoration to health. Syphilitic disease of the coats of the blood-vessels, too, may lead to their occlusion, and to softening of the parts supplied by them, which cannot, of course, be influenced by mercury or iodide. Hence hemiplegia setting in suddenly is much less likely to be cured than when the symptoms develop gradually. In like manner hemiplegia, which is followed by descending degeneration of the lateral column of the cord, which is a non-syphilitic lesion, cannot entirely be recovered from.

Treatment.—Whenever we suspect that a nervous affection is of a syphilitic nature, we should attack it at once with anti-syphilitic remedies, and just as energetically as if we were absolutely certain of our diagnosis. A faltering hand under such circumstances is fatal. A very prevalent belief with regard to the treatment of syphilis is that mercury is *the* remedy in the early, and the iodides in the late stages. Now I quite admit that iodine is *most* useful in the latter, and that mercury is *very* useful in the former; but at the same time I hold that some of the most brilliant results are achieved by mercury in old-standing cases of syphilis, and sometimes after iodide of potassium has failed. It may turn out, however, when we have had experience of the employment of heroic doses of the iodide (even to the extent of two ounces per day), which have proved successful and innocuous in the treatment of some cases of psoriasis, that more uniformly good results may be obtained from it. Our rule should be to begin with moderate doses—say ten grains thrice daily—and steadily to increase the dose, either until the symptoms yield or until the medicine begins to disagree.

Mercury may be given in a great variety of ways, which need not be enumerated; but I have a decided preference for mercurial inunctions, or for subcutaneous injections, as we thus attain speedy and excellent results, while avoiding derangement of the digestive organs.

For inunction the mercurial ointment of the *Pharmacopœia*, or Shoemaker's 50 per cent. mercurous oleate ointment, may be used. The only objection to these preparations is their dirtiness, but in the case of the latter this difficulty may to a certain extent be overcome by preparing it without heat. In this way we obtain an ointment which, when freshly prepared, has a faint lavender tint. It should generally be continued for months after the symptoms have yielded, and those who keep their teeth and gums scrupulously clean are much less liable to salivation.

The subcutaneous injection of the perchloride of mercury has one great objection, namely, that it may induce painful indurations or even abscesses. Various mixtures have been devised with the view of overcoming this obstacle, but none of those which I have tried possess any marked superiority over a simple solution of 4 grains in an ounce of distilled water, of which 15 to 30 minims (gr. $\frac{1}{8}$ to gr. $\frac{1}{4}$) may be injected daily. With the view of preventing the occurrence of inflammatory reaction the following procedure, in whole or in part, may be adopted. The skin is first frozen with ether spray or with a small piece of smooth ice, the surface of which is sprinkled with salt and applied for a couple of minutes with the aid of a folded handkerchief. One-eighth of a grain of sulphate of morphine is then injected deeply into the cellular tissue of the hip or other insensitive part, or where there is much subcutaneous fat; the syringe is then detached from the cannula, and filled with the sublimate solution, and in two or three minutes it is again attached to the cannula, and the solution is injected. Thereafter a lump of ice is kept applied to the part until all uneasiness has subsided. The rapidity

[4] For the information which follows I am much indebted to my colleague, Dr. Thomas Reid, as well as to Dr. Freeland Fergus.

with which syphilitic manifestations sometimes disappear, as well as the small quantity which requires to be used, as compared with the internal administration of the drug, is sometimes very astonishing.

I conclude with a short note of a case which is of interest in connection with the relation of locomotor ataxy to syphilis, and which seems to raise the question whether the futility of anti-syphilitic treatment in the majority of cases with undoubted syphilitic antecedents may not be due to our not seeing our patients in an early stage of the disease.

A gentleman, aged 43, consulted me on February 3rd, 1885. His symptoms only dated back four weeks. These consisted of well-marked staggering gait, with numbness of the lower extremities, and inability to feel the ground properly when walking. For a week, too, numbness of the arms (especially on the right side) as far up as the elbows, and limited to the region of distribution of the ulnar nerves, had been complained of. His knees felt slightly stiff, he said, and he suffered from a feeling of tightness across the stomach and of much flatulence, especially after food, and at times he had a feeling as of a band across the abdomen. The knee-jerks were entirely absent.

He attributed his symptoms to going into the open air after sitting in a hot office all day. But ten years before I saw him he had a single sore on the penis, followed by blotches on the skin and pains in the bones, which, however, did not trouble him long, and for which he was only treated for a short time.

Treatment was commenced on February 4th, a drachm of mercurial ointment being rubbed into the skin daily. On the 7th the numbness of the legs was gone, and that of the arms a little diminished. On this day the dose of the ointment was doubled, and he was directed to apply 10 cells of a Leclanché battery to the spine daily. On the 19th, the following note was taken: "The numbness in the arms has steadily diminished, and he now walks well. After the use of 2 drachms of the ointment for three days it was omitted for three days owing to slight salivation, and afterwards, for a few days, only one drachm was employed." At this date, however, it was increased to one drachm and a half.

At the end of March he went for a change to Jersey, where, although the weather was bitterly cold, he steadily improved. On his return on April 28th he was quite well, except that there was still slight numbness in the right arm. This gentleman continues well.

Professor GRAINGER STEWART spoke in high terms of the very able and lucid statement which the President had just given, and said that he would confine his remarks to a demonstration of a case which he considered so rare as to warrant its being exhibited to members of the Association. The patient was a woman, aged 58, a hawker by trade. She had been fairly healthy until about twenty years ago, but since that time had never been well. The illness began with an attack of what she calls rheumatic fever, but that illness lasted for six months, was not attended by swelling of joints or copious perspiration, and in its course she had ptosis of the right eyelid, and lost the sight of the right eye. From this and other circumstances it seemed necessary to conclude that the illness was really syphilitic, and at the time of demonstration the patient showed several nervous symptoms, but was otherwise free from disease. She complained of giddiness, and of uneasy feelings of coldness and tightness in the leg, had complete anosmia and blindness of the right eye, and loss of sensibility in some parts of the body. Ophthalmoscopic examination showed staphyloma posticum on both sides, with some degree of atrophy of the disc. Hearing and taste were normal. There was some paralysis of the left leg, and nearly complete immobility of the eyeball. But the main interest turned upon peculiar symptoms of the nature of a fit, which were demonstrated before the Section. These fits consisted in sudden loss of consciousness with slight spasm of the glottis, and prolonged inspiratory effort, with violent turning upwards and inwards of the left eye, this condition lasting for about thirty seconds, and terminating with somewhat noisy respiration. The attacks arose only from closing the eyelids, darkening a room, or bringing an object; never varied in their character; were never produced by any other cause than of one, namely, interference with vision. It had lasted now for many years, and the patient's mental condition remained unimpaired.—Dr. DAVID DRUMMOND congratulated the Section and Dr. McCall Anderson upon the very able address with which the discussion had been initiated. He thought they might glance for a moment at the morbid conditions in the brain, the result of syphilis, the diagnosis and treatment of which they proposed to consider. He briefly enumerated and described the changes he had met with, and placed them in the following order in point of frequency—meningeal thickening and cloudiness, most frequent at the base; arterial disease, which might be either widely distributed or very local, and he laid particular stress upon the manner in which the Sylvian artery is encroached upon by gummatous inflammation; and tumours. As regards the diagnosis, time would only permit of a reference to a few of the symptoms. Headache he had not found to be so common an accompaniment of syphilis of the brain as was generally supposed. When present it was often worse at night, causing insomnia, and was generally borne with but a scant degree of fortitude, irritability being a marked feature. Cases were next detailed illustrating the absence of headache even when the disease was of the nature of tumour, and two cases of tumour of the medulla were specially referred to, as well as three cases in which the lesion was presumably cortical; in one there was aphasia and local spasm affecting the right facial muscles; in the next Jacksonian epilepsy beginning in the right thumb and extending to the arm, face, and leg; and in the third there was a similar group of spasmodic phenomena commencing in the left side of the face and implicating the arm of same side. In none of these was headache a noticeable symptom. The diagnosis of syphilitic vascular lesions was considered, and the great difficulty attending this, in some cases, was emphasised. The points in favour of syphilis, apart from the history of infection, were occurrence of neuralgia before the attack, especially in a wide area of the fifth nerve, youth, and absence of cardiac, renal, and general vascular disease; marked evidence of thrombosis. As regarded treatment, he believed in large doses of iodide of potassium, but frequently found it necessary to combine mercury with the iodide. He was, however, a little afraid that in some cases the big doses of iodide aided in determining a thrombosis in an already damaged vessel, just as the salt appeared to induce clotting in an aneurysmal sac.—Dr. Ross, in commenting upon the marvellously interesting case presented by Dr. Grainger Stewart to the meeting, said that he could not, from his own experience, supply a parallel to it. The lesions were probably multiple, but the fact that blindness existed on one side, with complete paralysis of all the motor-ocular nerves and a restriction of the field of vision on the other, seemed to indicate that the lesion was situated at the optic foramen and sphenoidal fissure, and continued to the optic commissure. These symptoms were found in other recorded cases in association with polyuria, a symptom which was present in a marked degree in this case. In opposition to this view might be adduced the fact that, although the blindness of the right eye had existed for many years, yet the optic atrophy was of recent date, and was not complete even at present; and instead of a temporal hemianopsia, which was usually present in a local deposit, the defect in this case appeared to be a concentric diminution of the field of vision. It was therefore probable that a cortical lesion existed in addition to a basal one. With regard to the types of disease described by Dr. Anderson, Dr. Ross believed that these depended upon the fact that syphilis became deposited at particular parts of the nervous system in preference to others. The following seats of selection might be mentioned:—1. The cortical area of the middle cerebral artery, giving rise to Jacksonian epilepsy, in which loss of consciousness was either absent or came on at a late period of the seizure. 2. The cortical area of the anterior cerebral artery, in which the cerebral symptoms were ushered in by prolonged somnolence, and in which the spasms present were slight and supervened at a late period. 3. The subarachnoid, the interpeduncular space at the base of the brain. In these cases the symptoms were ushered in by irritation, followed by paralysis of the cerebral nerves. As the deposit extended, the vessels passing into the anterior perforated space were involved and became occluded, giving rise to softening in the basal ganglia, with hemiplegia in one or in both sides. If the disease advanced without being checked by treatment, the patient passed into a somnolent condition, with paralysis of one or both lower extremities, and incontinence of urine and fæces. This condition might last for weeks under energetic treatment, and would prove fatal if its nature were unrecognised. 4. The subarachnoid space at the posterior borders of the pons, or in the grey matter of the inferior part of the pons. In this case the disease was ushered in by paralysis of the sixth and seventh nerves, while more or less of unilateral deafness was sometimes present. Cases of this kind were frequently accompanied by a tendency to fall towards the side of the brain, caused

by interference with the transverse or cerebellar fibres of the pons. Labio-glosso-laryngeal paralysis was also, of course, frequently of syphilitic origin. 5. The cervical region of the spinal cord, usually high up, opposite the atlas and axis. Congenital syphilis often gave rise to this variety. 6. The most frequent site of spinal syphilis in the adult was the junction of the dorsal and lumbar regions. The symptoms were often ushered in by paralytic incontinence of the bladder and by impotence. Dr. Ross mentioned two cases he had seen of absolute and persistent impotence, with no other symptom except a transient anæsthesia of the scrotum and perineum and slight exaggeration of the patellar tendon reflexes. In some cases the lesion was deposited at a lower level of the cord on the one side than on the other, so that atrophy of the quadriceps muscle with loss of the patellar tendon reflex might be present on one side, while on the other side the nutrition of the muscle was retained and the tendon reflex exaggerated. 7. The cranial nerves were more liable to be affected in their peripheral course than the spinal. When the spinal nerves were primarily affected, the disease was liable to become diffused, and to invade most of the nerves of the body as a multiple peripheral neuritis. Dr. Ross believed that the remarkable case of paralysis, with complete anæsthesia, described by the President, was an example, not of spinal syphilis, but of the universal paralysis described by Dr. Buzzard, and which was now admitted by him to have been multiple peripheral neuritis.—Dr. CLOUSTON said: In regard to the mental relations of brain syphilis there are four chief forms; all mean a heredity towards mental or nervous disease. 1. Where we have a short delirium during the secondary stage of syphilis. 2. An acute delirious mania during the formation of a rapidly forming syphiloma in the cortex in the region of the vertex anteriorly, with a rapidly progressive softening passing upwards against the line of physiological activity. The patient dies within three weeks of the incidence of the attack. 3. The most common form of mental syphilis is due to a subtile syphilitic arteritis. The mental symptoms are immorality, sudden impulsiveness, insane suspicions, gradually going on to dementia, accompanied by convulsions and paralysis, but with no cephalalgia or eye symptoms. This form is curable by mercury and iodides, if early treatment is resorted to. 4. Mental symptoms of all kinds result from syphilis of the bones, membranes, and packing tissues generally, which depend for their character on the *locus in quo*. I do not agree with Hughlings Jackson that the cells and fibres of the brain cortex are not liable directly to be affected by the syphilitic poison, but the proofs of this would be too much for this discussion.—Dr. ALEX. ROBERTSON said: As bearing on the prospects of treatment, it is worthy of observation that the spinal cord, together with its prolongation within the skull, seems more disposed to suffer from the degenerative effects of syphilis than the brain proper; at least the degenerations of the elements of nerve-tissue, which are now regarded as among the sequelæ rather than direct results of the disease. Thus there does not appear to be any disease of the brain of syphilitic origin which corresponds to locomotor ataxy. General paralysis resembles it in the anatomical changes which it induces, and may, indeed, develop out of it, or be associated with it, but the causation is different, as a rule, in the two cases. The diagnosis of the nature of the disease resolves itself into the diagnosis of syphilis. As illustrating the risk of relying implicitly on patients' statements, I may mention a case that occurred in my experience this summer. A middle-aged man came into the infirmary with nervous symptoms suggestive of syphilis; he, however, denied ever having the disease. Not being satisfied, I drew back the foreskin, and found a well-marked cicatrix of a chancre. He then remembered he had a venereal illness when a lad. With respect to the diagnosis of the seat of lesion when intra-cranial, if the disease is at the base of the brain and involves certain nerves, or motor and sensory strands connecting the cerebrum with the spinal cord, or perhaps both, the diagnosis is usually easy, for there is impairment or loss of function of the parts affected, and this is indicated by the symptoms. So also, should the lesion happen to be in the motor region of the cortex, there are localising indications in the form of Jacksonian epilepsy or monoplegia. But should it be situated in front or behind the motor zone, there is in general little assurance of its position, though when it involves the temporo-sphenoidal convolutions, the angular gyrus, or the occipital lobe, there may be localising symptoms. Whether such indications be present or not, general systematic percussion of the skull by the finger will sometimes assist in the diagnosis. I should wish to insist on this, as I doubt if its value as a method of examination is sufficiently appreciated. Further, it is particularly in syphilis that it is of use, as within the head this disease, in its grosser manifestations, is almost always a surface one, originating in the membranes. We may by percussion transmit sufficient force to irritate a circumscribed superficial morbid part, which is usually hyper-sensitive, so that the patient may become conscious of distinct pain at the spot, though unaware of it in a definite situation previously. Wherever there is reason to suspect the presence of local superficial disease within the skull, this aid to diagnosis should not be omitted. With respect to treatment, I suppose we are all pretty much agreed that in cases of recent and gross lesion mercury and iodide of potassium are our sovereign remedies. These medicines are, however, of little or no use in the degenerations of syphilis, such as those of locomotor ataxy. Local treatment is sometimes of much value in intracranial lesions. I have prescribed as many as ten fly blisters in succession over a painful part of the head, to which I had been guided by percussion of the skull, and been assured that pain had thereby been removed, and that epileptoid fits had all but ceased, though neither had previously yielded to long protracted constitutional treatment.—Dr. DRYSDALE said that the clinical study of cerebral syphilis was quite recent. In 1858 he saw a case of syphilitic aphasia, which at that time was not recognised to be syphilitic. Nowadays epilepsy, insanity, and almost all other diseases of the brain and spinal cord seemed to be considered as capable of being caused by syphilis, and three-fourths of the motor oculi palsies were due to the disease. The cerebral symptoms might come on a few months after the occurrence of infection, and might be postponed for thirty years. One man he had seen had hemiplegia with aphasia four months after the occurrence of the chancre. Another gentleman had his first attack twenty years after the same event. As a rule the seizures came on between three and fifteen years. He was not inclined to think that any prognosis could be given as to the classes of cases in which it might occur. After enumerating various cases of epilepsy and other symptoms of cerebral syphilis which he had witnessed in his practice, he urged that treatment should be active, inunction carefully used, and large doses of iodide of potassium should be used at once. The prognosis, however, of cerebral syphilis was, he said, gloomy, for even when the patient was cured of one attack, he often died eventually from a relapse.—Dr. SINCLAIR COGHILL said that his object in taking part in the discussion was to bring forward the details of a case of syphilis illustrating several important points in the pathology, but principally interesting in connection with the therapeutics, of the subject. The patient, aged 22, was infected while reading for his degree at the university, and within eighteen months the disease had attained its extreme development. He had a supposed intolerance of the iodide, and was treated, under Mr. Hutchinson's direction, with mercury. When Dr. Coghill saw him he was covered with the most severe eruption of rupia Dr. Coghill had ever seen. The whole muscular system was in a state of tremor, probably mercurial, even during sleep. He was aphasic, suffering from dementia, which ultimately developed into furious mania, demanding restraint and forcible feeding. The functions of the sphincter were suspended. The symptoms were in the beginning almost identical with those of delirium tremens, and seemed to show that the seat of the lesion was the vascular and meningeal structures. At first iodide was combined with mercury, but the patient continuing without improvement, Dr. Coghill determined to avail himself of the fact that when small doses of the iodide disagree, larger ones are tolerated. At first ten grains three times a day were given, but six drachms and a half a day were gradually reached. He was under treatment from November, 1885, to June, 1887. In 189 days he took 635 drachms of iodide of potash. For a week at a time, on six occasions, he took six drachms and a half a day. Again and again Dr. Coghill hesitated to continue these large doses, and suspended them, but was driven as often to return to them. Attempts were made to alleviate the condition with the bromides and with chloral hydrate, but the symptoms were not only not influenced, but they caused most alarming depression, leading to their abandonment. The result of the treatment was ultimately entirely successful, and the patient remained quite well.—Dr. OSWALD ZIEMSSEN, of Wiesbaden, said the syphilitic diseases of the nervous system had really not such a bad prognosis as it would appear after this discussion. A large number of cases of tabes dorsalis, hemiplegia, and aphasia, had recovered, some of them to that degree that they still served as officers in our

army, rode on horseback, got married, and even had the pleasure of becoming patresfamilias. The difference of the prognosis appeared to be founded on the different treatment. He not alone agreed with Professor Anderson that the treatment should be strong, he went farther, it should be as strong as the patient could stand it, these diseases being as obstinate as they were interesting. Mercury being a poison, we always had to deal with the possibility of giving too much; for this reason the inunction treatment alone was useful. If we saw dysentery or stomatitis coming on, the mercurial ointment could be easily washed away, and the further absorption of mercury was stopped at once; all other applications, particularly the injections, did not allow this. He often applied daily doses of ten to fifteen grains, the ointment having the strength of two parts mercury and one part lanolin or vaseline. Besides this, the treatment ought to be of long standing, two to three months, in order to have really some assurance for the future.—Dr. Byrom Bramwell said he agreed in the main with the propositions which the President had laid down in his admirable paper for the diagnosis of syphilitic lesions of the nervous system. Personally he attached great importance to the variable, anomalous, and multiple character of syphilitic nerve lesions; to the fact that in the case of "coarse" cerebral or spinal lesions, syphilitic lesions were so generally superficial, involving the membranes or nerve-trunks; to the age and sex of the patient; to the muddy anæmic complexion to which the President had pointedly alluded. He agreed with the President in thinking that brain syphilis was at least as prevalent in hospital patients and uneducated persons as in the upper classes. He thought that one explanation of this frequency was probably to be found in the fact that the working classes were more exposed to head-injury, which were, in his opinion, even more important exciting causes of cerebral syphilis than intellectual strain or overwork. He agreed with Dr. Ross as to the great diagnostic value of headache, though he fully admitted with Dr. Clouston that where the lesion affected the smaller vessels alone and did not involve the membranes, headache might be entirely absent. In this connection he directed attention to the relationship of syphilis to general paralysis of the insane. For his own part he was disposed to think that this relationship was analogous to that of syphilis to locomotor ataxy. He agreed with those who thought that in many cases syphilis was an important factor in the production of cerebral paralysis, and that some cases which presented all the typical symptoms of general paralysis of the insane, which, in short, everyone would diagnose as general paralysis of the insane, materially improved, and in exceptional cases got quite well under vigorous antisyphilitic treatment. He agreed with Dr. Robertson as to the great diagnostic value, in some cases, of skull percussion. He briefly alluded to the fact that sensory Jacksonian epilepsy was apparently so very rare as compared with motor Jacksonian epilepsy, and mentioned a case which he had recently recorded, and in which *post-mortem* examination had subsequently shown the presence of an old syphilitic cicatrix on the outer surface of the tip of the occipital lobe. With regard to treatment, he thoroughly agreed with the speakers who had advocated the administration of large doses of iodide of potassium. One might almost as well give water as administer five- or ten-grain doses of iodide of potassium in many cases of cerebral syphilis. Personally, he was in the habit of giving twenty, thirty, or even sixty grains several times a day; and he agreed with the President in thinking that in many cases in which the iodide alone was unable to effect a cure, improvement occurred upon the addition of mercury. He emphasised the importance of continuing the administration of the iodide for long periods of time. He had been much disappointed with the relapses which not infrequently occurred after a complete cure has apparently been effected. He also referred to cases such as Professor Grainger Stewart had mentioned, in which a cicatrix remained after a syphilitic lesion, and continued to act as a local source of irritation and discharge. Everyone would, he supposed, agree that in cases of epilepsy due to such a cause, in which the cicatrix could be accurately localised, the cicatrix should, if possible, be removed by operative procedure. The surgical treatment of old syphilitic deposits had recently been considered by Dr. Seguin, of New York, with whose views Dr. Bramwell agreed.—Dr. Stretch Dowse remarked that all disease, whether syphilitic or otherwise, should be studied from three main points of view, namely, the anatomical, the seat of lesion; the physiological, the alteration of function; the pathological, the changes, and derangements, and degeneration of the nutritive processes. Gross syphilitic changes, whether in the brain or spinal cord, were diagnosed by the disorderly groupings and eccentric association of objective signs and subjective symptoms; in fact, nothing was more indicative of syphilis than the "absence of definition." The influence of syphilis upon the nervous system might be (1) essentially dynamic and metabolic, (2) vaso-motor, (3) purely motor, (4) purely sensory, (5) sensori-motor, (6) motor-psychical, (7) sensori-psychical, (8) sensori-motor-psychical. Dr. Dowse gave practical instances of what he considered to be illustrative of these different types of diseased states owing to syphilis, and he especially advised, in the later syphilitic manifestations, the administration of drachm doses of iodide of potassium three times a day, diluted and dissolved in a tumbler of water, to be taken immediately before a meal.

Dr. William Moore (Dublin) sent the following notes on Syphilitic Paralysis and its Treatment:—Case I. Syphilis followed by sore throat, rheumatism, cervico-dorsal neuralgia, paraplegia, recovery. Treatment, five-grain doses of iodide of potassium, with one-sixteenth of a grain of strychnine, three times a day. Electro-galvanism applied along the spine. After one month's treatment, recovery complete. Case II. Syphilis followed by secondary symptoms, iritis, convulsions, and hemiplegia. Treatment, a combination of iodide and bromide of potassium. Recovery. Case III. Syphilis followed by eruption, headache, hemiplegia, convulsions. Treatment, iodide of potassium alone. Recovery. Case IV. Repeated syphilitic attacks, followed by secondary symptoms, rheumatism, occasional diplopia, opisthotonos, loss of muscular control, progressive motor ataxy. Treatment, which extended over three months, was the iodide and bromide of potassium, with partially satisfactory results. Case V. Mixed paralysis. A girl, aged 23, contracted syphilis; this was followed by buboes, sore throat; no cutaneous eruption; afterwards, pain in the knee-joint. Had a "fit," was completely unconscious, followed by loss of power of left leg; subsequently lost the power of right arm. On admission into hospital, visible deformity of the face, with loss of power of right arm and right leg; deafness; loss of taste; headache; pain at the nape of neck; facial paralysis of right side; drooping of the left angle of the mouth; partial ptosis of left eyelid; a permanently dilated condition of the right pupil; loss of power of the sixth nerve, with double divergent strabismus. Has double vision, giddiness when placed in the erect position, and, on placing the heels together, reels and staggers. There is partial aphasia, complete loss of taste. No appreciable difference in the temperature on either side of the head; no sugar or albumen in the urine. Pulse 88 in the recumbent, 98 in the erect position. No history of paralysis in her family. Treatment, five grains of Plummer's pill and eight grains each of iodide and bromide of potassium three times a day. In cases of syphilitic gummata, one-sixteenth of a grain of red iodide of mercury, or the green iodide of mercury, may be given with advantage; or a combination of mercury and iodide of potassium, or the addition of bromide of potassium, as in this instance, on account of the epileptiform seizures which occurred. This treatment was attended with satisfactory results.

Bequests and Donations.—The Salford and Pendleton Royal Hospital and Dispensary has received £1,396 3s. 8d. under the will of Mr. J. Worrall Walker.—The Surgical Aid Society has received £1,000 under the will of Mr. E. Boustead, of Clapham.—Miss Annie Lowther, of Moresby House, near Whitehaven, bequeathed £1,000 to the Whitehaven and West Cumberland Infirmary.—Mr. Gustavus Lambart Basset, of Tehidy, bequeathed out of the "residue" of his estate, upon certain contingencies, £600 to the Miners' Hospital at Redruth, £300 to the Women's Hospital at Redruth, and the remainder upon trust for St. George's Hospital, Hyde Park Corner.—Mr. Joseph Sherwood, of Westbourne Terrace, Hyde Park, bequeathed £200 to King's College Hospital, £200 to St. Michael's Convalescent Home at Westgate-on-Sea, and £100 each to the Earlswood Asylum for Idiots, the Metropolitan Convalescent Institution, the City of London Truss Society, and the Seaside Convalescent Home at Seaford.—Mr. John Hibbert, of Braywick Lodge, Maidenhead, bequeathed £100 to the Windsor Infirmary.—The Halifax Infirmary has received £78 8s. 5d. from the Hebden Bridge Musical Festival Committee.—Lord Herschell has given £50 to University College Hospital.

THE VALUE OF INHALATIONS IN THE TREATMENT OF LUNG DISEASE.

Read in the Section of Medicine at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

By C. THEODORE WILLIAMS, M.A., M.D., F.R.C.P.,
Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

THE direct application of medicinal agents to the air passages is an ancient practice, and dates from the time of Hippocrates, who used fumigations, employing a pot, through the lid of which a reed passed conducting the vapour to the mouth, which was protected from scalding by moistened sponges. Inhalations were recommended by Greek, Roman, and Arabian physicians, and in later times have had their periods of use and of disuse, of observance and neglect, which may be attributed by some to the freaks of fashion, by others to their failing to fulfil the expectations entertained of their effects. To me it has always seemed that their use has been dictated by the common sense view of the advantages of direct over indirect application of remedies to diseased organs, a view which is easily comprehended, and which commends itself strongly to the non-medical mind. Why should the lungs be approached tortuously through the stomach, the skin, and the circulation, when they can be reached more speedily through the trachea and bronchi? The answer, however, is plain; that, had inhalations been entirely successful, the treatment of pulmonary disease through other channels would never have been attempted, and the fact of other treatment being in vogue argues against the efficacy of direct treatment of the air passages.

The return to the use of inhalations of late years may be traced partly to the undoubted proofs of the penetration of fluids and substances to the air passages, and partly to the antiseptic system. The practice of atomising fluids applied by Sales-Giron to the mineral waters of Pierrefonds raised the question in the French Academy whether pulverised fluids do penetrate beyond the larynx, which was largely discussed, and ended in a report drawn up by Poggiale in the affirmative, and based on very strong evidence, one portion of which was furnished by a nurse with a tracheal fistula, through which the medicaments inhaled by the mouth were detected in the trachea, and another portion by experiments on rabbits, in the lungs of which the sprays were found to have produced inflammatory processes. Trousseau's remark was: "That the larynx was a vigilant sentinel over the air passages, but one that can be taken by surprise; that often the cough, which should preclude, followed the introduction of the fluid." This conclusion was confirmed by Schultz and Zoldekauer's cases treated by perchloride of iron sprays, where the metal was detected in large quantities in the cavities of the lungs after death, and out of all proportion to what could have been yielded from any blood effused. The greatest proof, however, of the penetration of the air passages is shown by the investigation of Peacock and Greenhow into the lungs of millstone grinders, colliers, potters, and others following dusty occupations, which revealed the presence of the matters inhaled in their trades in large quantities in the pulmonary tissue.

No one can doubt the possibility of reaching even the alveoli by inhalations, but the question is whether by our methods of inhalation, as at present practised, we do reach them, and as effectively as through the stomach and circulation. The other ground for the return to the use of inhalations is the idea of applying the antiseptic method, so successful in surgery, to the treatment of lung diseases, and this has been generally attempted in the form of antiseptic respirators.

Now what are the principal methods of inhalation? They may be roughly classified as follows.

1. Inhalation of gases, such as oxygen, nitrous oxide, atmospheric air (condensed or rarefied), or vapours of certain medicines, volatile at low temperatures, as ether, chloroform, nitrite of amyl, and iodide of ethyl.
2. Moist warm inhalations.
3. Dry fuming inhalations.
4. Atomised sprays.
5. Respirators containing medicinal agents, by which the air is impregnated previous to respiration.

As to the first class, no doubt can be entertained of its efficiency, and in the case of such gases as nitrous oxide, and such vapours as chloroform and ether, we carry inhalation to great perfection, for we produce the complete physiological effects of the drug; and if other medicinal agents, such as the antiseptics, could be pushed to the same degree, and the patient brought thoroughly under their influence, it is probable that our results would be more successful. It would appear, however, that, to produce this effect, gases or vapours without admixture of watery fluids must be used.

In the second class—moist warm inhalations—steam or warm watery vapour is the medium of conveying medicated agents to the lung passages. The simplest form of inhaler for this is a gallipot, or else a wide-mouthed pint jug, filled with boiling water, into which the medicament is thrown, the patient taking deep inspirations, and conducting the vapour to his mouth by arranging a napkin in the shape of a funnel. There are a great variety of ingenious inhalers, including some like Mackenzie's "eclectic," where the heat is maintained by a spirit lamp, and can be carefully regulated by thermometers.

The various steam sprays of Siegel, Oertel, Lee, and Codman and Shurtleff generally are effective in volatising the medicinal agent, but they act almost too quickly to allow of free, slow, and deep inspirations.

The steam sprays in use at the Brompton Hospital also have this fault, and it should be stated that the whole class of steam sprays have the disadvantage of saturating the atmosphere with moisture, an element which in most lung complaints the expired air contains in too great abundance, and of causing excessive perspiration from the skin.

Nevertheless, if moisture is to be the medium for introducing medicinal agents into the air passages, warm moisture will be more grateful than cold, but the amount of the medicinal agent which reaches the air passages under these circumstances is, according to Dr. Hassall, very minute, and in many cases the greater proportion remains behind in the inhaler. Some medicines, such as the compound tincture of benzoin, are not volatilised at the boiling point of water, and even carbolic acid is only so to a limited extent. The dry fuming inhalations are vapours produced by the burning of certain powders, such as Himrod's and Chesterfield's nitre papers, or the vapour cones of the Chemical Carbon Company, or by heating substances like iodine on a hot plate, or the smoking of various cigarettes. This is doubtless an effective method of lung medication, as volatilisation is certain and patients seem to inspire such vapours with comparative ease, being doubtless assisted by the process of diffusion of gases.

The fourth class, the hand-ball sprays, are used at a low temperature, and are by no means free from risk, giving rise to occasional hæmoptysis. As a rule, however, they do not penetrate beyond the larynx and larger bronchi, and generally condense into liquid on the fauces and pharynx. The use of the perchloride of iron spray in hæmoptysis is one of the few instances in which cold sprays have proved effective in my hands in pulmonary complaints, but it has often occurred to me that a cocaine spray, of say 10 per cent. strength, administered sufficiently well to ensure reaching the smaller bronchi, should do much to allay the spasm of bronchial asthma. It is of great value in throat and laryngeal affections, though not to my mind so effectual as the application to the same parts of a cocaine solution of equal strength with a curved brush. In this category would be included the mineral water sprays used at Aix-les-Bains, Mont Dore, and at the Pyrenean health resorts, which have been shown to be of great worth in laryngeal and bronchial affections, and which are largely used on the Continent.

The fifth class is that of antiseptic respirators containing a few drops of liquid carbolic acid, creasote, thymol, terebene, eucalyptol, or other disinfectant on tow, cotton-wool, or sponge, inserted between two layers of wire gauze or perforated metal plate, and fitting either over the mouth as Roberts's, Coghill's, or over nose and mouth as Yeo's, Curschmann's, Hunter Mackenzie's, or Wordsworth's.

The patients are recommended to wear these respirators for half an hour at a time, and if possible to sleep in them. The simplest form is Yeo's, which has the advantage of allowing the air free access not only to the nose and mouth, but also to the skin of the parts enclosed.

Wordsworth's, made of cellulose, is light and not tiring to wear; but the respirator which combines most advantages, though its

clumsy form quite precludes its being worn, except in privacy, is Curschmann's, which consists of a half globe of metal, enclosing a large part of the nose and face, from which a short tube passes for the admission of air, this containing the antiseptic on tow placed between two layers of wire gauze, and if the meshes of this be wide enough apart, a point on which I always insist, respiration is pretty free. An air cushion surrounds the globular mask, and prevents the uncomfortable pressure of the metal against the face. Patients can use this form for short periods, and can even sleep in it, provided they do not fasten the straps too tightly, and do not limit themselves to breathing only the antiseptic air.

Hunter Mackenzie's is a more portable modification of Curschmann's, with separate openings for the inspired and expired air.

I will not pretend to describe and discuss all the various forms of respirators, oral or ori-nasal, but I wish to point out that, however ingenious, however well planned they may be, they are open to the objection often urged against them of interfering with that entire freedom of respiratory movement which is an essential condition of success in the treatment of pulmonary disease. Directly you put a respirator on the mouth and nose of a patient, you place him in the position of a muzzled dog, and you limit, in a very undesirable way, the movements of his mouth and nose.

And now that I have enumerated the principal methods of inhalation, I would venture a few words of my own experience, which is somewhat extensive, of each class, hoping to elicit that of other physicians present.

The first class, that of vapours, I value highly, and have found them very useful, but it seems to me that the reason they are so successful is that they consist of elements which the lungs are well adapted to absorb, and when absorbed they pass rapidly into the circulation, and reach the brain and nervous system.

The third class is a mixed one, and includes medicines varying in degree of convertibility into the gaseous condition, and therefore presenting greater difficulties to lung absorption. Undoubtedly the combustion products of fuming powders do enter the circulation, as the nicotine of tobacco smoke has been traced in the urine, but what I have noted often is that when in the treatment of spasmodic asthma, after burning stramonium or belladonna in the cigarettes or powders for some days, without much result, I have discontinued them and substituted stramonium and belladonna in tincture or extract in the ordinary doses as medicine, I have speedily obtained the desired result, and this has occurred so often that I now always trust to this form of medication in preference to inhalation.

With regard to the second group, that of moist, warm inhalations, they have not on the whole proved successful in my hands. In acute bronchitis, in laryngitis, and croup, I have found the inhalation of steam beneficial, but in the diseases affecting the parenchyma of the lungs, pneumonia, phthisis, and also capillary bronchitis, they have proved quite useless. Even in bronchitis, acute and chronic, where the use of warm medicated vapours seem most indicated to promote epithelial changes and desquamation (the conversion of mucus into pus), even here I have also found the exhibition of expectorants through the stomach far more effective. How much more a few doses of ipecacuanha wine or tincture of squill will effect than frequent warm stimulant inhalations or ipecacuanha sprays!

Here, again, the reason appears to be that the air passages are not adapted to receive and absorb large quantities of water, even when a portion of it reaches them in the form of vapour, and most of it, be it remembered, probably soon condenses into moisture, and may be conducted outwards by ciliary movement. Another reason is undoubtedly the patient's inability to make such deep inspiratory efforts as would secure the medicated vapour reaching the alveoli. This is generally the case in weakly patients.

Occasionally, doubtless, a warm inhalation of carbolic acid or creasote with conium or henbane will quiet a troublesome bronchial cough, but does it accomplish this by promoting expectoration or not rather by deadening the sensibility of the nerves supplying the air passages?

With regard to the antiseptic respirators my experience has been far from fortunate. I have used all the forms I have enumerated as well as others, and have introduced into them various preparations such as carbolic acid, creasote, eucalyptol, terebene, thymol, iodine, either alone or mixed, as in Dr. Coghill's well-known and excellent combination. Of all the above medicaments I have used carbolic acid most frequently, and have found in most cases it exercised a lowering influence on the sensibility of the pulmonary plexus and their branches, in the same way in which it acts when a crystal of it is placed in a carious tooth. In whooping-cough this action is well marked. In chronic bronchitis and phthisis the cough was reduced, and the more spasmodic the cough the more soothing the effect seemed to be, but this reduction was by no means always accompanied by free expectoration or relief to the breathing, and seemed as a rule quite temporary, like the effect of an anæsthetic.

It has been urged that the antiseptic inspirators might safely be substituted for the *linctus* or cough drops. I am not much attached to any of these preparations, but they appear to me to have this advantage over the antiseptic respirator, that they promote expectoration even if they contain a few drops of sedative. In the treatment of the cough of phthisis antiseptic respirators are of vastly inferior efficacy to effervescing ammonia salines combined with small doses of sedatives, to well-arranged stimulant *linctus*, and above all to counter-irritation of the chest walls with cantharides, iodine, and mustard, and a combination of all these measures reduces local inflammations, increases secretion, and promotes the removal of tubercular masses by expectoration.

The question arises, What becomes of inhalations? Dr. Hassall maintains that "the great part of the substances inhaled remains in the inhalers, and that, in the case of the ordinary ori-nasal respirators, four-fifths of the carbolic acid, creasote, and thymol are recoverable after the inhalation."

Wishing to ascertain whether substances inhaled do penetrate beyond the epithelium of the bronchi and lungs, I determined to test the urine of patients under this treatment, and selected as the articles to be tried iodine and turpentine, because they are most easily detected in the urine—the first by the starch test, and the second by the well-known violet odour. The patients were twelve, six men and six women, all cases of phthisis, the majority of them with cavities, and they were carefully instructed in the proper methods to be used.

Three were given the Vapor Iodi of the *Pharmacopœia* twice a day (two for four weeks, and in one it was discontinued owing to the first inhalation being followed by hæmoptysis). The urine of the other two, who each had fifty-six inhalations, was examined several times during the treatment and at different periods of the day for iodine, and always with negative results.

Two patients used steam sprays of the Brompton Hospital with a solution of ℥i of liquor iodi (*B.P.*) to ℥i of water, for three minutes twice a day; one patient continuing them for eighteen days and the other for six days; but in each the treatment was discontinued, on account of the occurrence of hæmoptysis. The urine was examined for iodine three times in each case and with negative results.

Two patients were treated by iodine sprays, administered in the hand-ball spray apparatus, for three minutes twice a day, the strength of the solution being one drachm of tincture of iodine to an ounce of water. This was continued for eighteen days, and gave rise to no irritation; but the urine, though tested several times, gave no trace of iodine.

Iodine was now administered as medicine to six of the patients, three of whom had been previously using the iodine inhalations and sprays, with negative results. It was prescribed in the form of ℞ Tinct. iodi ♏ vii, infusi caryophylli ℥i, ter die sumend.

After a few days of this treatment the urine was examined several times, and on each occasion iodine was detected, and sometimes in large quantity. It would appear, then, that iodine, when inhaled, does not penetrate to the pulmonary or general circulation and reach the urine, but that when swallowed it does so with great rapidity. That it may set up irritation is shown by the hæmoptysis which followed its use in three cases.

With regard to turpentine, four patients were given turpentine inhalations twice a day, the formula being that of the Brompton Hospital,[1] and the treatment was continued for three weeks. In each the urine shows, on every occasion it was examined, the characteristic violet odour. In a case of copious hæmoptysis which was being treated by capsules of turpentine, one given three times a day, this odour in the urine was still more marked. We may infer, therefore, that turpentine can be absorbed from the respiratory mucous membrane; and that, after entering the circulation, it appears in the urine, and this may furnish some explana-

[1] ℞ Spir. terebinthinæ, ℥j; tinct. lavicis, ℥iij; aquam fervent em ad ℥x.

tion of the well-known utility of the turpentine spray in checking hæmoptysis.

I must thank my house-physicians, Drs. Wethered and Kauffmann, for the great care they bestowed on these experiments which I commend to your attention, and I will now close my address with a few practical conclusions.

1. That the success of inhalations as a mode of medication depends principally on the easy convertibility into gas or vapour of such substances as are clearly desirable for the purpose.

2. That, consequently, bodies which are volatilised at ordinary temperatures are more readily absorbed by the lungs than bodies which have to undergo combustion before conversion into gases.

3. That all moist inhalations, where steam, watery vapour, or spray is the vehicle of medication, are but slowly absorbed by the lungs, and enter the circulation in small quantities, and, in some cases, not at all, the slow rate of pulmonary absorption contrasting strongly with the rapidity of gastric absorption of the same medicines when swallowed, as proved by their detection in the urine.

4. That medicinal inhalations are more useful in diseased conditions of the pharynx, larynx, and larger bronchi than in those of the alveoli and lung parenchyma.

5. That in pulmonary disease the antiseptic respirators, while they lessen cough and reduce expectoration, exercise no lasting remedial influence on the diseased conditions of the lungs, and often seriously interfere with the freedom of respiratory effort, which is so desirable in the treatment of such affections.

Dr. LINDSAY said that he had given inhalations a considerable trial, and that he had been impressed with their value in diseases of the bronchial tubes, but thought their efficacy very doubtful in affections of the lung tissue proper. In acute bronchitis he found inhalations of simple steam very relieving, but thought that this line of treatment required additional care during convalescence. In chronic bronchitis, inhalations of turpentine, creasote, and carbolic acid seemed to modify favourably the state of the secretion. The real controversy in this question lay rather around the subject of phthisis. He had found little advantage from inhalations in that disease, and thought there were three strong objections to what was called bacillicide treatment. First, there was no satisfactory evidence that we could destroy the vitality of the bacillus of tubercle by any inhalations at our command. Secondly, if we could destroy the bacillus, the receptivity of the patient (the point of most importance) would still remain. Thirdly, the free use of inhalations was prejudicial to the adoption by the patient of that life of open-air activity which lay at the bottom of all successful treatment of phthisis.—Dr. ANDREW SMART (Edinburgh), agreeing in the main with Dr. Williams's statement, desired not to revert to the general question which he so well introduced. He preferred using the short time at his disposal to show some respirators, of the utility of which as means of relief his experience had fully satisfied him. The first was a buccal instrument, which he introduced some years ago, designed to filter, warm, and medicate the respired air, impeding its free access as little as possible, at the same time having regard to appearance. He next showed a variety of nasal inspirators, metallic and celluloid. These were hollow tubes made to be inserted into the nostrils, each pair being held together by a band which embraced the septum. They were readily introduced and removed, the bibulous material in the interior being medicated when necessary. They were worn without being visible, and with perfect comfort; and, as they slightly dilated the nostrils, their presence was more than compensated for, so that there was no felt impediment to the free access of air. They were of great benefit in all catarrhal conditions of the nasal, pharyngeal, and laryngeal cavities, and in irritable states of the olfactory nerves connected with other maladies—for example, hay-fever, etc. In phthisis he only used the nasal when combined with the mouth respirator. Dr. Williams referred to the value of chest counter-irritation in phthisis. Dr. Smart showed his dermatic punctator, the instrument which he employed in such cases. By means of the "spur," or "stamper," or both, he could rapidly, and with little felt inconvenience to the patient, induce a wide area of dry irritation, and, if desired, maintain and enhance it by brushing in from time to time a modified form of any of the numerous therapeutical counter-irritants which he described. The method afforded great relief, and led the patient to have it repeated. The marks left on the skin by the instrument soon disappeared. The method was applicable in all conditions in which counter-irritation was useful. As a method it was strongly recommended by its superior advantages over every other in its rapidity, completeness, and efficiency, and in the ease by which it is accomplished. He had used it for fifteen years.—Dr. IRELAND said that he had first considered the influence of terebinthinate vapours when taking observations on the quantity of ozone at different elevations at the hill station of Kussowlie in 1859. The mountain-top was thickly covered with pine-trees, and under a powerful sunlight a medicated atmosphere was produced which affected ozone papers. He soon found that it had been noticed in Germany, France, Portugal, Alabama, and other places, that people living amongst pine-forests enjoyed a singular immunity from bronchitis and rheumatism. In 1863 he had good opportunities of seeing the effects of terebinthinate vapours at the baths at Die, in High Dauphiny. The patients were introduced into a place like a large oven. On the floor were layers of the pinus cembra. The vapours from the honey-coloured resin were disengaged by a powerful heat applied below. The patients were immersed in a terebinthinate vapour at a temperature of from 140° to 150° F., or even higher. The skin soon became red; the vapours entered the lungs, and the terebinthinate matter appeared in the urine. Great benefit was derived in rheumatism and chronic bronchitis from this treatment. He had used fresh pine wood and fir cones, disengaging the vapours by heat in the patient's sleeping-room, and found great benefit in chronic bronchitis. He had even seen permanent improvement in several cases of early phthisis. In this disease, residence amongst pine-trees and a high elevation must be combined. He had little faith in inhalations such as creasote poured into hot water. It might amuse the patients to sniff it for a time, but they soon tired of it.—Dr. SINCLAIR COGHILL said that although inhalation had not yet realised all the expectations which at its inception he had been led to hope for, yet his continued experience of this method of treatment impressed him as much as ever with its value as a means of materially relieving a number of the symptoms in chest disease, markedly, cough and expectoration; he believed that by this method more efficient and direct influence on the morbid action in the lung might yet be obtained. The great difficulty was to obtain a remedy potent enough to influence the bacilli, and yet innocuous to the healthy tissues. He did not think the importance of inhaling through the mouth alone sufficiently recognised. When a lung was disabled, the inspiratory act was more difficult, while the facility of access of air should, if possible, be increased instead of diminished as it was in all forms of naso-oral respirators. It was most important to increase the energy of respiration as a means not only of increasing the quantity of air breathed, but of clearing the lung of the products of disease. Antiseptic inhalation, so called, undoubtedly relieved cough and pain, facilitated expectoration when in quantity, and when continued after the lung was cleared diminished its amount steadily. It was most useful in bronchiectasis and purulent bronchitis in reducing the amount and fetor of the discharges. He thought it also valuable in the resolution of pneumonia when the expectoration was purulent. It cleared the obstructed air cells of the products of inflammatory action, and tended to prevent the chance of retrograde changes in the lung.—Dr. D. BOYES SMITH (Netley) offered some remarks on the advantages of antiseptic inhalations in cases of hepatic abscess, which had found exit through the lung. In such cases these inhalations greatly decreased discomfort, tended to subdue plunging temperatures, and to diminish hectic. They were free from all risks, and Dr. Sinclair Coghill's solution being used, no signs of carboluria ever occurred. Dr. Smith mentioned that the smoking of eucalyptus had, in the Royal Victoria Hospital, Netley, been found useful in relieving the pain attending some cases of aortic aneurysm. Possibly some varieties of inhalation might also be found useful in that direction. Dr. Smith alluded to the fact that the natives in Burmah, and also in Wallachia, attached much importance to the inhalation of the vapours of kerosine wells, and he also referred to Dr. Ireland's very interesting researches in connection with the inhalation of the air of pine forests in the Himalayas and in Switzerland.—Dr. DENISON (of Denver, Colorado) said what he would say would go to show his reasons for believing in the conclusions reached in Dr. C. Theodore Williams's excellent paper. There were two considerations mentioned:—1. The condition of the diseased portions themselves; and 2, the physical condition and amount of the air within the lungs. As to the first argument, the fifteen years' experience he had enjoyed in Colorado, including the recording of some 1,700 cases which had come there for pulmonary ills, im-

pressed the speaker with the efforts of Nature to heal these chronic lung diseases through the deposition of fibroid tissue. This resulted in the contraction of the affected portions of lung, and the compensative dilatation of the unaffected portions. Hence, the medicaments went with the air to the healthy portions almost wholly. Then again the nebulisation of fluids in inhalation was, as usually done, accompanied by a lowering of temperature; and this taken cold, the moisture became diffused during breathing, and was not deposited within either the bronchial or alveolar tracts. 2. The residual and usual amount of air within the lungs became mixed with the inhalants, and thus these medicaments become diluted and not deposited. Further evidence was mentioned in the speaker's calculations, showing a far greater exhalation of moisture in a cold, dry, as compared with that in a warm, moist atmosphere. The bacilli were thrown off in the moisture exhaled in a cold dry atmosphere, as found in well-chosen high altitude climates.—Dr. GIBSON (Newcastle) advocated the employment of dry inhalations, as of antiseptics, sedatives and tonics, as nitrate of silver, etc., in suitable menstrua.—Dr. WILLIAMS, in reply, thanked the Section for a good discussion, and claimed its acceptance of the majority of his conclusions. He quite concurred with Dr. Lindsay in the importance of the receptivity of the patient for phthisis, and, with reference to what had been said about inhalations, he had yet to learn how medicaments could be specially directed into the unhealthy portions of the lung.

CEREBRAL SYPHILIS: TWO CASES IN ONE FAMILY.

Presented to the Section of Medicine at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY FRANCIS WARNER, M.D.LOND., F.R.C.P.,
Physician to the London Hospital and Lecturer on Botany.

M. P., father of the two boys whose cases I am about to give, told me that he contracted syphilis in 1868; he married in 1869, and is said to have lost all secondary symptoms in 1870. The first of the mother's eight pregnancies resulted in a stillborn child, then followed a child who died in convulsions when 3 months old; Henry was born in 1874; the next survived but one day; Percy born 1876, and three younger children who appear to be healthy, except one boy now aged 7 who still wets his bed.

Percy was brought under my care at the East London Hospital for Children in 1883. He was fairly well developed, but the epicanthic folds were pronounced; he was pale, flabby, and his skin felt cold, while his fingers were blue; no heart defect was discovered. His eyes appeared normal on ophthalmoscopic examination; no defects were seen in his teeth, and no scars could be found about the mouth or anus. Speech was very indistinct; he could only partially feed himself; he slept well and was clean in habits. Walking was clumsy, with irregular movements, and he often fell accidentally. The knee-jerks were rather increased; all these conditions were bilateral. As an infant he was jaundiced and had "snuffles," with raised and moist sores at the anus and mouth; they yielded to treatment in a few weeks. During teething ulcers appeared on the body and buttocks, lasting twelve months. It is probable that the boy never walked or talked well, but from 4 to 6 years of age he attended school, and though he learned nothing was thought to be healthy. He never had any fits. In 1883 he began to suffer severe head-pain, which came on in attacks with vomiting, such attacks becoming more frequent and attended with loss of control over the bladder. Mercurial treatment was employed without success. He soon had to leave school, being unable to walk there; headache and vomiting continued, and I have heard that he died in 1887 without the supervention of any fresh signs of importance to the case.

Henry P. appeared healthy at birth, and there is no history of the manifestation of the signs of syphilis in infancy; still we may infer that he was syphilitic from the history, the incisor teeth, and the brain disease. At six weeks old bilateral convulsions set in, and continued at intervals till he was six years of age, when they stopped. When nine years old he gradually became clumsy and dropped things. In 1882 he had a severe illness, and for six months was said to have "meningitis." There was a temporary squint and severe head-pain, with universal powerlessness. He gradually recovered general power, but hemiplegia of the left side remained. When I saw him in 1883 there was complete left hemiplegia, with rigidity and athetoid movements of the fingers. The left face was partially paralysed. To sum up further notes to present date: traces of old optic neuritis exist, and the left upper incisor is defective, probably from infantile syphilis. On these points Mr. W. Tay and Mr. J. Hutchinson, jun., agree with me. The left pupil reacts well, but the right is larger than the left; it is inactive to light, but contracts slightly on accommodation. No keratitis. Left knee-jerk is exaggerated, the right normal. He is intelligent, and reads well, and has no head-pain. Mercury has been fully used, but no marked improvement has occurred. I last saw him two months ago, and his condition was practically unchanged. The left hemiplegia and the condition of the right pupil seem to indicate probable double lesion.

REMARKS.—These brothers appear to have suffered from syphilitic disease of the brain. It seems probable that there was some slight defect from birth in each case. Percy learned nothing at school, and Henry had a long series of fits in early childhood. In Percy the lesion was bilateral; in Henry there appears to be a double lesion, though each may have been more local than in his brother. The case of Percy was possibly a chronic meningitis similar to the case published by Dr. Fletcher Beach and myself in *Brain* (April, 1888), where a thick false membrane had grown over the convolutions and pressed upon them. In these two cases, as well as in that previously published, mercurial treatment was employed without success. It is interesting to consider whether a syphilitic taint may lead to defective development, as well as render the tissues of the brain, its membranes, and vessels liable to future pathological lesions.

THE PREFERABLE CLIMATE FOR PHTHISIS.

BY CHARLES DENISON, A.M., M.D.,
Denver, Colorado, U.S.A.

THE following is a synopsis of the author's argument, taken from the *Transactions* of the Ninth International Medical Congress, held in Washington, September, 1887. For lack of space, those portions only are copied in full which relate to the author's individual investigations in a climate peculiarly suited to the arrest of chronic pulmonary disease.

The proper sequence, as to the importance of different climatic attributes, is what the writer attempts to establish, and that is (1) dryness, (2) coolness or cold, (3) rarefaction, (4) sunshine, as opposed to their opposites, and (5) variability of temperature, as opposed to equability, being admitted as a necessity of these favourable attributes.

The argument is intended to apply to all climates, though the following, under the heading of Confirmative Propositions, are considered as modifying conditions: (6) marked diathermancy of the air to be preferred to the smoky atmosphere of cities or the dense air strata of moist currents; (7) radiation and absorption of heat by rocks and sandy loams better than latent absorption by water and damp clay soils; (8) mountainous configuration of country (quick drainage) contrasted with the flatness, etc., of level sections; (9) frequent electrical changes of atmosphere, also moderate winds (except in quite cold weather) preferable to continuous stillness of the air; (10) inland altitudes contrasted with sea air (total absence of land influence), but in certain cases sea voyages and island resorts to be preferred as compromise substitutes for high altitudes.

The discussion of this most important question of "Climatic Influence in Phthisis," to be fair must be general, with no unworthy prominence given to any one of its many elements. The subject is necessarily complex, and in order to reach right conclusions must be candidly considered, without reference to the convenience of the medical adviser or of the patient. Hitherto, the chief obstacles in the way of right conclusions have been:

1. Ignorance of the exact nature and progress of the disease, and

2. A lack of appreciation of the relative importance of different climatic attributes in its arrest.

With reference to the first obstacle, the writer accepts with confidence the germ theory of Koch, that is, that the bacillus of tubercle is the essential principle in all tubercular lesions. The worth of comparisons and conclusions as to climatic data largely depends upon the time involved and the area represented. It

was the value of the records of the United States signal service bureau, and the importance to the medical profession of condensing the averages of all climatic attributes in a convenient and graphic form, that led the writer to compile some eight million separate signal service observations into the Annual and Seasonal Climatic Maps of the United States, which are the authorities for many of the conclusions reached in this paper.[1] The proper sequence of these attributes, and the validity of their defence, are what need to be proved.

1. *Dryness versus Moisture.*—At the outset we should have a line of demarcation between these two opposing qualities of the atmosphere. It seems to the writer that the average of the combined hygrometric conditions of the atmosphere, for the whole inhabited portion of the country, is a fair division line between these two opposite conditions.

Of course temperature must be accounted for, as the capacity of the air to hold moisture varies so greatly according to this record, the variation being from about half a grain to the cubic foot at zero to nearly twenty grains at 100° F., when the air is saturated. This was the basis of the writer's *Rule for the Determination of Moisture and Dryness.*[2]

This rule was based upon the calculation of a table representing the average of the combined humidities of the air (cloudiness, absolute and relative humidity) for the whole United States and for every degree of temperature. The average of these three evidences of humidity were found to be 44½ per cent. of the time for cloudiness, 67 per cent. for the relative humidity, and consequently 67 per cent. of saturation for absolute humidity. These means were accepted by the late chief signal service officer (General Hazen) to be as nearly correct as could be determined. A rating table of means of these three attributes having been constructed for every degree of temperature,[3] the following rule was formulated.

"First find for the given time and place the percentage of relative humidity and cloudiness and the absolute humidity in tenths of a grain of vapour to the cubic foot of air. Then compute the difference between one-third of these three and the standard number (the mean) given opposite the proper temperature in the rating table, and the result, *plus* or *minus*, will show the relation of the given climate to the average for the United States. An excess of six locates a place in moderate moisture, and over six in extreme moisture, while a deficiency of six belongs to moderate dryness, and of more than six to extreme dryness."

The graphic illustration of this rule, compared with mortality statistics, shows that the arrest of phthisis is far more surely to be accomplished as you go toward the extreme of dryness from the mean, than as you go in the opposite direction from the mean towards the extreme of moisture. Indeed, it is the very moist climates which furnish most of the cases to be arrested in the very dry sections.

However, in the writer's opinion, the chief argument in favour of atmospheric dryness is based upon the increased transpiration of aqueous vapour from the lungs, in a degree according to the dryness of the air breathed.

Valentine, Sanctorius, Lavoisier, Seguin, Dalton, and others have investigated the subject of transpiration, but not to differentiate between persons at different altitudes and temperatures. In the analysis of humidities already referred to,[4] the writer made an attempt to compute this difference in transpiration.

He took Draper's statement as the basis of his calculations—namely, that the dew-point of the expired breath is 94°. (Candour compels expression of the suspicion—chiefly based upon the increased thirst and augmented respiratory activity in those who live in elevated and very dry sections—that the dew-point given may be too high for such dry regions. However, this is less than Dalton's estimate, who says the expired air is in a state of saturation; so we will call it that the expired breath is saturated at 94° F.) Two divisions of the calculations were made.

(1). Difference in vapour transpiration between a warm, moist (Jacksonville, Flo.) and a warm, dry climate (Yuma, Arizona). These two signal stations were chosen, and for the autumn of 1883, because their temperatures were the same, that is, 71.3°. An ordinary sized man was assumed to breathe eighteen times in a minute (Quintelet), and to expire when at rest twenty cubic inches at each breath (Hutchinson, Flint, jun., and others), and that the loss of breathing—that is, the used-up atmosphere—from 1.70 to 1.50 in volume (Davy and Curvier) is made up by the expansion of the air in the lungs, through its being raised from 71.3° to the heat of the body.

The calculation resulted in the following table:

TABLE I.

Autumn, 1883.	Yuma.	Jacksonville.
Mean temperature...	71.3	71.3
Grains of vapour in saturated air per cubic foot at given temperature (Glaisher) ...	8.33	8.33
Mean relative humidity	0.428	0.774
Cubic feet of air breathed in 24 hours ...	300.00	300.00
Grains of vapour inhaled	1.070	1.934
Grains of vapour exhaled with dew-point at 94°	5.007	5.007
Vapour exhaled more than inhaled	3.937	3.073

Excess of Yuma over Jacksonville 864 grains a day.

This is the moisture thrown off from the lungs in a given dry climate in excess of that in the rather moist one of the same temperature and no exercise taken. When one makes an allowance for the increased respiratory activity due to exercise, he is enabled to realise the still greater difference in transpiration, as shown by Dr. Edward Smith's calculation that "one at sea-level, walking at the rate of three miles an hour, consumes three times as much air as when at rest." Ordinary every-day exercise of man would make this difference in transpiration, under the given conditions, equal to about a gill in twenty-four hours.

(2). It is when we make this calculation for places of different temperatures and elevation, that the argument becomes still more conclusive, for cold is probably the most important factor in the production of dryness, and elevation is not far inferior, because it in turn produces cold as well as expansion in the volume of the air. It is just to allow for elevation an equivalent to the proportionate rarefaction of the air, that is, if the pressure is one-fifth less (twelve pounds to the square inch) at Denver than at Jacksonville, then one-fifth more air will be breathed at the former station. In this calculation we will assume as breathing in both Denver and Jacksonville a good sized man, 30 years old, twenty breaths a minute, and thirty cubic inches per breath (Dr. Gréhant), ordinary exercise included, and for the same season as that used before. The result is as follows:

TABLE II.

Autumn, 1883.	Denver.	Jacksonville.
Mean temperature, degrees	50.4	71.3
Grains of vapour per cubic foot, at saturation, for given temperatures	4.44	8.33
Mean relative humidity	0.501	0.774
Quantity of air breathed in 24 hours, cubic inches	1,062,800.0	848,000.0
Or cubic feet	615.0	492.0
Amount of vapour inhaled at the given humidity and temperature, grains ...	1.364	3.172
Vapour exhaled at dew-point (94°), saturation being 16.69 grains per cubic foot (Glaisher), grains	10.264	8.111
Vapour exhaled above that inhaled in 24 hours, grains	8.900	4.939

Excess of transpiration in favour of Denver, 3.961 grains, or over eight ounces or two gills in twenty-four hours.

There are two important considerations which would further add to this difference in evaporation of moisture from the lungs in favour of the high altitude station:

(1). The expansion of the air in being raised in the respiratory tract from the lower temperature of the atmosphere to the higher temperature of the body.

(2). The increased amount of exercise naturally indulged in at the higher station, due to the stimulation of cold, electrical influence, etc., and the augmented effect of exercise upon the respiratory functions.

For the purpose of still further comparison it is instructive to take a cold, dry place in winter (Cheyenne, Wyo.) and a warm, moist one in summer (Charleston, S. C.) on the same basis (though Cheyenne is a little more elevated than Denver). The calculation is as follows:—

[1] Rand, McNally and Co., publishers, Chicago, Ill.

[2] *Moisture and Dryness.* Report made to the American Climatological Association, 1884. Rand, McNally and Co., Chicago, Ill.

[3] See table on Map for Spring on Climatic Charts previously referred to.

[4] *Moisture and Dryness*, pp. 27 to 29.

TABLE III.

	Cheyenne, winter, '83.	Charleston, S.C., summer, '83.
Mean temperature, degrees	23.2	81.2
Weight of vapour at saturation for given temperature, grains	1.30	11.38
Mean relative humidity	0.478	0.803
Amount of air breathed in 24 hours, cubic feet	615.0	492.0
Weight of vapour inhaled, grains	0.383	4.426
Weight of vapour exhaled at dew-point (94°), saturation being 16.69 grains per cubic foot, grains	10.264	8.111
Vapour exhaled above that inhaled in 24 hours, grains	9.881	3.615

Excess of respiratory evaporation in favour of Cheyenne in winter, over Charleston in summer, 6.266 grains, or 13 ounces.

If the two modifying effects previously mentioned were to be taken into consideration, together with the usually increased activity of the respiratory organs, in such cold as compared with such warm atmospheres, the result would show for Cheyenne in winter a daily passing off of vapour from the lungs of at least a pint more than for Charleston in summer. This calculation accords with the sensations and the greatly increased thirst experienced in cold, dry climates, especially when exercising. (How much the activity of the skin is relieved by this increasing pulmonary evaporation would be a very interesting problem to work out, if it could be done.)

This is the argument of the increased pulmonary evaporation due to the coldness and dryness of the air. It cannot be ignored, though the stated records of pulmonary transpiration may be modified by different allowances for elevation and the dew-point of expired air.

It is not claimed that dryness itself is an independent feature. On the contrary, it will be seen how every successful climatic constituent really favours or produces this one which is placed at the head of the list. (Aside from exceptional effects merely upon sensations, the only consideration which seems to be arrayed against atmospheric dryness is the announcement of Lehman that "the exhalation of carbonic acid is greater in moist than in dry atmosphere, temperature remaining the same."[5] *Per contra*, Crawford's experiments prove that the pulmonary exhalation of moisture is much greater in low than in high temperatures; while Draper says twice as much carbonic acid is liberated with a temperature of 68° as at 106°. Well, then, a slightly lower average of temperature compensates for the little difference mentioned by Lehman. Besides, we are in favour of the cooler temperature for other reasons than because of the remarkable power cold has in drying the atmosphere. As Dr. Lombard expressed it: "In the altitudes the digestion, the muscular exercise, and the lowering of the temperature, increase and accelerate the exhalation of carbonic acid.")

2. *Coolness or Cold Preferable to Warmth or Heat.*—The importance of cold, in the composition of the curative atmosphere we seek, is hardly less than that of dryness. In fact, the two are so inter-dependent and necessarily associated they cannot be easily separated.

(1) How much atmospheric humidity is influenced by the element of temperature is shown by the sensational effect of cold.

Aside from the drying effect of cold upon the atmosphere already alluded to, low temperature has several remarkable as well as useful effects in the arrest of phthisis.

(2) Heat expands the air, so that the contrast between the temperature of the atmosphere and that of the body indicates the swelling effect cold air produces when full breaths are taken.

(3) Cold stimulates and heat depresses. This is a generally accepted proposition which needs no extended elaboration.

(4) The effect of cold in destroying or impeding germ life, especially the life of the bacillus of tubercle, is a most important consideration.

(5) The investigation of seasonal effects in phthisis shows the salutary influence of cold.

3. *Rarefaction* v. *Sea-level Pressure.*—The consideration of elevation is divided into:

(1) The effect upon other climatic attributes.

(2) The physical influence upon man in health.

(3) Its effects in disease, and the experience of invalids.

(4) The evidence of immunity from phthisis.

(1) We have already adverted to the influence of rarefaction in producing dryness and coolness. Its effect upon sunshine, diathermancy, variability of temperature, wind movements, radiation, quick drainage, etc., will appear as we proceed.....

(2) As to the physical effect, on the arrival of a healthy individual in high altitude there is first an increase both in the frequency and in the depth of respiration. When adjustment to the new conditions has taken place, which requires a variable period, according to the altitude and the individual, the respirations are not nearly so much increased in frequency during rest, but the depth of breathing becomes habitually greater. This is shown by the large spirometrical records of those who live at great elevations, and the increased size of the chest in children and in resident adults. This is further shown by the necessity of the climatic change to supply the usual, if not augmented, demand for oxygen, which is to meet an increased combustion or change of tissues. The increased exhalation of carbonic acid, due to the chest expansion and lower air temperature, as well as the increased chest measurements in those invalids who are not so far advanced in disease but that the effected lung tissue can be returned to use (an effect noted in the writer's cases, as well as in those of C. T. Williams, Weber, and others) are in perfect accord with the habitual use of more air for all the purposes of living in high altitudes. There is a "pneumonic differentiation," as the inventors call it, going on all the time, and this is better than any spasmodic or artificial effect.

There exists an alternate greater pressure or density with expiration, and less pressure or rarefaction during inspiration with each respiratory act, that is, compared with the air pressure outside the body, and also compared with the usual change of density of the air in the lungs during respiration. This increased outward pressure within the lungs is especially salutary in chronic hypertrophies, etc., of bronchial and alveolar lining membranes, and it has a tendency to open up passages closed to the entrance of pure dry air. Some of the worst cases of phthisis are those where the air cannot reach the microbes or morbid products.

(3) It is this question of increased and lessened air pressure, the augmented respiratory activity and the rush of blood into and through the pulmonary capillaries, which seem to disturb the judgment of many physicians with reference to the liability to the occurrence of pneumonia or pulmonary hæmorrhage in high altitude.

The writer has always maintained, and still holds, that there is no cause for fear if proper precautions are taken as to extreme elevations, and the character and stage of the disease existing in the lungs, that is, that there should be no spots of softened lung tissue (especial near the roots of the lungs) which are insufficiently protected by Nature's great conservative process—the deposition of fibrous tissue. Only those cases should be sent who can bear the expansion and augmented circulation without rupture of blood-vessels. In portions of lungs where there is no softening this increased pressure acts on the distended vessels as does a properly adjusted bandage to a swollen limb. The alternate crowding of the dry air against hypertrophied or diseased alveolar walls, and the suction directly applied through the push given to the circulation, tend to relieve congestion and clean out the products of morbid processes.

This increased action and the dilatation help to isolate caseous or tubercular portions, prevent the spread of infection, and promote the cicatrisation or fibrinification of these affected parts.

As to pneumonic and hæmorrhagic cases the writer's later experience—and it has been considerable—tallies well with that tabulated in his report to the International Medical Congress of 1876, when records were presented of 202 consumptives who had spent a total of 350 years in Colorado. The pneumonic cases and the hæmorrhagic (without cavity) were by far the best influenced of all varieties.

(4) The question of an altitude of immunity from phthisis is important, because there is strong presumptive proof that those climatic conditions which prevail where phthisis seldom or never originates are best suited to arrest the disease when it has commenced elsewhere.

Reference must be briefly made to the considerable evidence of medical writers in favour of an altitude of approximate immunity from phthisis, which in America ranges not far from 8,000 feet in the south-western part of the United States to about 4,000 on the northern boundary.

While altitude is the governing element, all the associated

[5] Lehman, *Physiological Chemistry*, Philadelphia, 1885, vol. iii, p. 414.

favourable conditions of the atmosphere, somewhat in the order in which I have named them, seem to go hand in hand, until they reach the climax of success in conferring a more or less complete immunity from consumption among the residents at the given altitude.

In illustration of this influence the records of the mortality from phthisis in the city of Denver during the last year might be cited. The health commissioner's report gives the total number as 195 deaths, of which only five originated in Colorado. [It is unnecessary here to refer to the effect such imported deaths from phthisis have upon the mortality statistics of a given locality.]

If the much better results were obtainable from the country, instead of from the city, and from a little greater elevation, say at or above 6,000 feet, the immunity would most likely be more apparent.

4. *Sunshine as Opposed to Cloudiness.*—The proportion of sunshine to cloudiness depends on the length of the day, the exposure of a given place, whether or not concealed in a valley, and on the cloudiness of the sky.

The distribution of clouds in the United States is computed by the signal service bureau in tenths of obscuration of the sky, and from these observations the percentage of cloudiness, and conversely of approximate sunshine, can be noted for the whole country. The variations for cloudiness range from above 60 per cent. of the time over the interior lake region, down to less than 30 per cent. in the south-western portion (New Mexico and Arizona). Taking so broad a field into calculation, a striking harmony is noted between cloudlessness or sunshine, and the other favourable attributes.

5. *Variability* versus *Equability.*—How uniformly variability goes with dryness and equability with moisture, can be illustrated by the daily and monthly ranges of temperature at places which represent dry and moist climates. Chosen without reference to this particular evidence, twenty-five dry and twenty-five moist prominent stations and health-resorts in the United States give the following means:—

	Means of Daily Ranges.			Means of Monthly Ranges.
1. Extreme dryness.....	36.51°	...	...	53.65°
2. Moderate dryness ...	20.63°	...	...	49.38°
3. Moderate moisture ...	17.09°	...	...	45.48°
4. Extreme moisture ...	13.61°	...	...	41.55°

Again, taking the fifteen most and the fifteen least variable signal stations in the United States for 1883 (out of the 136 stations), we have the following daily ranges averaged by seasons and for the year:—

Fifteen Stations.	Spring.	Summer.	Autumn.	Winter.	Year.
Most variable.....	30.7°	29.1°	28.4°	26.5°	28.7°
Least variable ...	12.1°	12.9°	10.8°	12.0°	11.9°

The first are extremely dry, and the second fifteen decidedly moist localities.

It is not claimed that extreme variability should always be sought for, nor that of two places, with all other advantages the same, the more variable one is the better. On the contrary, the less variable would certainly be preferred in cold weather. It is claimed, however, that variability is quite a uniform constituent of dry high climates, and that as the dryness predominates the marked variability is less felt, and is less, if at all, objectionable. On the other hand marked atmospheric equability, wherever found, is *primâ facie* evidence of excessive humidity. The worst that can be said against combining variability with the favourable attributes of climate for phthisis, is that its defence is necessary because it is a *sine quâ non* of the preferable combination. Very well, but there would be no excuse for advocating a false theory of climate, even if this one element were unfavourable. There is a prevalent exaggeration of the effect of temperature changes. The change gets the blame which rightly belongs to the element of humidity, which constituent is always excessive when a given change is injurious. For instance, a change of twenty degrees from a warmer to a colder temperature, with relative humidity 50 per cent., does not equal, in sensation or shock to the system, a change of eight degrees with relative humidity at .80. The former change does not produce saturation, but the latter does, so does a change of five degrees with humidity at .90, and even two degrees with humidity at .95 (see Glaisher's table). Therefore, it is the humidity of the air which, through conduction of heat from the body, makes a slight temperature change, with air near saturation, equivalent to a much greater change with the air dry.

It is toadyism to the mistakes of medical antiquity for equability to be any longer insisted on as a constituent of the best climate for phthisis. It is all right and essential for humid climates, but for dry, cool, and elevated resorts it is out of the question. There is something wrong with the reasoning powers of an author who jumbles together climatic attributes so that his "ideal climate" has no real counterpart among the known climates of the world. The trouble is chiefly with the vague use of the words equability and variability.

Besides the quality of stimulation, which is associated with variability, there is an important consideration in the purifying of the atmosphere which variability indicates. This happens through the alternate expansion by heat and contraction of the air by cold, together with the nightly chilling and sometimes freezing which regularly renders it inimical to germ life.

Omitting the consideration of the confirmative propositions, the following are the author's conclusions as to the adaptation of the preferable climate to the needs of pulmonary invalids.

There is nothing more evident about this discussion than that the element of altitude is inseparable from the best climate for phthisis. A natural question then follows: What is the limit up to which this combination of qualities can be carried that the best results may be obtained? The answer is, it is a question of individual adaptability.

The best method of conclusion is to determine what conditions or diseases are suitable for the extreme of the preferable combination of attributes, and then arrive at modifications or rejections of the high climate cure by a system of exclusion. This is the position always held by the writer, and he is pleased to see the confirmation of it by the experience of Jaccoud, as given in his late work on *The Treatment of Phthisis.* Jaccoud's conclusions are in the main correct, but it must be borne in mind that they pertain to a more northern latitude than we reason about in the United States; that the gradual rise, distance, and peculiar protection of our interior altitudes make the change from low levels less severe here. Also, that we in America have an immense advantage over most European high climates, in that we keep up the curative effect by suitable increase of altitude in summer. Instead, they are compelled, as Davos, St. Moritz, etc., to give up the chosen climatic treatment during the warm weather.

The plan of deciding if the preferable climate can be utilised in a given case by exclusion because of negative conditions, will not be readily accepted by the advocates of the low climates. This is because, generally speaking, the more reasons there are for exclusion from the better climate, the less likelihood is there of an ultimate recovery.

Sometimes it is not an easy matter to decide what change of climate a given patient shall have, because of the many varying considerations to be weighed, both as to patient and climate.

We may only summarise by saying the preferable climate for the great majority of consumptives in the United States varies according to the case from 1,500 feet elevation in the North in winter, to 10,000 feet as a possible extreme in the Southern portion in summer. As to patients, not omitting social and economic bearings, it varies all the way from hopeless cases with almost no discernible lung lesion, to probably successful ones, with marked pulmonary destructions; as well as from the usual mild remediable cases (simple chronic inflammations) to severe incurable ones.

Of course, then, any rule of procedure must be susceptible of much variation, and the physician who takes the most factors into account, and weighs them best, will be most successful in the management of each individual case. With this broad proviso we state some general contra-indications to an otherwise preferable high climate.

1. The coldest season of the year, intensifying the effect of altitude.

2. Advanced age of the individual, rendering acclimatisation difficult.

3. An excitable, nervous temperament, aggravating the stimulation of climate, producing irritability, and sometimes wakefulness.

4. Women, for a like susceptibility, and less adaptability to the change and to out-door life than men.

5. Valvular lesions with rapid action of the heart, especially with the previous exceptions.

6. Marked and extensive emphysema, pneumothorax, and hydropneumothorax.

7. Active pneumonia of existing hæmoptysis. If these are re-

cent, the contra-indication is much less than if they are present; if remote and without other objections, these diseases are most favourably influenced by the change. If there is reason for some doubt, in any such otherwise favourable case, a gradual rise in elevation should be chosen.

8. High bodily temperature, whether it be rather constant, as in some inflammatory states, or in catarrhal extension beyond a tubercular zone, or whether it be regularly vacillating, as in tubercular infection, that is, daily low or subnormal in the morning and up to 103 degrees or more later in the day, especially with suspicious laryngeal complication.

9. Extensive involvement of lung-tissue in diseased action, that is, so that the healthy spirometrical record is more than one-half abridged. Of course advanced stage of disease renders this contra-indication much stronger.

10. The stage of softening, if accompanied by marked pyrexia, or in one of decided hæmorrhagic diathesis.

LOOSE BODIES IN JOINTS.

By G. M. HUMPHRY, M.D., F.R.S.,
Professor of Surgery in the University of Cambridge.

I HAVE delayed replying to the able and courteous comments by Mr. Sheild and Mr. Howard Marsh (JOURNAL, March 31st and April 14th) on my letter (Loose Bodies in the Knee-Joint, March 17th) in order that I might give the consideration to the subject which their remarks demanded, and that I might examine certain specimens which I have only lately had the opportunity of seeing.

My statement was that we have a ready and sufficient explanation of the formation of these bodies in the growths from the synovial membrane into the joint; that only by an extraordinary and violent accident could a piece of cartilage or bone be broken off into a joint, and that necrosis could scarcely be credited as a cause.

With regard to the first of these points (the formation of loose bodies from the synovial membrane, which is generally admitted), I will go into a few particulars. The synovial membrane, which is continuous with the articular cartilage as its epithelium is continuous with that of the epithelium existing upon the surface of articular cartilage in early life, is prone, under morbid conditions, to the formation of cartilage and bone in its substance. This may take place in the villous processes which exist adjacent to the articular cartilages, about the lines of reflection of the membrane and at other parts, and which are not infrequently, in the normal state, found to contain cartilage cells; and it may also take place in the substance of the membrane, more especially in the vicinity of the articular cartilages, and sometimes as an outgrowth from them. A local irritation, a sprain, a wrench, or a blow may give rise to these villous outgrowths, or to one or two of them, in the otherwise quite healthy joint; and the villous outgrowths projecting into the joint becoming cartilaginous, and perhaps osseous, becoming also pedunculated, and finally detached, and losing, it may be, all trace of their former connection, constitute, as commonly admitted, the ordinary mode of formation of loose cartilages. This is more often observed to take place in a localised or isolated manner, so as to produce one or two loose cartilages, in early life, in young men and boys, whose active movements render them especially liable to sprains, and in the knee-joint, where the extent and reflexions of the synovial membrane are so great and so numerous, where the range and variety of movements are exceptional, and where the leverage against the joint given by the long thigh and leg is greater than in the case of any other joint.

In some instances these bodies soon give rise to symptoms which lead to their removal. In others they remain before or after their detachment in snug quarters or recesses, and cause little trouble, affording perhaps no indication of their presence, till by some particular movement, or strain, or blow, they are dislodged, get into inconvenient positions, give rise to the well-known symptoms, and are found slipping about in the cavity of the joint. Thus a man, aged 63, from whom I removed one of these bodies, stated that when he was a boy the "knee used to slip out of place at the inner side, and used to kink at the joint." Twenty years ago a piece seemed to break away; and from that time it used to slip about in the joint, and it became larger and more troublesome. A young gentleman had for years suffered weakness and uneasiness in the knee, and peculiar sensations at the back of the joint, consequent on a sprain in childhood; but the cartilage, which was quite loose, appeared in the front of the joint only a few weeks before I removed it.

A schoolboy, aged 15, whilst playing at football, fell with the left knee bent under him. He contrived to walk home, a distance of half a mile. Synovial inflammation followed, and was for some months easily re-excited, but subsequently subsided. Two years after, whilst walking in the street, he suddenly felt a severe stabbing pain in the joint, and was for some hours unable to extend it. Similar attacks, followed by synovitis, recurred, and a loose body was felt on the inner side of the patella. Having made a subcutaneous incision through the synovial membrane, I slipped the body into the tissue outside the joint, and secured it there. This was three years ago, and the body, which was about the size of a horse-bean, now feels about the size of a pea and has given no trouble.

I removed a loose body from the knee of a young man, who experienced severe pain in the joint three months previously, when straddling across a ditch gathering watercresses. He was set fast and could not move from his position without assistance. The pain subsided in a few minutes, and he was able to walk and jump over a ditch. Next day the joint was swelled, and had to be kept on a splint. The loose body was discovered a few days afterwards. On two occasions, one three years and the other a year previously, he had experienced sudden pains in the knee, but less severe than the last attack.

During this period in which they remain in retirement, as it were, they may slowly enlarge[1] and undergo calcification or ossification in the middle; and the section of such a body may show a nucleus or centre of true bone with the characteristic corpuscles, imbedded in true cartilages with the process of ossification from cartilage to bone progressing in the ordinary manner. These loose bodies are in some instances fibro-cartilaginous, in some cartilaginous, in some fibro-cartilaginous at one point and cartilaginous at another; and the cells near the surface may be, as seen in a specimen I have just examined (a loose cartilage of the ordinary type with bone in the middle, recently removed from the knee of a young man) flattened out and lying parallel to the surface, whereas the deeper cells are more spherical and arranged more or less in vertical columns, thus simulating very closely the structure of articular cartilage. Such a body may therefore present closely the appearance of a portion of bone and cartilage detached from the articular surface of a bone. I do not think the last feature has been previously pointed out; but in reality such arrangement of cells in the superficial and in the deeper strata is by no means, as seems to have been thought, peculiar to articular cartilage and to be regarded as diagnostic of it. It is indeed a feature common to cartilage in various parts and under various circumstances. Thus it is found in the costal and laryngeal cartilages as well as in loose cartilages, also in the superficial layer of the cartilage covering ordinary exostoses in parts where the whole thickness of the cartilage is not occupied by the columnar arrangement of the cells preliminary to ossification.

My attention was first seriously drawn to the formation of these bodies from the examination of the loose body removed from the knee of the young man last mentioned, which consisted of bone and cartilage, was flat and oval (an inch by an inch and a half), and was on one side bare of cartilage and presented a plain surface of bone, so that it much resembled a portion of articular cartilage and bone. Indeed, it was much like the specimen figured 4 and 5 by Mr. Howard Marsh in the paper referred to. The explanation I then gave of the condition was, that during a long period of repose this body had not only undergone central ossification, but that one side of it, through contact with, and perhaps attrition upon, the femur or tibia, had been deprived of cartilage, and its bony nucleus had been laid bare. This view certainly seems to me much more probable than the supposition that it was the result of direct injury or of a process of necrosis separating it from any part of the articular surface of the bones. The view that in this and similar cases the origin and progress was such as I have mentioned derives corroboration from a specimen in the Pathological Museum at Cambridge, where a subspheroidal or flattened osseous body with cartilaginous margin hangs by a broad peduncle from the synovial membrane into the space between the patella and the femur. The cartilage from both the patella and the

[1] One in the museum at Vienna, which still retains its connection with the capsule of the knee-joint, is said to be as large as the os calcis. Tillmann's *Lehrbuch der Allgemeinen Chirurgie*, p. 467.

femur in the vicinity have disappeared, and the surface of each bone is somewhat worn away. It is quite certain that this pendulous body is a product or outgrowth of the synovial membrane from which it hangs, and not a detached piece of bone, and that the surfaces of the patella and the femur are in process of being worn away by its attrition; and it is almost as certain that it has, in like manner, suffered from attrition on both its surfaces, its cartilaginous covering having disappeared and its osseous part having been exposed. So that we have here a good illustration of the effect upon one another of the pendulous body and the articular surfaces.

This view also derives corroboration from two specimens in the same museum; one being that of the knee with rheumatic arthritis, mentioned in my former letter, which I excised from a man, aged 60, in which there are many loose bodies of various sizes, some cartilaginous, some with osseous centres, some loose in the joint, some connected by pedicles more or less broad with the synovial membrane. One of them occupies a concavity nearly large enough to hold it and adapted to it, in the side of the articular part of the tibia, and there can, I think, be little doubt that it, like the others in the same joint, had its origin in the synovial membrane, and that it had gradually, by pressure and friction, led to the formation of the cavity in the tibia in which it lies. In the other specimen, a loose, tuberated, bony nodule, with cartilaginous covering, larger than a filbert, is lodged, for about one-third of its thickness, in a fossa in the outer and fore part of the internal articular surface of the tibia, which has evidently been formed by the pressure and friction of the body; and the tubercles on the side of the body apposed to it have been rubbed down so as to present a nearly smooth osseous surface. The cartilage has in great measure disappeared from the corresponding femoral condyle, and it is remarkable that movement of the joint can have taken place, notwithstanding the presence of such a body in such a position. There are villosities of the synovial membrane, and "lipping" of the articular margins.

Specimen 1,926 in the College of Surgeons furnishes still better evidence of the process. In it a foreign body, an inch in its greatest diameter, attached to the crucial ligaments, has, by friction and constant pressure, worn for itself a deep cavity, with grooved walls, in the posterior and lower part of the outer condyle of the femur in which it lay imbedded and apparently immovable, and a second smaller body having similar attachment appears to have begun to wear a hole on the inner side of the under part of the internal condyle. In the museum of the Middlesex Hospital (No. 710) is a pointed fibrous growth, 1½ inch long, hanging by a narrow neck from the posterior attachment of the internal semilunar cartilage and lying upon the articular surface of the tibia. Whether it has begun to make an impression upon that surface cannot be seen, but that it would soon have done so if it had continued in that position and gone on enlarging and hardening there can be little doubt In a recent specimen in the same museum is a loose body, like a miniature patella, lying in a bare cup-like depression of the femur above the outer condyle; and in St. George's Museum, III, 44 b, is a smaller pendulous body hanging in a cavity above the coronoid fossa of the humerus.[2]

It is clear that in these cases the bodies were of long standing, had slowly grown and hardened, and had gradually—very gradually—worn, or were in process of wearing, for themselves nests in the bones on which they laid, and they might at any time have become quite detached and lost all trace of their former synovial attachments. During the time of their repose they would have caused little or no inconvenience. It would have required a considerable force, such as a violent strain or blow, to dislodge them, to bring them into notice, and to cause them to give rise to the symptoms which indicate the presence of a loose body. Their existence would thus, not improbably, be dated from the time of their dislodgment, and their origin would be attributed to the force which had dislodged them. Thus the "irregular nodule of bone" (Museum of College of Surgeons, 1,931), one side of which is bare and the other covered with substance which looks like cartilage, and which presents "no indications of its ever having formed a part of articular surface, and no broken part to show that it separated from any pedicle," was removed by Mr. Barwell from a retired army-surgeon, aged 43, subject to rheumatic arthritis. Two months before it was removed he struck his knee sharply, and the next day he found a loose body in the joint. He had no synovitis or pain He then missed a bony lump which he had noticed previously over the inner condyle. So also the large loose body (in the same museum, 1,935), nodulated on one side, flat on the other, partly bony and partly cartilaginous, which presented "no evidence that it ever formed part of the normal surface of a joint or was ever pedunculated," and which was excised from a man, aged 40, and presented by Sir William Fergusson, was detected after a severe twist of the knee. A young man in Addenbrooke's Hospital sprained his right knee while boxing, was carried home, and kept his bed for a fortnight. He then perceived a loose substance in the outer part of the joint. After a month he could get about pretty well. As he experienced inconvenience from the substance, he came into the hospital and it was removed. I am informed that it showed no sign of having been detached from an articular surface, and presented the ordinary appearance of a loose cartilage, being about the size and shape of a strychnine nut. The joint was, to all appearance, quite sound before the injury. Instances of the discovery of these bodies soon after injury are also given in Hey's *Surgery*: in one case there were two in the same knee, the fact of their being two precluding the idea of their being the direct result of injury.

It is well known that in rheumatic arthritis these cartilaginous and osseous bodies are very liable to form in the synovial villi, which commonly enlarge in this disease; and these may be found to have become detached in great numbers. They also form in the synovial membrane, and possibly in the subsynovial tissue, and often in close proximity to the articular cartilage.

When thus situated they may grow into contact with, or encroach upon, the thickened, outgrowing, nodulated, and "lipping" margins of the articular cartilage so often met with in rheumatic arthritis. In this borderland between cartilage and synovial membrane it is not always quite easy to tell in which of these structures the osseous bodies were formed; and of two observers, one will judge that they have originated in continuity with the articular cartilage and are in process of separation from it, while the other will conclude that they have originated in the synovial membrane and are in process of encroaching upon or coalescing with the abnormally projecting articular cartilage. The latter, which I believe to be the more common, may be often proved by noting the manner in which the several stages of growth in the membrane with approximation to the cartilage are evidenced at different parts in the same specimen. The edges of the projecting and overhanging lips of articular cartilage do, however, sometimes grow out irregularly with intervening spaces. This is well seen in specimen 709 in the museum of the Middlesex Hospital; and it is possible that they may become detached from their bases, though I have not seen an instance in which it seemed very probable that this had taken place.

It is, therefore, sufficiently proved that a loose body formed in the synovial membrane may (1) come very closely to resemble, microscopically and to the naked eye, a portion of articular cartilage and bone; may (2) in course of time form, by its pressure and friction, a fossa in the articular end of a bone more or less adapted to it, in which it may lie without giving rise to any particular symptoms, from which (3) it may become dislodged and first excite attention in consequence of a blow or strain, and so lead to the presumption, which may seem to be confirmed by microscopical examination of the loose body and even by examination of the joint, that it had been detached from the articular end of the bone by the blow or strain from which the symptoms of its existence were dated. It appears, moreover, that this is no very infrequent sequence of events, and that it may occur in a joint which presents no other indication of disease.

I should add that the presence of a loose, or nearly loose, body in the knee, caused by the tearing off one end of a semilunar cartilage from its attachment, and its nearly complete severance from the rest of the disc, has been instanced by Mr. Brodhurst (*St. George's Hospital Reports*, vol. iii), and by the specimen shown by Mr. Bowlby at the Pathological Society on April 17th. Possibly also loose bodies may occasionally originate in fibrinous masses effused into the joint after the manner often taking place in ganglions.

The dominance in my mind of the view I have expressed, as to the manner of formation of loose bodies in joints from the synovial membrane, may have led me to write in rather too strong terms against the view that they may also be formed by the detachment of portions of articular cartilage and bone by accident or by necrosis, and though on the former point I give in a little, on the latter I am still *tenax propositi*.

[2] It is represented in the *System of Surgery*, by Holmes and Hulke, ii, 355; and in the College of Surgeons (1,927), are two "pendulous masses of bone and cartilage," in the olecranon fossa.

With regard to the former of these modes of detachment—namely, by accident—I am not aware that any reliable instance has yet been adduced of the formation of a loose body by the breaking off of a piece of articular cartilage or bone by a blow; and we can scarcely conceive such an occurrence without greater damage to the joint than appears to have taken place in any recorded case of loose body in the synovial cavity.

The specimen which has been referred to by Mr. Howard Marsh, in St. Thomas's Museum, of a fragment of cartilage and bone, taken by Sir John Simon from the knee-joint of a man, and judged by him to have been detached from the articular surface by a wrench in falling three weeks before its removal, cannot perhaps now, in its bottle, be sufficiently determined. Its minute examination, however, by Mr. Shattock is, I believe, confirmatory of the view of Sir John Simon. The accident to which it is attributed was followed only by some inconsiderable synovitis. Mr. Teale has been so good as to send me for inspection the fragment represented by him in a woodcut in this JOURNAL, May 26th, p. 1109; and its rough (fractured) bony surface on one side, and articular cartilage on the other, as seen in the bottle, leave no doubt, I think, that it was, as he concludes, broken off from the articular surface of the patella by the severe wrench which he describes. Possibly it was broken off by a violent wrench against the margin of the femoral condyle, and the St. Thomas's specimen may have been due to the same cause. At any rate, it must be admitted that these are two instances of the production of loose bodies in the joints by accident.

Weichselbaum[3] goes into this question, and gives the account of the elbow-joints of a strong male subject, aged 20, in each of which was a loose body, occupying a vacancy in the part of the articulating margin of the head of the radius which plays in the lesser sigmoid cavity of the ulna. The form and adaptation of these to the vacancies in the two radii, and the absence of other disease, leads him to the conclusion that they were the result of fracture. In what manner symmetrical fractures in those particular situations could occur, he does not suggest, and it is not easy to conjecture. It is further to be observed that each of these bodies was more than large enough to fill the vacancy in the head of the radius, and was composed of hyaline cartilage, fibro-cartilage, calcified cartilage, and bone, and that the thickness of the cartilage exceeds that of the head of the radius. These points he endeavours, but insufficiently, to make tally with the supposition that the bodies had been broken off from the bones, in the hollows of which they were placed. It is quite as probable that these were congenital as that they were separated by fracture. Is it not more probable that they were the result of disease? In two nearly symmetrically rheumatoid elbows in the College of Surgeons (1,928-9), besides other bodies which were nearly loose, but attached—one in front and one behind the joint—there appears to be a body in the retiring angle in front of the radio-ulnar joint on each side. The coronoid process also looks as if it had been truncated by the presence of one of the bodies which, if it had been solitary, might have been supposed to have been broken off from it.

The occurrence of loose cartilages in the corresponding joints of the two sides has been observed in several cases, and I need scarcely say that such symmetrical occurrence is scarcely compatible with their being the result of injury.

Mr. G. A. Syme[4] removed a loose body from the right elbow-joint of a man aged 22. Five years previously there was a slight wrench of the joint, followed by pain and swelling, which subsided, and he felt no further inconvenience for three years, when, "while holding up the shafts of a heavy dray, it overbalanced and he was thrown violently to the ground on his back. He retained his hold of the shaft with his right hand, and, keeping it supported off the ground, felt a strong 'jar' in the right elbow which rested on the ground. The joint became very painful, and he found he could neither straighten nor fully bend the arm; and, when he did attempt to straighten the arm, a 'lump' appeared on the outer side of the joint, but disappeared on his touching it." Efforts to keep the lump in place failed; the use of the arm was in great measure lost. Mr. Syme accordingly removed it. He says: "From the history given of the previous inflammation in the joint and the nature of the accident, I thought that the body was probably an hypertrophied fringe of synovial membrane that had become pendulous and then been detached by the accident;" and the account he gives of the specimen certainly does not seem to justify his departure from that very probable view, for, although "it consists of true bone covered on its (presumably) upper and outer surfaces by articular cartilage," which appearance, I have shown, is not uncommon in loose cartilages formed in the ordinary way, yet "on the other surface (presumably the line of fracture) it is covered by fibrous tissue"—a condition much more indicative of loose cartilage than of a fragment of articular surface detached by accident. The size and shape of the body are not given, nor the extent to which the cartilage surrounds the bone, which, be it remarked, is stated to have "an areolar appearance, as if recently ossified."

With regard to NECROSIS as a cause of loose bodies such as I am discussing, I must confess that the process of exfoliation, or "quiet necrosis," as it has been designated by Sir James Paget, was not in my mind when I wrote (March 17th), and is not mentioned in the work to which I have referred. This, no doubt, sometimes occurs in bones, a portion dying and being slowly detached beneath the periosteum with little or no suppuration. A good instance is furnished by the bone of a calf in the Cambridge Museum, on the shaft of which is a broad, raised, sharply-defined table of bone; and, on making a section, I found a loose sequestral scale, half an inch in diameter, lying in a completely-closed cavity; but it requires rather more evidence than we yet have that, in an otherwise healthy joint, a portion of bone and cartilage, presenting to the naked eye and under the microscope quite a natural appearance, has been the seat of necrosis, and has in consequence been separated. Surely the death—the necrosis, however quiet—of a portion of articular cartilage and bone must leave some structural traces of the process by which that death was brought about, and which attended upon it; and a necrotic piece of bone and cartilage could scarcely present the perfectly normal character which the loose bodies supposed to have been thus detached are said to have had.

Still I could not help feeling that the very remarkable and interesting case given by the late Mr. Teale in vol. xxxix of the *Medico-Chirurgical Transactions*, and quoted at length by Mr. Howard Marsh, did seem to justify this view. My good friend Mr. Teale has, however, kindly sent me the specimen from the Leeds Museum for examination. I find that the loose body does, as described, present very much the appearance of a portion of articular cartilage and bone, and is nearly adapted to the space in the condyle of the femur from which it is supposed to have been detached by some necrotic process. On the other hand, it was situated on the under and outer part of the internal condyle, a very sheltered spot, where a blow even from a beer barrel could scarcely cause the change in question. Secondly, the cavity in which the loose body lay is at one part continuous with the intercondyloid fossa, a situation in which synovial growths have a tendency to form and to work their way into the surfaces of the condyles, especially that of the internal condyle. Thirdly, the articular margins present—in no very marked degree, it is true—the lipping indicative of rheumatic arthritis, in which disease, we know, synovial growths are very liable to form. Fourthly, the cavity in the condyle occupied by the loose body is smooth, slightly uneven, with a well-defined edge of cartilage, and presents no indication whatever of ulcerative or other process by which the loose body can have been detached, but rather that of absorption from pressure. Fifthly, at the circumference of the loose body the cartilage is projected into a flail-like edge, and above this edge it extends, with a smooth contour, upon the upper or applied surface of the body, where it gradually fades and is partially continuous with the cartilaginous nodules next to be mentioned. Lastly, the upper or deeper surface of the loose body—that applied against the condyle—is slightly knotty or tuberculated; and these tubercles are found, on microscopical examination, to be composed of true cartilage, which is continuous with the cartilage of which the body is composed. In this cartilage calcification has taken place at parts, but no trace of bone is to be found. These features, especially those last mentioned,[5] seem to preclude the possibility of this body having been detached from the articular surface by necrotic process or in any other way, in spite of the peculiar circumstances which favour the view taken by Mr. Teale and others, and to accord, on the whole, best with the supposition that the body was an outgrowth from the synovial membrane, which gradually formed for itself the cavity so nicely adapted to it. The same remark must, I think, apply to

[3] Zur Genesis der Gelenkkorper, Virchow's *Archiv*, lvii, 127.
[4] *Australian Medical Journal*, July 15th, 1888.

[5] The flail-like edge of this body and the tuberculated character of its applied surface, with the border of cartilage remaining upon that surface, are fairly represented in the figure at p. 788 of this JOURNAL for April 14th.

the layer of fibrous tissue found in the corresponding situation on each of the symmetrical bodies removed from the otherwise healthy knee-joints of a young man by Mr. Holden, quoted by Mr. Howard Marsh.[6] It can scarcely be supposed that this tissue would have been formed upon a surface separated by necrosis from the articular end of a bone. This remarkable case is to some extent paralleled and probably elucidated by that reported in the *American Journal of Medical Sciences*, October, 1848, in which two oval flat bodies weighing, one 283 grains, and the other 257 grains, and measuring $2\frac{1}{16}$ inches by $1\frac{1}{16}$ and $\frac{1}{8}$ in thickness, and the other $2\frac{1}{8}$ inches by $1\frac{1}{16}$ and $\frac{9}{16}$ in thickness, were removed from the knees of a man, aged 43, who recovered from the operations and was able to walk with perfect ease. That these bodies were of synovial origin is rendered probable from the statement that he had swelling and severe pain in the knees when he was 17; and three years afterwards he found a movable body just above the right patella, and, after a short interval, a similar body in the left knee. A cast of these bodies in the College of Surgeons' Museum shows them to have been uneven on the surface.

In the case carefully described and figured by Klein,[7] where two bodies, each composed of a layer of cartilage and a layer of bone, occupied a fossa in the outer part of the internal condyle of the femur, the idea of their having been separated from the articular surface is negatived, first, by there being two bodies; secondly, by one of the bodies still retaining its connection with the synovial membrane, thus indicating its origin; and, thirdly, by the cartilaginous coverings extending over the smooth edges of the loose bodies, upon their applied surfaces beyond the deeper level of the surrounding articular cartilage. This last point—the extension of the cartilaginous covering in a smooth manner over the edge of the loose body on to its applied surface, between that surface and the bony surface of the cavity of the condyle—may, I think, be taken as a proof, in any case, that the loose body has not been separated from the articular surface either by necrosis or direct force, but that it has been formed independently, and that, by friction and pressure upon the condyle, it has rubbed a cavity in it, and has been more or less completely deprived of its cartilaginous covering on one side. If this test be applied, it will, I think, be found to indicate the improbability of detachment by necrosis in most, if not all, of the instances with regard to which that view has been entertained. It does so in the cases just mentioned, as well as in the second case represented by Mr. Teale in the JOURNAL, May 26th, p. 1109 (which specimen I have had the opportunity of seeing), where there were two loose bodies, one of which retains attachment to synovial membrane; and another loose body in the same specimen shows well the usual effects of rubbing on one side. It does so in the instance represented by Cruveilhier,[8] and often quoted as an example of a loose body detached from the articular surface. It does so, as far as I can judge, in the case of the loose body (No. 947 or 647) in the College of Surgeons, referred to by Mr. Howard Marsh, which also looks as if there were some remnants of cartilage upon its bony, or applied, surface. In the specimen in St. George's Museum (III, 140), which has been elsewhere referred to, the loose body is not apparent; but the cavity which it occupied in the condyle is in the situation into which, as I have before said, bodies formed into the adjacent part of the synovial membrane are liable to intrude themselves.

Mr. Bernard Pitts showed me a specimen in St. Thomas's Museum, in which from the under part of a condyle of the femur, in each of two knee-joints of the same person, a flake of cartilage, about a quarter of an inch in diameter, appears to be in process of separation, and its flocculent deeper surface is still connected by threads to the fossa in the cartilage from which it is being detached. The patient was under 30, but the effects of rheumatic arthritis are shown in the extension of the articular margin, and in a slight villosity of the synovial membrane, also in fibrous or velvety degeneration of the articular cartilages, especially in the neighbourhood of one of the separating fragments; and it seems probable that the separation of these fragments was being brought about by a modification of that change in the cartilages which is so common in rheumatoid disease. This view derives confirmation from the presence of cartilaginous bodies, such as I have mentioned, in the synovial membrane. In what number these existed, and whether any of them were pendulous in the joint, is not now apparent.

The conclusions, then, at which I arrive are:

First: Although I am not aware of any instance in which a portion of articular has been detached by a blow, yet in two cases (Simon's and Teale's) this appears to have resulted from a violent wrench. In each case the loose body so formed was removed by operation.

Secondly: In none of the instances that I have read of, in which the formation of a loose body has been attributed to necrosis, does the evidence of such process appear to me to be satisfactory. The resemblance in structure of certain of these bodies to articular bone and cartilage as an argument in favour of that view, and it was perhaps the strongest, is, in a great measure, set aside by the discovery that this resemblance exists, also, in loose bodies formed in the ordinary way, namely, by synovial outgrowth; these being found in microscopical characters and general features much to resemble portions of articular bone and cartilage. They may, however, be distinguished by one or more of the following features. 1. The presence in greater or less amount of fibro-cartilaginous or fibroid, as well as cartilaginous tissue in the body. 2. The imperfect denudation of the bone upon the rubbed down, or applied, surface of the body, so that remnants of cartilaginous or fibro-cartilaginous or fibroid tissue are found there. 3. The varying thickness of the cartilaginous covering, which in some parts may exceed that of normal articular cartilage, and its extension over the rounded edge of the body, to a greater or less extent, upon the circumference of its applied surface. 4. The knotty outline of the osseous nucleus and the imperfection of its bone-formation. 5. The size of the loose body being greater than that of the cavity in the condyles, so that it rises above the level of the surrounding articular cartilage. The presence of any one of these features renders a derivation from the articular surface very improbable; and the combination of two or more of them renders it almost impossible.

[6] *St. Bartholomew's Hospital Reports*, vol. iv, p. 256; and this JOURNAL, April 14th.
[7] Virchow's *Archiv*, xxix, 190.
[8] *Anatomie Pathologique*, livraison 9, Pl. 6, Fig. 3, and copied by Bardeleben, *Chirurgie*, ii, 637, Fig. 87.

THE TREATMENT OF PHARYNGEAL CATARRH.

BY ALBERT J. BEEHAG, B.A.SYDNEY, M.B., C.M.EDIN.,
Formerly Clinical Assistant, Ear and Throat Department, Royal Infirmary, Edinburgh.

ACUTE catarrh of the naso-pharynx is usually associated with a similar condition in the nose or lower pharynx, and therefore the general treatment will be the same as for the latter, though local treatment for the space is indicated. The most prominent symptoms to be alleviated are increased secretion, which is exceedingly troublesome, especially at night, preventing sleep from dropping down into the pharynx; ear complications, if they exist; and, from swelling and hypersecretion, more or less obstruction to the breathing, especially so if the nose be implicated. The troublesome secretion may be conveniently removed with a tepid three-quarter per cent. solution of common salt, ammonium chloride, or sodium bicarbonate, or with a 2 to 4 per cent. solution of borax or boracic acid injected through the nose with a two or three ounce india-rubber ball-syringe. The head is held slightly backwards, the ball-syringe gently compressed, and, when the patient feels the fluid at the back of the nose, he throws his head forwards and allows it to run out at both nostrils. In the same manner the solution may be poured from a spoon or other suitable vessel. If the head be held forwards, the syringe must be more firmly compressed, in order to force the fluid through and out at the other nostril. After syringing, the nose should not be blown for at least a quarter of an hour, to avoid the risk of the fluid being driven into the ear and setting up inflammation.

Another method, which I introduced some time ago, and from which I have obtained good results, is the employment of a solution of from 15 to 20 per cent. of menthol in olive oil. This fluid is poured from a spoon or injected with a fine syringe through each nostril, the head being held well back, so that the fluid passes into the back of the throat and bathes the pharynx. Half a drachm of a 20 per cent. solution, injected through each nostril, is the amount I generally employ. Besides exerting an anti-catarrhal and anæsthetic effect, menthol has the power of stopping a purulent or muco-purulent secretion. The flow of watery mucus which is induced washes out the muco-purulent secretion, the use of the pocket-handkerchief therefore being necessitated

afterwards. In doing this the patient will feel the vapour being driven up the Eustachian tubes; and this, indeed, will be beneficial, especially if an ear complication be present or threatened. The fluid, coming in contact with the nose and lower pharynx, either or both of which are usually associated in the inflammation, exerts its beneficial influence in these situations. The same medicament may be carried into the naso-pharynx by means of a brush; and, if tubal or middle-ear complications exist, the brush laden with the substance should first be applied to the sides over the Eustachian orifices, and then to the other parts of the space. By this treatment the heavy headaches and the dry feeling and pain in the upper part of the pharynx are relieved, and I have more than once seen an acute suppurative inflammation of the tympanum, which has had its origin from catarrh of this space, thus cut short in its career. The powder described for the chronic form of the disease may also with advantage be insufflated into the naso-pharynx in the acute stage, or pinches of the same may be taken into the nostrils and drawn back into the throat.

When we consider the continuity of the lining membrane of the Eustachian tubes with that of the naso-pharynx, and that even the application of a catheter to the Eustachian orifice causes congestion of the drumhead, it is not to be wondered at that a catarrh of this space often spreads to, or affects, the tubes and middle ears. Nay, how often do we see it affect a neighbourhood still more remote—namely, the external auditory meatus—where a blockage of the cerumen often occurs, due to its increased secretion and to evaporation of its watery constituents through the hyperæmia occasioned! In some cases the inflammation spreads to the middle ear and sets up acute catarrh or a suppurative inflammation, while in others the tube or only its orifice may be affected. When once the middle ears and tubes have been involved there is usually a predisposition to their being re-attacked in a subsequent inflammation. In these cases I have found iodised steam also to be of the greatest value. Thirty minims of equal parts of tincture of iodine and acetic ether are placed in a pint of steaming water, and the steam inhaled for ten or fifteen minutes, the vapour every now and then during the inhalation being driven up the tubes by the Valsalvian method of inflating the ears. It is of the utmost importance to pay strict attention to any ear complication that may arise, as these repeated catarrhs lay the foundation of insidiously progressive chronic change; and this is the more likely to occur in persons of less robust constitutions. After the acute stage is over, the patient should be Politzerised for a short period; or, if the air do not enter freely by this method, the Eustachian catheter should be employed. By this means the tubes will be opened up, the tympanum ventilated, and the hypersecretion dispersed, thus removing conditions which favour a slowly advancing catarrhal process.

According to Wendt, an acute catarrh of the naso-pharynx is nearly always present in croup, diphtheria, erysipelas, and several of the exanthemata; and as there is a special proclivity for an acute catarrh of this space to pass over into the chronic form, the convalescence from these diseases would be with advantage spent by the sea-side, as I have seen this condition completely disappear from such a change, especially in individuals of debilitated constitutions, but without material impairment of the digestive and assimilative organs.

An acute inflammation of the pharynx may be general or localised to different parts. The tonsils, one or both, are very frequently affected, and may be the principal condition that calls for treatment in the attack. The inflammation may only attack the superficial parts of the mucous membrane, forming a simple catarrh, or, on the other hand, it may involve the deeper tissues (phlegmonous pharyngitis), giving rise to more local and constitutional disturbance, and requiring more energetic treatment. In the January number of the *Edinburgh Medical Journal*, I pointed out the great benefit I had been deriving from the use of menthol in acute catarrhal pharyngitis. A 25 per cent. solution of it in olive-oil, or, preferably, vaseline oil, should be copiously applied to the parts and will be found to relieve the pain and dysphagia, and shorten the duration of the attack. (The Chesebrough Company send out a semifluid preparation, "vaseline oil," which is a powerful solvent of menthol, and being free from taste, neutral in reaction, and possessing the mollifying virtues and prolonged contact-action of vaseline, I prefer to use it in all cases where menthol is used as a pigment. This substance becomes perfectly fluid at a temperature of about 70° F., and is practically solid below 48°. All solutions of menthol in this solvent below 33 per cent. at ordinary house-temperatures in winter may be easily applied with a brush.) When the deeper parts of the pharynx are involved the pigment should be applied deeply with a bent brush, and if the catarrh has spread to the larynx, trachea, or bronchi, indolaryngeal injections of the same medicament (15 to 30 minims of a 15 per cent. solution in olive oil) may with advantage be employed. In the more superficial attacks of inflammation, astringent lozenges—for example, catechu, tannin, or rhatany—will often be found sufficient; as also painting the throat with a pigment of equal parts of glycerine of tannin and glycerine of borax, or gargling deeply with a drachm of the same in a small glass of water.

Schech recommends chlorate of potash in follicular ulceration. Chlorate of potash should not be prescribed in supersaturated solution, as the excess of chlorate, though in fine powder when sent out, rapidly assumes the crystalline form when subjected to a varying temperature. This is due to part of the powder being taken into solution when the temperature rises, and being precipitated in the form of crystals when the temperature falls, and to the fact also that, on a further increase of temperature, the finely levigated salt is again attacked in preference to the crystals last formed. Mr. J. Rutherford Hill, who pointed this out, suggests that chlorate of potash be prescribed in the form of powders, from which gargles could be extemporised by the patient himself as occasion demanded (*Pharmaceutical Journal*, January 26th, 1884). If the ulcerations, follicular or otherwise, persist after the attack is over, they may be made to heal more rapidly by the careful application of a strong solution of nitrate of silver, or the medicament may be applied in the solid form. Tannin, borax, and chlorate of potash are also useful when the secretion is excessive. B. Fraenkel recommends the use of quinine in doses of at least fifteen grains every twelve hours for adults, and less for children, especially in tonsillitis lacunaris; and by this treatment the symptoms, according to the same author, usually disappear with a critical sweat in from twenty-four to thirty-six hours. One should be careful, however, to proceed cautiously with this drug in children, and where ear complications exist, as the experiments on animals by Hammond and observations on the human subject by Roosa show that congestion, and possibly further changes, occur in the ear on taking large doses of quinine. In lacunal tonsillitis, the patient should be isolated, not only on account of the probable contagious character of the disease, but also on account of the fact that diphtheria can, for a time at least, manifest itself as such.

Fluids should be frequently sipped, especially when gargles are not employed, to prevent the secretion from drying on the pharynx, and increasing the disagreeable feeling in the throat. In the milder forms, wet compresses around the neck will give relief; while in the severer forms of the inflammation, ice to suck and iced applications to the neck are more effectual. When there is pain in the joints or muscles, salicin or salicylate of soda should be administered, and in cases of high fever antipyretics—for example, antifebrine; but if the presence of any of the exanthemata—for example, scarlet fever and measles—which are often associated with ear inflammation, be suspected, the use of quinine as an antipyretic is here contra-indicated.

The catarrhal inflammation may take on a phlegmonous character, or the latter may occur primarily in a person predisposed to phlegmon; or, again, it may occur during some of the exanthemata, from injury, etc. The tonsils (phlegmonous tonsillitis, or in common parlance, the deep form of the inflammation), peritonsillar connective tissue (peritonsillitis), and soft palate are the most frequent sites of this inflammation. Guaiac, prescribed by M. Mackenzie in the form of lozenges, has a specific action on this form of inflammation. B. Fraenkel administers it as an abortive agent in simple angina and in tonsillitis lacunaris "as soon as the phlegmonous redness in the neighbourhood of the palatal arch and the characteristic pain in swallowing point to the transition to peritonsillitis." A few lozenges—those of the Throat Hospital Pharmacopœia are the best—may be taken one after the other till the pain is relieved. Guaiac probably exerts a local as well as a constitutional effect. Sucking ice and iced applications about the neck relieve the pain and mitigate the inflammation, while gargling with warm solutions, inhalations, and hot poultices around the neck promote suppuration. Painting the pharynx with a strong solution of menthol is also valuable in the deep as well as in the more superficial forms of the inflammation, especially in the case of the tonsils. If suppuration has occurred the site of the abscess should be determined by the palpating finger, or by means of a probe, and this will be found in the case of peritonsillitis mostly

through the anterior pillar, though it sometimes points through the posterior pillar, causing bulging in this situation. The abscess is opened by means of a pharyngeal bistoury, and when it points through the anterior pillar the bistoury is made to enter on its upper and inner side, about one-third of an inch deep, and carried downwards and slightly outwards for about a half to three-quarters of an inch. If there be a great amount of pus present the abscess should be opened carefully, and the patient be made to hold the head forwards directly the incision has been made, so as to allow the pus to escape through the mouth, and prevent its entrance into the larynx. If pus be present and not reached on the first incision, renewed incision or incisions should be made till it is evacuated, otherwise the agonising pain, which suddenly disappears with the evacuation of the pus, will be only slightly and temporarily relieved. Even if no pus be present scarifications in the œdematous parts are indicated to relieve the pain and check the attack. Brushing the parts with a 20 per cent. solution of cocaine two or three minutes before incising greatly diminishes the pain of the operation. The abscess should be kept open for a short time by daily probing, and by the frequent use of warm gargles of glycerine of borax, tincture of myrrh, or Condy's fluid. Occasionally it happens that the patient is unable to open his mouth sufficiently wide to allow of such an incision, and in these cases B. Fraenkel recommends a puncture to be made in the velum in the neighbourhood of the anterior faucial pillar. The slight bleeding which ensues relieves the patient so much that he is now able to open his mouth sufficiently wide for the proper incisions to be made. Painting with anæsthetics—for example, menthol (Rosenberg) or cocaine, will only in a very slight degree effect the same thing, their anæsthetic action being entirely local and superficial, and having no effect on the infiltrated bucco-pharyngeal fascia, and the consequent pain behind the jaw, which is at once relieved by incisions. Abscesses occurring in the tonsils (tonsillitis abscedens) and closed crypts should be opened in the most prominent part, the symptoms being at once mitigated. If the patient be too nervous to allow incisions to be made, the suppuration should be hastened by medicated inhalations, warm gargles, and hot poultices, and the bursting of the abscess effected by emetics, or better still, by painting the throat with cocaine or menthol to relieve the pain, and enable the patient to eat when the pressure exerted during deglutition will cause rupture of the abscess if it be ripe. Tonsillotomy is indicated in those cases where both tonsils are simultaneously involved in a phlegmonous process if asphyxia be threatened. The larynx should be examined, as it is in this form of inflammation that œdema sometimes occurs at its upper part, in which cases, as also in bilateral peritonsillitis, tracheotomy should be performed if symptoms of asphyxia be present. If the patient be unable to swallow, or if the food find its way into the larynx, nourishment should be administered by the rectum. Abscesses occurring from the pus burrowing in various directions should be treated on general surgical principles.

Angina occurring during syphilis should be combated principally by constitutional treatment, but the dysphagia, if severe, may be relieved by a pigment of menthol, and mucous patches brushed with strong solutions of chromic acid or nitrate of silver, or touched with the solid form of the latter. E. H. Fenwick highly extols for this purpose lozenges made by Messrs. Christy and Co., containing papaine, $\frac{1}{8}$ gr.; cocaine, $\frac{1}{8}$ gr.; potass. bicarb., $\frac{1}{4}$ gr., the ulcerations beginning to skin over and heal after a few lozenges have been taken. The papaine may also be applied with a brush in the form of a paste. "Mix papaine with a small quantity of water so as to form a thin paste, add a little bicarbonate of potash, and brush ulcers with the same thrice daily."

The general treatment of these acute pharyngeal conditions consists in keeping the emunctories active, and the removal of any exciting cause, for example, sewer gas, etc. The diet should be light but nourishing. Rest in bed should be enjoined where any one of the exanthemata is threatened, or where there is high fever present. The administration of morphine in small and frequent doses is very effectual in controlling the circulation and mitigating the severity of the attack. When the inflammation assumes a somewhat sthenic form, with considerable fever and a pulse of high tension, aconite will be found useful, one or two minims of the tincture being given every half-hour till the pulse is softened. As there is sometimes a tendency for the acute to pass into the chronic form of the inflammation, the employment in the subacute stage of the iodine pigment formulated below is advisable. Against the recurrence of these attacks, the observance of a good hygiene must be enjoined, together with the prevention of undue exposure to cold and damp, especially of the feet. Chronic enlargement of the tonsils and thickening of other parts which predispose to exacerbations must be removed in the manner described under chronic inflammation.

The treatment of chronic naso-pharyngeal and concomitant middle ear catarrh should go hand in hand, the latter disease, in the majority of cases, being dependent on the former. It is by the careful treatment of the acute condition that we, to a great extent, prevent aural disease, and by the treatment of the chronic condition that we often materially aid in the improvement of the aural condition, and prevent its onward progress. The Eustachian tubes which are often found in a swollen condition, and not performing their proper function, should be catheterised, by which means the muscles acting on the tube are stimulated to action, and a massage to the orifice of the tube effected. Of late I have been employing menthol in those conditions where there is swelling and hypersecretion of the lining membrane of the tube, and have been doing so by three different methods, a 20 per cent. solution of the drug in olive oil being used in each case. First, in the form of vapour. A few minims of the solution are run or injected into a catheter, and then blown through and out at the other end, where any free fluid is wiped away. The catheter is now ready for introduction, and when *in situ* by blowing through it in the ordinary manner, a strong vapour of menthol is carried into the ear. By employing this medicated vapour in tubal and middle ear catarrh, I have achieved quicker and better results than by air alone. Secondly, after the employment of the Eustachian catheter, I inject from twenty to thirty minims of the solution through each nostril, the patient's head being held well back, so that the fluid runs into the throat, and then afterwards cause the patient several times to drive some of the menthol vapour through the tubes, by performing Valsalva's method of inflating the ears. The patient on whom I first practised this was suffering from attacks of a loud distressing tinnitus in both ears, with subjective pulsations in the left ear, and had been treated for two or three months in the ordinary manner with the Eustachian catheter, but with little or no improvement. By the time the patient again presented herself (three days after the application) the distressing tinnitus had entirely disappeared, and the pulsating tinnitus had somewhat diminished. The latter continuing, however, notwithstanding the removal of morbid changes in the neighbouring parts, (namely, hypertrophies of both inferior turbinated bodies, with the galvano-caustic point, large hypertrophy over anterior end of right middle turbinated body with galvano-caustic snare, and thickening of and granulations over lateral bands and granulations on upper surface of soft palate and sides of naso-pharynx with galvano-caustic point and chromic acid), and as there was a thickening of the lining membrane of the tube leading to a certain amount of stenosis, I resorted to the use of bougies (celluloid). The smaller bougies effected but little by way of improvement, but when a bougie of large size was introduced for a depth of two centimètres, and left in for about ten minutes, the pulsations entirely disappeared for a week. The use of bougies was continued twice weekly for a few weeks, the pulsations now being only occasionally and very indistinctly heard. Thirdly, a few minims of the solution are injected into the catheter while *in situ*, and then blown on into the tube with a Politzer's bag. If there be only a slight amount of swelling present the bag should not be too firmly compressed, and this, if we wish to localise the action of the fluid to the tube, should be especially observed after the application of large bougies, as fluids then very readily pass into the tympanum. I have, however, injected this solution right into the tympanum with imperforate membrane without any harm following. The first and third are the methods I now employ, and allow the patient at home to drive the vapour up the tubes for himself according to the second method when the visits are infrequent. The second method is also indicated when there is catarrh of the naso-pharynx present. For chronic thickening leading to Eustachian obstruction it is well to combine the employment of bougies (too little practised in this country) with the use of menthol, whereas for simple swelling the latter alone will suffice.

In chronic naso-pharyngeal catarrh associated with catarrh of the Eustachian tubes and middle ears, ammonium chloride vapour also answers well, especially in those cases where the patient is unable to allow the catheter to be passed frequently enough, and also in those cases where, during an exacerbation of the naso-pharyngeal catarrh, the hearing becomes worse. The vapour is

drawn into the mouth and expelled through the nose, while at intervals during one of the daily inhalations, which last about ten minutes, it is driven into the tympana by the Valsavan experiment. The vapour may be rendered more efficacious by dropping three to five minims of pine oil (ol. pini. pumilionis ver.) on to the sponge of Godfrey's new instrument, which is perhaps the best and most convenient form of ammonium chloride inhaler.

For swelling of the lining membrane of the Eustachian tube Politzer cauterises the mucous membrane of the naso-pharynx above, below, behind, and in front of the Eustachian orifice. A vulcanite catheter with small curve is introduced, containing a concealed wire, on to the end of which the cauterising agent has been fused, and when placed in the various situations the wire is pushed out at the other end, and the different places round the orifice thus cauterised.

For the removal of the hyper-secretion, which may be of the dry or moist form, and which is very troublesome in chronic naso-pharyngeal catarrh, injections through the nose may be employed, which not only for the time being remove the troublesome symptoms of hawking, etc., caused by its presence, but by the medicaments they hold in solution have a curative effect on the condition. At the same time the topical administration of other remedies to be hereafter described may be practised. Thus the method with the solutions described for removing hyper-secretion in the acute form of the disease with the ball syringe is very convenient in the chronic form also. The irrigator, English nasal douche, Weber's douche, or, when the surgeon employs it himself, the ordinary syringe, may be had recourse to when more force is required or a greater amount of fluid to be used, as in the case of adhesive crusts. (It is preferable, however, where adhesive crusts are present to use frequently an agent, for example, the snuff formulated below, which causes a flow of the natural secretions, and so brings about a softening of any inspissated secretion whereby its natural expulsion is facilitated). The stream should be directed straight backwards, and if there be an inequality in the divisions of the nose the fluid should be allowed to flow in through the narrower nostril. The head should be held slightly forwards and downwards, and the breathing carried on quietly through the mouth, any attempt at swallowing or speaking in the meantime being prohibited. The fluid used should not be simple water, as such has a disagreeable and somewhat irritating effect on the nasal mucous membrane. A 2 to 4 per cent. solution of boracic acid (or borax) will cause a diminution in the hyper-secretion, though in the moist form of hyper-secretion it acts better insufflated as a powder. A solution of a few drops of tincture of iodine in water sufficient to make it light red in colour answers well in a scrofulous diathesis, and also where atrophy is present. Aceto-tartrate of aluminium, a drachm of a 50 per cent. solution in a pint of water, also is valuable, especially in cases of atrophy (Schaffer and Lange). Argilla acetica—10 per cent. solution—according to Politzer has proved efficacious in a few cases where a whole series of other drugs has failed.

The daily insufflation into the naso-pharynx of the following powder in catarrh of this space is a valuable application: ℞ Menthol (in fine powder) ʒss; ammon. chlor. ʒjss; P. acid. boric. ʒj; M. Pinches of the same may be taken frequently into the nose in the form of snuff, and drawn back into the throat, this method being especially indicated where there is atrophic rhinitis (ozæna) also present.[1] After insufflation of this powder the patient experiences an unusual amount of freedom in breathing from removal of secretion and from subsidence of erectile swelling of the spongy tissue over the posterior ends of the inferior turbinated bodies, which latter is frequently associated with this condition. Iodoform (B. Fraenkel) aceto-tartrate of aluminium (Schäfer and Lange) are also useful, especially in atrophy. Twenty-five to 50 per cent. of either may, if desired, be combined with the above-mentioned powder, or the iodoform may be used pure. According to B. Fraenkel iodoform restores new vigour to the atrophic membrane, rendering it more succulent, and causing a diminution in the formation of crusts; and its action extends over a considerable time, as in the naso-pharynx it is not subjected to movements which displace it. The use of an oily solution of menthol (20 per cent.) injected or poured through the nostrils and allowed to run into the throat is also serviceable, and the patient may be allowed to perform this for himself.

Nitrate of silver—a half per cent. solution—in the form of a spray, is an excellent remedy for this affection. A von Troeltsch's spray is used for the purpose, the nozzle of the instrument being in turn introduced into each nostril past the anterior third—the reactionary part according to Urbanschitsch—and only enough fluid is sprayed till the metallic taste of the silver is felt in the mouth. The application should be made daily, or at least every second day, for a few weeks, and the strength of the solution may, if tolerated, be gradually increased to one or one and a half per cent.

Brushing the naso-pharynx daily, or every second day, with the iodine pigment, formulated below, will also be found to be of great service.

Thickenings on the vault and posterior wall of the naso-pharynx may be removed with the naso-pharyngeal curette (see woodcut); while granulations may be destroyed by chromic acid or, preferably, by the galvano-caustic point. The posterior ends of the turbinated bodies are frequently hypertrophied in this affection; and when so the hypertrophy should be destroyed. In such cases I usually operate from the naso-pharynx, and cause the patient to brush his throat frequently with a menthol pigment for a week or a fortnight before the operation. The frequent brushing causes the pharynx to become tolerant and allow of the passage of instruments into the naso-pharynx without contractions of the soft palate. The operation may be still further facilitated by brushing the naso-pharynx with a 20 per cent. solution of cocaine. The patient then depresses his own tongue with a Türck's speculum, and, under the guidance of the post-nasal mirror, the burner is conducted and the desired points cauterised. If the posterior end of either inferior turbinated is to be operated on the patient should be made to take a deep inspiration through the nose just at the moment the burner is being placed on it, and this will usually be found to secure a deeper and better view, on account of depression of the soft palate. Occasionally, however, it happens that the throat does not so easily acquire sufficient tolerance to allow instruments to be passed into the naso-pharanyx; or, again, the naso-pharyngeal space may be very small. In such cases a piece of fine thin india-rubber tubing may be advantageously employed. The tubing is passed through one nostril to the back of the throat, then brought out at the mouth and the two ends tied round the canine tooth of the opposite side. By this means it is caused to run obliquely across the upper surface of the soft palate, which is drawn forwards fairly equally from the posterior wall, thus allowing any part of the naso-pharynx to be operated on with equal facility. Any twisting in the tube, caused by the "worming" process through the nose, should be undone before it is tied, so as to allow it to lie flat on the upper surface of the soft palate. If the patient be very sensitive two or three drops of a solution of cocaine may be injected through the nose and allowed to run back on the upper surface of the soft palate previous to passing the tube. For this purpose the use of a palate hook may also be had recourse to, but this requires the aid of an assistant. For operating on the naso-pharynx and posterior ends of the turbinated bodies Schroetter's burners are by far the best, and render the operation a fairly easy one. They are covered with vulcanite, and besides conducting less heat back from point and irritating the mucous membrane less than the ordinary burners, they are not pliable, and the point of the instrument can therefore be placed on any desired spot without the shape of the instrument being in any way altered. The precision with which one can work by this method gives it a great advantage over operations from the front. In operating with the galvano-caustic point by anterior rhinoscopy any hypertrophy on the front part of the inferior turbinated body must be first destroyed, and the hypertrophy on its posterior end thus arrived at by a mining sort of process. When the galvano-caustic snare is employed the end of the loop should be bent outwards, and when *in situ* the current is turned on for a few seconds before closing it, according to the method laid down by Felix Semon. The tissue is in this manner grooved by the heated wire, and when traction is now made the loop is prevented from slipping off. When hypertrophy of the posterior end of the middle turbinated co-exists with hypertrophy of its under surface it can often be conveniently removed by means of the galvano-caustic snare from the front, the loop of the snare used for the purpose being a fairly large one. When the nose is permeable enough swellings or granulations in the naso-pharynx may, if desired, be cauterised with the galvano-caustic point, or caustics carried on the end of a probe through a Zaufal's nasal speculum, this method being oftener employed by aurists. The bursa pharyngea, according to Tornwaldt, is sometimes diseased, being cystic or the seat of a localised catarrh, and emitting a stale-smelling, mostly purulent, secretion, capable of

[1] *Vide* January number, *Edinburgh Medical Journal*.

being traced to the orifice of the bursa, from which it extends down the posterior wall of the pharynx in the form of an adherent streak. Throat irritation, sometimes of a distressing character, is thereby induced, while catarrh of the neighbouring parts and even reflex neuroses may be attendant upon the condition. When such is found to exist the cyst should be destroyed by caustics, preferably by division with the galvano-caustic knife, and in the more frequent cases of mere catarrh by the introduction of the galvano-caustic point into the bursal cavity.

As the naso-pharynx forms a good lodgment for any irritant particles, a dusty and contaminated atmosphere should be avoided, especially by those who have a catarrh of this space. If so exposed, however, the employment of some form of medicated nasal injection at night should be had recourse to, as on account of the anatomical conditions of this space little means is afforded for the natural expulsion of any foreign matter there located. Snuffing and the puffing of smoke back through the nose should be prohibited. Tonics and a change to the seaside will also effect much.

For the removal of "adenoid vegetations"—a disease the importance and prevalence of which was brought before the notice of the profession by Wilhelm Meyer—many instruments have been introduced. When the hyperplasia is of small degree the exhibition of tonics, for example, iron, iodine, etc., may be had recourse to, with the hope of causing some involution of the process. Pieces of the vegetations, when soft and few in number, may be torn away with the finger-nail, and it is always well when posterior rhinoscopy is inconvenient or impossible to make a preliminary examination with the finger to determine the amount and the principal site of the growths before performing any operation. Some employ an artificial finger-nail of steel, but such is not to be recommended. The employment of caustics or the galvano-caustic point is a slow and tedious process. When the vegetations project into the posterior choanæ, and can be seen by anterior rhinoscopy, they may be removed with a snare through the nose. The cold snare suffices, as the growths are then usually soft and easily torn away. This is the least painful process, and by its repetition we may often re-establish breathing through the nose. The instruments which I prefer to operate with are A. Hartmann's curette, Gottstein's knife, or the curette (Fig. 1) which I have



Fig. 1. One-fourth the actual size. The fenestra is larger and more oval than here indicated.

constructed on the same principle as the latter, with special adaptation to the naso-pharyngeal space. This instrument is introduced into the mouth, passed up behind the soft palate, and then by depressing the handle the end is made to touch the septum nasi. When in this position it is pushed up to the vault of the naso-pharynx in the median line, the end being kept well forward, and by raising the handle at the same time and pushing backwards and then downwards, the vegetations are pared off from the vault and posterior wall. A fair amount of pressure should be communicated with the instrument during the operation, as the success to a great extent depends on this. Like Gottstein's knife, this curette is so constructed as to be free from danger to the Eustachian tubes, and nothing but hypertrophied tissue is brought away. It may also be used for all degrees of hyperplasia. The operation is performed with the greatest ease, and only lasts a few seconds. Only one size of the instrument is necessary, as in the case of a large naso-pharynx the movement above described may be gone through to a little on each side of the median line. A larger size of it, however, may, if required, be had from the makers (Gardner, of Edinburgh, and Mathieu, of Paris). Directly the operation has been performed the patient should be made to bend the head forward, and spit out the vegetations and blood into a basin. The bleeding, which should come from the nose as well as the mouth, soon ceases spontaneously, though at the same time the patient may be given ice to suck, or ordered to take an ice-cream after the operation. Sometimes the hypertrophy thus removed is in one piece, and resembles an enlarged tonsil. Should the patient complain of a choking sensation, or a feeling of a foreign body in the throat, the pharynx should be inspected for loose pieces of tissue hanging down, which occasionally occurs when the vegetations are very tough and the instrument is blunt. When such occurs the piece is caught hold of with an ordinary pair of forceps and removed.

A Hartmann's curette is introduced through the mouth into the naso-pharynx, and the vegetations scraped away by a lateral movement of the instrument from each side towards the middle line. This instrument, like that of Lange, which it somewhat resembles, has the advantage of removing vegetations from the lateral wall when they exist in this situation. The appearance, however, of vegetations springing from the sides of the naso-pharynx is, according to Trautmann, deceptive, their point of origin being at the roof of the space. With this instrument the operation is more painful than with the former, but it is, however, very efficient in its action. Only one operation is usually necessary with any of these three instruments if it be thoroughly performed, and the surface left is more even than after the employment of forceps. With the post-nasal forceps without chloroform one generally requires to have several sittings, though the operation is not very painful. The instrument with closed blades is introduced through the mouth into the naso-pharynx, pressed against the vegetations, when the blades are opened and closed. In this manner the vegetations are torn or cut away from any desired part.

There are many varieties of forceps, Löwenberg's or Woakes's modification of it and Schech's being mostly used in this country. After the use of this instrument, Schech advises that the walls of the pharynx operated on be pared down with a ring knife, while Hooper uses the ball of the finger and the finger nail for this purpose. Other instruments, such as Justi's spoon or Trautmann's modification of it, Meyer's ring knife, etc., have their respective advocates. It is well to enjoin rest in bed for a day after the operation, and, if necessary, to combat any feverish symptoms with iced applications to the head, ice to suck, etc.

A co-existing suppurative middle-ear catarrh should, of course, be treated simultaneously; but the use of the air douche, if indicated, should be suspended till the wound caused by the operation is healed. To relieve the pain of the operation, a few drops of a from 10 to 20 per cent. solution of cocaine may be injected through each nostril, the head being held back in an almost horizontal position for a minute or two; or the solution (20 per cent.) may be carried into the naso-pharynx by means of a brush. With the instrument I employ the administration of chloroform or ether is quite unnecessary, though there are some operators who frequently employ these anæsthetics. Thus Hooper, of Boston,[2] records a series of 104 cases of children ranging from twenty months to fourteen years of age, in whom the operation was successfully performed, in each case at one sitting, under the influence of ether. The instrument used in these cases was the post-nasal forceps, and the growths were considerable in amount. In the event of the coexistence of "adenoid vegetations" and hypertrophied tonsils, which sometimes occurs, the extent of the hypertrophy and the severity of the symptoms caused by either should be taken into account in determining the operation first to be performed.

The treatment of chronic pharyngitis depends on the presence or absence of much hyperplasia. When hyperplasia to any extent is present, the use of the galvano-cautery (to be afterwards described) should be resorted to. For simple chronic pharyngitis with swelling or diffuse but only superficial thickening, as also when pain, paræsthesia, or hyperæsthesia coexist, I use the following pigment: ℞ Menthol ʒiss; camphoræ ʒss; iodi gr. vi; ol. vaselini ad ʒi. M. The camphor may be replaced by thymol (gr. xv to gr. xxx) or chloral hydrate (gr. xxx), each forming an elegant preparation for application with a brush. The pigment should be applied once or twice daily; but if the amount of iodine is increased—which may be done up to half a drachm to the ounce—the applications should be less frequent. When hypersecretion is present, daily and systematic gargling will be of much service. The fluid—salt and water, or otherwise medicated—is taken into the mouth, the head thrown back, and the movements of swallowing gone through, but without swallowing the fluid. If there be hyper-secretion of the naso-pharynx also, the fluid may, after the gargling exercise, be expelled through the nose, which can by practice be effected by closing the mouth and suddenly throwing the head forwards. For fetid or stinking pharyngitis the menthol-thymol formula will be found especially applicable, while a thorough change to the seaside, tonics, etc., should be insisted upon. When the tonsils are only slightly or superficially enlarged the iodine pigment formulated above may be employed; but when the hypertrophy is more extensive, especially when it occurs in children, and when frequent attacks of

[2] *Boston Medical and Surgical Journal*, March 15th, 1888.

acute inflammation are induced, or when respiration through the nose is interfered with, the voice altered in its resonance, deglutition rendered difficult, or the hearing involved, they should be removed. The best instrument for their removal is the guillotine, and the best variety of it I know of is one I introduced into this country, and modified in several particulars (Fig. 2). This



Fig. 2. One-third the actual size.

instrument is extremely simple, and yet very efficient and easily worked. A fork precedes the blade, and, entering the tonsil, drags it from its bed. The tonsil, thus being put on the stretch, is far more easily excised by the after-coming blade, which, moreover, has its cutting power increased by being hollow-ground. The fork is a clever adaptation by Reiner of a principle first suggested by Velpeau, while some of the other parts of the instrument are similar to Physick's instrument. When the handle is pulled back into the position ready for use, the fork lies close against the instrument, and is thus entirely removed from the possibility of doing harm. The instrument is then introduced transversely, with the flat surface downwards, and the tonsil got well into the aperture at its end, so that the fork may get sufficient grip of it. This latter precaution may be easily effected by pressing outwards with the instrument, and should be specially observed if the tonsil be not much enlarged. The blade is now pushed home with the thumb, and the operation completed. The instrument, according to my modification, is made by Gardner, of Edinburgh. A smaller size of it may be had from the maker, and will be found more convenient in very young children, though I have always been successful in removing tonsils from the youngest patients with the ordinary-sized instrument, one of the modifications being specially adapted for this purpose. Also, in those rare cases where the tonsil is so excessively enlarged that it cannot be drawn by the fork wholly through the aperture, at the end its removal may be effected by two applications of the instrument.

I have still further modified Mackenzie's modification of Physick's guillotine by causing the blade to be made hollow ground, and inserting into the slit at the end of the ring a soft metallic substance against which the blade cuts. By this means its efficiency is greatly increased, and those who already possess this instrument may have it modified as above, by Gardner, of Edinburgh. The removal of the tonsils by means of the bistoury can only be properly effected without chloroform in those patients who can "hold" sufficiently well, and the operation by this procedure is more difficult, painful, and in ordinary hands less complete, than with the above described tonsillotome. When, however, the tonsil is irregularly and only very slightly thickened in the transverse diameter, the volsella with the galvano-caustic snare, or preferably the bistoury, may be used. The galvano-caustic snare gives more pain than ordinary cutting instruments. The bistoury may also be preferred where there is extensive calcification of the tonsil, and for those who prefer this method for their removal, the following observations may be of use. The tonsil is seized with a volsella and pulled inwards towards the median line, while it is excised from above downwards with a blunt-pointed bistoury, by a sawing movement, care being taken to avoid cutting the pillars of the fauces. When it is cut about two-thirds through the traction exerted on it by the volsella should be upwards as well as inwards, so as to bring the lower part of the tonsil well up into view and away from the tongue and faucial pillars, and render its more complete removal easy. This precaution, if observed, will lessen the risk of cutting away the lower part of the faucial pillars, and at the same time the lower and often somewhat obscured part of the tonsil will be effectually removed. With a view also to avoid cutting the tongue, the bistoury at this stage of the process may be placed below the tonsil, and the remaining portion cut from below upwards. Where the tonsils are soft or riddled with abscesses, they may on an emergency be torn away with the finger, forefinger preferably placed above and behind the tonsil, and pieces remaining may be caught hold of and twisted off by forceps (Borelli). The bleeding, on gargling with cold water, usually ceases within a few minutes after any of these cutting operations, but if there be continued oozing afterwards, sucking ice or application of styptics, for example, perchloride of iron, and, according to M. Mackenzie, sipping a half drachm of the tanno-gallic fluid of the Throat Hospital pharmacopœia at intervals, will arrest the hæmorrhage. Dr. Felix Semon[3] has recorded two cases of serious hæmorrhage, met with for the first time in an experience of several hundred cases of tonsillotomy, and which resisted the above-mentioned methods of arresting hæmorrhage. In one case the bleeding was parenchymatous, and digital pressure here also only made matters worse. The patient was then put to bed and kept absolutely quiet, when the hæmorrhage spontaneously ceased, about two and a half hours after the operation. In the other case the hæmorrhage was arterial, probably from an abnormally large branch of the tonsillar artery, and was arrested by direct digital pressure to the bleeding point. In neither case was the hæmophyllic diathesis present, but both were adults; the former 23, the latter 46 years of age; which, together with the fact that most of the other cases of serious hæmorrhage lately reported have occurred in adults, seems to show that hæmorrhage is due to vascular changes in the glands, as such is more likely to be present in adults than in children. In both these cases Mackenzie's tonsillotome was the instrument employed for their removal.

To relieve the pain and dysphagia which follow for a few days after the operation I have found great relief given by painting the throat with a 20 to 30 per cent. solution of menthol in vaseline oil. For this purpose also M. Mackenzie recommends marsh-mallow lozenges, which form a coating over the wounded surface. When patients refuse excision of the tonsils or in the hæmophyllic diathesis, or, according to Semon, where the tonsils—however large and however productive of serious consequences—are entirely concealed behind, or only little projecting beyond, the palatal arches, searing the surface of the tonsil with a flat galvano-caustic burner may with advantage be employed; but if there be much tonsillar tissue to be destroyed, a pointed burner may be used, and made to enter the substance of the tonsil also. Some employ Paquelin's thermo-cautery for this purpose. The operation generally requires to be performed several times, and is therefore rather tedious. Cicatricial tissue is deposited in the site of the eschar, and, as such, is more resistant than ordinary mucous membrane covering the tonsil.

For the treatment of granular pharyngitis the galvano-caustic point (Michel) is the most efficacious, each granulation being in turn destroyed with a burner having a small knob at its end; but if they are crowded together the burner may be slowly drawn over them. Chromic acid (Hering) also acts well for this purpose, but the cauterising effect of this agent is more superficial than that of the galvano-cautery, and the application often requires to be repeated. For this purpose chromic acid is best applied in the form of a bead fused on to the roughened end of a probe. The end of the probe is put into the flame of a spirit lamp for a few seconds, till it is sufficiently heated for crystals of chromic acid to adhere to it, and with which it is then brought into contact. The probe with the crystals adhering to it is then reintroduced into the flame, held there till the crystals begin to melt, and then manipulated so as to form a bead on the end of the probe. The bead so made should be of a reddish-brown colour. If the colour be otherwise, the chromic acid has been destroyed from overheating and is useless. After its employment a gargle should be employed to wash away the excess of the acid used. A solution of bicarbonate of soda neutralises the free acid, and, if much pain be complained of, should be employed as the gargling agent. Nitrate of silver is less effective than chromic acid, and may also be used fused on to the end of a probe. These operations may with great advantage be followed up by the employment of the menthol-iodine pigment. The administration of tonics and a complete change will be found to exert a favourable influence on granular pharyngitis; while any exciting cause, either local or general, should be particularly sought for, and if possible removed.

Hypertrophy of lateral folds is best treated with the galvano-caustic point, which should be thoroughly applied. Any form of suitable burner answers the purpose, but, whatever form of burner be used, care should be taken that the conductors of the burner are well insulated and kept separate up to its point, otherwise the current is expended before it reaches the end of the instrument. When the battery is somewhat exhausted, or in the case of a weak battery, only thin and finely-pointed burners—for example, a piece of platinum wire bent on itself—can be satisfac-

[3] *St. Thomas's Hospital Reports for* 1882 *and* 1883.

torily heated; but care should be taken not to burn too deeply with these fine-pointed instruments, as hæmorrhage may be produced. In diffuse hypertrophy I resort to tapping all over the affected part with a fine burner, the part afterwards presenting a number of small white eschars. The soft palate may be conveniently pushed out of the way with a laryngeal mirror, etc., when its movements impede the operation, or when the higher parts of the pharynx are to be cauterised. Certainly nothing, in my opinion, is so effectual and attended with such gratifying results as the galvano-cautery. Schech sometimes excises the lateral bands with a knife when they are hard and thickened.

There is generally a certain amount of reaction after these operations, and the more so the more extensive the operation. It is always well, therefore, to enjoin rest in bed the same day, and, if the operation has been fairly extensive, to give one or two doses of morphine afterwards. Subsequent pain or inflammation may be relieved by sucking ice and the application of 25 to 30 per cent. of menthol in vaseline oil.

Uvulatomy may be practised when the uvula is hypertrophied and elongated, and giving rise to a constant but ineffectual swallowing, tickling and irritation in the throat; and also in those extremely rare cases where, owing to its being sucked into the larynx during sleep, attacks of suffocation are induced. The end of the uvula is seized with a pair of forceps, put slightly on the stretch, and a small but sufficient portion removed with scissors or bistoury. Sometimes there is considerable subsequent angina, which may be combated by sucking ice and the application of a pigment of menthol. This operation, however, is often abused, and in doubtful cases of throat irritation and hacking cough, other possible causes of these symptoms should be first excluded.

In the employment of cocaine for the removal of pain in pharyngeal operations, it is best to use the drug in a fairly concentrated solution—for example, 20 per cent. The brush should not be overladen with it, as an unnecessary amount increases the risk of producing some of the disagreeable symptoms which cocaine, when concentrated, may produce. Thus I have frequently seen attacks of retching, vomiting, faintness, with copious sweating, and in a few cases syncope, and have recourse to strophanthus, with spirits of ether or sal volatile, when I see symptoms of faintness coming on. It is better rather to make two or three applications of a very small amount of the solution, and to rub it well into the surface to be operated on, as so doing materially aids the substance in producing anæsthesia. The surface application of a less than 15 per cent. solution of cocaine is not very effectual for operative procedures. Merck's hydrochlorate of cocaine is the most reliable preparation I have used.

In treating catarrh of the pharynx it is important to secure the integrity of the nose and naso-pharyngeal space, so as to ensure respiration through the normal channel and prevent the external air from coming into direct contact with the throat. Excessive smoking, the taking of strong spirituous liquors and highly-seasoned and irritating food, and the overstraining of the voice, especially in the open air, should be avoided. A good hygiene also should be enjoined, especially when ear complications are present. Daily sponging or bathing with tepid water in winter and cold in summer (salt water preferably), followed by rubbing with coarse towels, materially assists in the treatment by hardening the skin and rendering the pharynx less liable to attacks of inflammation. The administration of saline purgatives will be found useful in plethoric individuals. In short, all exciting causes should, if possible, be removed, while any constitutional dyscrasia or any diseased system will call for special treatment.

BEQUESTS AND DONATIONS.—The trustees of the late Mr. George Sturge have given £200 (additional) to the Charing Cross Hospital, £200 (additional) to University College Hospital, and £100 to the Metropolitan Convalescent Institution.—The Corporation of the City of London have voted 100 guineas (additional) to the Royal Hospital for Women and Children.—The Mercers' Company have given 100 guineas (second time) to the Convalescent Home at Felixstowe.—The Grocers' Company have given £100 (additional) to the Royal Free Hospital.—The Norfolk and Norwich Eye Infirmary has received £100 under the will of Lord Ramsey.

CHLORAL POISONING.—Mr. Frederick Thomas Welham, a veterinary surgeon, aged 41, practising at Brentwood, has met his death from an overdose of chloral, taken, it is supposed, for the purpose of inducing sleep. Becoming conscious of what he had done, he asked for water and oil, the administration of which caused him to vomit, but death ensued in a few minutes.

REMARKS ON INTUBATION OF THE LARYNX.

Read in the Section of Diseases of Children at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY F. E. WAXHAM, M.D.,

Professor of Otology, Rhinology, and Laryngology in the College of Physicians and Surgeons of Chicago.

NOT long since, I received an invitation from your Secretary inviting me to be present at this meeting, and to take part in the discussion on diphtheria. I wish to say that I fully appreciate the high honour implied by the invitation.

As the time for discussion is necessarily so limited, I hope I may be pardoned if I simply allude to the surgical treatment of the disease.

When during the course of an attack of diphtheria the larynx becomes involved, when the loud stridor of croup is heard, when the voice becomes lost and the dyspnœa urgent, when it becomes evident that death must occur from suffocation unless relief is promptly given, then it becomes an important question to decide as to whether we shall recommend tubage of the larynx or tracheotomy.

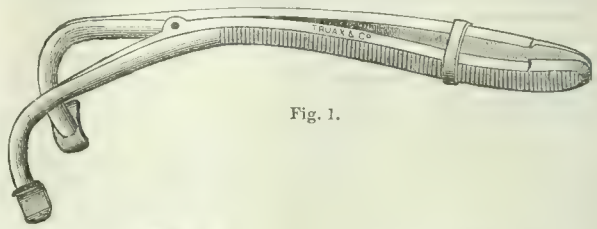


Fig. 1.

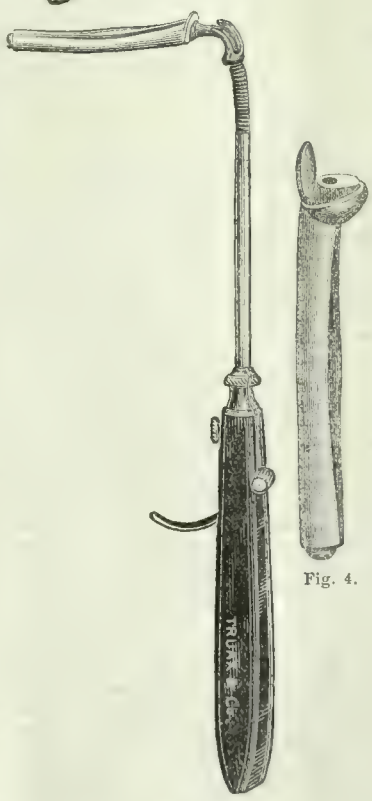


Fig. 2.

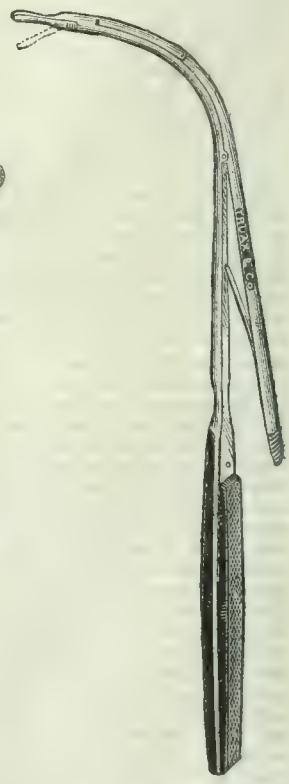


Fig. 3.

Fig. 4.

Intubation of the larynx, for which we owe a debt of gratitude to Dr. O'Dwyer, of New York, is a new operation now in its infancy, and only recently has the most important objection to the operation been overcome, the difficulty of swallowing.

The instruments consist of a gag (Fig. 1), an introducer (Fig. 2), an extractor (Fig. 3), and five tubes of different sizes (Fig. 4).

The physician who wishes to become expert in performing this operation, should first thoroughly familiarise himself with the instruments. One should handle the instruments frequently, and practise working the spring of the introducer, which, by the way, should be operated by the thumb, and not by the forefinger. The extractor should be held in the same manner. It will be a help if one practises introducing the tube into the closed hand of another, detaching the tube, and pressing it down out of sight. As the extraction of the tube is even more difficult than its introduction, it is important also to practise extracting the tube from the closed hand, and to become accustomed to the feeling of the head of the tube, and to appreciate the form of the opening in whatever position it may be placed. The instrument should be held lightly, and the operation should be performed with the utmost gentleness. I have no sympathy for those who declare the instruments are not strong enough, and who break their gags, their introducers or extractors. The same quickness and gentleness that is employed in passing a catheter should be exercised in passing a tube into the larynx. No force should be used, no anæsthetic is required, and the operation should not require longer than from five to ten seconds. It is not only important to become perfectly familiar with the instruments and the details of the operation, but, if possible, with the anatomy of the larynx by practical work upon the cadaver.

In performing the operation, the physician should first select a tube suitable to the age of the patient, the smallest being suitable for a child under 2 years;



Fig. 5.



Fig. 6.

the next in size is appropriate for one between 2 and 4; the next for one from 4 to 6; the next from 6 to 8; the next from 8 to 10; and if the extra tube is included in the set, it is appropriate for a child from 10 to 14 years. A suitable tube, however, may be selected by reference to the scale which accompanies each set.

The tube should be threaded with braided silk or linen thread, making a loop about sixteen inches in length. The obturator should then be screwed upon the introducer, and the tube attached (Fig. 2). The instrument is then ready for use and should be placed upon a table within easy reach. The patient, properly wrapped, should be held upright in the lap of the nurse closely against the left chest, with the head resting on the shoulder (Fig. 7). The nurse should sit upright in a straight-backed chair, and the patient should be held firmly and not permitted to slide down. The forearms of the child should be crossed in front, and the nurse should grasp the wrists. An assistant, standing behind, should hold the head securely and slightly backwards. The gag should be introduced in the left angle of the mouth, well back between the teeth, and widely opened. The operator should then quickly seize the introducing instrument with the tube attached, hook the loop of silk over the little finger of the left hand, and introduce the index finger of the same hand, closely followed by the tube (Fig. 6). He may simply hook the epiglottis forward with the index finger (Fig. 9) and guide the end of the tube gently over it, when, by making an abrupt turn, he will pass the tube into the larynx if he has been careful to keep in the median line; or, he may pass the index finger over the epiglottis and upon the arytenoid cartilages, and guide the end of the tube into the larynx. In either case the end of the tube should pass under the tip of the finger, not over it or by the side of it, but directly under it. The moment the end of the tube is passed into the larynx, it should be detached from the introducer by pressing forward on the slide, and, as the instrument is removed, the tube should be pressed

down into position by the finger, which should still remain within the pharynx. No thought should be given to the handle of the introducing instrument, but the mind should be concentrated upon the end of the tube. This should describe a gentle curve until it has passed over the epiglottis, and then it should remain stationary for an instant while the handle is quickly elevated, so that the tube may go down at a right angle.

That it has entered the larynx will be indicated by violent coughing, and by easy respiration. If it has passed into the œsophagus no relief is given, there is no violent coughing, and there is gradual shortening of the loop as the tube gravitates



Fig. 7.

towards the stomach. If quite certain that it has entered the larynx the gag should be removed, and the loop should be placed backward over the ear. The operator should wait a few minutes to make sure the tube is in position, and to allow the cough to expel the ropy mucus and softened membrane. He should then

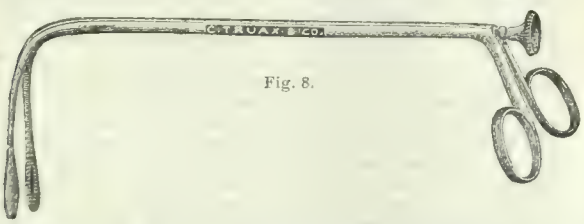


Fig. 8.

cut the loop near the mouth, replace the gag, and introduce the index finger of the left hand until it reaches the head of the tube; by pulling on one end of the loop it is quickly removed, leaving the tube within the larynx.

In introducing the tube, if false membrane is crowded down ahead of it which cannot be expelled by coughing, then the tube should be removed at once. If it cannot then be expelled, the trachea forceps which I have had constructed for this purpose (Fig. 8) should be introduced and the membrane removed. If this is not successfully accomplished, and the patient seems about to suffocate, tracheotomy should at once be performed.

In extracting the tube the patient should be placed in the same position as when it was introduced. The gag should be placed as before, and the index finger of the left hand introduced until it reaches the head of the tube. The extractor in the right hand



Fig. 9.

should quickly follow the finger, the point of which should be guided into the tube (Fig. 10). By pressing on the lever above the handle the jaws of the instrument are separated, thus holding the tube securely while it is removed. If the tube cannot be removed after a few gentle and careful attempts, then an anæsthetic should be given. In performing the operation a rubber finger cot with the end cut off should be placed on the index finger, to prevent injury from the child's teeth provided the gag should slip.

As an additional precaution, a pad of antiseptic gauze should be placed over the mouth and nostrils of the operator, and secured by a rubber tape passed round the head.

The operation presents many advantages for our consideration. The operation may be performed by the expert quickly, almost instantly. There is no shock, no hæmorrhage, and the relief is as prompt and complete as after tracheotomy. The greatest advantage is the fact that we can always gain the consent of parents, and we will thus save many lives where tracheotomy would not be permitted. The question has been asked, "Should we perform tracheotomy before the occurrence of dyspnœa?" I think we are not justified in resorting to any surgical measure, either to tracheotomy or intubation, until urgent dyspnœa has taken place, and until it is evident that it is the only resource.

As I have before stated, all the objections to intubation have

been overcome, for, by the use of the artificial epiglottis,[1] it is now possible for patients, if held in the position shown in Fig. 5, to take an abundance of food, both liquid and solid. For æsthetic reasons, therefore, we should recommend intubation. It remains to be shown whether the results compare favourably with those of tracheotomy. Our estimate of tracheotomy will depend in a large measure upon the success it has attained. If one has saved 30, 40, or 50 per cent. of his cases by the operation, he will be reluctant to accept of anything new; but those who have met with poor results or invariable failure will gladly accept an operation that promises so much as intubation. I have now performed intubation 160 times, with 44 recoveries, or 28 per cent. I have collected the reports of 1,072 operations performed in various parts of the United States, with 287 recoveries, or 27 per cent. At

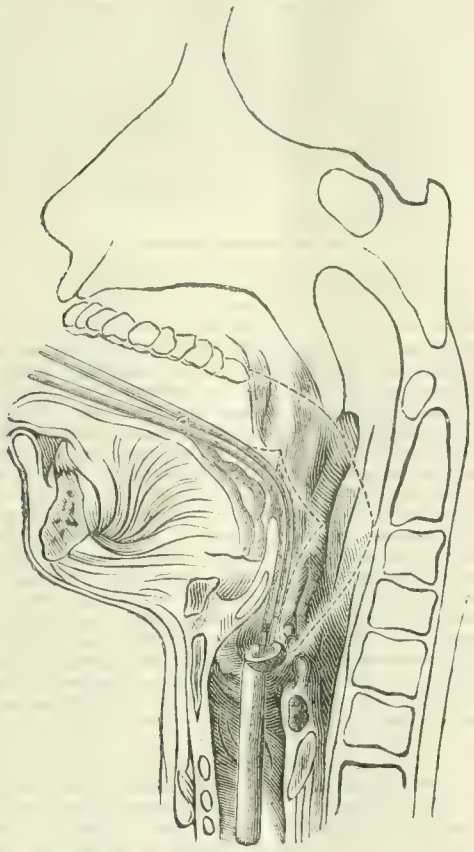


Fig. 10.

the last International Medical Congress, Dr. Max J. Stern reported a large number of cases of tracheotomy performed in various parts of the world, with recoveries amounting to 26 per cent. Let us compare the results with those of intubation.

Tracheotomy. Age.	Per cent.	Intubation. Age.	Per cent.
Under 2 years	3 ...	under 2 years	15.62
Between 2 and 2½ years ...	12½ ...	between 2 and 3 years ...	19.46
,, 2½ ,, 3½ ,, ...	17¾ ...	,, 3 ,, 4 ,, ...	30.00
,, 3½ ,, 4½ ,, ...	30 7/11 ...	,, 4 ,, 5 ,, ...	32.65
,, 4½ ,, 5½ ,, ...	35 5/23 ...	,, 5 ,, 6 ,, ...	33.92
Over 5½ years	39½ ...	Over 6 years...	43.33

It will thus be seen that intubation holds its own with tracheotomy at all ages, and with the young and feeble children it offers advantages far superior to tracheotomy.

As all the objections to the operation have now been overcome, we may expect far better results in the future than in the past.

[1] My attention was first called to the fact that children could swallow much better in this position by Dr. Frank Cary, of Chicago.

MR. H. WICKHAM, of Rufford, Ormskirk, has received, for the thirteenth time in succession, the Government grant for vaccination.

CLINICAL MEMORANDA.

A CASE IN WHICH DEATH OCCURRED DURING ADMINISTRATION OF CHLOROFORM.

E. C., aged 40, a commercial traveller, on September 6th was to be placed under the influence of an anæsthetic for the purpose of having some adhesions broken down in the knee-joint, the result of an old injury. The patient was a healthy-looking, well-developed man, apparently in every way sound, with the exception of pain, stiffness, and inability to fully use the left knee-joint. Chloroform was administered most carefully with a Junker's inhaler by Dr. S. Worthington, F.R.C.S.Eng., the acting assistant medical officer, a gentleman of much experience in the administration of anæsthetics. Patient took chloroform slowly and well, in quite a normal manner, slightly struggled, and went fully off in about five minutes. The inhaler was removed. I then commenced manipulations, forcibly flexing the knee; but almost directly he suddenly stopped breathing, and the face became cyanosed. The tongue was immediately drawn forward, windows opened, artificial respiration performed, hot flannels applied over the heart, and ether injected. Despite persevering and prolonged efforts, he never rallied; the heart stopped almost directly after the breathing, and, save for two or three gasps, showed no signs of life.

The necropsy revealed all the organs healthy except the heart, which was large and flabby, weighing 13 ounces. Its surface contained more fat than normal, although he was quite a spare man. The walls of both ventricles, especially the right, were thin and pale, especially at the apex of the right ventricle, where the muscular tissue was thinned to less than one-thirty-second of an inch, and encroached upon by fat from the surface. The cavities were almost empty; the valves and coronary arteries healthy. The lungs were somewhat œdematous, but their tissue normal. The left knee-joint had no signs of recent inflammation or active disease of any kind. There were several narrow bands of adhesion across the joint, especially in the situation of the ligamentum mucosum, bands from it to the inner side of patella and to the inner condyle, and others round the crucial ligaments. These bands were evidently the cause of the pain and inability of fully flexing and extending the joint. With some force they were ruptured, and the knee could then be fully moved. Underneath the patella were two similar bands from the upper edge, reaching across the cartilage to the lower edge. During life, on moving the patella from side to side, a feeling of crepitation was produced which gave the idea of some denudation of cartilage, but this was found not to be the case, and to be entirely due to these bands; in fact, there was no bare bone in the joint. There had been an old fracture just above the condyles, but the parts were in good position, and no bony prominences interfered with movement.

An inquest was held on September 7th, and the jury returned a verdict of "Accidental Death," adding that they were satisfied that every care and attention had been given to the case.

It has been my fate to be present at three deaths from this anæsthetic, given by experienced administrators, and in all these cases I had felt convinced that it was respiration that first failed, and not the heart. I fancy there is still a widespread idea that in giving chloroform it is the pulse that should be watched, and in ether the respiration, or, in other words, that the former kills by the heart, the latter by the lungs. This error cannot be too seriously combatted, nor too energetically exposed. The instructions given by Sir Joseph Lister, in his excellent article on anæsthetics, in the last edition of Holmes's *System*, is without doubt sound: "During the inhalation the pulse should be entirely disregarded, but vigilant attention kept upon the respiration." He calls it a "pernicious error" the idea that chloroform kills by the heart. In Edinburgh, he goes on to say, the administrator who is only a senior student is actually forbidden to touch the pulse. It would be very interesting to know from him at this time, when so much attention is being paid to the question, whether he has had any reason to alter his oft-expressed opinion as to chloroform being preferable to ether. When a leading surgeon in, perhaps, the standard work on surgery of the day, enunciates a doctrine which with him has stood the test of time, one would be very chary, without far more potent evidence than has been yet adduced, to declare him wrong.

The voluntary stoppage of respiration so common in the early

period of the administration, so easily appreciated and understood by the experienced administrator, is as a rule of small consequence, but in the event of a weak, fatty heart, even then may be a source of danger. But it is especially just at the time of complete relaxation that real danger commences. At that moment I maintain that in all cases the tongue should not be left to itself, but should be well pulled forwards by means of tongue forceps, and the administrator should not wait till some embarrassment in the breathing evidenced by snoring shall have commenced. If this be not done, one may well be deceived by the rising and falling of the chest walls into believing that air is actually entering the lungs. It has been stated that snoring is an indication for pushing the chloroform; it is no such thing, it is a sign that respiration is impeded, and the impediment must first be removed, and then the chloroform may be pushed.

Now, giving healthy heart muscles these slight impediments to the breathing are of not much importance, but the case is entirely different in the presence of a dilated, flabby, fatty walled heart, then any sudden check to respiration such as struggling or obstruction to the glottis may cause such extra pressure on to the right heart as to cause fatal syncope, analogous to the sudden death in aortic regurgitation from sudden increase of pressure within the left ventricle. In two of the cases mentioned as having occurred in my practice this fatty and flabby condition without valvular disease was well marked at the necropsies. One was in the case of a man debilitated from advanced tertiary syphilis, and in the last there was a history, afterwards discovered, of chronic intemperance. The second was a different class. I was about to tie the common carotid for an aneurysm of first part of the arch of the aorta, when just as the patient was becoming insensible the breathing stopped, probably from spasm of the glottis as the aneurysm pressed on the trachea and the recurrent laryngeal nerve was involved, the heart went on a little longer but soon failed. Although the muscle was not fatty nor thin, but in fact hypertrophied, the heart was hampered with a quasi obstruction of the aneurysm, which, with the additional strain thrown on it by the stoppage of the respiration, caused the syncope. In this case, in consequence of the condition of the lungs, ether was quite contra-indicated.

There is no doubt that chloroform does act as a cardiac sedative, and must affect the heart, but I submit that it does not do so sufficiently to cause death, except of course in the case of an overdose, in the absence of an obstruction to the blood in front, which obstruction may be ordinarily avoided by slow administration and a careful watchfulness in removing all tendency to it.

CHARLES GROSS, M.D., B.S.Lond., F.R.C.S.,
Medical Superintendent, St. Saviour's Union Infirmary.

COCAINE LOCALLY IN VAGINISMUS.

I HAVE just employed cocaine in a case of vaginismus, and, as I have not yet seen any account of its use in such a case, I am hoping this note may be of interest.

Mrs. T., aged 23, married one week, came to me with her mother on August 11th, both ladies in great distress. During coitus the young woman suffered such agony that, although she had taken anodynes before going to bed, and was resolved to suffer without complaint, her cries and groans could be heard all over the house. The husband declared that his wife was not like other women, and threatened to leave her.

On examination, I found the vagina rather short; but otherwise it and the uterus appeared quite normal. There was such spasm of the constrictor vaginæ that I could only introduce one finger, and that was tightly grasped and caused pain.

I prescribed an ointment containing gr.v. to the ounce of hydrochlorate of cocaine; a small piece to be inserted well into the vagina before going to bed and the parts well steamed.

The result has been satisfactory; the husband is satisfied, and the wife suffered but slightly, although coitus is not yet entirely free from discomfort.

JOHN D. HAYWARD, M.D.Lond.
Liverpool.

CASE OF APYRETIC TYPHOID.

W., bricklayer, aged 32, was taken ill about September 7th, 1887, with headache, shivering, sickness, and diarrhœa. Diarrhœa was continuous up to September 10th, when he was first seen. It was light in colour and smelt badly. His condition on September 10th was as follows: Pulse 70, very soft, temperature 97.5° F., respiration 22, breath sounds normal, tongue white, tip stripping. He was flushed in the face, apathetic, and complained of constant severe abdominal pain. The spleen was about two fingers' breadth below the ribs, and measured 7½ inches from above downwards, and 4½ inches across. He kept his bed till September 14th, passing green stools frequently, the temperature keeping at about 97° F. The first diagnosis of typhoid seemed likely to be falsified, and yet the patient kept dull and heavy; he, however, living near, used to walk up to see me nearly every day.

The temperature was never observed to be higher than 96.8° F., the average was about 94° F., the minimum was 90.4° F., on the twentieth day of the disease. The temperature in the mouth was always lower by several degrees than in the axilla. It was generally higher in the evening than in the morning. He lost aout two stone in weight during the four weeks he was ill.

The diagnosis was based on the typhoidal appearance he presented, the tongue, the first stools, the constant diarrhœa, only arrested by starch and opium enemata, the enlarged spleen, and the duration of the illness. Tache cerebrale was never present, nor were any spots observed. The temperature chart presented very much the appearance of the ordinary one turned upside-down. The pupils were always extremely dilated. He was treated as for typhoid so far as he would obey instructions; made a good recovery, and has since gone to Australia.

F. R. HUMPHREYS, L.R.C.P.Lond.
79, Queen's Crescent, N.W.

TOXICOLOGICAL MEMORANDA.

A CASE OF CORROSIVE SUBLIMATE POISONING.

AT 10.30 P.M. on June 3rd, 1888, A. B., aged 24, single, came in breathless haste into my consulting-room carrying a bottle, which he declared was quite full before he drank of it ten minutes ago. He stated that the bottle contained a solution of mercury which he used in photography. My thoughts immediately turned to corrosive sublimate. He added, further, that he had drunk a pint of milk, at his housekeeper's suggestion, directly after drinking the fluid. On the bottle there was an illegible label, and the solution had large crystals in it, one of which I tasted. The crystal had the appearance and characteristic taste of perchloride of mercury. In the meantime, my brother, by means of ordinary emetics and copious draughts of warm water, washed out his stomach. It was thought prudent not to use the stomach-pump here. I tested the solution with a crystal of potassium iodide, and the bright scarlet iodide of mercury was precipitated; with potash, the characteristic yellow colour was formed. The white of four eggs was then administered. The patient was taken home to bed and put into hot blankets. The white of two eggs was ordered to be given every two hours; turpentine stupes to the abdomen.

General Condition.—Pulse 90; respirations 36. Metallic taste in mouth. Burning sensation, extending down the throat. Tongue and fauces silvery-looking. Did not vomit blood during the artificial emesis. Epigastric tenderness. No colicky pains or diarrhœa. The patient was under treatment in ten minutes from drinking the fluid. Slight collapse supervened in about an hour and a half.

At 7 A.M., the next day, he was passing bloody stools every half hour; burning sensation in throat was increased; great tenderness and pain all over abdomen. Collapse passing off. Tenesmus and colicky pains. A quarter grain morphine pill was exhibited every hour if pain were present. At 2 P.M. very little pain; the patient much improved.

On the 20th, the patient felt quite well and returned to work. I sent the bottle and its contents to Mr. W. Leach, F.C.S., of Bradford, who reports that the volume of fluid swallowed contained about one hundred grains of corrosive sublimate. Ptyalism and suppression of urine were altogether absent. The recovery of the patient shows that with corrosive sublimate, however large the dose may be, if it be promptly removed from the stomach, the prognosis is very hopeful.

Bradford. SAMUEL LODGE, M.B., M.S.Dunelm.

AT a special meeting of the Manchester Royal Infirmary Trustees, held recently, the following resolution of the Board of Management was confirmed: "That no assistant physician or surgeon appointed after September 17th, 1888, shall, after becoming a physician or surgeon, hold any other hospital appointment."

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

ST. MICHAEL'S HOSPITAL, KINGSTOWN, DUBLIN.

STRICTURE OF THE ŒSOPHAGUS.

(Under the care of Mr. D. EDGAR FLINN.)

A CASE peculiar in its history was admitted into St. Michael's Hospital under my care a short time since, and the *post-mortem* appearances being of an unusual nature, I thought they might be of interest. On admission, the patient presented a very emaciated appearance, and had been complaining for nearly four years of a difficulty in swallowing, which he stated had considerably increased of late, he was very weak, had an anxious expression of countenance, was very pallid, and complained of extreme cold in the extremities, he could only swallow milk or other fluids, and these only in small quantity, he suffered from paroxysmal attacks of severe lancinating pain in the chest, and when he attempted to swallow any liquid nourishment it nearly always became regurgitated, and had to be ejected from the mouth, there was a frequent regurgitation of a brownish fluid of an offensive odour. For the first week or ten days he obtained relief by the passage daily of a small œsophageal bougie, No. 14—I was unable to pass a larger one than this. About the fourteenth day after his admission, he became troubled with a most distressing cough, which became very much aggravated on the slightest attempt to swallow, and which made the passage of any dilating tube, no matter how small, both difficult and hazardous. The stricture became more and more contracted, notwithstanding every effort to keep it dilated, a No. 10 catheter becoming difficult to pass. Nutrient enemata were administered three times a day, and the distress alleviated by hypodermic injections of morphine. He continued to grow weaker, and died about three weeks after his admission to hospital. A *post-mortem* examination was made, and it was found that the left lung was very much atrophied and collapsed. The walls of the œsophagus were greatly thickened, and surrounded by a hardened mass matted together, which implicated the neighbouring structures; the œsophagus was very much narrowed in its lower fourth, and the most contracted part of the stricture was found to be about three-quarters of an inch from the cardiac orifice of the stomach, and would hardly admit of a small-sized pen-handle being passed through it—the stomach was enormously dilated, so much so that when the abdomen was opened it appeared to fill up the entire cavity, and was full of a brownish fluid very offensive in odour, a large fruit stone was found immediately contiguous to the pyloric orifice, embedded in a pouch or diverticulum; this fruit stone must have lain in this diverticulum for a very long time, perhaps for years, for it is to be assumed from the *post-mortem* appearances that its passage through the œsophagus would have been well nigh impossible for the last two years of the patient's existence. From its position near the pylorus, it exercised some considerable pressure on the pyloric orifice, and thus in some measure the great dilatation of the stomach may be accounted for.

A microscopic examination of the parts revealed that the disease implicating the œsophagus was epithelioma, and that all the glands in the neighbourhood of the œsophagus were affected also. This being the case it is a matter for surprise that the patient lingered so long. In the case under notice, the patient was so worn and emaciated on his admission to hospital that any further operative interference than those I have mentioned would have been contra-indicated.

REVIEWS AND NOTICES.

A PRACTICAL TREATISE ON DISEASE OF THE SKIN. By J. N. HYDE, A.M., M.D. Second Edition. London: J. and A. Churchill. 1888.

IN reviewing the first edition of this work, in 1883, we took occasion to remark that the rapidly increasing number of textbooks on Diseases of the Skin threatened to create some embarrassment, and that as the quickly succeeding volumes were sent out into the world, the task of the reviewer became more and more difficult. With how much more justice can we repeat the same remark to-day? Nevertheless, the success of the first edition of Dr. HYDE'S valuable book has justified the accuracy of our remark regarding its merits, and we have much pleasure in stating that the second edition bears the same evidence of careful clinical observation and exhaustive research into dermatological literature that constituted the chief merits of the first.

The present edition is enriched with two coloured plates, one representing a remarkable case of nævus lipomatodes, which forms the frontispiece of the book, and the other a case of xanthoma of the elbows and knees; both instances taken from coloured photographs of the author's patients. The list of illustrations has increased from sixty-six to ninety-six. Amongst the new engravings we notice representations of various instruments used in dermatology and a micro-photograph of the "bacillus of scarlatina," as described by Dr. Edington. Dr. Hyde, however, although he gives a prominent position to this micro-organism, does not contribute any original observations of his own or any argument calculated to confirm Dr. Edington's belief in its specific nature.

The author, having recognised a need of conforming to the classification and nomenclature of diseases of the skin adopted by the American Dermatological Association, has by so doing incurred the considerable labour of re-arranging, which he believes has largely added to the practical worth of the book, but the advantage of which is not apparent on the surface.

The multiplicity of observations regarding the action of drugs and modes of treatment in skin diseases renders it impossible for anyone, even when so actively engaged in his profession as Dr Hyde, to subject them all to the test of personal observation. It is not, therefore, an unmixed good when in a book of this kind references as regards treatment are too much multiplied, and if there is an error in the present case it is apt to be one of excess. Amongst the numerous observations made by Dr. Hyde, however, many are suggestive. In chronic diseases of the skin there is no question more often asked by the patient than that regarding climate. Dr. Hyde refers to Dr. McCall Anderson's belief that sea air and sea water are generally prejudicial to psoriatic patients, but remarks that the statement is disproved in the cases of hundreds who have removed from an interior climate to the seashore, solely with a view to the benefit to be thus received.

As illustrative of the individual differences in the vulnerability of the skin, Dr. Hyde states that the late Professor Boeck, of Christiana, when he last visited America, rubbed the tender leaves of the poison ivy over his hands and face in repeated efforts to produce irritation, and utterly failed of the desired end. The author states that he produced an almost typical vesico-pustule on his forearm by inoculation, with due precautions, of the moistened *débris* of crusts of impetigo contagiosa. Further inoculation from the eruption thus produced caused in two cases no result in one subject and an abortive lesion in another.

We congratulate Dr. Hyde on the success with which he has kept his work up to the latest information in his speciality, and we do not doubt that the second edition will have a success equal to that of the first.

NOTES ON BOOKS.

The British Gynæcological Journal, Part XIV, August, 1888.—This issue of the *Journal* includes instructive discussions on Electrolysis, Intra-uterine Medication, and Incontinence of Urine. There is an interesting series of observations on an hermaphrodite exhibited by Dr. Fancourt Barnes, and a good paper by Mr. Sutton on Dermoid Tumours of the Ovary. He comes to the same conclusion as Poupinel, believing that there are gradational types between the common multilocular cyst and the dermoid tumour, both having a similar origin.

PROGRESS OF CREMATION.—A congress of the advocates of cremation was opened in Vienna on September 22nd. It was stated during the proceedings that there existed about fifty crematories in all, the majority of which are in the United States, one in Germany (in Gotha), twenty in Italy, one in England, one in Switzerland, and one (which is not quite complete) in France.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

THE ALLEN SURGICAL PUMP.

THE Allen surgical pump, a highly ingenious application of a novel pumping method, was demonstrated to the Section of Obstetric Medicine at the annual meeting of the Association at Glasgow by a representative of the firm of Messrs. Charles Truax and Co., of Chicago, who are the manufacturers. We have since carefully tested the capabilities of the instrument, and have been much impressed by the simplicity of its construction, and by its adaptability to many of the requirements of modern practice.

The construction of the pump will be easily understood from an inspection of the accompanying drawings. It consists of a shallow cylindrical metal box (Fig. 1), within which a small wooden

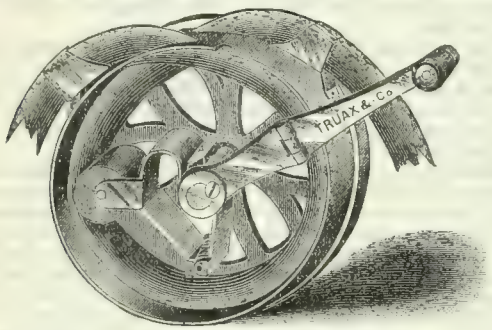


Fig. 1.

roller, carried by an adjustable spring attached to a central axis, revolves; a loop, formed about the centre of a piece of india-rubber tubing a yard or so long, is introduced by a suitable aperture, and lies in the box between the roller and the side of the box. By adjusting the spring the roller is made to press firmly upon the tubing, and by turning the crank the roller is made to



Fig. 2.

travel round the box, squeezing the tubing empty in its passage; as much air or liquid as is in that part of the tube is thus displaced in one or other direction, and by continuing to turn the crank a continuous stream flows in at one end and out at the other end of the tube.

Fig. 2 shows the pump attached to the back of a chair and ready for use; by turning the crank in one direction the operator pumps the contents from the basin, and a continuous stream issues from the tubing which he holds in his hand. If the description has been followed thus far, it will be at once understood that by reversing the crank the current of fluid is also reversed, and the pump acts as an exhaustor, returning fluid to the basin. It forms a very convenient and simple stomach pump. A stomach tube is attached to one end of the tubing, while the other end is in a basin of water, and the stomach may be emptied and washed out by merely turning the crank alternately in either direction, it being only necessary to remember that fluid is forced in the direction towards which the handle is turned, and withdrawn from the opposite direction.

One great advantage of the instrument is its simplicity; there are no valves, stopcocks, or pistons to get out of order or to retain dirt; the liquids only come into contact with the india-rubber tubing, which can, of course, be easily changed at a trifling expense, and separate lengths of tubing can be used for different cases if desired. Under many circumstances the ease with which the current may be reversed will be a great convenience.

The pump may be used as an aspirator by attaching to the main tube the apparatus shown in Fig. 3; a vacuum can be produced

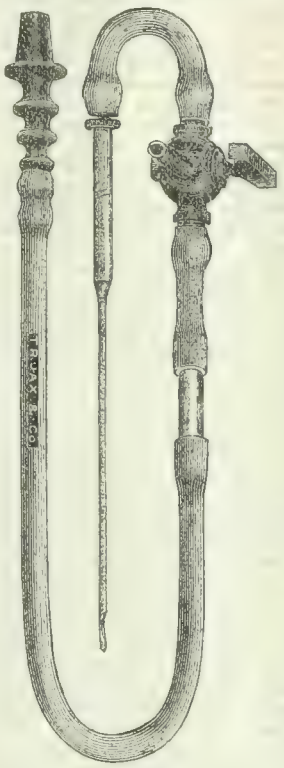


Fig. 3.

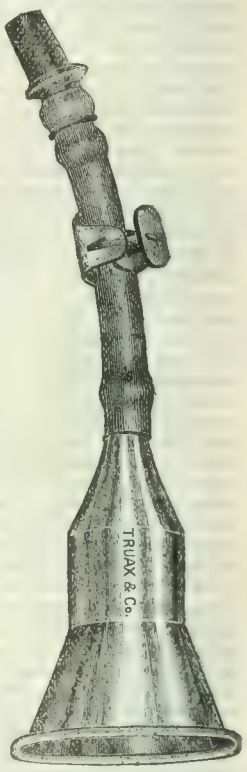


Fig. 4.

while the needle is being introduced, by directing an assistant to turn the crank slowly, and as soon as the cavity is reached the fluid will begin to rise, and will be seen passing through the small glass joint, which, as in most aspirating apparatus, is introduced into the tube leading to the needle; if the eye of the needle becomes clogged an attempt may be made by reversing the current to dislodge the occluding substance. By regulating the rapidity with which the crank is turned the rate at which the fluid is aspirated may be adjusted to a nicety. The two-way stopcock shown in Fig. 3, just above the needle, is designed for use if it is desired to inject the cavity. While the crank is still kept turning the cock is turned, and the communication with the aspirating needle cut off; the free end of the pump-tubing is then put into the fluid to be injected, and the current reversed; by this manœuvre the fluid is pumped through the tubing and out at the aperture of the stopcock, thus washing out the whole, and filling it with fluid. After the fluid has been noticed to run clear and free from air, the stopcock may be turned back to its original

position, and the fluid injected into the cavity. It is, of course, necessary to test all the connections in the first place, to ascertain that they are air-tight.

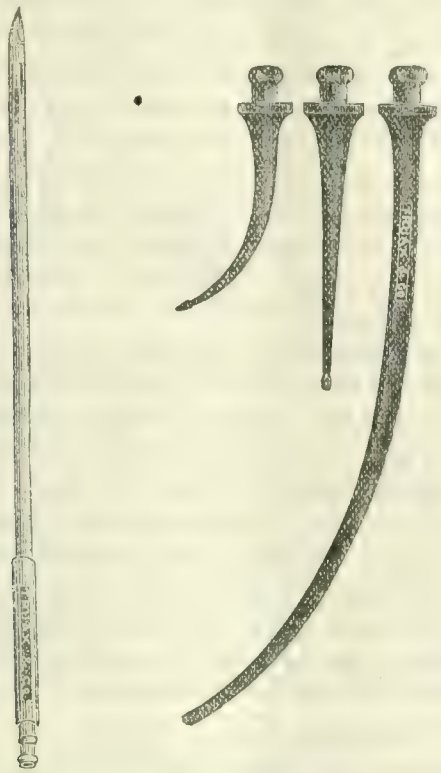


Fig. 5. Fig. 6.

The pump may also be used for filling Barnes's bags, or other elastic dilators devised on the same principle. The quantity of fluid injected can be measured in two ways: if a dilator is being filled, another of the desired size is first filled by the pump, the dilator to be used is then attached, introduced, and, by turning the crank until the other dilator is emptied, it is known exactly how much fluid has been introduced and how much the dilator has expanded. The other method of measuring is of use in washing out the bladder, for which purpose the pump-tubing may be attached to any ordinary gum-elastic catheter by a piece of soft tubing; the amount of fluid pumped at each turn of the crank is uniform, and may be ascertained by a preliminary experiment. Thus, the pump of the size which we have tested injects two ounces for every five revolutions of the crank. The pump can be adapted to a cupping glass (Fig. 4) or breast pump; it can also be used for douching the nasal, aural, vaginal, or other passages of the body.

The apparatus was originally designed by Mr. E. E. Allen, of Grand Rapids, Michigan, as a blood transfuser, and a special form can be obtained for this purpose. Another purpose for which it is said to be well adapted is embalming; a trocar-pointed evacuating tube (Fig. 5) is first used, and the embalming fluid is injected through the hard rubber tubes (Fig. 6) constructed for the purpose.

We are informed that the apparatus can be obtained through any surgical instrument makers in this country.

THE AUSTRALIAN RABBIT PEST.—The Intercolonial Rabbit Commission, the constitution of which has already been stated, held its second session in Adelaide, where it was chiefly occupied in taking the evidence of Professor Watson with regard to the "rabbit scab," a disease of rabbits due to the presence of *sarcoptes cuniculi*. It was elicited that the disease only spread in a moist climate, and that it would not be communicated from rabbit to rabbit in the dry parts of Australia. The Commission had still many witnesses to examine and inquiries and investigations to make before commencing to prepare its report.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, SEPTEMBER 29TH, 1888.

THE MEDICAL PROFESSION.

IT was said of the Napoleonic armies, that every private soldier bore the *bâton* of a marshal in his knapsack, and it may be written with equal truth of the medical profession—for the encouragement of those about to join its ranks—that to each practitioner its highest honours and its most distinguished positions are possible of achievement. It is no respecter of persons, but offers its chief prizes with liberal hand to every honest seeker; its only requirement for their attainment—knowledge. Its only passport to success—diligent and intelligent work.

But though success is thus attainable by any candidate who will use the proper means to gain it, it does not follow that even when obtained it is of a kind which will satisfy the ambition of most men. And therefore it behoves every youth before he finally chooses medicine as his profession to be quite sure of what he seeks, and to be well furnished with the necessary weapons, wherewith, having decided, he may fight his way to victory.

If wealth be his goal, he has mistaken his calling. "Some of us," says Sir James Paget, "may indeed make money and grow rich; but many of those that minister to the follies and vices of mankind can make much more money than we. In all things costly and vainglorious they would far surpass us if we would compete with them. We had better not compete where wealth is the highest evidence of success."

If social distinction be his aim, he could nowhere have hit on a more hopeless choice, for he will find the claims of his calling so onerous and so incessant that he will have little time to cultivate those graces and opportunities without which social distinction cannot be won.

If he has entered it merely to earn a morsel of bread, he is prostituting a most noble profession to an object not in itself perhaps improper, but as a sole end most unworthy.

It is unfortunately true that many of those who join our body do so with a most inadequate appreciation of the responsibilities they incur. For them medicine is neither more nor less than a means of earning a livelihood. They either adopt it by accident or from unworthy motives, or because it is a cheap profession. Hence our ranks are filled with so many unsatisfactory recruits; hence the space of our medical journals is taken up by complaints of ungentlemanly and unprofessional conduct; hence our law journals contain such reports that cynical lawyers boast there is no case

so disreputable, no claim so monstrous that they cannot bolster it up by medical evidence. Hence, too, our social position is impaired, our influence for good lessened.

And indeed our responsibilities are so great, our capacity for good or for evil so enormous, that none should join us whose aim is unworthy, or, having joined us, should for a moment relax his utmost exertions to fit himself for his high calling. For unless the span of human life be immutably fixed (in which case we above all men are quacks and time-servers ineffable) the power entrusted to us is unbounded. On our knowledge and skill depend the fate of individuals and, through them, of empires. The prosperity of families, the hopes of parents, the happiness of wives, the future of children, the welfare of communities, the victories of armies are in our hands.

And yet no man, however humble, no learner, however feeble, need shrink back in dread of undertaking such high responsibility, if only his aim and his heart be right. His aim, however, must be no lower than truth itself. His heart must be accustomed to self-sacrifice and attuned to sympathy and love. For our career must be one of two—either the skilled and disciplined mind, seeking, like a God, the welfare of mankind and the relief of suffering humanity; or the ignorant and hypocritical pretender, concealing behind the ambush of fair words and smiling face a heart of guile and a soul of bitterness. Our profession is such, our contact with poverty and ignorance is so close and intimate, that either the constant exercise of pity, of charity, and of self-control will render our lives and our minds daily nobler, or we shall become grasping, ignorant, and narrow-minded even as those among whom our lot is cast.

And even in the stage of our pupilage our responsibility and our self-discipline must begin. A great medical authority assures us that "there is no concealing the truth, the melancholy truth, that numbers of lives are annually lost in consequence of maltreatment." Who, then, will face, uninfluenced and unmoved, the certainty—for certainty it is—that for every wasted hour of student days, for every case unnoticed, for every lecture neglected, for every opportunity despised, some human life may pay forfeit?

Our efforts must not be limited to passing *this* examination or securing *that* qualification or degree, but must rather be devoted to preparing ourselves for a lifelong and unceasing examination, wherein the examiners are disease and death; the penalty for failure to ourselves discredit, to those who have trusted us in vain extremest pain and peril.

The years which we are expected to devote to exclusive study are so few, the subjects we must undertake are so many and so abstruse, that in order to emerge from the schools with even a passable amount of knowledge the whole of our student days must be devoted to honest and earnest work. We cannot safely neglect one of the branches of science we are expected to master, for they are all so interdependent that, if one portion of the edifice of our knowledge be left unbuilt, the remainder is either in danger of falling, or else cannot be raised at all.

Without a thorough mastery of anatomy, neither medicine nor surgery can be scientific or accurate. Physiology is dependent on a knowledge of chemistry, as is likewise pharmacy. Pathology cannot be mastered if physiology be neglected; without both medicine is impossible.

Nor must method be neglected. Everything must be learned in due course. The operating-theatre and the bedside must not be frequented until the lessons of the chemical laboratory, of the dissecting-room, and of the physiology class-room have been learnt and assimilated. And yet the mind must not be cramped by that worst of all educations—a technical one. Literature and art need not be neglected. Such names as Thomas Browne, as Seymour Haden, as Henry Thompson, as James Paget, as Charles Bell prove to us that the claims of medicine and of general culture are not incompatible. Nay, rather as Carlyle says, the higher presupposes the lower; and he who can fly into Heaven, can also walk past if he resolve on it.

So, with courageous and manly heart, let each one of you who is resolved thereto enter the portal of medicine which is one of the many gates leading to that stream flowing beyond, whereof one has written "that your youthful college days are to you the dipping of your feet in the brim of the river, which is to be manfully stemmed by you all your days; not drifted with, nor toyed upon. Fallen leaves enough it is strewn with, of the flowers of the forest; moraine enough it bears of the ruin of the brave. Your task is to cross it; your doom may be to go down with it, to the depths out of which there is no crying. Traverse it, staff in hand, and with loins girded, and with whatsoever law of Heaven you know for your light. On the other side is the promised land, the Land of the Leal."

INTRODUCTORY ADDRESSES.

On Monday next the addresses will be delivered at most of the medical schools where the custom of delivering an inaugural oration at the beginning of each winter session is still in force. We need not dwell for long on the causes which have led to their discontinuance in many schools. All customs tend to die out; the annual address involves the yearly repetition of platitudes with which even the freshman is acquainted. He has heard that medicine is a noble profession, and that quackery is despicable, long before he takes his seat in the lecture-room. An oration by a leading authority makes his humbler colleagues reticent about accepting the same duty a year later. Lastly, the worst type of student is apt to put in an appearance at the "introductory," and by his manner of demonstrating his presence he throws unmerited discredit on his companions.

Where the custom is continued, the nature of the lecture varies more than ever. Some lecturers maintain the platitudes. They believe that the first year's man must be reminded of his future studies and his further duties. Unfortunately the subject, as far as words go, may be already stale to that young gentleman, as we have already observed. Great abstract truths learnt by experience can never be satisfactorily taught to the inexperienced. Reducing the truths to sentimental formulæ is perilous to youth. Carlisle rightly said: "How true is it that no man or nation of men, conscious of doing a great thing, was ever, in that thing, doing other than a small one!" And again: "Not by outbursts of noble sentiment, but with far other ammunition, shall a man front the world." In some cases the lecturer is too young both in

years and in appearance ; this is unfavourable for the object of the address, for though youth often speaks of what it despises as "old," it is impressed by age, and disbelieves in counsel from youthful lips. Questionable, again, is the practice popular with medical orators of dilating on the fatigues and responsibilities of a medical career. When a man is about to ascend a high ladder it is not right to tell him to look up at the dozens of rungs which his feet must touch before he reaches a giddy height on some roof or scaffold.

Probably the best topic for the orator is the medical curriculum. The student cannot be too thoroughly impressed with the fact that the four years allotted to him for study is too short for its purpose in any case, and the orator must be particularly careful to remind the student that the terms marked out for each branch of study are misleading. Two winter sessions for anatomy are technically reckoned as twelve months, but we know that they really mean a much shorter period. The student often loses many weeks at the beginning of his first session through ignorance of the way to set to work. He may be forced to maintain a relative inactivity through scarcity of "parts." The time devoted to patients is equally insufficient, for two years only are allowed for the study of medicine, surgery, and midwifery, and much of this time is taken up with book-work ; nor can the student go without holidays. The tyro ought also to be reminded that, if he takes care of medicine and obstetrics, the surgery will take care of itself. Nearly all students not hopelessly weak-minded are fascinated by surgery, but they are too often unaware that, in all probability, they will have to live mainly by the other branches. Hints should also be thrown out by the orator to guide the spirit of ambition which certainly burns in the hearts of some of his audience. The studious must be reminded that the race is to the strong, not the swift, at least before qualification ; they must not specialise their education, but turn their energies in every requisite direction.

THE ISOLATION OF DIPHTHERIA.

Attention has been again forcibly directed to a curious anomaly in our sanitary code by the memorandum published at page 739, which has been drawn up by the Metropolitan Asylums Board, by the discussion which took place at the meeting of the Board on September 22nd, and by the evidence given at an inquest recently held in St. Pancras. The Board is ready and willing to admit cases of diphtheria into its infectious hospitals, and in the interests of public health it is eminently desirable that the facilities for isolating patients suffering from the disease should be increased ; there is probably no infectious disorder in which the results of isolation are more satisfactory ; yet owing to the interpretation of Section 69 of the Metropolitan Poor Act, 1867, which has been adopted by the Local Government Board, the admirable system of isolation organised by the Metropolitan Asylums Board for dealing with other infectious fevers cannot be utilised for checking the spread of diphtheria.

The anomaly has frequently been pointed out in these columns, but the question was first dealt with officially in 1886, in consequence of representations made by the Metropolitan Asylums Board to the Local Government Board ; after five months for consideration, the latter Board replied that patients suffering from diphtheria could not be regarded as patients suffering from fever within the meaning of the Act already mentioned. This adverse decision was mainly grounded on the opinion of the President of the Royal College of Physicians : "If the words in the Act had been for patients suffering from fevers, I should most certainly have considered diphtheria to be included under the term 'fever,' but the separation of small-pox from fevers seems to signify that the word fever was intended to include only fevers of a special type—those cases, that is to say, to which the word fever is specially applied, as scarlet fever, typhus fever, typhoid fever."

Sir William Jenner's opinion, therefore, was founded upon a verbal criticism of the clause, and must have been given with reluctance ; indeed, so clearly was this the case, and so strongly was the position felt to be anomalous, that the Local Government Board at once intimated that it had under its consideration the advisability of recommending fresh legislation.

The result of its consideration has been, so far, a masterly inactivity, and a hint of the pressing need for some solution of the difficulty given by the Asylums Board last February has apparently had no effect in hastening a decision. The difficulty is entirely produced, as has been said, by the interpretation of the wording of the section, an interpretation which is open to doubt, and to some extent opposed to official precedent ; the position assigned to diphtheria in the classification adopted by the Registrar-General where it occurs after scarlet fever, but before enteric fever, may be quoted as an example. The Local Government Board, however, having decided that there must be express legislation to empower the Metropolitan Asylums Board to use its hospitals for a purpose for which, verbal quibbles aside, they are designed, was morally bound to lose no time in obtaining the necessary Act, or, at the worst, to intimate its disinclination to take action. In the latter alternative it would have been open to some metropolitan member, acting in concert with the Asylums Board, to have introduced a short Bill to supply the defect in existing arrangements.

THE PREVENTION OF TUBERCULAR DISEASE.

The resolutions adopted by the Congress for the Study of Tuberculosis which assembled recently in Paris afford striking proof of the change which has come over popular pathological theories as to the etiology of this ubiquitous disease. It is not many years since the communicable nature of tuberculosis, and even the specificity of the process, were generally denied ; now we find these two propositions taken as axiomatic, and important practical conclusions drawn therefrom to form the basis for legislation. In a courageous willingness promptly to accept the logical consequences of scientific discoveries, the French have frequently set an example which can only excite our admiration. Public opinion in this country and in our colonies moves more slowly, and the respect for vested interests leads to the perpetuation of practices which are injurious not only to the public health, but, in the long run, to those interests which it is intended to conserve.

The first resolution led up to a *coup de théâtre*, no doubt carefully prepared beforehand. This resolution, which was adopted at an early sitting of the Congress, declared :

"That every means, including the compensation of owners, should be taken to bring about the general application of the principle that all meat derived from tubercular animals, whatever the gravity of the specific lesions found in these animals, should be seized and totally destroyed."

Now for the last three years the French Government has had in contemplation the advisability of applying the provisions of a law for the prevention of the spread of the contagious diseases of animals, passed in 1881, to the case of tuberculosis, and the necessary decree was actually signed by the President of the Republic during the session of the Congress. This decree is in many respects a remarkable document; here we are only concerned with its sanitary significance. It provides that every ox, cow, or other animal of the bovine species found to be suffering from tuberculosis shall be isolated, and that the veterinary inspector shall be present when it is slaughtered, and make a report on the *post-mortem* appearances. The meat is to be condemned if the tubercular lesions are generalised, that is to say, if they are not confined to the viscera and their lymphatics, or if being confined to the viscera the greater part of one organ has been invaded, or if the serous surface is affected. The sale of the milk of tubercular cows is absolutely prohibited, and it can only be used for feeding animals after it has been boiled. No provision exists for compensating the owners of condemned animals, and the possibility of creating a fund for this purpose is at present much discussed. One suggestion is to require an owner to provide himself with a "certificate of origin" for each animal which he possesses. It has been calculated that a fee of one franc would be sufficient to raise a fund large enough to compensate all owners, while the existence of the certificate would greatly facilitate the investigation of the source of epizootic outbreaks. Another plan which has been suggested is compulsory insurance.

Two other resolutions adopted by the Congress at the end of its last session are interesting as showing the direction in which public opinion is advancing; one of these was:

"That dairies ought to be subjected to a special system of inspection, with the object of ascertaining that the cows are not suffering from contagious diseases capable of being communicated to man, and that this system of inspection ought to be extended to all other establishments of the same class."

The full significance of this resolution will be perceived when it is remembered that in France tuberculosis is now included among the diseases legally recognised as communicable. The other resolution was to the effect that steps ought to be taken to spread among the public, especially in country districts, a knowledge of simple means of avoiding the danger incurred by the ingestion of the flesh or milk of tubercular animals, and of proper methods of disinfecting the excreta of phthisical patients, and objects contaminated by them.

A large number of papers on the nature and treatment of tuberculosis, and on the influence of heredity, were presented to the Congress, and the general scope of the discussions was sufficiently indicated by the letters of our Paris correspondent published at the time. Without seeking to detract from the value of those clinical and pathological contributions, it yet appears that by far the most important work achieved by the Congress was the adoption of the resolutions which have been mentioned above. They deal, indeed, only with one element in the etiology of tubercular disease, but that not the least influential in its action, while practically it is the most important because its operation is most under control.

Dr. Joseph Griffiths has been appointed Assistant to the Professor of Surgery, University of Cambridge.

The Red Cross jury of the Brussels Exhibition has awarded to Captain Tompkins the diploma of honour and a gold medal for his ambulance tents and wagons in the English section. The Belgian Ministry of War has appointed a commission of officers to report on them.

A general meeting of the subscribers to the Wadham and Holmes Testimonials will be held in the Board Room of St. George's Hospital on Thursday, October 11th, at 4 p.m., to decide what forms these testimonials are to take. Gentlemen who have not already paid their subscriptions are asked by the Honorary Secretary, Mr. W. L. Dickinson, St. George's Hospital, S.W., to do so.

ILLNESS OF DR. WATERS.

We regret to learn that Dr. Edward Waters, of Chester, has been suffering from a severe attack of illness during the last ten days. He has been under the care of Dr. Taylor, who had the advantage of a consultation with Sir Andrew Clark on September 21st A telegram received from Dr. Taylor on Thursday morning (September 27th) conveys the gratifying intelligence that Dr. Waters is somewhat better, though still confined to his room.

MEETING OF THE GENERAL MEDICAL COUNCIL.

The autumn session of the General Medical Council will commence on Tuesday, November 21st. The Executive Committee will, as is usual, meet on the previous day. The principal business for consideration will be, no doubt, the Reports of the Inspectors of Examinations, and the further consideration of the Report of the Committee on Education. There is no reason to suppose that this will be a prolonged session.

BETHLEM HOSPITAL.

Mr. James Clarke Lawrence, President of the Royal Hospitals of Bridewell and Bethlem, in a letter referring to the correspondence which has appeared in the *Times* on the medical treatment of patients in Bethlem Hospital, makes a statement of the results of the treatment there during the last twenty years, from which it appears that, from 1868-87, 5,215 patients had been admitted, 2,572 discharged cured, 522 discharged relieved, 1,608 removed uncured, and 497 died. During the last three years, from 1885-7, 921 patients were admitted, 455 discharged cured, 81 discharged relieved, and 297 removed uncured.

THE ROYAL COMMISSION ON UNIVERSITY EDUCATION IN LONDON.

The date on which the Royal Commission on University Education in London will resume its meetings has not yet been settled. At the last meeting on August 4th, evidence was tendered with reference to the university extension system by Lord Ripon and other members of the Committee. Sir Henry James gave evidence with regard to the question of a Legal Faculty of a new University. Mr. Brudenell Carter attended on behalf of the Apothecaries' Society. Evidence was given, also, on the part of the Senate of the University of London by Lord Herschell and by Dr. Quain, F.R.S., who was suddenly called upon to replace Sir William Jenner, who had left town.

ABSORPTION OF THE LIQUOR AMNII.

Dr. Torngren, of Helsingfors, describes in the *Archives de Tocologie* for August, 1888, a series of experiments made in the Pathological Laboratory of the Paris Faculté de Médecine, to determine the channels by which substances contained in the liquor amnii return to the maternal circulation. He finds that, in the rabbit, at least, absorption of the liquor amnii by the maternal vascular system continues throughout gestation. This absorption is effected either by the placenta or by the membranes. The gastric mucous membrane of the fœtus at term can absorb, but this absorption does not materially affect the changes between the liquor amnii and the mother's blood. Soluble substances contained in the blood of the mother pass into the liquor amnii generally through the placenta.

PHYSIOLOGICAL ACTION OF IRON.

In a preliminary note in the *Vratch*, No. 29, 1888, p. 561, Dr. Skvortzoff publishes the results of experiments on dogs, carried out by him in Professor L. J. Tumas's Pharmacological Laboratory, in Warsaw, with the view of determining the action of iron on nitrogenous metabolism in a healthy organism. The following are his conclusions: 1. Iron has no marked influence on the nitrogenous metamorphosis in a healthy system. 2. On the internal administration of iron in daily doses over 0.02 or 0.03 gramme, the assimilation of the nitrogenous ingredients of food decreases, though but slightly (from 98.4 per cent. before the experiment to 97.0 per cent. during it). 3. After venesection the assimilation somewhat increases, both on the administration of iron and without it. 4. On the administration of iron with food after venesection, the restoration of hæmoglobin proceeds more rapidly than without iron. 5. The same holds true in regard to the body's weight.

EXTRAORDINARY VITALITY IN AN OLD WOMAN.

Our attention has been called, by Dr. John W. Ogle, to the following remarkable instance of endurance in old age, which was recently recorded in a French newspaper. It is of some interest, in connection with a case of extraordinary vitality in a child which was related not long ago in our columns, by Dr. W. A. Thomson, of Ampthill (Journal, August 25th, p. 462). A widow, aged 81, was found in the forest of Fontainebleau, where she had been for six days and nights without any shelter but the trees. The weather at the time was very wet and cold, and the old woman had no food whatever, except a few mushrooms. She is of feeble intellect, and could give no account of herself, but it appears that she was in the habit of going out every day for a walk, and it is supposed that on this occasion she had wandered farther than usual and could not find her way home. When found, she was in a very serious condition, but her medical attendant, Dr. Girard, was by no means hopeless of her recovery.

COCAINE IN HYDROPHOBIA.

Dr. S. Fubini, of Palermo, has recently reported a case of hydrophobia in which local applications of cocaine gave marked relief to the characteristic spasms of the throat. The man had been bitten on the hand by a mad dog six months before. Three of his companions, who were bitten at the same time, had their wounds promptly cauterised, but the patient thought his too trifling to require attention. He was the only one in whom hydrophobia supervened. The spasms of the larynx and pharynx were extremely severe and painful, and the patient, though suffering from burning thirst, could not bear the sight of liquids. Dr. Fubini brushed the pharynx with a one in twenty solution of hydrochlorate of cocaine, with the result that the spasm almost immediately ceased, and the man was able to drink without the least difficulty. There can be no doubt that the case was really one of hydrophobia; all the classical symptoms of the disease were present, and subdural inoculations of the patient's medulla in rabbits produced well-marked rabies in those animals. The case shows the value of immediate cauterisation of bites, as well as the utility of cocaine in relieving symptoms.

THE WATER-SUPPLY IN JAPAN.

The construction of the new waterworks at Yokohama, under the superintendence of General Palmer, R.E., was a formidable undertaking. The intake is about 25½ miles from the filtering beds, and the work was rendered extremely difficult in various places by the rugged and hilly nature of the country, which necessitated the opening of a temporary road, the erection of several bridges, and the excavation of cuttings; but, in spite of all obstacles, the undertaking was completed within the specified time. The British consul at Yokohama, in his report, anticipates that the health of the town will be greatly improved by the introduction of a plentiful supply of wholesome water, and that it will prove instrumental in protecting the community against the ravages of cholera. In consequence of the success which has attended this undertaking, several other towns have applied for a similar water-supply, and the subject is now being carefully studied. In Tokio, also, arrangements are about to be made for improving the supply. The difficulty at present consists in providing the funds, amounting to about a million sterling. The city has 1,300,000 inhabitants, and enough water would have to be provided for 2,000,000. The question is a pressing one for Japanese towns, because the wells are, for the most part, fouled owing to their proximity to the rice fields.

MEMORIAL TO THE LATE DR. LUKE ARMSTRONG.

A meeting was held at the Royal Infirmary, Newcastle, on September 18th, to consider the advisability of adopting some means of perpetuating the memory of the late Dr. Luke Armstrong by some permanent memorial. The notice convening the meeting, signed by Drs. W. C. Arnison and J. Wilkinson, stated that it was believed that a scholarship or chair for the teaching of comparative pathology in the College of Medicine in which Dr. Armstrong always took such a deep interest would be the most appropriate object. The Rev. Dr. Bruce presided, and among those present were Professor Philipson, Dr. Oliver, Dr. W. C. Arnison, Mr. Clement Stephenson, Dr. T. A. Dodd, Dr. Black, Colonel Addison Potter, Dr. Page, Mr. George Tweddell, Dr. Williamson, Dr. Drummond, and Mr. W. Tyson. A committee, with power to add to their number, was appointed to collect subscriptions, with Dr. W. C. Arnison as treasurer. It was not decided what form the memorial should take. At the close of the meeting subscriptions to the amount of £280 7s. were announced.

CYST OF THE PANCREAS.

Dr. Wölfler, of Graz, has written on this subject, in the *Prager Zeitschrift für Heilkunde*, vol. ix, Pt. 2 and 3. He describes what he claims to be the first case in which cyst of the pancreas was diagnosed in the female. A woman, aged 21, had been exposed to malaria when young, and, four years before she came under the author's notice, had suffered from gastro-intestinal catarrh and icterus. On recovering from that illness, she noticed that a swelling began to form in the epigastrium, movable at first. For two years it grew, the patient becoming very weak; then it remained stationary. There was dyspepsia, but no menstrual irregularity. The fæces did not contain either excess of fat or striated muscular fibre. Dr. Wölfler found the tumour, "twice the size of a man's head," projecting from the whole of the upper part of the abdomen down to the umbilicus. It did not fluctuate markedly; the stomach lay in front of it above, the transverse colon below, and a narrow tympanitic area separated it, towards the right,

from the liver. The position of the tumour indicated cyst of the pancreas. On the other hand, its position contra-indicated chylecyst; the relations of the cyst to the transverse colon proved that it was not a growth developed in the suprarenal capsule. Hydatid disease of the transverse meso-colon was considered possible. Abdominal section was performed. The cyst was punctured, and over a gallon of turbid fluid removed. The fluid was rich in albumen and cholesterine; it could convert starch into sugar, but did not emulsify fat. The cyst was drained, and its walls sewn to the edges of the abdominal wound. The cyst wall, very rotten from the first, sloughed and delayed recovery. The nature of the fluid would alone, Dr. Wölfler remarks, be insufficient to determine the seat of the tumour, as other secretions besides pancreatic juice can convert starch into grape-sugar.

THE YELLOW FEVER EPIDEMIC AT JACKSONVILLE.

On Tuesday, September 25th, 143 fresh cases of yellow fever were registered in the previous twenty-four hours, 84 of the persons attacked being negroes. The reports received in New York, on Wednesday, from the districts affected by the fever, encourage the belief that the epidemic is now declining. Frosts and cooler weather are reported from various parts in the southern States, and better feeling prevails. It is stated that the quarantine regulations, which were enforced in some districts by parties of men armed with shot guns, are being relaxed, and railway traffic resumed in some places. Four deaths were reported to have occurred on Tuesday. The total number of cases since the outbreak is 2,134, of which 221 proved fatal. Contributions are stated to be coming in generously. The House of Representatives, Washington, have granted the sum of 100,000 dollars in aid of the sufferers. They will all be needed, for the expenses will be very large; it is said from £6,000 to £10,000 per month. The New York *Sun* attributes many deaths to the lack of good nurses, and says: When eighteen nurses from New Orleans arrived, there were three to five applicants for every one. One hundred more nurses are needed. The Board of Health has issued a circular giving a formula of self-treatment that will do much good. It is estimated that there have been 30 per cent. more cases, principally very mild, than have been reported to the Board of Health.

FILARIOSIS.

Every English pathologist must be more or less familiar with the valuable contributions on lymph-scrotum and filarial hæmatochyluria which were read before the Pathological Society by Dr. Manson, of Amoy, and Dr. Stephen Mackenzie, in 1880 and 1882. Dr. Manson showed a scrotum affected with elephantiasis; the lymph which it discharged contained embryo filariæ, and on cutting through the scrotum a live adult female filaria was found in a dilated lymphatic. He explained how the embryos have the remarkable habit of appearing in the blood of the patient during the night and disappearing by day, and how they left their human host, being sucked, together with the blood, by a mosquito. As that insect dies on the surface of the water after laying its eggs, it may sometimes be swallowed by natives who drink unfiltered water. The filaria embryo has greatly advanced in development during its sojourn in the insect's body, and when it reaches the drinker's alimentary canal it is able to enter the lymphatic system. Indeed, it certainly escapes from the mosquito's body into the water, and Magalhaes has detected it in the residue of filtration at Rio de Janeiro. It must be more often swallowed free than in the body of its insect host. Once back in the human body, it copulates and ova are formed. Some of the ova act as emboli and block the lymphatics, hence lymph-scrotum, varicose lymphatics, and chyluria. Dr. Stephen Mackenzie published a very complete report of a fatal case of filarial hæmato-chyluria. The patient died rather suddenly from a chill, when under observation. The iliac, lumbar, and rena lymphatics were dilated, the thoracic duct diseased and obstructed. Dr. Lancereaux has recently contributed an important monograph, entitled "La Filariose," to the Académie de Médecine. He gives full credit to the labours of Drs. Mackenzie and Manson. The term "filariosis," he applies to the entire group of pathological conditions resulting from infection of the organism by the *filaria sanguinis hominis*, including lymph-scrotum, chyluria, and chylous dropsy of the peritoneum and tunica vaginalis testis. Dr. Lancereaux has seen some cases in Paris, and read two clinical reports as part of his paper. The first patient was a law student, aged 23, and very sickly; he was a native of the Isle Réunion, came up to Paris in 1884, and began to suffer from lymphatic varices in the groin in 1885. Chyluria and dilatation of some lymphatic vessels in the arms followed, the scrotum was not affected. A finger was pricked, and the blood which exuded was found full of filariæ moving actively. In the second case, the patient was also a law student, in Paris, who left his native island, Hayti, in 1886. Severe chyluria set in on his return home a few months later; in January, 1888, after he had come back to Paris, he had hæmato-chyluria. At present the urine passed on rising is always more or less chylous, though no blood is now mixed with it; that passed in the afternoon is often normal; urine passed at midnight presents the maximum of chyle. At ten minutes to nine one evening the patient's blood was examined, and no filariæ were found; a quarter of an hour later the finger was again pricked, and nine filariæ were detected in the blood. A physician, now at Beauvais, who practised for sixteen years at Hayti, informed Dr. Lancereaux that he was seized with chyluria when 35 years old, during the height of the hot season, and much fatigued by professional work. It lasted for several days; a few more attacks followed. After living a few months in Europe, the patient had no recurrence of chyluria for six years. Three times during the period he has been established at Beauvais he has had a transitory attack of chyluria. On every occasion it followed night work in very cold weather. The report of Dr. Lancereaux's paper, in the *Bulletin de l'Académie de Médecine*, No. 36, 1888, includes a useful bibliography.

NEGLECTED POPULATION AND THE GROWTH OF CRIME.

A voluminous newspaper correspondence on the subject of the Whitechapel murders has directed public attention strongly to the evils which have followed the neglect of social and cerebral hygiene. It may be hoped that the ratepayers, or their representatives, will now insist on something being done to remedy known faults in the more neglected districts, where poverty and crime, as well as other forms of human suffering and failure, are most abundant. Heredity and the surroundings of the individual are the great causes of social failure; as regards an outburst of criminal display from local causes, some advantage may result from dispersing these centres of population, and building suitable tenement buildings, which we are assured, on authority, may be made to pay 4 per cent. on the capital invested in land purchase and building; such dispersion of the worst dens would lessen the chances of interbreeding of the baser sort and the more degraded types of mankind. Much more may probably be done by altering the surroundings, specially in the case of children. When inheritance has predisposed certain children to the ready reception of impressions by bad influences, it is very necessary that, as in the case of other forms of brain defect, the evil should be met by special care in training, and good and bright surroundings; the instruction may be rather of the industrial than the literary form, while regular school attendance is more than usually necessary. Experience at some of the day industrial schools has shown

that it may be advisable to treat the somewhat exceptional and low class children sent to such schools under a system of combined displicine with enforced personal cleanliness, and at least one sufficient meal. When such children are placed in any form of boarding establishment, experience shows that the signs of chronic exhaustion may soon be removed under the healthful surroundings of school management; doubtless a part of the improvement results from removing some of the noisy distractions and adverse influences of crowded houses in town. That much can be done by careful education to improve children of born defects in brain is proven by the success of the Royal Albert Asylum in this direction. Careless views of the value of human life tend to moral degradation and the prevalence of crime. Such light views of personal responsibility of human life are encouraged by allowing the insurance of infants' lives; this is illustrated by an inquest held at Millbank concerning the death of an infant, aged 2 months. The life was insured for £1 when the child was 3 weeks old at a cost of a penny a week; three other children in the family had been previously insured and died; the infant died from suffocation. Deaths from preventable causes and from infectious diseases similarly tend to lessen the public value of lives. On the other hand, improved surroundings, social clubs, recreative evening classes, and the like visible expressions of endeavour to improve humanity, assist in enlarging the subjects of thought and cultivating the brains of the labouring people, and will produce good effects on the next generation. It is not only from specially debased localities that crime springs up; cases occur sporadically in all parts, and one means of early detecting among the population those whose brains are so different from others as to make their career a probable failure would be to have occasional medical inspection of schools, in order that exceptional children of feeble or defective brain power might be known, and suitable training provided for them.

TEACHING ON INEBRIETY.

It will be within the recollection of our readers that some months ago we gave an abstract of a series of lectures on inebriety, in the rooms of the Medical Society of London, by the President of the Society for the Study of Inebriety. Following up this first course of lectures ever delivered on this subject, Dr. T. D. Crothers has given two lectures to the Albany Medical College, U.S.A. Abstracts of these lectures have appeared in the *Albany Medical Annals*. In both courses the symptomatology, etiology, treatment, and jurisprudence of the disease were treated systematically. This is the only method which can be adopted with any hope of the attainment of an accurate knowledge of the phenomena and causation, and of successful therapeutic treatment of this insidious and baffling ailment. The recent enactment of permanent legislation for inebriety invests this whole subject with a new and striking interest.

COLLOID CANCER OF THE HAND AND FOREARM.

In the Bulgarian *Meditzinsko Spïsanïe*, No. 17, 1888, p. 270, Dr. Ivanoff, House-Surgeon to the Varna District Hospital, describes an unusual case of colloid malignant disease of the right hand and forearm in a Turkish peasant, aged 36. About 4½ years before the man first noticed a swelling, the size of a bean, in the cutaneous fold between the little and ring fingers. In two years the tumour attained the size of a large hen's egg, and at the same time underwent ulceration, after which its growth became far more rapid until the tumour reached the size of the patient's own turbaned head, and involved the little, ring, and middle fingers, the inner half of the hand and wrist, while eight months before his admission there appeared another soft and fluctuating swelling on the lower fourth of the forearm. The man was extremely emaciated and slightly cachectic, but the axillary gland did not appear to be affected. Dr. Ivanoff amputated through the middle of the arm. The wound healed by the fifth day, and on the sixteenth the patient left in an improved state of health. The new growths consisted of a fibrous stroma with fairly wide areolæ, containing an albumen-like matter, in which were suspended nucleated cells of various sizes and shapes, some being large and irregularly polyhidric, others small and spherical. The tumour invaded the subcutaneous cellular tissue, the aponeuroses, and the intermuscular tissue. Dr. Ivanoff supposes that it had started in the first instance from the serous membrane of the tendinous sheaths of the fingers and forearm.

THE WHITECHAPEL MURDER.

The Coroner, Mr. Wynne E. Baxter, in summing up the evidence given at the inquest held on Annie Chapman, who was murdered in Hanbury Street, Spitalfields, on September 8th, gave a remarkably lucid and able sketch of the probable circumstances of the murder, and adopted a theory as to the motive of the murderer which, if established by further evidence, would place the crime in a category of which happily there has been no example since the days of Burke and Hare, in Edinburgh, and of the men Bishop and Williams, exposed by Mr. Partridge, Surgeon to King's College Hospital, over fifty years ago. Dr. Phillips, who made the *post-mortem* examination, found, as we stated last week, that certain parts of the body were missing; these were a central portion of the abdominal wall, including the navel; the posterior and upper portions of the bladder, the whole of the uterus and the upper third of the vagina. From this fact it was deduced as probable that the murderer possessed some rough acquaintance with human anatomy, and that his object was to obtain the uterus entire; the coroner related a circumstance which appeared to him to supply a motive. Some months ago, it was stated, an American applied to the sub-curator of the Pathological Museum of one of the medical schools for assistance in obtaining a number of specimens of the uterus. He explained his request by saying that he desired to issue an actual specimen with each copy of a book which he was about to publish, and ended by offering to pay as much as £20 a-piece for each specimen. This story, however, presents several inherent improbabilities, which will occur to every medical reader, and we cannot accept it as explaining much that still remains mysterious in this crime.

ROYAL ALBERT ASYLUM, LANCASTER.

The quinquennial festival of the Royal Albert Asylum was held last week, and on that occasion the new recreation hall was opened by Lord Herschell. The object of the institution is to receive imbeciles and children of feeble brain-power from the seven northern counties. The success of the work has been mainly due to the able management of Dr. Shuttleworth, who has acted as medical superintendent since the opening in 1870. Children are admitted, usually for a period of seven years, for the benefits of skilled management and training. There is accommodation for 600 children, and at present 553 are under treatment. The new recreation hall is a noble building, 79 feet by 52, with good window-lights, a gallery and platform, and a new organ. The hall is capable of accommodating 800 people. Lord Herschell, in his speech, remarked on the care necessary in training children when one sense was absent, and enlarged on the greater difficulties when the whole brain organisation is defective. The aim in view is not to keep the children secluded and out of harm's way but to encourage brain growth and development by training and medical care, and render the inmates, as far as may be, fitted for some position of social life on quitting the establishment. As to the results, much credit is due not only to the general arrangements of the asylum, but also to the earnest and scientific methods introduced and well worked out by Dr. Shuttleworth. During

the seventeen years of work, practical results have been achieved; 1,151 patients have been received; some have died; 553 remain under treatment; and 424 have been discharged; of these, 4 were absolutely cured, no traces of imbecility remaining. Of the 424 discharged, 110 had greatly improved in their condition, 120 moderately improved, and 125 slightly improved, while in 65 no improvement was visible, giving a net result of 7 per cent. cured and 84 per cent. improved. The career of 176 former inmates had been watched and traced, and of these about 10 per cent. are now earning wages; 15 are able to earn money at home; 77 are at home, most of these able to be of some use; and 51 are in workhouses or in asylums. The great object of the institution is always to find out the particular faculty which may be best developed and turned to account in the training of each child. In the methods of training employed, recreation is a part of the system of education and discipline considered of primary importance. Such results are of great interest and of public importance not only as concerning the unfortunate individuals, but like the work of all well-conducted and scientific medical institutions, evolving methods which can be used elsewhere, training skilled teachers, and solving the practical problems as to the possibility of improving inherited defects of brain and backward development.

SCOTLAND.

GLASGOW AND WEST OF SCOTLAND TECHNICAL COLLEGE.

THE University of Edinburgh has recognised the Glasgow and West of Scotland Technical College as an institution at which two of the necessary three years of study may be passed, under the regulations for graduation in science, on the understanding that evening classes shall not qualify, and that certificates of attendance must state the number of meetings of the class in the courses attended in each case, which must not be less than those of the corresponding class in the University. The third year of study must be passed at the University of Edinburgh. The Senate of the University of Glasgow have intimated that they are in favour of recognising the teaching of the Technical College as qualifying in part for graduation in science, but have decided to wait for the passing of the Universities' Bill before formulating the necessary conditions and regulations.

IRELAND.

MEDICAL APPOINTMENTS AT TULLAMORE.

MR. J. M. PRIOR KENNEDY, late Assistant-Surgeon to the House of Industry Hospital, Dublin, has been appointed Surgeon to Tullamore Prison in the place of the late Dr. James Ridley; and Mr. George A. Moorhead, J.P., whose name was brought prominently before the public by his reports on the health of Mr. William O'Brien, M.P., and others when confined in Tullamore Gaol under the professional care of Dr. Ridley, and by his evidence in the inquests held on that unfortunate gentleman and on the late Mr. Mandeville, has been elected medical officer for the Tullamore Dispensary District in succession to the late Dr. Ridley. There was no other candidate for the appointment. The surgeoncy to the King's Co. Infirmary, which was also held by Dr. James Ridley, has been conferred on his cousin, Mr. George Ridley.

THE MEATH HOSPITAL AND COUNTY DUBLIN INFIRMARY.

HIS Excellency the Lord-Lieutenant, K.G., opened a new wing to this hospital on Tuesday last. This addition, which is to be known as the "John Barber Wing," from being built out of funds left for the purpose by a gentleman of that name, comprises on the first and second floors two wards, each 70 feet long by 30 feet broad, well ventilated and lighted, each containing sixteen beds. The two lower landings contain the board-room of the hospital and a medical board-room; they also contain apartments for the resident officials. There is ample bath and lavatory accommodation on each floor. In addition to the access obtained through the main building, a separate staircase and entrance have been provided, and the connecting corridor is so arranged that, if necessary, the entire wing can be isolated from the main building. The new wards are named the "John Bury Wards," after Mr. J. Bury, who bequeathed his property, under certain conditions, to the establishment of an hospital or to the endowment of wards in an existing hospital. The surviving executor of Mr. Bury's will handed over the property at his disposal to the Meath Hospital, but it appears that the amount available is only sufficient to endow ten of the beds in the new wing.

DIETARIES IN IRISH PRISONS.

THE dietaries for prisons, which were framed by the Dietary Committee appointed by the Lord-Lieutenant in 1880, were considered by the late Royal Commission on Prisons to require improvement as regards prisoners on Class 1 and Class 2 diets, which was accordingly made in 1885. Changes in the dietary of several prisons have been provisionally approved by Government, but pending their final adoption, and incorporation with the existing rules, the Board of Irish Prisons deem it advisable to recommend that the occasion should be availed of to reconstitute the Dietary Committee of 1880, consisting of Drs. McDonnell, Grimshaw, and MacCabe, with the addition of Dr. Plunkett O'Farrell, medical member of the Board, with a view to their revising the entire of the existing dietary tables, and proposing such changes in them as the increased experience of their practical working, obtained since they were originally framed, may seem to them to render desirable.

THE REPORT OF THE ANTHROPOMETRIC LABORATORY AT THE MANCHESTER MEETING OF THE BRITISH ASSOCIATION, 1887.

THE report on the Anthropometric Laboratory, instituted in connection with the Anthropological Section of the British Association at its meeting last year at Manchester, was communicated to that Section at the Bath meeting this year by the secretaries of the Section, Mr. G. W. Bloxam (Recorder) and Dr. J. G. Garson, under whose direction the laboratory was mainly conducted. The observations on the various senses was reported upon by Mr. Bloxam; while those on the physical characters were dealt with by Dr. Garson. The number of Members and Associates who were examined was 201; of these 102 were males and 99 females. The instruments with which the observations were made were kindly lent by the Scientific Instrument Company at Cambridge. The object in establishing the laboratory at these annual meetings of the Association is to obtain observations on the educated classes, which may be compared with those made on all classes of the community, but chiefly on the working classes, at the Health Exhibition and in the anthropological laboratory now established in the Science and Art Department of the South Kensington Museum.

MR. BLOXAM reported that the test for keenness of vision employed was the distance at which diamond type could be read by each eye.

The power of sight varied very considerably, but averaged in the men 19.6 inches with the right eye and 18.2 with the left; while in the women it was 19.2 with the right and 18.7 inches with the left. The age of the men examined averaged 41.7 years, whereas that of the women was between 23 and 25 years. In no case could any man read the test type at a greater distance than 34 inches with the right eye, but with the left, curiously enough, one man could read it beyond that distance. The powers of vision were equal with both eyes in 26 instances in the men, and 31 cases in the women; in 35 cases amongst the men and in 28 cases amongst the women the right eye could see farther than the left, and in 24 cases in the men and 28 cases in the women the right eye was inferior to the left. Only one case of absolute colour blindness was found among the 201 persons examined; that was the case of a Jew. One lady was partially defective in recognising colour. In the general population of Great Britain 4.16 per cent. are colour blind, but among the professional classes the percentage is only 2¼. Among the Jews colour blindness is rather more frequently met with, averaging 4.9 per cent. The perception of colour, therefore, among the members of the British Association is considerably above the average. Accuracy of judgment in dividing a line into halves and thirds and of estimating squareness was tested by requiring each person examined to mark off as near as possible the centre of a rule ten inches long, on the under side of which was a scale for the purpose of estimating the amount of error. A third of the whole length had then to be marked off by the examinee, and the degree of error again noted. The estimate of squareness was tested by requiring a diameter line to be placed at right angles to a radius line on a circular disc. In these tests the members of the Association were conspicuous by their accuracy.

Dr. GARSON reported that the physical characters which were specially examined were the strength of squeeze, span of arms, stature, weight, breathing capacity, and length and breadth of the head. The squeeze was tested with a dynomometer graduated in kilogrammes. The power of squeeze was most frequently greater with the right hand, the difference between the squeeze of the two hands being in some instances 10 kilos. and in one case as much as 23 kilos. For the purpose of analysis he had drawn out a table of the mean squeeze with both hands, which varied from 10 kilos. up to 60 kilos. in the two sexes. Dividing this range of squeeze into modules of 5 kilos., he found that among the males the squeeze in 4 per cent. was between 20 and 25 kilos., in 10 per cent. it was between 25 and 30 kilos., in 12 per cent. between 30 and 35 kilos., in 28 per cent. between 35 and 40 kilos., in 27 per cent. between 40 and 45 kilos., in 14 per cent. between 45 and 50 kilos., in 5 per cent. between 50 and 55 kilos., and in 1 per cent. between 55 and 60 kilos. The average squeeze of the men was 39.6 kilos. In the females 5 per cent. had a squeeze of between 10 and 15 kilos., 16 per cent. between 15 and 20 kilos., 33 per cent. between 20 and 25 kilos., 28 per cent. between 25 and 30 kilos., 12 per cent. between 30 and 35 kilos., and 3 per cent. between 35 and 40 kilos. The mean power of squeeze in the females was 24 kilos. The weight of the males varied from 7 stones up to 16, the mean being 11 stones. That of the females varied from 6 stones to 13, the mean being slightly under 9 stones. The stature varied in the males from 61 inches up to 80.8 inches, the mean being 68 inches; in the females it varied from 57 inches up to 69 inches, the mean being 64 inches, thus showing a difference between the male and female statures of 4 inches; 12 per cent. of the males were 6 feet and upwards, while 17 per cent. were 5 feet 4 inches and under; of the females, 11 per cent. were 5 feet 6 inches and upwards, while 14 per cent. were only 5 feet and under. In measuring the stature the height of the person in boots was taken, but the thickness of the heel of the boot was also measured and afterwards deducted from the total indicated stature. The figures above refer to the statures with the thickness of the heel of the boot deducted. The sitting height was also measured, and by deducting this from the stature above given, the fraction contributed by the length of the limbs is shown. Taking the total stature of the body as 100, by multiplying the portion contributed to the stature by the limbs by 100, and dividing the product by the actual stature, a limb index is formed which indicates the exact proportion the length of the limbs bears to the stature. A current idea is that short people have short limbs in proportion to the length of their bodies, and that tall people have long limbs in proportion to the length of their bodies; in other words, that variations in stature are chiefly due to variations in the length of the limbs and not of the trunk. In order to ascertain whether or not this statement is borne out by the results of the laboratory observations, Dr. Garson analysed the limb index in all males (18 in number) of 71 inches (5 feet 11 inches) and upwards, likewise all those males whose stature was 64 inches (5 feet 4 in.) and downwards, of whom there were 17. In both the tall and the short persons the index averages exactly the same—namely, 47.4. This is a question of considerable importance in estimating the height of the skeleton from the bones of the leg and thigh, as Dr. Beddoe's observations have led him to the opinion that the common idea is correct, and he had made out corrections for determining the stature of tall and short persons respectively from their limb bones.

Passing on to the consideration of the form of the skull, as indicated by the cephalic index, which expresses the relation of the breadth to the length of the skull, it was stated that this index varied from 72 to 94 in the males, while in the females it was much more uniform, varying only from 72 to 85. Of the males, 53 per cent. are mesaticephalic, that is, with the cephalic index between 75 and 79.9; 10 per cent. are dolichocephalic (70-74.9); 31 per cent. are brachycephalic (80-84.9); 3 per cent. hyperbrachycephalic (85-89.9); and 3 per cent. are ultra-brachycephalic (90-94.9). Of the females, 48 per cent. are mesaticephalic; 3 per cent. dolichocephalic; 47 per cent. brachycephalic; and 1 per cent. hyperbrachycephalic. The mean cephalic index of the men is 78, while that of the women is 80. These numbers, it was pointed out, bear out the statement derived from observations on the skull, that the females of any race are somewhat more brachycephalic or round-headed than the males.

The last point, and not the least interesting, discussed by Dr. Garson was the breathing capacity. The observations were made with Hutchinson's spirometer graduated in cubic centimètres. In males between the ages of 20 and 30 years the vital capacity of the lungs averaged 4,360 c.c., or about 63 c.c. per inch of stature; between the ages of 30 and 40 it averaged 3,780, or 55 c.c. per inch of stature; between 40 and 50 it is 3,560 c.c., or 53 c.c. per inch of stature; between 50 and 60 it is 3,310 c.c., or 49 c.c. per inch of stature. In females between the ages of 20 and 30 the capacity averages 2,530 c.c., which gives 40 c.c. for each inch of stature; between 30 and 40 years the capacity is 2,220 c.c., or 35 c.c. per inch of stature; between 40 and 50 years it is 2,200 c.c., or 36 c.c. to each inch of stature; between 50 and 60 years the capacity measures 2,340 c.c. or 37 c.c. per inch of stature. The difference in the lung capacity of the two sexes between the ages of 20 and 30 is very marked, being no less than 1,830 c.c., or 23 c.c. per inch of stature less in the women than in the men. As age advances the difference between the two sexes becomes less; thus in the next decade (between 30-40) it is 1,560 c.c., or 20 c.c per inch of stature; in the fourth decade (between 40 and 50) it is 1,360, or 16 c.c. per inch; while in the fifth decade (between 50 and 60) it is only 971 c.c., or 12 c.c. per inch of stature. The rate at which the lung capacity declines in the males during the third decade is 577 c.c. or 8 c.c. per inch of stature; during the fourth decade there is only a falling off of 221 c.c., or 2 c.c. per inch of stature; during the fifth decade there is a further falling off of 248 c.c., or 4 c.c. per inch of stature. Thus the decline in the lung capacity of the males is fairly regular as age advances, with the exception of the first drop, which is greater than the others. In the females the lung capacity also diminishes considerably between the second and third decade of life, though not so great as in the males, being 310 c.c., or 5 c.c. per inch of the woman's stature. During the next, or fourth decade, the drop is much less, being only 20 c.c., but when the height is taken into consideration the breathing capacity has increased 2 c.c. per inch of stature; during the fifth decade there is again a further increase of 1 c.c. per inch of stature over that of the fourth decade of life. The lung capacity is thus lowest between the ages of 30 and 40 years in proportion to the stature. As bearing upon the cause of the inferiority and dissimilarity in the breathing capacity of women compared to men, Dr. Garson stated that when measuring the breathing capacity in the laboratory, he could not but observe that the power of inspiration was much more limited by the dress of women than of men, and that while in the latter the whole chest expanded in forced inspiration, in women the expansive movement of its lower portion was much diminished by the resistance of their corsets. The anatomical conformation of the chest shows that the greatest lung capacity is situated at the lower half of the thoracic cavity. The pressure of the stiff and inelastic corsets ordinarily worn by ladies ap-

proximates the conjoint costal cartilages of the false ribs on either side, so that the costal angle is made much more acute than it normally should be; the lower ribs are straightened, and their elevation and lateral expansion during forced respiration is greatly reduced; the liver is pressed upwards and fixed by the ribs, the stomach and spleen are pushed upwards, the abdominal walls are pressed backwards in front, and so force the intestines downwards towards the pelvis; compression of the abdominal veins also occurs. As a result of these changes in the position of the abdominal viscera the diaphragm is prevented from descending as it should do during inspiration; this, combined with the non-expansion of the ribs, reduces the space which should be available for air, and so causes the diminished breathing capacity in the females as compared with the men. Confirmatory of this, the effect of compression of the chest walls in reducing the breathing capacity is well known to surgeons in connection with the application of the plaster-of-Paris jacket, when, unless care is taken to have a quantity of elastic material under the jacket, it may cause death by interfering with respiration. But direct evidence of the baneful effect of stays in reducing the breathing capacity is obtainable from the table showing the difference between the breathing capacity of men and women at different ages. While that of men steadily decreases in actual amount, as well as relatively to the stature, as age advances, that of women, from the age of 30 years and upwards, remains for the next two decades practically stationary, and then rises somewhat in actual amount relatively to the stature; it increases, however, steadily as age advances from the third decade of life, when the breathing capacity per inch of stature is lowest. The habits of social life of the better classes seem to have a close connection with these variations. About the age of 30 women frequently become stouter, and it is well known that ladies who wish to preserve what they term "good figures" must now be particularly careful of themselves. The constriction of the waist begun ten years or more previously is now rigidly practiced—proportionately, perhaps, even to a greater extent than previously. But from about the fortieth year onwards less importance is attached to slimness of waist, consequently the stays are worn looser, the body gradually recovers, to a certain extent, from the constriction of the waist, and the breathing capacity correspondingly increases.

An animated discussion followed this report, the chief points discussed being the stature, the form of the head, and the effects of the use of stays.

SIR JAMES PAGET ON PROVINCIAL HOSPITALS AS EDUCATIONAL CENTRES.

THE new hospital at Yarmouth, of which H.R.H. the Prince of Wales laid the foundation stone about eighteen months ago, was opened on Thursday, September 20th, by Sir James Paget, Bart., who was accompanied by the President, the governors, the committee of the hospital, the Mayor and members of the town council. The ceremony was preceded by a short special dedicatory service at the parish church, where a sermon was preached by the Dean of Norwich.

At a public luncheon in the Town Hall, Sir JAMES PAGET, in proposing "Prosperity to the New Hospital," said that he began his career in surgery as a medical student at Yarmouth fifty-eight years ago; none of those who began with him were now living. He said this was an excellent year in which to commence with the new hospital, for it was the jubilee of the foundation of the the hospital, which was begun in 1838. It was a happy coincidence that a brother of Lady Paget was its first secretary. Thus both of them might claim to have an interest in the hospital. Having spoken of these institutions as places of charity to the poor, and the advantages they afforded of giving the best air, the best cleanliness, the purest atmosphere, the best medical attendance, and the best forms of nursing, he observed that hospitals were the best places in the world for medical teaching. The physician and surgeon of a hospital had to do the whole of his work in public. It was watched, understood, and criticised by those who were able to judge when he was right or wrong. His own experience as a student was that there was no beginning of a medical education better than that to be obtained in a small locality under a person who had a small practice, which he very closely watched so that he could teach minutely. Having spoken of the advantages of hospitals for education in nursing, Sir James Paget gave some recollections of his earlier experience of Yarmouth so far as related to his medical teaching. Yarmouth, he said, was, fifty-eight years ago, one of the best places in the kingdom for beginning the study of medicine. It was within range of the great Norfolk School of Botany (almost forgotten). In Norfolk began the best study of botany when Sir James Smith purchased the collection of the great Linnæus, and founded the Linnean Society. Mr. Palgrave (a very competent teacher) began to teach him botany before he took up the study of medicine. If he were asked what study was at that time best suited for one who followed medicine as a science, he should name botany, because it required search for the minutest differences, and a careful record of facts. To his pursuit of the science of botany he largely attributed the acquirement of the habit which made him a very careful student through his whole life. He said there was another boast of the county, the great school of surgery at Norwich. Martineau, in his (Sir James's) young time, had not long been dead. Crosse and Dalrymple remained as the very best provincial surgeons in the kingdom, and their reputation was maintained by Mr. Cadge. They stood out prominent among the surgeons of the kingdom, and were imitated as far as possible in Yarmouth by his old master, Mr. Costerton, an admirable anatomist, to whom he was apprenticed, and who taught him everything he could.

The building stands on the site of the old institution, on the highest ground in the town, and is constructed on the pavilion principle, with white brick, with dressings and ornamental features of dark buff terra-cotta. It affords accommodation for forty-four patients, and has been erected at a cost of over £10,000. It consists of a central block, and north and south wings containing the large wards, these latter being connected with the central block by corridors, having cross ventilation. The central block is chiefly devoted to the administrative department. Between the central block and wings are covered verandahs, open to the west, where the patients can sit in the sunshine protected from all cold winds. In this portion of the building is also a single ward on the north side, and the dispensary on the south side.

The north wing contains two large wards, one on the ground floor and one on the first floor. The south wing consists of the out-door department on the ground floor, and a large ward on the first floor. The out-door department has a porch opening into a large waiting-room, with seats and two surgeons' rooms. The dispensary adjoins the waiting-room on the north side, with wicket doors opening into the same and into the corridor, so arranged that patients, after receiving their medicine, pass out through an entrance door without having to re-enter the waiting-room. Separate offices are provided for the out-door department. A one-storey building to the south of the hospital contains a mortuary and separation ward, etc., with the necessary offices, these being well isolated.

PROFESSOR LEWANDOWSKI'S NEW ELECTRIC "INFLUENCE" MACHINE FOR MEDICAL PURPOSES.

(Being the substance of a Lecture, with Demonstration, given at a recent meeting of the Imperial Royal Society of Physicians of Vienna.)

THE lecturer, after alluding to the defects of all the machines which have hitherto been available for the therapeutic utilisation of franklinisation, showed a new machine which had been invented by the mechanician, Hermann Gläser, of Vienna, which for medical purposes was the best yet devised.

Fig. 1 represents the machine; Fig. 2 the whole apparatus for franklinisation; and Fig. 3 the internal arrangement of the essential parts of the machine.

The two vertical iron supports, a a_1 and b b_1 (Fig. 1), are screwed to the four-legged wooden frame Ra Ra_1, their tops being joined together by the vulcanite rod a b. These two uprights support the axles e f, W_1 and W_2, which are parallel to each other. The axle e f is fixed, and made of steel. Upon the chief axle e f, there are two vulcanite collars, one of which is joined to the pulley r, and the other to the pulley r_1 (Figs. 1 and 3). In the middle of these two collars there are, on the chief axle, two hard-gum cylinders T (Fig. 1), one within the other: T T_1 (Fig. 3). The pulley r is connected with the internal cylinder T_1, whereas the

pulley r_1 is connected to the external cylinder T, so that the internal cylinder T_1 and the external one T can be rotated quite independently (Fig. 3).

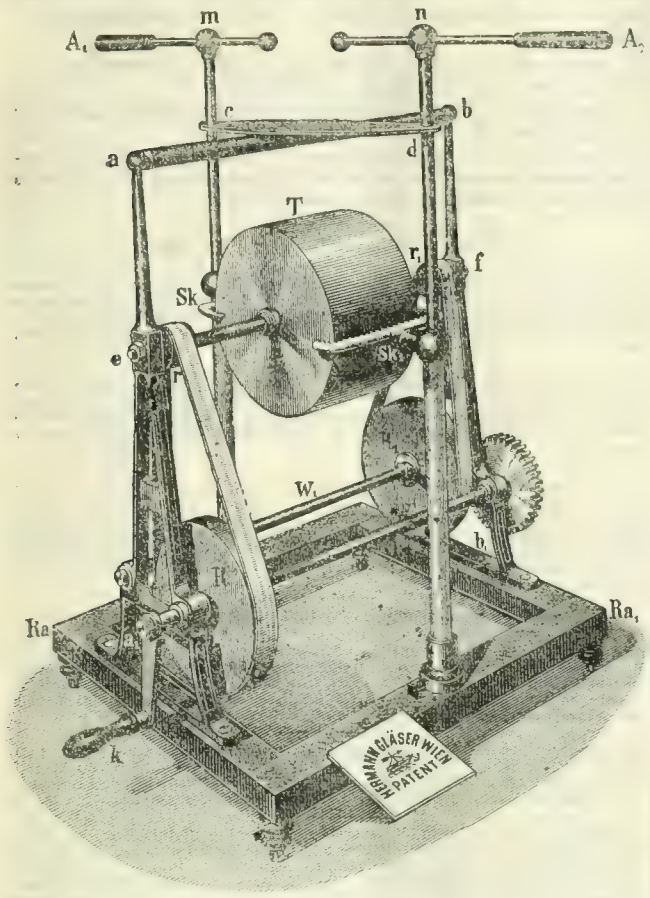


Fig. 1.

The two lower axles W_1 W_2 (Fig. 1) each carry a large pulley R R_1, and a toothed wheel. The large pulleys, R R_1 are respectively united by means of straps to the superior pulleys r r_1 (Fig. 1 and Fig. 2). The axle W_2 moreover carries the handle k (Fig. 1). This whole arrangement allows the two cylinders to be turned in the reverse direction when the handle is rotated only in one direction. The wooden frame carries besides two uprights, the lower parts of which are made of glass and the upper of metal; they terminate in the metallic knobs m n (Fig. 1 and Fig. 2). In the middle of these supports are two metallic knobs Sk Sk_1 (Fig. 1), each carrying a collecting comb in close proximity to the external cylinder. The fixed steel axle e f carries a vertical metal rod inside the cylinder. In the knobs m n (Fig. 1) the conductors A_1 A_2 can be moved to and fro in the horizontal direction. If the knobs of the conductors are brought near each other so as to come into contact when the handle is turned in any direction, it suffices to touch the surface of the external cylinder with a strip of hard caoutchouc which has been rubbed with cloth (for instance, with the coat) for exciting or charging the machine. This manifests itself by a whizzing sound. The strip of hard caoutchouc must be approached just in the middle of the two collecting combs Sk Sk_1 (Fig. 1).

When the rotation is again interrupted, the charge of the cylinders with electricity lasts for several hours as the result of a single rotation. The advantage of this over all other machines of the kind consists in the very convenient and durable form of the electro-motors, that is, the cylindrical form; furthermore, in the choice of the material (hard gum), which is more durable than glass, as well as in the hermetical closure of the hard gum cylinders. Owing to the latter quality, the machine could be kept in any place, in dry as well as in moist air, and used at any time, without being damaged, as neither air nor dust could change the internal surface of the external cylinder and the two surfaces of the internal cylinder. The machine is moreover very portable, and not dear (75 florins, about £6). Other advantages are the long duration of the electricity once produced, even after the rotation of the handle has ceased; the possibility of rotating the latter in an inverse direction without discharging the machine; and the easy change of the poles.

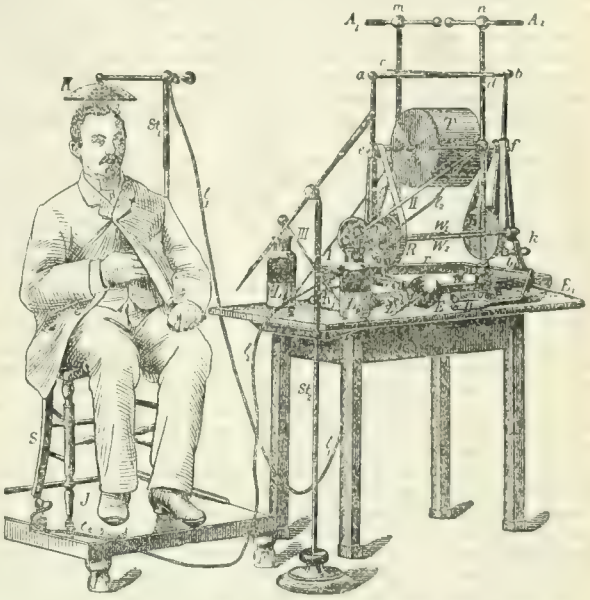


Fig. 2.

In Fig. 2 the rest of the apparatus necessary for franklinisation as devised by Professor Lewandowski is illustrated. It must first be remarked that when the machine is charged without the insertion of Leyden jars (L_1, L_2, Fig. 2), and the discharging rods are removed from each other, a few sparks appear between the knobs of the conductors. If, however, the Leyden jars are inserted, quite powerful white sparks appear between the discharging rods. The rest of the apparatus is composed of two stands (St_1, St_2, Fig. 2) for different electrodes, as, for instance,

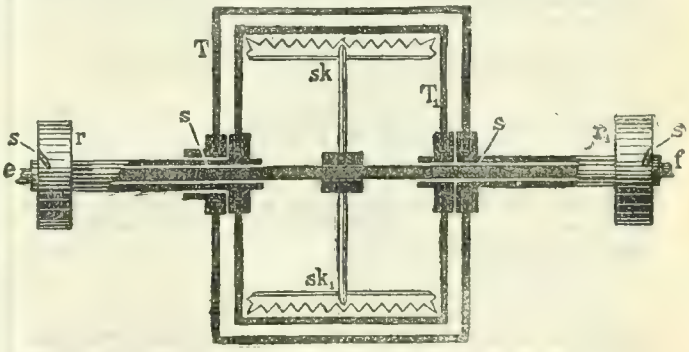


Fig. 3.

for the cap K (Fig. 2) for the electric head douche, which is fixed to a stand (St_2, Fig. 2), and is movable in all directions. The cap K is provided with spikes; the cap K_1 on the table (Fig. 2) is smooth. The apparatus also comprises the four-legged insulating stool J (Fig. 2), the legs being made of porcelain, for the chair S, where the patient is placed. The insulated cords l_1, l_2 (Fig. 2) unite the collecting combs of the machine with the insulated stool J and the electrodes. E_1 E_2 are hand electrodes, O an ear electrode, D a discharging rod for the discharge of the bottles (Fig. 2).

As to the methods of franklinisation, they comprise *a*, the electrical charge; *b*, the electrical wind; *c*, the discharge of

sparks. These three methods in the order here enumerated also represent the three degrees of intensity of franklinisation, the charge representing the mildest and the sparks the most intense method. The charge is thus given:—The patient is placed on the insulated stool (*J*, Fig. 2), and unites the bottles to the positive or negative pole of the machine, whereas the second pole is conducted downwards into the earth.

The electrical wind, which is also called the electrical air-bath, and also, though wrongly, general franklinisation, is produced in the following way:—The patient is placed on the stool, which is, as before, united to one of the poles of the machine; the second pole, however, is not conducted into the earth, but is brought into contact with an electrode terminating in a point, which can be approximated to the corresponding part of the patient by means of the hand, or by means of the stand *St*. (Fig. 2).

In general, the two last mentioned methods, in Professor Lewandowski's experience, had the same effect as induction currents; the only advantage they presented being that the patient might be electrified through his clothes, that he need not undress, a point of considerable importance in female patients. On the other hand, the three methods had also peculiar effects which could neither be obtained by the galvanic currents nor by the induction currents.

Dr. Lewandowski referred to his recently published work *Electro Diagnostik und Elektrotherapie*, and said that he had obtained very favourable results with franklinisation; the head-douche proved to be an excellent remedy for sleeplessness, as well as a general sedative. He could also confirm the statement which had been made that "influence" electricity had a good effect in hystero-epilepsy, but as to epilepsy, in spite of numerous experiments, he had not yet been able to arrive at certain conclusions. In another direction, he had, on one occasion, obtained a very remarkable success with franklinisation which could not be obtained with any other method of the application of electricity. In a case of Basedow's disease in a woman, he had succeeded by galvanisation of the neck, as well as of the spine, in diminishing, to a great extent after a few sittings, the exophthalmic goitre as well as the other symptoms, particularly the headache, weakness, and sleeplessness. He had not, however, succeeded either by galvanisation or faradisation in diminishing the frequency of the pulsations, or in regulating the heart's action. He then tried the effect of an electric discharge towards the cardiac region, and after a few sittings the frequency of the pulse became less, and the action of the heart more regular. Discontinuance of the treatment was soon followed by deterioration of the patient's condition in both respects. When the treatment was again applied and continued for a certain time, the patient completely recovered, and was dismissed as cured.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held at the Offices of the Association, No. 429, Strand (corner of Agar Street), London, on Wednesday, the 17th day of October next, at 2 o'clock in the afternoon. FRANCIS FOWKE, *General Secretary.*

September 20th, 1888.

NOTICE OF QUARTERLY MEETING FOR 1888. ELECTION OF MEMBERS.

A MEETING of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, September 26th, and December 28th, 1888.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH.—The autumn meeting will be held at the Infirmary, Whitehaven, on Friday, October 20th, at 1 P.M. Notices of papers or communications of any kind should be sent to the Honorary Secretary. Dinner at the Grand Hotel after the meeting.—H. A. LEDIARD, 41, Lowther Street, Carlisle.

LANCASHIRE AND CHESHIRE BRANCH.—An intermediate meeting of the Branch will be held at Warrington, towards the end of October. Gentlemen wishing to read papers, make communications, or show cases, are requested to write at once to Dr. GLASCOTT, 23, St. John Street, Manchester, Honorary Secretary.

SOUTHERN BRANCH: SOUTH-EAST HANTS DISTRICT.—An ordinary meeting will be held on Thursday, October 11th, at the Grosvenor Hotel, Queen's Gate, Southsea, H. B. Norman, Esq., F.R.C.S., President, in the chair. Gentlemen desirous of introducing patients, exhibiting pathological specimens, or making communications are requested to signify their intention at once to the Honorary Secretary. Dinner will be provided at 6.30 P.M.—J. WARD COUSINS, Honorary Secretary.

WEST SOMERSET BRANCH.—The autumnal meeting of this Branch will be held at the Railway Hotel, Taunton, on Thursday, October 18th, at 5 P.M.; dinner at 5.30 P.M. The subject for discussion after dinner will be: "What Connection, if any, exists between Hæmorrhage and Mal-hygiene?" The discussion will be opened by Dr. Meredith, who will read a paper on the subject. Members having any communication to bring before the meeting are requested to send notice of its title to W. M. KELLY, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The fifteenth annual general meeting of this Branch will be held at the North-Western Railway Hotel, Stafford, on Thursday, October 25th, at 3.30 P.M. An address will be delivered by the President, Dr. F. Boldero, Penkridge.—T. VINCENT JACKSON, Wolverhampton.

SOUTH MIDLAND BRANCH.—The autumnal meeting of this Branch will be held at Oundle on Tuesday, October 2nd. Gentlemen who are desirous of bringing forward communications, etc., are requested to inform the Secretary of their intention as soon as possible. Mr. Calcott will introduce a discussion on the Treatment of Pleuritic Effusions. Mr. Hemming will read some notes from the late meeting at Glasgow. Mr. Crew will read a short paper on Diphtheria. Mr. Calcott invites the members to luncheon from 1.30 to 2.30, and gentlemen accepting the invitation will kindly send their replies to the Secretary not later than Thursday, September 27th. The meeting will be held in the School Buildings, at 3 o'clock. Through the kind permission of the head master the members will have the opportunity of visiting the new school buildings, sanatorium, etc.—CHARLES J. EVANS, Honorary Secretary.

SOUTH-EASTERN BRANCH: EAST SURREY DISTRICT.—The next meeting will be held at the White Hart Hotel, Reigate, on Thursday, October 11th, at 4 P.M., C. Holman, M.D., Treasurer of the British Medical Association, in the chair. Dinner at 6 P.M.; charge, 7s., exclusive of wine. The following papers will be read: "On Functional Albuminuria," by Dr. Ralfe. Mr. Edmund Owen will open a discussion on the Diagnosis and Treatment of Diphtheria. Dr. H. W. Drew will describe a case where there was escape of cerebro-spinal fluid after avulsion of the lower limb (from an accident, with recovery). Members desirous of communicating papers or showing specimens are requested to write to the Honorary Secretary, P. T. DUNCAN, M.D., Croydon.

OXFORD AND DISTRICT BRANCH.—The next meeting of this Branch will be held on Friday, October 26th, in the Radcliffe Infirmary, at 3 P.M. Members intending to read papers or show cases are requested to communicate with the Honorary Secretary, W. Lewis Morgan, 42, Broad Street, Oxford, on or before October 12th.—S. D. DARBISHIRE and W. LEWIS MORGAN, Honorary Secretaries.

NORTH OF ENGLAND BRANCH.

THE autumnal meeting was held on September 20th at Middlesbrough, in the Council Chamber of the new Municipal Buildings, kindly lent for the occasion by the Town Council. The Mayor welcomed the members, and was present at the meeting. In the absence of the President, Dr. PHILIPSON took the chair.

Dr. HEDLEY opened the business of the meeting by a very able and practical paper on the recent Epidemic of Pneumonia in the Middlesbrough district. This gave rise to an exceedingly interesting and animated discussion, in which Drs. MALCOLMSON, EASTWOOD, WALKER, KETCHEN, DRUMMOND, CLEGG, OLIVER, and

the CHAIRMAN took part.—Dr. HEDLEY replied. As an investigation into the whole subject is pending, and information is as yet incomplete, a wish was expressed that another discussion should take place next year.

Dr. DRUMMOND displayed a series of most beautiful and interesting Drawings of Pathological Specimens, illustrating Diseases of the Brain, Liver, Stomach, etc.; but, unfortunately, he was not able to bring them forward, as the discussion ran on beyond the time allowed for the meeting. The other exhibitions of specimens and papers had also to be postponed—namely, Mr. RUTHERFORD MORISON: (1) Gall Stones removed by operation; (2) Microscopic Specimens and Drawings of a Tumour of the Bladder successfully removed by suprapubic operation.—Dr. HUME: Sarcoma of Thigh.—Dr. ELLIS: Polypus of Nose.—Dr. OLIVER: On Adonidine in the Treatment of Heart Disease.—Dr. ELLIS: On the Treatment of Noises in the Head.—Dr. HINSHELWOOD: Notes on some interesting cases of Syphilis.—Dr. MANTLE: Urticaria, with severe Abdominal Symptoms.

After the meeting, the members and their friends dined together at the Erimus Club. The Mayor and other visitors were present.

SPECIAL CORRESPONDENCE.

VIENNA.

[FROM OUR OWN CORRESPONDENT.]

Iodoformum Bituminatum.—Transmission of Actinomycosis from Man to Man.

IODOFORM, though most valuable in the treatment of cutaneous ulcers, has hitherto been attended by certain drawbacks which have prevented its coming into general use. First among these is its disagreeable smell; next, the fact that it produces toxic symptoms in some persons after a longer or shorter time; thirdly, in ulcers with undermined edges, whilst the base under iodoform dressing becomes quickly covered with granulations, the undermined portion does not heal, but remains as a pocket for the retention of pus which gradually burrows further beneath the skin. Dr. Ehrmann, Assistant to Professor Neumann, of Vienna, after many experiments, was finally led to combine the iodoform with tar. He was led to this by the notion that the latter, being an oily substance, would diminish the volatility of the iodoform, which is evidently the chief cause of the diffuse erythema caused by that substance, and also because tar often brings gangrenous and septic ulcers into a healthy condition. After many experiments, Dr. Ehrmann finally succeeded in making a preparation in which the particles of tar and iodoform are so closely mixed that only hyaline plates can be discovered under the microscope; the characteristic crystals of the iodoform cannot be distinguished at all. The preparation can be very easily pulverised, and has a spicy odour. The odour is so feeble that it is only perceptible in large quantities of the preparation, and this slight scent, which is not at all disagreeable, can be disguised by adding a small quantity of "styrax liquidus" to the powder, and rubbing both substances together. The diseases in which Dr. Ehrmann has hitherto employed iodoform preparations are (1) soft ulcers; (2) as a dressing after the opening or excision of suppurating and strumous inguinal buboes; (3) gummatous ulcers; and (4) in ulcerations of the foot. The following is the method of application: the preparation is brushed over the part, which is then covered with a thin layer of Bruns's wadding, over which an ordinary dressing is applied. The dressing is changed every twenty-four or forty-eight hours. In soft ulcers situated over parts in which they are necessarily moistened by urine or where the suppuration is very profuse, the dressing is changed twice a day.

Dr. R. Baracz, of Lemberg, in a recent number of the *Przeglad Lekarski*, reports two cases of actinomycosis in man. In the first a small painful swelling over the left lower jaw developed after the extraction of a tooth. The tumour, which was of the size of a walnut, showed distinct fluctuation over some parts, and could be moved on the bone. Its margins were solid. The skin over the swelling was red, and hotter than natural. The patient could open his mouth only slightly and with pain. The unusual appearance of the tumour, its slow growth, and the fact that the patient was a cabdriver, caused actinomycosis to be suspected. The man, however, did not sleep in the stable, and he had not been in contact with any animals but his own, which were healthy; he used, however, to buy the hay for his horses himself. Dr. Baracz incised the tumour at two spots where there was distinct fluctuation, with the view of performing a radical operation if the microscopic examination of the contents of the abscess confirmed the diagnosis of actinomycosis. The cavity was washed out with a 5 per cent. solution of carbolic acid, and an iodoform dressing was applied. The microscopic examination proved that the suspicions were correct, but as the patient had a fainting fit during the opening of the abscess, he would not consent to any further operation. The wound healed in a couple of weeks, and no trace of the swelling remained; the patient felt quite well. In the second case the patient was a woman, aged 23, who was betrothed to the cabdriver whose case has just been described. She had an abscess of the size of a walnut on the alveolar process of the left lower jaw. The abscess was opened, and half a coffeespoonful of pus discharged from it; an antiseptic dressing was applied. Microscopic examination revealed the presence of actinomycosis. The wound healed in a short time, and only a solid prominence remained behind over the spot. A second small abscess formed later on on the alveolar process of the left upper jaw, which burst spontaneously and soon healed. Though the etiology was not quite free from uncertainty in the first case, there could be no doubt as to the transmission of the disease from the man to the woman.

CORRESPONDENCE.

LECTURES AT THE ROYAL COLLEGES AND PROFESSIONAL TEACHING.

SIR,—The work of professor in a special subject may be held to differ in many important points from that of a teacher whose duties are more of a tutorial nature, especially when they concern the imparting of elementary knowledge, and preparing students for examination. There are among the great body of scientists men whose special subjects of life interest and research do not readily find a place in the curriculum of any special school or examination, but who are able from long study of a subject to put forward ideas on the higher sides of their subjects to men of understanding and advanced training. If the work of such men lies outside the usual university course, their position is one of great difficulty, and one that may be deserving of more support and appreciation than they receive; by their efforts new subjects of useful study may be introduced. The value of such courses of professorial lectures is not to be estimated by the size of the audiences they attract, but by their originality, and their scientific and philosophical character. The outcome of some men's work is better put before those who can understand, and criticise, and use it in the form of lectures than in the shorter form of scientific papers communicated to the societies where what are called practical papers are mostly appreciated. As examples of the kind of work referred to may be suggested courses of lectures on bacteriology, the relations of animal and vegetable biology to human physiology, mental science, and the connection of Charles Darwin's work and theories with medicine.

Much good work has been done in all these subjects, and much more might be placed before the profession if further encouragement were given to men willing and capable of giving professional teaching. The royal colleges might do more in this way to encourage men to put forward their work and its application to medical practice. The College of Surgeons advertise vacancies among their Hunterian professorships, and elect from among the candidates; why should not the College of Physicians follow a similar course?—Yours, etc., F.R.C.P.

September 22nd.

DENTAL SCHOOLS AS DEPARTMENTS OF MEDICAL SCHOOLS.

SIR,—In an interesting article in the current number of the JOURNAL on "Dental Schools as Departments of Medical Schools," Mr. Newland Pedley has again alluded to a subject of great importance, and one which is evidently dear to his heart—namely, the desirability of fusing the dental with the medical schools, so that the entire teaching of a dental student should be conducted in a general hospital.

Now, Sir, at the present time the dental student attends at a general hospital for instruction in anatomy, physiology, medicine,

and surgery, but goes to a special one only for such extra instruction as is not considered necessary for the purely medical student, just as a surgeon, who proposes to practise ophthalmic surgery, attends the practice of an eye hospital in addition to that of his general one, although there is an ophthalmic department, as there is a dental department, attached to the medical school where he receives his general medical teaching. Yet, of the ophthalmic surgeon, one would hardly say "That he may be pardoned if in after-life he is uncertain whether he represents a development of surgery or a 'special' creation." Then why should it be reserved for the dental surgeon to feel this isolation and uncertainty?

By having a dental hospital and school separate from the general hospitals, a larger and more suitably fitted building is attainable than could possibly be afforded by setting apart a portion of each general hospital, where both space and light are usually at so high a premium, and ample space and light are absolutely necessary for due performance of many of the operations it falls to the lot of the dental surgeon to undertake. Such constant supervision of the work performed by the dental students is necessary, that a large number of teachers is required to obviate what would otherwise be an undue tax upon the time of each; thus, even for a very few students, a disproportionately large number of teachers will be needed if each general hospital is to have its dental school, a far greater economy being effected where a numerous body of students is gathered under one roof, as is usually the case in a special dental hospital. In each of the London medical schools there is a dental department, where are performed all the operations that a general medical student would have time profitably to study; and were the more intricate operations undertaken in the same building as that in which his whole period of studentship was passed, he would have but little leisure, and, I fear, but small inclination, to follow out their progress very closely.

That the general hospitals themselves would benefit by the proposed innovation I greatly doubt, for the outlay involved in the increased space afforded, and the cost of the materials employed in the operations, would more than run away with an augmented income derived from more numerous subscriptions, students' fees, etc.

In conclusion, I am sure that while all who are interested in the cause of dental education welcome any suggestions for the higher development of that special branch of surgery they have elected to follow, yet I cannot but think it wiser that the scheme should be well and fully tried on the limited scale that one general hospital would afford, than that so radical an alteration as its general adoption should be advocated for the hospitals at large.—I am, etc.,

STORER BENNETT, F.R.C.S.Eng., L.R.C.P.Lond., L.D.S.Eng.,
Dental Surgeon and Lecturer on Dental Surgery at the Middlesex Hospital; Dental Surgeon to the Dental Hospital of London.

London, September 25th.

SIR,—Having read with interest a paper on the above subject by Mr. Newland Pedley, in the JOURNAL of September 22nd, I venture to comment upon some of the points brought forward.

First, Mr. Pedley urges that a general hospital with a medical school should also have combined with it a dental school; but to this there appear to be many objections and obstacles. (1) I believe it impossible to obtain sufficient "material" at the dental department of a general hospital; from my own somewhat recent experience at Guy's there were certainly not enough patients to teach a body of dental students their practical work; the average number of patients then (five years ago) was about five. I understand that recently the numbers have increased; but the majority of the cases are of a very ordinary character. The "rare cases" are sent to a "special dental hospital." The average number of patients attending daily at the Dental and National Dental is about 100 at each hospital, interesting and instructive cases being sent from all parts of England to these hospitals; therefore I argue that a dental student's practical knowledge would be infinitely less if he gained it at a general hospital.

Secondly, it is natural to suppose that each of the general hospitals would attach a dental to the medical schools, and, as there are at least a dozen medical schools in London alone, how would it be possible for each of them to have an efficient staff, as each hospital would require at least six dental surgeons? whilst, on the other hand, the two London dental hospitals have large nd efficient staffs, who can teach thoroughly both practical and scientific dentistry. Surely it would be better to be taught at one of these schools than at a dental department of a general hospital, with little "material" and a small staff.

Thirdly, Mr. Newland Pedley also reminds us that beds are necessary in order to teach dental surgery properly. But true dental cases very rarely require to be treated indoors, and all dental students can see the fractured jaws, etc., "put up" at their general hospital, and can follow up the cases in the wards; but these are few and far between.

Fourthly, from my own experience, and also that of some of my friends, we found that attending the two hospitals together made an agreeable change, and was a help rather than otherwise; certainly it prevents time being wasted.

Fifthly, I cannot agree with Mr. Pedley when he says that a dental school attached to a general hospital would prove a boon to the medical students. Only a few men care to dabble with dentistry, and these, as heretofore, can all obtain information sufficient for them from the dental department and dental surgeons connected with their hospital.

Lastly, there can be no doubt that before long there must be some reform in dental education and examinations; but I most certainly believe that the course advocated by Mr. Newland Pedley would be a step in the wrong direction. The specialism of dentistry is and must always be different to the other special branches of the medical profession, and we must be content with a different training. A good practical dentist is of far greater service in treating diseases of the teeth than a very scientific dentist (namely, one who has neglected his practical work); therefore, let dental students see and treat as many practical cases as possible, and for the present, at any rate, he can only do this at one of our special dental hospitals.—I am, etc.,

JAMES RYMER, M.R.C.S., L.D.S.Eng.

Maidstone, September 24th.

HYOSCINE AND HYOSCYAMINE.

SIR,—In the interests of pharmacy, and lest a fatal case of poisoning should occur, I beg to protest against the effects of hyoscyamine being attributed to hyoscine, as has been done by two of your correspondents (pp. 421 and 667). As pointed out by others, Ladenburg has shown that pure atropine and pure hyoscyamine, as well as hyoscine, are isomeric alkaloids, but possess different chemical and physical characters. Pure hyoscine is a syrupy liquid alkaloid; and atropine and hyoscyamine, although solid, have different melting points. By the action of baryta water, both atropine and hyoscyamine split up into tropic acid and tropine. Hyoscine splits up into tropic acid and pseudo-tropine. Therapeutically, hyoscine possesses about five times the calmative power, and probably poisonous action, of atropine or hyoscyamine. Kobert states that the effects of commercial uncrystallised hyoscyamine, known as "chemical restraint" in some lunatic asylums, are principally due to the hyoscine it contains.—I am, etc.,

W. MARTINDALE.

10, New Cavendish Street, London, W., September 22nd.

THE ORDER OF ST. JOHN OF JERUSALEM AND THE MEDICAL PROFESSION.

SIR,—You have very fitly drawn attention to "the utter absence of any recognition of the services of the medical profession on July 18th, when H. R. H. The Prince of Wales was installed 'Grand Prior' of The Sovereign and Military Order of St. John of Jerusalem."

The explanation that has been given needs further explanation. What is the meaning of the fact that "only members of the Chapter had a right to attend?" But even so, why did not the "Knights of Justice" take advantage of the occasion to speak out the more plainly, and confess that the "Order" would have been "nowhere" in public estimation but for the Ambulance Department, and that the Ambulance Department would be non-existent but for the liberal and self-sacrificing labours of medical men? As "the highest honour which the Order has hitherto had the power to grant is that of Honorary Associate," would not the occasion have been most suitable for granting this distinction to a few more "representative physicians and surgeons;" and, may I not add, would it not have done itself honour by this act of courtesy?

But the question raised demands further consideration. I know something, by long experience, of the pleasures of honorary service. They are a reality. But I know also by experience that

from time to time it is well to ask, from those who accept the service, a very plain question; and one of the best times for asking it is when the service is received without even thanks. I belong to an Order almost extinct, and I naturally cling very tenaciously to my "privileges." One of these is, to accept—not to demand—"the usual fee." More frequently than I think is quite respectable I am asked, "What is your fee?" I reply, "A physician's fee is not a guinea," which pleases them to hear; but the pleasure is of short duration, when I give the definition in full. "A physician's fee is not a guinea, but a guinea or more, or nothing." I am quite prepared to contend, on suitable occasions, for the "nothing;" but when I am speaking to those who "carry coat armour," a necessary qualification for members of the Order of St. John, not of course for its servants, I expect "the guinea or more."

I have watched with considerable interest this ambulance extension of our gratuitous service. The present occasion seems to me a very suitable one for you as "a representative," both of physicians and surgeons, to ask the Sovereign and Military Order of St. John of Jerusalem to acknowledge the services of its ambulance lecturers both with cordial thanks on all possible occasions, and with such honourable titles as it may have in its power to bestow, and with a proper acknowledgment in money.—I am, etc.,

F.R.C.P.

P.S.—The remarks in the *Daily News*, August 4th, will show what the public are being taught to expect.

ISOLATION OF DIPHTHERIA IN THE METROPOLIS.

SIR,—The expediency of the Asylums Board undertaking the duty of admitting cases of diphtheria into its hospitals is generally accepted. In recent years some 900 to 1,000 fatal cases of diphtheria have annually occurred in the metropolis, and there is evidence that recently the disease has shown a tendency to increase in some districts. The disease is eminently contagious, and segregation is, therefore, a necessary precaution in the interests of the public health. This, however, cannot always be secured at the patient's house, and there are great risks attending the treatment of the disease in the general hospitals. In the absence of provisions by the vestries and sanitary authorities, the Metropolitan Asylums Board have come to be regarded as the hospital-providing authority for infectious cases in London, and they are the proper authority for securing the isolation of diphtheria cases. If, therefore, there is any doubt as to their present powers to this end, the necessary legislation should no longer be delayed.

But there are those who consider that the existing powers of the Asylums Board might be so liberally interpreted as to enable the Board to deal with diphtheria. That disease is as much a "fever," in a sense, as is scarlatina; but by the admission of the latter disease by the Board and the exclusion of the former an arbitrary distinction is drawn which it is not at all clear that the Legislature contemplated when they passed the Metropolitan Poor Act in 1867. On the contrary, it is worthy of note that Dr. Markham, in his report of 1866, which led up to the legislation of 1867, speaks of "the necessity for the non-admission into workhouses of patients suffering from contagious fevers"—including obviously in that phrase diphtheria, small-pox, etc.

It is also noteworthy in this connection that the Hospitals Commission of 1882 regarded diphtheria as one of the fevers for which hospital accommodation is required, for in their report (page xxix) they observe: "We now pass on to consider what hospital accommodation is required for fevers; that is to say, for scarlet fever, diphtheria, typhus, typhoid, and enteric fever. And this, though not the most difficult, is perhaps the most really important part of the matter referred to us. The most important part we say, because, in London, not only does the average annual mortality from fever exceeds that from small-pox in the proportion of 12 to 5, but the consequences which are left behind in the loss of health, activity, sight, hearing, and other faculties which render life happy and useful, are more lamentable." They emphasise this statement by pointing out that, whilst during the ten years 1871-80 the annual rate of mortality per 1,000 in London was from small-pox 0.46, it was from "fevers" (scarlet fever, diphtheria, fever) 1.09.

This matter of providing for the isolation of diphtheria is one of importance to the health of London, and it would be well, therefore if a short Act—it might consist of a single clause—were passed when Parliament reassembles, settling the doubtful point once for all.—I am, etc.,

PUBLIC HEALTH.

NAVAL AND MILITARY MEDICAL SERVICES.

THE ARMY MEDICAL RESERVE.

W. H. B. CROCKWELL, Surgeon Volunteer Medical Staff, commanding 4th Division Volunteer Medical Staff Corps, and Surgeon Army Medical Reserve of Officers, writes: It often occurs to me that the non-military readers of the JOURNAL must be amused, if not edified, by the various views set forth by your military, and what you were so good as to call in one of your leaders some weeks ago "*quasi*-civilian" correspondents. But I suppose most of them will think it is only the old thing over again—the doctors disagreeing. Did anyone ever know two medical men to agree on any one subject? Dr. Thomas Thursfield may well say that we have to thank ourselves to a certain degree for the position which we hold as a profession.

It appears to me that there are three burning questions at the present time which are troubling the minds of army and volunteer (if it is necessary to draw a distinction) medical officers, and which it is to be hoped will soon be settled for once and for all.

First, the matter of honorary, substantive, or relative rank. With this I am in no way concerned in my present letter.

Secondly, the question of volunteer medical officers in relation to their respective corps, and to the Volunteer Medical Department. The only satisfactory way of settling this question is by abolishing the regimental system for that of the departmental. The old regimental system was a complete failure in the army, and so it would be in the case of the volunteer force, should we ever be called out. In fact, the sooner the whole system of regimental surgeons is swept away, and a reliable system established, the better. We have quite sufficient shams in the volunteer force without carrying it on in the medical department. What guarantee have the authorities that a regimental surgeon has any knowledge of his duties whatever? Nine-tenths of them could no more drill a bearer company than they could manœuvre a battalion of infantry or a battery of field artillery. Again, what organisation have the regimental surgeons? What would they do with their wounded? How would they transport them?

Thirdly, and lastly, as regards the Army Medical Reserve of Officers, I think far too much has been said about the motives which prompted the authorities to form this most useful branch of our army medical organisation.

I must say that in all my dealings with the authorities I have found them just, if not too generous; and I feel sure that those men who imagine that, should they join the Reserve, they would be at once sent into some remote part of the country, until all their practice had dwindled away, and their homes had been broken up, are labouring under a great delusion. The authorities know full well that should one such case as this take place they would never get another man to join the Reserve. But surely, in the event of a threatened invasion, every volunteer surgeon, whether in the Reserve or not, would willingly go to any part of the kingdom, if necessary; if not, I think the sooner the force is rid of such men the better. If all volunteer surgeons did as they ought to, and joined the Reserve, then, in the event of all the army surgeons going on active service, there would be quite sufficient Reserve surgeons to attend all the troops in their own district, without removing any medical man out of reach of his own patients.

I quite agree with you that, should the officers of the Reserve be called up, they would form a "piebald gathering;" but let us hope that the time is not far distant when all medical officers will wear the uniform of the Volunteer Medical Department, namely, the Volunteer Medical Staff Corps, with the difference that those officers belonging to the Reserve should wear the gold lace, to distinguish them from the non-Reserve men.

In answer to your assertion that "few medical volunteers in London and other great centres have as yet joined the Reserve," I would suggest that perhaps only a few are qualified to do so. I know of more than one who would join the Reserve had they passed the proficiency examination.

I cannot help saying, in conclusion, that I have been very much struck by the way in which volunteer medical officers are designated in your article, as Mr. or Dr., never by their military titles. I contend that a volunteer surgeon or surgeon-major is just as much entitled to his military title as a regular officer, when the matter on hand is connected with his duties as an officer holding Her Majesty's commission. This is accorded to volunteer combatant officers; then why not to medical officers? We never by any chance hear of Mr. Jones, commanding —— V. B. ——shire Regiment.

*** We have no other motive whatever in commenting upon the Army Medical Reserve than that fair discussion should be brought to bear on the scheme. We therefore willingly publish Surgeon Crockwell's letter, giving him, as he wishes it, his military title, if such, indeed, "Surgeon" can fairly be called. But we will not remain silent when we see an attempt made to cripple or supplant the regular Medical Service of the army by playing off against it the Volunteer Medical Service; both are equally to be defended in their own proper sphere, and between them there ought not to be the smallest antagonism. Does Surgeon Crockwell mean to put himself on a military equality with his brethren of the regular service? Is there to be no distinction between men who entirely devote their lives and fortunes to the military service of their country at home and abroad, and our citizen volunteers? If they are not on all fours, why object to our term "*quasi*-civilians," and why talk of the distinction of "gold lace?" The auxiliary forces in all grades and ranks are and must be junior to the regular forces. We would further venture to affirm that it would be most unwise to abolish the regimental system in the Volunteer Medical Service; it is the wholesome fellowship of their corps which keeps many a medical volunteer in the service; and social relationships cannot be too delicately handled by wise statesmen. Surgeon Crockwell asks, "What organisation have the regimental surgeons? What would they do with their wounded? How would they transport them?" Just so, and well asked. But all this is an argument for the better organisation of the Volunteer Medical Service within itself, and directly destructive of the "Reserve" scheme, which aims at detaching the volunteer medical officers from the volunteers, to do duty with regular troops, when the regular Medical Service

has been recklessly cut down to meet mere "finance." Let the medical volunteers do everything they can to perfect their own organisation, but take care they are not made a handle to disorganise the regular Medical Service.

A VOLUNTEER SURGEON-MAJOR writes: I quite anticipated that your leading article on the "Army Medical Reserve" would have opened the eyes of my *confrères* to the issues involved both to themselves and their brethren of the regular army.

The object of the Warrant appeared to me so patent that I fully expected the whole scheme would have proved a failure; but as I see that nearly 100 surgeons have enrolled themselves, there is grave reason to fear they are deceived, and that unwittingly, I am sure, they have accepted a *rôle* which in the long run will recoil upon their own heads, and in the meantime affect injuriously the members of the Army Medical Staff.

Have the surgeons well considered their position? and have they thought seriously for a single moment of the effect their action will have upon the prospects of those gentlemen who hold commissions in the medical staff of the army? I think not. The majority of those who have joined are probably actuated by patriotic motives, some few are doubtless deluded by the false glamour of substantive rank, whilst others, the least worthy and the smallest in number, with their eyes open, accept positions and military rank, knowing full well that by so doing they imperil the very existence of the Army Medical Service.

Let us ask ourselves seriously as a profession, what will happen if this reserve reaches the proportion desired by the authorities? Should a reserve of, say, from three to four hundred be formed, then the members of the Army Medical Staff would be called upon with few exceptions to spend a lifetime in foreign service, and all the home billets would be filled by the reserve. No other branch of the service has ever been asked to submit to such a monstrous injustice.

Then, again, all who, from whatever motive, join this Reserve, place themselves in the power of an authority regardless of their private interests, and vainly imagine that employment will be found for them near their own homes, and of such a character as not to interfere with their private practices.

Vain delusion! In the first instance, I doubt not, in order to give colour to the undertaking and for the object of tempting waverers to the reserve, appointments will be given to a few surgeons-major and surgeons to do duty at distances convenient to them; but at the first real emergency is it to be credited that the power which, finding some years ago that its department was reduced by resignations and absence of candidates to impracticable proportions, gave the army surgeons their first claims, and when its ranks were well filled treated the warrants as waste paper, will be more considerate of the feelings and convenience of its "reserve?" Certainly not.

Let us pause before we allow ourselves to be deceived by playing into the hands of a power that has persistently broken faith with our army brethren, and let us be content to remain true volunteer surgeons, ready in the hour of national danger to give up our practices and do duty with our own regiments.

Above all, in time of peace I implore my colleagues to remain loyal to our army brethren by refusing to join a Reserve which is meant to abolish them, in so far as the home army is concerned.

Since writing these lines I am pleased to find that my brethren are awakening to a sense of their responsibilities, and are beginning to see through this new warrant. The Midland Volunteer Medical Association, at a meeting recently held in Birmingham, passed the following resolution: "Taking into consideration the anomalous position of the Volunteer Medical Service, and also that the Royal Warrant might be used as a lever to dictate terms to our comrades of the Medical Staff, without wishing to interfere with individual action, this Association does not at present recommend its members to join the Army Medical Reserve."

This resolution, taken in conjunction with the resignation of a surgeon-major, who was one of the first to join the Reserve, and who is an indefatigable member of the Volunteer Medical Association, set examples which all associations and remaining surgeons of the Reserve will do well to follow. Hitherto our army brethren have looked to civil practitioners to fight their battles, and not in vain. There has existed a feeling of mutual respect and admiration which I for one should grieve to see brought to an end. We honour the men who, equally with their combatant brethren, have shared the dangers of many a campaign, who have shown equal heroism, but who are generally forgotten in the distribution of rewards and decorations. On the other hand, our army brethren have always respected the self-sacrifice and patriotism of the volunteer surgeon, and by giving advice and instruction have done all in their power to assist us in rendering the medical service of the volunteer army efficient.

Let it not be said of us that we are false to the traditions of our great profession, but as a body show unanimously that we will do nothing to imperil the position of our army brethren, who, at this crisis, are almost heartbroken at the prospect before them.

I ask my colleagues not to be deluded by this warrant; those who have already joined this Reserve I advise to follow the good example I have quoted and resign; and to those who have kept aloof I say do not join a movement which means probable ruin to yourselves and certain injury to the Army Medical Staff.

ADMIRALTY SURGEONS AND AGENTS.

DR. T. M. POLLARD (Dispensary Medical Officer, Dunkineely), and Dr. J. D. MCFEELY (Dispensary Medical Officer, Killybegs, Co. Donegal) write: In the JOURNAL of September 21st, and previously, an advertisement appears for an "Admiralty Surgeon and Agent at Killybegs and Tribane Coastguard Stations."

We, as the former incumbents of these appointments, think it only fair that our professional brethren should know from us our reasons for resigning these appointments.

The scale of fees allowed by the Admiralty to surgeon and agents is 2s. 6d. per visit and milage allowance. Now in Ireland the recognised fee is one guinea, and for that amount the number of visits paid is at the discretion of the practitioner, due allowance being made for the circumstances of the patient, the only exception to this rule being clubs and benevolent societies, where a fee is paid by the term. No such societies, however, exist in this locality.

We therefore, thinking it derogatory to our professional dignity to accept a 2s. 6d. fee, resigned our appointments, at the same time offering to discharge the duties for an annual allowance, which would not have been more than the average receipts. Such an arrangement we considered would be more likely to benefit our patients, as one would not have any hesitation in paying a second daily visit where necessary, whereas, under the former arrangement, uncharitable people might and did insinuate that an extra visit meant only an extra fee. Several of our professional brethren agree with us in the action we have taken, and we hope it may meet with general approval from the members of the profession.

TAXATION OF INDIAN PAY.

A CORRESPONDENT, "I. M. D.," writes that a recent ruling of the Government of India "adds another item to the grievances of medical officers." The latter are the only officers with regiments who draw consolidated pay or fixed salaries. Out of that they have to maintain chargers, tents, etc. The ruling is that the total consolidated pay is "liable to income-tax." The combatant officers, who draw ordinary pay, *plus* allowances, only pay income-tax on the former, the latter being exempt. "Of course," he adds, "not a word of protest can be looked for from the department against any burdens imposed!"

STAFF APPOINTMENTS IN INDIA.

A CORRESPONDENT, "Injustice," writes from India that, with the expiration of the period of foreign service of certain officers of the medical staff, "the last of a most unjustifiable system terminates." He names three officers, two of whom held staff appointments for seven and six years respectively, carrying many advantages and extra pay. Such a system, he says, is most unjust and unfair to others who, meanwhile, are knocked about everywhere from "pillar to post." He asks if such is "likely to cause a happy state of things out here?" The department was "never in a worse state than now."

THE NAVY.

THE following appointments have been made at the Admiralty:—W. B. DREW, Staff-Surgeon, to Chatham Hospital; F. H. JULYAN, Surgeon, to the *Royal Adelaide;* JEREMIAH SUGRUE, Surgeon, to the *St. Vincent;* J. N. STONE, Fleet-Surgeon, to the *St. Vincent;* T. D. GIMLETTE, Staff-Surgeon, to the *Brilliant*, additional, temporarily.

THE MEDICAL STAFF.

THE promotion of Surgeon-Major R. W. TROUP, M.B., to the rank of Brigade-Surgeon, notified in the *London Gazette* of July 10th, 1888, is cancelled. Surgeon-Major Troup is now granted retired pay. We have so recently given the particulars of Surgeon-Major Troup's commissions and war services (*vide* JOURNAL, July 14th), that it does not seem necessary now to repeat them.

Surgeon A. C. J. R. LUNDY, M.B., who entered the service February 3rd, 1878, has retired, receiving a gratuity. He served in the campaign in the Soudan in 1885, and received the medal with clasp and the Egyptian bronze star granted therefor.

Deputy Surgeon-General R. A. CHAPPLE died at Bombay on September 3rd, while on his way home on sick leave, at the age of 56. His commissions bore date: Assistant-Surgeon, April 28th, 1854; Surgeon, June 20th, 1865; Surgeon-Major, March 1st, 1873; Brigade-Surgeon, November 27th, 1879; and Deputy-Surgeon-General, June 15th, 1882. He served in the Eastern campaign of 1854-55, and was present with the Scots Greys at the affair of M'Kenzie's Farm; capture and battle of Balaklava (horse wounded); and with the Royal Artillery at the battle of Inkermann; he was with the right siege train for more than ten months, and performed constant trench duty, and was in the trenches during the bombardments of April, and June 6th and 17th, and final assault (medal and three clasps), 5th class of the Medjidie, and Turkish medal). He was appointed to the administrative medical charge of the Mhow Division of the Bombay Army, March 14th, 1887, and had but recently obtained leave of absence from that position.

Surgeon-General ALFRED CROCKER died suddenly at Southsea, on September 22nd, in his 71st year. He entered the service as Assistant-Surgeon, January 26th, 1844; became Surgeon, March 28th, 1854; Surgeon-Major, January 26th, 1864; and Deputy Surgeon-General, February 17th, 1872; he retired with the honorary rank of Surgeon-General, December 27th, 1877. He served in the Crimea with the 2nd Battalion of the 1st Foot, from April 22nd, 1855, including the siege and fall of Sebastopol. He received the medal with clasp, and the Turkish medal granted for the campaign.

ARMY MEDICAL RESERVE.

SURGEON PATRICK KYNOCH, of the Roxburgh Mounted Rifles, to be Surgeon-Major (ranking as Lieutenant-Colonel).

Surgeon and Honorary Surgeon-Major W. H. G. PHELPS, M.D., 3rd Volunteer Battalion Somerset Light Infantry (late the 3rd Somerset), to be Surgeon-Major (ranking as Lieutenant-Colonel).

Acting Surgeon JAMES MOIR, 2nd Volunteer Battalion Scots Fusiliers (late the 2nd Ayrshire), to be Surgeon (ranking as Captain).

The War Office has decided that medical officers of Militia and Yeomanry Cavalry, who join the Army Medical Reserve of officers, will continue to wear the uniform of their respective corps, but with the badges of rank indicative of their rank in the Army Medical Reserve of officers, when the latter is higher than their regimental rank. Medical officers of Volunteers who join the Army Medical Reserve of officers will continue to wear the uniform of their respective corps, with the exceptions authorised, but with the badges of rank indicative of their rank in the Army Medical Reserve of officers, when the latter is higher than their regimental rank.

INDIAN MEDICAL SERVICE.

THE promotion of Brigade-Surgeon W. H. ROBERTS, M.D., Madras Establishment, to be Deputy Surgeon-General, and that of Surgeon-Major L. C. NANNEY, Madras Establishment, to be Brigade-Surgeon, both of which have already been announced in this JOURNAL, have received the sanction of Her Majesty.

Deputy Surgeon-General A. J. COWIE, Bengal Establishment, Inspector-General of Civil Hospital, Bengal, has leave of absence on sick certificate for 124 days.

The appointment of Surgeon-General J. M. CUNNINGHAM, M.D., C.S.I., late Bengal Establishment, to be Honorary Physician to the Queen, recently announced, should have been to be Honorary Surgeon to the Queen, *vice* Inspector-General W. A. Green, deceased.

THE VOLUNTEERS.

MR. JOSEPH ADAMS, M.B., has been appointed Acting-Surgeon to the 1st Volunteer Battalion of the South Lancashire Regiment (late the 9th Lancashire).

MEDICO-LEGAL AND MEDICO-ETHICAL.

THE QUEEN *v.* GLOSTER.

MR. JAMES GLOSTER, B.A.Dublin, M.B., M.Ch., was tried at the Central Criminal Court, on September 24th and 25th, on an indictment charging him with the wilful murder of Eliza Jane Schumacher. Mr. Poland, in opening the case, made serious charges against the defendant, which, as he was precluded from supporting them by evidence, we do not reproduce. The judge ruled that a declaration, made by the defendant shortly before her death, was not admissible in evidence, and the jury, upon his direction, returned a verdict of "not guilty." Mr. Gloster's counsel stated that he had a mass of evidence to be called, if necessary, on the part of the defence, and was prepared to show that Mr. Gloster could not have been guilty of the offence charged against him. With reference to this we have received the subjoined letters:

DR. H. MACNAUGHTON JONES (141, Harley Street), writes: As I was one of those who was afforded an opportunity of seeing the uterus of the deceased (which, together with the discovered wadding, I, in company with Drs. Bland Sutton and Hamilton Bland, carefully examined on September 23rd), I desire to say that, having also carefully read all the depositions in the case, I was prepared, if called on, to state as my conviction "that, taking all the circumstances of this case into consideration, the wound was inflicted by some absolutely ignorant and reckless person, if not by the unfortunate deceased herself, in furtherance of her acknowledged desperate resolve to procure abortion." A more typically normal, multiparous, unimpregnated womb it would be difficult to find than in this woman whom the accused was assumed to believe to be in the fourth month of pregnancy.

DR. LOMBE ATTHILL, Ex-Master of the Rotunda Hospital (94, Merrion Square, Dublin) writes: Having come to London at the urgent request of Dr. Gloster's friends to give evidence in his favour at the recent trial, and having been prevented doing so by its abrupt termination, I think it but justice to Dr. Gloster to state what the purport of my evidence would have been. I have known Dr. Gloster for many years, and firmly believe, from his high moral character, he would have been incapable of committing the crime imputed to him. He was a pupil at the Rotunda Hospital during my mastership of that institution, and was a most attentive and painstaking student, and was in consequence awarded by me a special certificate in gynæcology, which I gave to a very limited number of pupils. Had Dr. Gloster been tempted by any possible motive to attempt the induction of criminal abortion (and no motive was alleged, the patient being very poor and admittedly almost a stranger to Dr. Gloster), it is impossible to believe that, with his special education, he could have done it in such a bungling manner. The instrument employed must have been strong and great force used, for the wound traversed the whole length of the uterine wall from just inside the os uteri to very near the fundus, and the instrument used evidently had carried before it a large piece of cotton wadding. Even the medical witnesses for the prosecution were obliged to admit that it was hard to believe that a skilled hand had inflicted that wound. Lastly, I should have stated that, in my opinion, from all the facts of the case, it was either inflicted by some very ignorant person, or more probably by the patient herself.

IRREGULAR DEATH CERTIFICATES.

IN a case tried before the magistrates at the Royton Police Court on September 19th, an unqualified medical assistant was charged with giving an improper certificate of death. The novel defence was raised that the qualified practitioner to whom he was assistant was in the habit of signing certificates in blank, and that his assistant had filled up this particular certificate without his authority. The case was adjourned for a month in order that the district registrar might communicate with the Registrar-General with regard to what further steps should be taken.

"COVERING" UNQUALIFIED PRACTITIONERS.

W. C. F. writes: We have in this town an unqualified man practising medicine, surgery, and midwifery, driving about with horse and trap and man in livery. He employs a qualified assistant, but sends the account out in his own name. I should like to ask the following questions: (1) If prosecuted, can the assistant swear that the practice is his? (2) Can the qualified assistant's conduct be brought before the General Medical Council?

*** (1) It is impossible to say beforehand what a man can or will swear; but on the facts stated the assistant will not be able to claim the practice as his. (2) The assistant's conduct can, of course, be brought before the Council, but a more definite charge than any now suggested will be necessary. Our correspondent would do well to read the report of the proceedings of the General Medical Council on May 24th, 1888, published in the JOURNAL of May 26th, p. 1120.

A QUESTION OF ETIQUETTE.

A. R. G.—In compliance with the express wish of "A. R. G.," we have exceptionally taken the trouble critically to re-examine the whole of the lengthy correspondence that has passed between Dr. McC. and himself, with the result that we entertain no doubt whatever of the medico-ethical justness of the opinion expressed on the case in question in the JOURNAL of August 18th, in further reference to which we note with regret his apparent resolve to maintain an indefensible position, which, in our opinion, he will do well to reconsider and withdraw from.

CHARGES TO THE PROFESSION.

W. D.—The mere possession of the diploma of M.R.C.S.E. does not necessarily entitle the holder thereof to the gratuitous services of the profession; and inasmuch as, in the case in question, the gentleman has not only never practised, but is possessed of independent means, we are distinctly of opinion he cannot justly lay claim thereto, and our correspondent will be justified in charging him and his family, in accordance with the principle laid down in the *Medico-Chirurgical Tariff*, to the ninth, tenth, and twelfth pages of which we would refer him.

UNIVERSITY INTELLIGENCE.

ABERDEEN UNIVERSITY COURT.

AT a meeting of the Aberdeen University Court on September 24th, the following were appointed examiners in medicine for one year: W. D. Halliburton, M.D.; D. Lowson, M.D.; Robert W. Philip, A.M., M.D.; W. Robert Smith, M.D.; Seymour Taylor, M.D.; F. Buchanan White, M.D. The Court approved of the following appointments of assistants for the ensuing session, made by the respective professors: in Natural Philosophy, William Ingram, A.M.; in Anatomy, Charles Angus, M.B.; in Medical Jurisprudence, Alex. Macgregor, M.D.; in Materia Medica, John Gordon, M.B. The Court took up consideration of the applications which had been sent in for the vacant Chair of Chemistry. There were in all nineteen candidates. After lengthened deliberation, the Court resolved to meet on Tuesday, October 2nd, for the purpose of making the appointment.

INDIA AND THE COLONIES.

HONG KONG.

COLLEGE OF MEDICINE FOR CHINESE, HONG KONG.—The first professional examination (including Botany, Chemistry, Physics, Elementary Anatomy, Elementary Physiology, Materia Medica, and Clinical Observations) was held in this College in August. The Examiners in Anatomy were Mr. Cantlie, Dr. Ayres, and Surgeon Thomson, M.S.; in Physiology, Dr. Ho Kai, Dr. Atkinson and Dr. Jordan; in Materia Medica, Dr. D. Gerlach and Mr. C. Niedhart; in Clinical Observations, Dr. Patrick Manson and Surgeon Sparrow. The written examinations extended over four days, and the *viva voce* examination held in the City Hall was open to the public. Twelve students presented themselves for examination, of whom seven passed. The following is the list of the successful candidates, with the percentage of marks obtained by each: J. Wong, 82; Trong Wing Wan, 75; Sun Yat Sen, 71; U. J. Kai, 59; Kong Ying Wa, 55; Kwan King Teung, 55; Lan Sze Fuk, 50. Two scholarships, of the value of 60 dollars a year, were awarded to the gentlemen whose names stand first and second in the above list. The winter session opens on October 1st, when the prizes will be distributed, and the Rector will deliver his public address.

PUBLIC HEALTH AND POOR LAW MEDICAL SERVICES.

THE ISOLATION OF DIPHTHERIA IN THE METROPOLIS.

MEMORANDUM BY THE METROPOLITAN ASYLUMS BOARD.

AT the meeting of the Metropolitan Asylums Board on September 22nd, the following Memorandum, prepared by the order of the Chairman (Sir E. H. Galsworthy), was read by the Clerk:

"At the Board meeting on February 13th, 1886, the managers received an application from the South-Eastern Hospital Committee for authority to receive any cases of diphtheria into that hospital for whose admission proper application might be made, and after some discussion the matter was referred to the General

Purposes Committee for consideration and report. On February 27th, 1866, the General Purposes Committee, in reporting upon this reference, recommended that a representation should be made to the Local Government Board to the effect that application had been made to the managers for the admission into their hospitals of cases of diphtheria; but that, inasmuch as the managers were precluded by the orders of the Local Government Board from receiving patients suffering from that disease, the managers were desirous, before further considering the matter, of being furnished with the views of the Central Board on the subject. To these representations the Local Government Board, in a letter dated July 28th, 1886, replied to the effect that, if cases of diphtheria are to be admitted into the fever hospitals of the managers, there should be express legislation for this purpose, and that the question whether legislation on the subject should be proposed would receive the consideration of the Local Government Board. The Local Government Board at the same time enclosed the following extract from a letter which they had received from the Registrar of the Royal College of Physicians with regard to the question whether persons suffering from diphtheria could be regarded as patients suffering from fever within the meaning of Section 69 of the Metropolitan Poor Act, 1867: 'I have submitted your letter of the 8th instant to the President of the College, and his opinion is as follows: "If the words in the Act had been for patients suffering from fevers, I should most certainly have considered diphtheria to be included under the term 'fever,' but the separation of small-pox from fevers seems to signify that the word fever was intended to include only fevers of a special type—those cases, that is to say, to which the word fever is specially applied, as scarlet fever, typhus fever, typhoid fever."' This letter from the Local Government Board was also referred to the General Purposes Committee for their information and consideration, but no further action was taken thereon at the time. At the Board meeting on February 11th, 1888, the managers received a communication from the guardians of the Wandsworth and Clapham Union, forwarding a copy of a letter from two medical men in practice at Streatham, in which attention was called to the fact that several very severe cases of diphtheria had occurred in that place, and asking whether the managers could assist in the matter. The General Purposes Committee reported to the managers on February 25th, 1888, the purport of their reply to the guardians of the Wandsworth and Clapham Union, which reply was to the effect that inasmuch as the Local Government Board had decided that, if cases of diphtheria are to be admitted into the hospitals of the Asylums Board, there should be express legislation for the purpose, and had, moreover, intimated that the question whether legislation should be proposed was still under the consideration of the Local Government Board, the managers were unable to remove the cases of diphtheria from Streatham to which the guardians had directed attention. At the same time the committee recommended that the attention of the Local Government Board should be again directed to the matter. This was done, but the Local Government Board did not appear to be taking any further action in the matter up to the present time."

After some discussion, the memorandum was ordered to be forwarded to the Local Government Board, and to the coroner by whom an inquest was held on September 19th in St. Pancras on two cases of diphtheria.

HEALTH OF SCOTCH TOWNS.—During the week ending Saturday, September 22nd, 775 births and 436 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had been 16.0 per 1,000 in each of the two preceding weeks, rose again to 17.3 during the week under notice, but was 0.7 below the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns, the lowest rates were recorded in Leith and Perth, and the highest in Glasgow and Paisley. The 436 deaths in these towns during the week under notice included 57 which were referred to the principal zymotic diseases, equal to an annual rate of 2.3 per 1,000, which was 0.7 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Edinburgh and Paisley. The 194 deaths registered in Glasgow during the week under notice included 15 from diarrhœa, 4 from scarlet fever, 2 from measles, 1 from whooping-cough, and 1 from "fever." Four fatal cases of diphtheria occurred in Edinburgh, and 8 of measles in Paisley. The death-rate from diseases of the respiratory organs in these towns was equal to 3.4 per 1,000, against 2.2 in London.

MEDICAL NEWS.

MEDICAL VACANCIES.

The following Vacancies are announced:

BOROUGH HOSPITAL, Birkenhead.—Junior House-Surgeon. Salary, £50 with board, lodging, etc., and fees. Applications by October 2nd to the Chairman of the Weekly Board.

BRISTOL DISPENSARY.—Medical Officer. Applications by October 18th to the Secretary, Castle Green, Bristol.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road.—Three Clinical Assistants.

CHELTENHAM GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum, with board and apartments. Applications by October 6th to the Honorary Secretary.

DENTAL HOSPITAL OF LONDON, Leicester Square.—Lecturer on Dental Surgery and Pathology. Applications by October 8th to the Dean.

ESSEX LUNATIC ASYLUM.—Junior Assistant Medical Officer. Salary, £100 per annum, with apartments, board, etc. Applications to the Medical Superintendent.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Physician. Applications by September 29th to the Secretary.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—House-Physician. Salary, £50 per annum, with board and lodging. Applications by September 29th to the Secretary.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician. Applications by October 13th to the Secretary.

MANCHESTER ROYAL INFIRMARY (Monsall Fever Hospital).—Assistant Medical Officer. Salary, £100 per annum, with board and residence. Applications by October 6th to the Chairman of the Board.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen Square, Bloomsbury.—Senior House-Physician. Salary, £100 per annum, with apartments and board. Applications by October 5th to the Secretary Director.

PARISH OF CRAMOND.—Medical Officer to the Parochial Board, and Local Authority to the Parish. Salary, £45 and £10 per annum respectively. Applications by October 10th to James F. Mackay, Esq., Whitehouse, Cramond, N.B.

ROYAL SOUTHERN HOSPITAL, Liverpool.—Junior House-Surgeon. Salary, £63 per annum, with board, residence, etc. Applications by October 10th to the Chairman of the Medical Board.

SALOP INFIRMARY, Shrewsbury.—Assistant House-Surgeon. Board, lodging, etc. Applications to the House-Surgeon.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester Square.—Assistant Physician. Applications by October 1st to the Secretary.

ST. MARY'S HOSPITAL, Paddington, W.—Medical Superintendent. Salary, £150 per annum, with board and residence. Applications by September 29th to the Secretary.

ST. OLAVE'S UNION.—Resident Medical Officer to the Infirmary, Lower Road, Rotherhithe. Salary, £300 per annum, with apartments, etc. Applications by October 10th to the Clerk to the Guardians, 30, Tanner Street, Bermondsey.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Junior Assistant House-Surgeon. Salary, £50 per annum, with board, lodging, etc. Applications by October 8th to the Honorary Secretary, Medical Staff, Public Hospital, Sheffield.

STOURBRIDGE DISPENSARY.—House-Surgeon and Secretary. Salary, £130 per annum, with furnished apartments, etc., and an allowance for horse hire. Applications by October 6th to G. Perry, Esq., Fairfield, Pedmore, near Stourbridge.

THE COUNTY ASYLUM, near Dorchester.—Assistant Medical Officer. Salary, £120 per annum, with board, etc. Applications by October 7th to the Medical Superintendent.

WESTMINSTER HOSPITAL, S.W.—Fourth Assistant Physician. Personal application on October 2nd.

WESTMINSTER HOSPITAL, S.W.—Administrator of Anæsthetics. Personal application on October 2nd.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—House-Surgeon. Salary, £60 per annum, with board and residence. Applications by October 18th to the Honorary Secretary.

MEDICAL APPOINTMENTS.

BLACKER, A. B., B.Sc., M.B., M.R.C.S., appointed House-Surgeon to the West London Hospital, Hammersmith.

BROWNING, Edgar, M.R.C.S.Eng., L.R.C.P.Lond., appointed Resident House-Surgeon and Assistant Secretary to the Belgrave Hospital for Children, *vice* A. Blacker, M.B., resigned.

BUCK, Joseph, L.R.C.P., L.R.C.S.Edin., L.F.P.S.Glasg., appointed Resident Assistant Medical Officer to the Union Infirmary, Leeds.

CAMPBELL, S. J., L.R.C.P.Edin. and L.M., appointed Medical Officer to the Winchmore Union (No. 2 District), *vice* C. Penruddocke, L.R.C.P.Edin. and L.M., resigned.

HOLROYDE, J., M.R.C.S., L.S.A., appointed Medical Officer of Health for Chatham, *vice* Dr. Jardine, deceased.

LUNDIE, W., M.B., C.M.Edin., appointed Resident Medical Officer to the Edinburgh City Poorhouse, *vice* E. Morton, M.B., C.M., resigned.

MASON, F. J. G., M.R.C.S., L.S.A., appointed Resident Surgeon for the Branch Dispensary, Cheltenham General Hospital, *vice* W. R. Buckell, F.R.C.S. resigned.

SHAW, Hugh Grosvenor, L.R.C.P., M.R.C.S., appointed Assistant Medical Officer to the Lambeth Infirmary, *vice* G. L. Rugg, L.R.C.P., M.R.C.S., resigned.

SPENCER, H. Alex., M.R.C.S. L.R.C.P.Lond., appointed House-Surgeon to the Royal United Hospital, Bath, *vice* T. E. Stuart, resigned.

THOMPSON, R. N., M.B.T.C.D., C.M., appointed Physician to the Newtown Mount Kennedy Fever Hospital, *vice* R. C. Gage, M.B.T.C.D., deceased.

WATKINS, Frank Augustus, M.R.C.S.Eng., L.R.C.P.Lond., L.S.A.Lond., appointed House-Surgeon to the Newport and County Infirmary, *vice* Dr. W. F. Clarke, resigned.

FATAL ACCIDENT TO DR. CLAUDE TAYLOR.—Dr. Claude Taylor, one of the best known and popular of Nottingham medical practitioners, was drowned on Tuesday last in the River Lochy, near Kingussie, Inverness-shire. He was fishing near Muccomer Falls when he slipped off the rock. A gallant attempt was made by one of the party to save his life, but without success. Dr. Taylor was a son of Mr. Henry Taylor, J.P., and, with his two brothers, carried on an extensive practice in Nottingham. The deceased had a brilliant career as a student, taking numerous prizes, and being the first man of his year at Aberdeen University, where he graduated M.B. and C.M. in 1867. Dr. Taylor practised for some years at Colston Bassett, and there formed the acquaintance of Major Davey, whose guest he was when the fatal accident happened. For eight years past he had been one of the honorary surgeons of the Nottingham General Hospital, and this year was gazetted surgeon to the South Notts Yeomanry. Dr. Taylor was about 45 years of age, and leaves a widow and three children, for whom general sympathy will be felt.

MELBOURNE WOMEN'S HOSPITAL.—We learn from the *Australasian Medical Gazette* that a tablet has been placed on the wall at the entrance to the Genevieve Ward Wing of the Melbourne Women's Hospital, to commemorate the gift of £2,500 by that lady; a tablet has also been placed in the same situation to commemorate the large share which the Chinese community took in organising a bazaar, which realised £1,000 in aid of the funds.

HOSPITAL SATURDAY FUND.—The amoun received on behalf of the workshop collection of this fund for the fortnight is about £300 in excess of the sum in hand during the same period last year, the total amounting to about £7,000. It is expected that subscriptions will continue to be forwarded until the end of next month.

MEDICAL MAGISTRATES.—Mr. Percy John Rendall, M.D., assistant colonial-surgeon, has been appointed by His Excellency the Acting Administrator of Gambia, West Africa, a justice of the peace and Commissioner of the Court of Requests for that settlement.—Mr. D. B. Balding, F.R.C.S., of Royston, coroner for Herts, has been placed on the Commission of the Peace for the county of Cambridge.

NEW INFIRMARY AT LANCASTER.—The new infirmary about to be erected in Lancaster will be on a site in close proximity to the town. It is thought that from £10,000 to £15,000 will be required for a suitable building and a permanent sustentation fund. Mr. Williamson, M.P., has offered £5,000 towards the building fund.

DIARY FOR NEXT WEEK.

WEDNESDAY.

OBSTETRICAL SOCIETY OF LONDON, 8 P.M.—Specimens will be shown by Dr. John Phillips, Mr. Bland Sutton, and others. Dr. Champneys: Description of a New Operation for Vesico-Uterine Fistula. Dr. John Phillips: On the Value of Pilocarpine during Pregnancy, Labour, and the Lying-in State.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTH.

OLIVER.—At Consett Hall, Co. Durham, on September 25th, the wife of Thomas Oliver, M.D., Newcastle-upon-Tyne, of a daughter.

MARRIAGE.

RYAN—MOFFAT.—On September 5th, at Christ Church, Kingstown, by the Rev. H. E. Noyes, John Ryan, L.K.Q.C.P.I., etc., The Limes, Northleach, to Charlotte Leonora, second surviving daughter of the late Thomas B. Moffat, M.D., etc., Hawarden, Flintshire.

DEATH.

KIDD.—On September 20th, at Brook Street, Grosvenor Square, Gertrude Hilda, infant daughter of Percy and Gertrude E. Kidd, aged 16 months.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).;

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's —1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY .....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

PRURITIS VULVÆ.

C. R. C. asks for suggestions as to the best treatment for pruritis vulvæ. The patient is 46 years of age, and has suffered for several years; most troublesome at night, and especially during menstruation. At first one side was affected, now the other, and is accompanied by twitchings of the thigh. She has tried argent. nit., borax, and boracic acid, etc., but with little benefit.

CHORDEE.

SURGEON C. would be glad of suggestions as to cause and treatment of the following case which has come under his notice: The patient, a married gentleman, aged 60, suffers from chordee at periods of erection of the penis, the organ being then bent back upon its dorsal surface towards the abdomen, causing pain and inconvenience. No venereal disease is or has been present, nor indications of peripheral irritation of any kind.

HUELVA.

CARVER asks for information about Huelva (Spain). A phthisical patient contemplates spending the winter there. Is there a good hotel with perfect sanitary arrangements and superior cuisine?

THERMOMETERS.

PYREXIA writes: I should feel obliged to any member of the Association who could tell me where to obtain the following information: (1) The origin and subsequent history of the clinical thermometer and its varieties. (2) Any experiences they may have had with the thermo-electric apparatus as applied to the taking of temperatures.

FOREIGN INSTITUTION FOR THE TREATMENT OF THE OPIUM HABIT.

A MEMBER writes: I am desirous of finding some institute on the Continent for the cure of opium addiction. The climate should be warm. My patient has been rapidly improving, having dropped from ʒi to ʒiii daily to mxx, and sometimes even less; but there is still great muscular and nervous debility, the slightest change of weather causing extreme depression, rheumatism, neuralgia, and other troubles. A warm climate for a few months under proper treatment will, I think, effect a speedy cure.

ANSWERS.

DR. R. L. PEART.—We have no information.

TREATMENT OF SEBORRHŒA CAPITIS.

DR. LESLIE PHILLIPS (Birmingham) writes: This disease is due to the development of a fungus consisting entirely of spores, which is allied to the pelada fungus. It attacks the epithelial cells of the scalp, causing the desquamation, and interferes with the nutrition of the hair by obstructing that part of the hair follicle which underlies the sebaceous glands. Successful treatment must recognise the parasitic nature of the disease. Wetting the head favours the development of the fungus. The combs and brushes must be washed in potash or ammonia to prevent re-infection, and great perseverance is required in treatment.

The following pomade is recommended: Turbith mineral (tri-mercuric sulphate) and lard, in the proportion of 1 in 15, applied every eight or fifteen days. If this does not succeed, I would suggest a trial of ung. potassæ sulphuratæ. The following will be found a good palliative treatment: Rub the scalp occasionally with linimentum saponis co., wash, dry, and afterwards rub in unguentum plumbi acetatis.

DR. C. R. ILLINGWORTH (Clayton-le-Moors) writes that he has effected a cure in two cases of the disease with unguent. hydrarg. oleat., 10 per cent.

DR. J. O'CONNOR (Manchester) writes: Let "A Member" try equal parts of lanolin and vaseline applied three times a week to the scalp, and use as little water to the head as possible.

INSTITUTIONS FOR THE BLIND.

M.D.EDIN. will probably obtain information as to an institution in which a blind boy could be placed, and probably also most valuable assistance, by writing to S. S. Forster, Esq., Blind College, Powyke, near Worcester.

"TENNIS LEG."

DR. C. R. ILLINGWORTH (Clayton-le-Moors) writes: I find that the remedy for this painful affection is acupuncture. The exact site of the pain having been accurately determined, I pass a stout, sharp needle down into the substance of the affected muscle—avoiding superficial veins, of course—and the relief experienced is immediate and permanent.

"PORT-WINE" STAINS.

DR. GEORGE CRICHTON (Twickenham) writes: "R. P. J." should use sodium ethylate, applying it with a glass rod. It requires no anæsthetic; the pain may be moderated by the application of chloric ether—which likewise checks the action of the caustic. The result is a black eschar for a few days, but afterwards no mark is perceptible.

COMMUNICATIONS, LETTERS, etc., have been received from:

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BOOKS, ETC., RECEIVED.

Hunterian Lectures on the Development and Transition of the Testis. By Charles Barrett Lockwood, F.R.C.S. London: Williams and Norgate. 1888.

A Manual of Ophthalmic Practice. By Charles Higgens, F.R.C.S.E. With Illustrations. London: H. K. Lewis. 1888.

Elements of Practical Medicine. By Alfred H. Carter, M.D.Lond. Fifth Edition. London: H. K. Lewis. 1888.

The Art of Dispensing. London and Melbourne: Chemist and Druggist. 1888.

A Textbook of Physiology. By M. Foster, M.A., M.D., LL.D., F.R.S. With Illustrations. Fifth Edition, largely revised. London: Macmillan and Co. 1888.

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INTRODUCTORY ADDRESS
ON
PUERPERAL FEVER A PREVENTABLE DISEASE:

A PLEA FOR THE MORE GENERAL ADOPTION OF ANTISEPTICS IN MIDWIFERY PRACTICE.

Delivered at St. Thomas's Hospital, at the Opening of the Session 1888-9.

By CHARLES J. CULLINGWORTH, M.D., F.R.C.P.,
Obstetric Physician to the Hospital.

THE subject I have chosen for to-day's lecture is the preventability of puerperal fever.[1]

Childbirth is not uncommonly regarded as a simple physiological process; painful certainly, but, with a few rare exceptions, natural and safe. Unless your attention has been specially directed to the subject it will probably not have occurred to you to consider how far this popular notion is correct. As a matter of fact, it is very incorrect. In the latest report of the Registrar-General 3,877 deaths are stated to have occurred from childbirth in England and Wales in the year 1886, including 479 in the single registration district of London. The numbers for the previous year (1885) were still larger. These figures are sufficiently startling, but they do not represent the whole truth. A great many deaths from childbirth are not returned as such, but appear under entirely different headings. It often happens that a woman dies from some puerperal disease, say, peritonitis, and on the death-certificate the name of the disease appears without any mention of its connection with childbirth. This is due partly to carelessness, partly to the reluctance of medical men to create alarm in the public mind, and partly also to the uncertainty that occasionally arises in the mind of the medical attendant as to whether the fatal disease was attributable to childbirth or to some independent cause. The fact that many of the returns are inaccurate in the direction here indicated is well known to the authorities. Ever since the year 1881 letters of inquiry, asking for further particulars, have been issued from the office of the Registrar-General to medical men who had given certificates in which the causes of death were imperfectly stated. In one year alone (1881) the result of sending out these letters was the discovery of 330 additional deaths due to childbirth.

This question of childbirth mortality was made the subject of a most thorough and painstaking inquiry some years ago by Dr. Matthews Duncan. He arrived at the conclusion that "not fewer than 1 in every 120 women, delivered at or near the full time, die within the four weeks of childbed." This statement was received with astonishment and incredulity. The late Dr. Farr, of the Registrar-General's office, who had, in 1856, declared the mortality of childbed in England and Wales to be 1 in 189, denounced Dr. Duncan in good round terms as an alarmist. Before his death, however, he came so nearly to accepting Dr. Duncan's estimate as to allow that one woman in 129 died in childbed.

Dr. Duncan's conclusions were published in 1870. I know of no equally thorough investigation having been made since, but I see no reason to think that the mortality in this country is less now than it was then.

TABLE I.—*Registrar-General's Return of Puerperal Mortality in England and Wales for 1867 to 1869 and 1884 to 1886.*

Year.	Children Born Alive.	Deaths from Childbirth.	Mortality per 1,000.
1867	768,349	3,412 (puerperal fever, 1,066)	4.44
1868	786,858	3,503 (,, 1,096)	4.45
1869	773,381	3,283 (,, 1,181)	4.24
		Average	4.37
1884	906,750	4,347 (,, 2,468)	4.79
1885	894,270	4,449 (,, 2,420)	4.98
1886	903,866	3,877 (,, 2,078)	4.29
		Average	4.68

In the first table are shown the Registrar-General's returns (1) for the three years preceding the publication of Dr. Duncan's book, and (2) for the last three years for which the returns have been issued. The difference will be seen to be exceedingly slight. What little difference there is is in the direction of increase rather than of diminution. So far, then, as regards childbirth mortality in general.

With regard to the causes of death from childbirth, they are of course various. A considerable number of women lose their lives annually from hæmorrhage (as in placenta prævia), from puerperal convulsions, etc.; but by far the majority die, not from accidental complications such as these, but from puerperal fever. The exact proportion it is at present impossible to ascertain. The most reliable statistics go to show that puerperal fever, in one or other of its manifestations, is accountable for at least 65 to 75 per cent. of all the deaths from childbirth. In the meantime, although we know them to be far below the truth and utterly useless for purposes of exact investigation, we may accept the figures of the Registrar-General's report as sufficient for our present purpose. We may at least be sure that they do not err in the direction of excess. Taking these, then, without any attempt at correction, we find that no fewer than 6,966 deaths from puerperal fever have been certified as such within the three years 1884-86, an average of 2,322 cases per annum in England and Wales.

I hope, before I conclude, to succeed in convincing you that almost the whole of this mortality may in future be avoided, and that puerperal fever may be practically stamped out. The nature, causes, and treatment of puerperal fever have long been a favourite theme with medical writers. More is said to have been written on this than on any other disease. Dr. Fordyce Barker found that, within the comparatively short period of twenty years (1854 to 1874), upwards of 20,000 pages had been published on the subject. The fact that scarcely anything was known about it did not in any way preclude vast numbers of men from propounding their views and theories, with a dogmatism of which a sister profession has been erroneously supposed to have a monopoly. In the meantime, amidst this cloud of talk, certain facts were being accumulated which were of the highest significance. Let me call your attention to a few of them.

First in importance are certain facts showing that puerperal fever may be carried from patient to patient by medical men, midwives, and nurses. Let me give you two or three from amongst the large number of well-authenticated observations bearing on this point. I shall go a long way back for my selected examples, so as not to wound the susceptibilities of persons now living.

In the year 1795 Dr. Alexander Gordon published an account of an outbreak of puerperal fever which occurred at Aberdeen between December, 1789, and March, 1792. "The disease," he says, "was not peculiar to any particular constitution or temperament, but promiscuously seized women of all constitutions and temperaments, for the strong and the weak, the robust and the delicate, the old and the young, the married and the single, those who had easy and those who had difficult labours, were all equally and indiscriminately affected. It prevailed principally among the lower classes of women, and, on account of my public office and extensive practice in midwifery, most of the cases came under my care. But women in the higher walks of life were not exempted when they happened to be delivered by a midwife or physician who had previously attended any patients labouring under the disease." He gives a table of 77 cases that came under his own care. "The midwife who delivered No. 1 in the table carried the infection to No. 2, the next woman whom she delivered. The physician who attended Nos. 1 and 2 carried the infection to Nos. 5 and 6, who were delivered by him, and to many others. The midwife who delivered No. 3 carried the infection to No. 4, from No. 24 to Nos. 25 and 26, and successively to every woman whom she delivered. The same thing is true of many others, too tedious to be enumerated. It is a disagreeable declaration," he continues, "for me to mention that I myself was the means of carrying the infection to a great number of women. .....I arrived," he says in another place, "at that certainty in the matter that I could venture to foretell what women would be affected with the disease upon hearing by what midwife they were to be delivered or by what nurse they were to be attended during their lying-in, and almost in every instance my prediction was verified."

[1] Much fault has been found with the term "puerperal fever." It has, however, certain unmistakable advantages. Everyone knows what is meant by it; it is comprehensive, and it does not necessarily involve any theory as to the nature of the disease.

Not less striking is the evidence of Mr. Roberton, of Manchester, with regard to an incident that occurred in the maternity department of St. Mary's Hospital in that city in the year 1830. I will give the circumstances in Mr. Roberton's own words.

"Mrs. A. B., a midwife, in great practice among the patients of the charity, had, on December 4th, 1830, delivered a poor woman, who soon died with symptoms of puerperal fever. From this date to January 4th inclusive, exactly one month, this midwife delivered 30 women residing in different parts of an extensive suburb, of which number 16 caught the disease, and all of them ultimately died. These were the only cases of puerperal fever which had recently occurred in connection with the charity. The midwives, commonly 25 in number, then delivered on an average about 90 women per week, or nearly 380 in a month. Now, of this number delivered during the month in question, none had puerperal fever except the patients of Mrs. A. B. Yet all the time this woman was crossing the other midwives in every direction, scores of the patients of the charity being delivered by them in the very same quarters where her cases of fever were happening."

In describing an outbreak at Plymouth in 1831, Mr. Blackmore says:—

"Case 1 of my series was the second of 8 or more cases of puerperal fever that occurred in the practice of one accoucheur within a fortnight. During the next fortnight he had 7 more cases, which all ended fatally. In the week following at least 3 women delivered by him took the fever, of whom 2 died, and several cases occurred in his practice subsequently. I make out that in the practice of this medical man at least 18 cases of puerperal fever occurred in rapid succession, most of them at a time when all the other practitioners of the town had not met with a single case of the disease."

Instances of a similar kind might be multiplied almost indefinitely, but I must pass on to speak of another fact that was continually receiving confirmation, namely, that the disease may be carried to lying-in women from the *post-mortem* room.

The late Sir James Simpson related that "in the winter of 1836-37, Dr. Sidey had five or six fatal cases of puerperal fever in his practice in rapid succession, no other practitioner in Edinburgh having had any. Simpson attended the examination of the body in two of the cases, and took the diseased parts into his hands so as to examine them more closely. The next four women delivered by himself took puerperal fever, and these were the first cases of the disease that he had ever had in his private practice.....A practitioner in Leith, who had examined a piece of the uterus which Simpson had brought home with him, had three cases of puerperal fever among his patients directly after."

The most striking piece of evidence on this point, however, came from Vienna. The story is one that ought never to be forgotten. I will epitomise it as briefly as possible from an admirable paper by Dr. Duka in the *Lancet*, July 31st and August 7th, 1886, which I recommend you all to read.

In the early part of 1846, a young Hungarian, named Ignatius P. Semmelweis, was appointed assistant to Professor Klein, the head of the maternity department in the General Hospital at Vienna. For some years previously the mortality from puerperal fever in that hospital had been excessive. The death-rate, which during the first thirty-nine years of its existence was only 12⅔ per 1,000 (879 deaths out of 71,395 admissions), rose to 50, and sometimes to more than 70, per 1,000. A peculiar feature of this increase in the mortality was that it was most marked in that portion of the department where the students received their instruction; while in Dr. Bartsch's clinic, in which instruction was given exclusively to midwives, the increase was comparatively slight. During the six years 1841-46 the mortality per 1,000 in the student's clinic was 92; in that of the midwives, 33.8. The Government issued one commission of inquiry after another, but no satisfactory explanation of this difference was forthcoming. Atmospheric influences were clearly not the cause, and, as to overcrowding, Professor Klein's clinic was the less crowded of the two. It was said that things would be changed if the number of foreign students was diminished; accordingly, half of them were sent away, and yet the death-rate remained unaffected. The bell that rang outside young Semmelweis's door every time the priest came to administer the last sacrament to the dying filled him with horror, and roused in him a strong determination to find out the cause of this fearful mortality. He noticed that women who were delivered before arriving at the hospital—and such cases occurred to the number of a hundred—almost all escaped. He further noticed that nearly every case of protracted labour in Professor Klein's clinic terminated fatally, while in the No. 2 clinic the duration of labour made no difference. At last, the light dawned upon him. A friend died from the effects of a dissection wound. The symptoms of his friend's illness were identical with those continually observed in the puerperal fever cases under his care. Here, then, was the clue. In Clinic No. 2 the patients were attended entirely by midwives, who had nothing to do with dissections and *post-mortem* examinations. In Clinic No. 1 the women were delivered by students. A great impetus had of late been given to the study of anatomy and pathology in Vienna, and the students were diligent in their attendance in the dissecting and *post-mortem* rooms. All they did in the way of purifying themselves was to wash their hands with soap and water. It became clear to Semmelweis that the poor women in No. 1 Clinic lost their lives from the same cause as his friend, Professor Kolletschka. In May, 1847, he gave orders that, in the Clinic No. 1, every person should, before proceeding to examine any patient, wash his hands in liquid chlorine or chlorinated lime-water. The mortality at once fell. By the following November and December it had fallen to 30 per 1,000, and in the second year of the experiment the mortality was reduced to 12½ per 1,000, a lower rate than prevailed even in Clinic No. 2. In the enunciation of his views, Semmelweis evoked the most bitter opposition. His life henceforth was a ceaseless struggle. An object of dislike and ridicule, he became despondent and irritable, until at last his mind gave way under the strain. But, in the meantime, he had accomplished a great work, not only, as Hirsch says, for the Vienna Hospital, but for mankind at large; and he has left behind him a name that obstetricians, and surgeons too, should ever delight to honour.

The discovery, some years later, of the active part played by micro-organisms in the production of septicæmia furnished the key to the whole situation. Everything was accounted for. The propagation by personal contact; the manner in which the disease dogged the footsteps of individual practitioners and became the scourge of lying-in hospitals; the fatal results of cadaveric contamination; the deleterious influence of protracted labour, involving as it did repeated examinations; the almost entire immunity from the disease of women confined in the streets and elsewhere, in whom no examination at all was made; the success that attended the purification of the hands by means of chlorine—all these facts were now easily explained.

Already, in a well-known and thoughtful essay, the late Sir James Simpson had called attention to the analogies between puerperal and surgical fever, and had shown not only how similar were the two diseases in their symptoms and the morbid lesions they left behind them, but also how the anatomical condition of the patient is practically the same in both. Corresponding to the wound of the surgical patient, we have in the obstetrical always a wounded surface within the uterus where the placenta was attached, and very often, in addition to this, wounds of the cervix uteri, of the vagina, and of the perineum. The facilities for infection by morbid matters are thus as great after delivery as after a surgical operation. In each case micro-organisms, if once brought into contact with the exposed surface, find a ready entrance. How much the knowledge of the dependency of septicæmia on micro-organisms, and the methods of treatment founded upon it, have accomplished for surgery, I need not in this hospital remind you. What I desire to impress upon you to-day is that they are capable of effecting an equally stupendous revolution in midwifery.

The old idea of puerperal fever was that it was sometimes the result of infection from without (heterogenesis), and sometimes of infection from within (autogenesis). There is now abundant evidence to show that the disease is always due to the introduction of pathogenic micro-organisms from without. These micro-organisms may either be varieties of septic bacteria or the common bacteria of putrefaction. The *modus operandi* differs in the two cases. The septic bacteria, finding an entrance through some wounded surface in the genital tract, make their way into the blood and tissues of the patient, and, multiplying there, become the active cause of the disease. The common bacteria of putrefaction also enter the genital tract from without, but their influence is exerted, not by becoming absorbed and distributed in the blood and tissues, but by setting up the process of putrefaction in any *débris*, whether of placenta, membrane, or blood-clot, that happens to be retained in the uterus or vagina. Such *débris* may be present, and may be the cause of hæmorrhage; but, unless bacteria obtain access to them, they will not undergo putrefaction,

the presence of bacteria being essential to that process. When they do obtain access and putrefaction is set up, certain poisonous chemical products are given off, which, if absorbed into the system, are capable of giving rise to puerperal fever.

The great difference between puerperal fever caused by septic bacteria and that caused by putrefaction is, that whereas in the former there is a living, self-multiplying poison in the system which, once introduced, must run its course, there being no antidote as yet known to us except such as would at the same time destroy the life of the patient, in the latter the poison, though capable, if left to itself, of producing deadly results is, if the source of the poison be removed and its absorption arrested, quickly eliminated from the system, with entire relief to the dangerous symptoms.

Fortunately the same means that prevent the one form of puerperal fever prevent the other, what is required in both cases being that no micro-organisms shall be allowed entrance to the genital tract either during or immediately after the process of parturition.

It is not possible, so far as I know, absolutely to distinguish at the bedside that form of puerperal fever caused by septic micro-organisms from that caused by the products of putrefaction. The rule of treatment, therefore, when symptoms of puerperal fever show themselves is, first of all, to make sure that the uterus and vagina are perfectly empty and clean. If the case be one of putrid intoxication (sapræmia, as Dr. Matthews Duncan calls it) the symptoms, after the cleansing out of these two cavities, will at once subside; if not, no harm will have been done.

The circumstance that the retention of *débris* in the genital passages is an essential factor in the production of puerperal fever due to putrid intoxication has led to this form of disease being described as autogenetic. Nothing could be more misleading. "To admit," says Fritsch, "the existence of a spontaneous infection is to take a long step backward." Not only so, it is to paralyse effort and destroy hope. "The doctrine of autogenesis," exclaims Parvin, "is a confession of ignorance, the creed of fatalism, the cry of despair,.....the very pessimism of obstetric medicine."[2] I hope, to-day, to contribute in some degree to the overthrow of a doctrine that has caused incalculable mischief.

And now let me bring before you some of the results of the employment of antiseptics in midwifery. The obstetricians have been slower than the surgeons to profit by the teachings of Lister, and even now I am ashamed to say that British obstetricians are far behind their Continental brethren in this matter. Let me take, first of all, the experience of the great lying-in hospital at Vienna, the largest institution of the kind in the world. I have already recounted to you one interesting episode in its history. In a paper recently published, Professor Braun von Fernwald has given us a statistical statement commencing with the year 1857, when he took charge of the clinic. The account covers a period of twenty-nine years. During this time there were 108,889 births in the hospital. In the first six years (1857-62) the mortality was 28 per 1,000. A number of hygienic improvements were then carried out, and the heating and ventilating apparatus was reconstructed. The consequence of these measures was a reduction of the mortality during the next eighteen years (1863-80) to 16 per 1,000, the deaths from puerperal fever being at the rate of 13 per 1,000.

TABLE II.—*Imperial Lying-in Hospital, Vienna.*

Date.	Deliveries.	Deaths.	Mortality per 1,000.
1857-62 ...	25,123 ...	722 ...	28
1863-80 ...	68,770 ...	1,117 ...	16
1881-85 ...	15,070 ...	107 ...	7

Mortality from Puerperal Fever.

Date.	Rate per 1,000.
1863-80	11
1881-85	4

Then came the introduction of antiseptics, and during the next five years (1881-85) the total mortality fell to 7 per 1,000, and the mortality from puerperal fever to 4 per 1,000. It is worthy of note that during the 29 years in question no fewer than 7,964 students attended the clinic. It should also be remembered that in a hospital of this kind there is a large percentage of dangerous and difficult cases. In proof of this I may point out that during the five years, 1881-85, amongst 15,070 deliveries, the number of operations was 2,543, including 9 Cæsarean sections. These facts serve only to increase our admiration at the marvellous results obtained.

I have spoken first of the Vienna Hospital, because its statistics deal with such large numbers as to have, on that account, a special value. Passing on now to Dresden, you will find the results there even more remarkable. Professor Leopold has published an elaborate and most interesting record of the cases under his care in the Dresden clinic up to the end of last year, 1887. The following table shows the number of deaths and rate of mortality from septicæmia (originating in the hospital) during the past four years.

TABLE III.—*Dresden (Leopold).*

Date.	Deliveries.	Deaths from Puerperal Fever Originating in Hospital.	Mortality per 1,000 from Puerperal Fever.
1884 ...	1,368 ...	12 ...	8.7
1885 ...	1,365 ...	2 ...	1.4
1886 ...	1,387 ...	2 ...	1.4
1887 ...	1,388 ...	1 ...	0.7

The total mortality in the year 1872 had been 50 per 1,000, that in the years 1886 and 1887 was 10 per 1,000; 14 deaths having occurred in each of the two years.[3]

The observation I made, when speaking of the Vienna Hospital, as to the large proportion of difficult and dangerous cases, holds good also with regard to the hospital at Dresden. For example, out of 2,775 women delivered in the last two years, 396, or 14 per cent., required operative interference; 27 of the patients suffered from eclampsia, 23 had placenta prævia, and 224 had well-marked contraction of the pelvis. Amongst the operations performed were no fewer than 15 Cæsarean sections. To have a total mortality of only one per cent., under these circumstances, is surely an achievement to be proud of. But Leopold's success does not by any means end here. The salubrity of a lying-in hospital is to be measured, not by its mortality only, but by the amount of sickness in its wards. The statistics of the Dresden Hospital show that, of the patients confined there in 1886, 77.8 per cent. made a perfectly normal recovery, while, in 1887, the number of such recoveries actually reached 95 per cent.[4]

TABLE IV.—*New York Maternity Hospital.*

Year ending.	Deliveries.	Total Number of Deaths.	Deaths from Sepsis.	Mortality per 1,000 from Sepsis.
Sept. 1883 ...	429 ...	34 ...	26 ...	60.6
,, 1884 ...	505 ...	7 ...	3 ...	5.9
,, 1885 ...	541 ...	4 ...	1 ...	1.8
,, 1886 ...	463 ...	4 ...	1 ...	2.1

TABLE V.—*Boston Lying-in Hospital.*

Date.	Deliveries.	Total Number of Deaths.	Deaths from Sepsis.	Mortality per 1,000 from Sepsis.
1882 ...	288 ...	17 ...	16 ...	55.5
1883 ...	242 ...	14 ...	11 ...	45.8
1884 ...	310 ...	6 ...	5 ...	16.1
1885 ...	308 ...	4 ...	2 ...	6.4
1886 ...	373 ...	3 ...	0 ...	0

Turning to the United States, it will be seen from the extremely interesting tables before you that both New York and Boston are able to furnish similar overwhelming testimony to the value of antiseptics, the improvement in their results keeping pace with improvements in their methods, until the mortality from puerperal fever at the New York Hospital has been reduced from 60 per 1,000 to 2 per 1,000, and at the Boston Hospital from 55 to 0.

TABLE VI.—*Paris Maternité (Tarnier).*

Date.	Mortality per 1,000.
1858-69	93 ... ... = 1 in 10¾
1870-81	23 ... ... = 1 in 43
1882-87	11 ... ... = 1 in 91

[2] T. Parvin, *The Science and Art of Obstetrics*. Edin.: 1887, p. 563.

[3] This seems to give an unusually large proportion of deaths not due to puerperal fever. It may therefore be well to mention the actual causes of death, other than puerperal fever, originating in the hospital in these two years. In 1886, six women died from eclampsia, two from severe nephritis and uræmia, one from acute pneumonia (ill on admission), one from exhaustion after decapitation of the child for impacted shoulder, one (a case of angular curvature) from intense dyspnœa, and one committed suicide. In 1887, two women died from eclampsia, four from placenta prævia, one from granular kidney, one from intestinal perforation, one from acute meningitis following ear disease, one from rupture of the uterus, one from septic peritonitis (present on admission), and two from exhaustion. Of the two cases that died from exhaustion, one came into the hospital with her genital organs bruised, torn, and bloodless after repeated attempts at turning, and the other was a case of impacted breech, admitted after having been five days in labour.

[4] By a normal recovery is here meant one during which the temperature never, even on a single occasion, exceeded 100.4° (38° C.)

Scarcely less striking is the record of the Maternité at Paris. From 1858 to 1869 the mortality was 93 per 1,000; this Tarnier calls the period of inertia. From 1870 to 1881 the death-rate fell, in consequence of the adoption of hygienic measures, to 23 per 1,000; while, in the six years 1882 to 1887, during which antiseptic precautions were rigidly observed, the mortality was only 11 per 1,000, or little more than 1 per cent.

Such instances could be multiplied almost indefinitely. I will, however, only inflict one more upon you, that of our near neighbour the General Lying-in Hospital in York Road. Until the year 1877 this hospital was scarcely ever free from puerperal fever, and the mortality, always high, occasionally became fearful. In 1838, of 71 women delivered, 19 died; in 1861, 14 died out of 195; and in 1877, 9 out of 63. On several occasions the hospital had to be closed for long periods, and thousands of pounds were spent on the sanitary improvement of the building. Since October, 1879, when it was reopened after having been closed for two years, the hospital has been conducted on antiseptic principles, the details varying from time to time as increased knowledge and experience dictated. Mark the result. The total mortality, which from 1833 to 1860 averaged 30.8 per 1,000, and from 1861 to 1877 17 per 1,000, has fallen during the last eight years to an average of 6 per 1,000.

TABLE VII.—*General Lying-in Hospital.*

Date.	Deliveries.	Deaths.	Average Mortality per 1,000.
1833 to 1860	5,833	180	30.8
1861 to 1877	3,773	64	17
1880 to 1887	2,585	16	6

Puerperal fever has been almost entirely banished. Only one death has taken place from this cause during the last three years, and it has come to be regarded as quite an unusual event for a patient's temperature during convalescence to exceed 100° F.

In the face of such results as these, it is surely time to give up talking about an autogenetic variety of puerperal fever. The precise character of the antiseptic measures to which these wonderful results are due varied in different hospitals, and varied, too, in the same hospital from year to year. It would, therefore, serve no good purpose to attempt to describe them in detail. The object at which they all aimed was the same, namely, the exclusion of pathogenic micro-organisms from the genital passages. As to the best methods of effecting this object, there is, no doubt, still some difference of opinion. The best authorities, however, are, I believe, quite agreed:—

1. That the fundamental rule in antiseptic midwifery, the neglect of which renders all other measures futile, is to ensure perfect antiseptic cleanliness of the hands of the attendants, of any instruments or appliances that may be required, and of everything that is liable to be brought into contact with the genital passages.

2. That the most efficient antiseptic for this purpose at present known is corrosive sublimate.[5]

3. That the best method of ensuring antiseptic cleanliness of the hands is to wash them thoroughly with soap and warm water, using a nail-brush vigorously, and then to rinse them carefully, again with the help of a nail-brush, in a solution of corrosive sublimate, 1 in 1,000.

4. That if the patient has been already examined without antiseptic precautions, the vagina ought to be irrigated with a germicide solution as a preliminary proceeding.

5. That if, for the foregoing or any other reason, sublimate irrigation be employed, care should be taken to avoid any of the solution lodging in the passages, lest the patient be r curialised.

With regard to the desirability of sublimate irrigation as a rou tine practice before and after delivery, opinions vary. It canno be denied that some of the most brilliant results hitherto ob tained have been obtained by those who regularly practise sublimate irrigation. On the other hand, however, there is the experience of the hospitals of New York and Boston, where the crowning success was achieved after irrigation as a routine practice had been entirely abandoned. Moreover, it must not be forgotten that several cases have been recorded where sublimate irrigation has resulted in fatal mercurial poisoning. For the ordinary douching of the vagina during the puerperal period, the simpler and non-poisonous antiseptic solutions are, in my opinion, quite as efficacious as the more powerful ones, and infinitely less dangerous; but as a disinfectant for the hands, instruments, and other appliances, corrosive sublimate is perfectly free from danger and at present stands unrivalled.

I plead to-day for the more general adoption of antiseptics in midwifery. The lying-in hospitals have very properly led the way; but, although many private practitioners have taken the matter up with enthusiasm, the practice of antiseptic midwifery is as yet far from being universal. There is still a notion abroad that this question of puerperal fever is one that chiefly concerns the lying-in hospitals. It is obvious, however, that the 2,708 deaths from puerperal fever registered in England and Wales in 1886 could not all be hospital cases. As a matter of fact, nearly two-thirds of them occurred in counties where not a single lying-in hospital exists; and even as to the remaing third, the lying-in hospitals of this country are so few in number and so comparatively small in size that they cannot possibly be accountable for more than an inconsiderable proportion of the cases. A certain number, no doubt, occurred in the workhouses, but the immense majority took place in the patients' own homes. The only way to avoid this terrible mortality, and to avoid also the enormous amount of puerperal disease which, because it is not fatal, remains unrecorded, is for every practitioner in midwifery to recognise his personal responsibility in the matter.

The essential antiseptic measures are very simple, and their habitual employment is by no means burdensome. A pint of corrosive sublimate solution of the proper strength (1 in 1,000) can be prepared in a minute or two from a 10-grain powder, a dozen of which can be put in a little box and carried in the pocket. In the powders supplied by my direction to the obstetric clerks in connection with our own maternity department at St. Thomas's, the 10 grains of corrosive sublimate are mixed with 50 grains of tartaric acid and a grain of cochineal. The tartaric acid increases the bulk of the powder and, what is more important, lessens the risk of a portion of the mercury being lost by precipitation, either from being formed into an insoluble albuminate,[6] or from the alkalinity of the water, as in the case of London.[7] The cochineal is of course merely a colouring agent to prevent the solution being mistaken for anything else.

A solution of corrosive sublimate does not, like solutions of potassium permanganate, lose its antiseptic property after being once used. It is, therefore, usually sufficient to prepare a supply on entering the lying-in room, to renew it when the labour is over, and afterwards to prepare a fresh solution once a day. The solution should be placed in a small bowl on the washstand by the side of the washhand basin, and kept there, ready for immediate use, from the time the first internal examination is made to the end of the puerperal week.

The best antiseptic lubricant with which we are at present acquainted is a solution of corrosive sublimate in glycerine,[8] 1 part to 1,000, and this also can be easily carried about in a suitable and well-secured bottle.

In Germany the use of antiseptics in private midwifery practice is a matter of State regulation. You are no doubt aware that it is the custom in that country for all classes to be attended in their confinement by midwives, the doctors being summoned only in cases of difficulty or danger. Every midwife is compelled by

[5] It may be useful to restate here the grounds on which corrosive sublimate is now accepted as the most reliable of all known disinfectants. In 1874, Billroth showed that septic bacteria were killed by a solution of corrosive sublimate, 1 in 9,600 (*Untersuchungen über die Vegetations-formen von Cocco-Bacteria Septica*, Berlin, 1874), and in 1881, the researches of Koch as to the relative power possessed by various reputed antiseptics in the case of the spores and bacilli of anthrax established the superiority of sublimate in a most remarkable manner. The spores of anthrax are exceedingly tenacious of life, probably surpassing in this respect any germs of micro-organisms hitherto known. A solution of carbolic acid, 1 in 20, required two days to kill them, yet a momentary contact with a solution of corrosive sublimate, 1 in 5,000, sufficed to destroy them immediately (*Mittheilungen aus dem Kaiserlichen Gesundheitsamte* Bd. I. Berlin, 1881). In Koch's experiments, however, the conditions were such that the quantity of the disinfectant in solution came into the fullest action. Where the conditions are more complicated the solution will require to be stronger. Sufficient sublimate must be used under such circumstances to ensure that at least 1 in 5,000 of free sublimate shall remain in solution. In practice this condition is found to be fulfilled by using a solution of 1 in 1,000 (see Moritz, S., Corrosive Sublimate as an Antiseptic in Surgery, *Medical Chronicle*, vol. i. Manchester, 1884-85, pp. 355, *et. seq.*).

[6] Laplace (E.): Saure Sublimat Lösung als desinficirendes Mittel und ihre Verwendung in Verbandstoffen. *Deutsche Med. Woch.*, Leipzig, 1887, xiii,p. 866; see also JOURNAL, January 21st, 1888, p. 148.

[7] Boxall (R.): The use of Acidified Corrosive Sublimate as an Antiseptic, JOURNAL, February 11th, 1888, p. 295.

[8] Since Dr. Boxall introduced this preparation at the General Lying-in Hospital, and had the catheters kept partially immersed in it, cystitis after the use of the catheter has been unknown.

law to carry with her a bag containing all the necessary appliances. By the kindness of Dr. Matthews Duncan I am able to show you one of these bags. Here, in addition to the usual armament of catheter, scissors, tape, enema-syringe, etc., is all the apparatus necessary for disinfection, including the indispensable nail-brush; and, to give completeness to the arrangements, there is in every bag a book of instructions. If any midwife fails to use these things she is liable to punishment. The tendency of public opinion in this country is not in the direction of compulsory legislation in such matters. The use of antiseptics in Great Britain is, and is likely to remain, a question of individual responsibility, not of penal enactment. Surely it ought not on that account to be considered the less binding.

I have now stated my case. My plea has been on behalf not of the sickly, and aged, and useless members of the community, but of the mothers of this country, whose lives and health are of an importance quite incalculable. Tragedies such as those I have felt it my duty to relate to you are still being enacted in our midst. I know of a country town not far from London where, within the present year, puerperal fever has singled out the patients of one of the local practitioners exactly as it did at Plymouth and other places fifty and a hundred years ago. For six months every patient that he attended (with the exception of two, in whom labour was over before his arrival, and in whom, therefore, no examination was necessary) died of puerperal fever.

May I, in conclusion, borrow the words of one whom the whole English-speaking profession regards with affection and with pride, our venerable American *confrère*, Oliver Wendell Holmes, who, writing five and forty years ago of similar catastrophes, rose to an eloquence which even he has never surpassed? "It is," he says, "as a lesson rather than as a reproach that I call up the memory of these irreparable errors and wrongs. No tongue can tell the heart-breaking calamity they have caused. They have closed the eyes just opened upon a new world of love and happiness; they have bowed the strength of manhood into the dust; they have cast the helplessness of infancy into the stranger's arms, or bequeathed it, with less cruelty, the death of its dying parent. There is no tone deep enough for regret, and no voice loud enough for warning. The woman about to become a mother, or with her new-born infant upon her bosom, should be the object of trembling care and sympathy wherever she bears her tender burden, or stretches her aching limbs. The very outcast of the streets has pity upon her sister in degradation when the seal of promised maternity is impressed upon her. The remorseless vengeance of the law, brought down upon its victim by a machinery as sure as destiny, is arrested in its fall at a word which reveals her transient claim for mercy. The solemn prayer of the liturgy singles out her sorrows from the multiplied trials of life, to plead for her in the hour of peril. God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly, or selfishly."[9]

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AN ADDRESS
ON
MEDICAL EDUCATION AND THE DUTY OF THE COMMUNITY WITH REGARD TO IT.

Being a Report of an Introductory Address, Delivered at the Opening of the New Buildings of the Sheffield Medical School.

BY SIR ANDREW CLARK, BART., M.D., F.R.S.,
President of the Royal College of Physicians, and Consulting Physician to the London Hospital.

I SUPPOSE that, next to the mere act of energising for its own sake, there is no higher and truer pleasure in life than the achievement of a laudable object towards which the energies of some persons or some community of persons have been for a season seriously bent. This pleasure to-night is yours; and, were it not for the indisposition of the venerable man who for so many years has lived and laboured amongst you, this pleasure would have been unalloyed as well as great. The task which you were undertaking when I had the privilege of addressing you a year or two ago is finished. The Medical School of Sheffield, rebuilt, fitted, and furnished according to the best experience of the time, resumes on Monday its former work; and we have assembled here, to-night to crown this high endeavour, to inaugurate the business of the session, and to give voice to our wish that in its renewed life the school may have a useful, prosperous, and high career.

I congratulate you cordially upon this important and memorable occasion, so worthy of the best traditions of Sheffield, and so

characteristic of the intelligence, the enterprise, and the right-mindedness of its inhabitants. I trust that the sacrifices which you have made, and that the sacrifices which you have still to make, for the sake of this weighty work, will bring forth in due season their full and fit rewards. I must repeat with emphasis, the sacrifices which you have still to make; for your enterprise, though crowned, is not closed. You have made ready the school for work; but you cannot, therefore, leave it to its own resources. Your interests and your duty alike require that you should continue to watch it in its working, to maintain it in its place and use, and to make sure that, while it justifies the reputation of your medical faculty, it is worthy of the name and fame of Sheffield. And, indeed, it is a supreme necessity that you should see to all these things; for this is not, and ought not to be, the mere business of the medical profession. It is the business, and it is also the privilege, of this community; for the community is one and indivisible; and it is only through the practical as well as theoretical recognition of its truth that it can reach its fullest and highest life. I am not forgetting the subsidiary lives which collectively constitute the corporate life. I do not forget that there is the life of the individual and of the family; that there is the life of societies, of schools, of churches, of occupations; and that each one of these, in its place and work, must have needful freedom and independence. I do not forget these things. But then it is necessary to remember that not one of these organisations is complete in itself; that not one of them can live by itself; that it can fully live only through the other organisations with which it is associated; and that the fulness and freedom of their separate as well as their related lives must be strictly limited and conditioned by all that is necessary to the well-being of the community.

On the other hand, in view of what is highest and best in this matter, the community cannot contract itself into a mere official body. It cannot safely separate itself from all those separate lives and organisations. It cannot live to itself; it must live for them. They must find their highest life in it; and it must find their fullest life in them. What one feels all should feel, and the difficulties of any single organisation should become, if possible, the object of corporate concern. Furthermore, it seems necessary not only that the community should interest itself in the welfare of its several organisations, when such interest can help without hurt, but also that the interest which it may exercise should be of the truest kind—of such a kind that worth and service should be considered before material success. In such an institution, for example, as this Medical School, it would not be a sufficient discharge of the responsibilities of the community to help it when in need with grudging doles of money. It is necessary that it should take a personal interest in all its concerns; it is desirable that by some of its representatives it should take part in its administration; and in some way, if not in this way, it should be the duty of the community not merely to maintain the school in a state of active efficiency, but to make sure that the work done by it is the best that can be commanded at this time.

Now, the maintenance of this Medical School in its proper place and active work will require from you, not merely some continuous sacrifice, but also harmonious co-operation. Happy community to have laid upon you the yoke of such a happy demand; to have brought straight to your hearts the opportunities of such a splendid discipline; and to have to remember that the work purchased at the price of somewhat of ourselves is ever fruitful in growing good to others. Nothing of what is truest and best can be had without sacrifice. It is the law of the higher life; it is the one secret of righteousness; and if righteousness is in the subordination of ourselves to all that is pure and true and good and of service to man, it should be the supreme life of a community, as well as the exalter of the race. Now, a special form of sacrifice is necessary in achieving and continuing the success of a work such as the one which we are now inaugurating. This, as I have said, is the sacrifice of harmonious co-operation—at once the most difficult and the most desirable of all sacrifices to make. In our lower moments, when engaged with some large business in which others are concerned, we are sometimes disposed to restrict ourselves to our own work, to do it only in our own way, to continue it for our own ends, to disregard in it the experience of others, to make our own judgments the criterion of what is right, and even to shatter an enterprise in which our personal influence has ceased to be supreme. But however free from conscious evil work without sacrifice may be, it is bad work; it makes good work barren; it makes bad work fruitful; and through lack of the wisdom of concession and of the capacity of sacrifice there come lapse of co-operation and the loss of all the good things which it might achieve. Little can they imagine who refuse to give of themselves for the good of a common object for others, how precious are the ulterior rewards of self-effacement; and still less can they understand the great spiritual paradox of humanity, that he who seeketh his own life shall lose it, and that he who giveth his own life shall find it again in a new and noble birth.

But of all those about to be engaged in this important work, the teachers and the taught will have to encounter the greatest difficulties, and to overcome them by the greatest sacrifices. Many things will be required from the teacher which it will be hard for him in his circumstances to give; things which, indeed, it would be impossible for him to give in any worthful measure without a loving interest in the work and in the workers. He has to undertake duties which are exceptionally difficult to discharge, and can return him no adequate material reward. He has to show forth in his own life and work what the life and work of the learner should hereafter become. He has to provide for his pupils all the newest and best knowledge of the time: and, corrected by his own experience and stamped with his own individuality, he has to convey it to men in the simplest language and in the most useful forms. Knowing and considering the impulsive waywardness of youth, he has so to blend necessary discipline with personal kindness, that whilst his pupils are passing through the irksome forms into the spirit of duty, they shall find needful help in the patience and sympathy of one who, more than their teacher, is their friend and guide. But the teacher has still another task to perform, one which is both supremely difficult and supremely important, and, strange to say, one which cannot be performed without the sacrifice of much that is vital in true education and essential to thorough work. The teacher must so frame his instructions, and so direct the studies of his pupils, that however much they may fail in most things, they must at least succeed in one. They must succeed in passing the examinations which, beyond admitting them into the profession, confer upon them degrees.

Now this is the age of examinations, and for qualifications in the various departments of art and science the questions to be answered are sometimes so numerous, recondite, and complex that the kind and degree of preparation necessary to answer them are becoming incompatible with true education, genuine study, and thorough work. For all these true knowledge is necessary, and true knowledge cannot be acquired by any mechanical habit, and could not continue to subsist as a mere addition to the mind. True knowledge is not in any high or just sense a mere acquisition—it is a living part of a living mind, growing, developing, reproducing, creating, in such proportion as it is properly fed and exercised. And this food and exercise are supplied through observing, doing, thinking—through comparing and classifying the objects in Nature—through critical consideration of the acts and facts of life. But it seems that the mere training of pupils to pass difficult examinations has become the business of education and the end of study. Examinations have unquestionably their place and use; but I regard it as certain that no acuteness of perception, no quickness of acquisition, no retentiveness of memory, no cleverness in learning artificially classified subjects will ever bring about results comparable with those of patient and thorough educational work. The mere process of cramming conducted by a clever coach may sharpen some of the lower intellectual powers; but it will sap the strength of the higher ones, and, whilst it may carry a student triumphantly through some difficult examination, which may have been made the end of his studies, it will place him in after years at a terrible disadvantage in dealing with the difficult problem of life and work. For the chief faculty employed in this showy but shallow method of learning is memory. But memory cannot be exercised excessively except at the cost of injury to all the other mental faculties. In such case they become weakened, atrophied, disordered. And although the mind may readily receive, retain, and when required return, naked facts and unreasoned principles, these constitute neither the means nor the material, neither the scope nor the purpose of education. Education is a very different and a much higher thing than that. It has for its object the growth and development, the exercise and the discipline of the mental faculties in just relation to each other; it has for its means observing, comparing, classifying, trying, doing; and it has for its end the enabling of a man not only to observe, reflect, reason, judge, feel, and act, but so to employ those powers

in studying the problems of life and mind that in striving after their solution he shall be neither put to confusion nor landed in error. This is the kind of education which makes the statesman and the scholar, the man of science, and the man of art; and this is the only kind of education which will enable the student to learn as it ought to be learned, and to exercise as it ought to be exercised, the science and art of medicine. Much then must we sympathise with the teacher who is forced to follow a fashion which his experience condemns, and to leave comparatively unused those higher methods of teaching which he knows and trusts.

Next in place and importance to the teacher is the life and work of the taught. And when we consider what the students are destined to become, the responsibilities which they will have to undertake, the temptations to which they will be exposed, the perils which from ignorance or inexperience they will have to encounter, and all the consequences for good or for evil which must follow right or wrong doing in the solemn things of life, you will agree with me in saying that in their co-operation in the work which we are inaugurating, the students have claims which cannot be waived upon our sympathy and our help. I shall, therefore, ask you to consider with me some of the difficulties and dangers of the student's life. I shall carry you to some simple family circle, in its home, with all its old-fashioned thoughts and ways, with all its pious beliefs and practices, with all its daily duties duly done, with all its affections and indulgences, all its counsels and cautions, all its restrictions and discipline, and all the sum of things that make up the round of life from morn to eve. Therein dwells the son who aspires to follow the doctor's life; and now the time has come when, to enter upon his studies, he must leave this haven of safety, and begin his independent life in the world. There, mixing with characters of every kind, he finds himself free. Half intoxicated by his freedom, and engrossed by the novelties surrounding him, he forgets the sacred traditions of home, and listens with too ready an ear to the unreasoned dogmatisms of half educated and presumptuous youth. At one time he goes in peril from the weak and frivolous, and at another time from the idle and dissolute. But his greatest danger lies in falling under the influence of the intellectual and unbelieving. For then, reasoned or ridiculed out of his sacred beliefs and practices, and shown, at least to the satisfaction of the reasoner, that they are groundless and unworthy superstitions, he rejoices in his emancipation from a barbaric faith, prides himself upon his growing reason, pities his people tied to the worn-out theology of home, and accepts unreservedly the latest gospel of life. If, now and then, some doubts and fears arise, they are silenced by the replies which the modern gospeller knows to be true. For the living God he gets a primitive universal force, for creative power he receives the promise and potency of eternal matter, for good and evil he is furnished with states suitable or unsuitable to man in normal environments, for sin there is returned disease, and for the causal explanation of things he is handed a statement of the order in which they are supposed to occur. And at last finally admitted to the full esoteric faith, our student is assured that the seen is the measure of the unseen, that true religion lies in loyal obedience to physical laws, that the criterion of morality lies in utility, that abstract right and wrong are unmeaning words, that life issuing out of matter, and whilst lasting the mere automatic reflex of the inner to the outer conditions of the organism, returns through death to the matter out of which it arose, and that immortality is nothing more than the silly dream of shallow and superstitious men. Finally, our student is taught that the consideration of this present life is the one thing needful for the happiness of men, and that he is the wisest man who can so arrange the whole business of existence that it shall be the freest from pain and the fullest in tranquillity and pleasure.

Now, it would be a calumny to say or even to insinuate that the preaching and practice of this gospel of modern Epicureanism is incompatible with a pure, simple, noble, and useful life. Men are often better than their theories would logically make them, and there are now living and working amongst us many persons distinguished alike by greatness of intellect, blamelessness of life, and activity of service to man, who are either teachers or followers of this materialistic faith. But charity does not prevent me from saying that such men are exceptional in constitution, that the development of their higher nature is in some way defective, and that they cannot be regarded as typical representatives of the ordinary man. For in every normal person there exists a religious sense or faculty, and we seem justified both by empirical observation and by scientific inquiry in contending that it must have some corresponding objective reality whereon to exercise itself. The law of evolution indicates that wherever there is a living organ there is an active function; and therefore one might as well expect to see wings without the capacity of flight, and ears without the capacity of hearing, as to find in man a religious faculty without the capacity of exercising a spiritual function. The action of this faculty can be neither repressed or ignored. Almost every human thought, feeling, and action is more or less under its influence. It guides the course, settles the purpose, and determines the issues of almost all the supreme events in the community and the nation, and in the life-history of the family and the individual it is as necessary to reckon with the effects of the religious sentiment as it is necessary in the life-history of the world to reckon with the effects of gravitation.

And now, my dear fellow-students, I address myself more particularly to you, not merely as fellow-labourers in the work which to-night we are beginning, but also, I have already said it, as the chief objects of our interests, our sympathies, and our hopes. For the part which you have undertaken to play in this work is not an easy one; you are inexperienced in playing it, you are unacquainted with the best way of dealing with its difficulties, and yet all that is most desirable in your future, and all that will prove most precious to you in life depends upon your ability to perform this part aright, and to sustain it with vigour. Hence it happens that I, an elder student and also a teacher, am here to-night to help you out of the treasury of my experience with such counsels and cautions as may save you from the troubles which I and others have endured, and enable you to succeed where I and others have failed. Now, my counsels and cautions will relate only to your general work and life. For your special work in the various departments of medicine I must refer you to your different teachers, who are both able and eager to give you all the help that you may need.

My first counsel to you is to continue with a loving care the sacred traditions of your homes, to preserve a religious faith and life, and to regard as groundless the statements of those who, in the name but without the authority of science, declare that our ideas of God and immortality are but subjective superstitions. Do not be frightened from your faith by such allegations as these: That God cannot be personal because personality implies limitation, and that He is unknowable because His existence is incapable of verification. Such statements are ignorant, foolhardy, and unwarrantable assumptions. True science has made marvellous revelations to man concerning the universe, the plan upon which it has been built, and the order and relations of the events which happen in it. But it has told us nothing of the actual nature of things, it has proved nothing to extinguish belief in a Personal Ruler of the Universe; and it furnishes no justification of the cruel contentions of those who strive to rob man of his spiritual inheritance, and to leave him whereon to live between two barred eternities nothing but the compass of this little earth and the fleeting life that is lived thereon. I am not now, however, going to plunge you into the deeps of a metaphysico-theological discussion. I content myself with saying to you, as young men engaging in the exercise of an art based and built upon experience, that if you strive to do the things belonging to a religious faith and life, you will discover for yourselves, beyond any possibilities of doubt, whether they be true or false.

My second counsel to you is to cultivate character. In the work to which you will be called you may succeed without comeliness of person, or engaging manners, or robust health, or signal abilities, or influential patronage, or troops of friends, but you cannot and you ought not to succeed without character. Your character is the outward expression of your moral life; your moral life is the manifestation of your conscience in action upon yourself and upon others with whom you come into relation, and conscience is the supreme revealer of right and wrong to man. Perhaps the saddest sight in all the world is the union of a large and cultivated intellect with a moral nature which is either blind or base. There are able and good men who declare that the moral life is self-dependent, and that it is the mere outcome of human experience transmitted with varying modifications and corrections from generation to generation. On my own part I regard such a view as at variance with the facts of consciousness as well as with the history of human thought. For if it were true, the moral ideal would stand no higher than myself, and would carry with it no imperative of duty. Unless in some manner divinely

illuminated and inspired, I could generate no confidence in the judgments of conscience, and acquire no abiding faith in its objective and supreme authority. And if it be proved, as I suspect it will, that morality has its roots in religion, then you have conclusive reasons for adopting my first counsel to seek after a religious faith and to follow a religious life.

The chief moral qualities essential to the right exercise of the art of medicine are truthfulness in manner, word, and deed, reverence for high things, purity, self-effacement, regard for others, gentleness, loyalty to conviction, the courage to speak when silence might become complicity with evil, an unfailing sense of duty and responsibility, and the avoidance of idleness, frivolity, and ease. It cannot be concealed that in all of us there is a somewhat which strives against these things; and that in you the natural movements of life, your social relationships, and even your very studies will create in you desires tempting you to the indulgence of your lower self. Then, apart from the constraining love of virtue, you will have to remember that in the moral world nature is as implacable as in the physical world; that here there is neither forgetfulness of facts, nor forgiveness of sins; and that as you choose to sow, you shall be compelled to reap. And now, my dear students, is the appointed time to make yourselves what you ought to be; yes, now or never. Your moral nature is like any other organ or function; its highest life is to be found in its fullest action; its ease is the prime condition of its disease; its inactivity is its death. If your moral nature is to be made strong, you must exercise it; if you would shun falsehood, practise truth; and then you will learn how your antagonists may become your helpers. Then you will feel how every idle moment which you redeem, every hard word which you repress, every weak indulgence which you resist, every evil habit which you conquer, every gross temptation which you overcome, will give you additional strength for fresh encounters; then you will discover with waning difficulty and waxing joy, how to sacrifice the lower to the higher nature, how to find strength for duty, safety from evil, love for sacrifice, and how to become partakers of that truer life which is life indeed.

The third counsel which I have to offer to you is this: take care of your health, for it will not take care of itself. The health which you are to have hereafter you must make to-day; and if it is wrongly made now, it will be hard to get it rightly made then. Health is an essential condition of the fullest bodily and mental work; it is a prime factor in the making of happiness; and it is furthermore an inheritance which you ought to transmit, if not improved, at least unmortgaged to succeeding generations. It may be thought to be but little worse than folly to injure your own health, but surely it cannot be less than cruelty to injure the health of those who are yet unborn. The rules of health for students are few and simple, and in following them you need encounter no greater difficulties than are necessary to the strengthening the will and the discipline of self-denial. Simple as they are they cannot be continuously broken with impunity. It is to more or less prolonged conscious or unconscious, and often petty violations of physiological laws that most of our chronic disorders and diseases are due. They are punishments of physical sin, and not paradoxes of spiritual life.

The last counsel which I shall offer you to-night is this: Give yourselves with all your desire and all your might to the work which lies before you to do. Let it be the chief and ever-present object of your life, and let nothing come between you and your duty to it. Medicine is a jealous goddess who neither shares her supremacy nor tolerates rivalry, and who never grants her favours to a divided worship. In this she shows what a true woman she is. Do not be afraid of overwork, which for the most part is one of the fashionable pretences of the time. If you will be fairly loyal to the laws of health—if you will live within the rules laid down for your guidance—you cannot overwork yourself if you would. But the work must be honestly done out of the measure of your own strength, and not from the stimulus of a spur, whether of alcohol or tobacco. For it is a truth too often forgotten that labour of every sort is not merely life, but in the highest conceivable sense the very life of life. Give respect to your teachers and their teaching. Make the best of both, and you will get the best. Make the worst, and you will get the worst with contentions, bitterness, and loss. Your teachers stand upon a height to which you have not yet ascended. They see further than your vision yet extends. They know more than as yet you can comprehend, and from their elevation they can guide you better than you can as yet guide yourselves. You cannot, therefore, with justice be their judges; and there can be no greater humiliation than to discover hereafter that you had adversely criticised what you did not know, and tried to hurt those who were striving to give you help.

Read no more books than are absolutely necessary to master the subject of which they treat. Read only the best books, and read them from end to end with thought and care. Be sure that you understand one paragraph before you begin another; never skip and never skim. Superficial reading is the curse of knowledge and the chief hindrance to its highest uses. More than anything else, it is the cause of those intemperate controversies which deface the literature of science. Read your book once to cover your subject; read it a second time to apprehend the position and contentions of the author; read it a third time that by writing abstracts of the leading divisions, by reproducing from memory the substance of the author's contentions and arguments, and by making commentaries on doubtful positions, you may make your knowledge of the subject studied, not a mere addition to the mind, but a part thereof and your own. Next to reading in the method of your work comes the practice of examining and discussing with each other the immediate subject of your study. Rightly conducted, this practice is one of inexpressible value in the acquisition of knowledge. "It will rouse you from indifference, sustain your interest, and excite your emulation. If it will reveal your weakness, it will also increase your strength. It will teach you how to give ready expression to your ideas, and what to keep and what to cast away. And whilst it will cherish in you the ingenuousness which acknowledges defeat, it will inspire you with the courage which its renewal engenders. But it must be rightly conducted with singleness and sincerity of purpose for mutual help."

But before listening, or reading, or discussing, or examining comes doing. To learn to do is the aim of all your studies; to be able to do well is the crown of all your work. But to learn to do things yourself you must first see things done by others. See, then, as much doing as you can, and as often as you can, whether it be the doing of small things or of great. Then on your own part lose no opportunity of doing anything and everything that you are permitted to do. Do not despise the doing of small things; it is the best initiation into the doing of great things, and the true secret of mastery. Keep doing, and when you do anything badly, do not be discouraged by your unskilfulness, but let your failure become the mother of something better to come. Here and now your doing is to be done; for if you learn to do only when you have patients to practise upon, you will never discharge aright the responsibilities with which you will become entrusted, and you will justly suffer in your place and work. And, lastly, whatsoever be the work which you undertake to do, do it always with all your might, and in this endeavour the highest will happen to the work and to you. Here I must end my speaking. Let my closing words be the expression of an earnest hope that in this large assembly, each of us, according to his means and opportunities, may cordially co-operate in the maintenance of the important and admirable institution which we are now inaugurating; that it may fulfil its purpose, and that it may in all ways justify the interest which the community has justly and wisely shown in its re-erection. Lastly, as such a work as this needs encouragement, let us wish it success; not a meretricious success, not the success of expediency in morals, of intrigue in politics, of flattery in society, of cramming in education, of trickstering in arts, but a just success built upon high intention and honest work, and abiding with it in honour through growing service to men.

RAILWAY SURGEONS.—A National Association of Railway Surgeons has been organised in the United States; the surgeons of many of the different railways had formed associations some years ago, the first being the Surgical Association of the Wabash, St. Louis, and Pacific Railway, formed in 1882. The National Association held its first meeting in Chicago this year, and surgeons from over sixty of the most important railways were present. The subjects discussed were more or less nearly related with the special surgical work which surgeons to railway companies are liable to be called upon to do, and the Association has already found an organ in *The Fort Wayne Journal of the Medical Sciences*, which will henceforward be named *The Journal of the National Association of Railway Surgeons*, and is described as a "monthly journal devoted to the interests of railway surgery." The editor, Dr. C. B. Stemen, is also the permanent secretary of the association.

INTRODUCTORY ADDRESS
ON
THE ELECTROMOTIVE PROPERTIES OF THE HUMAN HEART.

Delivered at St. Mary's Hospital Medical School, at the Opening of the Session, 1888-9.

By AUGUSTUS D. WALLER, M.D.,
Lecturer on Physiology.

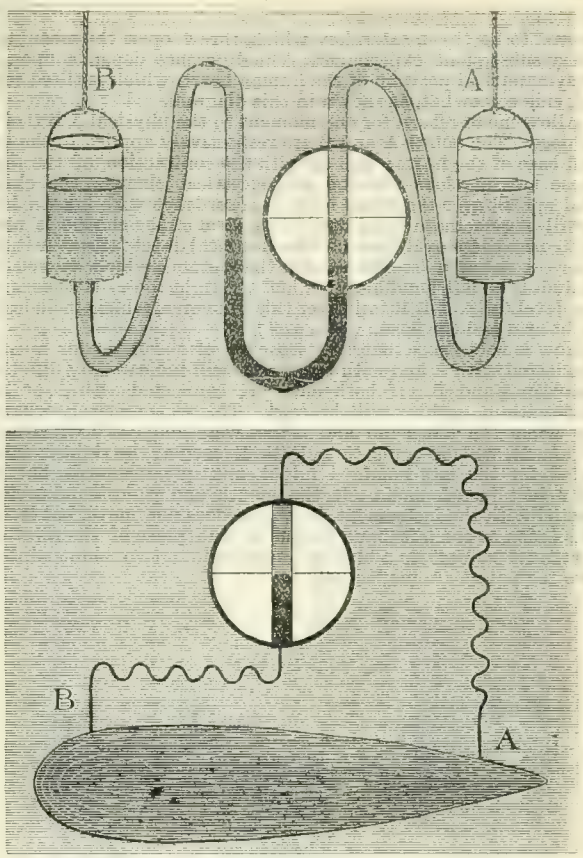
THERE is a growing disposition to regard introductory lectures as a survival—a survival unfit for the times. But, like all other customs, this custom, having had its particular reason of being in the past, lives on with altered ends and in changing shape. In its primitive shape, as a general guidance address to those who have just enlisted, it may be no longer necessary nor acceptable, but it certainly cannot be unfitting in any time that each member of a teaching body should in turn be called upon to say, in the presence of his fellow-workers, that which he thinks to be the best worth saying. My particular task on this occasion has been made easy by my colleagues; it was suggested to me that I should speak about physiology, and I am very willing to do so. Let me at once explain why.

The St. Mary's Hospital Medical School is at present rapidly growing, not merely in size, but in complexity; and she has within the last few years developed two entirely new organs, a physiological and a pathological laboratory. It is not unnatural that those who are most responsible for the development should be glad to hear something about the functions of these organs, and should expect from me as the person responsible for the physiological laboratory some report of progress during the last four years. I am on my side very willing that my duty as your introductory lecturer should take this form, which will allow me, not, indeed, to report progress in its full and formal sense, but to report on an item of progress; and I shall, therefore, occupy the greater part of the thirty or forty minutes allowed me, in describing a new bit of knowledge, and how it has been obtained. Our new bit of knowledge is about the human heart, not in a metaphysical or figurative sense, not its motives, but only its action, not its power, but its electrical potential. Put into a single sentence, I am going to describe how the heart of man can be shown to act as an electrical organ, and what we learn from such action.

It is a well-known fact that every beat of the heart is accompanied by an electrical disturbance; the nature of this disturbance has, moreover, been studied and understood with the assistance of cold-blooded animals, and in this laboratory in particular an investigation was carried out to learn whether or no warm-blooded animals manifest similar electrical disturbances. These I will not now enter upon, and will only make the passing remark that, while to all appearance the electrical disturbances are similar in the two classes of animals, they are not identically so; these seem to indicate that the contraction, which at each beat of the cold-blooded heart runs down from the base to the apex, runs in the opposite direction in the warm-blooded heart. But this is only by the way, and I make no attempt to explain. It is to the next step that I invite your attention to-day, namely, to the human heart.

Led on from thought to thought it occurred to me that it should be possible to get evidence of electrical action on man by connecting not the heart itself, which is obviously impossible, but parts of the surface of the body near the heart with a suitable instrument; having verified this supposition, the next step was to see whether or no the same evidence can be obtained by connecting the instrument with parts of the body at a distance from the heart, with the hands or feet. The answer was, as you will see, satisfactory. Finally, I tried whether two people holding hands and connected with the instrument, gave evidence of electrical shocks through each other, and I found they did.

The only portion which I wish to explain in any detail is the second step in these experiments, namely, the analysis of the results which are obtained when a single individual, whether man, horse, or dog, is connected with the electrical indicator.



Let me briefly explain the principle of action of an electrical indicator by referring to this diagram, in which the effects of water-pressure are compared with those of what I may call electrical pressure (potential is the correct term, but I take it to be part of my task to-day to avoid technical terms).

A and B are two bottles of water, each connected by flexible pipes with a bent tube half full of mercury. If the two bottles are at the same level, the mercury in the bent tube remains at zero, and it is evident that this is still the case if both bottles be raised together or lowered together. But if the bottles be moved unequally, either up or down, the level of the mercury will alter. It is obvious that if A is lower than B, the mercury in this limb of the tube will move upwards, whereas if B is lower than A it will move downwards. And if we imagine everything hidden from us by a screen with the exception of this portion of the tube which we can view through a circular opening, while the two bottles are being moved by unseen hands, it is obvious that we shall be able to tell by the movements of the index, whether A is below B or B below A. If the mercury goes up A is below B, if it goes down B is below A.

Now this is precisely what happens when the two ends of an electrical indicator are in connection with any two points A and B of a living body. If A and B are at the same level the index stands at zero, and it does not move if the two points are raised or lowered together to an equal amount. If the index moves up we know that A is lower than B, if down that B is lower than A.

Let us now apply our instrument to the heart. This, which seems rather a bold proposition, is really a very simple and easy matter. We need simply dip the two hands into two basins of water which are in connection with our indicator, when we shall see that the mercury beats up and down with the pulse. These movements of the mercury are due to the electrical changes which occur with every beat of the heart; or we may dip a hand and a foot each into a basin of water with a similar result, only it must be the right hand, the left will not do. This difference, apparently so curious and puzzling at first sight, which seemed unsymmetrical and irrational, is in reality most reasonable, and

proved to be the master key which threw open the meaning of every subsequent experiment. The difference depends upon the unsymmetrical position of the human heart, which is tilted to the left side somewhat, as shown in this diagram.

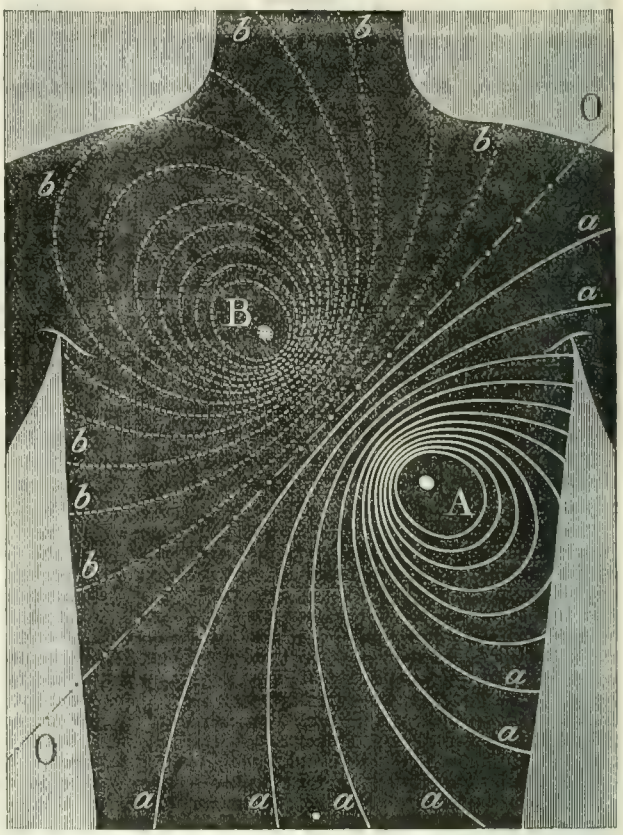
Allow me to return for one moment to the physical A B C of the subject. The points A and B are respectively applied to the apex and base of the heart; and if with the contraction of the organ these two portions undergo any electrical change, the change will spread over the whole body in accordance with known laws. I will say no more than that. The form of the change is represented by these oval lines; if the electrical level falls at A it falls over the red area (see note and fifth diagram), which, as you see, includes the left hand and foot and the right foot. If the electrical level falls at B it falls over this blue area, which includes the right arm and the head.

Now it is obvious that the two ends of the indicator must be connected with A and with B before it will indicate any difference between A and B. If both ends are connected with A, or both ends with B, nothing will be seen. This was precisely what we got when the left hand and a foot were connected with the instrument, which begins to pulsate as soon as the right is substituted for the left hand. I might multiply instances, but will only just mention one. If the mouth and right hand are connected with the instrument, its index does not move, but it does so as soon as the left hand is put in the place of the right one. You must connect up a blue and a red point; two blue points or two red points are ineffectual.



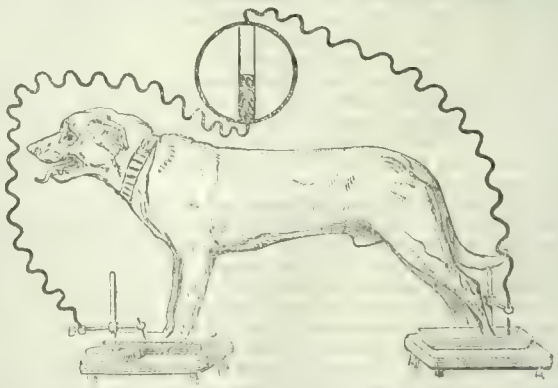
But this evidence does not stand alone. Cases every now and then present themselves with a transposition of the viscera, which are in such people situated just like those of a normal person as they would be viewed in a mirror. The heart, among other organs, is reversed, and, instead of pointing to the left, points to the right. As regards the electrical relations which I was following out, they were precisely as expected. The left arm was in this case the exceptional limb, and formed an effectual couple with any one of the other three limbs, but was ineffective in combination with the mouth. To make a long story short, the results were throughout as indicated in the diagram; any two blue points or any two red points in connection with the indicator were silent, but as soon as connection was made with a red point and a blue point then the index moved with each pulsation of the heart.

Let us hear one more witness. The heart of a quadruped (dog, or cat, or rabbit, or horse) is placed far more symmetrically than in man; it is very nearly in the middle line, so that the changes of electrical level whose foci are at A and B spread straight up and down the body, not obliquely, as in man. The upper half of the body is under the influence emanating from B; the lower half under that emanating from A. Unlike what occurs in man, the two front paws coupled with an indicator are silent, while either front paw taken with either hind foot gives us the now familiar answer.



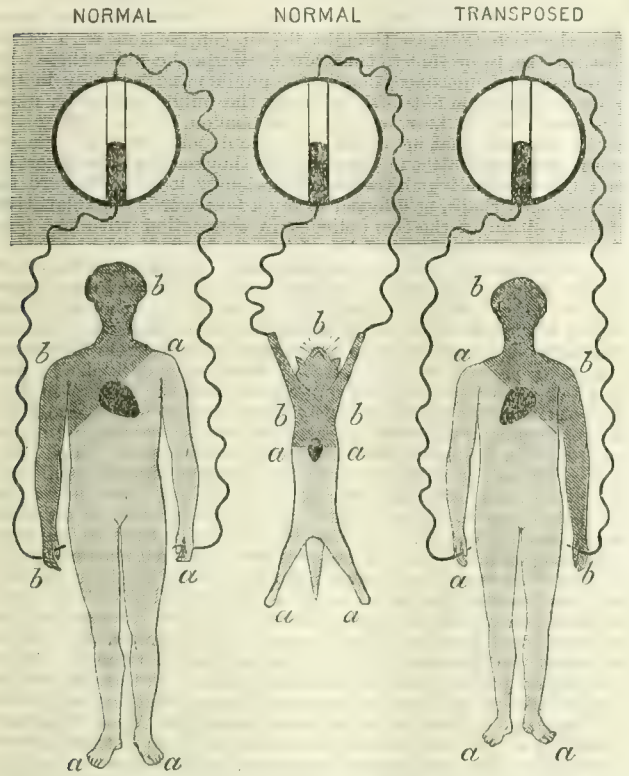
These are the principal facts. What can we learn from them with regard to the normal action of the heart? I must be content with simply stating the answers.

The fact that each beat of the heart gives an electrical change, beginning at one end of the organ and ending at the other, proves that the contraction does not occur throughout the mass of the heart at one and the same instant of time; if the two points A and B rose and fell together, there would be no alteration of the index. The movements of the index show that there is a fall of A at the beginning of the contraction, and a fall of B at the end of

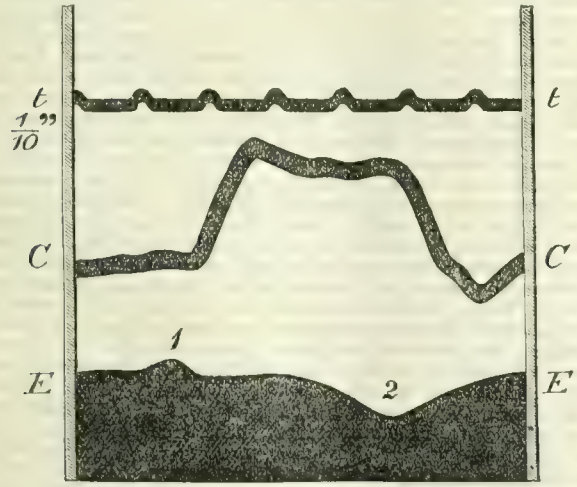


the contraction. One of the most fundamental and certain facts in physiology is that the active state of a living tissue is marked by a fall of electrical level; in other words, an electrical depression is the best, most certain, and most delicate physical sign of physiological action; it proves the fact that living tissue is in excitement just as certainly as a dog's bark proves that a living

dog is in excitement; A barks first, B barks last. In the contraction of the human heart the beat begins at the apex and ends at the base.



We have here the answer, and more than the answer, to a question which has often been asked but never settled, namely, does the heart (that is, the ventricles) beat simultaneously in every portion, or does the contraction take place progressively, as a state of action traversing the whole mass from a beginning to an end? The answer is a distinct affirmation of the second alternative to the exclusion of the first, with the additional and unexpected rider that the contraction begins at the apex and terminates at the base.



C C = cardiogram. E E = electrometer tracing. t t = time in tenths of a second.

I have tried to sketch out in language as little technical as might be the scope and outcome of a physiological research. I fear—nay, I am sure—that to many of my audience it has been dry and tedious, yet I cannot but hope that some of you have been interested to hear by an actual example what kind of work goes on inside a physiological laboratory. That has been on the learning side. I should like to touch upon the teaching side.

We may take for granted the importance of physiology in medical education; you have, apart from all higher considerations, a very prominent and tangible sign in the still growing requirements of every examining board, on the Embankment as well as at Burlington House.

Your chief stumbling-block is in the indefiniteness of the subject. You are expected to show that you understand certain sequences and relations between the chief functions of the human body, and that you remember a list of facts, laws, numbers, formulæ, and German opinions. Now it generally happens, when a man sends in his schedules, that he distrusts his memory rather than his understanding; but I am well assured that failures are far more due to unconscious errors of understanding than to conscious errors of memory. What I have termed the sequences and relations in physiology are the silent river; the strings of letters, figures, and words are the brawling torrent! This is exactly as it should be, for the silent stream is a better test of a man's swimming capacity than the shallow torrent.

To drop metaphor—the great sequences and relations between the parts of a living body, by their very indefiniteness, form the best possible ground on which to test judgment and acumen before memory, just the qualities by which you will have some day to distinguish, weigh, and guide physiological factors which hang together labelled with the name of a disease.

If you learn to see clearly and to move freely in the half-lights of physiology, you will see better and blunder less when you have to act in the quarter lights of medicine.

I do not intend to refer in any great detail to particular examinations, but, still confining myself to physiology, I will allude to them for a particular purpose. The first and second examinations of the Conjoint Board are the first two tests which you all submit to, and I think it is becoming more and more your custom not to give a very bulky precipitate of failures from St. Mary's. I gather from the dean's statistics that the St. Mary's share of the precipitate is very small in comparison with that which it contributes to the filtrate. Taken all in all the tests are reasonable; the quality of book knowledge and of practical work required is sensible and moderate.

But, London? It would appear as if the regulations for the intermediate M.B. were designed with the special purpose of preserving the ordinary London graduate from any practical acquaintance with physiology. The regulations set forth that practical work in physiology is required only by candidates for honours, and not by candidates for the ordinary pass. A little further, under the heading of organic chemistry, they supply the astonishing item of information that an estimation of sugar or of urea may be required in the honours examination.

As if still further to ensure that the ordinary candidate may have a fair chance of muddling his physiology by neglecting it in season and cramming it out of season, when his whole attention should be concentrated on medicine and surgery, the regulations provide that "any candidate shall be allowed . . . . to postpone his examination in physiology . . . . until the next or any subsequent year."

The effect of these regulations upon the study of physiology is very unfavourable. You know only too well that practical physiology is not wanted at the examination, and you do not believe that it is wanted for the examination quite apart from any ulterior value it may possess to you. You look upon practical physiology as a luxury and you do without it. You are told that an estimation of urea or of sugar may be required at the honours examinations, what more natural than that a pass candidate should think it ridiculous waste of time to learn to estimate sugar and urea by doing so when he can read about it in any book? But I would have you remember this, that although the London University by implication advises you so badly, yet it does not expect you to act upon the advice—quite the contrary. Although as a matter of convenience, practical work is not wanted at the pass examination, there is no examination at which its value is more felt, both in the written paper and still more at the *viva voce* interview which follows it. The reason is obvious; the examiners you have the pleasure of meeting there are men whose lives are spent in laboratories, and whose conversation when you meet them at Burlington House is apt to be more practical than scholastic. To put it low, book talk, unleavened by any memo-

ries of the laboratory, does not pay; and as for the written paper well, fireside anatomists are not apt to give very clear or very correct descriptions; fireside physiologists write perfect balloons of unsubstantial statements.

I have seemed to make examinations the end-all of your students' career, but I need hardly say that I look beyond them; the proof of a picture is in the selling of it; the proof of a student is in the passing of him. These are rough tests which mark out good pictures and competent men. I should hardly have made such a point of practical physiology had I not been convinced that its importance extends beyond as well as up to the time when a man receives his certificate of competency to take charge of lives and limbs.

I would have you convinced from the very outset of your medical studies that examinations and competency in after life are on the same lines—the same road leads to both, and to the success which is the natural and lawful reward of competency. It is the royal road of actual contact with facts which temper men as fire tempers steel. Your way lies through the dissecting room, the laboratory, and the hospital ward, more than through the lecture room and the printed book. It is something, no doubt, to be learned, to be well filled with the knowledge of what other men have thought, said, and done; but mere learning is an invertebrate; contact with facts gives it backbone, and makes all the difference between the bookworm and mental vertebrate man. And it is the same royal road that leads on to that well-grounded consciousness of power, to that fertility of practical resource in the face of danger; above all, to that "never say die" spirit, which is the best of drugs—best for your patients, best for their doctors, best, indeed, for every man and woman with duties and purposes to fulfil.

Note.—The diagrams used in the lecture were in red and blue. In the woodcuts as printed, red is light shading, blue is dark shading. In the third diagram red is in plain lines, blue in dotted lines.

INTRODUCTORY ADDRESS
ON THE
PRESENT POSITION OF UNIVERSITY EDUCATION IN LONDON.

Delivered at King's College at the Opening of the Session 1888-89.

By J. E. ERICHSEN, F.R.C.S., F.R.S., LL.D.,
President of University College.

In looking back through a somewhat lengthened professional career, Mr. Erichsen said that he could mark no incident in it that had given him more unmixed gratification than that of having been asked to preside on that occasion. It was not only that he felt it an honour, although he was well aware that the honour was not personal to himself, but that it was conferred upon him in virtue of that office which he held in a sister college as President of University College, and that the honour was, as it were, transmitted to him through that office of President and through that College over which he had the honour of presiding. In the name of that College he asked to be allowed to say how thoroughly it appreciated the honour that had been done to it through one of its officers.

But there was another source of deep gratification in his being present as President of University College, because it was an evidence, if any were needed, that those lines which once deeply and somewhat widely separated those two Colleges, University and King's, had now been obliterated. That change, and he thought he might say that advance, in public opinion which had marked the last half century had enabled two institutions (which at their origin differed so much as almost to be antagonistic) to assume a position of complete harmony. That harmony, as their Principal stated, had been brought about in a great measure by the co-operation of the two institutions in what he could not but think was one of the noblest and greatest educational works that had ever been attempted in this metropolis, namely, an endeavour to establish for the first time in the history of London a Teaching University not only in, but for, London. It would, he said, ill become him to enter at any length into this question, inasmuch as they were all aware that a Royal Commission had been sitting for some months past, and was still in session, in order to consider the advisability of acceding to a petition that the two Colleges thought fit, in conjunction with other Institutions, to present to the Crown. But as he knew there was a great deal of misconception in the public mind, not only in the medical profession but in the mind of the public generally, upon this question of a new university for London, and as this might be the last time that he would have an opportunity of saying a word upon the subject in public before they received the report of that Commission which they were anxiously looking forward to, he might, perhaps, be allowed to say a few words in explanation of the position of the two Colleges in connection with the proposed Albert University.

It had long been felt by those who were interested in the cause of education in London that the sons and daughters of Londoners suffered much by the impossibility of receiving a thorough university education within the metropolis itself, and that it was necessary for them to go to institutions distant from their own homes in pursuit of the education which they desired. It was also felt—and especially in connection with the medical profession—that a great grievance existed in respect to the impossibility of those students who were educated in London receiving the much-coveted M.D. degree in connection with the schools in which they were educated, or only with very considerable difficulty and loss of time in the metropolis itself at all, and that it was necessary for them to go to distant or to foreign universities in order to receive such a degree. An Association outside the two Colleges, consisting of men much interested in educational matters, many of great learning and of great scientific repute, had been formed, and was presided over by a gentleman who in all probability was better cognisant of the requirements of medical students, so far as educational purposes were concerned, than any man living—he meant the President of the General Medical Council. That Association placed itself in communication with University and King's Colleges, and in consequence of the negotiations so opened up, those two Colleges joined in the views of that Association, and presented a petition to the Crown to enable them to take university rank, to give a university education, and to confer university degrees upon students in this metropolis. But they did not wish to do so alone and unaided. Neither of the Colleges had the slightest feeling of selfish interest in this matter. They were willing to sacrifice their own individuality, and they were anxious to associate themselves with the recognised medical schools in the metropolis on an equal and equitable footing, with the view of carrying out the object they had in view.

The governing bodies of the two Colleges felt that these great institutions had attained a position that gave them a perfect right to solicit from the Government that university rank should be conferred upon them, inasmuch as they stood in every respect upon an equal footing with the majority of the universities in the United Kingdom. Conjointly these two Colleges were founded some sixty years ago at a cost of considerably more than half a million of money. Conjointly they possessed an income from fees of something like £70,000 a year; conjointly they possessed trust funds to the extent of several hundreds of thousands of pounds for the endowment of lectureships, of scholarships, and prizes of various kinds. Each possessed in itself every requisite for a complete system of university education, a complete organisation of faculties, a faculty of arts, of laws, of science, and of medicine, and in that institution a department of theology. Each was connected with a large boys' school, and, so far as the medical department was concerned, each College had a clinical hospital associated with it. Taking then the size of the two institutions, their wealth, their endowments, and their general position as educational establishments, the governing bodies of the two Colleges felt that they were fully justified in asking and petitioning that university rank might be conferred upon them. What the result of the deliberations of the Commission would be it was, of course, impossible for him or anyone outside of it to say, but they could only hope that the Commission might be favourably inclined to the petition which had been presented to the Crown by the evidence which had been brought before it. Without going further into this matter there was only one point which he wished to call attention to, and it was that, if the petition were granted, if university rank were accorded to the two Colleges in connection with the medical schools in London, they would be able to start at once with a

body of undergraduates which would be larger than that possessed, he believed, by any university in the United Kingdom. They would be able to start at once, so far as the two Colleges alone were concerned, with a body of undergraduates numbering something like 2,000, and if they added those who would come in from the various associated registered medical schools, the number of undergraduates would certainly amount to considerably above 3,000. He would abstain from going further into this matter, which was one which might well occupy him for a considerable time, one in which he, in common with Dr. Wace and the governing bodies of the two institutions, took the deepest interest, but it would be scarcely decorous to do more than state the few facts which he had done in face of the fact that the report of the Royal Commission had not as yet been issued.

Mr. Erichsen then proceeded to address the successful and the unsuccessful students. The failure of the latter would, *cæteris paribus*, in all probability be found to arise from one of three causes: 1, want of proper application; 2, want of method; 3, the attempt to grasp at too many subjects, the want of concentration of mind upon a more limited number. Success, he continued, was open to every man in the medical profession. There was no profession so open as that of medicine. There was no profession in which family influence, social circumstances, accidents of position availed so little as in that of medicine. The profession of medicine might be truly called the republic of medicine, in the sense that there was no hereditary rule in it—no privileged class. Every position in the medical profession was equally open to every man who entered it, if he had the ability to aspire to it, and the strength of character and will to seize it. It would give to those who entered it everything that the profession could afford, social position, scientific eminence, such honours as medical men were thought worthy of, such wealth as might fall to the lot of a professional man. It would give to him all these, and something much greater and nobler. It would give him the gift of daily usefulness in life, daily usefulness to his fellow creatures, with the consciousness of having led a useful life, and not having spent it in vain. Success in the medical profession would come to those who deserved it, and, when he spoke of success, he meant true and legitimate success, not tinsel, which was often taken for the real metal; not that notoriety which came from habitual self-assertion, from skilful self-advertisement, from the disparagement of competitors and rivals; still less did he mean that ignoble prosperity brought about by the plausible tongue, the supple knee, and the grasping hand; but success which was accorded to men by the unanimous voice of their own profession and of an enlightened public, which was the true measure of success in the profession. In order to obtain this and anything like true eminence in the profession, three things were necessary: 1, to study hard; 2, to observe closely and diligently; and 3, to live soberly and righteously in the sight of God and man. If that were done, success would attend their efforts.

The knowledge attained or being attained now during the period of studentship would, no doubt, be of considerable use hereafter; but the true system of education, and that system of education which they ought to strive at, was to endeavour to train their minds, not to the mere acquisition of dry facts, not the mere accumulation of masses of ill-digested knowledge, but to train their minds to remain open for the reception of truth throughout their lives, and to enable them to meet the various emergencies of the profession whenever they occurred. Medical knowledge was ever progressive and never stationary. Medicine was based on the natural sciences; the natural sciences were never at rest; they were always moving onwards, and so it was with medicine. A man who remained stationary retrograded when all around him was moving in advance. In order to keep abreast it was necessary for them not only to obtain equal knowledge with their brethren, but to throw aside that which had become effete and useless. The medical man must learn to forget and throw aside the *débris* of exploded theories and the dry and useless husks of obsolete practice. It was impossible for a man encumbered with obsolete knowledge to keep abreast of his competitors. He must learn to throw it aside; by whatever labour it had been acquired, it must be discarded and abandoned. Every man in the medical profession should be a student through his life, and in the course of a long existence they would find that it was absolutely necessary to relearn many matters thought to be thoroughly mastered at an earlier period. During his lifetime and in that of many still living three great discoveries had revolutionised the branch of surgery alone. These were the elucidation of the pathology of tumours by the microscope, the use of anæsthetics, and the application of Pasteur's discoveries to the practice of surgery by the introduction of the antiseptic system of the treatment of wounds by Sir Joseph Lister. Forty years ago the microscope was scarcely used in pathological anatomy. A distinguished pathologist and surgeon of his day had said that a pathological fact only lived four years. In all probability, he gave a rather too long estimate of its life-history in those days. Before the introduction of anæsthetics the scenes in the operating theatre were very different to what was witnessed now. Every stroke of the knife was followed by a cry of anguish or a suppressed groan of intense suffering. Time was the great element in operations, and surgeons operated against time in order to save the patient prolonged and unnecessary suffering. Now it signified little whether the patient was fifty seconds or fifty minutes under the knife. They had to relearn a great part of operative surgery after the introduction of anæsthetics. But perhaps the greatest revolution in modern surgery was that which had been brought about by the introduction of that method of treatment which was due to the untiring energy of one of their professors—a man, he was proud to say, who had been a house-surgeon of his, with whom he had been united in ties of friendship ever since that period. He need scarcely say he meant Sir Joseph Lister. He knew no illustration more to the point to show how thoroughly necessary it was for a man to unlearn as well as learn than that which had taken place in connection with antiseptic surgery. In connection with the study of medicine, he might point out that there was a great charm, and that the acquisition of medical knowledge was attended with an amount of satisfaction that he believed did not attend any other profession. This arose from two causes. In the first place, medicine was, as he had already stated, never stationary; there was a constant variety in the study of medicine. There was never finality. You never came to a termination. You were always on the threshold probably of some new discovery that might revolutionise the whole practice of the profession.

Then another great charm of medical study was its many-sidedness. It touched on all sides every department of natural science—biology, chemistry, physics, botany, geology, meteorology. The mechanician found ample scope in the domain of practical surgery, the artist in delineating the anatomy of healthy or of morbid structures, and the man of literary tastes in the cultivation of the literature of his profession. There was probably no profession that yielded annually so abundant a literary harvest as the medical. Dr. Billings calculated that in one year there were 3,200 distinct works, 1,500 theses, and 40,000 articles published on medical subjects. But if there were special charms in the study of medicine, there was also a special danger, and that danger consisted in neglecting this many-sidedness and in becoming too technical. The profession should be their first study, but not their only one, or they would cramp and narrow their intellect. They must try to widen their intellectual range by other than technical work and devote an hour a day to music or to art or literature, and more especially to history, to poetry, or fiction. Let Macaulay or Froude, Scott, Tennyson or Longfellow, Dickens, Thackeray, or George Eliot be the intellectual antidotes to so prolonged a devotion to their purely professional studies.

In conclusion, Mr. Erichsen urged the students to bear in mind that from the first day on which they were registered they became members of a learned and liberal profession, and that they would be judged in the circle in which they moved by their conduct. Let that always be characterised by moral rectitude, and by attention to the amenities of polished life which were essential to the bearing and the character of a gentleman. In after life, when called to take part in the public affairs of a great profession, let them be guided not by a narrow and selfish regard to the interests of any one special institution or class in the profession, but by a broad and catholic spirit of liberality, and by a desire to advance the good of the whole. In their practice let their daily prayer be to Him from whom all knowledge was derived to strengthen their judgment, to clear their perception, and to guide their hand aright. Let them remember that they belonged to a beneficent profession, the object of which was the alleviation of the physical ills of man, and to guard him from the invasion of disease—objects more beneficent and useful than were those of any other walk in life. If they would do this they would find that they would exercise their profession in happiness and in comfort. They would live to be respected and honoured by those who knew them, and respected, honoured and beloved the most by those who knew them best.

ABSTRACTS OF INTRODUCTORY ADDRESSES DELIVERED AT THE MEDICAL SCHOOLS.

ST. GEORGE'S HOSPITAL.

THE introductory address was delivered on October 1st, by Dr. EWART, physician to the hospital.

Dr. Ewart selected as the subject of his address "The Training of the Medical Man in the Future." Reference was first made to Dr. Wadham and Mr. Timothy Holmes, whose names now appeared on the consulting staff. The Hunterian lectures on Clinical Surgery, which will be inaugurated this year by Mr. Holmes, brought to mind both the long interval which separated us from Hunter and the directness of the tradition handed down from him through Everard, Howe, and Brodie to the late Mr. Cæsar Hawkins, and from him to the present staff. Dr. Ewart then referred to recent staff appointments. The subject of the address included the problems: In what manner was the medical man to deal with the enormous increase of knowable facts? And how, on the other hand, were medical practitioners to survive if their numbers maintained their present rate of expansion? These problems were intimately connected with medical education. The overcrowding of the profession was first discussed. It was our duty and our right to insist that additions to our ranks should be made exclusively from those worthy of that honour. The fitness of youths who proposed to enter the profession was not sufficiently tested; a more stringent preliminary examination was needed. The ever-growing burden of professional studies demanded training of the mind. The art of thinking, as a part of general education, would have to be taught and practised on the foundation of the science of psychology, which is nothing else than the anatomy and physiology of consciousness. Concentration was especially demanded in the medical student of to-morrow. A year exclusively devoted by him, either before or after joining a medical school, to chemistry, physics, and biology, would be an economical investment of time. The study of anatomy and physiology were of the highest importance. Dr. Ewart advised the student to work at those subjects as much as possible, in conjunction with one or more companions. After upwards of twenty years the lecturer could remember certain anatomical facts in association with remarks made over dissections with fellow-students. When the time came for clinical study the out-patient room should be the student's earliest resort. It was there that he should obtain a knowledge of note-taking and familiarity with clinical methods, which should be understood before he seeks the important appointment of clinical clerk. In the study of the science of surgery the student would find simplicity of experimentation, a directness of results, and a demonstrative faithfulness of the great principles which the more complex conditions of internal pathology would perhaps never yield.

Dr. Ewart then dwelt on the cultivation of powers of endurance, mental and physical. He showed how the doctor could cultivate "nerve" and sympathy at the same time. He dilated on the necessity of self-control, and of firm but genial manners; as a relief to the pressure of learning, the doctor could turn to literature and the arts, especially to drawing. In extra-professional pursuits the doctor would find points of contact with his fellow men. Association with the educated and with the learned had for him spontaneous attractions. But the singular privileges which he enjoyed of being relatively matured in younger years and youthful in ripe age widened the sphere of his sociability. Furthermore, he was a humourist almost by profession. Contrasts, which were the foundation of humour, abounded in his career; and he was daily confronted with that mixture of the sublime and of the ridiculous which makes up the tale of human life. Judged by his words he might sometimes be thought to be a cynic, a socialist, an atheist, or something worse. Not his speech, however, but his deeds should be called to witness. His sensitiveness to etiquette was a sufficient proof of his rooted belief in the established order of things. Logical inferences might readily be drawn from his deep regard for principle; from his humble confession that the vital forces which he was called upon to watch and to regulate were, in their origin, hidden from his search; and from his liberal-mindedness in admitting that his speciality lay in the concrete world, and that the abstract was a field which others could cultivate with greater success.

In conclusion, Dr. Ewart advocated the cultivation of that friendly spirit which had ever characterised St. George's men. As to worldly success, he quoted an opinion held by Lord Bacon: "If a man look sharp and attentively he shall see fortune; for though she be blind, she is not invisible." If the student had but nerve to climb to the look-out from aloft, he would probably sight the uncertain ship.

LONDON SCHOOL OF MEDICINE FOR WOMEN.

THE inaugural address was delivered on October 1st by Dr. ELIZA W. DUNBAR.

The practice of medicine by women for any length of time was as yet limited to few. According to her own experience, it was most desirable, and yet most difficult, to avoid a disposition to pass over too quickly, in spite of examinations, the various galleries of knowledge through which the curriculum necessarily led. The brain did not acquire as fully as it might in a serener medium a power of concentrated attention and the habit of accurate thought. Anatomy and physiology must be held in sufficient esteem by the student. No knowledge of the anatomy of muscles, for example, would be too much to qualify the student for understanding or arranging a system of drill which could not only provide for the exercise of each muscle, but also correct, by special muscular action, deformities produced by the undue action of groups of muscles. Dr. Dunbar then dwelt on the study of physiology, therapeutics, and clinical medicine. At the end of the curriculum the student would find that she had entered a new school, in which the knowledge to be gained would be hers in a sense in which knowledge acquired from others was not. She could then put to the proof the traditions which she had received, so as to endorse them if true, to correct them where she found them false, and to complete them where proved deficient. It was well to select a branch of medicine to which special attention could be devoted. Genius and great talent overcame all obstacles, and some students present, led by irresistible impulse, might have the supreme pleasure of being discoverers. The alertness and determination required to use opportunity lent to the attitude of waiting vigour and dignity. Dr. Dunbar mentioned two subjects—the germ theory and hypnotism by suggestion—which might commend themselves to the students. A doctor who was only a doctor was dull company; therefore it was right to cultivate some pursuit outside the profession, and not to be deterred by anxiety for eventual success. Anxiety never brought patients. Study art or literature, or some branch of sociology; this last would be of interest wherever there were human beings.

The last decade of our century was marked by no movement more distinctly than by the general endeavour to make women partakers of all that education could effect, and to enable them to qualify themselves for remunerative employment, and the student would fail greatly in her duty if she did not aid to strengthen all that could improve the position of women. The female doctor's medical opinion on the education of girls would have weight. Pledged to guard against disease, she would have to bestow much careful thought on the consideration of each individual case. Mental stimulus was, as a rule, necessary to good health. Education properly conducted ought to be a distinct advantage, from even a purely physical point of view. The ignorance of women, especially of the lower classes, regarding sanitary matters demanded attention, and the female doctor could take her share in raising the standard of education by giving easy lectures on physiology and hygiene. Women could more easily than men communicate knowledge to women, opportunities of intercourse being more frequent; hence it was an advantage to all women that properly instructed representative women existed for every department of knowledge. The beneficial effect on health of regular work would lead the female doctor to discourage indolence and inefficiency in women, and while she would have the deepest sympathy with those whom pain and sorrow have maimed, she would endeavour to persuade those who were only wanting in will and courage to try the wholesome medicine of usefulness to others. Physical conditions of life were much in a doctor's mind, and it was right that she should duly estimate the influence of body over mind. But whether she believed that humanity was fallen from a purity which might be again attained, or was on the ascent from a degraded to a higher condition, she would, Dr. Dunbar hoped, never lower the standard of conceivable goodness

to excuse the will and tastes of base and undisciplined natures. Forbearance and charity towards the trammels of evil hereditary tendencies and unhappy educational influence were quite compatible with an insistance of the duty and freedom of each human being to discipline his or her desires, and attain to a nobler character. In conclusion, Dr. Dunbar asked the students to observe that she had implied her conviction that if they were duly qualified they would not lack work in their profession, if only patient. Besides the right that they had with every other individual to struggle without artificial restraints for existence, they might rest assured that they were needed, and that the time had come when the world would be all the better for having women doctors.

MEATH HOSPITAL.

THE introductory address was delivered on October 1st, by Dr. JOHN WILLIAM MOORE, Physician to the Hospital.

Dr. Moore, in inaugurating the hundred and thirty-eighth session of the hospital as a school of clinical teaching, expressed his satisfaction that the Meath Hospital had discontinued the questionable custom of delivering the address in November. He referred to the resignation of Mr. J. N. Wharton, thirty years surgeon to the hospital; his place had been filled by Sir W. Stokes, who, after an absence of twenty years, had returned to the hospital where he first won his spurs as a skilful operator and able surgeon. Dr. Moore then spoke of the Bury Bequest, which would permanently endow several additional beds in the hospital wards, and of the John Barber Memorial Wing, which perpetuated the name of the deceased Mr. Barber, who left to the hospital the munificent bequest of £4,500. The wing had just been opened by the Lord-Lieutenant. Dr. Moore then discussed the struggles between medicine and disease, the perils which the doctor incurred, and the undoubted progress which gave so much encouragement. This progress was marked in Dr. Macewen's address at the Glasgow meeting of the Association, and in important papers on cranial surgery read during the past session before the Royal Academy of Medicine in Ireland, by Sir W. Stokes, Mr. Thornley Stoker, and Mr. C. B. Ball. Turning from success in the practical part of medicine to success in teaching, Dr. Moore said that he need not discourage new students; on the contrary, though they had much hard work before them, no institution fostered the flame of genius and research more jealously than the Meath Hospital. The spirit of scientific inquiry was abroad, and had made itself felt in the realms both of curative and preventive medicine; as shown by Dr. Donald MacAlister's Goulstonian and Croonian Lectures on the Nature of Fever, and Dr. T. J. Maclagan's Clinical Study of Fever.

In conclusion, Dr. Moore said that there was a danger that in the daily practice of our profession—the noblest of all professions, the Church not even excepted—we might be carried away by our enthusiasm on the one hand, or we might be tempted by straitened circumstances on the other hand, to forget wherein its nobility existed. It was in its Christ-like nature. In Homer's great epic, the word used to denote a physician—*ἰατρος*—derived from the verb *ἰάομαι*, "I heal," or "cure," was etymologically and almost in form the same as the name borne by the Divine Healer of nations, and indeed if asked where a faithful word-picture might be found which would convey to men's minds all that a physician ought to be, Dr. Moore would refer to the "Sermon on the Mount." From that marvellous discourse, which fell from the lips of One who more than once claimed for Himself the title of "Physician" as one of honour, we learnt what traits of character should be ours. We should be humble-minded, sympathetic, upright, and tolerant of wrong.

MIDDLESEX HOSPITAL.

THE inaugural address was delivered on October 1st by WILLIAM FOSTER, M.A., F.C.S.

The lecturer commenced by wishing his hearers a professional new year, and then alluded to the working of the new residential college and school buildings opened last year by the Lord Mayor. He congratulated the freshmen on entering a profession which was in universal request. Though one may elect to live without medical assistance, one's remains can only be disposed of by the aid of the medical man. He said that the medical student of to-day was better than that of twenty years ago, and in this respect was merely reciprocating the improved temper and conduct of his elders. He particularly impressed on his hearers the importance of regular attendance at lectures as the shortest way of getting up a subject. He then alluded to his own department, and the subordinate part which chemistry played in the practice of the ordinary medical man. The altered conditions of the colleges necessitated an acquaintance with the elementary principles and practice of chemistry. He contrasted examination and teaching, and then showed the absurdity of trying to teach efficiently the whole of the subjects in the synopsis in three months. He then referred to observation of effects and the reasoning as to probable causes, and said that the much-abused course of qualitative analysis was one of the best preparations a man could possibly have for the medical work he was subsequently called upon to study. It would assist him in prescribing and dispensing, the latter of which, he said, was often vilely done. A good pharmacist could often render real service. About fifty years ago the hospital laboratories were comparatively the only places where chemistry could be studied properly, and, as a consequence, they attracted the very best chemists in the country. Of recent years, the value of a lectureship in chemistry at the hospitals had considerably diminished, so much so that the lecturer in a small medical school was often required to furnish and maintain his department on a sum of £200 annually. Every such individual was compelled to devote his attention to some branch of technical chemistry as a source of livelihood. He then proceeded to say a few words on behalf of the scientific chemists. "The part they have played in the advancement of human knowledge, and indirectly in the alleviation of human suffering, has formed the subject of many eloquent discourses. Some of the discoveries which have proved such a boon to your profession, and which have so benefited mankind, have never had a price put on them by their authors, and still there are whole continents of subjects waiting for explorers. If we take any subject in chemistry connected with medicine, and inquire into the evidence respecting it, we may be agreeably surprised to find so much written about it, but most probably be disappointed at what has been done on it in the way of experiment. Take, for example, our knowledge respecting the carbo-hydrates, and their disposition in the animal economy. Used as food, they give rise among other things to fat. How does the transformation take place? The problem is interesting to the chemist, but infinitely more so to the medical man anxious to advance his profession. The carbo-hydrates and animal fats are classed by the chemists in two separate groups, having no obvious relation. From the animal fats, by the application of heat, can be obtained two substances closely related, namely, acrolein and allyl alcohol. About two years ago it was announced that, by taking acrolein, brominating it, and then decomposing the product with baryta water, sugar (one of the carbo-hydrates) had been obtained. Scientifically this was an important advance in knowledge." During the past two years the speaker had found, during his own experimental inquiries on the carbo-hydrates, that the vapours of acrolein and allyl alcohol were present in considerable quantities in the gaseous products of the decomposition of the carbo-hydrates by heat. Might we not reasonably hope to obtain much information from such laboratory experiments, and eventually arrive at some conclusion as to the stages the sugars passed through before they were eventually assimilated as fat. His own impression was the subject could only be conducted in the laboratory by the trained chemist, and by him alone. The laboratories exist. Sir Edward Sieveking recently remarked that there were plenty of young men anxious to prosecute research if they were only guaranteed a living. Further, there were plenty of generously disposed people who freely subscribed to every benevolent scheme, be it real or imaginary. The problem is, How could these interests be connected?

The speaker then referred to vulgar quackery, and considered that some of the vagaries of legitimate medical practice indirectly encouraged it, citing as his evidence the so-called "grape cure," as recently described in the pages of the *Times*. He cautioned his hearers with regard to some of the combinations of meat, drink, and drugs compounded for the use of the profession, and questioned the value of many of them. In bringing his remarks to a close, he specially reminded them of the high character of their profession, and the enormous influence of their example on the poor. "Always try," he said, "to make them feel that they have in you not only an adviser, but a friend."

UNIVERSITY COLLEGE.

THE introductory address was delivered on October 1st by Dr. W. RAMSAY, F.R.S., Professor of Chemistry to the college.

Dr. Ramsay took for his subject the manner of thought of the Middle Ages as regards science and medicine. He gave a summary

of an esssay of the Benedictine friar, Basil Valentine (born 1394) on the "Microcosm." In this essay the triad division of the Deity (Father, Son, and Spirit), of man (spirit, life, and body), and of matter (salt, sulphur, and mercury) were quaintly compared. The "matter and form" of the earth were quickened by "motion and mobility," and to these was added "imagination" to complete the marvellous structure. "The living spirit is the mercury of man; hence there are two principles, mercury and sulphur; and as to what man shares with other flesh—to wit, body and bone—here salt forms a third principle." The essayist next explains, according to his views, the transformation of matter from vegetable to animal, and, again, from animal to vegetable, exemplifying his remarks by considering the manner in which a cow is nourished by grass, and tracing the fate of the products of the cow, till, as manure, they refertilise the soil. The function of the air is next alluded to: how it causes laughter by invigorating the liver, how it prevents "pricking and pain" by its action on the pancreas, and how it prevents sickness and death by nourishing the lungs. The method of combating diseases is contained in the apothegm *similia similibus curantur;* and it is shown how principles possessing medical virtue can be extracted from the human organism, from minerals, and from plants.

The lecturer then alluded to the conceptions which underlie such thoughts as those of Basil Valentine; and how he and others of his time believed certain numbers and geometrical figures to possess perfection. Dr. Ramsay also noted the false use made of analogy, which is, indeed, the basis of all science, since to know is only to refer the object said to be known to a certain class, with the numbers of which it exhibits analogy. He then spoke of the deference paid to authority by the ancient writer, and the use of words to which no definite meaning could be attached. Certain lessons were, however, to be learned from the ancients; among others, the necessity of taking a personal view of the problems of science, and of considering things in all their bearings. The lecturer next traced the connection between chemistry and medicine, and pointed out that it was as essential to possess knowledge of the composition of the body as it was to know its structure and its functions. The anatomist studied the structure of the body; the chemist the composition of the various parts, their methods of interacting, and the changes which they underwent on treatment with other substances; while the physiologist busied himself with the functions of the different parts resulting from their structure, composition, and changes. The value of chemistry as a preliminary training for medical men was strongly urged. Those faculties of mind requisite for chemical investigation were the same as those exercised every day by the practitioner. The lecturer then stated as his opinion that, while the amount of chemistry required to pass the examinations of the Conjoint Boards was of use only as a mental training, the requirements of the University of London were such that a diligent student was prepared for the intelligent study of physiology and pathology.

The lecturer concluded as follows: "There is no doubt that we English are in too great a hurry. We want to acquire our knowledge by a short cut. What in England is scamped over in nine months, the Germans linger over for two years; and the result or the cause (I know not which) is that, while our students, as a rule, read to pass their examinations, the Germans read to acquire knowledge. One fundamental difference between their system and ours is that their teachers examine their own students. The examinations thus lose that formidable aspect begotten of the dread of the uncertain which ours possess. The acquisition of knowledge is best attained by intimate contact between teacher and taught, and that knowledge is best tested by the teacher. It is true that the German system may lead to corruption, but they provide a remedy. By their system of co-examiners and extramural teachers, the possibility of the partiality or incompetency of a teacher is excluded. May we hope that an opportunity will soon be afforded us of trying their system?" The quaint words of the Benedictine friar were quoted in conclusion: "Only knowledge and experience, and thorough investigation of Nature, make a trustworthy physician; yet only next the Creator, through whom all things happen, in the beginning, now, and for ever."

WESTMINSTER HOSPITAL.

THE introductory address was delivered by Mr. CHARLES STONHAM, F.R.C.S.

Mr. Stonham devoted his address to the subject of medical education, which, he said, must still be thought worthy of the most careful discussion, seeing how absolutely essential it was that we should adapt and be prepared still further to alter our curriculum to ever-varying necessities and ever-increasing requirements. The lecturer first referred to the preliminary examination, the present standard of which he strongly insisted was far too low; that it was unfair to any man to allow him to commence work for which he was unfitted, involving, as it often did, repeated rejections at subsequent examinations, that it was unfair to the medical schools that a constant series of predestined chronics should be provided to demoralise others, and that it was unfair to the profession itself to give men even the chance of becoming recognised members of it, who ought to have been extinguished at the very earliest stage of their career.

The present system of allowing students to pass in only one subject at a time was particularly condemned, and it was urged that the standard of the preliminary should be little, if at all, lower than that of the matriculation of the University of London, that this was not too severe a test being shown by the very large and constantly increasing number of youths who, from schools and colleges all over the country, annually passed it, failure to pass being due either to insufficient education, deficient mental power, or to want of industry, any of which ought to disqualify a man from entering the ranks of medicine.

No stronger argument could be advanced in favour of raising the standard of this examination than the objection sometimes raised that it might considerably diminish the supply of practitioners, for most of the evils from which the profession suffered were due, more or less, to overcrowding, and any restriction in the number of those commencing medical work would be in every way an immense benefit, both to the public and the profession.

The value and place of lectures in the curriculum was next considered, and the action of the General Medical Council in endeavouring to reduce their number favourably commented on, the completeness of medical literature having to a great extent superseded that need for lectures which existed until a few years ago, whilst the growth of medical knowledge was rendering it more and more difficult to take up the whole of any one subject in a course of lectures of reasonable length.

Furthermore, it was suggested that both lecturers and examiners in the earlier subjects of the curriculum were too apt to dissociate them from their practical bearing on the future work of the medical man, and that in teaching, anatomy should be brought more closely into relation with surgery, and physiology with medicine.

Referring to the enormous and unavoidable increase in the work of the medical student during the past few years, it was strongly insisted upon that subjects of no real importance should be taken out of the curriculum, and especially that materia medica should be omitted, seeing that the fond pretence of teaching any scientific botany had already been given up. The botanical and geographical sources of the drugs, the description of their physical properties, the mode of distinguishing one from another—with certain exceptions—and the mode of preparation of those derived from the mineral kingdom, could all well be dispensed with at the present day, whilst all real points of importance, such as the recognition of powerful drugs with well-marked physical peculiarities, facts as to solubility and incompatability, and the doses, would most readily and properly be acquired in the dispensary and in the wards.

If materia medica were omitted, therapeutics could be taught alone, and at the end, instead of as at present at the commencement, of clinical study.

The importance of attending to pathology, especially in the *post-mortem* room, was next insisted upon, not only from its forming the real foundation of all rational medical treatment, but also because the opportunities of effectively studying it, as a rule, only existed during hospital life.

The danger of the student missing altogether the special departments in hospitals was next considered, and it was argued that though no man could become an all-round specialist, yet all should endeavour to devote so much time to the eye, ear, and skin departments as would enable them to diagnose and treat correctly the commoner and more important diseases of those parts, also that eye diseases should form a fixed and regular portion of the final examinations, instead of being taken up in an irregular and haphazard fashion as at present.

Referring to the recent suggestion of the General Medical

Council that three months should be devoted to the study of fever' Mr. Stonham said that it was easier to dwell upon the evils and dangers resulting from insufficient training in the infectious diseases than to find a remedy; that three months was too long to devote exclusively to one or two diseases, and that probably the solution of the difficulty would be found in throwing open, with certain precautions, the metropolitan fever hospitals for systematic teaching and study.

Lastly, it was essential, in order that the above-mentioned defects might be remedied, that the curriculum should be extended over a period of five years; if two years were required for the primary, surely three should be given to the final; and the present arrangement, while compelling the omission or very inadequate study of many important branches of practical knowledge, also led to a system of cramming without time for thought or assimilation, extremely detrimental to those intellectual and reasoning faculties which ought to be so carefully cultivated by medical men.

In conclusion, the lecturer assured the students that in whatever circumstances their lot in the future might be cast, their lives, if imbued with a true love of their profession, could not fail to be rendered happy by the double pleasure of benefiting others whilst, at the same time, increasing their own store of knowledge and experience.

YORKSHIRE COLLEGE, LEEDS.

THE introductory address was delivered on October 1st by Mr. T. P. TEALE, F.R.S., F.R.C.S.

It was, Mr. Teale said, just twenty-one years since he occupied a similar position as president of the Leeds School of Medicine. They had then recently moved from their old premises in East Parade to what was then their new School of Medicine in Park Street, that site being chosen in order that the school might be close to the infirmary then approaching completion, and that they might link together in a close bond of union the scientific groundwork of medical study and the practical clinical work of the hospital. Having at that time a school of about 50 students, they planned the new buildings for 100, much against the judgment of some of the council, who denounced the estimate of future possibilities as absurd. What was the position now? In twenty-one years the number of members had become not 50, not 100, but 160. Not only had they to provide for treble the number of students, but also for the curriculum of teaching, which had nearly doubled the need for space and appliances. He was given to understand that the Medical Board were anxiously considering how to meet the growing difficulties of inadequacy of space, and were on the point of making arrangements which would enable them to act upon two leading principles—one, that the new School of Medicine should, like the present one, be planted in close relationship with the Infirmary, which was the goal of all elementary medical study; the other, that there should be space for future expansion. And such a close connection between practical and scientific study was of more than usual moment at the present time. Every change and every so-called advance in medical education, and, above all, every addition in the form of examination, tended to encroach upon and to dwarf that most valuable side of medical study which was represented by work in the hospital, and which was formerly, for industrious students, the greatest and most effective part of their medical training. From this point of view, the very improvements in medical education were in danger of becoming sources of deterioration, and they ran a risk of turning out medical men, highly scientific it might be, yet inadequately trained in those points of character, habit, and readiness of resource which enabled a man to become, what all medical study should aim at making him, an efficient practitioner. Most elaborate arrangements were made by the medical authorities that students should go through a carefully prescribed course of study and scientific training, and that their work should be constantly put to the test of examination. But there was a part, and that no small one, in the training of a skilful practitioner which neither curriculum, nor lectures, nor examinations could secure. That part might be called their self-education—the earnest seeking after every opportunity of seeing, of observing, and of doing; the training of their eye not only to see disease, but to observe its effect upon the countenance, the manner, the character of their patient, and, beyond the patient himself, the effect upon others—parents, children, friends, dependents—so that their minds might grasp the whole situation, and enable them to discharge in the fullest sense their duties as a medical adviser; the determination to use every opportunity of watching illness, of discharging small duties about the sick, of training the hands and touch and mind to handle gently, and, when obliged to give pain, to give as little pain as possible. And not the least of the faculties of immense importance to a medical man was tact. That was partly the result of natural qualities, partly the result of training of the observation. Tact implied the power of observing and estimating the effect of their own manner and words upon others, combined with judgment to perceive what was the best thing to do, with the right feeling to enable them to act unselfishly in the interest of another. Much of that self-training was acquired in former times during the now bygone apprenticeship. Those of them who were sons of medical men had great initial advantages over their fellow-students if they were wise enough to appreciate and use them, as they could learn much insensibly and instinctively, and from the very beginning of their medical life. Those, also, who lived as pupils in the house of a medical man had great opportunities of self-education. What, then, were they to do (and not improbably they formed the majority) whose introduction to medical life was solely through their school? They must, during their student life, at any rate, depend upon the hospital. Let them from the beginning be determined to take every opportunity consistent with their appointed studies of coming in contact with hospital work. These opportunities, where the number of students was large, would be probably restricted during the first two years to out-patient practice. But every hour spent in the out-patient room would bring before the student's mind innumerable points of anatomical or physiological interest, which would give life and reality to his other work, and teach him that he was dealing with living human beings. He could not think it a wholesome or sound practice for the study of anatomy, physiology, and chemistry, to be divorced from all observation of those departures from healthy anotomy and physiology, the study and correction of which was the very end of all medical work. After their second year, when most of them—would that he could say all—would have successfully passed their examinations in anatomy and physiology, greater opportunities would be open for study in the hospital wards. There disease and injury in their more severe forms, often with life hanging in the balance, and apparently dependent upon the decision of the medical officer, were brought before them to study, with skilled persons ready to point every important symptom, to interpret for them what they could not understand, and to explain all the most recent methods of investigation or treatment. Surely every minute thus spent in the wards should be counted most precious, and not a word spoken by the physician or surgeon to patient, nurse, or attendant should pass unheeded. Mr. Teale proceeded to give some useful hints in reference to note-taking, suggesting that nothing should be described in writing that could be expressed in diagram or sketch, and adding that they could not too often remember the words, which had become almost proverbial—"A few scratches with the pen are better than whole pages of the most elaborate description." Passing on to the main object of their meeting that day—the distribution of prizes—Mr. Teale said that working for prizes was a two-edged sword. It was a valuable aid to work if used rightly and with a proper motive, but if the mere getting of the prizes and surpassing of a fellow-student became the mainspring of work and effort, industry was poisoned at its source, and success became a snare instead of a boon. If they wish for a rule to guide them, they should make this determination—never to work for any prizes unless they could make it worth their while to fail, so that to have worked and failed would prove of hardly less value to them than to have worked and won.

CHILDREN'S COUNTRY HOLIDAYS.—The Society for sending children from London for holidays in country homes, has now completed the season's work. The number of children who have been sent is 16,000, a large number in itself, but a small proportion of the 600,000 children in the London elementary schools. The Committee desire to accumulate a fund during the autumn such as may enable them to make arrangements next year for a regular stream of children to the country homes during their holidays, each child enjoying a fortnight in the fresh air, amid the new surroundings of a cottage home, and with new friends. This good work is one of the most practical and satisfactory means of maintaining health of body and brain among the children of our primary schools.

THE death is announced of Hofrath Dr. Karl von Burckhardt, who had long practised at Wildbad, after a short illness.

NINE CASES OF INGUINAL COLOTOMY FOR MALIGNANT DISEASE OF THE RECTUM: RECOVERY.

By HARRISON CRIPPS, F.R.C.S.,
Assistant Surgeon to St. Bartholomew's Hospital.

Colotomy must not be considered in any way as a rival operation to that of excision in cases of rectal cancer. In a large number of instances excision is quite impracticable, and it is in such cases that the question of colotomy arises. The advantages of the operation lie partly in the relief it affords to symptoms, partly as a means of retarding the growth of the cancer. The pain caused by the growth itself varies greatly, and is more influenced by the position than by any other factor. When the growth is near the anal margin the pain is often intense, whereas, when higher up the bowel, there is comparative immunity. Sooner or later the bowel becomes strictured, the symptoms of which are very characteristic, and often cause the greatest misery. The sufferer is troubled with constant calls to the closet, and generally believes that he is suffering from diarrhœa, and not infrequently has been told that his disease is chronic dysentery.

What is passed at such times is not a true motion, but rather a grumous mucoid discharge stained with blood and fæcal colouring matter. This discharge arises from an accumulation of scybalous masses in the dilated bowel above the stricture, and what comes away is merely the overflow from this mass mixed with blood and mucus. As time advances the trouble increases, the anus becomes raw and excoriated, and the patient is perpetually tormented with tenesmus. Purgatives and enemata gradually become useless, and the whole attention is fixed upon getting a proper evacuation. The abdomen gradually becomes swollen and tympanitic, and the patient dies from fæcal vomiting, or occasionally suddenly from perforation of the intestine.

Colotomy completely relieves all symptoms arising from the contracted state of the bowel, while it serves as a permanent safety valve against the risk of complete obstruction. The influence of the operation in retarding the growth is a debatable question. My own impression, founded upon considerable experience, is a strong one, that the progress of the growth becomes much slower after the bowel is set at rest by the operation. The return of strength and the gain of flesh are often well marked after colotomy, no doubt due to the increased appetite, the relief from pain, and the quiet nights following the operation.

To suppose that a patient after colotomy is in a miserable condition, with fæces constantly running away from the opening, is a delusion. If, as sometimes occurs, the opening is made too small, or allowed unduly to contract, the advantage of the operation is, in great measure, lost, and constant dribbling occurs from the wound. If, however, care be taken to make the opening valvular and of sufficient size, a motion generally passes but once a day, and there is a fair amount of control over the new anus.

The time at which the operation should be performed is a matter of some importance. I advise it without delay in cases where symptoms of stricture are present. If deferred, not only does the patient lose the advantage of the operation, but it may have eventually to be performed for complete obstruction under most dangerous and unfavourable circumstances. Colotomy on an empty bowel, when the patient is not reduced to death's door by unrelieved suffering, involves but slight risk to life. Up to the present time I have been sufficiently fortunate out of a large number of cases of lumbar colotomy to lose but a single patient, and have had hitherto no fatal result from the inguinal operation. On the other hand, the death-rate following the operation when performed for complete obstruction on a distended bowel is as high as 30 or 40 per cent

The colon may be opened either in the lumbar or inguinal region. Until recently the lumbar operation was universally selected in this country, but the improved knowledge of intra-peritoneal surgery has led surgeons to reconsider the inguinal method; and amongst those who have done much to reintroduce this operation must be mentioned Mr. H. Allingham.

There are two considerable objections to the lumbar operation, both depending on the limited space in which the operator has to work. The first objection is the difficulty often found in certainly recognising the colon, and this difficulty has caused many good surgeons to fall into the error of opening the duodenum, or some other part of the small intestine, with disastrous results. The second objection lies in the variations or abnormalities occasionally occurring in the descending colon. Slight variations in the course of the bowel generally mean nothing worse than a somewhat prolonged search; but not infrequently the operator altogether fails to find the bowel. The cause of this failure, as pointed out by Mr. Lockwood, arises from the bowel taking a totally abnormal course, so that practically there is no descending colon on the left side. To send the patient back to bed unrelieved, with a deep and dangerous wound, is a most unfortunate circumstance, but one which, nevertheless, is sure to occur in a certain proportion of cases. It has never been my misfortune hitherto to operate upon a patient the subject of an abnormal colon, but on three occasions I have been present when the operation has failed from this cause.

Inguinal colotomy meets both of the objections referred to. Owing to there being plenty of space there is no difficulty in finding the bowel; for, should it run an abnormal course, and not present itself when the peritoneum is opened, the operator has only to pass his finger down towards the pelvis and feel for the upper part of the rectum, when the bowel can be easily traced upwards, and a portion of the sigmoid flexure hooked out. Moreover, there can be no possibility of mistaking the small intestine for the large, the three longitudinal bands, together with the glandulæ epiploicæ, being so clearly marked and easily recognisable as to render a mistake impossible. From the operator's point of view there can, therefore, be no possible question of the superiority of the inguinal over the lumbar operation, especially if it can be shown that there is no disadvantage in the position of the outlet, nor that opening the abdominal cavity increases the risk to life.

Sufficient time has not elapsed to speak positively as to whether the opening in the groin gives rise to any special inconvenience not met with in the lumbar operation; but at present I have observed no disadvantage in this respect. As regards the risk of the operation, it is probably less than in lumbar colotomy. The bowel is found with ease and certainty; a clean incision can be made through the abdominal parietes without the bruising or damage of the sub-peritoneal fat so frequently unavoidable in Amussat's operation. The parts thus unite by first intention, with scarcely a trace of constitutional disturbance. Indeed, in the nine cases appended to this communication, which embrace my entire experience of the inguinal operation, none of them gave any anxiety whatever, all rapidly convalescing without an untoward symptom.

Unless a wider experience should disclose some danger or difficulty not yet observed, I believe that the inguinal operation will be that generally performed in the future, and that in a few years lumbar colotomy will be a mere matter of history. It is as a guide to those who have not yet had an opportunity of performing the inguinal operation that I venture to call attention to a few details I have found useful, together with a brief history of my cases.

Method of Operating.—Different surgeons vary considerably in their method of exposing and attaching the bowel to the surface. The following is the plan employed in my cases: The abdomen having been thoroughly well washed with soap and water, antiseptic treatment as regards sponges, instruments, hands, etc., is carried out. An incision two inches and three-quarters in length is made one inch and a quarter from the anterior superior spine, one-third of the incision being above and two-thirds below an imaginary line drawn from the anterior superior spine to the umbilicus. In making this incision the skin should be drawn a little inwards, so that the opening through the transversalis fascia and the peritoneum is on a different level, when the skin is again relaxed, thus making the opening valvular, and rendering its subsequent closure with a pad easier. The peritoneum being reached, it is pinched up and a small opening made, which is subsequently enlarged to nearly the length of the cutaneous incision. The small intestine generally first presents, but, on pushing it back, the colon often shows itself; if it does not it can be readily found by passing the finger downwards into the pelvis, and following the rectum upwards till the sigmoid flexure is reached, which can be hooked out with the tip of the finger. With moderate care there can be no possibility of mistaking the small intestine for the colon. The three longitudinal bands are very conspicuous, which, together with the glandulæ epiploicæ and the regular convoluted

surface, establishes unmistakably its identity; not infrequently, moreover, hard, scybalous masses can be felt within it. A loop of bowel being drawn into the wound, two provisional silk ligatures are passed through a portion of the peritoneal coat opposite the mesenteric attachment. These provisional ligatures, the ends of which are six inches long, help to steady the bowel during subsequent stitching to the skin, and eventually serve as guides when the bowel has to be opened. They should be two inches apart. The bowel is now temporarily returned into the cavity. The parietal peritoneum is then picked up with forceps, and attached to the skin on each side of the incision one inch and a half apart by a couple of sutures of fine silk. The bowel is again drawn out by means of the provisional ligatures, and fixed to the skin and peritoneum by six fine ligatures on each side. These sutures are best passed by fine partly curved needles, the needle passing first through the skin an eighth of an inch from the margin, then through the parietal layer of the peritoneum, and lastly through the peritoneal and muscular coat of the bowel, great care being taken to avoid perforation of its mucous membrane. It is easier to pass all the sutures before tying them up. The wound being perfectly cleaned by gentle sponging, the threads can all be tied with moderate tightness. A suture should now be passed through the skin at each end of the wound, including a portion of the peritoneal layer of the bowel.

The ligatures should be passed not far from the mesenteric attachment of the gut, so that about two thirds of the circumference of the bowel is external to the wound. I regard it as waste of time stitching the parietal layer of the peritoneum all the way round to the skin before drawing out the bowel; the four stitches mentioned are all that are really necessary at first to fix it, for it is subsequently included in the ligatures attaching the bowel to the skin. A piece of green protective is put over the exposed bowel, and the whole covered with a firm antiseptic dressing. Unless the protective is used, it will be found that the lymph thrown out from the bowel has attached the dressings with surprising firmness. I dress the case the next day to make sure that nothing has been displaced by vomiting, etc., the dressings being reapplied and kept on till the sixth day, when the bowel can be opened. By this time it is found firmly attached to the skin, and covered by a remarkably thick layer of organised lymph. In opening the bowel the provisional threads which have been left in afford a valuable guide. They are gently drawn upon, and the bowel opened between them with a sharp knife. The cut margins of the bowel can be pared off with scissors to the level of its attachment to the skin. No anæsthetic is necessary, the bowel being quite insensitive. The patient is convalescent in about three weeks.

For the notes of the following cases I am indebted to my house-surgeon, Mr. Balgarnie.

Case I.—G. G., aged 55, was admitted into St. Bartholomew's Hospital, October, 1887. For a couple of years he had experienced slight pain in defæcation; he thought little of this till six months ago, when he began to pass blood in small quantities but very frequently, and he was compelled to go to stool ten or twelve times during the day. His motions were small and broken, and always blood-stained. He frequently was unable to pass anything but blood after painful straining. Lately he had had frequent micturition, and had lost flesh considerably. His aspect indicated constant suffering, and he spoke in a querulous dissatisfied manner.

Examination.—Anus natural; two inches and a half from it a hard nodulated growth completely surrounded the bowel, feeling not unlike a cervix uteri. The gut was so strictured that it would scarcely admit the tip of the finger. The liver was much enlarged, and obviously infiltrated with cancer.

October 26th. *Inguinal Colotomy.*—The small intestine presented, and on being returned the large was found without trouble, and stitched to the skin. On the following day, owing to some pain from distension of the abdomen, the bowel was opened and a large quantity of flatus escaped. The early opening of the gut prevented primary union to the skin, and the wound healed by granulation. He left the hospital within a month, he gained weight, his face had lost to a large extent the expression of constant suffering, and his motions were passed without difficulty from the artificial opening.

Case II.—P. W., a woman, aged 47, admitted on December 1st. A few weeks before Christmas, in 1886, she experienced some difficulty in passing a motion, accompanied by the passage of a large quantity of clotted blood. This was soon followed by a constant desire to go to stool, and a frequent discharge of bloody slime. In July, 1887, the rectum was partly excised at another hospital. On admission to St. Bartholomew's, she was a fairly healthy-looking woman, but with a careworn expression. On examination, the anus, partly from the contraction of the cicatrix and partly from recurrent growth, was completely obliterated. All her motion, over which she had no control, was passed by the vagina through a recto-vaginal fistula.

December 8th. *Inguinal Colotomy Performed.*—Large intestine at once presented, and was sutured to the skin. The bowel was opened on the third day. The wound was quite healed in three weeks. The opening, however, was not sufficiently large to be satisfactory, scybalous masses collecting, and causing constant diarrhœa from the wound.

The opening was enlarged by half an inch, with a very satisfactory result. The patient was discharged on February 7th. She complained of no pain, passed good nights, without narcotics, and her general health much improved.

Case III.—J. M., a man, aged 43, admitted on January 11th. He had had good health till May of last year, when he was troubled by diarrhœa, accompanied by scalding pain. The attacks of diarrhœa alternated with constipation. He passed blood at first, but not lately. He had lost flesh.

Examination.—The anus and last two inches of rectum normal. Three inches up the bowel a growth completely surrounding it and firmly adherent could be felt. The bowel was tightly strictured.

January 16th. *Inguinal Colotomy.*—A large mass of omental fat at first presented, but the sigmoid flexure was soon found by exploring with the finger.

The bowel was opened on the third day. Most of the wound healed by first intention. He was discharged at the end of a month, though still weak; he had not much trouble with the new anus, which acted satisfactorily once or twice a day.

Case IV.—E. C., a woman aged 43, was admitted January 17th. She had felt weak and unwell for a year. Five months previously she began to suffer from bearing-down pains, which were constant, and not aggravated by defæcation. The last two months there has been a considerable slimy discharge, but no blood.

Examination.—A large malignant mass could be felt about two inches and a half from the anus. The finger could not reach beyond the growth, and the lumen of the bowel was much narrowed.

January 30th. *Inguinal Colotomy.*—The sigmoid flexure presenting, the gut was opened on the third day, and the wound healed by first intention. At the end of a fortnight the opening seemed a little narrower than it should be. This was remedied by the patient wearing Cripps's colotomy dilator for a couple of hours every day for a fortnight. The patient left the hospital improved in appearance, but still complaining of some pain at night.

Case V.—L. F., a woman aged 50, admitted January 24th, first commenced to suffer pain about three years ago. Twelve months since the pain became worse, and blood appeared for the first time, and she had continued to pass it ever since, in amounts varying from a few drops to a wineglassful. She was subject to frequent attacks of spasmodic diarrhœa, only dark-coloured slimy discharge generally coming away. The patient was in a condition of extreme cachexia and anæmia, and unable to walk without assistance. Lately all the motions had been passed through the vagina. The urine was albuminous.

Examination.—The anus and lower part of the rectum were completely occluded, the motions passing through a hole in the septum high up in the vagina. The patient, on admission, was so weak as to forbid the idea of any operation. After three weeks in bed, however, she improved.

Inguinal colotomy was performed, the small intestine presenting. The gut was opened on the fifth day, the wound having healed by first intention. She improved immensely after the operation, put on flesh, slept soundly at night, and expressed herself as entirely free from pain. She was discharged a month after the operation.

Case VI.—G. A., a man aged 50, admitted into St. Bartholomew's Hospital, first noticed rectal trouble about six months before. His motions were smaller than usual, and accompanied by blood and slime. During the last month or two his calls to the stools had been very frequent, amounting at times almost to incontinence. He was a well-nourished, fairly healthy-looking man.

Examination revealed a healthy condition of the mucous membrane for the first two inches of the bowel. The finger then met with a projecting hard mass of new growth completely encircling the gut. The lumen of the bowel in the centre of this mass would hardly admit the tip of the finger.

March 19th. *Inguinal Colotomy.*—The small intestine presented. The sigmoid flexure was subsequently found without difficulty, and was filled with hard scybalous masses, which had to be pressed further down the bowel to enable it to be sutured to the abdominal parietes. The bowel was opened on the sixth day, and was firmly united to the skin. The patient subsequently convalesced without any untoward symptom.

Case VII.—C. S., male, aged 64, admitted into St. Bartholomew's Hospital in March. He dated his symptoms from three months previously, when he began to be troubled with the constant desire to go to stool. He had much painful straining, but very little motion came away, and it was liquid and blood-stained. He had become very emaciated, and weighed only 6 stone 10 lbs. He was much troubled with bronchitis.

Examination.—The finger met with a tight fibrous stricture just within the anus, and, upon dilating this, the finger passed into the bowel some two inches and a half up, when a hard irregular mass could be felt entirely surrounding and stricturing the bowel.

Owing to the patient's chest trouble, the operation was delayed for ten days. Inguinal colotomy was then performed, the sigmoid flexure presenting. The following day the bronchitis became very bad, and he had considerable dyspnœa. However, this soon cleared off, the bowel was opened on the sixth day, and the patient convalesced without further trouble.

Case VIII.—A gentleman, aged 65, brought to me by my friend, Dr. Laurie, of Essex, had for some time been suffering from malignant disease of the rectum. The height to which the disease extended, together with its fixity to surrounding parts, rendered excision impossible. For some months the patient had suffered severely from the effects of stricture.

Inguinal colotomy was performed on January 31st, Mr. Bowlby assisting me. The small intestine presented, and after a little search the sigmoid flexure was found. The bowel was opened on the sixth day. All the wound healed by first intention, and the patient returned home within three weeks. I have since heard from Dr. Laurie that the new opening acts in a very satisfactory manner.

Case IX.—Mrs. N., a lady, aged 50, sent to me by my colleague, Dr. Godson, had had some trouble with the bowels for over a year. During the last few months it had increased; she was perpetually tormented with calls to the closet, and she had passed no solid motion for over six months. Lately she had become thinner.

On examination, a considerable mass of cancer could be felt high up, completely surrounding the bowel, nearly obliterating its calibre.

January 12th. Ether being administered by Mr. Mills, inguinal colotomy was performed. The omentum first presented, then the small intestine, but the sigmoid flexure was easily found with the finger. The bowel was opened on the sixth day, the parts having united by first intention, without any constitutional disturbance. At the end of a fortnight there seemed to be some tendency for the opening to contract, and a spring dilator was kept in for some hours each day. The patient returned home at the end of three weeks. The parts had soundly healed, and there appeared to be no further tendency to contraction.

CLINICAL MEMORANDA.

INTESTINAL OBSTRUCTION: RECOVERY.

In the Journal of July 7th a case of intussusception with favourable termination was reported, which was to me suggestive in relation to a case which came under my care soon afterwards, and I feel indebted to that report for a hopeful expectation I felt in the issue of my case.

J. D., aged 54, stout, was brought home at noon, July 16th, from the town, where he had been suddenly attacked with violent abdominal pain. His health had been good to this time, and his bowels right. He had during the afternoon five or six most severe paroxysms of griping pain, one of which occurred during my visit, the pain being referred to the umbilicus, and passing down into the scrotum. No vomiting occurred. The attacks ceased gradually at night.

On July 17th he was free from acute pain, suffering only general discomfort and some little flatulent distension, and he vomited a little in the evening. The temperature was 100°.

On July 18th he vomited several times bilious-looking matters. Liquid nourishment was taken at this time. Enemata were quickly returned with slight admixture of fæces. From this time the patient refused to take any nourishment, swallowing nothing but ice and water. He was usually moaning, but complained of no severe pain. The abdomen became more tympanitic. A long rectal tube was passed about three-fourths its length and gruel thrown up, but it was rejected at intervals during the operation, the only result being the passage of one or two bits of fæces, very pale, and with a peculiar odour.

On July 19th the attendant gave, by the advice of a neighbour, a dose of castor-oil and some yeast, which produced such violent vomiting that the patient was dangerously prostrated on my arrival, and seemed to be sinking, but he rallied. The vomiting occurred at intervals of three or four hours, and was now distinctly fæcal in odour. The abdomen was as distended as it well could be, but nowhere very tender, and the temperature was normal.

On July 21st Dr. Mackenzie saw the patient, and abdominal section was mooted and decided against.

On July 23rd the patient said he passed flatus.

On July 24th a little soft-formed motion was passed, remarkably pale in colour, but there was no perceptible reduction of the tympanites.

On July 26th a similar very pale, soft motion was passed, larger in quantity. The vomiting still occurred occasionally.

On July 27th a thin, copious, and very pale evacuation occurred. The patient now took liquid food, barley water, milk and water, and a little brandy. What vomiting there was gave no fæcal odour. The evacuations became free and darker in colour gradually. There was gradual recovery, the motions remaining fluid. No sphacelus of intestine was found.

The medicine used was tr. belladon., ♏ lxxx; liq. morphin., ʒiij; aqua ad., ʒij; ʒj every two hours, and one-sixth of a grain of morphine by the skin at night.

It seemed to me that the case pointed with strong probability to invagination of some portion of the colon as the cause of obstruction, and is of interest as illustrative of the advantage of waiting. At any rate, I do not think that laparotomy adds an element of advantage in the treatment. Even discounting the risks attendant on section, to attempt a reduction of an invagination which would almost certainly be ulcerated, must be very risky.

A. Sutcliffe, F.R.C.S.Ed.

Burnley.

THERAPEUTIC MEMORANDA.

LIQUOR SODII ETHYLATIS IN THE TREATMENT OF LUPUS.

Miss —, aged 58, was first seen on May 1st. She has suffered from lupus of the face for fifty-four years. During this time no local means of removing the disease appear to have been adopted. The right side of the face was covered with cicatricial tissue and the lower eyelid was everted. The surface over the masseter muscle down to the angle of the jaw was covered with a patch of lupus exedens. The whole of the nose was similarly affected, and there was another patch above the inner canthus of the same side. On May 9th chloroform was given by Mr. Pearse, and I scraped the lupoid surfaces with a small oval-shaped Volkmann's spoon, taking care to thoroughly remove the whole of the diseased tissue, and then applied nitric acid with a glass rod. The wounds healed in a fortnight. After a little time, however, several small patches appeared, one above the inner canthus, one over the prominence of the right malar bone, another immediately in front of the ear, and others on the left side of the nose, on the right half of the upper lip and immediately external to the right angle of the mouth. An anæsthetic was again administered on June 28th, and these patches treated as in the first operation. These soon got well, with the exception of the patches near the mouth, which were prevented from healing by the constant movements of the lips. Shortly after this second scraping several small patches appeared, and in the course of a day or two grew so rapidly that every time the patient was seen they were much larger. I then decided to treat them with the liquor sodii ethylatis. This was applied to the patches with a glass tube, which had a very small bore, once a day for three consecutive days. Two or three days after the last application of the solution the patches were covered with dry scabs, which either fell off themselves or were easily removed with a pair of dissecting forceps, leaving a perfectly healthy surface beneath. Since this time other small patches have appeared, and

these have been treated in a similar manner. The treatment has been so successful that the appearance of the patient is vastly improved. She is anxious now to have an operation for the ectropion performed.

The advantages of using the ethylate of sodium solution in the treatment of small patches of lupus are that it is not necessary to give an anæsthetic, and so the idea of having an "operation" performed is removed from the patient's mind. It only takes a minute or two to apply the solution; a very slight tingling is produced, which passes away in three or four minutes. After the removal of the scab there is no wound left to heal, and consequently there is no necessity for the patient to walk about with a dressing on the face. In this case the recurrence of fresh places was rapid after the second scraping operation, while the new patches which have appeared during the time the ethylate of sodium treatment has been carried out have been small, and have grown slowly. I am perfectly aware that this method is not by any means new, but I think the success of this case justifies my calling attention to it. During the time the solution is being applied, no water should be allowed to touch the parts.

Handsworth. L. A. TAYLOR, M.R.C.S., L.R.C.P.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

MONGHYR HOSPITAL, BENGAL.

CASE OF A LESION AT THE BASE OF THE BRAIN, PARALYSING THE FIFTH AND HYPOGLOSSAL NERVES, TREATED BY TREPHINING.

(Under the care of Surgeon-Major R. COBB, M.D., Bengal Medical Service.)

I PUBLISH the following case, because it is, I believe, the first recorded instance of a surgical operation having been undertaken for the treatment of an intracranial growth situated at the base of the brain, close to the medulla and pons. The case is an interesting one as showing the part that intracranial pressure plays in the production of severe nervous symptoms, and their possible relief by trephining.

B., aged 45, a goldsmith by caste and occupation, came to the out-patient department of this hospital in April, 1887, complaining of an intense pain in the right side of the face, paralysis of the muscles of mastication, paralysis, loss of taste, and great wasting of the right half of the tongue, the tip of which had curved round to the same side. There was also a certain amount of deafness of the right ear, but no facial paralysis. The patient acknowledged that he had had syphilis some sixteen years previously. A new growth, situated at the base of the brain between the pons, medulla, and basilar process of the occipital bone, pressing on the fifth and hypoglossal nerves of the right side, was diagnosed. As it seemed probable that it was a syphilitic growth, perchloride of mercury and iodide of potassium were prescribed; he was also given large doses of opium for the pain, which was of a most agonising kind. A few days later, the right cornea became hazy, and swelling and tenderness of the gums of the right upper and lower jaws occurred. A week afterwards the cornea sloughed, and the whole eye inflamed and became disorganised, the teeth of the right side loosened, and fell out one by one, leaving sloughing sores in the sockets. The pain at this time was so great that the unfortunate man tore away all the hair on the right side of his face. He continued for a year much in the same state, except that the violence of the pain caused a gradually increasing weakness and exhaustion. All the drugs usually given in such cases were tried, and he took antisyphilitic remedies for at least six months without deriving the slightest benefit. He could scarcely eat or sleep, and it was clear that he was gradually sinking from the exhaustion produced by the intense agony he constantly suffered. At last, quite worn out and broken down, he expressed his intention of committing suicide, if relief could not be given. As the growth appeared to be stationary, or, at any rate, but slowly increasing in size, it occurred to me that trephining would probably relieve the pressure on the affected nerves. Accordingly, on the morning of June 29th last, the patient being under the influence of chloroform, I removed a circular piece of bone (half an inch in diameter) from the skull, just behind the posterior angle of the mastoid process. I chose this spot because it was the nearest accessible point to the growth. I found that the portion of bone I had removed was decidedly thinner than usual. Having thus exposed the dura mater, the lateral sinus could be distinguished in the anterior part of the opening. I then cautiously introduced a fine trocar into the brain in the direction of the growth, in case it should have fluid contents, but only a few drops of cerebro-spinal fluid escaped. During the afternoon the temperature of the patient rose to 100°, and he complained of pain in the wound. The next day (30th) the temperature fell to 98°, but he still complained of some pain. On July 1st, the pain in the right side of the face, from which he had suffered so much and for so long, quite left him, and he has had no return of it. He is now (July 28th) in a far better condition than he was before the operation, the wound is granulating, he has no pain, and he is rapidly gaining in health and strength. There is a decided increase in the power of the muscles supplied by the fifth nerve, and his hearing is improved. No improvement can be detected in the tongue.

REMARKS.—The association in paralysis of the fifth and hypoglossal nerves is unusual, and enables one to localise the lesion with some precision. The deafness did not appear complete enough to be caused by direct pressure on the auditory nerve, and this was also the more improbable as the facial nerve escaped, nor did it seem to be due to paralysis of that branch of the fifth which supplies the tensor tympani, for I could observe no difference in the patient's appreciation of high or low notes. The soft auditory nerve probably suffered from intracranial pressure. It is probable that the hypoglossal nerve suffered the most from direct pressure of the growth, as the wasting of the affected half of the tongue was extreme, and no improvement resulted on the removal of the intracranial tension. Dr. Gowers, in his monograph on *Diseases of the Nervous System*, lays great stress on the pressure effects of intracranial growths, and on page 467, vol. ii,[1] after describing the effects of intracranial pressure on various parts of the brain, goes on to remark as follows: "more effective is the resistance of the tentorium, and tumours in the small space beneath it may compress all the structures therein contained." In this small and inelastic space are contained those parts of the central nervous system on which life depends. With the exception of antisyphilitic remedies in certain cases, drugs are too often of little benefit, and it is not probable that growths in this situation can be successfully removed by operation. Encouraged by the relief afforded in this case, I venture to suggest that the operation of trephining should be performed in those cases of intracranial growths in which the following conditions obtain: 1. That a fair trial has been given to antisyphilitic remedies; 2. when the growth is in such a position that it is beyond the reach of the knife; 3. that whilst the growth is apparently stationary or growing but slowly, the suffering is excessive, and shows no sign of abatement.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

LARGE VESICAL CALCULUS REMOVED BY SUPRAPUBIC LITHOTOMY.

(Under the care of Mr. F. PAGE.)

[Reported by Mr. M. BAIGENT, House-Surgeon.]

W. H., a boy of 15, was admitted into the Newcastle Infirmary on March 24th, 1888, complaining of inability to pass water.

When first seen in the out-patient department he was suffering so much pain that he was unable to stand upright; and, on sounding, a large stone was found with the empty bladder firmly contracted around it. On passing the finger well into the rectum the stone was readily felt, and its size and shape accurately determined. The patient had previously enjoyed good health, and only for the last five weeks had he suffered from pain at the end of the penis, increased frequency of micturition, with an occasional drop of blood towards the end of the act.

For three days after admission the patient suffered intense pain

[1] *Diseases of the Nervous System.* By Dr. Gowers. Published by Messrs. Churchill.

in the bladder and penis; bloody urine passed involuntarily at frequent intervals, and he had three epileptiform convulsions. The operation was performed three days after admission. Six ounces of warm boracic lotion having been injected into the bladder, and the viscus brought well forward by Garson's bag in the rectum, and a firm pillow beneath the buttocks of the patient, an incision two and a half inches long was made in the median line, and the bladder opened in the usual way. The stone, on account of its size, was with difficulty seized with the forceps; and, before it could be extracted, the incision had to be enlarged upwards to the extent of half an inch. The wound was then closed with a continuous suture of catgut; a drainage-tube was inserted in the lower angle, and a soft rubber catheter passed down the urethra was tied into the bladder. The stone, which was oval in shape, weighed three ounces and a quarter, and was composed of uric acid coated with phosphates.

For the first two days after the operation the dressing was quite dry; all the urine, fifty-nine ounces, escaped by the catheter and drainage-tube into a vessel placed near to receive it. The temperature rose to 101°, but fell to normal in twelve hours, and remained so, with an occasional rise to 100° during the remainder of the treatment.

On the fourth day the dressing was soaked with urine, and the catheter, which had become blocked, was withdrawn and left out. The following day the patient passed urine himself.

On the seventh day the wound opened along its entire length. Sloughs formed in the deeper parts, which had been pressed upon during the extraction of the stone, and the urine overflowed, making it necessary to change the dressing frequently.

A fortnight after the operation the last slough had separated, and the wound was a healthy granulating one. The case now progressed slowly.

The patient had to be turned upon his face or side to allow the part to drain more readily and to micturate frequently, so as to prevent, if possible, the bladder becoming distended. The last part of the wound to close was the lower angle. When discharged ten weeks after the operation a small fistula had remained, through which some urine escaped at every attempt at micturition.

REPORTS OF SOCIETIES.

CAMBRIDGE MEDICAL SOCIETY.

FRIDAY, JULY 13TH, 1888.

HENRY STEAR, M.R.C.S., President, in the Chair.

Cerebral Softening and Basic Meningitis.—Dr. BRADBURY read the notes of the following case:—H. B., aged 29, a labourer, married, was admitted into Addenbrooke's Hospital on December 7th, 1887, and died on February 6th, 1888. There was no history of past illness, but he had never been strong. There was no history of syphilis. In March, 1886, he complained of weakness in the right leg, with symptoms of paralysis of the left third nerve. He improved somewhat under iodide of potassium, but the mental symptoms increased, and there was much weakness of arms and legs, with some loss of consciousness. On admission, there was a peculiar smiling expression about the face, he talked with a slight drawl, and did not always know what he was saying; the left eye showed slight external strabismus; there was no ptosis; the left pupil was dilated, and did not react; the right was normal; the movements of the left side of the face were slightly impaired, sensation normal; the tongue was protruded in the middle line; he complained of vertical headache; the heart and lungs were normal. In the arms and legs sensation was good; muscular nutrition was normal. The knee-jerks were excessive, ankle clonus well marked on both sides; on the left leg there was a round scar from old ulcer, but no other scars. Urine acid, 1010; phosphates. The patient was treated constantly with iodide of potassium, taking as much as thirty grains three times a day during the month of January. He died on February 6th. On *post-mortem* examination, the dura mater was normal. There was a great accumulation of cerebro-spinal fluid in the subarachnoid space, and also in the lateral ventricles. The right hemisphere was depressed towards its centre; the convolutions were almost obliterated, and replaced by smooth, soft-looking tissue. The left hemisphere was generally atrophied. On section, the greater part of the white matter of the right hemisphere had disappeared, and in its place there was a large quantity of milky-looking fluid, with shreds of more resisting tissue, blood vessels mainly, traversing it. The softening could be traced down to the anterior part of the internal capsule. The white substance of the right crus cerebri was much diminished. At the base there was some chronic meningitis in the intra-peduncular space, and this extended backwards and downwards to the region of the cranial nerves arising from the pons and medulla. The vessels at the base were thickened and cord-like, but the right middle cerebral was patent, although small. The basilar artery was small, and contained a partially organised thrombus. In the medulla the right pyramid was small and sclerosed, and also the corresponding direct and crossed pyramidal tracts. All the other organs were normal.

Cutaneous Affections in Graves's Disease.—Mr. F. W. BURTON described two cases of exophthalmic goître, one remarkable for presenting, with the symptoms of Graves's disease, many of those of Addison's also; the second, besides other things, in that it occurred in a man, in which sex the disease only occurred once to five times in women. Mr. Burton thought there was no doubt that exophthalmic goître was particularly common in that part of the country, a fact due very likely to the prevalence of anæmia and rheumatic fever. The first patient was a married woman, aged 49, whose illness began six months before with indefinite symptoms of dyspepsia. Palpitation then began to trouble her; she became nervous and so weak that she could not walk alone; her friends meanwhile noticed that her skin was getting darker. On admission, there was no exophthalmos, but Stellwag's and von Graefe's signs were markedly present; the thyroid was a little enlarged, the right lobe especially so, to about the size of a walnut. The pulse varied from 116 to 130, was of good size but very soft, and occasionally irregular in force. There was pulsation of the abdominal aorta along its whole course of such force, that it could be seen through the bed-clothes. The patient complained greatly of palpitation of the heart, at the base of which a harsh systolic murmur developed during her stay in the hospital. She was treated by complete rest and careful diet, and tincture of belladonna had been given for upwards of three months in ♏v doses. She still, however, showed traces of her pigmented condition; her pulse ranged between 90 and 103; her thyroid had not much diminished, and there remained a trace of von Graefe's sign. What especially attracted attention in this case was the pigmentation; it was almost exactly the tint of dirty skin, and was most marked about the face, the neck, axilla, the back (especially at the waist), the genitals, below the knees where the garters pressed, and below a ring on her finger. There was no glycosuria, but Mr. Wilde, of the Physiological Laboratory, was kind enough to examine the urine for the pigment described as being present by Dr. MacMunn in Addison's disease. The precipitate, obtained from the urine by acetate of lead, was dissolved in absolute alcohol, acidulated by sulphuric acid, and this solution examined by the spectroscope showed a dark band from 48 to 50, the position described by Dr. MacMunn as characteristic of acid hæmatoporphyrin. The same fluid rendered alkaline assumed a greenish fluorescence, and by the spectroscope answered to the characters of alkaline solutions of hæmatoporphyrin. Mr. Burton referred to other recorded cases in which there had been co-existence of exophthalmic goître, and some of the symptoms of Addison's disease, namely, pigmentation, stomach trouble, and great debility. In the second case the patient was a man, aged 34, under the care of Dr. MacAlister. He had suffered for five months from alternating sweats and cold chills, then from palpitation and dyspnœa, with great nervousness. On admission, it was noted that his eyes were prominent, that he easily flushed and sweated, that his thyroid was slightly enlarged, and the pulse was seldom under 116. The heart's action was tumultuous; the area of dulness was enlarged, and the first sound was followed by a short blowing murmur. Von Graefe's sign was marked, Stellwag's absent. In addition to these symptoms the patient had glycosuria (gr. v. ad. unc.), which disappeared after a week, and slight jaundice, with bile-stained urine which lasted three days; he also had an erythematous blush and slight œdema of both ankles, unaccompanied by pain or other sign of joint affection. He also presented the coarse jerky tremor on movement, described by Dr. Gowers as a symptom of this disease. The patient was treated with rest and increasing doses of liquor atropinæ sulphatis, beginning with doses of ♏ij, with very slight improvement. A third case, under the care of Mr. Wherry, had palpitation, slightly enlarged thyroid, and von Graefe's and Stellwag's

signs, together with urticaria, which came out every morning, and after lasting an hour or two, and causing the patient great annoyance by its itching, disappeared. Mr. Burton referred to cutaneous disorders which had been recorded in cases of Graves's disease. He thought these symptoms could all best be explained by the accepted pathology of exophthalmic goître, a sympathetic neurosis.

Aural Cases.—Mr. DEIGHTON read notes of some aural cases. 1. One in which a purulent discharge had existed for upwards of twenty years, and where there was almost complete loss of the membrana tympani. In this case, after the otorrhœa was cured, entire regeneration of the membrane took place. 2. A case of abscess in the mastoid cells with high fever and delirium; in this case perforation of the mastoid cells was performed with a successful result.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

THURSDAY, SEPTEMBER 6TH.

W. H. NICHOLLS, M.R.C.C., President, in the Chair.

Cancer of Breast.—Dr. MACKEY showed a case of cancer of breast in a woman aged 70, which began eighteen months ago. The skin was extensively ulcerated, but it had been painless from the onset. Dr. Mackey contrasted with it a case in a woman aged 50, operated on soon after detection, which recurred within three months, and proved fatal within eighteen months, with intra-thoracic deposits. Chian turpentine seemed useful in arresting discharge and cleaning the surface.

Bronchiectasis.—Dr. MACKEY related a case of bronchiectasis in a youth aged 20, admitted into the County Hospital with cough and profuse fœtid expectoration, dating from a pleuro-pneumonia four years previously. There were physical signs of a cavity at the right base. Improvement occurred under hyposulphites, antiseptic inhalations, etc.; the amount of purulent expectoration diminished from ten to four ounces daily; but, as attacks of pyrexia, with rigors, etc., still occurred at intervals, intra-pulmonary injections of beech-creasote, fifteen minims of a 3 per cent. solution in olive oil, were commenced. The first six had no ill effects; but there was reason to correct hæmoptysis and increase of inflammatory symptoms with a final injection of twenty minims, divided and given in two places. Ultimately an opening was made in the basic cavity near the angle of the scapula, and a drainage-tube was introduced. The operation proved difficult and serious; and, although there was some temporary improvement, death occurred two or three weeks afterwards from septic pneumonia.—Mr. VERRALL did not consider it difficult to reach any part of the lung by operation, though the most favourable cases were those of abscess following pneumonia.—Mr. W. FURNER asked, if in empyema an opening through a bronchus was most desirable, why in bronchiectasis should an opening through the chest be sought?—Mr. SANDERSON thought the object of puncture was to secure a dependent opening.—Dr. WHITTLE maintained that the physical conditions of bronchiectasis and empyema were not comparable, and that rules of treatment good for one might not apply to the other.—Mr. FURNER quoted Dr. Gee as preferring the bronchial opening in empyema.—Dr. MACKEY replied that the object of opening an empyema was to prevent its breaking into the lung.

Blood-cyst.—Dr. BLACK showed a case of blood-cyst of the neck cured by drainage after the boy had run great risk from septicæmia.

Diphtheria.—Dr. PALEY read notes of a case of diphtheria from which a membranous cast (shown) of the trachea and bronchi was ejected.

Hernia Testis.—Dr. BLACK read notes of a case of hernia testis in which he had formed a new sac for the testis and returned it completely. The case recovered perfectly in a fortnight.

Pelvic Cellulitis.—Dr. BLACK read notes of a case in which pelvic cellulitis ending in abscess followed on the introduction of a laminaria tent for diagnostic purposes.—The case was discussed by Dr. MACKEY, Mr. VERRALL, Mr. FURNER, and Mr. HODSON.

THE White Cross Convalescent Hospital at Abbazia, Vienna, for officers of the army and navy, which has been endowed chiefly by the liberality of the Southern Railway Company, was opened on Saturday last.

THE death is announced of the Rev. Dr. Flood, who was for some years in practice as a surgeon at Leeds, but afterwards took orders, and was for twenty-eight years Vicar of St. Matthew's, Leeds.

REVIEWS AND NOTICES.

DISEASES OF THE SKIN: THEIR DESCRIPTION, PATHOLOGY, DIAGNOSIS, AND TREATMENT. By H. RADCLIFFE CROCKER, M.D. With Seventy-six Illustrations. London: Lewis.

IN this work Dr. CROCKER gives an excellent account of the present state of our knowledge of Dermatology. The information which it contains regarding the pathology and therapeutics of skin diseases is drawn from the most recent sources, and has been largely tested by Dr. Crocker himself in the Skin Department of University College Hospital and in the East London Hospital for Children. The work is well illustrated, the illustrations of microscopical sections being drawn from the author's preparations, except those which relate to parasites and the normal anatomy of the skin.

Amongst the authors whose views are fully represented are Hebra, Kaposi, Neumann, Unna, Bazin, Hardy, Vidal, Duhring, Erasmus Wilson, Tilbury Fox, and Hutchinson.

The scope of the work is comprehensive, endemic and tropical diseases being discussed as fully as their relative importance warranted. The book is not only intended to fulfil the object of serving as a work of ready reference to the general practitioner, but is also arranged, by the assistance of varied type, to supply the student with what he requires for his examinations, without expending much more labour than would be necessary to master a smaller manual.

The literature of dermatology has been thoroughly studied by Dr. Crocker up to the very latest date, and there are references for the sake of completeness to the varied nomenclature of this branch of medicine, both old and new, and to diseases, in the specific existence of which Dr. Crocker, rightly we think, no longer believes. For example, the classic diseases impetigo and ecthyma, which many dermatologists have erased from their list, and which the author does not believe represent distinct diseases, nevertheless find their place and their significance clearly, though briefly, explained.

Evidence of Dr. Crocker's careful clinical observations are abundant throughout the volume, which contains references to new forms of skin affections, or hitherto little remarked varieties of ordinary forms, which must prove interesting both to those who make dermatology a special study, and to pathologists whose views range over a wider field. As an illustration of these newer views, we may refer to a condition described as "eczema circumscriptum (?) parasiticum." The author gives this name to a form of eruption which looks like a dry eczema, but its edges are more sharply defined than is the case with eczema squamosum. It occurs chiefly on the legs, especially below the knee, but he has seen it on the arms. It is made up of minute papules, which aggregate into a pretty uniform, moderately red, scaly patch, with sharply defined borders, and perhaps outlying papules. It remains for years if untreated, slowly extending and forming fresh patches, and is not symmetrical. There is moderate itching. Dr. Crocker has not succeeded in demonstrating a parasite, but a weak parasitic ointment cures it.

We can testify to the accuracy of this description, the condition described being not so very uncommon. We have not followed the appearance over a period of years, but we have found it well developed on the limbs, both thighs and arms, in patients who, on other parts of the body, were suffering from a very slightly scaly, dry, hard form of eczema, without exudation, but with a tendency to infiltration. We have found it yield rapidly to the application of tincture of iodine. The idea of a parasite did not occur to us.

It is characteristic of the thoroughness with which Dr. Crocker has ransacked foreign literature that in connection with this affection he refers to a parasitic exanthematous eruption described by Hans Hebra, accompanied by weeping and crusts, and very chronic if untreated. It is situated in the flexures of the elbows and knees and on the neck. Hebra treated it with Wilkinson's sulphur ointment, or with first a 10 per cent. pyrogallic acid ointment, and afterwards with a 5 per cent. alcoholic solution of salicylic acid.

But more interesting than this variety of the protean disease, eczema, is the affection described by Dr. Crocker under the name of "dermatitis repens." He has observed three instances of this affection, and, as he has not found it described elsewhere, it may be taken for granted that the observation is new to himself.

A young man had part of a finger amputated from injury. After healing, a dermatitis commenced at the border of the wound, extended gradually to the palm, then over half the hand and down the fingers. The surface was bare of epidermis, extremely red, with oozing points from which a clear fluid exuded. The epidermis was undermined by fluid, and slightly raised. The disease extended steadily and uninterruptedly at the rate of about one-eighth or one-fourth of an inch per week, and was not arrested for some months, when it had involved the whole forearm up to the elbow, while the hand had got well, leaving the skin red and tender. The health continued good, and there was little itching. Lactate of lead wrapped round it night and day seemed to be the curative agent. A continuous warm bath made it spread faster.

In a delicate lady, aged 28, a group of red papules, which coalesced and discharged, developed on the flexor surface of the wrist. The eruption spread up the hand and down the arm, whilst the oldest part gradually got well, but was very red. The margin was well-defined, and covered with thick, dirty-looking crusts, but there were very few elsewhere. At the upper border the crusts were about an inch across, but at the lower the skin was only undermined. The rest of the surface, although very red, was almost dry. In four months it spread from the elbow to the middle of the biceps. Four months later it had travelled all up the right arm, across the back of the neck, and down the left arm to the elbow, the old parts healing. This case seemed to get well under a 10 per cent. solution of permanganate of potash. It was painted three times a day till it formed a crust, cutting away the undermined skin before it was applied.

The third was a milder case. A man, aged 19, had an eruption, which began as small blisters on the wrist a year previously, spread up the arm and down the hand, so that the whole of the palm and fingers, except the terminal phalanges, were affected, the backs of the hands remaining free. He got well in about three months. Dr. Crocker refers to an apparently somewhat similar case described by M. Nepveu. The patient was a woman in whom a vesicular eruption, commencing in a superficial wound of the thumb, spread over the whole body. Bacteria were found in the vesicles, and the disease was checked by an iodoform dressing.

A brief though clear account is given of that extremely rare affection, xanthoma diabeticorum, founded on four cases by Addison, Bristowe, Malcolm Morris, Gendre, and two other cases shown at the Dermatological Society by Cavafy and Colcott Fox. Five out of the six were males, the ages ranging from 27 to 48. Diabetes mellitus was present in all—in Bristowe's case probably after the eruption, in Cavafy's before it. At least four of the patients were stout, and their aspect by no means suggested diabetes, and the eruption becomes of some diagnostic value. The disease differs from ordinary xanthoma, as involution always takes place sooner or later, whereas in ordinary xanthoma involution is very exceptional and gradual. The lesions are firm and solid in xanthoma diabeticorum; in xanthoma all except the largest tumours are soft at the commencement. In xanthoma diabeticorum the lesions are inflammatory, a superficial yellow top forming after a time, probably entirely epidermic. The lesions in many instances are in the neighbourhood of the hair follicles, which is not the case in the ordinary form, and the microscopic appearances are also different. The measures requisite for diabetes exercise a favourable influence on the eruption.

Dr. Crocker is not satisfied that the secret of the pathology of lupus vulgaris is to be found in the presence of the tubercle bacillus. He has in vain looked for a bacillus in his sections of lupus tissue, and refers to a similar experience of Cornil and Leloir, who in a large number of sections taken in twelve cases found only a single bacillus in a cell, and that in a case where phthisis was present. Dr. Crocker judiciously remarks that it is strange so much damage should arise from such a sparse distribution, but in any such question the careful, instructive, and authoritative investigations of Koch must be held to far outweigh the mere negative conclusions of less experienced observers.

It is well known that Squire, Morris, Vidal, and others have claimed that the treatment of lupus by scarification presents advantages over other methods of local treatment. Dr. Crocker prefers scraping, as in scarification the operation has to be repeated a great many times, the recurrent nodules are more numerous, and after scarification are very difficult to remove completely. Dr. Crocker considers that scarification is less likely to be followed by keloid, which occasionally follows scraping, but in fact neither method seems to be free from this reproach. We have seen a patient who had been treated boldly for a prolonged period by scarification without curing the disease, but with the result that a very considerable keloid was developed.

Amongst the methods of treatment in lupus to which the author bears favourable testimony is that by salicylic acid in plaster or ointment, a method which in many cases is equal to more heroic measures, and is certainly associated with fewer disadvantages.

The work is prefaced by eight well-executed engravings, illustrating the normal anatomy of the skin, copied from classical illustrations by well-known histologists. Those borrowed from Ranvier's histology possess a special merit, and as they are probably not very familiar to English students their reproduction here may serve a useful purpose. We are astonished, however, to find that Dr. Crocker has not been able to find anything more modern in illustration of the histology of the tactile corpuscles than the well-worn figure by Biesiadecki in Stricker's *Histology*.

In conclusion, we have much pleasure in expressing the opinion that the work is a highly creditable testimony to Dr. Crocker's zeal, clinical acumen, and accuracy of observation, and that it will take a good place amongst the excellent manuals that have lately appeared in this country.

THE LOCALISATION OF THE LESIONS OF PHTHISIS IN RELATION TO DIAGNOSIS AND PROGNOSIS. By J. KINGSTON FOWLER, M.A., M.D., F.R.C.P., Assistant-Physician to the Hospital for Consumption and Diseases of the Chest, Brompton; Senior Assistant-Physician to the Middlesex Hospital.

THIS *brochure* of thirty-one pages is in part a reprint from the *Practitioner* of a recent paper on the same subject, with considerable additions, and is well illustrated by some striking diagrams, which bring the author's views home to the reader in a forcible manner. Dr. FOWLER'S observations show proof of considerable originality and research, and he may fairly claim to have thrown light on the order of march of pulmonary tuberculosis, and to have depicted in what succession the different lobes and the various portions of each lobe are affected, thereby supplementing Dr. Ewart's important work in regard to pulmonary cavities.

Dr. Fowler finds that there are two principal sites of the primary lesion in the upper lobe—"one, the most common, is situated from one inch to one inch and a half below the summit of the lung, and rather nearer to the posterior and external borders." This tubercular mass has a tendency to spread, in the first instance, backwards, explaining the early appearance of physical signs in the supra-spinous fossa, and, later on, forwards and downwards along the anterior apex of the upper lobe, and about three-fourths of an inch within its margin, where it frequently appears in scattered nodules, separated from each other perhaps by an inch or more of healthy tissue. This lesion yields physical signs in the first, second, and third intercostal spaces. The other and less common site of primary lesion corresponds with the first and second interspaces below the outer third of the clavicle, and thence the disease tends to spread downwards, giving rise in time to the formation of a cavity in the outer portion of the upper lobe. The middle lobe of the right lung is rarely, if ever, the site of primary lesions, though it may eventually become involved; but the lower lobe of the lung primarily attacked "is usually affected at a very early period of the disease, often long before any extensive infiltration or destruction of the upper lobe has taken place, and, as a rule, before the apex of the opposite lung." Here the lesion appears from one inch to one inch and a half below the upper and posterior extremity of the apex of the lower lobe, and about the same distance from its posterior border—a portion of lung corresponding to a spot on the chest-wall, opposite the fifth dorsal spine, midway between the border of the scapula and the spinous processes, and a region of great importance to the clinical observer, especially, as Dr. Fowler insists that, in the great majority of cases, when the physical signs of disease at the apex are sufficiently definite to allow of the diagnosis of phthisis, the lower lobe is already affected. From the upper posterior margin of this lobe, the spread of tubercle towards the base appears to follow the interlobar septum. Disease of the opposite apex never occurs till the lower lobe of the same side has been first implicated; and a cavity at one apex will sometimes cause infection of the lower lobe of the opposite lung, apparently by reinhalation of pulmonary secretions. Primary basic phthisis is a very rare disease, and often

confused with arrested apical lesions and recent secondary tubercle at the base.

We have said enough to demonstrate the main points of the author's conclusions, which are of the highest interest both to the clinician and pathologist; but we think that they would command more attention, and carry greater weight, if the number of specimens on which they are founded were stated, and specially what a comparison of the results of necropsies at the Middlesex and Brompton Hospitals teaches. We should also have been glad to hear Dr. Fowler's explanation of the reasons of the line of march of tubercle, and what part such factors as pleuritic adhesions, respiratory suction, and thoracic movements play in the matter. Still the little book is of sterling worth.

REPORTS AND ANALYSES AND DESCRIPTIONS OF NEW INVENTIONS,

IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

NEW SPLINT FOR FRACTURE OF THE LOWER JAW.[1]

By John Ward Cousins, M.D.Lond., F.R.C.S.,
Senior Surgeon to the Royal Portsmouth Hospital, and the Portsmouth and South Hants Eye and Ear Infirmary.

In many cases of fracture of the lower jaw, the great mobility and displacement of the fragments render them difficult to manage. In double fracture the separate pieces of bone are much dragged out of place by the muscles attached to them, and it is often not easy to maintain the broken parts in apposition. In difficult cases of this kind I have employed my apparatus with very great success. It is especially adapted for fracture of the condyle or ramus and for double fracture of the lower jaw. In ordinary cases it can be used for the sake of lightness and comfort.

The apparatus consists of a steel splint which encircles the neck. It is horse shoe shaped, and the ends on either side terminate in a loop which supports a moveable pad. The pressure of the pad is regulated by a screw. A piece of webbing, extending from loop to loop, is fixed under the chin with a buckle, and another piece passes from side to side over the forehead, and is supported in position by a central strap attached behind to the splint. The apparatus can be regulated to fit any patient.

The splint is made in several sizes by Messrs. Arnold and Sons, West Smithfield. It can be readily fixed with ordinary padding and bandages. When in position it acts as a lever, with the fulcrum at the occiput. The pad presses forward the ramus, and the bandage elevates and secures the jaw. The position of the bandage under the chin must be regulated according to the seat of the fracture.



Fig. 1.—Splint applied for Fracture of Body of Lower Jaw.



Fig. 2.—Splint applied for Fracture of Condyle or Ramus.

Case i. *Fracture of both Condyles of Lower Jaw.*—A gentleman, aged 20, was thrown off a bicycle in June, 1886, in descending a steep hill near Portsmouth. He was brought to the Royal Portsmouth Hospital, with a severe contusion of the chin, and with fracture of both condyles of the lower maxilla. The pain and swelling were severe, and the backward displacement very great. The ordinary splints and bandages were applied, but they were of very little service, and they failed to steady the bones. The application of my splint gave him complete relief; the line of the teeth was restored, and the bones fixed. He left the hospital in five weeks without any deformity.

Case ii. *Multiple Fracture of Lower Jaw, with severe Head Injury.*—During April, 1888, I was summoned to Hambledon to see, in consultation with Dr. Jeram, a groom who had been severely injured in the head and neck by the kick of a horse. For some days he remained in a very critical condition, labouring under symptoms of cerebral compression. The jaw was broken at the angle on the right side, and an oblique fracture had also occurred near the symphysis. The neck and side of the head were distended with subcutaneous extravasation. In eight days he regained consciousness, but continued very excitable and troublesome, with well-marked paralysis of right arm and leg. My splint was now carefully applied, and it completely controlled the fractured parts, and gave much comfort to the patient. At first it was put on very lightly, and well padded. In six weeks union was complete, and the result very satisfactory.

These cases are examples of troublesome forms of fracture in which the fragments are difficult to maintain in apposition. In one case the injury was caused by a severe fall on the chin. The condyles were unevenly broken, and the displacement on the left side required very careful adjustment. The splint proved a very effectual contrivance, and at once gave great relief. In the other case, a double fracture of the lower maxilla complicated a dangerous injury of the head. The extravasation of blood and contusion of the soft parts were very severe. The fracture at the angle was irregular, and the fracture near the symphysis oblique. The central fragment was depressed and loose.

[1] Read in the Section of Surgery at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

A NEW EAR SYRINGE.

Dr. William Robertson, of Newcastle-on-Tyne, has forwarded us an improved kind of ear syringe, which he considers to be free from the objections to the instruments now in use. In a statement accompanying, he observes that in old cases of chronic suppuration of the middle ear, from whatever cause, the first requirement of treatment is a thorough cleansing of this cavity. With the instruments at present in vogue this is a most difficult and trying ordeal, both for practitioner and patient. Forcing fluid through the meatus by Hinton's method is both futile and dangerous. The nearest approach to a satisfactory instrument is to be found in Hartmann's tympanic tube, which, however, has various drawbacks. The loose arrangement of the accessories, necessary to its use, render its application trying to the surgeon when without assistance, and even then cannot be used with any degree of steadiness. The instrument which he has found, after extensive experience, to be free from such objections differs from Hartmann's tube withal, the beak is moveable, and can in this way be directed towards any part of the middle ear. The moveable point can be slipped off and the syringe used without it. The straight tube (diameter 1 mm.) is three inches long, and can thus be worked freely with the speculum. The balloon (1 ounce capacity) carried well out of the range of vision, fits to the syringe tube by a slip-off joint. Thus constructed, you have an instrument which renders precise movements possible, and without appreciable pain or discomfort to the patient, while the firmness of the tube permits every movement to be followed clearly. Since using it, he adds, the time necessary for the cure of a case seems to him to be markedly diminished, false membranous deposits in the middle ear by its use readily and painlessly removed, while merely inspissated pus is readily dealt with.

A Fee of £10,000.—Surgeon-Major Freyer, M.D., I.M.S., has received a fee of one lakh of rupees (£10,000 sterling) from H.H. the Nawab of Rampur, as a token of esteem as well as an acknowledgment of his valuable services in the successful treatment of himself and General Azimuddin Khan, the popular head of the Administrative Agency of the State, who had suffered for nearly three months from a malignant rheumatic fever; his recovery has been the occasion of great rejoicing at Rampur. This is said to be the largest fee ever received by a medical practitioner in India, and probably has never been exceeded in any country.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

Subscriptions to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, OCTOBER 6TH, 1888.

THE EAST-END MURDERS: DETAILED LESSONS.

THE lesson of the Whitechapel murders does not lie on the surface, and, as usually happens, the most important considerations arising out of this series of night tragedies are the least sensational, and those which are most apt to make the least impression on the public mind. The first thought which arises in the average brain, and perhaps the most natural, is that which finds expression in the formula, Whom shall we hang?—an impulse of anger and an effort to ease responsibility by an act of vengeance which gets rid of the idea of reparation.

To deal first with the personal questions involved, we may say that the theory started by the coroner—not altogether without justification on the information conveyed to him—that the work of the assassin was carried out under the impulse of pseudo-scientific mania, is exploded by the first attempt at serious investigation. It is true that inquiries were made at one or two medical schools early last year by a foreign physician, who was spending some time in London, as to the possibility of securing certain parts of the body for the purpose of scientific investigation. No large sum, however, was offered. The person in question was a physician of the highest respectability and exceedingly well accredited to this country by the best authorities in his own, and he left London fully eighteen months ago. There was never any real foundation for the hypothesis, and the information communicated, which was not at all of the nature which the public has been led to believe, was due to the erroneous interpretation by a minor official of a question which he had overheard, and to which a negative reply was given. This theory may be at once dismissed, and is, we believe, no longer entertained even by its author. The discovery of the assassin cannot, we believe, long be delayed. He is undoubtedly insane, and, although insane proclivities of this kind are often concealed with great cunning, and are compatible for a time at least with high intelligence, and the discharge of the ordinary duties of life in a manner which does not excite suspicion, yet the attendant conditions of mind and the ultimate sequence of mental disease do not fail eventually to produce conditions leading to discovery. Judges, statesmen, and lawyers, subject to overwhelming impulses of a cognate kind, have discharged the duties of their various stations for a considerable time, while conscious of an almost overwhelming impulse which they have either concealed or secretly confessed. Ordinarily, the remorse and horror which attend the recognition in lucid intervals of the frightful character of these delusions and impulses lead to early confession and to voluntary precautions taken by such unfortunate persons at the instance of their medical advisers.

The acts of butchery which have so shocked and alarmed our population will probably be found to add another terrible chapter to the records of homicidal insanity. It would, however, be most lamentable if this anxious period of mental disturbances, horror, and grief should pass away, leaving behind it only the records of an unprecedented series of crimes, committed under circumstances of peculiar atrocity. There is a much deeper lesson in the story. We do not echo the vague outcry of blame against highly-placed officials which usually arises under such circumstances. The true lesson of this catastrophe has been written by the Rev. S. A. Barnett, the vicar of Whitechapel, whose life has been well spent in combatting with marvellous success the terrible conditions of social degradation and public indifference of which these murders are in one sense the outcome and the evidence.

What we have to do then as inhabitauts of a great city greatly disgraced is to seek out the true causes and apply the true remedy. The main features of all these cases may be summed up in very few words. We have here the heavy fringe of a vast population packed into dark places, festering in ignorance, in dirt, in moral degradation, accustomed to violence and crime, born and bred within touch of habitual immorality and coarse obscenity. That is no news to the inhabitants of London. But the great bulk of the inhabitants content themselves with the consideration that they are not their "brother's keeper;" and so, notwithstanding the vast and successful efforts which Mr. Barnett and men like him have made in rebuilding the habitations of the poor, in cleansing the physical filth of the alleys and courts, in leavening the hideous mass with the ferment of unwearying kindness, brotherly solicitude, and personal service, and in illuminating many of the darkest corners of the East End with gleams of light from the higher life of religion, of reason, of literature, and of recreation, there remains the great residuum untouched and unpurified. But the case is not hopeless; it is not even beyond the means of any considerable number of intelligent, benevolent, and right-minded persons. Even the efforts of single individuals to do away with the abominable system of farming out wretched tenements to the criminal and degraded classes at high rents, without any inquiry or care for the use to which they are put, have produced vast effects.

To Lord Shaftesbury, to the Baroness Burdett-Coutts, to the Rothschilds, to Mr. Peabody, Miss Octavia Hill, Mr. Ruskin, to Mr. Barnett himself and his coadjutors, too numerous to mention and yet far too few to suffice, we owe the sweeping away of nests of crime, filth, and degradation, hotbeds of every social evil, and the substitution of light, cleanliness, purity, and the basis of physical and moral regeneration. No one cognisant of the condition of the East End of London during the last twenty years but must be aware of the enormous physical and moral reformation which has been worked in the habitations and in the

minds of the people. But much remains to be done. First, we need to recognise that the remaining centres of crime and of misery and of unspeakable degradation must be swept away, and in their place decent habitations provided under supervision such as that which prevails throughout a large part of Mr. Barnett's parish of Whitechapel, which provides the means of contact with the poor by persons of intelligence, of just aspirations, of kindly sentiments, desirous and capable of holding friendly communion with their poorer neighbours, and of turning it to good purpose. This means, then, the devotion of some considerable sums of money to rebuilding the worst parts of East London, and it means also the assistance of a much larger number of persons added to the not inconsiderable army of workers whose lives have been blessed of late years in the East End by doing good works quietly and with little encouragement, but with vast effect. Their numbers need recruiting by many hundreds, nay, by some thousands; and it is strange indeed if London, with its millions of inhabitants and its untold wealth, cannot be roused now from the apathy which has smitten it to a sense of public duty and individual responsibility. It is more than a scandal, it is a crime, that there should exist, not in the East End only, but in other quarters of London, dark, unlighted places, the known resort of crime and of vice, and which are left, as it were, as a playground for the worst passions, the most bestial impulses; a sort of assumed safety valve on which it would be dangerous to sit. More light then, physical and moral, is the second need; and with this quickening sense of social duty should come, and will come of necessity, a very different interpretation by the police of their duties to the community. It is no secret to many that the lowest neighbourhoods and the darkest spots of some parts of the East End have been habitually patrolled by persons anxious to seek out and to heal some of the worst ulcers of civilisation, and these patrols have been increased in number and in frequency during the last few weeks. The stories which they have to tell are of saddening uniformity—uncontrollable brutality; women turned into the streets, and shivering on the stones at night, fleeing from the execrations and the violence of drunken men: men stabbed and bleeding; tragedies and horrors of public obscenity treated by the police as the ordinary incidents of dark alleys, unlighted courts, and low neighbourhoods. The policeman is only human, and not always, of course, the best specimen of humanity. Obscenity and brutality and violence are to him customary incidents on certain night-beats, and the punishment or the judicial judgment of such conduct mainly the business of the sufferers, so that such offences only require to be dealt with when the sufferer determines to make a charge. When such a charge is made the policeman who has been all night on duty has to appear next morning in court; he loses his rest, he gets no compensation in money and gets no credit, the charge—perhaps for the thirtieth time—of some drunken woman or man, with an act of brutality or of public obscenity, is a piece of mournful routine of which he would fain be relieved. What the neighbourhood tolerates, and what the individual does not insist on resenting, the policeman accordingly passes over in silence, and feels that he ought rather to be congratulated for his tact than condemned for his indifference.

Here, then, are three chief defendants in the indictment which this series of murders opens against London. Ourselves, the great public of London, stand first in the dock, convicted by flagrant and horrible proof of indifference to the physical and moral degradation of our fellow-citizens: convicted of tolerating darkness, filth, crime, and obscenity as ordinary incidents of metropolitan life; standing aside with intellectual apathy, with pockets closely buttoned, and with minds intent on our own pleasures and businesses, and looking on indifferently at the work of the few devoted toilers who have done so much to redeem London from these horrible disgraces. It is for Londoners to respond to Mr. Barnett's appeal for means with which to complete the rebuilding of his parish, and to annihilate the plague spots which still lurk in it. Nor need these contributions be altogether donations in the ordinary sense, since considerable experience has shown that large investments in work of this kind produce a fair and reasonable return for capital.

Next, our municipal authorities stand charged with indifference to the lighting, paving, and cleansing of their streets and courts, and with permitting the inhabitants to carry on a traffic prohibited by law, and one which it lies with them to suppress.

Lastly, the police need to be quickened by a higher sense of public morality, to be strengthened in number, and to be encouraged and commanded to a much stricter exercise of their ordinary duties as patrols. At present, night charges are rather discouraged; the opposite tendency ought henceforth to prevail. But this is a measure of repression which can only be effectual if it be accompanied and preceded by an unwearying and unstinting effort to remove the conditions under which criminal and degraded conditions arise. While earnestly hoping, therefore, that the secret of these assassinations may, as there is some reason to hope, be quickly unravelled, there remains the yet more ardent desire that the lessons taught by these horrors will be enduring, and will have a fruitful effect on the social well-being of the metropolis.

THE SACRIFICE OF EDUCATION TO EXAMINATION.

THERE is a natural tendency in all students to look upon the purposes of education as fulfilled by passing those examinations which are necessarily preliminaries to their professional career. Some men work for a pass diploma, others for university honours, but few work with the steadfast object of obtaining mental culture and true knowledge. Sir Andrew Clark, in his address at the opening of the new Medical School at Sheffield, vehemently and eloquently expressed the opinion that this domination of education by examination was inimical to much that was vital in true education and essential to thorough work, and Mr. Teale at Leeds spoke weighty words to the same effect.

Educational methods and the ever-rising standard of professional examinations have much to do with the lack of a desire for higher learning. It is, of course, necessary to have a high and uniform standard of examinations: but is it wise constantly to raise the severity of these pass tests, which intensify the work of the curriculum but too often limit the field of thought? The time of the student and the teacher are so

much absorbed by the necessary routine work of preparation for examination that but little opportunity is given for reviewing general principles and the bearing of cognate sciences upon medical practice. The average London student has no time to make acquaintance with the Hunterian Museum, and to see the bearing of comparative anatomy upon pathology, as the founder of that great museum would have taught it; to most students the evolutionary hypothesis and the works of Charles Darwin have no connection with the knowledge of physiology and disease; examinations leave no time to give instruction in such matters. Medical students have but little acquaintance with medical literature, the best books of the past are rapidly becoming unknown, even by name, to most of the rising generation, so that they are not likely to read them in their post-graduate leisure before the pressure of business life begins. It is thought that a knowledge of the latest theory, fact, or physical sign is of more importance than an acquaintance with the thoughts of great men of the past; certainly this is true as regards examinations. It is for such reasons that many a pass man excels the successful candidate for University honours; excessive work for examinations cripples rather than expands true mental growth. The preponderating influence of examinations tends to destroy the best teaching; under it the teacher tends to lose his own intelligent self-direction. Examination is a good educational servant, but a bad master; it is useful for mediocre men, but to the really intelligent student it affords but a mechanical guide, leading him to seek academic successes rather than the full possession of his mental faculties. The real object of medical education, as Mr. Erichsen well put it in his address to the students of King's College, is to train the mind to remain open for the reception of truth throughout life, and to enable it to meet the varying emergencies of professional life.

Still a system of examinations appears to be a social necessity; the only practical question is, how to lessen its evils? Examination questions might be less directly taken from books; the candidate's personality might be stimulated by calling upon him to state how he would proceed under certain difficult circumstances.

Scholarships are founded for the encouragement of learning, and in framing examinations for the selection of scholars it might be well to extend the plan followed in some cases of making these tests serve the purposes of extending knowledge on a wider basis, rather than of intensifying the acquisition of bigger heaps of facts.

UNIVERSITY EDUCATION IN LONDON.

It was to be expected that some of those called upon this year to deliver Introductory Addresses should make reference to the deficiencies in University facilities in London and to the work of the Royal Commission, which commenced its sittings this summer; yet the only speaker who seriously treated the controversy was Mr. Erichsen, though its fainter echoes may have been heard in Sheffield. The President of University College spoke with animation, and boldly challenged those who would deny the just claims of London undergraduates. London is so large, its interests are so numerous, and its educational forces so scattered, that the very large number of persons it contains, who are in fact, if not in name, undergraduates is apt to be forgotten. University and King's Colleges alone contain at least 2,000 undergraduates in the various faculties; and if to this number the medical students at all the other medical schools be added, it is probable that Mr. Erichsen's estimate of a total of 3,000 would be considerably exceeded. These two Colleges, University and King's, have taken the bull by the horns. Their action in petitioning the Crown for a charter to enable them to take university rank has had the effect, as we anticipated, of precipitating official action, and has also, not unnaturally, excited certain jealous fears in the bosoms of the Governors of some of the larger medical schools. Mr. Erichsen again declared that "neither of the Colleges had the slightest feeling of selfish interest in this matter. They were willing to sacrifice their own individuality, and they were anxious to associate themselves with the recognised medical schools in the metropolis on an equal and equitable footing, with the view of carrying out the object they had in view."

Confidence cannot be gained by fair words alone, and it behoves the two Colleges to prove their sincerity by entering, not by the indirect means of an association "outside the two Colleges," but by official conference with official representatives to arrive at some mutual understanding. The present opportunity ought not to be allowed to slip; the establishment of a merely medical university, of a university of one faculty, though not unprecedented, is most undesirable; it might not improbably have most disastrous effects on the future of the medical profession in this country. Sir Andrew Clark, in his address at Sheffield, uttered a timely admonition to the public on its duty towards medical education. It is, as he well said, the privilege and the duty of the community to take an interest in medical education, "for the community is one and indivisible; and it is only through the practical as well as theoretical recognition of this truth that it can reach its fullest and highest life." Is this community of feeling likely to be perpetuated or consolidated by making the medical student from the first commencement of his career a being apart, isolated from all points of contact with the young men studying for admission to other liberal professions? Is this a promising scheme for fostering the sense of common interest and interdependence? Is it not rather the surest way to work for the fulfilment of the melancholy but, let us hope, false prophecy that medicine would ere long cease to be a liberal profession at all?

The University of London has much to answer for in having given grounds for this demand for a medical university. Its present constitution is the result of compromise—of a well-intentioned but unfortunate concession to party spirit and sectarian rivalry. As a temporary expedient it has done much good work, but the movement out of which it grew has become too powerful to be constrained within the old artificial channels. The inherent vices in the constitution of the University have become apparent; chief among them is the divorce of practical experience from executive authority, and the isolation of students, who have no opportunities of meeting except in the examination room. Instances of defects in regulations, due to the governing body being out of touch with the teaching body, are continually cropping up. Dr. Waller gave one in his introductory address. The regulations set forth that

practical work in physiology is only required from candidates for honours, and consequently there is a tendency for candidates for the pass examination to neglect it; "yet," said Dr. Waller, "there is no examination at which its value is more felt, both in the written paper and still more at the *viva voce* interview which follows it." The reason for this discrepancy is obvious; the examination is good because it is conducted by practical teachers; the regulations are bad because they are drawn up without consultation with them.

SOME INTRODUCTORY ADDRESSES.

Dr. Cullingworth's address was purely scientific. His subject may have been far above a student audience, but others than students attend introductory lectures; nor is it inadvisable that the first thing that the St. Thomas's freshman of 1888 should hear is that puerperal fever can and must be prevented. He can possibly understand the services which Semmelweis rendered humanity, and may emulate that medical hero when he takes a responsible appointment. Interesting as it was as an oration, the address is likely to prove of yet higher value as it appears in our pages; for the prevention of puerperal fever is a weighty matter, demanding deliberation, easier to gain by reading than by listening. Whatever may be the evils of over-population, a parturient woman is a sacred charge under any circumstances. The medical officers of lying-in hospitals have long recognised this fact; the lowering of puerperal mortality is one of the brightest features of the century. The history of this triumph was detailed by Dr. Cullingworth. He rightly urged the extension of a rigidly antiseptic system into private practice. Nearly two-thirds of the 2,708 deaths from puerperal fever registered in England and Wales in 1886 occurred in counties where not a single lying-in hospital exists. Let this be contrasted with the 0.6 per cent. mortality at the General Lying-in Hospital between 1880 and 1887, and the moral is clear.

Dr. Augustus Waller also occupied the greater part of the time allotted to him at St. Mary's Hospital in giving an account, which will be read with great interest, of some researches into the electromotive properties of the human heart. He showed how it had been proved that the heart was an electrical organ, how each beat was accompanied by an electrical disturbance, and how the whole body was influenced by this cardiac electric wave.

Dr. Ewart's address included counsel likely to prove of true value to the student. He recommended careful study of disease in the out-patient room as the proper way of beginning the practical department of medical education. Better far that the student should take this advice than rush into a dressership or clinical clerk's appointment with no knowledge of the way to examine a patient. Perhaps it were well if all lecturers who undertake "introductories" would devote the greater part of the allotted hour to real advice of this kind. The student requires direction, and a few sentences like Dr. Ewart's remarks on out-patient study, which tell him how he ought to set about the right work at the right time, are of higher value than abstract admonitions couched in high-flown language. Dr. Ewart's plea for the selection of fit students was based on sound principles, but will, we fear, prove futile from a practical point of view, since students hardly possess the power of judging their own fitness, nor can the medical staff exercise such judgment on freshmen whom they have never seen before. The lecturer believed that a more stringent preliminary examination would "deprive us of none of the recruits whom we most value," yet act as a deterrent to others and as a wholesome check for "the protection of an overcrowded profession." Dr. Ewart dealt skilfully with another subject, "the ever-growing burden of professional studies." Perhaps he, like most introductory orators, dwelt a little too much on the steepness of the student's path, but he avoided the mischievous practice of telling his audience that they must do nothing but work. Every orator knows that such advice will never be taken, and that most of the distinguished members of the profession have a "hobby," whilst a large number of successful practitioners devote a little time to art, literature, science, or civic duties, as the case may be. Dr. Ewart also did well in extolling as a duty the training of muscle. The student who indulges in athletic exercise lays up a store of strength which fits him for the struggles of his profession, and should he be by nature lazy, his tendency in that wrong direction is not likely to be cured by advice to devote his time exclusively to study.

Mr. Stonham, at the Westminster Hospital, selected for his discourse the same subjects as were chosen for discussion by Dr. Ewart. He dilated upon the almost hopeless task of checking youths unfit for medicine at the outset of their career. He rather favoured a standard for the preliminary examination little, if at all, lower than that of the matriculation of the University of London; and the improvements in public and private school education have certainly enabled a large number of youths to pass the latter severe test. Mr. Stonham's reference to chronic students was quite timely. That they can be killed in embryo, so to speak, by severe preliminary examinations is doubtful. Many who matriculate have proved of little value to medicine, for they do so when in general tutelage and most probably under good special tutorship; once in a medical school they have to act for themselves, and this they may never learn how to do. The fact remains, however, that chronic students are a great evil, and hospital authorities will do well to endeavour to edge them periodically out of their school, by persuasion if possible, by compulsion if necessary. Mr. Stonham treated the curriculum question ably, especially in his remarks on pathology. The shortness of the allotted four years was regretted, but at the end of his term the student, if worth anything, will take care to attend the wards and out-patient departments of his hospital, or, better still, to take some house appointment. Voluntary work of this kind, after qualification, is worth more than a compulsory extra year, awaiting a final examination. In reminding his audience that a true love of their profession would render their lives happy, Mr. Stonham was right, on the highest moral grounds; he was only telling the truth and cheering his youthful listeners. The disillusioner of youth runs a grave responsibility.

Dr. Ramsay, at University College, compared mediæval with modern ideas of science and medicine. He also discussed the shortness of the curriculum and the question of examiners. The Germans, he said, spent more time over scientific professional study. Certain social conditions in

England, especially the expense of keeping a young man during his studentship, and the struggle for existence, would render any attempt to lengthen the curriculum unpopular, whilst the fit and diligent always study after qualification. Nevertheless, this does not render Dr. Ramsay's observations less true, nor is he wrong in stating that the English student works too much for his examination, and too little for the true ends of study.

THE VOLUNTEER MEDICAL SERVICE.

A DEPARTMENTAL committee will assemble at the War Office to inquire into the conditions of service of medical volunteers. The matter is one of no small importance. It is said the opinion of senior medical officers will be taken on: (1) regimental organisation; (2) the position of those officers who have joined the Army Medical Reserve; (3) the conditions upon which volunteer medical officers should be called upon for service, whether with volunteers or with troops generally.

We welcome such an inquiry, and hope its announcement will prove no idle tale. The objects for its investigation are the very points which we insisted required elucidation in our various remarks on the Medical Reserve scheme. The salient ones are these: Can regimental militia, yeomanry, or volunteer medical officers, in the face of explicit Acts of Parliament and Orders in Council defining their position, play a dual and different part by accepting commissions in another and quite different portion of Her Majesty's service? Even if they may, on what conditions can they, as quasi-civilians under definite Army Acts, be compulsorily made to serve in a regular army reserve outside these Acts? These are no idle questions to be gaily skipped, and are of momentous interest to those to whom they apply. Reservists to whom the bogus rank of "ranking as," etc., is held out as a bait may well ask them of themselves.

We welcome a committee of definition even at the eleventh hour, though we fear it comes too late. It should have preceded, not followed, any well considered medical reserve to be formed from the auxiliary forces. But its institution, even now, fully justifies our words of warning on the exceeding crudeness of the reserve scheme. It says little for administrative prescience that, after something like one hundred medical officers of the auxiliary forces have joined the so-called reserve, such obvious difficulties crop up as to their legal and military position as to demand a committee to untie, or cut, a complicated knot cast by Royal Warrant. The regular medical officers were concerned about their rank when, as a counterblast, out comes in a hurry this muddle of a reserve scheme.

It has long been, and now is, perfectly, evident to anyone at all capable of judging, that the Volunteer Medical Service had no workable organisation for its own specific and legitimate duties. Instead, however, of commencing by an attempt to help this defective organisation, confusion is worse confounded by an ill-considered reserve scheme, the success of which would bring about a double catastrophe; the paralysis of the Volunteer Medical Service by drafting the officers from their own proper duties; and worse still (and we fear cynically contemplated in certain quarters), the disruption and unmanning of the regular Army Medical Staff.

Should one or both of these evils be brought about, we unhesitatingly affirm it would be disastrous to our common medical profession. We desire to see the Regular and Auxiliary Medical Services properly organised and efficient each in their own sphere, and in perfect harmony and co-ordination with each other. But we will jealously watch any open or concealed attempt to disunite them, or play the one off against the other. We sincerely trust this, yet another promised committee, may succeed in welding the two into a harmonious whole.

DR. LATHAM will deliver the Harveian Oration, at the Royal College of Physicians, on Thursday, October 18th, at 4 o'clock.

THE Harveian Lectures will be delivered this year in the Stafford Rooms, Titchborne Street, W., by Dr. W. B. Cheadle, on the evenings of November 29th and December 6th and 13th. The subject is "The Various Manifestations of the Rheumatic State, as exemplified in Childhood and Early Life."

THE WOMAN STABBER, RENWICK WILLIAMS.

THE Whitechapel murders have turned the attention of journalists to the famous case of "The Monster," Renwick Williams, who was tried on July 8th, 1790, at the Old Bailey. He was arraigned upon seven indictments for cutting and maiming several women. On May 5th, 1789, he stabbed a woman in the hip, then he attacked a young lady coming from the play. On January 18th, 1790, he stabbed Miss Anne Porter as she was coming from the Queen's Palace. The whole of London was thrown into great excitement, and it was proposed that vigilance committees should be formed to apprehend him. He was the son of an apothecary in Carnaby Market, and was by trade an artificial flower maker. He was about 35 years of age, 5 feet 7 inches in height; his very sharp features, carefully powdered hair, and well-fitting clothes gave him a strong resemblance to the more famous sentimental blood-letter, Robespierre. At his trial he read a singular declaration of his innocence, couched in the inflated language popular at the end of the eighteenth century. He declared that he was "the warm friend and admirer of that sex whose cause was now asserted," and expressed as exalted sentiments as Robespierre was wont to deliver three years later. His mental condition was not called into question, nor was there any evidence to prove that his crimes were due to a morbid and perverted passion, or to sentimental hatred of women following disappointment in love. Renwick Williams was sentenced to six years' imprisonment, and bound over to find sureties. The once celebrated *Book of Wonderful Characters*, which has immortalised him, concludes the report of his exploits as follows: "As we cannot find any further notice of this man, we suppose his sentence entirely eradicated those diabolical propensities which so degraded the name of Renwick Williams. What time he paid the debt of Nature is, therefore, uncertain."

AN ABSOLUTE CURE FOR INEBRIETY.

OF "infallible cures" and "never-failing specifics" verily there is no end. Among the most recent is that propounded by some vegetarian enthusiasts as a cure and a preventive of inebriety, and publicly endorsed by one of our leading teetotal champions, Archdeacon Farrar. At a vegetarian tea a few evenings ago the archdeacon is reported by the daily press to have declared vegetarianism to be "an absolute remedy for the curse of drink."

Were the archdiaconal therapeutics sound, his own course and that of the other apostles of temperance would be clear. They are bound to abjure the use of fish, flesh, or fowl, and thus stamp out the "alcohol plague," as Professor Bunge tersely calls it. As Dr. Farrar confessed that he was a "beef-eater," and threw out no hint of forswearing indulgence in the flesh of slaughtered animals, perhaps he has not implicit faith in his own "absolute cure." Physiologists and those who have had much experience in the scientific treatment of inebriety well know the fallacy of all these vaunted "cures" for the drink or opium crave, from "raw beef" to a vegetarian dietary. That the latter is no real remedy or prophylactic is proved by the prevalence of inebriety in various narcotics among many tribes who drink to excess as often as they get the chance, but whose religion forbids them to taste animal food. In Scotland, too, where a large proportion of the people used to be practical vegetarians, with often not more than one meal of flesh in a year, intemperance in alcohol was much more prevalent than it now is, when a great deal more animal food is consumed. The truth really is that no one restricted form of dietary will suit every case. Regard must be paid to the individual idiosyncrasy. In some cases a non-flesh diet contributes to temperance in alcohol. In other cases a similar mode of life leads to alcoholic excess, from the depression and nervous distress consequent on mal-assimilation. Vegetarianism has much that is reasonable in its claim as an ordinary dietary; but no enlightened advocate of it can do anything but prejudice these claims by insisting on its supposed efficacy as a specific or a cure for inebriate indulgence. The roots of our national disgrace are not in a chump chop or in "the roast beef of old England."

THE TREATMENT OF YOUNG CRIMINALS.

If the sources of criminality among our population are to be combated with any chance of success, it will be found a matter of the utmost importance to look to the training of the young, especially in cases where the inheritance is known to give a tendency to crime. To provide wholesome industrial training for the children of convicts is the special work of the Philanthropic Society. Eleven years after the publication of Howard's *State of Prisons* this society was started for "the protection of poor children and the offspring of convicted felons, and the reformation of children who have themselves been engaged in criminal practices." The work began in three or four cottages at Hackney, then a village. Later the family system was dropped; at first both boys and girls were admitted, and various trades were taught; since 1845 boys only have been received. The present farm school is at Redhill; of the 3,709 children who have been received, 1,523 have been sent to the Colonies, the average number in the schools being 297. The boys are engaged in cultivating the farm and in the trade workshops. The most hopeless boys are selected, but the results have been satisfactory. After allowing not less than one year's probation in each case, 6 per cent. are classed as reconvicted, 1 per cent. as unknown, and 93 per cent. as not reconvicted. The Royal Commission on Reformatory and Industrial Schools, 1883, reported "before these schools came into existence it is beyond doubt that a large portion of adult criminals of the worst class consisted of those who, in childhood, had been neglected or abandoned, or trained to a career of crime." In the early part of this century boys as young as 13 were sentenced to death. About 1790 there were said to be 200 "flash houses" in London, with 6,000 boys and girls employed in thieving. In 1816 there were 3,000 persons under 20 years of age, half of them being under 17, in the prisons of London, the population of which was a million and a half. Four years ago the whole of England, with 27,000,000 inhabitants, had only 217 prisoners under 16 years of age, and 3,226 between 16 and 21. Large social problems need for their solution the best knowledge that can be had upon the matter. Criminality, however real, is, to the physiologist, a matter of brain action, the outcome of inheritance and the surroundings. In such work as that of the Philanthropic Society bad inheritance, or, if not that, a tendency to bad action, proven by a magistrate's conviction, are given factors which have to be modified by the surroundings. It would be well to supplement such valuable work by a periodical examination of our juvenile population in schools for the discovery of those whose bad make, or defective organisation, may cause a tendency to irregular mental development. If more care were taken to find out, and to care for, children of low-class development, we should, in a few years, have statistics of crime more favourable than those above quoted.

THE ABUSE OF MORPHINE.

The more refined vices are not the least dangerous to society, and among these we must count the abuse of morphine, which is becoming a widespread evil. The self-administration of morphine, as a stimulant or hypnotic, when not ordered in the regular course of medical treatment, is a very pernicious habit, and appears to be a growing evil, not only in this country but in France and Germany. It is said that the abuse of morphine has in many cases replaced the abuse of alcohol, especially in refined society, and that such is specially the case in some districts where rigid teetotal principles have been largely adopted by the inhabitants. The pleasurable excitement, and the feeling of mental and bodily satisfaction following a full dose of morphine administered hypodermically; the possibility of thus at once removing insomnia, or becoming for a time oblivious of business worries, domestic troubles, and mental distress and depression, proves a strong temptation to some. The misuse of morphine has certainly been accentuated by a knowledge, on the part of the public, of the hypodermic method of administration, and the rapid results which follow. This drug, beneficent and powerful when wisely used by professional hands, becomes a most dangerous agent when used by a patient in secret; the feeling of its necessity grows upon the morphine maniac, reducing him to a state of anæmia and emaciation with moral perversion from which it is difficult to rescue him. The cases are but few in which morphine and a hypodermic syringe should be entrusted to the patient for self-administration; when this must be left to unprofessional hands, the nurse, or some friend, should be the administrator, and it is well to keep a record of the doses given. For similar reasons the chances of abuse are lessened when prescriptions for mixtures containing morphine are endorsed as to be used for fourteen days only from the date of the prescription; a habit which is usual with most careful physicians.

"SLOYD" AS A SYSTEMATIC TRAINING IN HANDWORK.

In Sweden, much success has been achieved in elaborating a system of manual instruction in woodwork suitable for use in schools; this work is called "sloyd," and, as an educational process, it appears an admirable preparation for technical education. The main differences between wood sloyd and ordinary carpentering, with which it is very apt to be confused, are these:—1. The objects made are usually smaller than those made in the trade. 2. As to tools used; the knife, for instance, is the most important of all in sloyd. 3. All parts of the work are done by the pupil. 4. The objects of sloyd are to develop the faculties, not to make carpenters. A careful choice is made of the models; the objects selected are such as may be used at home; both soft and hard woods are used. It is often a difficulty in medical practice to suggest amusement and occupation for patients who must keep indoors for a prolonged period, and who yet preserve an active

temperament. It will also be useful for children where circumstances make it undesirable to employ a purely literary method of education. Sloyd is a form of work which calls forth every variety of movement, and exercises both sides of the body, for it is so arranged that the children can work with the left hand and arm as well as with the right in sawing, planing, etc. In the schools of Norway classes in sloyd are held both for boys and girls. An association has been formed for the introduction of sloyd into this country, and for the purpose of training teachers in the art.

THE HEALTH OF MADRID.

MADRID has longed enjoyed the unenviable notoriety of being one of the least salubrious towns in Europe. For the period 1880 to 1887, the average annual rate of mortality was 41.2 per 1,000, and for 1887 it was 39.69 per 1,000, rates which, as regards European towns, were only exceeded by those of St. Petersburg and Buda-Pesth. But the exceptional prevalence of diphtheria and small-pox in the city during the past summer, whereby the death-rate was raised as high as 45 per 1,000, has at last roused public attention to the necessity of some systematic and immediate effort to reduce the unhealthiness of the town. Accordingly, the Central Board of Health were called upon to investigate the matter. In their report, which was made during the last days of August, they pointed out that various physical conditions combine to render the climate very trying and unhealthy, but they also pointed out that the houses and streets are generally unwholesome, that the food is scarce and of bad quality, that the excessive watering of the streets is prejudicial to health, that the drainage is not good, that many uncovered drains still exist, that disinfection is not sufficiently attended to, that the hospital accommodation (especially for infectious disorders) is inadequate, etc. As the result of this report, a royal order was issued on September 9th to the effect that the present system of street watering be amended; that private drains be more efficiently cleansed, and be properly connected with the main sewers; that the open drains be covered; that a scheme of drainage for the whole town be prepared within six months; that disinfection of clothes, etc., be made compulsory; that inspection of animals to be used for food, and of eatables and food generally, be more severe; that the question of hospital accommodation be taken in hand, and that a number of other minor matters of more or less importance be attended to. It is to be hoped that this indicates a determination on the part of the Madrid authorities to bring the death-rate of their town within reasonable limits.

A HOSPITAL WITHOUT A HOUSE-SURGEON.

AN inquiry was recently held at Ipswich, into the death of a young man, named William Monson, in the employment of the Great Eastern Railway Company, who fell in front of two trucks, the wheels passing over his body. On removal to the Ipswich Hospital, the house-surgeon was, it was said, absent, and the necessary operation of amputation was not performed until some time afterwards. The jury, in returning a verdict of accidental death, added an expression of their regret that in the face of so many previous presentments, the hospital should again be left without a house-surgeon. On inquiry, we believe the facts as stated to be substantially correct, and undoubtedly the Board of Management are much to blame in allowing one of their house-surgeons to take a holiday without providing a substitute at their own expense. The funds of the hospital, we understand, are in a flourishing condition, the accumulated capital, which is constantly being added to, exceeding £25,000; there is consequently the less excuse for this niggardliness and false economy on the part of the Board. After much agitation, and numerous cases such as that referred to, about six months ago the Board appointed an assistant house-surgeon, in order that skilled attendance should be always available, but failed to recognise the necessity of providing a substitute in his absence. In this particular case, we learn, the remaining house-surgeon had gone beyond the hospital grounds for a short stroll, and in his absence the accident referred to was admitted. It is high time the gentlemen comprising the Board of a large hospital such as the East Suffolk, with its 110 beds, should realise the sense of the grave responsibility they incur by withholding a provision so essential to the welfare of the hospital and to the proper treatment of its patients.

PRECAUTIONS AGAINST FIRES IN THEATRES.

THE Prefect of Police in Paris has issued a new set of regulations with regard to the fire brigade service in theatres, which will, it is thought, reduce very much the risk of fire, as far, at least, as it can be reduced in the many theatres in Paris which have always been, and must remain, from the position which they occupy, regular death-traps. A certain number of firemen are allotted to each theatre, who under no pretence are to be called out of the theatre, or to receive visits from friends or acquaintances. The chief of the detachment has the responsibility of seeing that all the apparatus for extinguishing a fire is in its allotted place and in proper order, and the commissary of police is to satisfy himself that this has been done before the theatre opens. During the representation the chief of the detachment must be constantly moving about to see the men are at their posts; that no one is smoking in the corridors or carrying open lights; and that access to the reservoirs and fire-plugs is not hampered by placing any scenery or stage properties in the way. He is to examine the manometer, and, if he finds that there is a deficiency of pressure in the water-mains, he must inform the nearest post of the fact. In the event of an insignificant outbreak, recourse is to be had only to the apparatus within reach of the *foyer;* but if the outbreak is of a more serious character, the nearest post is to be informed by telegraph. At the close of each representation the firemen are to make a round of the theatre and see that the iron curtain is lowered, the buckets filled, and the folding doors closed, and, in the event of these not working smoothly, they must be repaired at once. The manager of the theatre is required implicitly to obey the orders of the district commissary of police, who, in the event of an outbreak of fire, assumes the sole command of the theatre until the arrival of the Prefect of Police or the chief officer of the Fire Brigade.

THE DEVELOPMENT OF THE FŒTUS.

DR. LA TORRE has contributed to the *Nouvelles Archives d'Obstétrique et de Gynécologie* an interesting series of contributions on this question. As might be expected, his conclusions differ in many respects from those of previous observers. He believes greatly in the influence of the father's health and strength on the development of the child. He maintains that the sex of the fœtus has no influence on the development of the fœtus itself. The height, weight, and health of the mother do not, according to Dr. La Torre, influence the growth of her offspring. In respect to the health of the father, it is his height, breadth of shoulders, and cranial development which chiefly influence the development of the fœtus. When the father is in ill-health, locally or generally, the fœtus is much affected, especially in weight. Dr. La Torre declares that the sex of the fœtus depends greatly on the health and strength of the father; healthy fathers begetting more sons than daughters; sickly fathers more daughters than sons. He insists that multiparity alone does not exercise on the development of the fœtus an influence sufficiently marked to justify the clinical importance hitherto attributed to it. If there be any influence at all, it disappears entirely before the hereditary influ-

ence of a sickly father. When the father is healthy, the most favourable age of the mother for the development of the fœtus is from twenty-five to thirty-four; but, when the father is sickly, the age of the mother has no influence on fœtal development. The length of the fœtus is more in relation to its weight and less in relation to the age of the mother than is generally supposed, especially by those who rely on Dr. Duncan's statistics. Dr. La Torre's observations are still in course of publication.

DEATH OF A HOUSE-SURGEON.

On Friday, September 28th, Mr. F. Stanhope Hawkins, House-Surgeon to Guy's Hospital, died from an attack of diphtheria after a week's illness, notwithstanding the assiduous attention of his colleague, Mr. C. F. Routh, House Physician and "Sister Clinical," who both watched him day and night. He succumbed through cardiac failure. Mr. Hawkins was 28 years of age, and the son of the Rev. R. Hawkins, Vicar of Lamberhurst. He was a Bachelor of Arts and of Medicine of the University of Oxford, and a Fellow of the College of Surgeons. Only a fortnight since, we had occasion to refer to Mr. Hawkins, who gave evidence at an inquest on a case where a child, who died from accident, proved to have a cirrhotic liver. Some comments were made in the daily newspapers on an interesting feature of the case, and to Mr. Hawkins we were indebted for accurate information. The whole profession will sympathise with the friends and relatives of this young medical officer, who died during the discharge of the arduous duties of a highly responsible appointment. Quite a gloom has fallen on Guy's Hospital through this sad occurrence. The first part of the funeral service was held in the hospital chapel on Monday, and was largely attended by both the medical and nursing staff and students, after which he was removed to his home at Lamberhurst, Kent, where he was buried. Mr. Hawkins's brother, Dr. H. P. Hawkins, is Resident Assistant-Physician at St. Thomas's Hospital.

"FAITH-HEALING."

It is, perhaps, more strange that so little has been heard in this country about "faith-healing" than that we should from time to time read of such events as one that has recently attracted some attention in Bristol. The practice of "faith-healing" and of "Christian science," which appears to be much the same thing, is followed by a set of people who, to all intents and purposes if not in name, constitute a religious sect holding tenets identical with, or nearly allied to, those cherished by the Peculiar People. The movement has reached considerable dimensions in the United States of America, and there is even a College chartered by one of the States which grants some sort of diploma to Christian Scientists. The evidence adduced in support of faith-healing is of a kind with which we have been thoroughly familiarised by the advertisers of quack nostrums. It relates the recovery of persons "given up by the doctors," and of other persons sick with divers diseases who have never resorted to medicine and have recovered. There is, of course, nothing new in the idea that disease may be recovered from without the use of drugs; on the contrary, it is contained in the proverbial phrase *vis medicatrix naturæ*. From one point of view we might divide cases of disease into two classes, those which tend towards death, and those which tend to recovery. Medicine has duties towards both classes—in the one to obviate the tendency to death, in the other to hasten the cure; or, to quote another proverbial phrase, to cure *tuto, cito, et jucunde*. If we are told that a sick person has recovered from a disease without resort to medicine or surgery, and after certain ceremonies of prayer and anointing, we must believe either that that person could have recovered without the intervention of the faith-healer, or that the orderly course of Nature has been interfered with by a direct interposition of Providence; that, in one word, a miracle has been performed. It might be urged that there is another alternative—that the influence of the mind or the imagination upon the body has been overlooked; but this is not so, for it is included in the first alternative, inasmuch as if the recovery in faith-healing be due to the action of the mind, affected by the religious ceremonials, on the body, it is open to us as physicians to believe that the same mental action on the body might be produced by other measures appealing to the mind or the imagination; for we are familiar with the "marvellous cures" which may be wrought in this way in the class of patients commonly called hysterical. It seems almost wasted energy and space to argue seriously with people who are ready to accept the tenets of the professors of faith-healing; but we may point out that all the evidence adduced by these people is of the kind above indicated—inconclusive, and absolutely worthless for proving anything. When the faith-healers have to deal with diseased states which tend necessarily to produce death, unless prompt measures are taken, they, of course, fail utterly. The case at Bristol is a striking instance; the patient considered she had already been cured by faith on two occasions, once of a rupture, of which more further on, and once of erysipelas; later on she sustained a fracture of the arm, for which, after three weeks' delay, it was found necessary to supplement faith-healing by some commonplace splints, adjusted by a friendly homœopath, whose "sympathies were in the direction of faith-healing." Shortly afterwards, this same practitioner was called to attend her, and found her suffering from strangulated hernia; of this she died three days later, in spite of anointing and prayers for the restoration of her health, in which the homœopathic practitioner, who seems to have acted with a strange want of resolution throughout, joined. The whole story is very sad; while not denying a certain meed of admiration for these people, who, with a misplaced constancy, adhere to their crazy theories, even when they lead inevitably to death, it is difficult to view leniently the conduct of a medical graduate who would even appear to countenance by his presence the theory that it is justifiable to treat strangulated hernia by prayer and anointing.

ATROPHY OF THE INACTIVE MAMMARY GLAND.

Throughout the Swabian-Bavarian tableland the rate of infant mortality is very high, chiefly on account of the almost universal practice amongst peasant women of bringing up children by hand. Dr. Altmann has discussed this subject in an inaugural thesis. He finds that the custom arises from the deficient secreting power of the mammary glands of the mothers. He carefully examined the glands of thirty Bavarian women, between 14 and 50 years of age, noting the weight of each gland with and without fat, and the character of the glandular tissue and its relation to the connective tissue around. He compared the specimens with four pairs of glands from Silesian women, who almost invariably suckle their own children. According to Hennig's researches, the weight of the mamma should range from 160 to 556 grammes (454 grammes = 1 lb. avoirdupois). Out of twenty-nine mammæ from Bavarians only eight exceeded 100 grammes, but it is known that the smallest breasts in healthy women are the best for suckling. On examining the mammary tissue from Bavarian nulliparæ and mothers who had never suckled, and comparing the samples with sections from Silesian nulliparæ and sucklers, Dr Altmann found marked elements of difference. In the Bavarian specimens the ducts were scanty and the acini ill-developed, the connective tissue abundant and dense; in the sections from the mammæ of Silesians the glandular tissue was well developed, with a plentiful vascular supply, and the connective tissue loose and relatively scanty. Dr. Altmann, whose thesis is summarised in the *Centralblatt für Gynäkologie*, No. 35, 1888, traces the atrophic condition of the mammæ in Bavarians to the disuse of

the gland owing to the custom of rearing children by hand which has prevailed for many generations. The atrophy has become hereditary. No doubt a far larger series should be examined in order to prove the accuracy of the above researches.

MEDICAL SCHOOL BUILDINGS AND RESIDENT COLLEGES.

SOME notice will be found in the present number of the JOURNAL of recent improvements in medical school buildings. The increased attention which has been paid of late years to the comfort of the medical student at hospitals and universities is a most grateful sign of the times. Thus comfortable refreshment-rooms have been established at many hospitals, to the great convenience and benefit of the pupils who study there. Another satisfactory feature is the extension of the resident college system. Guy's Hospital is to be provided with a college, as we announced in our Students' number. The college is always an attraction for parents who intend to place their sons in a medical school; it implies superintendence. Provided that the college is well managed by the authorities, and commanded by a firm yet kindly warden, it is well suited for the first year's man. The influence of men like Sir James Paget, who was warden of the college attached to St. Bartholomew's Hospital from 1843 to 1851, is of incalculable benefit to the students and the house-staff. Whatever may be the advantage of a residence in college to the freshman, it is of incontestable value to dressers and clinical clerks. Being so constantly on the hospital premises, they gain at least twice as much clinical experience as their less fortunate colleagues, who have to waste much time going backwards and forwards to lodgings every day. As for the health of the student, a hospital is not necessarily an unhealthy place of residence, nor are the authorities likely to neglect sanitary precautions for college buildings. Besides, if the student is too delicate to bear a year or two's residence in hospital, he is hardly strong enough to attempt to live by the practice of the medical profession.

SCOTLAND.

DR. CARNELLY, of University College, Dundee, has been appointed Professor of Chemistry at the University of Aberdeen in room of Dr. Brazier, who has resigned.

SCARLET FEVER AT IRVINE.

SCARLET fever is at present prevalent in Irvine. At the Academy one day's holiday was given to permit of the buildings being disinfected.

GLASGOW UNIVERSITY.

THE professional examinations for degrees in medicine begin in this University on October 8th, and continue till the 19th. There are no less than 422 candidates; 166 for the first examination, 143 for the second, and 113 for the third.

FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW.

AT the meeting of the Faculty on October 1st, Dr. James Morton was re-elected President, Dr. Alex. Robertson was elected Visitor, Dr. H. C. Cameron Representative to the General Medical Council, Dr. Lapraik, Dr. James Dunlop, Dr. McCall Anderson, Dr. R. Renfrew, Mr. H. E. Clark, and Dr. R. Perry, Councillors; Dr. J. D. Maclaren was elected Treasurer; Dr. James Finlayson, Honorary Librarian; and Dr. H. Thomson, Vaccinator. Dr. Henry Muirhead was re-elected Governor of Glasgow and West of Scotland Technical College.

UNIVERSITIES (SCOTLAND) BILL.

IT is stated that when the Universities (Scotland) Bill is in committee, a proposal will be made having for its object to render the possession of a minimum acquaintance with mental science indispensable to the obtaining of any degree, professional or other.

EDINBURGH SCHOOL OF MEDICINE.

Two fresh lecturers are announced for the coming winter session —Dr. Alexander James, on Practice of Physic; and Dr. James W. B. Hodsdon, on Surgery. This gives, including the University professors, five lecturers on Systematic Medicine and five on Surgery.

UNIVERSITY EXTENSION AT PAISLEY.

THE winter session of lectures at Paisley, under the new University Extension Scheme, was inaugurated on October 1st by a public meeting, presided over by Mr. W. B. Barbour, M.P., at which the course of English literature was opened by Mr. W. McCormick, M.A. Subsequently Professor McKendrick, Professor Jack, and others addressed the meeting, commending the movement, and urging what should be done for its success.

POST-GRADUATE COURSE OF MEDICINE IN EDINBURGH.

THE third session of the post-graduate classes at Edinburgh has now opened. There is a good turn-out of graduates. Some of the short special courses are peculiarly well attended, and undoubtedly a larger development of these in future years is indicated. The course runs till October 13th, when the more regular work of the winter session may be said to commence.

THE NATIONAL HOMES OF SCOTLAND.

AN addition to this group of homes for the rescue of children is shortly to be made at Bridge of Weir, an unknown benefactor having placed £1,500 at Mr. Quarrier's disposal for that purpose. When it has been erected there will be thirty buildings in connection with the little settlement. Some time ago Mr. Quarrier's ambition was to rescue annually 365 children, or one child daily. He has passed that stage, and now wishes for accommodation for 1,200 children, which would allow him to rescue 730 annually.

EDUCATION IN SCOTLAND.

THE fifteenth annual report of the Committee of Council on Education in Scotland has been issued. It shows a total of 3,111 day schools inspected during the year, furnishing accommodation for 677,984 scholars, rather more than one-sixth of the estimated population. The registered scholars numbered 631,865, of whom 124,209 were under 7 years of age, 462,526 between 7 and 13, 30,965 between 13 and 14, and 14,165 above 14. The average daily attendance throughout the year was 491,735. There were presented for examination in standards three to six 231,670, of whom 168,902 passed without failure in any of the three subjects. The percentage of passes in reading was 93.11, in writing 87.81, in arithmetic 82.13, statistics which show that the annual improvement is maintained. The expenditure from rates has increased by £5,912; school pence has increased by £7,783, and parliamentary grants by £12,109, though the rate of grant has fallen from 18s. 7½d. to 18s. 6½d. for each scholar in average attendance. In the night schools 10,024 were in average attendance, of whom 7,469 were examined, and showed a pass equal to 94.43 per cent. for reading, 82.33 for writing, and 69.11 for arithmetic. The actual supply of school space is in excess of what the estimated population demands by 20,000 places, but in some of the larger towns the accommodation is yet inadequate, while in other places the accommodation is unavoidably excessive. The Committee is

not yet satisfied with the attendance, which, however, has been steadily improving. For every 100 children of school age, for whom 86 seats have been provided, only 80 are on the registers, and only 62 in daily attendance. Increased energy in securing attendance is therefore urged. Failure in attendance does not appear to be due to the pressure of fees. The Committee comment on the insufficient presentation of children in the higher standards, indicating discontinuance of attendance as soon as the standard of exemption is reached, and they hope the provision made for bursaries in the schemes of the Endowments Commission may encourage a more prolonged attendance. Increased attention to needlework and cookery is commended, and consideration promised to the subject of laundry teaching. The Committee are also directing their attention to the question of the training of teachers, and to the introduction of modifications which would give more time for attendance at university classes. The report comments upon the little progress the question of technical education seems to have made among the people, as shown by the recent elections, and offers strong encouragement to the boards that, in spite of this, push forward that department of their work.

SICK CHILDREN'S HOSPITAL, GLASGOW.

THE dispensary in connection with this hospital was formally opened on October 1st, by the Duke of Montrose, in the presence of a large number of the profession and the general public. After inspecting the buildings and admiring their construction, arrangements, and furnishing, the company assembled in the central hall, the Duke of Montrose presiding. Professor Gairdner then moved that the meeting express its satisfaction at the opening of a fully equipped dispensary, so essential an adjunct to the work of a sick children's hospital. He said the facts they came across showed the deplorable apathy and ignorance that existed in regard to the suffering offspring of the poor. He then pointed out the benefits which such an institution provided for them. He also referred to the feeling that existed among some that the multiplication of these institutions was not an unmixed good, inasmuch as it affected the earnings of those whose practice lay chiefly among the poor; and stated that, from the first, the Sick Children's Hospital in its operations was in direct communication with the Charity Organisation Society. He was glad to think this was so, in consequence of what had been lately said in relation to the abuse of medical charity; and he believed that this institution would work out this question in a thoroughly practical way. The resolution was seconded by Mr. Macgeorge, and supported by the Chairman, who said that he did not need to enter into any particulars as to the great benefits that would accrue to Glasgow from the opening of this dispensary; they had merely to look at the report of the Hospital for Sick Children in London to see that 15,000 children were treated in the dispensary there. He had no doubt the dispensary would be certain to prosper, and he formally declared it open. Professor Leishman referred to the valuable instruction to be obtained by medical students from attendance at such a dispensary, and hoped it would be largely taken advantage of. He commended it also to the hearty support of the public.

ANDERSON'S COLLEGE MEDICAL SCHOOL, GLASGOW.

IN accordance with the scheme approved of by the Commissioners under the Educational Endowments (Scotland) Act, which created the Glasgow and West of Scotland Technical College, the medical faculty of Anderson's College has become a separate and distinct institution, and it has now been incorporated as Anderson's College Medical School. Under the scheme of the commissioners the medical school must very shortly leave its present buildings, and the Governors have received £5,000 to purchase ground and erect new buildings elsewhere. For this purpose the Governors have bought from the Corporation of Glasgow a plot of ground in Dumbarton Road, immediately to the west of the entrance to the Western Infirmary. Plans and specifications for the building have been prepared and tenders obtained, from which it appears that, notwithstanding the utmost economy, a building constructed on the best modern principles, and provided with all the appliances requisite for the conduct and management of a fully equipped medical school will cost about £9,000. Apart from meeting the annual feu-duty the sum of about £4,000 is required, and the Governors have issued a circular asking for subscriptions.

FAREWELL DINNER TO PROFESSOR HARE.

MR. HARE, F.R.C.S.Ed., Professor of Surgery in Owens College, Manchester, was entertained at dinner at the Waterloo Hotel, Edinburgh, on September 28th, by his professional friends, as an expression of the high esteem in which he was held by them, and their regret that he was leaving Edinburgh. Sir Douglas Maclagan, M.D., occupied the chair, and Professor Chiene was croupier. There was a large and representative company. Apologies were received from several leading members of the Edinburgh medical teaching staff. In referring to the slightly unfriendly manifestations which had been recorded by the JOURNAL as having occurred in Manchester in connection with Mr. Hare's appointment, Sir Douglas Maclagan said he could understand how these might have been inspired by feelings of loyalty on the part of students towards their own school, and with such feelings he sympathised; he only regretted the form of their outward expression. The manifestations were certainly not directed against Professor Hare, and he had no doubt that, when the students had Mr. Hare amongst them, they would soon know and appreciate him. Sir Douglas congratulated Mr. Hare on combining in no common degree the scientific investigator and the practical surgeon, and augured the brightest future for him in his new sphere

IRELAND.

DR. MACKESY, J.P., AND THE KILMACTHOMAS GUARDIANS.

AT a recent meeting of the Kilmacthomas Board of Guardians the following resolution was adopted:—"That Dr. George Mackesy, of Waterford, be not employed to assist Dr. Walsh, at the workhouse hospital, in future." The alleged reason for this proceeding on the part of the guardians was, that Dr. Mackesy objected to a vote of condolence being passed to Mrs. Mandeville, but he has stated publicly that he only opposed the latter part of the resolution disparaging to the Government, and personally abusive to Mr. Balfour. Dr. Mackesy considered that such petty spite is so contemptible that it requires no comment, further than as a possible sample of the toleration which might be expected under Home Rule. It must be added that Dr. Walsh protested against this high-handed proceeding on the part of the guardians, but without avail.

PRESENTATION.—Dr. W. Hooper Masters, on his leaving Thrapstone, after a residence of twenty-seven years, has received a testimonial from his patients and friends consisting of a silver afternoon tea service and tray.

PATHOLOGICAL LABORATORIES. — Professor Lashkewitch, of Kharkow, has left a sum of £2,000 for the erection of a laboratory of experimental pathology in that University.—A bacteriological laboratory is being built at Königsberg, over which Professor Baumgarten will preside.

LIFE INSURANCE IN RUSSIA.—According to the *Voljsky Vestrisk* of August 8th, life insurance in Russia is still in an embryonic state. Not more than 23 out of every 100,000 inhabitants think it worth while to insure their lives.

OPENING OF A NEW MEDICAL SCHOOL AT SHEFFIELD.

A MEETING of the medical profession of Sheffield was held early in 1828 to consider the propriety of establishing "an institution which should comprise a library, a museum, a lecture room, and a room for dissection." The suggestion was agreed to, the foundation stone laid the same year, and in the following summer the school was formally opened by Dr. (afterwards Sir Arnold) Knight. A rival school was established by the Overends at the same time, but subsequently became joined to the one above mentioned. There was at this period considerable activity in medical matters in Sheffield, and the school, established in the manner described, was up to the requirements of that day. Times have, however, changed, and for many years it had become evident that in spite of the ceaseless efforts of a succession of lecturers to make the best of the means at their disposal, a new departure had become imperatively necessary. The contrast between the old modest building and the imposing new school in Leopold Street is striking, and would perhaps as much as anything impress a bygone generation with the immense strides medicine has made and with the increased requirements for teaching students. On the other side of the road is Firth College, with which the medical school is already associated, and the time is looked forward to when the Firth College, with its Medical Department, will be in a position to become affiliated with the Victoria University. The profession have contributed well towards the erection of the new school, and their efforts have been nobly aided by the generous assistance of the townsmen of Sheffield.

The new building is stone-faced, and forms a noticeable feature among the public buildings of the locality. On the ground floor, besides a lecturer's room and various offices, is a large room which will be occupied by the Medico-Chirurgical Society for its library and its usual meetings. The Society, already in a flourishing condition, meets under circumstances at the new school which should secure increased prosperity. On the next floor are materia medica and other class rooms, and a large room set apart for a museum. Above, again, is the anatomical and physiological department. The whole building has been carefully designed, and reflects great credit on the architect, Mr. J. D. Webster. It in every way meets well the needs of a good professional education, and it is hoped and believed that the Sheffield Medical School will take high rank among provincial schools, for, in addition, the clinical resources of the town are considerable. The General Infirmary has 200 beds, the Public Hospital 101, and the Jessop Hospital for Women 45, with a maternity department.



The Council of the school wisely decided to make the opening of the new building a public one. Sir Andrew Clark kindly consented to give the inaugural address; and for the purpose of hearing him, and of inspecting the new buildings, the subscribers, as well as the medical men of the town and neighbourhood, were invited to a *soirée* on September 29th. The invitations were largely accepted, and the *soirée* was attended by the leading citizens of Sheffield. A large number of interesting exhibits of all

kinds had been got together—old and modern portraits of past and present medical worthies of Sheffield and elsewhere, and other things of local and medical interest. The graphophone (Tainher's) was exhibited, and its marvellous properties excited the most lively interest; and it was the centre throughout the evening of an appreciative throng. Mr. Edmunds, the introducer into this country of the instrument, kindly attended himself.

The visitors, most of whom had assembled earlier, adjourned at 8.30 to the Hall in Firth College, to hear Sir Andrew Clark's address. The chair was occupied by Mr. W. F. Favell, in the absence of Dr. de Bartolomé, the President of the School. The hall was well filled, and Sir A. Clark's address was listened to with marked attention and evident appreciation. It was generally felt that it was typically the address for a mixed audience. The lecturers of the school feel greatly indebted to Sir A. Clark, not only for his present address, but for his attendance two or three years before, to advocate the claims of a medical school to the generous assistance of the public. This point he again pressed upon his audience. Other parts of his address, dealing with what is required in a teacher, exposing cramming *versus* true education, pointing out the ideal student, the dangers besetting, and his counsel and advice to students, were all expressed and delivered in a manner to make Sir Andrew Clark's lecture a most memorable one.

In seconding a vote of thanks to the lecturer, which had been proposed by the Master Cutler, Mr. ARTHUR JACKSON gave expression to the appreciation of the lecturers for the services Sir Andrew Clark had rendered to the cause of medical education in Sheffield; and the CHAIRMAN, after putting the resolution to the meeting, took the opportunity of presenting to Sir Andrew Clark a piece of plate of Sheffield workmanship, as a small remembrance from the lecturers of his kind services.

One incident only seemed to mar the perfect success of the opening ceremony, and that was the absence of the President, Dr. de Bartolomé. His persevering and untiring exertions through a long series of years contributed very materially to the maintenance of a medical school in the past, and in no small measure to the erection of the present school. The regret universally felt at his absence from a ceremony in which he was so warmly interested, through what it is hoped is only a passing illness, found expression in an appropriate resolution by Drs. YOUNG and DYSON.

COVENTRY (Population 47,750).—*Improved Sanitation: Hospital Isolation has been of Great Value.*—The beneficent effect of the administration of the Public Health Act is becoming more apparent from year to year in the reduction in the amount of sickness, and the decrease in the rate of mortality throughout the kingdom, and Dr. Fenton's report for the year 1887 shows that Coventry is no exception to the general rule. The death-rate was 16.3 per 1,000 as compared with 17.5, the average for the past seven years. This result is exceedingly satisfactory, more especially as the population of the district is so largely made up of the working classes, and a great proportion of the houses and streets are constructed in an unwholesome fashion. The progressive diminution in the birth-rate in Coventry becomes more marked year by year, and in 1887 the rate was lower than it had ever been. The number of deaths registered from the seven principal zymotic diseases was seventy less than in the former year, and almost entirely accounted for the lower death-rate. The powerful influence which the isolation of infected persons has in restraining outbreaks of epidemic disease has been so frequently demonstrated in Coventry as to require no further proof. The inhabitants appreciate this, and every year a greater proportion of persons who suffer are removed to hospital, and with less reluctance on the part of the parents and friends. In 1887 four-fifths of the cases of scarlet fever that were reported were removed, and in no case did the sufferer remain at home, unless isolation there were really effective. The result was that the disease never assumed any serious proportions, and, although it displayed a most malignant tendency, only fifteen deaths took place from it, and at the end of the year no new cases had been reported for a month. Dr. Fenton compares this with the epidemic of 1874, when the Iron Hospital was first opened. Owing to the strong objection which parents had at that time to part with their children, removal was effected only in 12 cases. The children remained in their homes, but the disease spread with such rapidity and fatality, that in six months 101 deaths took place, and probably more than 2,000 persons were infected.

JUDICIAL EXECUTIONS.

BY JOHN J. DE ZOUCHE MARSHALL, L.R.C.S.I., ETC.

MY name having been for some time before the public in connection with the execution of criminals, I am anxious to explain to the profession the suggestions which I have had the honour of laying before Lord Aberdare's Capital Sentences Committee,[1] and also some of the evidence, as well as the recommendations contained in the report of that distinguished body; thereby submitting to the physiologists of the country an issue on which they are so competent to decide.

The subject of hanging seems never to have received any scientific attention until the year 1875, when an important meeting of the Surgical Society of Ireland was held at the College of Surgeons in Dublin, which was attended by many surgeons who had experience of gaol executions, and to which Professor Samuel Haughton submitted his famous tables, regulating the length of the drop in proportion to the weight of the criminal, founded on his mathematical principles of animal mechanics.

Up to then the "long drop," even to the extent of 17 feet, was "traditional in Irish gaols," while at the same time in England the custom of Calcraft, who held office until 1874, was to allow from 2 to $2\frac{1}{2}$, and never more than 3 feet drop. In Ireland, two executions took place in 1865 and 1870, the culprits being about the same weight, 11 st. 6 lbs., and getting the same fearful drop of $14\frac{1}{2}$ feet, the knot being placed behind ("suboccipital"). The second was decapitated, and the first nearly so, which is not surprising. That no more decapitations occurred or were reported must be due to the employment of a much thicker rope than that now in use ($\frac{7}{8}$ in.) In 1874 Marwood succeeded Calcraft, and went in for the long drop, being guided, it is supposed, by Dr. Haughton's tables, though I have not the smallest belief in an executioner being guided by anything save his own ignorant vanity, which points to himself alone as *the* authority.

The most important point in the whole proceeding is admitted by experts to be the position of the knot or eye, which has often been placed at the back of the head ("suboccipital"), but is now invariably put under the left ear ("subaural"), though every surgical work that mentions the subject states that the "submental," that under the chin, is the most deadly position. The members of Lord Aberdare's Committee seem to be in favour of this submental knot, as I intend to show, but, strange to say, "they never mention it" in the recommendations of their report, simply contenting themselves with laying down a scale of long drops to be used with the subaural knot, *plus* brute force much in excess of anything I have ever seen Berry use, even at Newgate. The Committee give as the chief reason for their attachment to the barbarous "long drop" that it is better to risk the shock to the public with painless decapitations than to risk painful suffocations. I should say "by all means," that is, if I was as strong an advocate of the total abolition of capital punishment as the noble Chairman is suspected of being, he having (it is said) reprieved every convicted murderer during his tenure of the Home Secretaryship. Now suffocation has never been proved to be so very painful, the opposite being more likely from the fact of suicides by hanging always giving themselves as short a drop as possible, and never (probably owing to the sudden supervention of apoplectic unconsciousness) rescuing themselves by the many means generally at hand. Besides, it is quite possible for insensibility from concussion to take place with suffocation, as I saw at Winchester (a culprit named Whelan, weighing thirteen stone, getting a drop of but four feet). Dr. Carte also testifies to this possibility in paragraph 434 of the report. I admit that Berry's interpretation to the reporters of "instantaneous death" means in most cases intense and needless torture for many minutes; but this is due to excessive constriction of six inches by a thin rope into the neck, compressing the multitude of nerves against the spine, when no concussion or dislocation has rendered the wretched culprit insensible, both of which circumstances I have witnessed. If, however, the cases submitted by other surgeons were as freely dealt with as were mine, the Committee's preference for the extra long drop might seem justified; for of five cases on which I reported I

[1] This Committee on Capital Sentences was appointed in January, 1886, by Sir Richard A. Cross, the Home Secretary, and consisted of Lord Aberdare, G.C.B., Chairman; Sir Henry Selwin Ibbetson, Bart., M.P.; Sir Frederick Bramwell, F.R.S.; the Rev. Professor Haughton, F.R.S.; and Dr. Gover, Medical Inspector of Prisons, and having the most courteous of secretaries in Major Alten Beamish, R.E.

gave the cause of death in three as "strangulation"—including one unconscious from shock (Whelan) one "instantaneous from dislocation" (Currell) and one "instantaneous from dislocation and fracture" (Lipski). In the report I find Currell's case tabulated with the three suffocations and Lipski left out altogether. I should state that Dr. Haughton refuses to admit the existence of insensibility except the pulse beats at the rate of 140 or more, which theory I think completely upset by Currell's case, whose pulse, notwithstanding fearful injuries to the spine from a seven-foot drop (weight 147 lbs.), beat normally at about 80 to the minute. Drs. Gilbert and Morgan, of Newgate Prison, can bear me out in stating that Currell's neck was completely dislocated, the dislocation being as easy to reproduce after the body was "cut down" as in the case of a fractured thigh. However, I can see that in the face of the new tables, it would never do to admit that a dislocation could be produced by an energy of 1,029 foot-pounds (Dr. Barr's lowest being 1,121 foot-pounds, and his highest for asphyxia being 1,106 foot-pounds), or dislocated and fractured with one of 1120 foot-pounds (Lipski 140 lbs × 8), though this latter case had the *fœtal* pulse of 160 for fourteen minutes.

I examined these cases digitally through the mouth, and could easily introduce the finger between the vertebræ; but this evidently does not satisfy Dr. Haughton, who must have a *post-mortem* examination made by "a skilled anatomist and not by a mere surgeon," which shows what an awkward twelfth he would make on a jury with "iliven obstinit min." As I consider the great flaw in this report to be its ignoring in its "recommendations" the "submental knot," I wish to reproduce the evidence in favour of that method, there being none against it, which can be verified by reference to the report itself, a copy of which can, I presume, be easily obtained by any member of Parliament.

Professor Haughton says (par. 1), in reference to the important meeting of surgeons in Dublin in 1875, "the results of their discussion were two. In the first place, it was recommended that the knot should be placed under the chin," and also "to diminish the drop to about 8 feet, as a rule," that is, from between 14 and 17 feet. Again (par. 7), "my opinion would be that half the decapitating energy with the knot under the chin would be necessary."

Mr. J. R. Gibson, F.R.C.S., twenty-seven years surgeon to Newgate Prison (1855-82), says (par. 220), in reply to the Chairman's question, "Have you ever considered the expediency of preferring one method of placing the knot to another?"—"The position of the knot has always been at the side. I think that if the knot could be placed in front it would secure the breaking of the neck;" and, subsequently (par. 221), "I recollect reading some case where an execution took place rather by accident than by design in that way, and it was most efficient. I can quite understand that with a knot coming under the chin a sudden jerk would be almost certain to snap the spinal column."

During my own evidence (Mr. J. de Z. Marshall, L.R.C.S.I) (par. 385), in reference to my invention, the Chairman said, "*as far as your object goes it quite falls in with what we wished, namely, to keep the knot under the chin;*" and, later on, in reference to the risk of decapitation with the long drop, the Chairman says (p. 404), "that arises from the fact that the rope is not properly adjusted under the chin; but if you could be sure of the knot remaining here, and so jerking the head back, you would then be sure of producing the fracture" to which Dr. Haughton added "*we can produce fractures now by moderate drops, by securing the head being thrown back; this is a step in the right direction.*"

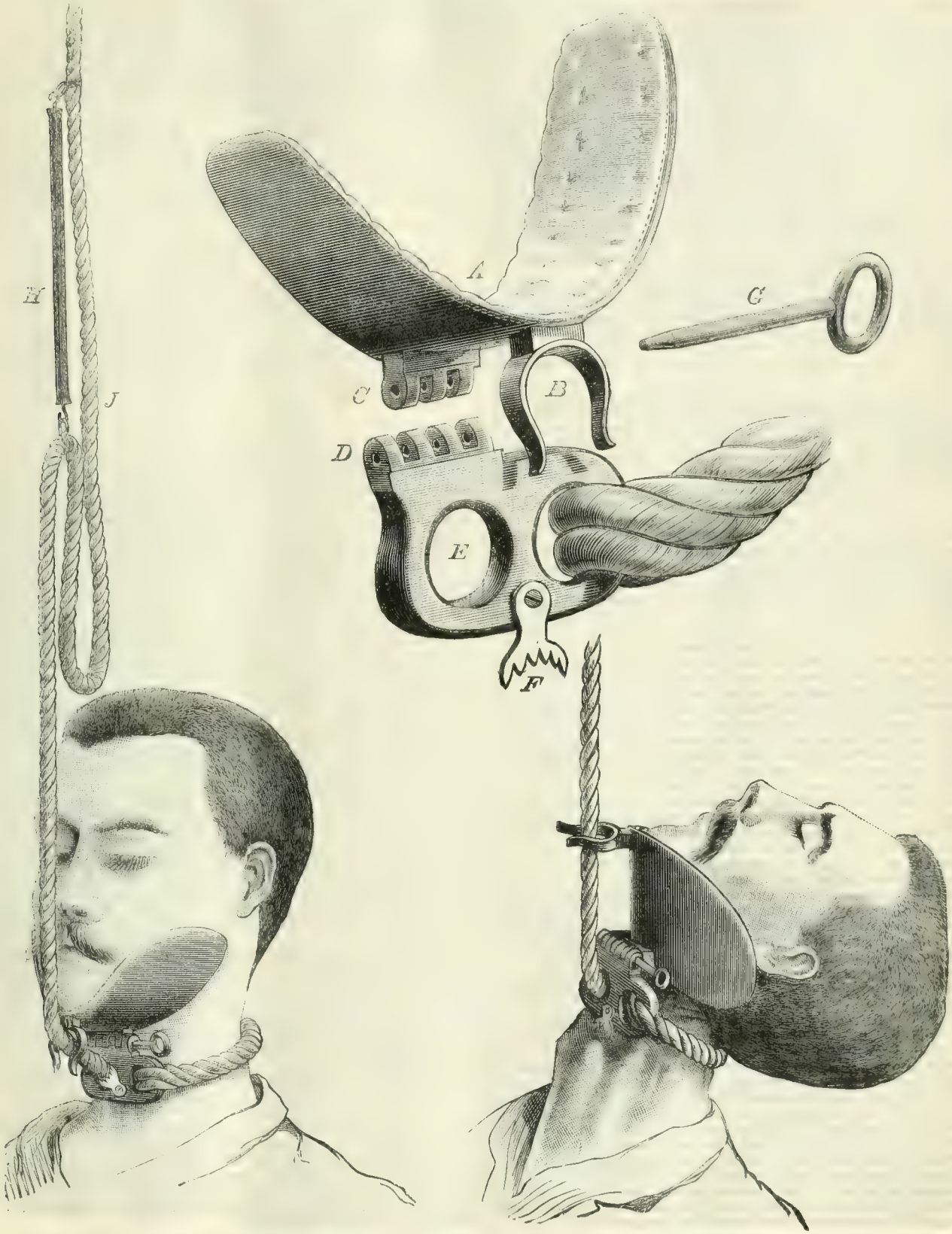
Dr. W. A. Carte, M.B., Coldstream Guards, late acting Medical Officer to one of Her Majesty's prisons, says (p. 419), "In the cases where I have seen the most satisfactory results, that is to say, dislocation perfectly produced, the knot has been adjusted almost under the point of the chin, just a shade to the left; that, I think, is the best position, because the shock thus falls at right angles to the spinal column, in the weakest part of the neck;" and, further on (p. 420), "I have witnessed five executions where the rope was thus adjusted, and, in four of them, death was instantaneous, owing to complete severance of the spinal cord produced by dislocation; but, in the fifth case, there was a hitch, the rope caught under the man's elbow. That would be one of my methods of making it more certain. You must have your knot 'submental,' as we call it, that is, under the point of the chin." Later on the same witness says (p. 439), "I remember carefully contrasting that with another case, both cases being almost precisely the same, except as regards the position of the knot; in the one case it was occipital, and in the other case it was submental, death being caused by asphyxia in the former and resulting from dislocation in the latter."

Mr. J. Barr, M.D., Surgeon to Her Majesty's Kirkdale Prison, Liverpool, says (p. 768): "I think it is better underneath the chin, but the position of the knot is not of so much importance as is generally supposed;" while later on he says (p. 770): "My own opinion is that it should be placed underneath the chin. There is a slight leverage action, and it also tightens better; if it is placed underneath the chin, the head is thrown so far back that the tightening takes place very quickly." Again (p. 773): "The submental knot is best?"—"Yes; and the ring should be directed forwards, so that there should be no risk of its slipping backwards to the nape of the neck." And, finally, at par. 797: "What was the position of the knot in that case in which there was separation between the fifth and sixth vertebræ?"—"The position of the knot in that case was exactly on the chin."

Long before I was aware of such overwhelming evidence from experts in favour of the submental knot, I felt instinctively as a "mere surgeon" that it must be the best, and I fully believed, until I witnessed my first execution, that it was firmly established in our prisons. I soon found, however, that no attempt was being made to carry out the sentence of death in the most humane manner, the prison surgeons taking little or no interest in the matter, and leaving everything to Berry, the hangman, whose vanity is only equalled by his ignorance. This man changes and "improves his system" where and when he likes, trusting alone in very tight pinioning, which renders movement almost impossible (the expression of face being concealed by the white cap) and the gullibility of newspaper reporters, who base all their reports on his statements, which are often backed up (as the Committee seem well to know) by the prison surgeons, more especially, I have noticed, since I (an outsider) have dared to suggest humane improvements. Thus but very little dependence can be placed in newspaper reports.

My worst case of painful strangulation (Hewett, of Gloucester, June, 1886), after a drop of 6 feet 6 inches, was reported, as usual, "instantaneous," though the wretched man struggled in the most apparent and desperate manner for about three minutes, and his face, which I uncovered, showed unmistakable and terrible signs of torture. In a recent case some reporters said "the neck was broken by the fall," while others said that the culprit "struggled for a few minutes." I can only say that in the cases of Currell and Lipski, whose spinal cords must have been ruptured, the bodies after the drop were as absolutely free from movement as they were at the end of the prescribed hour for hanging, the action of the heart not being, of course, visible. Believing, then, that the submental knot was in vogue (before I ascertained the contrary), and meditating over a remedy for the slow and struggling deaths reported, I set myself to render more perfect and certain this submental knot system, believing, as I now do, that if the ascending rope could be maintained on or opposite the tip of the chin (the eye from which said rope makes its exit being, of course, in front of the neck), the leverage upwards and backwards would be more complete, and the process rendered absolutely certain to produce dislocation with about half the drop used with the clumsy subaural knot, which depends entirely on brute force, gathered in the fall, to produce a violent *circular chop* on the neck. My first invention with this object consisted in a leather-covered trough, which could be rapidly fixed on the ascending rope after the noose had been adjusted, and immediately outside the eye of that noose. It was fixed by a toothed, tubular, hinged clamp of brass, with a fly-nut, and it met with decided encouragement from the Committee. On the drop taking place, it would have given the chin a violent push *upwards and backwards*, the *impetus* of which, taken in conjunction with the sudden and forcible jerk *forwards* by the posterior segment of the noose, must, in my humble opinion, have resulted in a dislocation, with rupture of the spinal cord. At the time of my exhibiting this contrivance to the Committee, Sir Frederick Bramwell suggested that the chin trough might be fixed on the metal eye (which I had designed for my rope), to which I at the time demurred, thinking the proposition to involve a rigid angular metal structure supporting the trough, which would really protect the chin from the force of the ascending rope.

However, some time afterwards, in thinking the subject over, the "happy thought" of a hinge occurred to me, and I made drawings from which Messrs. Maw, Son, and Thompson (who had admirably carried out my first design) made the improved instrument, as shown in the drawing. The first trough had the disad-



A chin-trough; B spring fork for ascending rope; C half hinge; D half hinge; E eyelet for noose; F toothed spring in place of leather washer to prevent noose relaxing; G centre pin to complete hinge; H india-rubber tubing to support trough to chin and keep slack rope in safety; J slack rope representing length of drop (in drawing only about eighteen inches, really three feet).

vantage of affording the executioner great temptation to draw his noose excessively tight, so as to get the trough as far back as possible under the chin. The improved instrument can be safely applied without this necessity, is more simple of, and consequently quicker in, application, the noose being made with the simple eye, and the hinge completed afterwards in a second by a centre pin. The noose is prevented from opening out by means of a toothed spring, and the ascending rope easily pressed into its guide, a spring fork on the base of the trough. The whole adjustment would, with practice, take little, if any, more time than the present process, which in Currell's and Lipski's case occupied forty seconds. I may add that one of my original suggestions for the safety of the slack rope was to have it held up with a piece of light india-rubber tubing, both ends being furnished with hooks, one to be attached over head, and the other to a small ring on the rope, about eight inches from the noose. This would have the extra advantage of keeping the trough in contact with the chin, notwithstanding any movement of the latter.

I may now quote the reference to my suggestions, etc., from the report of the Committee, which is as follows:—"Dr. J. de Zouche Marshall, of Lamberhurst, who has given much consideration to this subject, and who, with praiseworthy zeal, has attended several executions lately for the purpose of noting the present practice, has recommended, as an improved mode of attaining these ends, the use of a chin trough, by which the rope might be held at the very point of the chin. He attaches great importance to the use of such an implement, as he maintains that the head can in this manner be thrown back by the rope when the fall takes place, and that dislocation can be effected with a drop of less length than is required by the existing system, and thus he believes there would be secured instant loss of consciousness, and painless death without danger of decapitation.

"The Committee have carefully considered this suggestion, but have come to the conclusion that the leverage which would be thus exerted would not be sufficient to throw the head back to an angle which in all cases would ensure the dislocation required, and they are not prepared to recommend the adoption of Dr. Marshall's ingenious device of the chin trough. Impressed as they are with the necessity for the utmost simplicity of mechanism and rapidity of action in the operations connected with executions, they are averse to the use of any apparatus involving extra time in preparing the culprit, and they are of opinion that, without resorting to this mechanical contrivance, other and simpler means may be adopted for producing instantaneous loss of consciousness and death."

It will be seen from the above that one of the objections put forward against my chin trough is the insufficiency of leverage, which would prevent its throwing the head back far enough. This objection was advanced in the Committee room by Dr. Gover and Dr. Barr, who argued that anybody could throw his head back to an angle of 75°, and that I only claimed an extra 15°—to a right angle—for the chin trough. My reply to this was, and is still, that we *can* throw our heads back to a great extent, but we must do so *slowly*. I should be very sorry to throw my head *swiftly* back till its own ligaments checked it, and especially if someone was ready behind to thrust the edge of the back of a chair against the top of my spine at exactly the same time; but this is precisely what my system proposes to do *with twenty times the amount of force* our own action could command, the very *impetus* conveyed to the hinged and heavy head being sufficient to jerk it irresistibly backwards, after contact with the floor of the trough had ceased, which floor by-the-bye is nearly an inch (and could be made more) from the hollow of the spring fork, representing the rigid vertical rope. I have long seen, too, that the leverage could be increased if necessary (which I doubt) by the introduction between the chin and the trough of a simple pad, while it could also be increased to almost any extent by standing the culprit sideways on the drop a couple of feet or more out of the vertical line of the overhead attachment of the rope, the back being of course towards that point. With regard to time or delay, I can only say that the adjustment of the apparatus, though it may seem complicated to the uninitiated, would not take much if any more time than the ordinary method, there being no leather washer to adjust, which takes at least ten of the forty seconds on the drop. The time might even be reduced by having the feet strapped by one of the warders, which would give the executioner more opportunity of performing his duty with care, instead of hurrying to "make a record" for the newspapers, through which haste, according to his own admission, he nearly brought off a decapitation at Oxford Gaol quite recently.

The Committee now recommend the following scale of long drops to be authorised by the Home Office, which I very much doubt any hangman will carry out, their basis being that an energy of 1,260 foot pounds is necessary and safe wherewith to break the neck, this being, however, the exact force used in decapitating the culprit at Norwich, whose weight was 15 stone, that is 210 lbs, falling through 6 feet.

Scale of Drops recommended by the Committee.

Weight of Culprit.		Drop.		Energy developed in Foot Pounds.
Stone.	Pounds.	Feet.	Inches.	
7	98	11	5	1,119
8	112	10	0	1,120
9	126	9	6	1,197
10	140	9	0	1,260
11	154	8	2	1,258
12	168	7	6	1,260
13	182	6	11	1,259
14	196	6	5	1,258
15	210	6	0	1,260
16	224	5	7	1,251
17	238	5	3	1,250
18	252	5	0	1,260
19	266	4	8	1,241
20	280	4	6	1,260

That the Committee should have found reasons for rejecting my recommendations has not altogether surprised myself, when I consider the gulf which separates me from the Prisons Board, namely, the fact of my not belonging to the select brotherhood of prison surgeons; but that they could sacrifice on the altar of departmental red tape the recognised principles of the "submental knot," in order to do so after the foregoing evidence adduced in its favour, is difficult to understand. Ordinary mortals, on examining the evidence taken before this two-years Committee, would have concluded that the submental knot had been clearly proven to be the most efficient, and that so even with a less drop than required in the ordinary method by long drop, which often led to decapitations, and that as this chin trough plainly emphasised the best points of the said submental system, and could not take very much longer time, or cause any unnecessary cruelty, it would be at least advantageous to give the system and invention a fair trial. I may point out that Surgeon Carte and myself reported cases of painless death by concussion without dislocation, and I believe that the blow on the base of the skull, turned up by the chin trough to receive it, would be even more likely to produce this concussion. By the Committee's classification (page vii) of the causes of death by hanging as (*a*) "suffocation," (*b*) "shock of base of brain, with dislocation, fracture, and unconsciousness, etc., etc.," they imply that there is no possibility of shock or concussion with (*a*) "suffocation." If any more evidence were required to prove the deadliness of forcibly throwing back the head, I could relate the case of a plasterer who was at work on the ceiling of a low room, when his foothold giving way he fell, his chin being caught by the upper angle of a shutter which was lying open into the room. The man could not have fallen more than a couple of feet before his chin was struck upwards, which was however enough to dislocate his spine and render him a corpse.

In conclusion, I must state that I look upon the main recommendation of the Committee—the "long drop," which I consider barbarous as a system, as sure to bring about many ghastly scenes at executions, calculated more than anything to foster the sentimental agitation for the abolition of capital punishment. On the other hand, I believe that executions carried out by the means which I suggest on the principle of *arte non vi*, which governs all surgical proceedings, and properly superintended by a humane, responsible, and practised expert would prove swift, painless, and merciful, an opinion for the confirmation of which I confidently look to the physiologists of the country.

RED CROSS IN JAPAN.—The Empress of Japan attended the second annual meeting of the Red Cross Society at Tokio, and made, it is said, an effective speech, which was followed by the announcement that she and the Emperor had given 100,000 yen to the society. The Empress subsequently visited the hospital and distributed toys to the children.

THE MEDICAL SCHOOLS: ALTERATIONS IN BUILDINGS.

ST. BARTHOLOMEW'S HOSPITAL.

Owing to the multitude of out-patients who flock to this hospital, satisfactory arrangements for seeing each case so as to benefit the patient and instruct the student have long been desired. The surgical and special departments have worked well and with little difficulty to the house staff, but it is in respect to physicians' cases that improvement is demanded. To meet the want, the surgery has been altered and new rooms added to the building, so as to accommodate the assistant house-physicians, who are appointed for the first time this month, and part of whose duties consists in attending to the patients in the medical casualty department.

ST. GEORGE'S HOSPITAL.

For many years the students' refectory was found to answer, though established on a small scale. About seven years ago it was rebuilt, and after various improvements suggested by experience, it is now perfect in its kind. A reading-room stands on one side, and a luncheon-room on the other. The names of the staff, and "operation," "accident," etc., are marked on electric dials. This arrangement allows every student to know when and where he is wanted; it has proved a good remedy for the inconvenience which arises in hospitals through the house-staff and the dressers and clerks being compelled to wait for the visiting physicians and surgeons on stairs or in corridors.

GUY'S HOSPITAL.

The College.—As we announced in the Students' number, a residential college for students is to be erected upon a site in Great Maze Pond, fronting the east gate of the hospital. The excavation of the foundations has been commenced, and it is hoped that the building may be ready for occupation in the winter session of next year. There will be a resident warden, who will "have the general control and supervision in disciplinary matters over the students residing in the college," and he will be appointed by the treasurer upon the recommendation of the College Committee. The plans of the college, in accordance with which the building is now proceeding, show the following accommodation: 1. Resident Staff.—Four sets of rooms for house-physicians, each set consisting of a sitting room and bedroom; four sets for house-surgeons; two bedrooms and a common sitting room for the "charities;" four bedrooms and a common sitting room for the externs. The house-surgeon and dressers for the week will sleep near the surgery, to be close at hand for sudden emergencies. 2. Students.—Thirty-four sets of rooms, each set consisting of a sitting room and bedroom; two sets, consisting each of two bedrooms and a single sitting room; and eight single rooms, somewhat larger than the others, with an alcove for the bed. Four large bath rooms, with hot and cold water-supply, are also provided. 3. Public Rooms.—The public rooms, which are intended not only for the residents in the college, but also for the use of the Guy's Hospital Students' Club, comprise a large dining hall, 70 ft. long by 22 ft. broad, with an open timber roof; a smoking room, 48 ft. by 27 ft., and a reading room, and the lavatory accommodation is very complete.

Physiological Laboratory.—The new physiological laboratories which have been erected consist of two large, well-fitted rooms adjoining the old lecturer's laboratory. The lower room is intended chiefly for physiologico-chemical and microscopical work, and the upper room contains one bench for microscope work, but will chiefly be used for demonstrations in physical physiology and for special investigations of a physiological and therapeutical character. The additional space available for practical work will permit of some alteration in the course of physiological teaching hitherto prevailing in the school. The preparation and examination of histological specimens will be carried out in the laboratory. Each student will go through a short course of physiological chemistry. The practical physiology class will consist in instruction on these subjects, and in such parts of experimental physiology as are most essential; the time of the class will be entirely devoted to actual instruction, the practical work being carried out in the laboratory by the students themselves.

Pathological Laboratory.—A new room for pathological and microscopical work has been, through the liberality of the governors, erected during the past year adjacent to the *post-mortem* room. The roof is one large skylight, which in clear weather gives an excellent light for all purposes, and can, when necessary, be supplemented by gas, which is laid on to brackets on the tables.

Pathological Museum.—It has been decided to revise the present catalogue of this museum, to renumber the specimens, and, by improving the descriptions, to bring the new edition up to date, and thus to increase the value of the museum as a place of study.

Students' Club.—Through the consideration and kindness of the School Committee, who started it on a good firm basis, a club has already existed for a year. There is a committee consisting of six members of the staff, elected by the School Committee, and six students to be elected annually. The club possesses a large dining room, smoking and reading rooms, and a gymnasium.

KING'S COLLEGE.

The chief improvements in the Medical School of King's College during the past year consist in the completion of a new laboratory for bacteriology and micro-pathology, under the superintendence of Professor Crookshank, and the fitting up of a new workroom for the classes in practical botany, directed by Professor Groves. At the hospital very extensive additions have been made by building cubicles, sitting-rooms, lavatories, etc., for nearly seventy nurses, and the sanitary arrangements of all the wards have been altered and put into thorough repair.

LONDON HOSPITAL.

The school buildings were opened last year by H. R. H. the Prince of Wales after their entire reconstruction. The painting and finishing of the rooms have been complete since that date; the museum has been entirely rearranged. We are glad to learn that a new catalogue is in the press; it will be of great service to all who wish to avail themselves of the valuable resources afforded by the fine pathological collection in the museum.

MIDDLESEX HOSPITAL.

A new block of buildings, containing a lecture theatre, a library, a large physiological classroom, a common room for students, and a luncheon and grill-room, which was not completed last October, was opened at the beginning of this year. Since then a large classroom and a new Materia Medica museum have been added.

ST. THOMAS'S HOSPITAL.

In the month of April last, a commodious smoking and reading room was added with the view of lessening the crowding of the club dining-room, in which smoking is not now allowed before 3 o'clock in the afternoon. As part of the improvements effected in the spring, baths were fitted up adjoining the cloak-room for the use of members of football and other clubs. A dressing-room was also provided. The lighting of these rooms was also greatly increased by the use of daylight reflectors. The approach to the students' club has been improved. Adjoining the museum work-rooms a bacteriological laboratory has been fitted up under the superintendence of Mr. Shattock. This has superseded a similar laboratory used by Dr. Acland and Mr. Ballance, the first of the kind attached to a London medical school, and therefore of a relatively experimental construction. Accommodation has been provided by the governors of the hospital for two additional house-surgeons. This, although not strictly connected with the medical school buildings, forms an important addition to the appointments tenable by senior students when qualified.

UNIVERSITY COLLEGE, LONDON.

The series of improvements in the anatomical department, which have been in progress during the past four years, have been completed by the erection of a new building at the north end of the large dissecting-room, in the place of what was known as the small dissecting-room. The new building is two storeys high, and comprises, on the ground-floor, the lavatory (with increased accommodation), demonstrator's room, professor's study, entrance-hall, an injecting-room, and a demonstration theatre. On the upper floor of the new building are a room for the operative surgery class and two preparation and work-rooms. The operative surgery room measures twenty-four feet by eighteen, and the preparation-rooms eighteen feet by thirteen and twenty feet by eighteen respectively. The upper rooms are twelve feet high, and have both a side light from windows and a top light through the roof. The rooms have concrete floors, and all are fitted with gas, sinks, basins with hot and cold water laid on, hot-water warming

apparatus, shelves, cupboards, and slate tanks for the preservation of large objects. Besides a spacious staircase, a lift seven feet by three establishes communication between the two floors.

WESTMINSTER HOSPITAL.

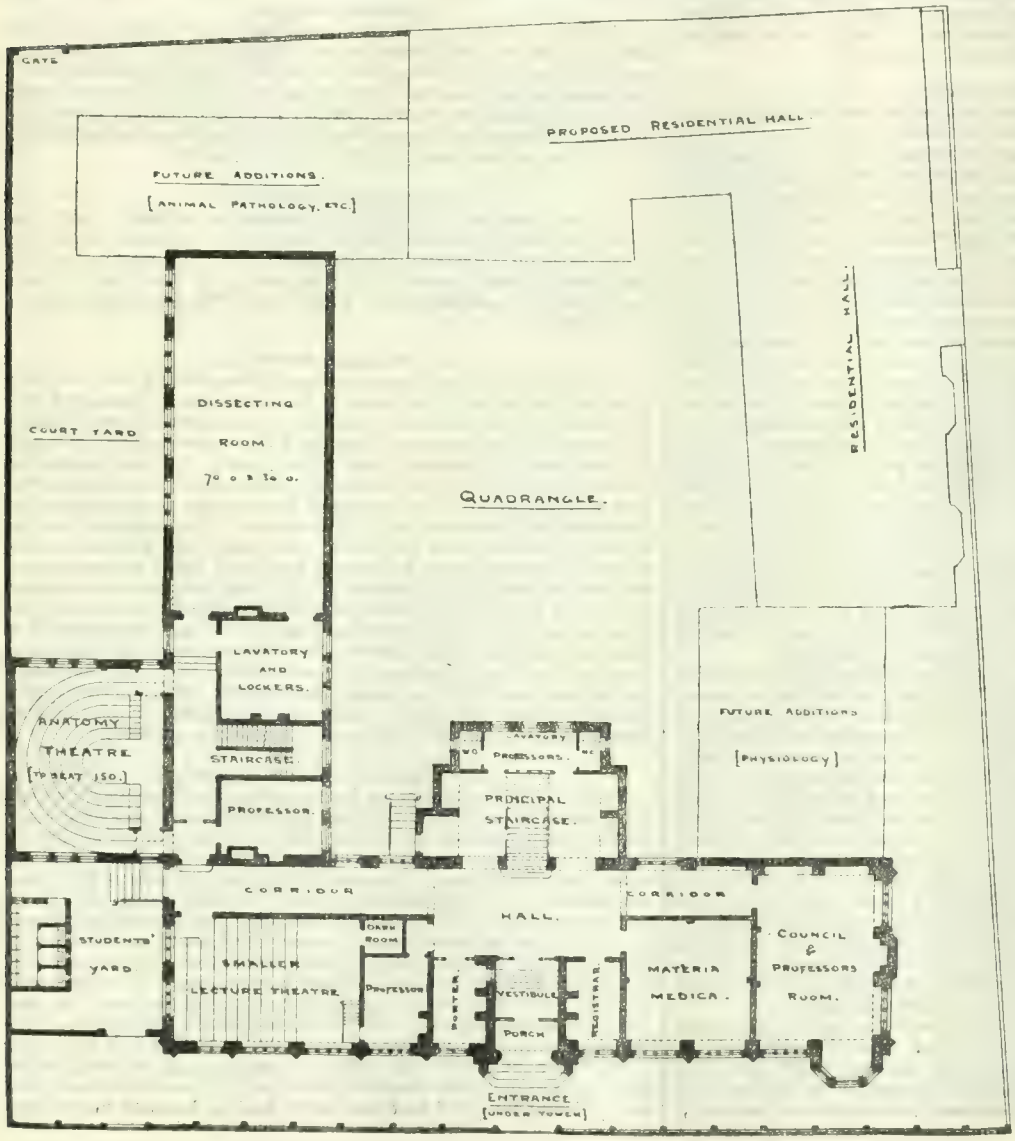
Since last October a laboratory for bacteriological research has been fitted up, and it is worked under the direction of Dr. Abraham. Increased and improved accommodation has been provided for the practical chemistry classes. The museum is in course of re-arrangement, and the new catalogue is being prepared.

UNIVERSITY OF CAMBRIDGE.

A large chemical laboratory, well provided for teaching by experiment and research, with commodious lecture-rooms and private rooms for study, has been built, and is now ready for work. The old chemical laboratory will now be reconstructed for pathological lecture-rooms and laboratories for research. Additions have also been made to the physiological and botanical departments, chiefly for purposes of microscopic teaching and investigation.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, NEWCASTLE-UPON-TYNE.

WE announced, in the Students' number of the JOURNAL, that the new college-building was in course of erection, at an estimated cost of £25,000. It has been erected in Bath Road, off Northumberland Street, Newcastle, and is designed in the Elizabethan style. The site is one acre in extent. The complete design has been prepared by the architects, Messrs. Dunn, Hansom, and Dunn, of Newcastle-upon-Tyne, to occupy the whole site, a quadrangle being left in the centre. Two sides only have been built, the main (north) front, in Bath Road, and the "east wing," which contains the anatomical department. In the future it is contemplated to occupy the west side, with an extension of the College and a residential hall for 50 students. The south side of the quadrangle is reserved for extensions for laboratories, a department of animal pathology, etc. The main front, in Bath Road, is 150 feet long, and has a tower in the centre, 70 feet high. The College is entered through a vestibule and hall. On the left is the porter's office with a window overlooking the entrance—next the professor's room for the medical lecture theatre—and then the theatre, which occupies the remainder of the half-front. The other half of the front, west of the tower, contains the secretary's office, a small class room 25 feet by 25 feet, and the council room, 35 feet by 24 feet. The whole of the upper storey of the front is devoted to the Museum, 60 feet by 35 feet (at the eastern end), and the examination hall and library, 80 feet by 35 feet (at the western end). These rooms are 25 feet high. The hall has a pannelled ceiling of the Elizabethan type, with core round the sides, and a rich frieze and cornice. Double doors connect the hall with the museum. The latter is lighted chiefly by a large skylight, and is fitted up with a wide gallery. The museum has a door communicating directly with the anatomy wing. A side staircase passes from the first floor level to a large room in the top of tower, 35 feet by 19 feet, to be devoted to the curator of the Museum. The anatomy wing is practically cut off from the main front, and is entered through a door opposite the smaller lecture theatre. It contains on the ground floor the anatomy theatre, fitted up with semi-circular seats, and amply lighted from the roof. Close by is the professor's room, and immediately beyond are the students' lavatory and locker room, and the dissecting room. These and the corridors are lined with white glazed bricks, as are also the rooms in the basement of this wing. The dissecting room, 70 feet by 30 feet, is lighted by a ridge and furrow roof facing north, and by windows on the east side. The floor is laid with Claridge's asphalte—warm, noiseless, and waterproof—as are also the floors in the basement, and the flat roofs. A stone staircase, for the students, leads down to the basement floor, and also up to two rooms on a level with the top of the gallery of the anatomy theatre—one a bone room and the other a students' room. The basement under this wing contains two physiological and pathological laboratories, a professor's room, the heating vault, coal and other stores, cellars, etc. Great care has been taken to ensure



perfect warming and ventilation. The warming is effected by the admission of fresh air between coils of steam pipes in all the rooms and corridors, the air being drawn off again by heated upcast shafts.

QUEEN'S COLLEGE, BIRMINGHAM.

Owing to the increase of the collection contained in the museum of this college, the gallery has been extended, and other changes made in order to gain more room. This step has been partly necessitated by Professor Lawson Tait's gift of a large number of gynæcological specimens.

YORKSHIRE COLLEGE, LEEDS.

The considerable improvements, which were made just before the opening of the winter session 1887-8, in the arrangements in the dissecting-room, museum, and other parts of the medical school have proved highly satisfactory.

UNIVERSITY OF ABERDEEN.

In connection with this University, plans have now been completed and building operations are about to begin for a considerable extension of the Marischal College buildings, which will provide increased class-room and laboratory accommodation. All the departments will thereby be benefited, and those which will be specially provided for in the new building are physiology, pharmacology, medical jurisprudence and hygiene, and natural history.

THE OPENING OF THE MEDICAL SCHOOLS.

ST. BARTHOLOMEW'S HOSPITAL.

ONE hundred and twelve old students and visitors dined together in the Great Hall of the Hospital on Monday evening. Dr. Gee, Physician to the Hospital, was in the chair; Mr. Butlin acted as Honorary Secretary. The Treasurer, Sir Sidney Waterlow, was present, as well as many distinguished guests, including Sir Thomas Crawford, Professors Burdon Sanderson, Flower, and Attfield, and Dr. Buchanan, of Glasgow.

GUY'S HOSPITAL.

As has been customary of late years, the Guy's Hospital Physical Society held their first meeting on the evening of October 1st. Mr. Bryant, one of the consulting surgeons to the hospital, occupied the chair. In the course of a short speech he welcomed the new students to the hospital, and trusted they would maintain its best traditions. Mr. Lawford Knaggs read a paper upon the "Causes of Death in Peritonitis." Previous to the meeting the Students' Club threw open their rooms to all past and present students of the hospital, and entertained their guests with tea and coffee and an exhibition of photographs taken by members of the Guy's Photographic Society. The whole proceedings were saddened by the very recent death from diphtheria of the senior house-surgeon, Mr. F. S. Hawkins.

LONDON HOSPITAL.

THE winter session opened at the London Hospital with a dinner in the fine Library of the College, where nearly two hundred students and guests were entertained. Mr. Jonathan Hutchinson occupied the chair, and was supported by Sir Andrew Clark and Mr. Carr Gomm, Chairman of the House Committee. We understand that, as far as can be ascertained, the entry of students is likely to be quite up to the average. The anatomical department is well provided with subjects, and ready for immediate work.

ST. MARY'S HOSPITAL.

THE introductory lecture, published at page 751, was delivered on Monday afternoon by Dr. Waller, and the prizes gained by students at the Medical School at recent competitions were subsequently distributed by Dr. Broadbent, who also addressed the assembly. In the evening of the same day a *conversazione*, given by the medical officers and lecturers, was held at the hospital and new school buildings, which was of a most successful character. Over three thousand guests were present. The rooms and passages on the ground-floor were artistically decorated by several firms; and Mr. Dan Godfrey's orchestral band, the band of the St. George's Rifles, Mr. A. Tilley's banjo band, and Mr. E. Plater's Glee Union contributed selections of instrumental and vocal music during the evening. Perhaps the greatest attraction was Edison's phonograph, which was kindly exhibited by Colonel G. E. Gouraud. A charge of 2s. 6d. was made to each of those who wished to hear the phonograph talk, the proceeds being given to the fund for the extension of the hospital into Praed Street.

On Tuesday evening the annual dinner of the school was held at the Holborn Restaurant, when Mr. Howard Hayward was in the chair. About 130 guests were present. Following the usual loyal toasts came that of "Success to St. Mary's Hospital Medical School," proposed by the Chairman; the "Past and Present Students of the Hospital," proposed by Mr. H. W. Page, and responded to by Surgeon P. Hayes and Mr. A. Lewers; the "Medical Staff and Lecturers," proposed by Professor Michael Foster, F.R.S., and acknowledged by Mr. Edmund Owen; the "Visitors," proposed by Dr. Broadbent, and answered by Mr. H. M. Bompas, Q.C.; the "Dean of the Medical School," proposed in highly eulogistic terms by Mr. Malcolm Morris, and acknowledged by the Dean, Mr. G. P. Field; finally, the toast of the "Chairman," given by Mr. A. J. Pepper, to which the Chairman replied.

THE MEATH HOSPITAL.

THE one hundred and thirty-eighth session of clinical teaching in this hospital was inaugurated on Monday last by an address delivered by Dr. John William Moore, an abstract of which we publish at page 757. Instead of the address being given in the theatre of the hospital as usual, it was on this occasion delivered in one of the wards in the new wing, the recent opening of which by the Lord-Lieutenant was referred to in last week's JOURNAL. The chair was taken by the Solicitor-General for Ireland, M.P., and there were a number of laymen present, as well as medical men and students. Hitherto, although regular clinical instruction has commenced in the Dublin hospitals on October 1st, it has not been the custom to formally open the session until November 1st. The authorities at the Meath Hospital are to be congratulated upon having broken through this pernicious habit, which tended to unsettle students at the commencement of their studies, and to engender ideas and practices not easily got rid of.

Upon the conclusion of Dr. Moore's address, Sir George Porter unveiled a portrait of Mr. Wharton, who lately resigned his surgeoncy to the hospital after an honourable and valued service of thirty years. This portrait is to be placed in the new medical board room; and, as Sir George said, "It would be a great pleasure to his colleagues to have the portrait of one who, in the board room gave them good advice constantly before them. It would remind them of one who had supported and stood by them at all times, and of one who had spent the best years of his life in helping to build up the reputation of the hospital. When the picture would be shown to visitors at the hospital it would be pointed out as that of a man who was a great surgeon and a most unswerving friend."

Mr. Wharton returned thanks in a feeling speech. He referred to the value of the "old Meath" as a school, and, addressing the students, impressed upon them the importance of constant attendance in the wards; it was that, he said, which made men eminent physicians and surgeons.

In the evening the Meath Hospital annual dinner took place in the Shelbourne Hotel, and was as successful and enjoyable as the previous similar *réunions* have been.

MIDDLESEX HOSPITAL

THE session was opened on Monday, October 1st, by an address by Mr. W. Foster, an abstract of which we publish at page 757. The prizes gained during the past year were subsequently distributed by Sir Arthur T. Watson, Bart., Q.C., who addressed the students, and urged them to court success in life by hard and continuous work; other things, such as a pleasant manner and tact in dealing with people of all kinds were not to be disregarded or undervalued, but in the medical profession, as in other similar callings, the surest road to success was steady work continued from year to year.

The large theatre of the school was crowded with students and

their friends, and both Mr. Foster's and Sir Arthur Watson's addresses were enthusiastically received. The Dean, Mr. Pearce Gould, read the usual report, which, in addition to enumerating the successes of the pupils from this school at the various examinations, pointed out that during the past year the new school buildings had been completed, the library had been newly furnished, a new materia medica museum had been opened, a new class-room fitted up for the practical surgery and operative surgery classes, and a commodious luncheon room had been started. These additions have recently added to the comfort of the students, and have made the school premises very complete. After the opening meeting a reception was held in the school buildings and the residential college; some of the rooms were decorated with flowers and with valuable pictures lent by Mr. W. A. Smith. A series of interesting microscopical specimens was exhibited in the physiological class room; and an old student, Mr. Freeman, who has recently returned from the Gold Coast, showed a valuably collection of curios, etc., he had made there. In the evening the staff and a large number of the past and present students of the hospital dined in the Venetian Salon of the Holborn Restaurant, Dr. Sidney Coupland occupying the chair. The usual toasts were honoured. Major Ross, M.P., spoke in the name of the hospital, and in the most cordial terms of the school. Sir Arthur Watson, in replying for the visitors, referred to the happiness it had always been to him to remember that while his father, Sir Thomas Watson, had an unusually large number of close and valued friends in the profession, he appeared to have had no enemies, a fact which bore eloquent testimony to Sir Thomas Watson's charm of character. The music was of a very high order of merit, and the musicians. Mr. Ganz, Mr. Fulkerson, and Dr. Pringle, added not a little to the pleasure and success of the gathering.

YORKSHIRE COLLEGE, LEEDS.

THE prizes and certificates for the past year were distributed by Mr. T. P. Teale, F.R.C.S., F.R.S., who subsequently delivered an address, an abstract of which will be found at page 759.

Mr. C. G. Wheelhouse, in proposing a vote of thanks to Mr. Teale for his address, said that he greatly rejoiced to see that the day was coming when the number of systematic lectures would be cut down, and when they would be devoted to the teaching of the outline of a given subject, rather than to elaborating all the details of that subject. They could get all that, as the lecturer in many cases got it himself, from books; but if they were fortunate in their lecturer, and were taught by a man of practical experience, there were certain facts which he would always be able to give them out of the stores of his own experience and wisdom, which they would find in no book whatever.

Professor Bodington, in seconding the motion, alluded to the union of the Yorkshire College with the Victoria University; it was, he said, under the impulse given by the amalgamation of the Medical School with the Yorkshire College that union had been brought about.

The motion was also briefly supported by the Dean, Mr. L. Scattergood.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held at the Offices of the Association, No. 429, Strand (corner of Agar Street), London, on Wednesday, the 17th day of October next, at 2 o'clock in the afternoon.

FRANCIS FOWKE, *General Secretary.*

September 20th, 1888.

NOTICE OF QUARTERLY MEETING FOR 1888. ELECTION OF MEMBERS.

A MEETING of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 28th, 1888.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH.—The autumn meeting will be held at the Infirmary, Whitehaven, on Friday, October 20th, at 1 P.M. Notices of papers or communications of any kind should be sent to the Honorary Secretary. Dinner at the Grand Hotel after the meeting.—H. A. LEDIARD, 41, Lowther Street, Carlisle.

LANCASHIRE AND CHESHIRE BRANCH.—An intermediate meeting of the Branch will be held at Warrington, towards the end of October. Gentlemen wishing to read papers, make communications, or show cases, are requested to write at once to Dr. GLASCOTT, 23, St. John Street, Manchester, Honorary Secretary.

SOUTHERN BRANCH: SOUTH-EAST HANTS DISTRICT.—An ordinary meeting will be held on Thursday, October 11th, at the Grosvenor Hotel, Queen's Gate, Southsea, H. B. Norman, Esq., F.R.C.S., President, in the chair. Gentlemen desirous of introducing patients, exhibiting pathological specimens, or making communications are requested to signify their intention at once to the Honorary Secretary. Dinner will be provided at 6.30 P.M.—J. WARD COUSINS, Honorary Secretary.

WEST SOMERSET BRANCH.—The autumnal meeting of this Branch will be held at the Railway Hotel, Taunton, on Thursday, October 18th, at 5 P.M.; dinner at 5.30 P.M. The subject for discussion after dinner will be: "What Connection, if any, exists between Hæmorrhage and Mal-hygiene?" The discussion will be opened by Dr. Meredith, who will read a paper on the subject. Members having any communication to bring before the meeting are requested to send notice of its title to W. M. KELLY, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The fifteenth annual general meeting of this Branch will be held at the North-Western Railway Hotel, Stafford, on Thursday, October 25th, at 3.30 P.M. An address will be delivered by the President, Dr. F. Boldero, Penkridge.—T. VINCENT JACKSON, Wolverhampton.

SOUTH-EASTERN BRANCH: EAST SURREY DISTRICT.—The next meeting will be held at the White Hart Hotel, Reigate, on Thursday, October 11th, at 4 P.M., C. Holman, M.D., Treasurer of the British Medical Association, in the chair. Dinner at 6 P.M.; charge, 7s., exclusive of wine. The following papers will be read: "On Functional Albuminuria," by Dr. Ralfe. Mr. Edmund Owen will open a discussion on the Diagnosis and Treatment of Diphtheria. Dr. H. W. Drew will describe a case where there was escape of cerebro-spinal fluid after avulsion of the lower limb (from an accident) with recovery. Members desirous of communicating papers or showing specimens are requested to write to the Honorary Secretary, P. T. DUNCAN, M.D., Croydon.

OXFORD AND DISTRICT BRANCH.—The next meeting of this Branch will be held on Friday, October 26th, in the Radcliffe Infirmary, at 3 P.M. Members intending to read papers or show cases are requested to communicate with the Honorary Secretary, W. Lewis Morgan, 42, Broad Street, Oxford, on or before October 12th.—S. D. DARBISHIRE and W. LEWIS MORGAN, Honorary Secretaries.

SOUTH-WESTERN BRANCH.—An intermediate meeting of the Branch will be held at the Angel Hotel, Tiverton, on Thursday, October 25th, 1888, at 2 P.M. Luncheon will be provided between one and two o'clock, at three shillings a head. Notices of papers, cases, etc., to be sent to the Honorary Secretary; and members who propose to attend the meeting and luncheon are requested to inform the Honorary Secretary a few days beforehand. Mr. J. D. Harris, Exeter, will read a paper "On the General Condition of the Injured on Admission to the Devon and Exeter Hospital after the Theatre Fire." Mr. L. Mackenzie, Tiverton, will show: 1. A Case of Arsenic Poisoning simulating Addison's Disease. 2. A Case of Fracture of the Spine.—P. MAURY DEAS, Honorary Secretary, Wonford House, Exeter.

NORTH OF IRELAND BRANCH.—A general meeting of the North of Ireland Branch will be held in the Royal Hospital, Belfast, on Wednesday, October 17th, at 4 P.M. Gentlemen wishing to bring any subject before the meeting will kindly communicate as early as convenient with JOHN W. BYERS, M.D., Lower Crescent, Belfast, Secretary.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.

A MEETING of the above district was held at Hayward's Heath, on Thursday, September 27th; Dr. BRAID in the chair.

Communications.—Dr. TALFOURD JONES gave a short summary of his paper on Mercury as a Diuretic, read at the last meeting, and published in the JOURNAL of September 22nd, p. 660. A discussion followed.—Dr. DOWSE gave some demonstrations of massage processes.—Dr. BLACK read a paper on the Diagnosis of Biliary Colic.—Owing to want of time, a paper by Dr. MACKAY, on Cases of Cerebral Aneurysm, Abscess, and Tumour, was postponed.

Next Meeting.—The next meeting will take place at Eastbourne, in November; Dr. Roberts will preside.

SPECIAL CORRESPONDENCE.

SWITZERLAND.

[FROM OUR OWN CORRESPONDENT.]

Ligaturing the Limbs as a Substitute for Venesection.—Two Successful Cases of Gastro-enterostomy.—Cholecystenterostomy.—Anatomical Tubercle and Bacillus of Tuberculosis.—Folie à Quatre.—Toxic Symptoms from Antipyrin.—A Prize for School Hygiene and Pathology.—Swiss Inaugural Dissertations in 1887.

As the result of experiments of two years' duration, Dr. E. Haffter, of Frauenfeld, highly recommends (*Correspondenz-Blatt fuer Schweizer Aerzte*, 1888, August 15th, p. 515) the application of elastic ligatures to the limbs as an excellent substitute for venesection in cases of pulmonary congestion, venous hyperæmia of internal organs, hæmoptysis, certain cardiac diseases, etc. The extremities must be encircled at their base with sufficient tightness if possible to arrest the venous without interfering with the arterial circulation. The constriction—provided it is properly applied—is said to be safely borne for a very prolonged period. It is best to employ for the purpose a black rubber tubing, as thick as a lead pencil. A similar procedure is warmly recommended by Dr. L. M. Sweetnam, of Toronto, in surgical operations of every kind. (See the *New York Medical Journal* of December 17th, 1887).

Dr. F. Fritzsche, of Glarus, has just published a detailed account of two successful cases of Woelfler's gastro-enterostomy for stenosis of the pylorus. In one, that of a man, aged 57, the stricture was malignant, while in the other, a woman, aged 37, the case was one of simple cicatricial contraction. Both patients made an excellent recovery. The man, who had weighed only 44 kilogrammes before the operation, was found to weigh 54 kilogrammes, and to have a healthy appearance about three months later, in which state he still remains up to the present (about seven months after the operation). He has no symptoms whatever, except a sensation that the food ingested stays in his stomach only for a short while, so that he is compelled to eat frequently in order to appease his hunger. Similarly, the woman's weight rose from 38 kilogrammes before the operation to 48 in two months after it. When seen seventy-seven days after the gastro-enterostomy she stated that she "was quite well, and could eat safely even such things as sauerkraut with lard."

At a recent meeting of the Medicinische Gesellschaft, in Basel, Professor Socin read a paper on a successful case of Kappeler's cholecystenterostomy, performed by him in a highly emaciated, weak woman, aged 51, with complete obliteration of the bile-duct, and consequent dilatation of the gall-bladder. Having opened the abdomen by a free incision along the outer edge of the rectus on the right side, he cut into the bladder to remove 400 cubic centimètres of bile (not containing any concretions); he then made an incision 3 centimètres long in the jejunum, and stitched the intestinal wound to that in the gall-bladder. Three days later the bowels were opened for the first time, the stools being normal in appearance. Jaundice rapidly disappeared. In forty-one days the woman's weight rose from 90 to 99 pounds. This is the second recorded case of cholecystenterostomy. The operation was proposed by Nussbaum, but first practised by Kappeler.

In the *Revue Médicale de la Suisse Romande*, July 20th, 1888, p. 447, Professor Jaques L. Reverdin and Dr. Albert Mayor, of Geneva, describe an instructive case of the so-called "anatomical tubercle" of the forefinger in a medical student, aged 22, who accidentally pricked himself in making a *post-mortem* examination on the body of a patient who had died of generalised tuberculosis. Microscopic examination of the excised tumour, which had existed for thirty-eight days, revealed small groups of tubercle bacilli, which were scattered around the inflammatory nodules, consisting of embryonic connective tissue, and situated in the cutis proper. The nodules, however, did not present anything like the typical morphological structure of tubercle, neither did they contain any giant-cells. The patient's general state continued excellent throughout.

At the last annual meeting of the Swiss alienists, held at Basle on June 17th, Professor A. Forel, of Zurich, related a curious instance of induced insanity in three sisters and their brother, belonging to a family tainted with mental disease. Up to 1886 all the four had been employed as factory hands, and had always lived and worked together. "They were very thrifty, diligent, temperate, and extremely religious." In 1886 they lost their situation, and could not find any other work. One day the youngest sister happened to complain of their being out of work to a practical joker, who positively assured her that "no job at all could possibly be found, since a war was raging between England and Russia." This intelligence having been at once communicated by the patient to the remaining three, all the four discontinued their search for work, and thenceforward spent their whole time indoors in praying and singing hymns, often day and night. By the end of a twelvemonth the eldest girl became quite insane, began to have hallucinations, and to be violent and annoying to their neighbours, who thereupon began to daily persecute the unlucky family, insulting them, throwing mud, etc. In July, 1887, all the four patients were brought to the Burghoelzli Asylum every one of them suffering from the same form of insanity—delusions with delirium about the Russo-British war and persecution. Their state seems to be hopeless. In the course of a discussion, Professor Wille, of Basle, related a case of *folie à quatre*, where four members of a family had successively developed emotional insanity within three weeks. Dr. Joerger, of St. Pirminsberg, referred to a case of *folie à trois*, where a mother had infected her two daughters with delusions of persecution.

At a recent meeting of the Société Médicale de Geneve, Dr. Rapin communicated a case where antipyrin, in the dose of one gramme, had given rise to alarming toxic symptoms, such as intense cyanosis, grave collapse, etc., in a lady subject to neuralgia, who had used the drug on several previous occasions without the slightest inconvenience. The patient, however, recovered under treatment. Dr. A. Mayor urged that great caution should be observed in the use of antipyrin, as he had repeatedly seen serious toxic symptoms occurring, even after the dose of half a gramme, which he regarded as the highest advisable. According to his experience, the dose could not be safely administered until four hours after a preceding one. Dr. D'Espine saw grave toxic phenomena in children with pneumonia, even after the administration of very small doses. Hence he had altogether given up the use of the drug in infantile pneumonia. Professor J. L. Prevost also recommended the utmost caution in the internal use of the remedy, while he rejects entirely any subcutaneous administration of antipyrin, since under the influence of the hypodermic injection the blood is seen to rapidly become black or asphyxial, which phenomenon depends upon an alterating action of the substance on hæmoglobin, as in the case of kairin, thallin, and antifebrin. According to Dr. Goetz, in order to prevent an accumulation of the drug, with toxic symptoms, it is necessary carefully to observe the state of the liver, kidneys, and other organs of elimination. Dr. L. Révilliod, however, while admitting the necessity of caution, states that he has not yet seen a single instance of poisoning by antipyrin, although he had been using it extensively in cases of neuralgia, etc.

The Medicinisch-Chirurgische Gesellschaft des Kantons Bern has just offered the following subject for competition: "How far are the statements concerning an educational overpressure in school children justified from a medical point of view?" The essays sent in must be based on personal practical observations carried out in this or that Swiss district containing schools of various kinds. No theoretical work or compilation will be ad-

mitted. The prize amounts to 800 francs. The manuscripts, written in German or French, are to be sent to Professor Kocher, Berne, not later than June 30th, 1889.

The number of inaugural dissertations published by the Swiss Medical Faculties in 1887 amounts to 63; of them, 12 have been written by women (11 Russian, 1 German), 42 by Swiss, and 21 by foreigners. The Zurich Faculty has issued 16 dissertations (15 male, 1 female); the Basle, 16 (all male); the Berne, 26 (15 male, 11 female); and the Geneva, 5 (all male).

LIVERPOOL.

[FROM OUR OWN CORRESPONDENT.]

Opening of Hospitals for Infectious Diseases.—New Hospital in Douglas.—Severe Case of Chorea.—Antiseptic Vaccination-pad. —Recent Medical Appointments.

On Saturday, September 22nd, the scheme for providing hospital accommodation for infectious diseases made an important advance towards completion by the formal opening of the new fever hospital in Grafton Street, and the reopening, after extensive alterations, of the one in Netherfield Road. The former hospital, designed to supply the wants of the south end of the city, is built on the pavilion system, and is capable of accommodating 69 patients in eleven wards, and, moreover, contains three special wards reserved for the isolation of doubtful cases. The system of ventilation and the other appliances are highly efficient, and a powerful high-pressure steam apparatus is provided for the rapid disinfection of bedding and clothing. The building has, for convenience of access, been erected in the poor district of the south end of the city, but is isolated from surrounding dwellings by standing in a plot of ground two acres in extent. The Netherfield Road institution was formerly supported by voluntary contributions, and by payments made by patients, and was managed by a committee. The support accorded to it was, however, not great, and when, in 1883, the City Council set about providing for the isolation and treatment of infectious diseases, the committee offered to hand over the institution to the Health Committee, and the offer was accepted. The buildings as they stood were, however, quite unsuited to the wants of the present day, and have now been practically reconstructed. The grounds have been extended so as to cover two acres, and several new wards have been built, so that the hospital can now accommodate between 80 and 90 patients. Access to the upper wards is obtained by an outside staircase, thus effecting a complete separation from the wards beneath, and the arrangements are so made that male and female patients suffering from four distinct diseases can be treated without the risk of their infecting each other. The opening of these two hospitals completes the permanent provision deemed requisite for the treatment of infectious diseases at ordinary times. The arrangements contemplated in case of an epidemic breaking out were described in the JOURNAL for 1888, vol. i, page 1365.

The Isle of Man has been presented with a handsome hospital, the gift of Mr. H. B. Noble. It stands on a commanding situation in the town of Douglas, overlooking the bay. The exterior is handsomely constructed of red bricks, relieved by Ruabon terra-cotta, and half timbered work is used in the construction of the gables. The general wards will accommodate 14 male and 14 female patients. Private wards are provided for two males and two females, and there are male and female lock wards for the same number. There is also an operating theatre, and an out-door department, comprising a dispensary and waiting and consulting rooms. The cost has been about £5,000. The architects are Messrs. Bleakley and Cubbon, of Birkenhead and Douglas. An anonymous donor in England has given £300 as the nucleus of an endowment fund.

A severe case of chorea is at present in the Royal Infirmary under the care of Dr. Glynn, the senior physician. A girl, aged 14, of studious habits, living near Llandudno, was frightened by a man, and when running away tripped and fell. About a month afterwards it was noticed that she held her knife and fork awkwardly, and then jerky movements gradually supervened, first unilateral then general. After about ten days she was admitted to the infirmary, when the movements were exceedingly violent; all the limbs, as well as the trunk and head, were jerked violently, so that mechanical restraint was necessary to prevent her throwing herself out of bed. Bromide and chloral were administered in fifteen-grain doses every four hours, and the patient got a good many hours' sleep, during which the movements ceased entirely. At the present time, a week after admission, the contortions are violent and incessant, the patient is in a typhoid condition, with sordes on the lips; she is unconscious, and passes all evacuations under her. Respiration is noisy and irregular; a faint systolic murmur is heard. There is no history of rheumatism. There is slight wrist-drop and pointing of the toes, and the limbs present numerous bruises and excoriations, caused by the blows the patient gave herself before means were adopted to protect her from the results of her own violence.

Mr. John Bark, one of the surgeons to the Stanley Hospital, who has had a wide experience as a public vaccinator, has invented an antiseptic pad which he applies to the vaccination pocks on the eighth day, and leaves undisturbed for five days. At the end of that time the inflammatory areola has always entirely disappeared, and Mr. Bark claims for his invention that while eminently simple and of inappreciable cost, it entirely obviates the risk of erysipelas and septicæmia.

Dr. Gemmell and Mr. W. T. Thomas have been appointed medical and surgical tutors respectively to the Royal Infirmary. Dr. Charles Macalister has been appointed clinical tutor to the Royal Southern Hospital. His duties will be to instruct the students in the methods of physical examination and the elementary principles of medicine and surgery, and to exercise a general supervision over the records kept by the clinical clerks and dressers. He continues to hold the post of pathologist, and will devote certain days to demonstrations of morbid anatomy. Dr. F. C. Servaes has been appointed medical officer to the Ladies' Charity, District No. 6, *vice* Dr. Charles Macalister, resigned. Dr. William Irvine has been appointed visiting physician to the Grafton Street and Parkhill Fever Hospitals.

MANCHESTER.

[FROM OUR OWN CORRESPONDENT.]

Sewage Scheme.—Infant Mortality.—Professor Morgan.—Dr. Ross's Introductory Address.—Munificent Offer of a Hospital to Owens College.

The Manchester corporation are promoting a great sewage scheme, and during the last week or two an inquiry has been conducted before Mr. S. T. Smith, of the Local Government Board, in connection with the proposal of the corporation to borrow about half a million of money for the execution of sewage works for the disposal of the sewage of the city. Chemists, engineers, and medical men have been examined as to the *pros* and *cons* of the question, more especially as the scheme will affect several of the districts around Manchester. The examination of witnesses is not yet concluded.

The excessive infant mortality in Manchester has long attracted attention, but now the consideration of the matter seems to have been taken up by influential citizens, who have made a representation to the mayor on the subject.

Professor J. E. Morgan has resigned the post of physician to the Royal Infirmary.

Professor Ross delivered the introductory lecture on the opening of the medical school at Owens College on October 1st. The subject was "Evolution," but it might fairly have been called evolution-theology.

The residuary legatees of the late Sir Joseph Whitworth have distributed large sums of money recently for technical, charitable, and philanthropic purposes. They have offered a public park to the city, and now they have offered a munificent contribution to the Medical School of Owens College. The Council of the College are offered a site for and £35,000 to build a hospital, and £1,000 per annum endowment. The importance of their offer on the future development of this flourishing and rapidly increasing medical school if it be accepted cannot well be exaggerated.

MEDICAL EDUCATION OF CHINESE IN CHINA.—Dr. W. W. Myers's three pupils, who have completed a course of four years' instruction under his direction at Formosa, recently passed an examination in Shanghai. The result, with the percentage gained at the primary examinations in Hong Kong and Shanghai, was as follows:—Goh Kit-moh, 72 per cent.; Chan Ching-hai, 68 per cent.; Li Tsun-fan, 66 per cent. Following the presentation of diplomas a detachment went through ambulance manœuvres, stretcher drill, dressing the wounded, and applying splints adapted from the Chinese umbrellas.

CORRESPONDENCE.

THE MONOPOLY OF MEDICAL APPOINTMENTS.

SIR,—The gross injustice of excluding all but the holders of a few favoured diplomas from London hospital appointments has been already often enough pointed out; but the upholders of this exclusive or boycotting system do not condescend to defend their position by argument. They have the power, and they do not scruple to use it. Other weapons than argument will be required to make an impression on them.

The mere fact, however, of certain qualifications being required does not at all show the full extent of the injustice done. The difficulties thrown in the way of those wishing to take these qualifications makes matters much worse. A man who has taken all the highest qualifications of one of the universities, if he wishes to qualify for a London hospital by taking the F.R.C.S. diploma, will be admitted to examination only on presenting certificates of having attended a set of lectures, etc., some one or other of which is sure to be absent from the curriculum he has gone through. Though he has been in busy practice for years, he is unfit even for examination because he was not dresser at a hospital for six months, or again he must pay a fee to get a certificate of studying practical pharmacy, although he has been dispensing medicines to his patients for years. Thus a graduate in medicine and surgery of the best university must go to the trouble of getting some scores of certificates of the performance of trifling exercises, and then submit himself to the notorious uncertainties of the College of Surgeons examinations, and having passed through these ordeals pay £31 10s. into the College exchequer. After this he is in the satisfactory position of being able to apply for a hospital surgeoncy, which he may get if he has influence enough with the electors.

To be eligible for a physician he must have the M.R.C.P. diploma. To this examination he is admitted on a fair footing with others; but in this case a new kind of difficulty arises. He may be a man of limited means, supporting himself in the meantime by a general practice, a very large part of which would be lost to him if he ceased to supply medicines to his patients, as is the almost universal custom in London practice (I think unfortunately so); but he must give his word that he does not dispense medicines before presenting himself for the M.R.C.P. examination. Consequently, he must risk his practice and means of subsistence before he can apply for a hospital appointment, which he will likely enough fail to obtain through want of interest. The M.R.C.P. diploma also involves a cost of £30. Notwithstanding all this we read in an article in the JOURNAL that "the medical profession is no respecter of persons, but offers its chief prizes, with liberal hand, to every honest seeker, its only requirement for their attainment knowledge."

If the above diplomas indicate a greater knowledge than the university degrees, why do the Colleges so eagerly covet the power of issuing counterfeits of them? It is because the public have learned by experience that the university degrees are, in general, a safer evidence of good culture and good technical training.—I am, etc.,

M.D.

DENTAL SCHOOLS AS DEPARTMENTS OF MEDICAL SCHOOLS.

SIR,—The whole question of dental education is now of much importance to the medical profession, and may well be considered by the JOURNAL. Reference to p. 712, vol. i, for this year will show that whereas in 1879 there were 5,289 names on the *Dental Register*, this year there are only 4,866, showing a decrease of 423. Has the field for practice decreased? On the contrary, it may be expected that as the public mind is educated in the necessary direction there will be a larger demand for dental surgeons. Where are they to come from? In 1886 a Bill was presented to the French Chamber of Deputies which, if carried, would have restricted the practice of dentistry to legally qualified medical men. One of the strongest objections urged was that there would not be sufficient recruiting going on to fill up the gaps occurring in the ordinary course of events. In this country, at all events, it may be expected that the supply will prove equal to the demand, and when it is remembered that all students entering upon the dental curriculum have to pass a preliminary, like their medical *confrères*, and in future will be drawn from the same class of society, it may well happen that many of the latter will be tempted to turn aside into the speciality and escape some of the hardships of general practice. By all means encourage a dental student to take a surgical diploma, or the medical to take a dental, but it cannot well be done in the same time in which either may be acquired separately, any more than an aurist or ophthalmic surgeon will be ready to practise his speciality as soon as he has passed his College. The medical student already complains that his burden is almost greater than he can bear, and although there is nothing to prevent him, when a qualified medical man, practising as a dental surgeon he would prefer to show he had the special knowledge guaranteed alone by the L.D.S. diploma. For this he must have been engaged "during a period of not less than three years in acquiring a practical familiarity with the details of mechanical dentistry under the instruction of a competent practitioner, In the case of qualified surgeons evidence of not less than two instead of three years of such instruction will be sufficient."

In the event of the future evolution of dental education taking the direction indicated by Mr. Pedley, in the JOURNAL, it will be brought about by one of the general hospitals making a bid for the reception of medico-dental or dento-medical students by establishing a fully equipped dental department in charge of a full, special staff of dental surgeons, demonstrators, and lecturers. Anything short of this will tend to lower the work done at the special hospitals, besides failing to supply what is required for the diploma. That there is a waste of dental material at most general hospitals few will deny, especially amongst those general practitioners who, in after years, regret that from time to time they are obliged to confess their ignorance upon matters of which their patients expect them to have, at least, some general knowledge. Another question which also demands a settlement is that of etiquette. Amongst other things, the general practitioner will discover that as both he and the dental specialist are under the supervision of the same General Medical Council, it behoves him to be careful to avoid encouraging what this body disapproves of. Recent events with regard to this matter must be fresh in your readers' minds. Much remains to be said of the relations between the general practitioner and the dental specialist, and sooner or later the medical press must take its share. The sooner the better for all the parties concerned.—I am, etc.,

SIDNEY SPOKES, M.R.C.S.,
Anæsthetist, National Dental Hospital.

SIR,—The JOURNAL of September 29th contains a letter by Mr. Storer Bennett, on the subject of my recent paper, in which he advocates the claims of special hospitals as dental schools. He compares dental surgery with ophthalmic surgery, pointing out that the surgeon who proposes to practise ophthalmic surgery attends a special hospital in addition to a general one, and he asks why it should be reserved for the dental surgeon to feel in an isolated and uncertain position.

The cases are not on a parallel. In the ophthalmic surgeon we have a man who first legally qualifies himself to practise general surgery, medicine, or any branch thereof, and then devotes himself exclusively to the eye. The special department of each general hospital is an ophthalmic school, in which diseases of the eye are systematically treated and taught, and all necessary operations are performed as a matter of routine. Attendance at a special hospital is quite optional to the ophthalmic surgeon. Such a man, on leaving his own hospital, may or may not elect to prosecute his studies at rival institutions at home or in foreign countries. The case of the dental student is very different. His attendance at a special hospital is compulsory, and as part of his studentship he must attend a special hospital for two years. There are only two of these institutions in London. The dental surgeon need not be a qualified surgeon, and the dental departments of general hospitals are not dental schools.

An individual special hospital might be so well conducted as to offer favourable comparison with the special departments of general hospitals; but this would not afford a final argument in support of education by means of special hospitals, and would be a strong incentive to general hospitals to place their special departments on at least an equal footing.

That space, light, and funds are necessary there can be no doubt, also that economy in the number of teachers employed is effected by gathering dental students and patients into a small number of large institutions. There is, however, no obvious

advantage in limiting the number of teachers, provided they be competent, and an arrangement of this nature may be convenient to teachers, yet quite the reverse to patients compelled to come from a distance. There is an unlimited number of patients who would flock to any hospital where they might get dental treatment other than the extraction of their teeth.—I am, etc.,

Devonshire Place, W. F. NEWLAND PEDLEY, F.R.C.S., L.D.S., Dental Surgeon to Guy's Hospital.

DEATHS FROM CHLOROFORM.

SIR,—The case carefully recorded by Dr. Gross in the JOURNAL of September 29th is very instructive. A middle-aged man, apparently sound in every way, died almost directly he was placed fully under the influence of chloroform. His breathing stopped first and then his heart. After death the heart was found to be large and flabby. Dr. Gross believes that, in such cases as this, the chloroform does not kill by its action on the heart, but that a sudden check to respiration caused by struggling, or by obstruction at the glottis, throws such extra pressure on the right heart as to induce fatal syncope. The moral Dr. Gross draws is, that the respiration must be carefully watched, and all tendency to obstruction avoided.

I have no doubt this is quite correct so far as it goes, but, after all, the chief moral is that chloroform should not have been used at all in this case. It matters little whether chloroform kills by causing the heart to stop first, or whether it so weakens it that a slight and probably unavoidable, check to the respiration induces a fatal syncope. In either case it kills by its direct action on the heart. Pressure is thrown on the right heart quite as much and quite as often during the administration of nitrous oxide gas and ether; but these agents are safer, because they do not affect the heart like chloroform.—I am, etc., JAMES B. BALL, M.D.

54, Wimpole Street, W., October 1st.

ELECTION TO ORPHAN ASYLUMS.

SIR,—In the article under the above heading in the JOURNAL of September 22nd you refer to the comparative merits of the voting and the non-voting systems of election. You say that the former has the obvious advantage of "aiding the notoriety and finance of the institution." Quite so; but I venture to say that this aid is obtained at the expense, toil, suffering, and disappointment of the poor unsuccessful candidates. Where one succeeds ten fail and are ruined in body, mind, and pocket. The system has been condemned by the public press and by public opinion for fifteen years as cruel and unphilanthropic. The non-voting charities work well and are financially sound without either voting or canvassing or elections. It has been practically shown by 114 charities that committees of selection on the principle of comparative merit of candidates can do their work without difficulty. If questions arise as to "brain-soundness" or "conditions of health," the medical officer of the society is there to give his veto.—I am, etc., HUMANITAS.

TREATMENT OF OBESITY: PERSONAL EXPERIENCES.

SIR,—Some three years ago, finding that my weight had increased enormously, I determined to try the following treatment for obesity.

On March 1st, 1885, I weighed, in the Jermyn Street Turkish Bath, 15 stones 10 pounds; on the 2nd I commenced the treatment, which was as follows:—Breakfast: one pound of rump steak, without fat. Lunch: another pound of rump steak. At dinner: one pound of grilled cod and one pound of rump steak. I drank at intervals during the twenty-four hours a gallon of hot water. The last thing at night I took two tablespoonfuls of Scotch whisky in cold water, and night and morning 5 grains of bicarbonate of potash. On the 16th I weighed again in Jermyn Street, and I found myself reduced to 14 stones 6 pounds. I then reduced the amount of water, and began to take tea or coffee, reducing the quantity of meat, and taking toast with it. On April 8th my weight in Jermyn Street was reduced to 13 stones 4 pounds. I gradually from that date returned to my usual habits of life as regards diet; and on the 30th I weighed again, and my weight was 12 stones 11 pounds, and since that date up to now has not materially varied; I have eaten and drunk as I pleased.

Finding this course of treatment was personally successful, I have since treated forty patients with equal success. Before I placed myself under treatment I found my breathing much oppressed in going up-stairs, and my work as a general practitioner irksome and fatiguing. I have derived enormous benefit from the reduction of fat, and feel infinitely better, and am able to cycle as much as fifty miles a day with comparative ease. I think it may be useful to put my experience before the profession.—I am, etc., W. TOWERS-SMITH, M.R.C.S.

81, Chancery Lane.

COCAINE LOCALLY IN VAGINISMUS.

SIR,—In reference to Dr. Hayward's very interesting remarks on the local employment of cocaine in vaginismus in the JOURNAL of September 29th, as he is not aware of any previous notice of the use of that drug in such cases, perhaps you will kindly permit me to mention that in a paper of mine "On the Treatment of Vaginismus," published in last year's volume of the *Transactions of the Academy of Medicine* (p. 201), there is a brief allusion to the local application of a 5 per cent. solution of hydrochlorate of cocaine as a palliative expedient for this purpose. I regret to say, however, that, as far as my experience goes, the relief thus afforded is merely temporary, and (unless in those instances in which, by the occurrence of impregnation and subsequent delivery at full term, the disease is thereby cured), it will generally be found necessary to resort either to Marion Sims's operation or else to the plan of mechanical dilatation of the vaginal orifice and stretching of the pudic nerve as advocated in my paper.

I may also add that I greatly doubt that either these or any of the many other methods that have been suggested for the local treatment of vaginismus will, as a rule, be found effectual for the permanent cure of this most distressing and obstinate complaint, unless when employed in conjunction with those constitutional remedies which are so obviously indicated by the well-marked hysterical temperament of the great majority of patients thus affected, and by the recognition and appropriate treatment of which in some instances the necessity for any topical or surgical interposition may possibly be entirely obviated.—I am, etc.,

THOS. MORE MADDEN.

55, Merrion Square, Dublin, September 29th.

CASE OF APYRETIC TYPHOID

SIR,—In the JOURNAL of September 29th, Mr. F. R. Humphreys publishes a case under the above head. The temperature was 97.5° F. when first seen, and subsequently never rose above 96.8°, standing as low as 90.4° on the twentieth day of illness. The late Dr. Murchison taught that the temperature in typhoid was always raised, and that typhoid without pyrexia was impossible, a view which is held probably by every physician. Surely in this case there was something radically wrong with the thermometer used, or the case was of a different nature altogether. It seems a great pity such cases should be published as cases of typhoid, unless a *post-mortem* or some similar conclusive evidence supports the view.—I am, etc., J. FRANK NICHOLSON.

29, Albion Street, Hull, September 29th.

SANITARY PLUMBING.—A public meeting was recently held at West Hartlepool, presided over by the Mayor, to promote the registration and training of plumbers. Professor Garnett, of Durham College of Science, in speaking of the system adopted by the Plumbers' Company as the only remedy for existing evils, said he thought plumbers should be raised to such a level that householders would look upon them as trustworthy advisers in securing the sanitation of their dwellings, and he urged architects to give their practical assistance by letting their contracts to registered plumbers only. Councillor Pyman, Chairman of the Health Committee, and Dr. Gourley, medical officer of health, were among those elected as public representatives on the local committee.

THE NEWCASTLE FEVER HOSPITAL.—The Newcastle City Hospital for Infectious Diseases was opened on Friday, September 28th, by the Mayor. It has been erected at a cost of £20,000, and provides accommodation for 100 patients. The students of the College of Medicine in Newcastle will in the new hospital receive practical instruction in fever cases, under the superintendence of Dr. Armstrong, Medical Officer. The hospital is built on the single-storey pavilion system, and will accommodate, in the first instance, 105 patients in five separate pavilions, namely, three pavilions of twenty-two beds each; one pavilion of thirty-three beds for scarlet fever, and one isolation pavilion of six beds for undeveloped or special cases.

NAVAL AND MILITARY MEDICAL SERVICES.

SURGEON-GENERAL SINCLAIR.

On September 20th, on the eve of his departure, Surgeon-General Sinclair was entertained at a dinner given by the members of the medical staff at Malta, at the Auberge de Provence, on the completion of his five years' tour of duty, as principal medical officer of the island. Brigade-Surgeon O'Dwyer, in a few well-chosen remarks, proposed the health of Surgeon-General Sinclair, expressed the regret of the medical staff in Malta at his departure, and paid a just tribute to the merits and accomplishments of the principal medical officer. The toast was drunk with all the honours, and Surgeon-General Sinclair replied.

POST-GRADUATE INSTRUCTION FOR NAVAL MEDICAL OFFICERS.

R.N. writes: The subject of giving naval surgeons on their return from foreign service opportunities of recruiting their professional powers, which perforce may have become slightly rusty from want of practice, has been on the *tapis* of late, and I see in the JOURNAL of September 29th that the Admiralty have approved of a course of instruction in practical analysis at Haslar. This I think alone would be but a poor way of brushing up one whose surgical and medical ideas are getting a little behind the present date. Haslar Hospital has a magnificent laboratory, and good instruction in chemistry, but this will be almost useless to us when once more at sea, where not only have we no apparatus for prosecuting study in that subject, but where we should probably go a whole commission without occasion to test for anything more deleterious than chloride of sodium in the condensed water used as a rule in our ships. A small box of tests is supplied to every ship, and during my experience in the service I have never required anything more; and as printed instructions are supplied with each box, the course proposed at Haslar appears to me to be useless, and if insisted on, only a tie on the medical officers at Portsmouth. The opportunity of attending *post-mortem* examinations is an excellent idea, if boats could be obtained to suit their hours, a thing I doubt where much work is going on.

What is required, and *nothing less*, is leave for a few months to attend some large medical school or hospital in the United Kingdom, where practical and clinical medicine and surgery can be studied *ad lib.*, with more *post-mortem* examinations in one month than can be seen at any naval hospital in twelve; where the out-patient rooms can be attended, with practice with the ophthalmoscope and laryngoscope, and lastly, where the diseases of women and children can be seen, so that a surgeon may not forget absolutely that such diseases exist.

The more equal division of hospital and sea service, as is being carried out at present, is a step in the right direction, but as few operations are performed in naval hospitals except operations of emergency, and no diseases of women or children are to be seen, it does not effect everything. Another point is worthy of notice. I think that surgeons on board ship should be supplied with the latest drugs, and instructed to report on their use. This would not only be useful to ourselves, but to the whole profession generally. At present no such drugs as cocaine and antipyrin, and indeed none of the latest drugs, are supplied to us, but if required we must buy them privately, which naturally is not an encouragement.

In conclusion, what is wanted is leave to attend a civil hospital, and means to keep up what we have learnt there to a certain extent by a supply of the latest drugs, etc., and as I said before, the more equal distribution of hospital billets to be continued as begun.

If these points be carried out, the rusty naval surgeon would soon become a thing of the past.

BRIGADE-SURGEONS IN INDIA.

BRIGADE-SURGEON writes: In March, 1887, every brigade-surgeon serving in India forwarded a memorial, through the Government of India, to the Secretary of State for India, praying for recognition of the rank of brigade-surgeon in India, and for the increase of pay granted to the rank by the Royal Warrant of 1879, which created and established the rank of brigade-surgeon in the army.

The memorials were forwarded by all the brigade-surgeons in conformity with instructions from Lord Cross, communicated to them by several members of Parliament who interested themselves in the matter. The reply has only now, June, 1888, been received, and every brigade-surgeon in India has been informed "that the Secretary of State for India has intimated that he is unable to reconsider the existing regulations governing the pay and position of brigade-surgeons in India."

This reply is very disheartening, and tends to deaden all interest in the welfare of the service; the refusal would appear to come from the Secretary of State, but in reality it is the Government of India that has refused to grant what the Under-Secretary of State for India, Sir John Gorst, hesitates not to characterise as our just claims. In a letter to a prominent member of Parliament he says: "I shall be glad to do all I can to assist the just claims of these officers, but I am not sanguine that the result will be favourable, as the Government of India state that they are unable to support the prayer of the memorialists, and no arguments seem to have been brought forward which have not been considered already."

It is well known that General Wilson, when military member of the Government of India, sent home a despatch to the Secretary of State advocating in the strongest manner our claims, and recommending, on the part of the Government of India, a special rate of pay for brigade-surgeons. On that occasion the Secretary of State refused, but now, while the Secretary of State admits that our claims are just, the Government of India are "unable to support the prayer of the memorialists"—the very recommendation they made some years ago.

In every part of Her Majesty's possessions except India, the rank of brigade-surgeon is recognised. The hardship of our position is otherwise felt; formerly all surgeons-major in medical charge of regiments of the mounted branches drew 90 rupees per month extra for horse allowance. Upon the abolition of the regimental hospital system in 1882 this allowance was withdrawn; the result is that a brigade-surgeon in medical charge of all the British troops of a station has the pecuniary and professional responsibility that was formerly divided amongst all the medical officers in charge of the regiments composing the garrison, whilst at the same time he receives from 57 to 90 rupees per month less than he drew when serving in India five or six years ago as a surgeon-major in medical charge of a single regiment of cavalry or battery of artillery—57 rupees per month less in the case of brigade-surgeons of over twenty-five years' full pay service, and 90 rupees per month less in the case of brigade-surgeons of under twenty-five years' service. This anomalous state will scarcely be credited, but it is the actual condition of every brigade-surgeon in India.

To enable you to judge of the extent of his responsibility, I may mention that the station hospital at Rawul Pindi is equipped for 442 patients, whilst those at Umballa, Lucknow, Meerut, Peshawur, Secunderabad, Poona, Mhow, etc., are equipped for from 200 to 300 patients and over; and though every other branch of the service in India, combatant and departmental, receives command or charge pay or allowance of some kind, the senior executive officers of the medical staff alone receive nothing for their great responsibility.

This simple statement of facts is laid before you in the hope that the British Medical Association, in their representative capacity, will consider the hardship of our position, and take such action as they may deem expedient to induce the Secretary of State for India to reconsider his decision and to grant our just claims.

AN ATTENUATED MEDICAL STAFF.

NON-EFFECTIVE thinks it is time our medical, in the same way as our military and naval, experts, should show the public the insufficiency of our medical organisation to meet the wants of a great war. The Commander-in-Chief and Lord Wolseley speak out plainly on the shortcomings of the services, and why should not medical experts? The Medical Department as now constituted could assuredly not cope with any grave national emergency. He pictures our entering on a war with a first-class power:

1. Reserves called out.
2. Colonies and garrisons abroad reinforced by, say, 15,000 men.
3. European army in India increased by 30,000 men (Lord Napier's opinion).
4. Home forts and garrisons put into a state of defence.
5. Two or more army corps mobilised.
6. Militia embodied.
7. Volunteers warned or called out.

To meet this the present state of the Medical Service is as follows:

1. Full-pay medical officers in the United Kingdom (including Guards			400
2. Retired medical officers liable to be recalled and fit, say		...	150
3. Militia medical officers fit, say			50
4. Volunteer Medical Reserve willing and fit, say ...		...	100
Total ...		...	700

Number actually required for the above state of war:

1. Colonies and reinforcements abroad (15,000 men) ...		...	50
2. Indian reinforcements (30,000) ...	...	...	100
3. Two army corps and base ...	...	...	550
4. Garrisons and fortresses at home, say ...	...	...	350
Total ...		...	1,100

Here at once is a 65 per cent. deficit for simple mobilisation, without provision for speedy and inevitable wear and tear. And our Volunteer Medical Reserve is a very unknown quantity; how many of them would leave home and practice for from 10s. to 20s. pay a day? Besides, what is to become of the volunteers if called out; many of their medical officers already forcibly drafted away as reservists?

It is needless to say a full-pay medical staff could not be kept up in peace to meet such a war emergency; but financial zealots might well pause before they clamour for the reduction of the regular medical staff to a point unfit even to meet ordinary peace duties and reliefs. If such is done, a raw and scratch medical service in war is inevitable, with a repetition of the miserable breakdown of the Crimean war. The old cry would be raised, "It is all the doctors' fault." Little do our medical volunteer reservists, thirsting for military titles and prominence in the *Army List*, think what is before them when they "heedlessly and needlessly" bind themselves beforehand to the chariot wheels of the War Office.

THE ARMY MEDICAL RESERVE.

A BATTALION SURGEON writes: The letter you publish in the JOURNAL of September 29th from "A Volunteer Surgeon-Major" is full of the best advice to surgeons of all ranks holding appointments in the volunteer force, respecting the "Army Medical Reserve" delusion. As volunteer surgeons we spend a lot of time and money in order to carry out the duties imposed upon us as such. I am certain that, taking one year with another, I am quite £20 annually out of pocket by holding the post. I am content with that because, putting patriotism aside, I am under the impression that the week camping and positive change of living from the humdrum life of country practice is beneficial to myself in many ways, and as it falls in with my way of thinking, I am not averse to the expense. As far, therefore, as volunteering proper is concerned I do not think a medical man is far wrong in doing all he can to assist to keep the force up to as high a standard as his time and means will allow. The "Army Medical Reserve," however, is quite another matter; when the Warrant came out I thought it a good thing, and having duly sent in my papers to join, but before many hours were over my head I asked to have them returned. I began after mature consideration to see the delusion, and I came to the conclusion that the whole scheme was one brought about simply to undermine the position of our medical brethren, who have worked so hard through competitive examinations to obtain a means of living in the army; and further than that, a volunteer surgeon in civil practice holding union and public appointments, probably married and with a young family, would find himself in a pretty predicament if by being in the "Army Medical Reserve" he were called upon to do duty as an army surgeon. I take it there would be no chance of escape; he would have to go, and if he returned in a few months would probably find very little of the old work left him to do, for in these days of competition it is difficult enough to keep a practice together

when one is constantly on the ground and religiously working it. Now to a volunteer surgeon matters would be very different: the condition and state of the country would be desperate indeed before our citizen army would be called to take the field, and then not only enrolled volunteer surgeons but civil surgeons would find it to be their duty to do all and go forward for the sake of their Queen and country. I am perfectly certain that patriotism would come to the front then, and then only do I consider that volunteer surgeons should go to the assistance of their army brethren.

I know for a fact that army surgeons are very much sat upon, so much so that I am very much astonished at the well-qualified and well-educated men joining; and although I am a very loyal subject I would rejoice to see the whole Army Medical Staff strike for a better state of things, and as far as I could I would assist them.

The question of rank offered to the "Army Medical Reserve" is childish and absurd, and yet that appears to me to be the only bait offered.

I hope, Sir, before many issues of your JOURNAL we shall see a string of retirements; that those volunteer surgeons who have left the beaten track will once more return to it, having seen the error of their ways.

A CORRESPONDENT sends us the following *jeu d'esprit*, entitled:

LAY OF THE "MEDICAL RESERVE."

Ye doctors of our native land
Who ne'er from duty swerve,
Arise! and join the noble band,
The "Medical Reserve."
Come! show your deep devotion
In Britain's extremity,
Give her soldiers pill and potion
In "great emergency."

We do not seek to bind you
By money obligation,
Oh no; we expect to find you
Voluntarily serve the nation;
"Good doctors" sacrifice your all
Without retaining fee;
Throw private practice to the wall
In "great emergency."

You see, dear sirs, we're in a fix,
The Medical Vote is heavy;
Grandolph falls like a load of bricks
Upon each reg'lar levy.
Up, volunteers! and make a show
'Fore Estimates Committee;
Let's quote you, vote you, in a row
For "great emergency."

'Tis true, there's some conditions
On which we must insist,
Ere your names in proud positions
Figure in the *Army List*;
But terms you'd deem of small account,
With the glorious certainty
Of the patriot height your fame will mount
In "great emergency."

First, you must all be sound and strong;
In morals, spotless, clear,
Before to the "Reserve" you can belong,
With self-denial sincere.
Your character and qualifications
Must be of high degree;
'Gainst cavil and contradictions
In "great emergency."

All "doctors good" grind at the mill
As long as they're alive,
But we want you only reserved until
The age of sixty-five.
Bad luck—if then you're clean worn out,
Perchance in poverty;
You'll have still the boast of brave turn out
In "great emergency."

When the pension-pampered A.M.D.
Embark to fight our foes,
You'll pitch your practice in the sea
And step into their shoes;
From wife and child you'll quick away
Where'er you order'd be,
Then back home to work as best you may,
After "great emergency."

But we've another little job for you—
'Bove all you must observe
'Twas the object chief we had in view
In framing the "Reserve;"
At "contract rates" you'll service give
In your kind charity,
To troops who near you chance to live
In any "emergency."

Think of the clean crisp "fivers"
Which thus to you will fall,
While mercenaries roast their livers
In climates tropical.
We mean to make the hirelings toil
In exile constantly,
While you at home can bag the spoil
In all "emergency."

No sev'ring from your corps we need,
Rifles, gunners, engineers;
Though in *Reserve* you'll still indeed
Be *active* volunteers.
We've deftly planned that for the nonce
By some hankee-pankee
In two spots (like birds) you'll be at once
In "great emergency."

Send in your names, time never waits;
Secure the "prior claim;"
To be employed at "contract rates"
Should be your highest aim.
Save! save! the State, surgeon volunteers
From impending bankruptcy,
And help us to dish your proud *confrères*
In "great emergency!"

RELATIVE RANK QUESTION.

VETERAN writes: The annual Highland gathering or "Northern meeting" took place at Inverness on September 20th and 21st. In publishing the list of names of gentlemen present in the local newspapers, it is usual to arrange military officers in the order of their army rank, and this rule was followed on the present occasion. Hitherto it was the practice to enter the names of medical officers present according to the relative rank which they formerly held. On this occasion I observe that the names of a brigade-surgeon and a surgeon are placed at the bottom of the list, below those of lieutenants of the regular army, militia, and volunteers. So much for the opinion of the general public of the effect of the abolition of relative rank on the position of medical officers in Her Majesty's service.

It junior members of the profession voluntarily place themselves in such a degraded position they will have only themselves to blame, but it is very galling to those who entered the service under different circumstances. From personal experience, extending over upwards of a quarter of a century, I can assure intending candidates that as they rise in the service they will feel more and more the disadvantages under which they labour from the want of a distinctly recognisable army rank and title.

SOLDIERS' RATIONS.

BRIGADE-SURGEON (Alexandria) writes: In order to get as much as possible out of these, why not introduce prizes for good cooking in regiments? Rewards are given for good shooting, good conduct, skill at arms, soldiers' gardens, educational proficiency, but none for best adapting the food of the men to their bone and muscle. If these did nothing else, they would have the effect of stirring up competition, and so draw constant attention to the matter, and keep contractors on the *qui vive*. A scheme for inspection at uncertain intervals might easily be drawn up.

RAPID PROMOTION.

A CORRESPONDENT "M.D." draws attention to what he calls the "rapid promotion" in recent gazettes of certain officers of the Army Medical Reserve, who are suddenly advanced from the status of "Surgeon," ranking with "Captains," to that of "Surgeon-Major," ranking as "Lieutenant-Colonels," and asks, How is this?

*** We really cannot say; probably the gentlemen in question have been connected with the volunteers for twenty years, and the intervening rank of Major is conveniently skipped in order to attract recruits to the Reserve, and make things pleasant all round.

THE NAVY.

MR. R. S. THOMSON, M.B., is appointed Surgeon to the Clyde Brigade of the Royal Naval Artillery Volunteers.

Staff-Surgeon G. B. MURRAY has been promoted to be Fleet-Surgeon. He entered the service as Surgeon July 11th, 1868, and became Staff-Surgeon December 24th, 1879.

Staff-Surgeon CHRISTOPHER PEARSON, M.A., M.D., has been appointed to the *Gannet* when recommissioned, and Surgeon F. W. STERICKER to the *Cockatrice*.

THE MEDICAL STAFF.

SURGEON-MAJOR M. L. WHITE is granted retired pay. His commissions are dated as follows: Assistant-Surgeon, September 22nd, 1858; Surgeon, March 1st, 1873; and Surgeon-Major, April 1st, 1873. He has no war record.

Surgeon W. A. MORRIS is appointed Adjutant to the Volunteer Medical Staff Corps, *vice* Surgeon J. L. Hall, whose term of office has expired.

Surgeon E. H. L. BELL, serving in the Bengal Command, has leave to England for six months on private affairs.

Surgeon F. D. ELDERTON, serving in the Bengal Command, has leave to Canada (British Columbia) for four months on private affairs.

Surgeon C. E. NICHOL, M.B., serving on general duty, Bombay District, Northern Division, and Aden, is transferred to general duty in the Poona Division.

The undermentioned officers on the Bombay Establishment, whose tour of foreign service will expire during the trooping season of 1888-9, will proceed to England in Her Majesty's Indian troopships, doing duty with troops on the voyage: Brigade-Surgeon C. H. GIRAUD, Surgeons-Major H. C. GUINNESS, H. WAGHORN, J. WILLIAMSON, M.B., D. B. BROWN, and Surgeons A. F. RUSSELL, M.B., C. E. NICHOL, M.B., H. E. DEANE.

The following officers of the Medical Staff, on the Bengal Establishment, whose tour of foreign service will expire during the trooping season of 1888-9, will proceed to England during the ensuing trooping season, and will be detailed by the Surgeon-General, Her Majesty's Forces, for duty with troops embarking in the several troopships. Brigade-Surgeons T. WALSH, W. TEMPLE, M.B., V.C., and J. A. SCOTT (in exchange with Surgeon-Major T. Ramsay); Surgeons-Major J. GOOD, A. SANDERSON, W. H. B. CLAPP, M.D., C. A. ATKINS, J. L. NOTTER, M.D. (already ordered to return to England), H. COMERFORD, M.D., J. P. ROONEY, E. J. FAIRLAND, E. TOWNSEND, M.D., J. H. MOORE, J. BARRY, M.D., J. WALKER, M.B., R. ANDERSON, M. KNOX, J. D. EDGE (in exchange with Surgeon-Major F. B. Scott), J. M. BEAMISH, M.D., and B. M. BLENNERHASSETT (in exchange with Surgeon-Major R. Blood, who exchanged with Surgeon-Major H. Stannard); Surgeons J. F. WILLIAMSON, M.B. (in exchange with Surgeon A. Sharpe), A. KEOGH, M.D., E. H. MYLES, M.B. (in exchange with Surgeon E. O. Wight), P. MULVANY (in exchange with Surgeon J. Hickman), R. F. ADAMS, M.B. (in exchange with Surgeon F. J. Lambkin), T. P. WOODHOUSE, C. J. ADDISON, A. G. KAY, M.B., S. J. RENNIE, H. O. TREVOR, J. W. JEROME, L. H. TRUEFITT, M.B., S. WESTCOTT, H. R. WHITEHEAD, B. M. SKINNER, C. R. BARTLETT, C. R. TYRRELL, and J. R. STUART, M.B.

ARMY MEDICAL RESERVE.

SURGEON and HONORARY SURGEON-MAJOR S. A. JULIUS, 1st Cinque Ports Rifle Volunteers, and Surgeon A. D. MACDONALD, M.D., of the 3rd Volunteer Battalion, King's Own Scottish Borderers (late the 1st Dumfries), to be Surgeons-Major (ranking as Majors).

Acting-Surgeon J. G. SAVILLE, 5th Volunteer Battalion, Manchester Regiment (late the 20th Lancashire), to be Surgeon (ranking as Captain).

INDIAN MEDICAL SERVICE.

THE undermentioned Surgeons of the Bengal Establishment are appointed to the officiating medical charge of the regiments specified:—A. E. ROBERTS, 5th Bengal Cavalry, *vice* Surgeon A. W. Dawson, on sick leave; J. MORWOOD, M.D., from the 30th Punjab Infantry to the 19th Punjab Infantry, *vice* Surgeon-Major J. W. Johnstone, on sick leave; A. C. DEARE, 23rd Pioneers, *vice* Surgeon W. L. Price, temporarily transferred to civil employ.

Surgeon J. M. MACNAMARA, M.D., who is serving in the Bengal Command, has passed the examination in Hindustani, by the lower standard.

Surgeon-Major J. J. MONTEATH, M.D., of the Bengal Establishment, Civil Surgeon of Hooghly, died at Chinsura, of heart disease, on September 1st. He entered the service as Assistant Surgeon, April 1st, 1868, and became Surgeon-Major, April 1st, 1880.

THE VOLUNTEERS.

ACTING-SURGEON E. B. DE B. ROBERTSON, 2nd Volunteer Battalion, West Kent Regiment (late the 3rd Kent), has resigned his commission, which bore date June 5th, 1878.

Acting-Surgeon J. F. ARLIDGE, 3rd Volunteer Battalion, West Riding Regiment (late the 9th West Riding), is promoted to be Surgeon in the same corps.

ST. THOMAS'S HOSPITAL.—Open Scholarships in Natural Science have been awarded to Mr. E. M. Hainworth (125 guineas) and Mr. Edwin Smith (£60).

MEDICO-LEGAL AND MEDICO-ETHICAL.

ALLEGED ADVERTISING PAMPHLET.

IF "X. Y. Z." had forwarded a copy of the pamphlet for examination, we should have been better able to express a definite opinion on the question submitted. Under the circumstances therefore we may remark that if the gratuitous circulation has been adopted merely for the purpose of calling attention to certain thermal waters or springs as remedial agents, without any direct personal allusions to the writer's self, we should be inclined to look upon it simply as an injudicious proceeding on his part. On the other hand, if it were done with the set intention of introducing the author to the public notice as a local medical practitioner, it cannot be regarded otherwise than as a very unethical manœuvre to obtain practice by advertisement; and if it be so, such a procedure would not only be incompatible with the dignity of the profession, but is deserving of severe criticism.

EMPLOYERS' LIABILITY.

M.K.Q.C.P.I. writes: A man employed by a large firm, and whilst in their employment, fell from a ladder and fractured his olecranon process. The injured man was sent to me by their foreman. The said firm, on being communicated with, repudiates all responsibility. Can I compel them to pay me, and what would be a reasonable charge for treating this fracture (a period of five weeks)? I do not see it quoted in the medico-chirurgical tariffs.

*** Unless the foreman was entrusted with the necessary authority, we apprehend that our correspondent has no legal redress as against the firm; how far, however, he may have rendered himself personally responsible would depend on circumstances not sufficiently within our knowledge to enable us to advise.

With regard to "what would be a reasonable charge for treating the fracture," we cannot, in the absence of the necessary information as to the number of attendances given during the five weeks, render him the desired advice; nevertheless, if he will again refer to the *Tariffs* and "Note" on page 17, we think that he will have little or no difficulty in framing his charges, which should be in strict accordance with the position in life of the patient, and not that of the person held to be legally responsible.

PRACTICE BY CORRESPONDENCE.

A. B. writes: You say in the JOURNAL of September 29th, "Advising patients by correspondence has been decided to be practising." Does it still hold true if no payment be received for the advices given?

*** The answer must depend on the facts of each case. If the advice is really given gratis, without any understanding as to the payment of fees afterwards, we do not think it would be included in the meaning of the word practice; but if it was so given as to seduce patients away from the purchaser of the business, the courts would be apt to hold the giving of such advice to be a breach of covenant.

OPEN SHOP.

DR. J. GAGE PARSONS (Bristol) writes: In answer to "A Licentiate who does not keep an Open Shop," I beg to say that the by-laws of the College of Physicians of Edinburgh relating to keeping of open shops always included the Licentiate as well as the Fellow and Member. The edition of the by-laws of the College from which I made the extracts is dated 1862, and as far as I know these laws have never been altered in this respect.

DR. ROBERT BLAIR (Bradford) writes: In the JOURNAL of September 1st you quoted the Act respecting the keeping of open shops by L.R.C.P.'s Edin.; if this be the law, why is it not put in force against those who keep open shops under the false title of "dispensaries?" I consider the profession is becoming more and more disgraced every year by these individuals who lay claim to all the rights and privileges of the profession whilst at the same time carrying on what is nothing better than a trade at the miserably low fee of sixpence for advice (so called) and a bottle of something purporting to be "medicine." What surprises me is that we should be so carefully told at our "Introductories" on each October 1st that the profession is such a "noble" and "dignified" profession; we find "consultants" invariably meeting these fellows and acknowledging them in every possible way. No wonder that these so-called "dispensary" businesses are rapidly on the increase.

Another feature is that these individuals take a residence in the outskirts of a densely-populated town, amongst the principal inhabitants, and there with large doorplate figure as "Dr." So-and-So, or as "Physician" and Surgeon. Were such practices to occur in the legal profession, the fellows would be utterly ignored by their superiors in the profession. Why is it not so in the medical? I am sorry to trouble you with this letter, but I fail to see how a junior practitioner who has spent a considerable sum of money and ten years of his life in acquiring a thorough knowledge of his profession is to get even a moderate living whilst such practices are permitted.

THE PATIENT'S RIGHT OF CHOICE.

A MEMBER asks for an opinion upon the following question: "A." attended an old lady for "B." in his absence from home. The young lady "C." who was nursing the patient subsequently married the son. About six months afterwards the son's wife came to engage "A." for her confinement. "A.," however, who had never attended her before, indeed who had never seen her since he attended the old lady for "B.," asked whether "B." was not her medical attendant or whether he had ever attended her, which she denied. "A." thereupon suggested that as "B." had attended her husband's mother, she had also better engage "B." To this she gave an emphatic refusal. Knowing the peculiar likes and dislikes taken by pregnant women, "A." after some demur agreed to attend her.

Considering "C.'s" statement and the fact of "A." never having attended her for "B." either before or after her marriage, was not "A." justified in attending "C.'s" confinement; or did he commit a breach of etiquette in doing so in consequence of having about ten months previously attended (for "B.") her husband's mother before "C.'s" marriage?

*** The circumstances specified by "A Member" are in principle precisely analogous to those on which we commented in the JOURNAL of September 1st, page 512, column 2, under the same heading, and the reply to which is alike applicable to the case of our correspondent, namely, that "A Member was fully justified in attending "C." in her confinement, and that in doing so he did not commit a breach of professional etiquette.

CONSULTATIONS AND CLUB PATIENTS.

J. W. asks for advice as to what is the proper course in the case of a club patient who desires a consultation and is willing to pay for it. Ought the club doctor, he asks, go to the trouble and inconvenience of a consulation without asking a special fee for himself, or would you consider him entitled to one?

*** Of course the club doctor is entitled to a fee as well as the other consultant.

ALLEGED PERSONATION.

A MEMBER.—Whether "A." has a right to continue the use of the partnership name and plate is a matter which must depend in great measure on the wording of the partnership deed. It is clear, however, that "B." can have no right to personate the partner who has retired; and a patient who has paid him fees in consequence of his pretending to be that partner might prosecute him for obtaining the money by false pretences. The advertisements seem most improper. [This answer has been accidentally delayed.]

SURGICAL QUALIFICATIONS AND MEDICAL FEES.

LEX asks: 1. Can a L.&F.F.P.&S.Glas. recover at law for attendance and medicine, except in a surgical case? 2. Is it a licence to practise medicine, surgery, and midwifery? 3. Can a L.&F. hold a poor-law appointment? 4. Did the Medical Act of 1886 in any way alter the status of men holding such qualifications and registered? Did it doubly qualify singly qualified men, and enable them to recover for medicine, surgery, and midwifery?

*** We have submitted these questions to the solicitor to the Association, and have received from his firm the following reply:

"1 and 2. This question has before been answered and discussed in these columns. The Faculty of Physicians and Surgeons of Glasgow was, we believe, at the time of the Medical Act, 1858, a body having power only to grant diplomas in surgery. The Medical Act of 1858 merely enabled the holders of the several diplomas specified in the schedule to that Act to practise and recover for attendance, etc., throughout the United Kingdom according to their qualifications (Section 31). In our opinion, therefore, a Licentiate or Fellow of the Faculty of Physicians and Surgeons Glasgow could not before or since that Act recover except in a surgical case.

"3. This will depend on whether a diploma in medicine as well as surgery is required for the appointment in question.

"4. The Medical Act of 1886 is in no way retrospective. It has conferred, however, on medical corporations a power, after June 30th, 1887, to conduct examinations conjointly with other bodies, and thus make the diplomas of such corporations 'all round' qualifications."

As a matter of fact, the licence is now only given by the Faculty in connection with the Royal College of Physicians and the Royal College of Surgeons of Edinburgh except in the case of candidates previously qualified in medicine.

ADVERTISEMENT BY TESTIMONIAL.

J. M.—With reference to our correspondent's note and enclosure (the reply to which has been unintentionally delayed) on the subject of Mr. McC.'s reprehensible action in not only giving written testimony in favour of the article of commerce in question, but also tacitly or otherwise sanctioning its publication in the agent's trade circular, we may note that the most effective mode of enforcing withdrawal of the unprofessional testimonials will be to address a letter and enclose therewith a copy of the trade circular, and any other printed public document relating thereto, to the Presidents of the Royal Colleges of Physicians and Surgeons of which he is a Member. If, moreover, the letter be supported by the signatures of two or three local practitioners, it will probably have still greater weight with the College authorities, and impel them to take action in the case.

THE CONVICT KELLY.

DR. SAVAGE, late of Bethlem Hospital, and Dr. Nicolson, of Broadmoor Criminal Lunatic Asylum, have held an inquiry, at the instance of the Home Department, into the state of mind of Patrick Kelly, who, it will be remembered, committed murders of exceptional ferocity on the high seas. Having quarrelled with two of his comrades, he, in revenge, stabbed both through the hearts as they lay asleep in their bunks. The inquiry has established the fact that the prisoner is now insane, and in the opinion of the Commission was insane when he committed the crime. He will be removed to Broadmoor Asylum.

SANITATION OF NAPLES.—The sanitary improvements to be effected at Naples are to be of an extensive character, including the demolition of the old quarters of the city and the erection of new ones for the poor, and are to cost three millions sterling. The works are to be completed within ten years.

HOSPITAL AND DISPENSARY MANAGEMENT.

DUNOON CONVALESCENT HOMES.

THE annual meeting of subscribers to these Homes was held in Glasgow on October 1st. According to the annual report, new admissions during the year included 1,574 men, 1,382 women, 99 boys, and 94 girls, 3,149 in all; of these, 3,044 had been restored to health, 30 were relieved, 72 derived no benefit, and 12 died. Up to the present time a total of 38,654 persons have received the advantages of the Homes. The financial statement showed an increase in subscriptions of £140, the total income being £4,922 7s. 3d., and the total expenditure £4,790 2s. 4d., leaving a balance of £132 4s. 11d. At the close of the meeting the usual votes of thanks were passed.

WEST OF SCOTLAND CONVALESCENT SEASIDE HOME.

THE nineteenth annual general meeting was held in Glasgow on October 1st. The institution has accommodated during the past year 3,316 convalescents; of these, 3,044 were restored to health, and enabled to resume their occupations; 30 were benefited by their residence, but not to such an extent as to resume their work; 72 did not improve; 2 died; while 168 remain under treatment.

OBITUARY.

DAVID TAYLOR, M.D.Glas., F.F.P.S.Glas.

DR. DAVID TAYLOR, one of the oldest practitioners of the town of Paisley, as well as one of its most popular and esteemed citizens, died at Forres on September 13th. He was born in 1825, and studied at Glasgow University, where he graduated in 1847. Early in his career he became connected with the Paisley Infirmary as surgeon, and maintained his connection for forty years, becoming an honorary member of the Board when failing health compelled the relinquishment of more active duty. He was parochial medical officer of the burgh, and was connected with many of the charitable and educational institutions of the town. Recently his health required him to give up active duty, and seek change. It was while on a visit to the North in search of health, which he had failed to find abroad, that his death somewhat unexpectedly occurred.

DAVID DAVIES, M.D.

ANOTHER link connecting us with the past school of medical men has been severed by the death of Dr. David Davies, which took place at his residence, 40, Warrior Square, St. Leonard's-on-Sea, on September 14th.

The deceased gentleman was in his 80th year, and was born at Moyton, in Cardiganshire. He left home at the age of 15 years, for London; and after being apprenticed, entered as a student at St. George's Hospital, where he was a favourite pupil of the late Sir Benjamin Brodie. Soon after qualifying, he started in practice in Belgrave Street, Belgrave Square, and was noted for his successful treatment of the diseases of women and children. His professional labours ultimately telling on his health, he gave up work in the year 1869, after having practised about forty years.

PUBLIC HEALTH AND POOR LAW MEDICAL SERVICES.

LEAD POISONING.

DR. BROWN, medical officer for Bacup, in his report to the Health Committee, stated that cases of lead poisoning had been very common during the past twelve months, and had been associated with both both public and private water supplies. The severe drought of last summer would, he thought, account for a large number of cases. The lead pipes were empty, the incrustations would shell off, and the water would act on the exposed lead; the water, too, being very soft and overcharged with air, would readily form an oxide of lead. Water with $2\frac{1}{2}°$ of hardness would act readily on lead pipes, which was the standard of some samples. Even spring water with 12° of hardness contained $\frac{1}{5}$ grain of lead per gallon. Any water which contained from $\frac{1}{4}$ to $\frac{1}{3}$ grain of lead per gallon was not safe to drink. Some of the samples contained from $\frac{1}{10}$ths grain per gallon to $2\frac{1}{2}$ grains of lead per gallon. The lead in the water was probably an oxide, as it could be readily removed by filtering through an ordinary compressed charcoal filter. In water containing $1\frac{1}{10}$ grain per gallon, when filtered, not a trace of lead was found. Even ordinary filtering paper would remove about one-half of the lead. These experiments, he hoped, would impress the importance of using carbon filters, and he might state that small quantities of lead were present in nearly all public water supplies, when the water was usually soft and pure. In some cases he found that lead service pipes of from 50 to 150 yards in length had been used. It could be no surprise that in these localities the worse cases of lead poisoning, etc., occurred. Lead service pipes were now being replaced by iron, and in future the connections would be of galvanised iron with short lengths of tinned lead pipes. The contamination of the water with lead was entirely avoided by the use of wrought iron glass-lined pipes, the cost of which was reasonable, being only sixpence per foot for half-inch diameter. This he recommended when the water was very soft and pure.

TYPHOID FEVER AT THE LINCOLN COUNTY ASYLUM.

THIS outbreak commenced towards the end of June, and since then there have been seventy-two cases, with thirteen deaths, including cases occuring in the attendants' cottages. There were also two cases, both fatal, in February of this year. The drains have been found to be in a very defective state, worn out and wrongly constructed, and so allowing the escape of sewer gas; many of the waste pipes were connected directly with the drains without being trapped. The water-supply is obtained from the Lincoln Corporation Waterworks and from collected rain-water, being stored in tanks in both cases. The rain-water is not good and is now disused. The Lincoln water varies with the source from which it is drawn—from large impounding reservoirs or from the River Witham; the latter is polluted by the effluent from the asylum sewage form. The drains are being rapidly put into a thorough state of repair, and no fresh case has occurred during the past three weeks.

NEW WATERWORKS FOR CARRICK-ON-SHANNON.

AN inquiry was recently held by the Local Government Board Engineer, as to the necessity for a new supply of water for this town. The water-supply at present is from three pumps, one of which has been condemned, while the supply to the workhouse was formerly obtained from an adjacent pond; but in consequence of an outbreak of typhoid fever, the water is now sent in carts from the town. It is proposed to take the new supply from the river Shannon, and the estimated cost (£2,000) will permit of twenty gallons per head. Evidence having been given by Surgeon-Major Bradshaw and others, the inquiry terminated.

HEALTH OF ENGLISH TOWNS.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 5,509 births and 3,242 deaths were registered during the week ending Saturday, September 22nd. The annual rate of mortality, which had been 17.8 and 17.7 per 1,000 in the two preceding weeks, rose again to 18.0 during the week under notice. The rates in the several towns ranged from 11.1 in Bristol, 11.4 in Huddersfield, 11.7 in Oldham, and 13.9 in Brighton to 24.7 in Sheffield, 25.8 in Salford, 27.6 in Manchester, and 27.8 in Preston. In the twenty-seven provincial towns the mean death-rate was 19.8 per 1,000, and exceeded by as much as 4.0 the rate recorded in London, which was only 15.8 per 1,000. The 3,242 deaths registered during the week under notice in the twenty-eight towns included 325 which were referred to diarrhœa, 61 to whooping-cough, 50 to measles, 40 to scarlet fever, 38 to "fever" (principally enteric), 29 to diphtheria, and 1 to small-pox; in all, 544 deaths resulted from these principal zymotic diseases, against 638 and 622 in the two preceding weeks. These 544 deaths were equal to an annual rate of 3.0 per 1,000; in London the zymotic death-rate was 2.3, while it averaged 3.6 per 1,000 in the twenty-seven provincial towns, and ranged from 0.5 in Bristol, and 1.1 in Huddersfield and in Nottingham to 6.0 in Leicester and in Sheffield, 6.2 in Cardiff, and 9.6 in Preston. Scarlet fever caused the highest proportional mortality in Blackburn; whooping-cough in Norwich; "fever" in Cardiff; and diarrhœa in Cardiff, Bolton, Sheffield, Leicester, and Preston. Of the 29 deaths from diphtheria recorded during the week under notice in the twenty-

eight towns, 24 occurred in London and 2 in Manchester. A fatal case of small-pox was registered in Preston, but not one in London or in any of the twenty-six other great towns. No small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals on Saturday, September 22nd. These hospitals contained 812 scarlet-fever patients on the same date, against 755 and 779 at the end of the two preceding weeks; 113 cases were admitted during the week, against 76 and 89 in the two previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 2.2 per 1,000, and was below the average.—During the week ending Saturday, September 29th, 5,266 births and 3,295 deaths were registered in the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality in these towns, which had been 17.7 and 18.0 per 1,000 in the two preceding weeks, further rose to 18.3 during the week under notice. The rates in the several towns ranged from 13.7 in Huddersfield, 14.3 in Halifax, 15.1 in Birmingham, and 15.2 in Bristol to 27.1 in Bolton, 27.7 in Portsmouth, 28.4 in Manchester, and 32.3 in Preston. The mean death-rate in the twenty-seven provincial towns was 20.2 per 1,000, and exceeded by as much as 4.2 the rate recorded in London, which was only 16.0 per 1,000. The 3,295 deaths registered during the week under notice in these towns included 570 which were referred to the principal zymotic diseases, against numbers declining from 638 to 544 in the three preceding weeks; of these, 351 deaths resulted from diarrhœa, 49 from scarlet fever, 47 from "fever" (principally enteric), 44 from measles, 42 from whooping-cough, 36 from diphtheria, and 1 from small-pox. These 570 deaths were equal to an annual rate of 3.2 per 1,000; in London the zymotic rate was only 2.2, while in the twenty-seven provincial towns it averaged 4.0 per 1,000, and ranged from 0.6 in Huddersfield, 1.0 in Birkenhead, and 1.1 in Oldham to 6.7 in Salford, 7.1 in Preston, 7.8 in Norwich, and 8.2 in Portsmouth. Whooping-cough caused the highest proportional fatality in Cardiff, Norwich, and Halifax; "fever" in Salford; and diarrhœa in Bolton, Sheffield, Norwich, Preston, and Portsmouth. The 36 deaths from diphtheria in the twenty-eight towns included 27 in London, 3 in Manchester, and 2 in Bristol. Small-pox caused one death in Hull, but not one in London, or in any of the twenty-six other great towns. No small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals on Saturday, September 29th. These hospitals contained 880 scarlet fever patients on the same date, against numbers increasing from 716 to 812 in the five preceding weeks; there were 127 admissions during the week, against 76, 89, and 113 in the three previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 2.6 per 1,000, and was slightly below the average.

HEALTH OF SCOTCH TOWNS.—In the eight principal Scotch towns, 758 births and 444 deaths were registered during the week ending Saturday, September 29th. The annual rate of mortality in these towns, which had been 16.0 and 17.3 per 1,000 in the two preceding weeks, further rose to 17.6 during the week under notice, but was 0.7 per 1,000 below the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns, the lowest rates were recorded in Perth and Edinburgh, and the highest in Greenock and Paisley. The 444 deaths registered in these Scotch towns during the week under notice included 54 which were referred to the principal zymotic diseases, equal to an annual rate of 2.1 per 1,000, which was 1.1 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Leith and Paisley. The 195 deaths registered in Glasgow included 5 from "fever," 4 from whooping-cough, 4 from scarlet fever, 4 from diarrhœa, 3 from measles, and 3 from diphtheria. Five fatal cases of measles occurred in Paisley. The death-rate from diseases of the respiratory organs in these towns was equal to 3.2 per 1,000, against 2.6 in London.

HEALTH OF IRISH TOWNS.—In the sixteen principal town districts of Ireland, the deaths registered during the week ending Saturday, September 22nd, were equal to an annual rate of 19.2 per 1,000. The lowest rates were recorded in Sligo and Lisburn, and the highest in Lurgan and Armagh. The death-rate from the principal zymotic diseases averaged 2.6 per 1,000. The 125 deaths registered in Dublin during the week under notice were equal to an annual rate of 18.5 per 1,000, against 21.7 and 19.4 in the two preceding weeks. These 125 deaths included 23 which resulted from the principal zymotic diseases (equal to an annual rate of 3.4 per 1,000), of which 18 were referred to diarrhœa, 3 to "fever," 1 to scarlet fever, and 1 to whooping-cough.—During the week ending Saturday, September 29th, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 22.2 per 1,000. The lowest rates were recorded in Sligo and Kilkenny, and the highest in Armagh and Dundalk. The death-rate from the principal zymotic diseases in these towns averaged 3.3 per 1,000. The 165 deaths registered in Dublin during the week under notice were equal to an annual rate of 24.4 per 1,000, against rates declining from 21.7 to 18.5 in the three preceding weeks. These 165 deaths included 27 which were referred to the principal zymotic diseases (equal to an annual rate of 4.0 per 1,000), of which 18 resulted from diarrhœa, 4 from whooping-cough, 2 from "fever," 1 from measles, 1 from scarlet fever, and 1 from diphtheria.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

BRISTOL (Population, 223,695).—*Serious Outbreak of Small-pox: Spread through Business Intercourse: Scarlet Fever prevalent.*—An outbreak of small-pox, the most serious that has occurred in Bristol during the past twenty years, is described in Dr. Davies's annual report for 1887, and the details are of considerable interest. The early part of the year, with the exception of one case, was free from disease, and the initial case, brought from Cardiff on August 9th, was removed to Barton Regis Hospital. Thence the infection spread in districts outside the city, but, after October 15th, cases appeared in various parts, occurring in distinct and isolated places, so that, up to the end of the year, all that can be said is that the disease was kept in hand. The distribution by class was somewhat remarkable, and typical of spread through business intercourse, a very large number of most respectable people, such as clerks and shopkeepers, being among the patients; indeed the disease showed no preference for poor over rich, for insanitary over sanitary locality, the sole factors required were exposure to its influence and the absence in the attacked of proper protection by vaccination and revaccination. Scarlet fever also prevailed extensively throughout the year, as was to be expected from its rising mortality in 1886. Measles and whooping-cough were fatal, causing 147 and 124 deaths respectively. The fatal result was nearly always due to lung mischief from exposure during convalescence. The death-rate for 1887 was the highest recorded since 1879, being 20.3 per 1,000.

CARLISLE (Population, 38,750).—*Curious Epidemic of "Milk Typhoid:" Febrile Disorder among Cows: Outbreak of Typhus Fever.*—A very interesting account is given in Mr. William Brown's annual report for 1887 of an outbreak of typhoid fever connected with milk-supply. Happily, as regards its extent and fatality, it was comparatively insignificant; but the circumstances under which the disease originated are peculiar, and important enough to justify the publicity given to them. There was no history of imported infection, and no antecedent case of typhoid in the immediate neighbourhood could be traced. The typhoid prevalence in the locality involved had for many years been relatively small, in comparison with other districts which had been held in higher repute for their salubrity. The water in use at the dairy was analysed and reported to be good, though the amount of organic matter was considered rather large for an "excellent" water. It was, however, ascertained that a febrile disorder, having a very striking resemblance in its symptoms to human typhoid, had existed among the cows at the infected dairy on several occasions previous to the outbreak among the human inmates, and the last case of febrile disorder among the cows was present about the beginning of March, just when the first death was reported as having occurred. Twenty-three cases came under notice, all of which had been supplied with milk from the infected dairy. Mr. Brown does not express a decided opinion that the milk was infected before leaving the cow. He points out that the typhoid poison may have been conveyed to the milk either from the hands or clothes of the milkers (who performed the double duty of nursing the patients and milking), or from infected house dust, etc. It is remarkable also that Mr. Brown's experience as to the localities of fatal and persistent typhoid fever in Carlisle shows them to be in the immediate vicinity of slaughter-houses, cowsheds, and places where tripe and entrails are cleansed. An outbreak of typhus fever was also recorded, and it is interesting to note that coincident outbreaks occurred at Newcastle, Mary-

port, and Flint. The mortality from scarlet fever was exceptionally low, but the statistical returns vary little from those of 1886, the death-rate being 19.9 per 1,000, compared with 19.4 in that year.

Doncaster Combination (Population, 90,661).—*Prevalence of Measles and Scarlatina: Greater Care needed in dealing with Scarlatina.*—Dr. J. Mitchell Wilson's jurisdiction extends over a wide area, and much useful and valuable information is afforded by the reports which he has made for the several districts comprised within it. Although the mortality of 1887 was favourable, yet there was really more illness from infectious diseases than in ordinary previous years. Outbreaks of such diseases as measles and scarlet fever, which occur periodically in every district, according to the amount of susceptible material, were frequent among children in this district during 1887. Although measles was the more fatal, yet scarlet fever seems to have been particularly troublesome, prevailing in nearly every month of the year. Personal infection was the history of all the outbreaks, gross carelessness being generally manifested in dealing with the cases. As Dr. Wilson remarks, in cases of small-pox every assistance is readily given to check the spread of the disease, and he urges that similar endeavours should be used to stamp out scarlet fever. There is not the means of securing protection by vaccination against fever: but that very fact ought to influence the public to use tenfold more care in dealing with a disease against which there is no sure protection unless rigid isolation of the sick and thorough disinfection of the patient's clothing and room be observed. In spite of the scarcity of water, owing to the dry season, and the temptation thus given to use drinking-water from impure sources, the death-rate from typhoid and other forms of fever was only 2.8 per 1,000. The death-rates of the individual districts varied from 16.0 in Tickhill to 20.2 in Selby; while in each of the four rural districts of Doncaster, Goole, Selby, and Tadcaster the rates were very closely approximated to the average of country districts in England and Wales.

Gloucestershire Combination (Population, 123,333).—*Case of supposed "Anthrax."*—Among the many points of interest presented in Dr. Francis Bond's report for 1887, a case of so-called anthrax is deserving of special notice. The circumstances connected with it were of a complicated nature, and are fully recorded in the report. Dr. Bond, however, inclines to the opinion that the patient, who was liable to erysipelas, had, in slaughtering and dressing an ailing bull, infected his system, through some sore places on his arm, with ordinary septic matter, and in this way he developed a form of septicæmia which, whatever it may have been, did not possess the special virulence of well-marked anthrax. A stumbling-block in the way of this hypothesis was the fact that the medical attendant on the case believed he detected the microbe of anthrax in the body of the deceased, and this opinion was confirmed by the London expert to whom he sent specimens for examination. Other cases of interest were of typhoid fever, of which there was a larger number than for several years previously, and in many of them the only cause for the attack which Dr. Bond could discover was that of exposure to heat during the unusually hot weather of the summer of 1887. In very few was he able to trace the faintest clue to exposure to pre-existing specific infection either of person or thing. The health of the combined district during the year was generally satisfactory, though there was a slight increase in the mortality from measles and scarlet fever. The death-rate showed a trifling fall, being 15.6, as compared with 15.8 per 1,000 in 1886.

Watford (Population 13,840).—*Prevalence of Diphtheria.*—Writing at the close of 1887 on the condition of public health during that year, Dr. Brett reports that diphtheria seems practically to have ceased at Watford. From 24 deaths in 1885 and 15 in 1886, the fatal cases were in 1887 reduced to 7, while the general prevalence of the disease was also much less. Dr. Brett gives as the result of his large experience that diphtheria is mostly the result of contagion from a previous case, which is often not discoverable, because the germ is very difficult to destroy, and, after lasting for months, may reappear in a more or less mysterious fashion. With regard to sewer-air and diphtheria, no relationship can be traced as cause and effect. In a court where the rows of houses were twelve feet apart, a road ventilator was for some years a cause of nuisance, and was ultimately closed. During its activity no diphtheria appeared, nor any other illness which could be put down to sewer-air; but in 1887—that is, some years afterwards—several cases occurred within twenty feet of the closed ventilator, 4 being fatal. Of other zymotic deaths during the year, 2 were from scarlet fever, 2 from whooping-cough, and 1 from measles. There were also 2 deaths from croup. The general death-rate was 13.5 per 1,000, of which the zymotic proportion was about 1.0. In 1886 the general rate of mortality was 18, and the zymotic rate about 2.37, per 1,000. Good sanitary work is in progress in Watford, and especially good results have followed the isolation of infectious diseases in the sanitary hospitals.

Withington (Population 22,000).—*Enteric Fever and Water.*—In 1887 the general death-rates of the four townships constituting this district were, with one exception, slightly higher than in 1886, but the zymotic death-rates were all lower. This, as Dr. Railton remarks, is a matter for congratulation, more especially as the district was never free from infectious fevers. A mild type of scarlet fever was the prevalent zymotic, but caused few deaths; and of measles and whooping-cough there was not one fatal case. The gross carelessness of the uneducated portion of the community was, as usual, a powerful instrument in spreading the disease. Some cases of enteric fever are worthy of mention. Four members of a family were attacked, not simultaneously, but at close intervals. The cause of the fever was obscure, but it seemed almost certainly due to infection from some part of the premises, as two cases of the disease had previously occurred there in August, 1886. After a careful investigation, Dr. Railton came to the conclusion that the closet was the place from which the fever arose, It had been used by the two patients of 1886, and, though disinfected, it seems probable that the germs of the disease had not been destroyed. Moreover, during the hot weather of 1887 an intermittent water-supply was adopted by the Manchester Corporation on account of the drought, and this, in Dr. Railton's opinion, had some connection with the development of infective properties in the water-closet. The annual death-rate was 13. per 1,000, comparing favourably with those of previous years.

Wokingham Urban and Rural (Population 3,243; 18,500).—Having been in office but a few months, Mr. Ashby is largely dependent upon the statistics of his predecessor for the compilation of the annual reports for these districts. The death-rates were respectively 14.18 and 12.0 per 1,000—figures which are satisfactorily low, and much below the average. There was but little to record with respect to infectious diseases. Scarlet fever was rather troublesome in some parts of the rural district, and measles was prevalent in the latter part of the year. The number of deaths caused by zymotic diseases was 25, including 7 from measles, 4 from scarlet fever, 4 from whooping-cough, 2 from typhoid fever, and 8 from diarrhœa. In the borough only 2 deaths occurred, 1 from diphtheria and 1 from diarrhœa.

Barton Regis Rural (Population, 12,039).—*Measles: Small-Pox: Need for Hospital Accommodation.*—Dr. Crossman, who has had charge of this district some eighteen months, reports very favourably on its sanitary condition. There are some weak spots, however, to which he calls attention, the most pressing need being for the provision of fever hospitals. The district, though not of large area, extends many miles from point to point, and it would, in Dr. Crossman's opinion, be scarcely possible to find a site which would be accessible from all parts. The only means of isolation at present available is the workhouse hospital, which is so near the city of Bristol, that to reach it cases have to be conveyed through a densely crowded locality, and from which, moreover, small-pox has, during the recent epidemic, been shown to spread to the surrounding locality. Besides this point many patients have a very natural objection to be taken to the workhouse. The need for a hospital was much more felt in 1887 than in the year previous, when there was a remarkable absence of zymotic sickness. Scarlatina prevailed more or less during the whole of 1887, so much so that it was a matter for consideration whether schools should not be closed. Small-pox also threatened the district towards the end of the year, 5 cases coming under notice, and 1 proving fatal. The history of these cases amply illustrates the value of prompt action. The cold spring intensified the mortality connected with the epidemic of measles, which was hanging about Westbury. Whooping-cough was not known to be extensively prevalent, and enteric fever was entirely absent from

the death register of 1887. The general death-rate was 17.7 per 1,000, and of this zymotic diseases contributed 1.2.

St. Marylebone (Population, 156,290).—The sanitary chronicles of this parish do not present much matter of medical interest for comment. Mr. A. Wynter Blyth's annual report summarises the proceedings of the year, giving in tabular form the statistics of births and deaths, and is in reality but a supplement to the monthly record of work done. The epidemic of scarlet fever during 1887, though entailing a vast amount of labour and responsibility, was not proportionately fatal, for the deaths from this cause were less than half those from diarrhœa, a third less than those from whooping-cough, and about three-fourths of the total from measles. Diphtheria was fatal in 11 instances, typhoid fever in 18, and 1 death from English cholera was recorded. Comparing the death-rates at various ages with similar death-rates given in the English Life Table, those from Marylebone are seen to be the lower with one exception, the age period embracing persons of 40 and under 60 years of age. The general death-rate for the district for 1887 was 19.1 per 1,000, that for the Christchurch sub-district being as high as 22.2 per 1,000.

Cleator Moor (Population, 10,420).—*Measles: Scarlatina: Health Officer's Opinion as to Closing of Schools, not Adopted.*—The prevalence of infectious diseases during 1887 was such that it was made the subject of a special inquiry by the Local Government Board. Dr. John Eaton's report states that the zymotic death-rate for the year (6.14 per 1,000) was nearly double the average of the past fourteen years, and only once was it exceeded during that period. Measles and scarlatina were most fatal, measles causing 33 and scarlatina 14 deaths. Every street was invaded by the diseases, which were most rife in September and October. With regard to the influence of schools in spreading infection, Dr. Eaton states that two-thirds of the earliest cases of measles and scarlatina occurred at school-going ages, and though he strongly advised the closing of public schools, the measure was not adopted. The death-rate for 1886 was 12.009, and, for 1887, 19.09 per 1,000.

Daventry, Urban and Rural (Populations, 4,000, 14,800).—*Typhoid Fever: Scarlet Fever.*—The immunity from infectious diseases which the town of Daventry enjoyed during 1887 was not shared by the rural district, where the cases were more numerous than in the two previous years, and eight deaths resulted. Dr. Franklin Churchouse attributes the increase in part to the hot dry summer, but complains that the carelessness of the inhabitants with regard to disinfection and isolation, and their negligence as to the sanitary condition of their houses had much to do with the spread of disease. Typhoid fever was prevalent during the summer and autumn. In Long Buckby there were a great many cases, but the fever was fortunately of a mild type. In all 5 deaths resulted from this disease. Towards the close of the year scarlet fever became epidemic. The urban death-rate was 19.0 per 1,000, and the rural death-rate about 13.6 per 1,000.

Hebburn (Population 15,500).—The rate of mortality from zymotic diseases in this district during 1887 was much less than in the previous year, though each disease contributed its quota to the list of deaths, with the exception of typhoid fever and small-pox. Mr. W. J. Sweet states that only one case of this last-named disease came under notice; it was admitted to hospital, and thence was discharged cured. Measles and scarlet fever were troublesome, and there was a considerable number of cases of whooping-cough, though only three proved fatal. The infant mortality also showed a decrease, but chest diseases were responsible for no less than 37.5 per cent. of the total deaths. The general death-rate was 15.58 per 1,000 in 1887, against 17.1 per 1,000 in 1886.

Leek (Population 13,470).—*Increased Mortality and Zymotic Death-rate: Epidemic of Measles.*—The year 1887 was marked by a considerably-increased mortality, as compared with several preceding years; and the death-rate rose from 17.5 per 1,000 in 1886 to 22.5 in 1887. In reviewing the causes of death, Mr. Ritchie points out a totally changed condition in reference to the existence of zymotic diseases at Leek in 1887; for, whereas only 1 death from such diseases was recorded in 1886, there were in 1887 28 deaths—namely, 20 from measles, 3 from scarlet fever, and 5 from typhoid fever. The epidemic of measles lasted during the months of March, April, May, and June, and, though of a mild form, prevailed extensively, affecting a large number of children. The epidemic of scarlet fever was rendered more widespread by a neglect of the early cases, for so mild were the attacks that medical aid was not sought, and the mischief was spread abroad before any isolation could be effected. The deaths from constitutional diseases numbered very nearly the same as in the previous year, as did also those in the class of "local diseases," except from diseases of the lungs, which were increased by 30, and which, with zymotic diseases, accounted for nearly all the mortality excess of 1887 over 1886.

Chesterfield Rural (Population, 54,322).—*Servants ill of Small-pox sent Home Carelessly: Outbreak of Lead-poisoning: Prevalent Ignorance of Preventive Medicine.*—Zymotic diseases were very rife in this district during 1887, and the frequent importations of small-pox from Sheffield gave rise to much anxiety. The gross carelessness manifested in sending servants from infected localities home to the country, whenever they complain of anything, and without any proper precautions, is very justly condemned by Dr. Mackintosh in strong terms, for it was from cases of this character that the disease was spread through his district. Scarlet fever prevailed without intermission throughout the year, and measles was more than usually troublesome. It is gratifying to find that the mortality was proportionately small, and the death-rate actually showed a decrease upon that of 1886, falling from 18.5 to 17.1 per 1,000. An outbreak of lead-poisoning, similar to that which occurred in the previous year, was recorded, both being connected with the water-supply. The water in the reservoirs, after a long period of drought, was proved to be acid, and this acidity, acting on the lead pipes, produced such dangerous results that water, taken from taps and tested, was found to contain lead to the amount of a quarter of a grain per gallon. The most prominent symptoms were colic, constipation, want of energy, blue line on the gums, headaches, vertigo, convulsions, and, in some, "drop-wrist." Limestone was placed in the reservoirs, but at first not in sufficient quantities to render inert the evil in the water, though it had the effect of neutralising the acid for a short time. Dr. Mackintosh's report is extremely interesting, and contains an unusual amount of general information, in addition to all that arose out of the events of the year. He is no doubt led to enlarge upon the nature and influence of preventable diseases, because of the many instances of total disregard of everything of a sanitary character, and also by the ignorance manifested as to the principles of preventive medicine. If such knowledge were regularly taught in schools, he thinks the influence of the young would probably improve the habits of the aged; while they themselves would be growing up with an intelligent interest in sanitary matters, and doubtless would practise to some extent the knowledge thus communicated to them.

Frome Rural (Population, 13,789).—*Introduction of Small-pox.*—Mr. Joshua Parsons's report for 1887 is, on the whole, satisfactory. No serious outbreak of epidemic disease took place during the year, and, notwithstanding the great heat of the summer, only two deaths were attributed to diarrhœa, and only 17 to abdominal causes generally. The most important sanitary event of the year was the introduction of small-pox to the village of Coleford in November. Nineteen cases came under notice, of which 5 were of a severe type; one in a girl, practically unvaccinated, the other four, adults, who had been vaccinated in infancy, but who had never been revaccinated. No deaths ensued, and the zymotic death-rate scarcely exceeded 1 per 1,000. The general death-rate was 12.7 per 1,000.

Stratford-on-Avon Combined (Population 54,543).—*Schools and the Spread of Disease: Hospital Required.*—The zymotic death-rate of this district for 1887 was low, and compares favourably with that of the previous year, being 0.8 against 0.9 per 1,000. Considered individually, an equally satisfactory return has to be made for the several districts, with the exception of the Evesham Urban District, where measles was very fatal. No case of small-pox occurred. Mr. G. H. Fosbroke again calls attention to schools as a means of spreading disease. As long as stress is laid on the number of attendances made by children, so long will there be considerable risk, and naturally children will often be urged to attend when it would be wiser to exclude them. Only two deaths occurred from scarlatina throughout the entire district, but the lack of hospital accommodation in the Stratford District caused this disease to assume epidemic proportions. None of the

outbreaks were of special etiological interest. In the rural district there was also a considerable number of cases of diphtheria, spread in the first instance by means of schools. Mr. Fosbroke made a careful investigation of the history of each case, but without noteworthy result. There was a comparatively small list of typhoid fever cases, and only three deaths ensued.

BARNSLEY URBAN (Population 32,000).—*High Death-rate: New Hospital.*—The prevalence of infectious diseases has long been one of the weakest points in the sanitary history of this borough, and in 1887 scarlatina and diarrhœa again raised the death-rate far above the average. In 1886 it was higher than in any of the large towns; and in 1887, at 22.5 per 1,000, there were only seven towns with higher rates. An invasion of small-pox and the inadequacy of the hospital accommodation for the reception of cases have, however, given an impulse to the work of prevention, and by the munificence of an inhabitant a new hospital is to be provided, so that in the future Dr. Sadler hopes to be able to give a better account of infectious diseases than he has in the past. The situation of the town is, moreover, unquestionably healthy, being built on the side of a hill; and there are few streets which are not daily swept through by winds from the Yorkshire moors. Such diseases as diphtheria and croup are decidedly less common than in many rural districts.

BARNSLEY RURAL (Population 23,750).—*Hospital Required: Outbreak of Small-pox.*—Scarlatina having been very prevalent and fatal in the Barnsley urban district both in 1886 and 1887, it was not surprising that many cases appeared in the rural district also, especially in those parts of it which are closely connected with Barnsley. There being no provision for the isolation of cases of scarlatina in a fever hospital, all that could be done to prevent the spread of the disease was to keep the children from infected houses away from school, remove all nuisances injurious to health that could be discovered, and provide disinfectants where required. The want of a hospital was severely felt on the outbreak of small-pox, and temporary accommodation was afforded by the urban sanitary authority in face of the common danger. The first cases appeared in December, and were isolated as speedily as possible, but so many were the probable sources of introduction that Dr. Sadler had serious difficulties to contend with. Altogether, the deaths from zymotic diseases were fewer than in 1886, the diminution being chiefly in enteric fever, due to the improved state of Roystone.

STAPLETON (Population, 10,377).—*Small-Pox spread from Workhouse: no Revaccinated Persons Attacked.*—Zymotic diseases were more or less troublesome in this district during 1887, and Dr. Brown instances in this particular an outbreak of small-pox and two of scarlatina. The first outbreak of the latter disease occurred in April, and was traced to milk distribution. The second, much more severe, was supposed to have been due to infection from Bristol, where the disease was prevalent. Measles of a virulent character was epidemic in the autumn, causing 13 deaths, and whooping-cough also prevailed to some extent. With regard to small-pox, of which 49 cases came under notice, Dr. Brown attributes the outbreak to a real contamination with small-pox germs, emanating from the small-pox wards of Barton Regis workhouse. He, therefore, advises the Local Board to petition for their removal to some place where no danger can be apprehended, and urges greater precautions for the destruction of contagion. It was noteworthy that no revaccinated persons were attacked, and the severity of the cases was inversely in proportion to the efficiency with which vaccination had been performed. The death-rate from all causes was 16.2 per 1,000, and the zymotic diseases rate was 4.7.

ILKLEY (Population 5,000).—*Prevalence of Whooping-Cough.*—With much that is favourable, Dr. Scott has had to record a large increase in the death-rate of 1887, and this from causes mainly beyond control. Deaths of visitors are included in the returns, and of these an unusual number occurred of people who came as invalids. The prevalence of whooping-cough among children was aggravated by a long continued severity of weather, which was prejudicial alike to each extreme of life. Of all the causes of death, the greatest mortality was attributed to whooping-cough, next in order being hydrocephalus, heart disease, bronchitis, and pneumonia. Cases of scarlatina were reported from time to time, but none proved fatal.

MEDICAL NEWS.

MEDICAL VACANCIES.

The following Vacancies are announced:

BRISTOL DISPENSARY.—Medical Officer. Applications by October 18th to the Secretary, Castle Green, Bristol.

CHELTENHAM GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum, with board and apartments. Applications by October 6th to the Honorary Secretary.

COUNTY ASYLUM, near Dorchester.—Assistant Medical Officer. Salary, £120 per annum, with board, etc. Applications by October 7th to the Medical Superintendent.

DENTAL HOSPITAL OF LONDON, Leicester Square.—Lecturer on Dental Surgery and Pathology. Applications by October 8th to the Dean.

ESSEX LUNATIC ASYLUM.—Junior Assistant Medical Officer. Salary, £100 per annum, with apartments, board, etc. Applications to the Medical Superintendent.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician. Applications by October 13th to the Secretary.

MANCHESTER ROYAL INFIRMARY (Monsall Fever Hospital).—Assistant Medical Officer. Salary, £100 per annum, with board and residence. Applications by October 6th to the Chairman of the Board.

MILE END INFIRMARY SCHOOL AND WORKHOUSE, E.—Assistant Medical Officer. Salary, £100 per annum, with board, apartments, etc. Applications by October 11th to Mr. W. Thacker, Clerk, Guardian's Offices, Bancroft Road, E.

PADDINGTON GREEN CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £50 per annum, with board and lodging. Applications by October 20th to the Secretary.

PARISH OF CRAMOND.—Medical Officer to the Parochial Board, and Local Authority to the Parish. Salary, £45 and £10 per annum respectively. Applications by October 10th to James F. Mackay, Esq., Whitehouse, Cramond, N.B.

ROYAL ALBERT ASYLUM, Lancaster.—Assistant Medical Officer. Salary, £120 per annum, rising £10 annually to £150, with board, apartments, etc. Applications by October 10th to Dr. Shuttleworth, Medical Superintendent.

ROYAL SOUTHERN HOSPITAL, Liverpool.—Junior House-Surgeon. Salary, £63 per annum, with board, residence, etc. Applications by October 10th to the Chairman of the Medical Board.

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Junior Assistant House-Surgeon. Salary, £50 per annum, with board, lodging, etc. Applications by October 8th to the Honorary Secretary, Medical Staff, Public Hospital, Sheffield.

ST. MARYLEBONE GENERAL DISPENSARY.—Resident Medical Officer. Salary, £105 per annum, with apartments, etc. Applications by October 20th to the Secretary.

ST. OLAVE'S UNION.—Resident Medical Officer to the Infirmary, Lower Road, Rotherhithe. Salary, £300 per annum, with apartments, etc. Applications by October 10th to the Clerk to the Guardians, 30, Tanner Street, Bermondsey.

SALOP INFIRMARY, Shrewsbury.—Assistant House-Surgeon. Board, lodging, etc. Applications to the House-Surgeon.

STOURBRIDGE DISPENSARY.—House-Surgeon and Secretary. Salary, £130 per annum, with furnished apartments, etc., and an allowance for horse hire. Applications by October 6th to G. Perry, Esq., Fairfield, Pedmore, near Stourbridge.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—House-Surgeon. Salary, £60 per annum, with board and residence. Applications by October 18th to the Honorary Secretary.

MEDICAL APPOINTMENTS.

BARRON, Alex., M.B.Lond., M.R.C.S., appointed Professor of Pathology in University College, Liverpool (Victoria University) *vice* Alex. Davidson, M.A., M.D., F.R.C.P.Lond., resigned.

BRENNAN, M.A., L.K.Q.C.P.I., appointed Medical Officer to the Low Park Dispensary, Swinford Union, *vice* G. A. Stritch, L.F.P.S.Glasg., resigned.

DUTT, A. C. M.B.Camb., appointed District Surgeon to the Pendleton Branch Dispensary, *vice* E. O. Summers, M.R.C.S., L.R.C.P., resigned.

GEMMELL, John E., M.B., C.M.Edin., appointed Registrar and Medical Tutor to the Royal Infirmary, Liverpool, *vice* Alex. Barron, M.B.

GOULD, J. E., M.R.C.S., L.R.C.P., apointed Assistant Medical Officer to the Whitechapel Infirmary.

HIGGINS, Thomas, L.R.C.S. and C.P.I., appointed Medical Officer to the Stradbally Dispensary, *vice* W. Perceval, M.D.Glas., resigned.

HINDHAUGH, James, M.B., B.S.Dur., appointed Resident Medical Assistant, City of Newcastle Infectious Diseases Hospital, Walker-on-Tyne.

HYSLOP, Theo. B., M.B., C.M.Edin., appointed Assistant Medical Officer to Bethlem Royal Hospital, *vice* R. Percy Smith, M.D., M.R.C.P.

LYS, Henry Grabham, M.B.Lond., M.R.C.S., appointed Resident Accoucheur to the London Hospital.

MACALISTER, Charles J., M.B., C.M.Edin., appointed Clinical Tutor to the Royal Southern Hospital, Liverpool.

MANNING, Philip Percy, M.B.Durh., M.R.C.S., appointed House-Surgeon to the Manchester Ship Canal Hospital, Ellesmere Port, *vice* R. E. Harcourt, M.B., resigned.

MILNER, Edmund J., M.A., M.B.Oxon, M.R.C.S., re-appointed Resident Surgical Officer to the Royal Infirmary, Manchester.

OWENS, G. Matthews, M.D., appointed a member of the Medical Board of Queensland by the Executive Council of that colony.

POGSON, W., F.R.C.S., appointed Medical Officer of Health for the Leeds Rural Sanitary District.

RUGG, G. L., L.R.C.P., M.R.C.S., appointed Medical Officer to the Norwood District and Schools.

SCOTT, Arnold, M.R.C.S., L.R.C.P., appointed Assistant Medical Superintendent to the Fulham Union, *vice* L. Hurlbutt, M.R.C.S., L.R.C.P., resigned.

SMITH, R. Percy, M.D., M.R.C.P., appointed Medical Superintendent to Bethlem Royal Hospital.

STOCKS, W. P., M.R.C.S., L.S.A., appointed House-Surgeon to the Salford Royal Hospital, *vice* J. E. Pilkington, M.R.C.S., resigned.

STOKES, John, M.B., B.S.Dur., M.R.C.S.Eng., appointed District Surgeon to the Salford Royal Hospital, *vice* J. M. Preston, M.B., C.M.Edin., resigned.

SUTHERLAND, D. G., M.B., C.M., appointed Medical Officer to the Parish of Dornoch.

THOMAS, Thelwall W., M.R.C.S.Eng., L.R.C.P., appointed Registrar and Surgical Tutor to the Royal Infirmary, Liverpool, *vice* Henry Briggs, M.B., F.R.C.S.Eng., resigned.

THOMSON, J. A. M., L.K.Q.C.P.I., L.R.C.S.I., appointed Medical Officer of Health, Bradford-on-Avon, *vice* W. D. Lovell, M.R.C.P., M.R.C.S., resigned.

WEEKES, C. J., M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant Resident Medical Officer to the Coast Hospital, Little Bay, Sydney, New South Wales, *vice* R. W. Young, M.D., resigned.

INQUEST ON A CASE OF IDIOPATHIC TETANUS.—An inquest was recently held at Ringwood, Hants, on the body of a young man, aged 25, who died, after a short illness, from idiopathic tetanus. The occurrence of the disease in this form is, as is well-known, extremely rare, and the diagnosis exceedingly puzzling. The patient came of a hysterical family, and Dr. Geary Dyer, under whose care he was, although treating the case on the supposition that it was tetanus, was inclined to attribute the trismus, which was the only prominent symptom, to hysteria; this view was apparently confirmed by a temporary improvement, but the patient somewhat suddenly grew worse and died. Some of the relatives made serious charges of malpraxis, which led to an inquest being held, but the jury, after hearing the evidence of Dr. Dyer, his assistant, and Dr. Kent, who was called to the patient when *in extremis*, found a verdict exonerating the medical men from all blame.

THE CLINICAL SOCIETY OF MANCHESTER.—The annual meeting of this Society was held on Tuesday, October 2nd, when the following office-bearers and committee were elected for the year 1888-89:—*President:* Leslie H. Jones, M.D. *Vice-Presidents:* William J. Sinclair, M.D.; P. M. Pierce, M.D. *Treasurer:* C. H. Braddon, M.D. *Librarian:* A. Wahltuch, M.D. *Committee:* E. Stanmore Bishop, F.R.C.S.; W. H. Boddy, M.D.; R. Crean, M.D.; A. Hill Griffith, M.D.; A. Hirst, Esq.; James Holmes, M.D.; C. F. H. Kitchen, Esq.; H. Lund, M.B., F.R.C.S.; William N. MacCall, M.D.; E. Rayner, M.D.; W. Alfred Renshaw, M.D.; T. Smith, M.D.; William Thorburn, M.D., F.R.C.S.; William Walter, M.D.; J. Westmorland, Esq. *Auditors:* S. J. Erwin, Esq.; J. Ferguson, Esq. *Secretaries:* T. C. Railton, M.D.; S. H. Owen, M.D.

DR. DE BARTOLOMÉ, who has been President of the Sheffield School of Medicine for upwards of twenty years, and to whom much of the credit of the new school, erected at a cost of £6,000, opened on Saturday last, is due, was, in acknowledgment of his efforts, asked to lay the foundation stone of the building last year. A further compliment is still to be paid him; his portrait is to be painted by Mr. B. E. Cammell. The necessary sum has been subscribed by his medical friends in Sheffield and the neighbourhood, and when finished it will be hung in the library.

GLASGOW NIGHT ASYLUM FOR THE HOUSELESS.—For the past year the total admissions to this Asylum have been 36,453, showing a nightly average of 99, as against 101 the previous year, there being altogether nearly 500 fewer this year. There was a decrease of 887 on those coming from Ireland, those coming from Scotland having increased. The House of Industry, in connection with the institution, instituted for respectable women willing to work but out of employment, is being carried on, the inmates numbering 13.

SOCIETY FOR THE STUDY OF INEBRIETY.—A quarterly meeting was held on Tuesday, October 2nd, at 11, Chandos Street, W., the president, Dr. Norman Kerr, in the chair. A paper was read by Dr. F. J. Gray, of Old Park Hall Retreat, Walsall, Staffordshire, on the "Various Classes of Inebriates and Their Treatment." The diseased state of the inebriate was enforced, with the necessity for sound medical treatment. A discussion followed in which Surgeon-Major Poole, Dr. Arthur Jamison, Dr. Joseph Smith, and the Chairman took part.

YELLOW FEVER EPIDEMIC.—Ninety-eight fresh cases of yellow fever, and no deaths are reported to have occurred at Jacksonville in the twenty-four hours ending October 2nd. Up to September 30th 2,403 cases and 242 deaths are stated to have occurred. No very recent news has been received from Fernandina owing to the only telegraphist there having been attacked by the fever.

THE very general regret felt in Nottingham and the district at the sad death of Dr. Alfred Claude Taylor, the circumstances of which we published last week, was shown by the attendance of fully 5,000 persons at his funeral, which took place on Saturday last.

DIARY FOR NEXT WEEK.

WEDNESDAY.

BRITISH GYNÆCOLOGICAL SOCIETY, 8.30 P.M.—Specimens and notes of cases by Dr. Inglis Parsons, Mr. Reeves, Dr. Fancourt Barnes, Dr. Granville Bantock, Mr. Lawson Tait, Dr. Mansell-Moullin, and the President.

ROYAL MICROSCOPICAL SOCIETY, 8 P.M.—Mr. H. B. Brady, F.R.S.: Reproductive Condition of Orbitolites Complanata var. Laciniata.

HUNTERIAN SOCIETY, 8 P.M.—An address from the President, Mr. R. Clement Lucas. Dr. Robert Barnes: The Recent Triumph of Surgery. Special general meeting at 7.45 P.M.

FRIDAY.

CLINICAL SOCIETY OF LONDON, 8 P.M.—Mr. Nunn: Injury to Elbow-joint: Unreduced Dislocation of Head of Radius and Injury to the Ulnar Nerve. Dr. Pasteur: Case of Pulmonary Gangrene treated by Incision and Drainage. Dr. A. Morison: Case of extensive Ankylosis of Skeleton, with Diaphragmatic Breathing. Dr. Stephen Mackenzie: Case of peculiar Skin Disease—possibly a form of Lupus. Living Specimens:—Dr. Stephen Mackenzie: Syphilitic Arthritis.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

ARNISON.—On September 29th, at 11, Eldon Square, Newcastle-on-Tyne, the wife of W. C. Arnison, M.D., of a daughter.

PETTY.—On August 27th, at Campana, Argentine Republic, the wife of Michae John Petty, Surgeon to the Buenos Ayres and Rosario Railway Company of a son.

SUTTON.—On September 26th, at Whitehall, Pontesbury, Salop, the wife of Alfred M. Sutton, M.B.Lond., M.R.C.S.Eng., of a daughter.

WARD.—On August 29th, at Quetta, Beluchistan, the wife of Surgeon-Major Ward, Medical Staff, of a daughter.

MARRIAGES.

AUDLAND—SHOUBRIDGE.—On September 25th, at St. Saviour's, Pimlico, by the Rev. John Audland, Rector of Dinton, Wilts, brother of the bridegroom, William Edward Audland, M.R.C.S., L.R.C.P., of Brooklands, Wellingborough, Northants, younger son of John Audland, Esq., Ackenthwaite, Milnthorpe, to Anna Laura, elder daughter of Harry Shoubridge, of 111, Belgrave Road, S.W.

HARPER—BRAND.—On October 3rd, at the parish church, Great Driffield, Yorkshire, by the Rev. Canon Newton, M.A., Vicar, assisted by the Rev. James Davidson, M.A., Vicar of Nafferton, cousin of the bride, and the Rev. C. Sundius Smith, M.A., Curate, James Harper, M.D., South Kensington, eldest son of James Peddie Harper, M.D., Hertford Street, W., to Helen Watson, youngest daughter of the late Alexander Brand, Esq., Aberdeen.

HASLAM—COOPER.—On October 2nd, at St. Peter's Church, Caversham, by the Rev. A. Molineux, M.A., William Frederick Haslam, F.R.C.S., of 24, York Road, Edgbaston, Birmingham, son of the late James Haslam, of Reading, to Amy, daughter of the late Lewis Cooper, of Caversham. No cards.

HOUSEMAN—HARGREAVES.—On October 3rd, at the parish church of St. Luke's, Heywood, by the Rev. R. W. Perry Circuitt, assisted by the Rev. J. Duerden, James Gilpin Houseman, M.D., younger son of the late John Houseman, M.D., of Newcastle-on-Tyne, to Mary Emily, elder daughter of James Hargreaves, Esq., Gooden House, Hopwood, Lancashire.

MACLAREN—NICHOLSON.—At Trinity Church, St. John, N.B., on September 6th, by the Rev. Canon Brigstocke, assisted by the Rev. A. J. A. Gollmer, Murray MacLaren, M.D., M.R.C.S., to Olivia Mary, eldest daughter of the late J. W. Nicholson, Esq.

SYDENHAM—HEMPSON.—On September 26th, at the parish church, Ramsey, Harwich, by the Rev. C. St. Barbe Sydenham, Rector of Brushford, Somerset, assisted by the Rev. R. A. Oram, Vicar of the parish, Geo. F. Sydenham, M.R.C.S., L.S.A., of Dulverton, Somerset, to Rose, second daughter of Amis Hempson, Esq., J.P., of Heb House, Ramsey, Harwich.

DEATH.

HAWKINS.—On September 28th, at Guy's Hospital, of diphtheria, in the 28th year of his age, Francis Stanhope Hawkins, B.A., M.B.Oxon., F.R.C.S., House-Surgeon, third son of the Rev. R. Hawkins, Vicar of Lamberhurst.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).;

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's—1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

TO CORRESPONDENTS.

OUR correspondents are reminded that prolixity is a great bar to publication, and, with the constant pressure upon every department of the JOURNAL, brevity of style and conciseness of statement greatly facilitate early insertion. We are compelled to return and hold over a great number of communications chiefly by reason of their unnecessary length.

QUERIES.

MEDICAL SERVICES IN TURKEY AND EGYPT.

D. S., M.B. asks: 1. To whom should application be made in order to secure the post of surgeon in the Imperial Ottoman service, either army or navy? 2. Is a colloquial knowledge of Turkish a *sine quâ non*? 3. What are the emoluments attached to the post of military or naval surgeon? 4. To whom should one apply for the post of medical officer under the Egyptian Government? 5. Is Arabic absolutely essential? 6. What emoluments might one expect, supposing one were appointed to the post of civil (or military) surgeon?

ANSWERS.

PRURITUS VULVÆ.

DR. PERCY NEWELL (Ipswich) writes: I would suggest to your correspondent "C. R. C." in the JOURNAL of September 22nd to try the lotion recommended for pruritus vulvæ on page 27 of the 7th edition of Atthill's *Diseases of Women*, namely: R Acidi carbolici, gr. xx; tr. opii, 3iv; acid. hydrocyanic. dil., 3ij; glycerin. 3iv; aquæ q. s. ad ℥iv. M. ft. lot. sup. int.

MR. CHARLES H. BEDFORD (Edinburgh) writes: "C. R. C." should first exclude gout, diabetes, and albuminuria, as well as skin eruptions (eczema, herpes, and phthiriasis), carcinoma uteri vel cervicis, and piles. Treat these individually if present, and combine with such treatment such general rules as avoidance of stimulants, regulation of bowels, and a diet more vegetable than animal in its nature. Locally, bathe the parts night and morning with water as hot as it can be borne, and, if necessary, use vaginal douches of same; also any of the following: Ung. zinci oxidi, ung. plumbi acetatis, ung. hydrarg. nit., aa partes æquales, apply thrice daily; ol. menth. pip. applied "neat" with a brush to the parts every three hours (I have found this a most valuable palliative); borax 3j, ol. menth. pip. mv, aq. Oj (spoken highly of in JOURNAL, April 15th, 1888); ext. bellad., glycer., equal parts—a very useful and soothing application, with or without acid. hydrocyan. dil. ʒss—ʒj; and lastly (especially for such an old-standing case as "C. R. C." mentions) ung. picis, lanolin, and vaseline, part. æqual. Also order a mixture containing liq. arsenicalis (Fowler) mv, sodii bromidi gr. x to xx, ter in die, and interdict scratching.

The catamenial exacerbation is due to the physiological congestion then and the nocturnal to the same cause, produced jointly by the usual rise of blood pressure at night and the warmth of the bed drawing the blood to the surface.

DEPUTY SURGEON-GENERAL F. E. SCANLAN writes: In reply to "C. R. C.'s" query as to the treatment of pruritus vulvæ, I would advise him to try the following: R Cocaine gr. x; lanoline ʒj. M. ft. ungt. A small quantity to be rubbed in; or even the application of ice will afford relief.

PROBATIONER NURSES WITH SALARY.

DR. FRED. H. DAVIES (Tilbury) writes: A young lady patient of mine is anxious to become a hospital nurse; in her case salary could not be dispensed with. Could you kindly tell me her best way of proceeding?

*** There are several vacancies at the Great Northern Central Hospital, Holloway Road, N., and an early application should be made to the matron. Miss Vincent, the able matron of the Marylebone Infirmary might also be able to help Dr. Davies's friend to secure what she wants.

STOVES.

M.D. writes: With regard to stoves for sick-rooms, I cannot understand how "Calorifaciens" (p. 647), having had experience of George's calorigen, can desire anything better or cheaper. Four guineas will cover all initial outlay, and the purity of the air supplied is such that one of these stoves is fitted in a small front room of my house wherein many orchids are brought to perfection.

M.D. (Norwood) writes: In answer to "Calorifaciens," I would suggest Leed's Patent Floor-Warming Stoves as decidedly the best in regard to efficiency, economy, and saving of trouble to servants. Having some experience of these and of other heating appliances, I can recommend Leed's stoves as the most satisfactory in every respect. There is perfect combustion of the gas, the heating power of which is fully utilised and diffused by radiation. Scientific principles have been applied to the construction of this stove, so that the thorough heating of the room is effected where it is most required—on the floor—without rendering the atmosphere unwholesome or unpleasant. No flue is required, ordinary attention being given to ventilation. The advantages resulting from the use of gas for heating purposes are so great that I believe it will be much more largely adopted in the future. Hitherto, however, there have been objections to most of the stoves owing to smell, waste, etc. Whilst Leed's stoves are a little more costly to buy than some other gas-heating inventions, they are much more economical in the use of gas (average consumption less than ½d. per hour). The smaller sizes are well adapted for bedrooms, etc., and are so used by several of my friends, who find them most convenient and efficient. The stoves may be seen in operation at 51, Queen Victoria Street, E.C.

TRAINING OF DEAF AND DUMB CHILD.

"L. N." might apply to Miss Howe, Bancroft, Hitchin, Herts, who would furnish terms upon application. Under her the deaf-mute child would receive a most efficient training.

NOTES, LETTERS, ETC.

MESSRS. BURROUGHS, WELLCOME AND CO. have received the "grand diploma of honour" for their preparations shown at the Sanitary Exhibition now being held in Ostend.

ENEMA IN DISEASE OF RECTUM OR ADJACENT PARTS.

DR. DUNCAN J. MACKENZIE (Glossop, near Manchester) writes: In the JOURNAL of June 19th, 1886, I described a method of continuous rectal alimentation by means of a tin vessel raised above the level of the patient's body, a fine india-rubber tube and a piece of catheter introduced into the patient's rectum. I have found the same apparatus serviceable in a case of advanced cancer which commenced in the body of the uterus, and in which there are alternations of diarrhœa and constipation, with hardened fæces difficult to evacuate in the diseased condition of the parts. The nozzle of an ordinary enema syringe cannot be borne, but the fine tube introduced, so that its point is just within the sphincter, causes less disturbance. Water containing glycerine soap runs slowly by gravitation, and time is allowed for the hardened fæces to be softened before expulsive efforts are induced.

THE NEW SYDENHAM SOCIETY.

DISCONTENTED writes: In the JOURNAL for June 30th you publish a letter from Mr. Hutchinson in reference to the above Society. Mr. Hutchinson says: "The year's series ought to be complete by the end of June, but from unavoidable circumstances it will not be so this year till the end of July, or it may be a week or two later. Two volumes are yet to come. They will be sent out together almost immediately."

Now, Sir, this is the last week in September, and yet the two volumes have not been sent out. I ask Mr. Hutchinson is this fair or business-like treatment of the subscribers? It can be no wonder if the members of the Society diminish. I have been a subscriber for sixteen years.

*** We are informed on inquiry that "Discontented" is under some mistake. One of the two volumes mentioned has been in the hands of most of the Society's members for more than a month past. The other work, together with the first volume for the current year, will be issued almost directly. The delay has been solely with the printer and binder. The volumes referred to are a fasciculus of the *Atlas of Pathology* (already out), a volume of selected monographs, and the second (concluding) volume of Spiegelberg's *Treatise on Midwifery*.

CASCARA SAGRADA IN SOLUTION WITH IRON AND OTHER DRUGS.

DR. J. JOHNSTON (Bolton) writes: In connection with Dr. John Irving's letter in the JOURNAL of September 22nd, it may be of interest to know that liquor potassæ will answer the same purpose as ammonia in clearing the muddy mixture of extr. casc. sag. liq. in water, and permitting the addition of iron, bismuth, etc.

A CORRECTION.

DR. IRELAND (Prestonpans, East Lothian) writes: In the report of the discussion on the value of inhalations in the treatment of lung disease in the JOURNAL of September 29th, I am made to say that in phthisis "residence amongst pine trees and a high elevation must be combined." Read "may" instead of "must." This makes an important difference as far as the statement of my opinion goes. The name of the tree used for disengaging terebinthinate vapours is Pinus Cembrot, not Cembra.

POPULAR TERMINOLOGY.

THE following lines have been strung together by the house-surgeon of a south country dispensary; they consist entirely of the expressions used by mothers in describing to him the complaints of their infant offspring.

"'E's cutting 'is teeth across the loins with a wheezling on the chest;
We always thinks for this complaint Roosian taller plaisters is the best."
"'E's come out all into a rash; I am sure 'e 'as the measles;
'E's worked up'ards and down'ards, and 'is milk comes up in curdles."
"E's a-wasting to a shadder; I am sure everythink I've tried;
I gives 'im boiled bread and arrowroot, yet 'e's never satisfied."
"Mother says 'e's got consumption of the bowels, but I think it all lies in 'is 'ed;
'Is little nose it keeps a-snuffling, and 'is little bottom is quite red."
"'E's got the thrush which is a-going through 'im,
So I give 'im a cooling powder, which give 'im rather a doing."
"'E's cutting 'is teeth crossways; they ain't quite through yet.
'Is little 'ed sweats so at night, it makes the piller soaking wet."
"'E's inwardly convulsed; 'is little eyes roll so in 'is 'ed;
'E's like a burning coal at night; I can't abide 'im in the bed."
"'E's collecting water in 'is 'ed whilst cutting 'is back teeth;
'E's got the eating diabetes, for 'e does nothink else but eat."
"Every time 'e draws 'is breath it comes right from 'is little stummick;
'E's got the red-gum all over 'im; 's teeth it is what's done it."
"When 'e waked the water stood upon 'is 'ed in drops, and reg'lar smoked;
'Is breathing was that 'ard at night, I thought 'e must 'ave choked."

PAROXYSMAL SNEEZING AND PAROXYSMAL ASTHMA.

STUDENT writes: I have for years been subject to attacks of paroxysmal sneezing, not severe, but inconvenient. I lately tried painting the bridge and alæ of the nose with aconite, as recommended in a recent number of the JOURNAL. The sneezing was at once mitigated, and in a short time, as I continued the application, entirely disappeared. As the sneezing was passing off, I began to awake in the night with a difficulty of breathing, new to me. This developed, by the time the sneezing had entirely disappeared, into a smart attack of paroxysmal asthma, from which I had never before suffered. The asthma yielded to treatment, but as it did so the sneezing returned, and is now much what it was.

THE DEGREE OF M.D.

A HOSPITAL SURGEON writes: For fully ten years I have carefully read all correspondence and remarks concerning the vexed question of M.D. The degree men always arrogate to themselves a high place on account of their degree, and pretend to look down upon their so-called humbler brethren who are only holders of diplomas. Not only do they do so in the public prints, but likewise in private life.

Most M.D.s, in writing their protests, hang their arguments on the commercial aspect of the case, completely forgetting that we are servants of the public, and that degrees and diplomas are, in the public estimation, the government stamp of the value of the man. The public know not that the main difference between degree and diploma is essentially a matter of Greek, natural history, and botany, and being compelled to pay fees to attend certain lectures delivered by men who are appointed to their posts by laymen and friends, frequently irrespective of their merits—and likewise appointed for life.

More than half the degrees granted in this country are granted under such conditions, and the men holding them are the most pugnacious for their so-called rights. Their university authorities uphold them in their clamour for the exclusion of the non-university men. At the present time degrees (with a well-known exception) are a public delusion; not only that, but they are a positive hindrance to the progress of medical science in this country. Universities are public property and their officials public servants, and, being such, their examinations should be open, without let or hindrance, to all comers, and whoever can pass the required examinations, irrespective of his having attended certain classes since he passed a previous examination, should receive the coveted reward.

It has been suggested, and I would echo that suggestion, that the M.D. should be granted *only* to men who have been a certain time on the *Register*, and who can pass a really good clinical examination, and a searching examination on a particular branch of the science, and that these should be the only conditions. Let the M.D. be to medicine what the F.R.C.S. is to surgery.

HYOSCINE.

DR. W. EASBY writes: I can bear out what Mr. Pitcairn says about the use of hyoscine. In July last I used it hypodermically in a case of sciatica. One-hundredth of a grain was injected, and gave relief from the very severe pain for several hours, lasting longer than morphine. I have used in several cases the solution prescribed by Dr. Webber in the *Practitioner* for December, 1886, and have found it most useful where chloral and opium are out of the question. I see Mr. West makes the same mistake as Dr. Thomson; hyoscyamine is not hyoscine. I would advise both to read Dr. Webber's paper.

THE USE OF THE LEFT HAND IN OPERATIONS.

MR. ERNEST D. BOWER (Ophthalmic Surgeon to the Gloucester General Infirmary) writes: Dr. J. P. R. Jamison, in some remarks on "The Use of the Left Hand in Operations," says: "To become dexterous with the left hand, we are told to shave with it, carry our stick or umbrella in it, play the piano or violin. These exercises, though useful to a certain extent, do not soon give that power over the left hand already in possession of the right (if they ever do) in using small instruments, because in none of them are the lumbricales muscles, which give precision in incision, brought into play. These muscles are, however, used in writing, the practice of which with the left hand, though awkward at first, soon gives the desideratum," etc.

Dr. Jamison can hardly, I think, be a pianoforte player, or he would be well aware that probably in no other use to which the hand is put are the lumbricales more exercised—so much so, in fact, that they have been termed by anatomists "fidicinales." In my judgment there can be no better training for the left hand in operations—or, for the matter of that, for the right hand also—than diligent and painstaking practice on the piano or organ, preferably, perhaps, the former, as it requires more delicacy of touch. The movements are complicated and difficult in the extreme, as every pianist knows, and any man who has successfully grappled to even a moderate extent with the mechanical difficulties of either pianoforte or organ playing should overcome with comparative ease all the various manipulations that are required in the performance of surgical operations; in fact, as far as mere mechanical dexterity is concerned, there is no comparison between the skill required to play a musical instrument and that which is necessary for the successful performance of even the most difficult surgical operations.

I think I may, perhaps, claim to have had a fair amount of practical experience of both pianoforte playing and ophthalmic surgery, and I have long been in the habit of drawing the attention of my pupils to the advantages to be derived from constant practice on a musical instrument in giving strength, precision, and independence to the fingers; at any rate, I can say that personally I have found it of the greatest value.

It has always seemed to me that in works on surgery, and particularly on ophthalmic surgery, sufficient attention is not paid to the question of the training of the hands; in fact, as a rule, the subject is not even mentioned. Mr. Brudenell Carter, however, in his treatise on *Diseases of the Eye*, makes some admirable remarks on ambidexterity, and the training of the hands generally in operations upon the eye.

The subject is one to which further attention might well be directed; but I scarcely think that the act of writing can be an altogether satisfactory method of educating the left hand to be more skilful and deft in surgical manipulations and operations.

FLY-BLOW AND DEVELOPMENT OF EGG IN THE HUMAN ARM.

MR. J. R. SEYMOUR, late surgeon to the ss. *Teneriffe*, writes: Mr. A., second mate of the ss. *Teneriffe*, came to me (when we were homeward bound from the West Coast of Africa) complaining of pain and swelling in his right arm. On examination there was over the deltoid muscle near its insertion what looked like a boil, with widespread surrounding inflammation and slight œdema. Mr. A. assured me that about a fortnight previously (we were then calling at different ports along the West African coast), it being very warm at night, he had woke up with a slight pricking sensation at the present site of inflammation, and had also found his arm bare, the bedclothes having been tossed off during sleep. From this time the arm continued pricking, became slightly painful, swollen, hot, and red; and the last day or two Mr. A. said he could feel something moving about, as it were, under the skin. Upon exercising gentle and continuous pressure around the inflamed spot, as if to extract the core, there was expressed from the arm a lively white maggot with a brown head, about half an inch in length and one-sixth of an inch in diameter. Not having the opportunity of keeping it to watch its further development I am unable to say what kind of fly had deposited an egg in this situation; but there were several species of insecta flying about the ship. The arm was dressed and the cavity syringed out with carbolic acid lotion and it very soon got perfectly well.

Hypospadias.

Mr. Trafford Mitchell (Gorseinon) writes: On August 22nd I was called to examine an infant a few hours old, whose sex was uncertain, and found it a case of so-called hermaphroditism—in reality, one of hypospadias. The penis measured about five-eighths of an inch from the os pubis to the point of the glans; the corpora cavernosa were well developed and the glans was of large size, but the urethra opened on the under surface of the penis, a little on the perineal side of the pubes. From this urinary meatus a groove lined with mucous membrane extended forwards to the glans, whilst a well-marked raphé extended backwards to the anus. The prepuce was well-developed above, but the integuments were deficient beneath in the neighbourhood of the groove. The scrotum resembled two exaggerated labial folds, and as the skin covering these was continuous with the mucous membrane of the groove before mentioned, and there was considerable depression on either side of the raphé, the resemblance to a female was very great on a hasty inspection. There was no trace of the female vagina. No testicles were found in the scrotum; but this is what was to be expected, as the child was born in the eighth month of pregnancy.

Smellie's Grave.

Dr. J. M. Watson (Lanark, N.B.) writes: I beg to direct the attention of members to the dilapidated condition of the above, and to solicit their aid to have the resting-place of one of the pioneers of our art rescued from oblivion. I do so at the request of a number of members who visited Lanark with the excursion during the late meeting in Glasgow, who were sorry to see that, unless something were done, even the name of Smellie would soon be obliterated. I ask for small subscriptions, only a few pounds being required to have the lettering redone, the stone repaired, and the grave enclosed by a plain rail. Subscriptions will be received by the Town Clerk, Mr. Annan, the Clydesdale Bank, Lanark, and the execution of the repairs seen to by the provost and myself.

Bad Cleve as a Health Resort.

Dr. W. Woodward writes: Cleve (pronounced Clava) is about four miles from Emmerich, the first town on the Rhine, within about twelve hours of London (fare, per Cook, £2 return); so that you go to bed on the steamer, and wake up within a few hours of Cleve. I left Liverpool Street Station at 8 P.M. and arrived at Cleve at 3 P.M. *viâ* Harwich and Rotterdam; but I believe that *viâ* Queenstown and Flushing, from Victoria or Holborn, is a better and shorter route. It is well situated on the side of a wooded hill, with a fine forest of pine trees extending many miles, with numerous shady walks. The soil is good sand. The water from the hills is very pure, and there is a good chalybeate spa.

The place consists chiefly of a very clean, old-fashioned town, paved with stones, there being one principal street, very steep, with a very fine large church and old palace at the top, commanding an extensive view; also beautiful park-like grounds called the Thiergarten, containing fine specimens of ornamental trees and shrubs. An excellent band, kept up by the hotels, plays alternately at the various hotels, which are beautifully situated, while visitors sit about in or out of doors, smoking, sipping coffee, etc. The air is very fresh and invigorating. It is an exceedingly quiet and healthy place, and, being so near home, requires only to be better known to be appreciated. Still, some 20,000 visitors, chiefly Dutch, are said to come here in the season, lasting from about May to September. The very wet July this year kept many away. There are several very good hotels, and I can speak personally of the Bad as to its situation, magnificent rooms, moderate charges, and excellent accommodation.

The Vaccination Act.

At the Aston Petty Sessions, before which the Rev. Frederick Moore, Minister of the Park Road Congregational Chapel was summoned for neglecting to comply with an order made by justices to have his child Dora vaccinated, the question was argued whether the onus of proving that the child had not been vaccinated was with the prosecution or with the defence. For the prosecution it was urged that the proof rested with the defendant, inasmuch as the vaccination officer could not enter the defendant's house to see the child without rendering himself liable to an action for trespassing. If the vaccination was performed by a public vaccination officer, then that person was bound to send the certificate of successful vaccination to the vaccination office of the district, but if the operation was done by a private practitioner it was left with the parents to forward the certificate. If the child had been vaccinated, then the defendant was liable to a penalty for not sending in the certificate. On behalf of the defendant it was submitted that the onus rested with the prosecution, and several authorities were quoted in support of this contention, but the Bench, ruling that a *primâ facie* case had been made out, and that the onus rested with the parents of the child, fined defendant twenty shillings and costs.

Cocaine in Vaginismus.

Dr. Steeves (Liverpool) writes:—I have tried cocaine in two cases of vaginismus, with partial success. In one instance I prescribed it in much the same manner as Dr. Hayward did, and the spasms were almost entirely removed. In the other case, mention of which will be found in my article "Cocaine Externally and Internally," published in the *Lancet*, September 10th, 1887, I employed the cocaine as a local anæsthetic before the introduction of bougies. The patient was also instructed to use the ointment at night. There was an improvement for a time, but the spasms were never entirely absent, and I believe they are now as severe as ever. The cocaine seemed to lose its effect. The vagina in this case also was rather short.

COMMUNICATIONS, LETTERS, etc., have been received from:

Dr. Mears, Newcastle-on-Tyne; Mr. C. H. Wells, London; Mr. George Rendle, London; Dr. J. Curnow, London; Dr. Champneys, London; Mr. G. F. Sydenham, Windermere; Dr. J. Neil, Oxford; Dr. H. Woods, London; The Jeyes Sanitary Compounds Company, London; Mr. C. Holloway, London; Mr. L. MacLaren, Liverpool; Mr. L. A. Taylor, Brierley Hill; Mr. G. B. Phillips, London; Mr. T. Holland, London; Mr. W. Pogson, Leeds; Mr. Hutchinson, London; Dr. Owens, Brisbane; Surgeon-Major Duncan, Burmah; Mr. H. T. C. Eagle, London; Mr. H. E. M. Morton, Dover; Dr. P. W. Maxwell, Dublin; Dr. T. Rowing Fendick, London; Dr. Willoughby, London; Mr. Wheelhouse, Leeds; Miss Walker Dunbar, London; Mr. J. Bellamy, London; Dr. J. de Meyer, Utrecht; Dr. Drake, Uffculme; Mr. H. George, Glasgow; Mr. Timothy Holmes, London; Dr. Carline, Lincoln; Mr. A. Herbert, Charlton; Mr. J. E. Pollard, Norwich; Mr. N. C. Dobson, Clifton; Dr. Brailey, London; The Dean of the Medical Department of King's College, London; Dr. W. Ramsay, London; Dr. Karkeek, Torquay; Mr. J. F. Dixon, Richmond; Mr. D. C. Haldeman, London; Dr. J. D. Macdonald, Ceylon; Mr. J. E. Erichsen, London; Dr. J. Neish, Jamaica; Mr. H. S. Simmonds, London; C. H. Bedford, M.B., Edinburgh; Mr. A. H. Williams, Edinburgh; Dr. J. Oliver, London; Mr. P. Newell, Ipswich; J. E. Gemmell, M.B., Liverpool; Mr. T. Bates, Worcester; W. Richards, M.B., Birmingham; The Local Secretary of the Lancashire and Cheshire Branch of the British Medical Association, Blackburn; Dr. T. More Madden, Dublin; Veteran; Mr. J. F. Nicholson, Hull; Dr. Kirkwood, Largs; D. Sutherland, M.B., Halkirk; Surgeon-Major J. R. Greenhill, M.B., Nottingham; Dr. R. Barnes, London; Mr. J. W. Burwood, Bourne; Dr. J. Ridge, London; Dr. Norman Kerr, London; Mrs. Lily Dale, London; Mr. J. Anderson, London; Our Manchester Correspondent; Dr. F. Payne, London; Mr. C. Fox, Cardiff; Mr. A. E. Poolman, London; J. Hindhaugh, M.B., Newcastle-on-Tyne; Dr. G. W. Steeves, Liverpool; Mr. J. A. Dow, London; Dr. J. B. Ball, London; Mr. F. P. Mules, Manchester; Mr. F. E. Scanlan, Dover; Mr. J. R. Seymour, London; Mr. W. Martindale, London; Mr. M. D. Palmer, Newbury; Mr. S. B. Mason, Pontypool; Dr. P. M. Deas, Exeter; Dr. W. A. Aikin, London; Mr. T. M. Watt, Hovingham; H. G. Lys, M.B., London; Mr. W. Schroder, London; Mr. W. Thorburn, Rusholme; Dr. Edwardes, London; Dr. A. E. T. Longhurst, London; Mr. R. Thorburn, Sedburgh; Our Glasgow Correspondent; Mr. A. R. Gunn, Tarporley; Dr. L. H. Ormsby, Dublin; Dr. J. O'Connor, Manchester; Messrs. Burroughs, Wellcome and Co., London; Dr. W. A. Elliston, Ipswich; Mr. R. Eager, Stourbridge; Dr. A. M. Edge, Manchester; Dr. T. S. Bulmer, London; Messrs. H. R. Williams and Co., London; Mr. J. Macready, London; Mr. W. F. Haslam, Caversham; Mr. Wynne Baxter, London; Dr. B. P. Smith, London; Mr. W. H. Audland, Wellingborough; Mr. A. W. Loveridge, Newport; Mr. Bland Sutton, London; Dr. Tatham, Salford; Dr. Ward Cousins, Southsea; F. Matheson, M.B., London; Mr. Burdett, London; Mr. F. C. Morgan, London; Mr. W. Dendy, Aylesbury; Mr. H. L. Albert, London; Dr. Tucker Wise, London; Mr. G. Archer, Brandon; Mr. J. A. Barton, Bristol; T. H. Hyslop, M.B., Lancaster; P. P. Manning, M.B., Ellesmere Port; Dr. M. Baines, London; Dr. Houseman, Newcastle-on-Tyne; Mr. R. Heath, St. Leonard's-on-Sea; Mr. Sinclair, London; Dr. F. C. Turner, London; Mr. R. Walker, Aberdeen; Dr. F. E. Ryott, Newbury; Dr. O. Ziemssen, Wiesbaden; Our Berlin Correspondent; The Secretary of the Medical Society of Manchester; Dr. R. L. Batterbury, Berkhamsted; Mr. R. M. Jones, Denbigh; Mr. S. Murphy, London; C. J. Macalister, M.B., Liverpool; Mr. T. J. Verrall, Brighton; Dr. J. W. Cook, Colchester; Mr. N. L. Boxill, Edinburgh; Mr. D. T. Evans, Hitchin; Mr. T. R. Whitaker, Edinburgh; etc.

BOOKS, ETC., RECEIVED.

Therapeutics: its Principles and Practice. By H. C. Wood, M.D., LL.D. Seventh edition of a treatise of Therapeutics. London: Smith, Elder and Co. 1888.

Directory for the Dissection of the Human Body. By John Cleland, M.D., LL.D., F.R.S. Third edition, by John Yule Mackay, M.D. London: Smith, Elder and Co. 1888.

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AN ADDRESS

ON THE

SURGICAL TREATMENT OF ABSCESS OF THE LUNG AND EMPYEMA.

Being an Introduction to a Discussion in the Section of Surgery at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By T. PRIDGIN TEALE, M.B.Oxon., F.R.C.S., F.R.S.,
Surgeon to the Leeds General Infirmary.

In consenting to open a discussion on such a large and important subject as the surgical treatment of empyema and of abscess of the lung, I fear that I have somewhat rashly undertaken more than, with the little leisure at my command, I am able to do full justice to. My chief aim, therefore, in this paper, will be to draw attention to, and invite discussion upon, certain points in pulmonary and pleural surgery which have forced themselves upon my attention in the management of cases of suppuration near the diaphragm, and to draw attention besides to some points of practice which have recently been under discussion, and which may be considered as being as yet *sub judice*.

Although it is only within the last few years that the question of pulmonary surgery has come to the front, and has commanded a full share of the attention of physicians and surgeons, so much has been accomplished and attempted, that I must crave pardon if I fail, within the limits of this short paper, to give due credit to the pioneers in this excellent work.

My attention has been more especially drawn to this question by four cases recently under my care, in which suppuration occurred, and was discovered and treated, in the region of the base of the right lung. Two of these recovered after incision and drainage, the two others died. In two cases besides, in which abscess in the region of the diaphragm was suspected, I explored with the aspirator freely, the patients being under the influence of ether, but without success, no pus being detected. Both patients died within a few days, unrelieved. Five of these cases were attended in conjunction with Dr. Allbutt, and the sixth in conjunction with Dr. Eddison. I will give the points in the four cases in which pus was found, and will add two similar cases related to me by personal friends.

Case A, reported in the *Lancet*, July 6th, 1884.—Mr. B., a patient of Mr. Ireland, of Tadcaster, began to be ill with pain about the colon, and transient obstruction of bowel. After some months of indefinite illness, dulness was discovered in the lower half of the right side of the thorax. As this was supposed to be pleural effusion, I was asked to tap the pleura. The first introduction of a fine trocar and cannula, aided by aspiration, brought away a few drachms of clear pleural fluid only. I therefore explored at another point, thrusting the trocar more deeply, and then drew off offensive thin pus, which did not flow readily through the cannula, but, by aid of aspiration, was drawn out to the extent of a pint. Ten days later the dulness was as great as ever, and the patient began to expectorate stinking pus. Under ether I first established the fact of the offensive pus, which I then expected to find in the pleural cavity. On opening the pleura, a small quantity of serum escaped, and I could feel the lung close to the wall of the chest. Knowing that pus was present, I again thrust in the trocar, and, guided by the cannula, passed my finger into a large cavity in the lung filled with most offensive pus, into which a large drainage-tube was inserted. The gentleman, aged 54, was perfectly well in five months.

Case B.—Mr. A., under the care of Dr. Johnson, of Kirkby Overblow, after suffering for many months from attacks of intense pain about the epigastrium, sometimes attended with peritonitis, had recently commenced to expectorate most offensive pus. Dr. Johnson, considering that there must be abscess of the lung, requested me to see the patient, with a view to exploration of the thorax. I found dulness of the lower half of the right side. The patient being under ether, a trocar was inserted about the posterior border of the axilla, and a pint of clear, sweet, pleural effusion was drawn off. No sign of abscess. As there was still much dulness about the anterior axillary border, the trocar was again introduced at the upper border of the eighth rib, five inches and a half from the nipple, and immediately stinking pus flowed out. Guided by the cannula, I opened the pleural cavity between the seventh and eighth ribs, and introduced my finger into the comparatively healthy pleural cavity whence the clear serum had been drawn. Then, to my surprise and dismay, I found that the cannula passed through the diaphragm into an abscess which lay beneath the diaphragm. After some consideration I enlarged the opening through the diaphragm, discovered that the abscess lay above the liver, the surface of which was smooth, and introduced a large drainage-tube.

In the course of twenty-four hours his condition became extremely critical, in consequence of the rush of air into the thorax at each inspiration, which not only embarrassed the right lung, but interfered with due action of the left. By dint of perseverance and ingenuity Dr. Johnson succeeded in sealing up the incision in such a manner as to prevent the inrush of air without destroying the drainage, and so restored the mechanical power of inspiration. In twenty-four hours the danger had passed, the sound lung was working perfectly, and the patient was at ease. In three months all was well, and he was able to address a large assembly.

Case C.—Mr. S., a patient of Dr. Ormsby, of Slaidburn, was suffering from symptoms of abscess of the upper part of the liver, and I was asked to explore. A trocar passed between the tenth and eleventh rib discovered pus. Following the course of the cannula I made a free incision, and, introducing the finger, discovered a large cavity bounded below by a ragged surface of the liver, from which three pints and a half of sweet pus escaped. Turning the finger upwards towards the diaphragm I discovered an opening through the diaphragm that would admit two fingers, evidently leading to the base of the pleural cavity. Unfortunately I did not make a second opening between the ninth and tenth ribs, so as to give direct drainage to the cavity above the diaphragm, but contented myself with inserting one large drainage-tube into the hepatic cavity, and a second large tube upwards through the opening into the pleural diverticulum.

For a week all went on very well, with a normal temperature and great relief. Then febrile and hectic symptoms returned, as if the pus were imperfectly escaping. At the end of six weeks I made a second opening between the ninth and tenth ribs, into a large cavity between the base of the lung and the diaphragm, which communicated with the hepatic abscess through the opening in the diaphragm. Relief from the second operation was but transitory, and he died at the end of two weeks from the second operation.

Case D.—Mr. P., a patient of Mr. Carter, of Chapel Allerton, in the course of an illness began to expectorate fetid pus. There was dulness about the base of the right lung. A large collection of most offensive pus was found by incision between the ribs, and drainage was established. There was not the relief expected, and he sank at the end of a week. At the *post-mortem* examination the abscess was found to have burrowed behind the liver, and in the posterior mediastinum, and recovery under any circumstances of treatment seemed to have been out of the question.

To these cases of my own I may without impropriety add two others which have been related to me by medical friends, both of which recovered.

Mr. R. N. Hartley, of Leeds, gives me particulars of the following case: A female, aged 27, suffered from acute pleuro-pneumonia, followed by very slow convalescence, with an uneven temperature, dulness at the base of the left lung, pain with orthopnœa, and then sudden expectoration of offensive pus. Puncture with a trocar between the seventh and eighth ribs, just in front of the angle, discovered pus. Guided by the cannula, he incised and exposed the lung, continued the incision through the lung until he reached and let out about a quart of stinking pus. The cavity was drained. In three days all urgent symptoms had gone and the patient could lie down. The patient made a slow but uninterrupted recovery.

Dr. Davies, of Swainton, tells me the following case: A farmer, aged 21, in July, 1885, suffered from left pneumonia, and was laid up the following winter, expectorating pus. In the spring of 1886 the left lung was well, when the right lung fell amiss, with expectoration of pus, often in great quantities, even a quart at a time. This continued until June, 1887, when the expectoration became horribly fetid. In March, 1888, he became worse and seemed to be sinking. On April 1st Dr. Davies gave chloroform, made an incision into the thorax, and tapped the lung, letting out

a quart of pus. The drainage-tube was removed on May 17th. On July 9th the patient had been for some weeks apparently well, the lung being fairly resonant.

If we look into some interesting papers published in *Guy's Hospital Reports* by Dr. Hilton Fagge in 1874, we shall find that abscesses such as I have described have been found not infrequently in the *post-mortem* room; and, reading these cases by the light of our recent experience, we shall be struck with the fact that the physician or surgeon, though face to face with evidence of a collection of fluid about the diaphragm, sometimes with evidence that that fluid was pus, failed to drive at the source of mischief, either withholding the exploring trocar altogether, or, puncturing and missing the mark, they still refrained from repeating the puncture, and so left the abscess to be detected only in the deadhouse. Certain points bearing upon the surgery of the chest seem to be unfolding themselves to our view.

1. We are losing our fear of exposing the pleura and the lung, just as we have learnt step by step how to deal boldly and safely with the peritoneum.

2. The evil of admission of air into the pleural cavity is not the mere exposure of the pleural surface to the air, is not that the lung collapses by the mere admission of the air, but that where there is a fairly healthy lung and pleura, the inrush of air reduces to a serious extent the mechanical power of the thoracic wall over the function of inspiration.

3. That in cases in which this mechanical difficulty threatens the life or impedes the recovery of the patient, surgery must decide upon the best method of closing the wound to the inrush of air whilst allowing adequate drainage of any pus cavity to be carried on.

4. That the region of the diaphragm is a situation in which abscess amenable to surgical treatment frequently occurs, such abscesses often commencing below the diaphragm, and tending to discharge through the diaphragm and through the lung.

5. It seems probable that such abscesses can be more safely attacked through the lower angle of the thorax, provided there be dulness at the seat of puncture, than through the abdominal wall.

6. As to washing out the cavity of a large pleural, or pulmonary, or hepatic abscess, it is probable that antiseptic washing is of value in the early period, whilst the cavity is offensive; but that, as soon as the secretion has become sweet, washing is not only unnecessary, but tends to disturb the comfort of the patient, and retard his progress. If drainage be effective, so that fluid does not lodge, the fluid, which is sweet when secreted, should escape from the cavity before it has time to deteriorate.

7. As to the question of excision of portions of rib in treating empyema, on this point I am unable to speak from personal experience. The tendency of surgical opinion seems to be rather to reserve it for special and exceptional cases than to make it a general rule of practice.

Sir SPENCER WELLS said that the only patient he had known for whom an abscess of the lung had been drained more than forty years ago was still alive and well. He was admitted into Malta Hospital in 1843 dying of phthisis, and a report of the case was published soon afterwards in No. 166 of the *Edinburgh Medical and Surgical Journal*. An abscess had formed in the right axilla, which was opened. Air and purulent matter escaped at once, and large quantities of matter resembling that expectorated in advanced stages of phthisis continued for a long time. Cough and expectoration diminished; so did the discharge, the opening closed, the man recovered strength, and when sent home to England dulness of the right subclavicular region was the only physical sign of disease remaining. So long as forty years ago he (Sir Spencer) had published his opinion that the case encouraged the practice of making incisions into the lung in cases of abscess, and encouraged the hope that when only a portion of one lung was affected, and the pleural surfaces were adherent, a free external opening would relieve the bronchial irritation and its concurrent evils. He would not enter upon the further question of the treatment of empyema, or the incision of the lung in cases of gangrene, or of removal of portions of diseased lung in some exceptional cases, but looked forward with hope to good results from such practice hereafter.—Dr. WARD COUSINS said that the essential purposes of early treatment in cases of thoracic abscess and empyema were re-expansion of the lung and closure of the cavity, but these desirable results were often surrounded by great difficulties, especially when surgical treatment had been delayed. He had during the last few years given up fine tubes and aspirators, and removed the fluid by siphon action, assisted by the occasional use of an exhauster. This method was very satisfactory in the case of young children, but in older patients he always practised free incision. It was often much easier to cut out from an abscess cavity than to cut into it, in consequence of coagulated fibrin and thick purulent deposit lining the wall of the thorax. He always first introduced an antiseptic trocar, and as soon as pus was reached he turned the instrument into a knife and opened the cavity freely in direction of the intercostal space. The operation could be performed with great rapidity. Whenever drainage was inefficient another opening could be made. He did not use drainage-tubes after the first few weeks, for they often caused irritation. The incision could be left open by daily dilatation, and for this purpose he employed an inflatable bag. [The bag was exhibited.] When the opening was narrowed and the orifice was generally the point of obstruction, he recommended the excision of a piece of a rib. In cases of empyema associated with pulmonary fistulæ and fetid secretion, free incision could be practised with great relief, followed by irrigation until the discharge had lost its offensive character. Often during recovery inflation of the chest by forced inspiration was of great value, as it aided in the expansion of pulmonary tissue not hopelessly injured.—Mr. JESSOP (Leeds) said that having been called upon by the President, at Mr. Teale's suggestion, he could not but comply, although he feared his remarks might not be considered quite in point. He would premise that if fluid had been diagnosed, it was the surgeon's duty to demonstrate its presence or absence whether in the pleural cavity or in the lung substance, and if present, to evacuate it. It would sometimes happen that a healthy pleura would be opened. In such an accident, he was able to assure the meeting that the danger was more apparent than real. It had on two occasions happened to him to open the pleural cavity accidentally—once in two places during the emptying of the axilla of carcinomatous glands, when also the occluded axillary artery and vein were in part removed; and again, during the removal of a large enchondroma, together with the rib from which it had sprung. In both instances air entered the chest freely, and was as freely emitted through the artificial opening during the respiratory movements; and in the latter case it was plainly observed through the exposed transparent pleura that the lung maintained its position, size, and shape, without showing any signs of collapse. The first-named case made a rapid recovery without any untoward symptoms, and the latter, operated on ten days ago, showed no signs of pleurisy or other evil result up to the present time. It might thus be accepted that a simple incision of the healthy pleura, uncomplicated by injury of the lung, need not become a source of danger.—Mr. JOHN DUNCAN (Edinburgh) said thoracic abscess should be treated like all other abscesses by opening and drainage. Treatment would vary, however, with the class of case. Thus, in children, opening and a drainage-tube would, in almost all cases, be successful; in early adult cases the same was the case, if precautions were taken that the opening should be not so low that the diaphragm interfered with it, and that a portion of a rib be excised to allow the tube to lie easily. In medium cases suction was an advantage, and Mr. Duncan showed an apparatus which he had devised for the purpose. In very old cases, death sooner or later ensued, but might be averted by excision of large portions of the thoracic wall (not less than parts of eight ribs). Mr. Duncan reported four successful cases of this operation.—Dr. WEBB (Wirksworth, Derbyshire) said he could support the views of Sir Spencer Wells and Mr. Teale in regard to the propriety of making a free opening into the pleura, letting out the pus, and daily washing out the cavity with some antiseptic solution in all cases of empyema, keeping a good-sized drainage-tube in the opening during the intervals. Amongst the cases which he had seen in the last thirty years, perhaps the most interesting was the case of a gentleman he had recently seen in consultation with Dr. Holland, of Matlock. The peculiarities in that case were the very low temperature during the acute stage, the rapidity of the effusion, and the absence of all premonitory symptoms. Four days after the first symptom the fluid had reached the second intercostal space on the left side, whilst the heart's impulse was felt below the right nipple. Aspiration brought away 90 ounces of serum. Some weeks afterwards a cold fit occurred, and, pus being detected, a free opening was made, and daily washing and drainage carried on till a fortnight ago, and the case up to the present was doing well. If he were satisfied of the presence of an abscess of the lung, he (Dr. Webb)

would have no hesitation in opening it through the pleura, and treating it on the same antiseptic principles.—Dr. WARDROP GRIFFITH deprecated the habit of excision of a portion of a rib as part of a primary operation, and maintained that satisfactory drainage was obtained in the great majority of cases by simple incision and insertion of a drainage-tube. He discussed the manner of re-expansion of the lung after operation, and held with Dr. Robertson, of Oldham, that Mr. Rickman Godlee's explanation was inadequate for the majority of cases, but that it was brought about by the valvular action of the dressing. He held that, when an empyema was incised, the functionally active portion of the lung did not collapse, and quoted some observations and experiments brought forward by Dr. Samuel West in the Bradshawe Lecture as lending support to this view.—Mr. WINKFIELD (Oxford) reported a case of empyema, in which an india-rubber drainage-tube was in use, made with a shield by splitting up a drainage-tube and spreading out the ends upon a pad of carbolised lint. Upon one occasion of dressing the shield came away, but the tube was missing; it was not in the dressing, and could not be felt in the wound. A few days later the temperature was going up, and an incision was made, and the finger, being introduced into the wound, felt the tube lying just inside the chest. It was easily removed, and after that time the discharge continued getting less and less, and the patient made a good recovery.—Mr. EDMUND OWEN remarked that in children the intercostal space was so small that it did not, as a rule, allow the easy admission of a good-sized and serviceable drainage-tube. Therefore, if there be any apprehension upon that subject, the surgeon would do well, almost as a routine practice, to resect about half an inch of the rib. Sometimes the physician called in the aid of the surgeon in the treatment of suppurating pleura, because the cavity was not draining with sufficient freedom, and this was almost certain to be when a piece of rib had not been excised. Then, after the resection, drainage went on well, and convalescence became established. Sometimes also the surgeon's aid was called in because a drainage-tube had slipped into the pleural cavity and could not be extracted. This was because a bad style of drainage had been adopted. The best kind of apparatus was that in which a good-sized, stiffish india-rubber tube had one end split into four pieces, this end being passed through a hole in a thick piece of mackintosh about an inch square, the ends being turned down and stitched with silver wire. This convolvulus-blossom tube could not possibly get adrift into the pleura, nor could it slip outward when its flanged part, which lay upon the surface of the chest, was covered with the absorbent pads. Mr. Owen then briefly alluded to a case of hydatid upon the convex surface of the liver (which he had already brought before the Clinical Society), and in which the hydatid was reached and successfully evacuated by a deliberate attack across the healthy pleural cavity. The pleura was opened at about the eighth intercostal space, the diaphragm was incised, and the cyst-wall was brought up across the narrow crevice between the costal and phrenic pleura, fixed by hare-lip pins, and, in the course of a few days, duly evacuated. Instruments and fingers were clean, and absolutely no inflammation of the pleura followed. The lung subsequently descended to its proper level, and perfect recovery in every other respect resulted. Mr. Owen was of opinion that if the surgeon used as much care in operating upon a healthy pleura as he did upon a healthy synovial membrane, the peritoneum, or the arachnoid, it would be found as amenable to treatment as any of those other membranes.—Mr. JORDAN LLOYD asked how Mr. TEALE would distinguish between pulmonary and pleural abscesses. He referred to two cases where separate punctures, made at the same time, had yielded different fluids—namely, serum and stinking pus, and these cases were thought to be interlobular empyemata rather than intra-pulmonary abscesses. With regard to empyemata he pointed out that "freedom of drainage" might be gained both by extending the length of an incision rather than by increasing the diameter of a tube.—In reply, Mr. TEALE said that the question of the advisability of free opening of the pleural cavity was now established, and that there was abundant evidence that the fear of collapse of the lung was, to a large extent, a bugbear. This fear originated by a misconception from the usual *post-mortem* appearances, and also by an erroneous comparison with the condition of pneumothorax. The importance of preventing as far as possible free ingress of air was insisted on, and a manœuvre by which Trousseau used to effect this was described. With regard to the diagnosis of abscess of the lung from empyema, it was not easy, but treatment was little affected by this difficulty. The most important distinguishing symptoms were the coexistence of an expectoration of stinking pus, and the evacuation of clear fluid from the pleural cavity.

AN ADDRESS
ON THE
SURGICAL TREATMENT OF EMPYEMA.

Read at a Meeting of the East Anglian Branch, at Eye.

BY HOWARD MARSH, F.R.C.S.,
Assistant Surgeon to St. Bartholomew's Hospital.

WHEN you asked me, Sir, to open a discussion at this meeting, I felt the difficulty of choosing an appropriate subject. I knew that those present would be largely interested in medicine, while, as a surgeon, I was incompetent to touch ever so lightly on any department of medical practice. It was, therefore, necessary that I should take some question that had both its medical and its surgical side, and I selected empyema, not only because it met this requirement, but also because it is a frequent and dangerous condition, and one in regard to the treatment of which many points of novelty and importance remain open for further consideration. I was also anxious to make a brief allusion to the present relations of surgery to medicine, a subject that has lately attracted a good deal of attention, and respecting which I think there is some little misconception. Some physicians complain that surgery is becoming unacceptably obtrusive, and that organs and their diseases which have always, and justly, been considered medical, have been invaded and annexed by the surgeon. The law of *meum* and *tuum* has, they consider, been set at naught, and they seem inclined to remind the intruder of that stern sentence: "Cursed be he that removeth his neighbour's landmark." I regard the matter in quite a different light. There can be no surer evidence of the progress of medicine than that medicine and surgery should meet more and more frequently on common ground, for it is unquestionably the advance of diagnosis that enables the physician to avail himself of surgical methods. How could a physician venture to ask a surgeon to trephine the skull, or the spinal column, unless he could trust his own diagnosis not only as to the existence, but also as to the exact position of a cerebral or spinal tumour? And as in these cases, so it is with the kidney, the liver, and other parts. Even in those instances in which surgery is employed in medical cases merely for exploratory purposes, the diagnosis of the physician has already cleared the ground up to an advanced point. And certainly the intimate knowledge of disease, and the elaborate methods of investigation and reasoning by which medical diagnosis is at present arrived at may well be regarded by the physician, as they assuredly are by the surgeon, who is an admiring witness of them, as amply sufficient to place those who evince such acquirements far beyond detraction, or any risk whatever of being pushed aside. Supreme in his own department, the physician need feel it no loss either of position or independence to ask for surgical aid. It is, on the other hand, the acquirements I have mentioned that render an appeal to surgery inevitable. The physician must adapt his remedies to his cases. In some he uses drugs with which he acts on the circulation; in others, drugs that affect the nervous or the digestive system, and so forth. But some cases can be dealt with only by direct mechanical or operative interference. How else can a stone be removed from the gall-bladder, or a new growth from the spinal cord, or internal strangulations relieved? But here comes in the principle of the division of labour. Operative interference in these and similar cases demands for its safe application prolonged training and large experience in the execution of difficult manipulative proceedings, neither of which has the physician, who is otherwise fully occupied, either time, opportunity, or inclination to acquire. How, then, can he look coldly on the surgeon who supplies him with what may be termed, from the present point of view, the mechanics of medical practice, without which, in many instances, a correct diagnosis is useless to the patient? Medicine and surgery, in truth, are essentially one. In practice they must, as man's powers are finite, be placed in dif-

ferent hands. But this should create no feeling of rivalry. Real progress lies in their co-ordinate advance, and the highest attainable end is reached when they combine to effect that which is impossible while they are divided.

These remarks are well illustrated by the subject of empyema, to which I wish briefly to ask your attention. The affection is one which presents a double aspect, and for the successful management of which the physician and the surgeon must work in a close and complementary relationship.

In a general sense empyema comes under the head of abscess, and, therefore, to determine its treatment it is necessary to consider what is the best treatment for abscess at the present day. Formerly large abscesses were left to burst spontaneously, because, if left to themselves, they pointed and evacuated their contents safely, and without either local or constitutional disturbance; whereas, when they were opened, septic changes, increased suppuration, and hectic generally followed. But this practice of non-interference has by many been set aside. Means are now known by which septic changes can be prevented, and even very large abscesses can, with due care, be opened with impunity.

Another important advance has been the recognition of the fact that, although in some situations abscesses may exist for long periods without leading to any bad result, pus, even when it is "well-formed and healthy," is an injurious and destructive agent, for it leads to erosion and absorption of the neighbouring tissues; it burrows widely, and leads to the formation of long sinuous passages lined with degenerating pyogenic membrane; it sometimes makes its way into a large blood-vessel or into a joint; or, in the case of empyema, its presence is associated with the compression and binding down of the lung, and sometimes with ulceration of the pleura and necrosis of the ribs. On the two-fold grounds, therefore, (*a*) that there are grave dangers in leaving large collections of pus to burst spontaneously, and (*b*) that there are means by which pus can be safely removed, the practice with a large number of surgeons at the present day is to open abscesses as soon as they are detected. My belief is that, with further experience of the vastly improved results of interference, early evacuation will become the rule to which there will be but very few exceptions. There is a further argument in favour of letting matter out at once. It is that the mere presence of a collection of pus promotes suppuration. In common, no doubt, with many other surgeons, I have often met with cases in which, although before the abscess was opened it was enlarging at a rate which indicated that half an ounce of pus was being formed every day, after evacuation the quantity of pus discharged amounted to only a few drops, and soon entirely ceased. But the contention that, as an abscess, an empyema should be evacuated as soon as its presence is established is strengthened by the danger that the lung may become bound down. From this point of view every day is a matter of importance. Nor, in this connection, must other results be forgotten. The patient may be placed at a great disadvantage by the bursting of the abscess into the air passages; and a few weeks since a case was met with in which suppuration had extended through the diaphragm and produced fatal peritonitis. That there should be no delay when once pus has formed in the pleura, I should, speaking merely as a surgeon, think it advisable, if empyema were so much as suspected by the physician, to introduce a fine needle connected with an exhausting syringe, to ascertain whether matter could be reached.

Whether in the treatment of empyema the aspirator should be used is, I think, a doubtful point. I believe that, generally, it is better to make a incision, and establish free drainage. The aspirator may, no doubt, be successfully used, and after two or three, sometimes after a single aspiration, the formation of pus may cease. Yet, as a rule, it is necessary sooner or later to make a free opening; and it seems advisable, in order to give the lung an opportunity of expanding as soon as possible, to open and drain the pleural cavity at once. The cases in which the aspirator is most likely to be successful are those of recent empyema, but these are also the cases which do best under free incision and drainage. In cases of long standing, where pus is thick and flaky, and where the pleura is lined with a thick deposit of lymph, drainage through a free opening seems to be decidedly called for. As pus is often too thick to flow through the needle it is necessary, in any case in which aspiration is to be tried, to arrange beforehand that, if the tube becomes blocked, the means are ready for making a free incision.

If, as I think is best, an incision is determined upon, an important point is where this should be made. On this question, as well as on the general subject of empyema, the valuable lectures of Mr. Godlee (*Lancet*, vol. i, 1886) should be carefully studied. The main thing is to secure the best drainage of the cavity, and I agree with Mr. Godlee that this is obtained by making the opening in the eighth or ninth intercostal space just external (or anterior) to the angle of the scapula.

As Mr. Godlee points out, an opening at the lowest part of the chest where the cavity is soonest obliterated is less efficient for drainage than one placed higher up opposite the part of the empyema, which is the last to close. The opening is best effected by making an incision through the skin and muscles of the intercostal space, and by then thrusting a director into the pleural cavity and dilating the track thus secured by dressing forceps. No hæmorrhage of any importance is likely to occur by this method. During the operation the patient should be under chloroform, and should be placed on the affected side and over the edge of the table, so that the action of the sound lung is not impeded. An important question is whether part of a rib should be removed in order to secure space for the introduction of a tube so that efficient drainage is established. In adults, in whom the intercostal spaces are wide, this need not, I think, be done. Nor is it always necessary in young children. I have notes of several cases in which the empyema closed completely in less than three weeks after simple incision. Yet the space between the ribs in children is often so narrow that a tube of sufficient size cannot be introduced. In such cases about three-quarters of an inch of the rib just below the incision should be removed. The operation can be performed very easily with cutting bone forceps. It is advisable, I think, to remove the periosteum also, for otherwise the reproduction of the rib takes place so quickly that drainage may become difficult. I have never met with any hæmorrhage that could not at once be arrested, for the wound is open, and any bleeding vessel can be readily found and tied.

Another point is whether the cavity of the empyema should be washed out with an antiseptic lotion. I agree with those who think this should not be done in ordinary cases. It is well known that the proceeding has been followed by serious symptoms; while in a large number of instances the washing out seems unnecessary, for the pus withdrawn is quite free from decomposition, and the cavity has remained aseptic throughout. But in cases in which the discharge is from the first, or subsequently becomes, fetid, irrigation is very advisable. I have used a 2 or 3 per cent. solution of boro-glyceride; boric acid lotion; and a solution of 1 part in 1,000 of tincture of iodine in water. The fluid used should be raised to a temperature of about 90°.

The prognosis, I believe, turns almost entirely on the duration of the empyema. In early cases—those within a month—recovery will, as a very general rule, take place. Sometimes it occurs very rapidly. In some instances the wound has, in children, entirely closed within a fortnight; but in cases of long standing the prospect is often very doubtful. The lung has become bound down; suppuration continues to be free; pus is apt to be retained, locked in by adhesions; the granulations covering the pleural surface become callous; not rarely there is necrosis of one or more of the ribs; while the general condition of the patient steadily deteriorates, and amyloid degeneration of the internal organ not rarely ensues.

In cases in which the empyema is chronic, and in which suppuration continues after a free opening has been made, Estlander's operation, consisting of the removal of a portion of two or more of the ribs, should be performed. This operation is certainly of great value for two purposes. In the first place, through the free opening which it provides the finger can be introduced, and any adhesions that are found to be obstructing the free escape of pus can be broken down, so that free drainage of the deeper parts of the pleural cavity is secured. This is a matter of great importance. Adhesions may form in such a way as to bar the exit of pus from some part of the sac, and till they are removed no progress towards healing will take place. In a case lately under treatment, in which the temperature remained high after part of a rib had been resected and a tube inserted, I resected another rib and introduced my finger, and encountering some adhesions, carefully broke them down. On doing so I found I had opened up an encysted collection of about an ounce of pus. After this the temperature fell to normal, and in about three weeks the secretion of matter had ceased, and the wound was soon soundly healed. In another instance, in a child, aged 5, in which no

progress was being made, I found, on introducing the finger, that a sinus ran for some distance in a direction upwards. This I dilated, and detected a collection of pus partially shut off from the rest of the pleural cavity, and lying nearly as high as the clavicle. The sinus was dilated, and the empyema subsequently closed. Secondly, Estlander's operation affords a method of dealing successfully with cases hitherto incurable, in which the lung is bound down and the chest wall is prevented, by the rigidity and close apposition of the ribs, from falling in and thus obliterating the cavity. Time does not permit me to enter upon any description of the method by which the extensive removal of ribs that may be called for can best be carried out. A full account will be found in Mr. Godlee's lectures to which I have already referred. I will only say that, though it may not often be required, it is a highly important addition to the operative surgery of the thorax.

CLINICAL REMARKS
ON A
CASE OF BRONCHIECTASIS TREATED BY INCISION AND DRAINAGE.

Read in the Section of Medicine at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By DAVID W. FINLAY, B.A., M.D., F.R.C.P.,

Physician to the Middlesex Hospital, and to the Royal Hospital for Diseases of the Chest.

INCISION of the lung, whether for acute or chronic diseased conditions, has been so seldom practised that it seems desirable to place on record every case, in order that a sufficient body of experience may be accumulated, which may in the future enable conclusions of some value to be arrived at as to the propriety of this method of treatment, the dangers attending it, and the results to be expected. The best results have followed the operation in cases of abscess of the lung, although some have been recorded in which cavities of bronchiectatic origin were dealt with successfully. It is obvious to remark here, however, that the differentiation of such cases from those of localised empyema must often be very difficult, and it is not improbable that in some of these the latter has been the diseased condition calling for operative treatment.

The patient in the present case was a boy aged 10, who came under my care in the Middlesex Hospital on October 19th, 1886. He had been under hospital treatment from March 4th to April 25th, 1885, when it was noted that there was a family history of phthisis on both father's and mother's side, and that two years previously he had suffered from what had been called congestion of the lungs, followed by chronic cough and occasional night-sweating and diarrhœa. His physical condition then was much as I shall relate it, except that the signs of disease of the right lung were less marked. He did not then expectorate much, although what he did spit up was fetid.

On admission on October 19th his temperature was 100.2 F., pulse 120, respirations 36. He was pale and rather emaciated, complaining of pain in the chest and shortness of breath, especially on exertion, with cough and a copious expectoration of ill-tasting sputum. The last was so disagreeable to him that it frequently led to vomiting, and it was then that the pain was most troublesome. His bowels were regular, and his appetite fair.

On examination, the ends of the fingers and also the toes were seen to be extremely clubbed. There was some flattening of the right side of the chest, with very deficient movement and well-marked retraction on inspiration of the intercostal spaces in the neighbourhood of the inferior angle of the scapula. The percussion resonance was much impaired over the right side, both back and front; the vocal resonance and tactile fremitus were increased. As regards auscultation, the breath sounds in front were cavernous in character above the second and below the fifth rib, being tubular rather in the intermediate region, and they were everywhere accompanied by loud bubbling metallic *râles*. In the anterior axillary region there was marked cavernous breathing, extending from the fourth to the sixth rib, where loud bubbling *râles* were heard, with whispering pectoriloquy. Posteriorly the breath-sounds were tubular over the lung generally, being accompanied by bronchophony, whispering pectoriloquy, and numerous moist *râles*. The pectoriloquy was most intense over a small area between the inferior angle of the scapula and the spine, where, also, the breath-sounds were markedly cavernous. The left lung, back and front, was resonant, the resonance in front extending across to the right of the sternum; the breath-sounds were exaggerated, and, in the region of the apex of the lower lobe behind, a few fine moist crackles were heard accompanying inspiration.

The heart's maximum impulse was found in the fourth interspace, half an inch internal to the right nipple; the area of cardiac dulness was continuous with that of the right lung, and the sounds were clear. The abdomen was natural, the urine clear, acid, and free from albumen and sugar, and with a specific gravity of 1021.

The breath was extremely fœtid, together with the sputa, which were copious, purulent, and non-aërated. A large quantity was brought up at times after severe coughing, and this was often followed by vomiting.

He was ordered a mixture containing quinine and sulphuric acid, and an inhalation consisting of eucalyptus oil, tincture of iodine, compound tincture of benzoin, and spirits of chloroform. He sweated profusely at night; and the expectoration, although diminishing somewhat, still continued copious and insufferably offensive. The quantity, so far as it could be measured for four days preceding the operation about to be described, averaged about nine ounces, but this estimate did not take account of what was lost when vomiting occurred.

From the length of time that the boy's illness had lasted, and the fact that his previously sound lung was evidently becoming affected, his state otherwise also remaining practically unchanged, and the fœtor of his sputa and breath being a cause of distress to himself and to all around him, it was reasonable to conclude that little prospect of good could be entertained from ordinary methods of treatment. Accordingly, after consultation with some of my colleagues, I decided on giving him the chance of benefit which might result from surgical intervention.

It should be mentioned here that the sputa were examined for lung tissue and tubercle bacilli with negative results. His temperature was hectic in character, but the evening rise was not great until about a week after admission, when it shot up to 102.2° F.

Having decided upon the spot in the posterior chest-wall where the maximum intensity of the signs of cavity indicated the part of lung which it was desirable to incise, my surgical colleague, Mr. Henry Morris, at my request, passed a trocar and cannula into the lung, to the depth of about an inch and a half, the spot of puncture being in the seventh interspace, about half an inch internal to the angle of the scapula. On the withdrawal of the trocar, a jet of fœtid pus spurted from the cannula, indicating that a cavity had been tapped. The cannula being kept in its place as a guide to the cavity, an incision was made over the eighth rib, a portion of which, about an inch and a half in length, was removed. As the pleural surface was not found to be adherent round the opening, the lung was stitched to the chest-wall by three sutures. A small bistoury was then passed along the side of the cannula into the cavity and an incision made in the lung, through which a medium-sized india-rubber drainage-tube was passed. From this a little blood-stained pus exuded, but there was no hæmorrhage of any consequence. The wound was then dressed and the boy was put to bed. Being in great pain in the night, he was ordered a small dose of opium frequently repeated, which relieved the pain and enabled him to get some sleep. The operation was performed in the afternoon of October 27th, and for the two succeeding days the boy's temperature was much lower, and the expectoration less in quantity and less fœtid. There was still some pain, however, and he was ordered 2-minim doses of tincture of opium to be taken with his mixture of quinine and sulphuric acid every four hours.

On October 30th it was noted that his cough was more troublesome, and the sputa again more copious and more offensive, his pulse being 120 and respirations 40 in the minute. The dressings were removed by Mr. Morris when it was found that the drainage-tube had slipped out, and there was no free discharge from the wound, the dressings, however, being stained with pus, and having a very foul smell. A piece of gum-elastic catheter, No. 8, two inches in length, was inserted in place of the soft drainage-tube after a probe had been passed, and the part irrigated with warm Condy's fluid. The superficial wound was then dusted over with iodoform and the dressings reapplied.

On November 2nd the wound was stated to be looking healthy, and there was a fair amount of discharge on the dressings. A probe introduced into the lung cavity could be moved pretty freely in all directions. On examining now the right chest the upper part was found resonant, but below the level of the wound still dull on percussion. Bubbling *râles* were heard over the upper part in front, also faintly heard behind, and below the wound there were coarse friction sounds. The heart's maximum impulse, which before the operation had been in the neighbourhood of the right nipple, was now in the fifth interspace just to the left of the sternum, where also the first sound was loudest.

On the following day (November 3rd) the stitches were removed. The discharge appeared to be lessening, but it and the boy's breath were still fetid, and he sweated profusely when asleep.

On November 6th, at 1.30 P.M., he was seized with a severe attack of coughing, and brought up a considerable quantity of blood; at the same time it was found that blood was oozing through the dressings, and he was becoming blanched. On removing the dressings a large amount of clot was found on their surface, and the whole thickness was soaked with bloody fluid. Fresh dressings were applied, and the drainage-tube left out. Ten minims of liquid extract of ergot were added to his mixture, and he was ordered a teaspoonful of port wine every two hours.

Next day a good deal of blood-stained discharge was found on the dressings, the wound being plugged with clot. The respirations were 60 per minute, and the sputa less offensive.

From this time onwards he got gradually weaker, but no more bleeding took place. The following note was made on November 10th, the day before his death:—"The patient had a fairly good night, sleeping comfortably at intervals. Little sputum is expectorated but that little is very offensive. He is much emaciated and very peevish. The wound looks fairly healthy, and air passes in and out of the opening in the lung; the discharge on the dressings is moderate in quantity and blood-stained; the tube has not been re-inserted. Only a superficial examination of the chest could be made owing to the patient's weakness. This showed that the physical signs were practically unchanged since last examination. He is very pallid; pulse 150, respiration 62." During the following night he was delirious. His breathing became more rapid, and he died from exhaustion on November 11th at 7 A.M.

At the *post-mortem* examination, which was made by Dr. Fowler, the following condition of affairs was noted. In the right infra-scapular region, three inches and a half from the middle line, a portion of the eighth rib had been removed. The wound *in situ* led into the right lower lobe, and also opened the pleural sac. On removal of the sternum the left lung was seen to be much enlarged, extending an inch and a quarter beyond the middle line in the first and second interspaces. The heart was displaced to the right, lying behind the sternum. On the left side there were no pleural adhesions; on the right adhesions separated the pleural cavity into three distinct sacs. The upper corresponded to the apex, and reached to the second interspace anteriorly, the pleura in the sac being normal. The second corresponded roughly to the area of the middle lobe. The third extended backwards from the line of the interlobar septum, and constituted the sac of an empyema which had been produced as a result of the operation, the pleural layers not being adherent opposite the anterior margin of the wound, allowing irritating material from the incised lung to escape into it and set up inflammation.

The right lung was removed with both layers of the pleura attached; the left lung was also removed with it. On laying open the right lung from behind, the following changes were noted. The lining membrane of the trachea and bronchi was acutely inflamed; and in the main bronchus, extending downwards to the lower lobe, almost in the direct line of the trachea, a small triangular portion of bone was found, firmly embedded in the lining membrane, where it had excavated a small sac. The upper lobe was pale and collapsed, and contained two small gangrenous areas; the bronchi were dilated but not ulcerated. The middle lobe was also collapsed and its bronchi dilated. The bronchi of the lower lobe were dilated throughout, forming tubular cavities, which occupied the greater part of the lobe. These were filled with horribly fœtid secretion, and their lining membrane was inflamed and thickened but not ulcerated. The portions of lung intervening between the dilated tubes were in a condition of chronic pneumonia and induration from fibrosis. In the operation a large bronchiectasis had been opened and drained and a tube inserted. This cavity was found to be filled with blood-clot, pale and indistinctly laminated. On removing this, the cavity was found to communicate by a large opening with sloughy margins with a main branch of the pulmonary artery. This was the source of the hæmorrhage, which had ceased on the ectasia becoming filled with clot and its external opening being closed. (Had the opening through the pleura been made half an inch nearer to the spine, the pleural sac above mentioned would have been missed.) There was a large bronchial gland at the bifurcation of the trachea. The upper lobe of the left lung contained two gangrenous patches; the lower lobe showed numerous areas of catarrhal pneumonia. There was no tubercle found in any organ.

The principal varieties of morbid condition for the relief of which incision of the lung has been practised have been thus summarised: (1) abscess of the lung; (2) gangrene of the lung; (3) bronchiectasis; (4) tubercular cavities; (5) hydatids; (6) foreign bodies.

Cases of abscess, gangrene, and hydatids are perhaps those in which the best results have been obtained, and the amount of success attending such cases has been so great that there need be no hesitation in having recourse to this plan of treatment in regard to them. But with bronchiectasis it has been different. Some cases of bronchiectasis have been undoubtedly benefited, a few have been cured; and with regard to others which have been reported, it may be said that some have been admittedly complicated with localised empyema, and that in the case of others the same complication may be reasonably suspected. In the latter class of cases it is not to be wondered at that cure resulted, inasmuch as the bronchiectatic condition was probably secondary to the empyema; and when the pus was drained by external opening, the bronchial dilatations contracted, and ceased to secrete pus. Of those which have been thought to be genuine cases of uncomplicated bronchiectasis, and in which incision of the lung has been practised, I have found records of twenty-two cases, inclusive of the present, and the results have been the following. Four appear to have been completely cured, three have been relieved or partially cured, and fifteen have died within varying periods after the operation. Of the fatal cases, no fewer than three[1] have died from cerebral abscess.

Of the cases in which complete recovery has resulted, the most recent of which I have been able to find particulars was reported by Professor Grainger Stewart at a meeting of the Medico-Chirurgical Society of Edinburgh in July last year. The patient was a man, aged 27, suffering from cough and profuse expectoration of offensive material following an attack of pleurisy nine years previously. With the exception of the fact that it was the left side which was affected, both physical signs and symptoms very much resembled those present in my case. Free incision and resection of a portion of rib were practised, large india-rubber tubes passed, and the cavity washed out with warm boracic acid lotion. In the recorded particulars it is stated that, about a fortnight after the operation, "three smart hæmorrhages took place from the interior of the cavity, which gave rise to some anxiety, otherwise the progress was satisfactory in the extreme," the fœtor disappearing, and the discharge gradually diminishing, with steady progress towards recovery.

This severe hæmorrhage occurring also in my own case, although not usual, has been observed in several of the cases to which I have referred. It was present conspicuously in one reported by Dr. C. T. Williams and Mr. Godlee, in the *Transactions of the Royal Medical and Chirurgical Society* (London), 1886, vol. lxix, p. 318, the patient being a young woman, aged 21, although here the blood did not pass by the external wound, but was coughed up.

There may be various causes for such hæmorrhage, but I am inclined to think that in my case it was due to the pressure of the end of the drainage-tube against the wall of the branch of the pulmonary artery which had given way.

The same conclusion is arrived at by Dr. Williams in regard to the case just referred to, and in another of his cases, where hæmorrhage occurred from the wound, and was apparently due to ulceration from pressure of one of the drainage-tubes. That it had nothing to do directly with the operation is obvious, from the fact that it occurred in the different cases in which it was observed after the lapse of from one to three weeks.

I have said that as to the question of operation in cases of

[1] C. T. Williams, *Proc. Med. Soc.*, vol. iv, 1884, p. 323; C. Y. Biss, *Trans. Med. Chir. Soc.*, vol. lxvii, 1884, p. 217; R. J. Godlee, *Lancet*, vol. i, 1887.

abscess or gangrenous cavity there is little room for hesitation. But it may be asked, is operation to be commended in the class of cases which I have described? To this I would say that in chronic cases in which no substantial benefit accrues from ordinary methods of treatment, where the copious expectoration must act as a constant drain, and is so insufferably fetid as to poison the patient himself and all around him, I think the operation is justifiable. But when, in addition, there are signs of involvement of the previously sound lung, and the not inconsiderable risk of death from abscess of the brain is kept in view, it becomes a question whether the operation is not only justifiable but necessary. In any case there has always been marked alleviation of some of the most distressing symptoms.

As it happened in my case, although there was nothing in the history of the illness to lead to a suspicion of the presence of a foreign body in the bronchus, the fact that a foreign body was there would have greatly diminished the chances of a favourable result, unless in the event of its finding its way out by the external wound.

I may say as regards etiology, that two other of the twenty-two cases of bronchiectasis I have referred to were due to a similar cause; in one a piece of straw was found, and in the other a tooth which had eluded the dentist in the act of extraction.

As to the surgical method in such cases there is no need to say anything. Nothing can be added to what has been said by Mr. Godlee on the subject in his Brompton Lectures (*Lancet*, vol. i, 1887). It has been recommended that care should be taken, before operating, that the pleural layers are adherent. I think, however, that it will be generally admitted that, however probable the adhesion may be in some cases, its certainty can never be assumed until the incision has been made. In the present case the pleura was adherent, but only to the extent of half the length of the wound. If we had only been fortunate enough to have had the opening made half an inch or so nearer the spine, a completely adherent part would have been incised.

To remedy, so far as possible, the lack of adhesions, the lung was stitched to the chest-wall, but this did not suffice to prevent septic material from getting into the non-adherent part of the pleura and setting up a limited empyema.

THE TREATMENT OF RECENT PLEURITIC EFFUSION BY THE ADMINISTRATION OF SALINE CATHARTICS.

By P. BLAIKIE SMITH, M.D.,
Physician and Lecturer on Clinical Medicine, Aberdeen Royal Infirmary.

Those whose general practice it is to treat cases of considerable pleuritic effusion by tapping the pleural cavity must confess that, not infrequently, the fluid reaccumulates, and that it occasionally becomes purulent. Recognising the truth of this clinical observation, I have for some time past discarded operative interference in such cases, relying, for the relief of the effusion, upon the effects produced by saline cathartics, administered in a manner which I shall indicate presently. The exact physiological action of this class of drugs is beyond the scope of the present paper. Suffice it to say that, primarily, they induce watery evacuations from the bowels, with the necessary result that the blood becomes inspissated and absorption stimulated, and hence their well-known utility in the removal of dropsical conditions. Bearing in mind this fact in therapeutics; recollecting, too, that serous exudations have been known to disappear during an attack of cholera (when the blood is to a great extent deprived of its watery element), and that the simple withdrawal of fluids from the diet has been advocated as curative of pleuritic effusion, it seemed reasonable to suppose that if a patient, the subject of this complaint, were starved of fluids and purged by salines, the resulting concentration of the blood would be remedied at the expense of the effusion. In this expectation I was not disappointed, as will be seen from the notes of the following cases treated in accordance with the theory set forth above.

The first case was that of a spare-looking man, aged 28, who was admitted into the Aberdeen Royal Infirmary on January 26th, 1887, suffering from acute pleurisy, with extensive effusion on the left side. The chest gave a dull percussion note up to the second rib, and the heart was beating away to the right of the sternum. The temperature was 101°. For five days after admission, he was treated by the administration of alkaline diuretics, along with the application of counter-irritants. At the end of that time, however, as there was not the slightest improvement in his condition. I determined to try the effect of saline cathartics. Accordingly, on February 1st, I ordered him to have, twice a day, two drachms of magnesium sulphate, dissolved in as small a quantity of hot water as possible, and directed that he be almost starved of fluids, taking care on this head to explain to the patient the object of this (to him) somewhat extraordinary procedure. In passing, I may mention that magnesium sulphate was the saline chosen, partly from its effective cathartic properties, and partly from its great solubility, for it is dissolved in less than its own weight of hot water. The effect of the treatment was soon apparent, and, without going into the gradual changes that took place in the physical signs, it will be sufficient to state that in eleven days all evidences of effusion had disappeared, and that the heart was restored to its normal position. As was to be expected, the secretion of urine underwent marked diminution during the time the patient was under the cathartic treatment, and it is interesting to note that the amount became more than physiological soon after the drug was discontinued.

The next case was that of a robust-looking fisherman aged 28, who was admitted to the Infirmary on May 19th, 1888, complaining merely of debility. On physical examination of the chest, however, there were signs of great pleuritic effusion on the left side. Skodaic resonance was unusually distinct, and the heart was seen pulsating in the right third interspace. There was no increase of temperature. Without spending time in any preliminary treatment, the patient was ordered on May 22nd to have twice a day half an ounce of magnesium sulphate dissolved in the minimum quantity of water necessary for solution, and, as in the previous case, the ingestion of fluids was restricted. Free purgation rapidly ensued, and on May 24th cardiac pulsation was faintly visible in the left fourth interspace close to the sternal edge, but it was still to be seen, though less distinctly than upon admission, to the right of the sternum. Skodaic resonance was now greatly diminished, and the other signs of effusion were much less evident.

On May 29th it was noted that the apex of the heart was beating vigorously in the left fourth interspace midway between the nipple and the sternum (apparently the normal situation in this patient, for there it subsequently remained); skodaic resonance could no longer be elicited; all signs of effusion had disappeared, and loud pleural friction was audible at the extreme base of the lung posteriorly. Within a week from this date the last traces of friction vanished, and the patient was discharged.

In bringing before the profession the treatment of pleuritic effusion by the administration of saline cathartics, as illustrated by the foregoing cases, I trust that I will not be understood as recommending its indiscriminate adoption. Patients of poor physique or in whom a phthisical tendency exists are obviously ill suited for this plan of treatment, and I need hardly mention that when dyspnœa is an urgent symptom, especially when accompanied by signs of collateral hyperæmia or œdema, the use of the trocar gives more speedy relief than that afforded by free purging. Still, one meets with many cases where the effusion is large and of recent occurrence, where dyspnœa is not pronounced, and where signs of physical and constitutional debility are absent, and these are the cases which seem to me to be peculiarly adapted for treatment by the method which is the subject of this paper.

SUPPURATING HYDATIDS OF LIVER: INCISION AND DRAINAGE: RECOVERY.

By WILLIAM S. PAGET, M.D.Lond., M.R.C.P.,
Great Crosby, Liverpool.

The following case, I think, presents some features of interest at the present time, when the surgery of the liver is attracting considerable attention.

W. P., a young man, aged 18, a grocer, resident in the Isle of Man, began to be unwell about the end of March, complaining of shivering, sickness, feverishness, with pain in the right side; no cough, but considerable dyspnœa. He was seen by a medical man and pronounced to be suffering from indigestion and bilious-

ness. After being off work a fortnight he made an attempt to resume it, but could do very little, and finally gave up altogether; and, during the two weeks prior to his leaving the Isle of Man, felt very ill indeed, suffering from frequent shivering, perspirations, pain in the right side, and dyspnœa. He arrived here (where his parents reside) on May 8th, about six weeks from the commencement of the illness, according to his own calculation. He walked down to my house (a quarter of a mile) the next morning, but was much exhausted. There was considerable emaciation; respirations 36, and very laboured; pulse 124; temperature 101°. No signs of any pulmonary mischief, but bulging over the hepatic region, most prominent just below the ribs, to the right of the ensiform cartilage. Dulness upwards to the third rib on right side, and extending across to left side at same level, and merging in the cardiac dulness. The apex of the heart was displaced two inches directly outside the nipple. The dulness below was within a couple of inches of the umbilicus; behind it reached the middle of the scapula on right side. A puncture with a fine aspirating needle, at the most prominent point, revealed the presence of pus, about half an ounce of which was drawn off, of greenish tint and somewhat sickly odour. Thus, the diagnosis of abscess was established; but the origin of it only conjectural, suppurating hydatids, however, being suspected, as there was no history of anything else that could have caused an abscess in the liver.

May 9th (the following day). I aspirated with a large trocar and cannula, and removed nearly three pints of pus. The tubes then became blocked with gelatinous pieces of membrane, and no more pus could be evacuated. The character of the contents of the abscess made the diagnosis tolerably certain, and it was placed beyond doubt by the discovery, upon microscopic examination, of one or two hooklets. Respiration was much relieved by the operation, and the temperature fell to normal for a couple of days. On May 14th, however, phlebitis commenced in the left leg, and there was much tenderness and swelling of the whole limb, with a temperature of 102.5°. There were also the physical signs of refilling of the abscess.

May 17th (eighth day after aspirating). Being kindly assisted by Drs. Matthews and Tooker, I made an incision over the most prominent part of the swelling, just below the ribs, an inch external to the tip of the ensiform cartilage; there were no adhesions whatever between the liver and the abdominal parietes, so several silk sutures were introduced to unite the two, antiseptic dressings used, and tolerably firm pressure applied to keep the parts as quiet as possible.

During the succeeding four days there was no change of consequence, the wound remained perfectly healthy, the phlebitis in the left leg gradually improved; temperature 100° to 101°.

May 22nd. Phlebitis occurred in the right leg, but not to so marked an extent as in the left.

May 23rd. The sixth day after the preliminary operation, firm adhesions having formed, the abscess was opened and a large drainage-tube inserted; about fifty ounces of pus were evacuated, and numerous pieces of jelly-like membrane; the sac was well syringed out with weak iodine, and antiseptic dressings employed. Great relief followed the operation, the temperature becoming normal the second day afterwards; for three days the discharge was most abundant, consisting of pus and membranes; the side was strapped firmly to favour contraction of the cavity.

May 27th. Great discharge of bile, together with broken down orange coloured cysts; scarcely any pus. This continued during four days, there being as much as twenty to thirty ounces of apparently pure bile discharged per day. During this period there was complete absence of bile from the intestine, the motions being perfectly white.

May 31st. Bile appeared again in the stools; on previous evening there had been given a dose of grey powder and rhubarb.

During the following week the discharge consisted of mixed bile and pus, the quantity daily diminishing, so that on June 8th the cavity only held six ounces.

June 14th. A semi-solid mass of cysts came away suddenly, filling half a teacup, brilliant orange in colour; this was the last of the cysts.

July (early). The cavity only held half an ounce. A month later it was converted into a sinus three or four inches in length; and the patient, who three months before looked at death's door, now presented the appearance of robust health.

REMARKS.—The case illustrates the success of the plan (now, I believe, generally adopted) of performing at twice these operations on the liver. In this instance, though the tumour was moderately prominent, and an aspirating needle had been twice introduced, an incision carried through the same point revealed no adhesions. In the absence of any urgent symptoms, it would seem wise to allow six or seven days to elapse between the operations, in order that firm adhesions may form. The chief points in the after-treatment are, doubtless, efficient drainage and thorough cleansing of the cavity with antiseptics, together with firm strapping of the side to promote contraction. A curious feature of this case was the passage of the whole of the bile externally during four days, there being coincidently an entire absence of pus. Subsequent to this the quantities of bile and pus were in inverse ratio, thus showing the powerfully antiseptic qualities of the former.

NASO-LARYNGEAL INTUBATION IN DIPHTHERIA, ETC.

BY J. JAMES RIDGE, M.D., B.S.LOND.,
Physician to the London Temperance Hospital.

As the subject of the operative treatment of diphtheritic asphyxia has been prominently dealt with in recent numbers of the JOURNAL, I venture to describe a new form of intubation which obviates many of the difficulties attending "intubation," especially that of withdrawing the tube. I have performed this operation four times, twice on one patient, and this, of course, is not a large experience. It is enough, however, to show the possibility of the operation, and I have been withholding the publication of this new method in the hope that I might have the opportunity of performing it on other cases, and with better success. For all the patients died, though not before it was clear that the operation had snatched them from imminent death three or four days previously, and, in one case, with such good promise of success, that I think it will be admitted that the operation is not only justifiable, but so promising that it deserves further and extensive use, with such additional precautions as my small experience has already suggested and future trials may indicate.

The operation is accurately described as naso-laryngeal intubation. The first case was that of a child of three years old, to whom I was called in consultation by Mr. Shaw, of Enfield Highway. There were the usual symptoms of diphtheritic croup and impending suffocation. Chloroform was administered, and a piece of wood held between the teeth as a gag. I then passed an ordinary piece of black unvulcanised milk-tubing along the nostril, first having anointed it with vaseline. I then passed my right forefinger into the mouth to the back of the pharynx, and hooked it round the end of the tube. A very little manipulation was sufficient to guide the tube into the glottis, the tube being pushed along the nose by the left hand. The air immediately began to enter and leave by the tube and some mucus was coughed out of the tube with considerable violence. The breathing was evidently relieved, but after about twenty minutes, during a fit of coughing, the soft india-rubber tube was expelled from the larynx, and bent so that the end came into the mouth. It was, of course, at once withdrawn. But even this imperfect operation gave relief. The death by imminent suffocation was averted, probably because the collecting mucus was got rid of through the tube, and the patient lived two days longer.

It was evident from the above case that the soft rubber tube was not the right kind to use, and I accordingly obtained an ordinary No. 10 gum elastic catheter, with an opening at the end, such as is used with a catgut guide. A suitable case presented itself on March 17th, 1888, when I was called in by Dr. Wood, of Enfield, with a view to the operation of tracheotomy on a boy, aged 7, who had been suffering from pharyngeal diphtheria since March 11th, with enlargement of the cervical glands. The larynx had been invaded on March 15th, and on the morning of March 17th suffocation was evidently impending, the chest walls and supra-sternal fossa being drawn in at every inspiration, with occasional struggles for breath. With Dr. Wood's consent, and while he administered chloroform, I passed a large catheter with open end along the nose and into the larynx, in the manner before described. There was at once the same expectoration of frothy fluid coughed with much violence through the tube, through which, however, air passed freely, as could be felt with the hand, and was shown by placing a flame near the end of the catheter. But in addition to this, it was clear that the presence of the tube in the larynx so distended the glottis that the air could pass outside the tube quite as much as through it, and, when the effects of

the chloroform had passed off, the boy could actually speak in a hoarse whisper. The respirations became quieter, and the suffocation was quite prevented. Food and medicine were administered entirely by the rectum, as it was impossible for him to swallow even water without causing a fit of coughing. A short time after the operation the mucous discharge became much less, and only took place occasionally. After a day or two he took a little water every now and then on purpose, in order to cough it out through the tube, which was thus kept clear. The air of the room was kept warm and moist, and eucalyptus oil was constantly vaporised; carbolic acid and glycerine were frequently applied to the fauces, and the exudation therein was kept under, and on the 21st had disappeared on one side, and was breaking up on the other. On the morning of March 20th, three days after the operation, he was breathing comfortably, twenty-six per minute, but there were indications of septicæmia, pale face, half-opened eyes, pulse 132, small. Carbonate of ammonia, quinine, and extract of bark were administered *per rectum*, and in the evening he was better, pulse 96, respirations 24. On the 21st he was apparently much better, his face had regained colour, he could speak, smile, and sit up; he had had sleep during the night, the exudation was disappearing from the throat, and the tongue was cleaning; pulse 96, respirations 24, breath coming freely both through the tube and the mouth. All seemed to promise well; his friends described how well he could swallow the water, and cough it up, and asked him to show me. This he did, and the cough was evidently looser, indicating that the false membrane was breaking up in the larynx, as elsewhere. The cough, however, this time was unusually severe, and in a few minutes he had a very bad struggle for breath; this became easier, but soon returned, and from that time became worse and worse; collapse set in, and he died in the evening.

A *post-mortem* examination was made next morning. The exudation was found to extend about three inches down the trachea, becoming gradually thinner, but not reaching below or occluding the tube; the trachea contained muco-purulent fluid which had collected before death; the exudation in the larynx was ragged and evidently breaking up. The cause of death was found in the lower lobe of the right lung, from the bronchial tubes of which, on section, purulent matter exuded; some of the exudation had become detached, and been drawn down into the lung, and hence the fatal result. This must always be a source of danger, but the means of obviating it I will discuss after a brief narration of the third case.

The third child was younger, only three years old. All the usual symptoms of diphtheria were present, and after the fourth day laryngeal symptoms supervened, proceeding as too usual to impending suffocation. Naso-laryngeal intubation with a catheter gave immediate relief, and the next day the child was playing about with the tube in his nose, tied in with a tape round the head. All went well for two days, when the father very foolishly and contrary to orders gave him beef-tea, which evidently passed into the larynx and lungs, and caused violent cough; even then, however, he rallied again, though not to the same extent, but the breath was so free, both through and outside the tube, that the next day I removed it. Pneumonia, however, had set in and was developing, due, I think, to the mistaken administration of the beef-tea. The breath in a few hours became much worse, and as a last resort I replaced the tube without chloroform and without difficulty, but though it at first seemed to do good, he very quickly succumbed; there was no *post-mortem* examination.

The catheters I have procured for future cases are good gum-elastic, silk catheters. I have cut off the eye, and introduce the end furthest from the eye, which is nicely rounded off and smooth, and, of course, without any bone tip. It is slipped along the nostril easily, and the forefinger of one hand guides it into the larynx. I have also procured a smaller long tube of the same material, which slides easily down the lumen of the larger tube, and have made several perforations in the side near one end. This end I propose occasionally to pass down right into the larynx, and then to withdraw the larger tube a little way until the end is out of the larynx. Through the smaller tube I shall then inject a small quantity of solution of peroxide of hydrogen, as a powerful and non-irritating antiseptic, which will thus be brought into actual contact with the interior of the larynx and the false membrane. As the small tube will be in the larynx, it will act as a guide to the larger, which can then be pushed back into its place, after which the small tube will be withdrawn. I hope thus to obviate some of the sources of failure in the above cases.

I also propose to pass another similar catheter along the other nostril at the same time, but into the œsophagus, so that food may be administered thereby from time to time. The tubes will be plainly marked, so that the food may not be accidentally sent into the larynx.

I trust that others may have an opportunity of testing this new method of procedure, and as it is bloodless one has less difficulty with the parents, the operation need not be deferred so long, and there is less risk of septicæmia.

SENILE RHEUMATIC GOUT.

By WILLIAM BRUCE, M.A., M.D.,

Direct Representative for Scotland, General Medical Council; Surgeon to the Ross Memorial Hospital, Dingwall.

THERE is, perhaps, no disease as to which professional opinion differs more than as to rheumatic gout. This diversity of views is unfortunate, as it affects the kind of treatment and mode of life of the patient, and it disturbs the lay mind and gives occasion for remarks as to the uncertainties of medicine. One school leans more to the gouty origin of the disease and another to the rheumatic. The victim himself naturally prefers to believe he is suffering from rheumatism, and becomes thereby free from many of the restrictions he has got to submit to if dubbed gouty.

On what lines are we to go in diagnosing between rheumatism and gout? First as to acute gout, I fancy there can be no dispute; but the acute classical type as described for all time by Sydenham, like other types of disease, is not so very common as supposed. Acute rheumatism of the recognised kind is a disease *sui generis;* and for my part I have been for long strongly of opinion that it is of germ origin, and totally distinct etiologically from chronic rheumatism. It is an exception to most other zymotic diseases in its tendency to recur, and probably its victims are more likely to suffer from disease of the joints if they survive the original attack, and these diseases may be either rheumatic or gouty. Acute rheumatism must not be confounded with acute polyarthritic gout, which it resembles. The danger lies in mistaking the gouty attack for rheumatism, and not the opposite. The points of difference lie in the age, family history, the fact of previous attacks of gout, the general build of the patient, and the causes of the present illness, which will, if closely scrutinised, reveal irregular living, such as the abuse of alcohol, etc., as well as what the patient will mostly insist upon, fatigue and exposure. The following is a typical case, and they are not very uncommon.

X. Y., a professional man, aged 40, having gone through a severe Parliamentary contest, working night and day, is suddenly seized with pains in most of his large joints. Acute rheumatism is diagnosed, and he is treated strictly with salicylates, etc. Recovery is slow, and he is left with much stiffness of the articulations and is puffy and anæmic when he applies to me at Strathpeffer. Cross-questioning brings out a clear history of family gout, which is borne out by the style of living of the patient. Under the use of baths, waters, and very strict regimen, including complete abstinence from wine and spirits, he makes a brilliant recovery. Next year he returns, but not bad enough to be sufficiently cautious, and the results are not so pleasing.

We have spoken so far of acute rheumatism and acute gout; we now pass on to consider rheumatoid arthritis of the common (?) definite type, which I agree with Garrod (who has done so much in this field) to be a clear and distinct species of joint disease—distinct in its nature, origin, treatment, and termination. I need not enlarge upon this, unless it be to point out that it too may be inflammatory at the onset, and accompanied by pyrexia. It is undoubtedly more common in women than in men, and especially frequent in its origin about the periods of puberty and menopause. I believe that, long as it may be in coming, there is almost always a distinct crisis in its history, and a time when recovery tends to be spontaneous. Perseverance in suitable regimen, which must be liberal, and in baths, massage, change of air, etc., will in most cases ultimately keep in check, if not subdue, the disease. Of this result we have had some interesting cases at Strathpeffer, and one or two (after successive visits) undoubted cures. In this, as in so many other complaints, cheerfulness and hope are the best of all medicines.

Muscular rheumatism is, again, an affection of a clear enough type; but here I would warn practitioners to make sure that the joints also are not affected, as joint affections always involve the

muscles and cause reflex pains in the fleshy parts adjacent to them. Lumbago, deltoid rheumatism, etc., are particularly suited for the massage cure, and very good results may be thus attained, more especially if it be applied sufficiently early, and, as I have said, if there is no inflammatory action going on in the joints. If there be, I entirely agree with Thomas, of Liverpool, in the benefit of prolonged rest and the danger of cures by cunning *coups*. The same remark applies to sciatica, which, as a rule, is really a pain in the muscles of the back, hip, thigh, and leg, and that again reflected from disease of the hip joint, and is curable by rest, careful massage, and by the usual remedies for gout, as detailed further on.

We come now to consider rheumatic gout proper. In the majority of cases a distinct history of gout can be made out, and also some affection of the ears, fingers, or larger joints connected with an equally clear history of digestive troubles. It must not be forgotten that gout often affects the larger joints. Acute gout is very common in the knees, and chronic gout still more frequently in men, doubtless from exposure of these important and thinly-protected joints. The hand placed over the knee outside the clothes will in flexion and extension readily detect the roughness of gout, and affords the practitioner a simple and very ready means of diagnosis. Having shortly mentioned the above well-marked types of rheumatism and gout, I wish now to draw attention to what I shall venture to call acute senile rheumatic gout. I shall quote a few well-marked cases, and I hope to be able to show that here we have a distinct form of disease. I hold strongly with Garrod that gout depends upon uric acid, and look upon his discovery of uric acid in the blood as settling its pathology so far. I entirely agree, too, with his description of rheumatoid arthritis as clearly marking out another and of course different species, but I desiderate the further proof of the exact *materies morbi* in the latter. That there is such I do not doubt. But in the absence of this particular evidence I venture to suggest that there are other peccant results of, let us say, digestion, or, if the term be preferred, abnormal nerve influence, and that in the cases I am to describe such a poison must have been originally present. Or, looking at the question in another aspect, if uric acid be the result of disordered catabolism in a certain series of cases, is it not likely that dealing with such complicated substances chemically as urea other analogous products would be formed? In the February (of this year) number of the *International Journal of Medical Sciences* there is reference to the formation of such a new product in swine, which is called guanin. Nature works in a continuous manner without leaps or breaks, and instead of diseases being sharply defined as in our vocabularies, they probably run the one into the other, so as to leave no distinct boundaries or divisions. Why the joints should be the depositories of these products, which it may be supposed the kidneys, either from superfluity of production or deficiency in their own function, fail to eliminate, is only probable when we consider their physiological function. No portions of the body have cause to vary so much from almost complete rest, it may be in many cases for days, up to, even in the most lethargic, occasional bursts of very hard work. Again, many of the joints are exposed to all the trying changes of heat and cold, lying as they do near the surface, only covered with skin and light fascia. The circulation must vary immensely, and from hyper-activity must pass, it may be, as I have said, for long periods, into utter slowness, amounting nearly to stoppage. Could any condition be more likely to lead to effusion? And Nature, as far as we see, is only too ready, failing the proper emunctories, to take so good an opportunity of ridding herself of the poisonous matters that are hurting her system.

The following are short notes—in some of the cases I fear too incomplete—of examples of the form of disease which I have ventured to classify under a distinct category.

Case I.—J. McG., aged 70, innkeeper, and from his occupation, imbibing stimulants rather freely, but enjoying very good health notwithstanding. (His medical attendant says that he had only once been laid up in the course of thirty years, and then with pleurisy and effusion.) He had been complaining of some "rheumatic" pains for a day or two. He was then exposed to cold and wet for some hours, and came home very ill, and took to bed. He became completely crippled with rheumatic gout, affecting his hands and feet as well as his wrists and ankles. He was most skilfully treated by my friend, Dr. Smith, with salicylates, alkalies, and iodide of potash. Drugs gave relief, but when he arrived at Strathpeffer, three months after his first seizure, he was completely helpless, and could not even turn himself in bed, or feed or dress himself. He took the sulphur waters internally, had frequent baths and thorough massage. He became completely cured, and left Strathpeffer walking about briskly, in three weeks. Last year he returned, but was merely suffering from slight twinges, and has been particularly well since his first visit. He has never had any urinary trouble, and there is no rheumatic history in his family. His jaws were not affected. The whole aspect of his case leaned more to the side of polyarticular gout, and yet the obstinacy of the attack, his age and history, point more to rheumatoid arthritis.

Case II.—T. S., aged 70, in good health. Some weeks previous to April 17th, 1886, he had a chill. On the date mentioned, he was attacked by "rheumatism," and laid aside from work for five months. He was under ordinary medical treatment at home for two months, and subsequently went to Bridge of Allan and Crieff without experiencing any benefit. He came to Strathpeffer early in August, and took waters and baths for three weeks. He left very much improved, and has continued well ever since. The history shows no hereditary tendency to gout or rheumatism. This gentleman, when first seen, was in a very low state, and much depressed in mind from his long sickness, and almost helpless from pain and stiffness of his joints. It was with some difficulty he was persuaded to undertake the course of treatment. The results, if not so brilliant as in Case I, were highly satisfactory. April 30th, 1888, he writes: "I returned home very much improved, and have since been fit for my food and work."

Case III.—J. B., aged 60, lately married again, and feeling very well when he left the country and removed into town about three months previous to his illness in the year 1885. The weather was very cold, but he did not seem to suffer from it till February, when he caught a chill and was seized with pain in his shoulders and limbs, and felt altogether unwell.

On February 24th he was laid up in bed; the pains increased and attacked his stomach, causing great suffering. The pains also attacked his feet and heels; for this salicin was administered, which, although it relieved the pains, did not suit him otherwise. Next a swelling appeared on his neck, behind and a little below the ear, causing great distress, with a feeling of choking, which brought him very low. The swelling, instead of coming to a head, began to decrease just when it had got to an unbearable point. Morphine was subcutaneously injected, and gave great relief; after this there was great weakness of the stomach, and only fluids could be digested. About this time, after he had been ill for six weeks, Dr. Jenner was called from London. He considered the illness was a kind of blood poisoning; he gave hope, however, of recovery. The rheumatic pains continued all through the body during his convalescence, but gradually subsided as he began to take more nourishment. The slight increase of strength he gained in this way enabled him to turn himself in bed, and this was one of the first signs of returning health. During his very weak state he had a succession of nervous attacks resembling fainting fits, about twelve in all; sometimes two or three came on in one day, and exhausted him greatly.

About this time he was getting a nightly hypodermic injection of morphine, which was continued for some weeks till he began to rise from bed again about May 23rd. A fortnight later he was able to be driven out to his country house, five miles from Edinburgh. He then began to go freely into the open air. Then there appeared in the joints of his fingers a swelling, which has continued more or less until now. In August he went to Strathpeffer and took the baths. At this time he was unable to rise from his chair without assistance, although when once on his feet he was able to walk after a fashion; but on his return home in September he succeeded in rising by himself. From that time he continued to gain strength, and in the end of November accomplished a long, continuous journey to Monte Carlo without material injury to his health.

On April 22nd, 1887, he went to Aix-les-Bains, took its baths under Dr. Brachet's directions, and returned home. After this he was well enough to go occasionally into his place of business in town while the weather continued moderately good, but in December he again took refuge from the cold and spent the winter at Ayr, where he gained in strength and weight considerably. He is now home and feels well, is able to go into town for two or three hours daily, and can take a walk of two miles without much fatigue. His colour is much fresher than before his illness, and he weighs 11 stone. It is two years and three months since the illness began. It may be added that the urine was of a dark colour, and often contained a sediment like red sand.

During convalescence (a very painful stage) there was much trouble from flatulence and constipation, for which hot poultices and injections of hot water and oil mixed were administered. A curious though distressing sensation at this time arose from intense itchiness of the back and arms. The diet consisted principally of milk with plain rusks, chicken tea, puddings with finely-stewed figs and prunes, and brandy.

This case is an instance of the complication of the rheumatic affection with parotitis. The latter was of a most severe character, suppuration being at one time apparently imminent, and the patient's life in extreme danger. At this date (July, 1888) he is almost quite well in every respect except that there is still some lingering stiffness, especially about his finger-joints. (He has since had some pain in his back.)

Case iv.—J. K., aged 74, was first attacked in April, 1886, with pain in his left leg. Having never had an attack of anything like rheumatism before, he thought it a sprain, and that with a little rest it would wear off. He gave it a rest, but it still remained. It next extended down his leg, and he was afterwards seized in the other thigh, and in the course of a week or two it extended down to the leg and foot. It was accompanied with a little swelling from the first, but now the swelling increased. As it got worse from day to day, he had to lie in bed, not being able to walk or stand. In bed it increased, laying hold of his arms, shoulders, and hands, which swelled and stiffened, and lost strength so much that he could not put his hand to his mouth, and had to be fed at meals like a child. He could not bear his hands to rest on his body, or one leg or foot to touch the other, for fear of causing a burning sensation. After the disease had passed its climax, and he gained sufficient strength to be able to rise, he saw that he was a skeleton of his former self. Fat and muscle were gone; the bones protruded; his joints were dry and stiff. When eating, his jaw-bones cracked. Even yet—two years after recovery—he sometimes feels this cracking sensation in his knee and shoulder joints when using them excessively; and sometimes, as if not quite extinguished, in his toes and fingers, when warm in bed, he feels the heat of the old fire. His appetite continued moderately good all through, which, with good sleep, sustained him. He had not much pain when he lay without moving in bed, nor when he sat up in a chair; only when he moved or excited himself it troubled him.

He can now walk nearly as well as ever, though of course his strength is reduced. He attributes, as the cause of his complaint, exposure to cold weather: but he lives in a low, damp locality, away from the sun. He was studious, and took too little exercise. No anti-gouty remedies proved of any service. Evidently tonics were most called for, but time was his great restorer.

Case v.—P. R., aged 71, was seized in April, 1887, with severe rheumatism in his arms, beginning in the right, and by-and-bye affecting the left. It came on after being heated and getting chilled. He had not suffered from rheumatism previously, except that he had a sharp attack of lumbago about twenty years ago, which lasted for four weeks. The shoulder-joints were the articulations chiefly affected.

When he put himself under my care the pain, especially on the left side, was exceedingly acute, and interfered greatly with his night's rest. He had an anxious expression, and was depressed in spirits. Sulphur water was prescribed internally, and hot douching and massage to his shoulder-joints. The massage was too vigorously and abruptly applied, contrary to my instructions, and the pain increased rather than decreased. Of the value of massage, judiciously carried out, after inflammatory symptoms have subsided, there can be no doubt; but I have learned from experience that here, as well as in purely traumatic cases, as is so well shown by Thomas, nothing is to be ultimately gained by any form of *coup*. After he left Strathpeffer, improvement gradually set in, and in the course of the winter he got rid of his pain almost entirely, though there was stiffness of the shoulder-joint and occasional aching. He is now again almost quite well.

General Remarks.—I feel that I have been scarcely able to prove my contention that these acute senile cases belong to a different category from gout and rheumatism on the one hand and rheumatoid arthritis on the other; yet, if I have succeeded in drawing the attention of medical men generally to a remarkable type of disease—remarkable in its severity and complete curability even at a very advanced time of life—I shall, I hope, be pardoned for dilating on the well-worn subjects of gout and rheumatism.

CASES ILLUSTRATIVE OF RENAL SURGERY.

By A. W. MAYO ROBSON, F.R.C.S.Eng.,
Honorary Surgeon to the Leeds General Infirmary and Lecturer on Practical Surgery at the Yorkshire College.

Until the lines of practice in renal surgery become more stereotyped by rules laid down as the result of large and varied experience the reports of all operations on the kidney, whether successful or not, should be of interest to the profession.

The following six cases, which have occurred consecutively in my practice at the Leeds General Infirmary, include one of nephrectomy, one of nephro-lithotomy, two of nephrotomy, and two of exploration of the kidney for suspected stone.

I am indebted to my House-Surgeon, Mr. A. H. Smith, for the reports.

Case i. *Abdominal Nephrectomy.*—A. H., aged 57, married, was admitted on December 31st, 1884, on account of a tumour, about the size of an adult head, occupying the left half of the abdomen. It was freely movable by pressure from behind the left loin, and, to a limited extent, from side to side and from above downwards. It was not tender on pressure; the veins of the abdomen were not enlarged; the navel was a little stretched but not prominent. The tumour was dull on percussion, the dulness extending from the tenth rib to the left iliac fossa, and across the middle line to 3 inches beyond the linea alba. The right border of the tumour was convex, and was surrounded by parts resonant on percussion. There was a doubtful sense of fluctuation over the lower part of the swelling. The uterus was natural in every respect. There were no urinary symptoms, the excretion being normal in quantity; clear, specific gravity 1017, acid, and without albumen. The swelling had only been noticed by the patient six weeks, and was growing rapidly. At a general consultation it was decided that the tumour, which was probably renal, ought to be removed.

January 10th, 1885. An operation was undertaken with the usual antiseptic precautions, an incision of 4 inches being made in the left linea semilunaris directly over the prominent part of the tumour. The colon, which coursed over the front of the kidney, was drawn to the right, and the cyst aspirated, about 2 pints of grumous fluid being removed; the visceral peritoneum was then incised over the tumour, which was enucleated, and the pedicle, composed of ureter and renal vessels, was ligatured with strong silk. The cut edges of the visceral peritoneum were then brought up to the cut edges of the parietal peritoneum and then to the edges of the wound, being there carefully sutured with cat-gut, thus shutting out completely the peritoneal cavity; the wound was then brought together by silk sutures, leaving an opening through which a large drainage-tube was passed, down to the region of the cut ureter. An antiseptic dressing was applied, and the patient was treated as after ovariotomy.

For two days the temperature was normal; on the third and fourth days it rose to 100°, but on the fifth was again normal; on the sixth it rose to 101°, whilst on the seventh it was normal in the morning and 101° in the evening; on the eighth, ninth, tenth, and eleventh days it was quite normal, whilst on the twelfth and thirteenth it fluctuated between normal and 101°, and just at the last rose to 103°.

There was never any abdominal distension, and flatus was passed on the second day. After the second day and throughout there was some pain in the left loin. The urine was passed freely and in sufficient quantity, and after the third day the catheter was not required. From the drainage tube there was a discharge of clear sanious fluid, and on the fifth day, the discharge having lessened, the tube was removed. The sutures were removed on the ninth day, the wound being healed except the drainage-tube opening.

On the second day of the case, the news of the desertion of her husband was somehow conveyed to the patient, and from this time she became restless, and rapidly developed symptoms of acute mania. Dr. Eddison kindly saw her, and suggested hyoscyamine; this was very fully tried, and gave some relief; other sedatives except morphine injections quite failed.

The acute mania persisted, and caused her death on the thirteenth day from exhaustion. Had it not been for this most unfortunate complication I believe she would have done well, as, although the drainage was not perfect, the collection in the loin would soon have made itself evident, and could easily have been evacuated.

Post-mortem Examination (abstracted from notes kindly furnished by Dr. T. Wardrop Griffith, resident medical officer).—The wound had healed except the drainage-tube opening, which was quite pervious, but the drainage had evidently not been perfect, for there was a collection of non-fœtid, creamy pus in the region of the left ureter, in the cavity out of which the tumour had come; there was no peritonitis. The opposite kidney was normal. There were some adhesions between the arachnoid and dura mater, apparently old. The tumour after removal was found to consist of the left kidney, which had been converted into a large thick-walled cyst containing grumous fluid; there were no recognisable remains of renal tubes in the walls of the cysts when microscopically examined.

Case II. *Nephro-Lithotomy.*—J. F., aged 18, a labourer, was admitted under the care of Dr. Churton in April, 1886, with the history of having had intermittent hæmaturia, with pain in the right loin, for nine years, the first attack occurring after a strain, and lasting for a week. He had been incapacitated from continuous work because exertion always brought on right genito-crural pain, hæmaturia, and vomiting, although when at rest he felt perfectly well. Physical examination of the kidney revealed nothing abnormal except slight tenderness on deep pressure. The urine was normal when he was at rest, but when he was allowed to walk about microscopic examination revealed a few red blood cells. Dr. Churton diagnosed renal calculus, and on May 27th I operated antiseptically by the transverse lumbar incision. The kidney was fully exposed and handled freely, but no stone could be felt either by me or my colleague, Mr. McGill. It was then punctured in various directions by means of a long needle, and at about the eighth puncture a calculus was felt at the top of one of the calices. The capsule was incised at the convexity of the kidney, immediately over the stone, and a pair of dressing forceps closed were easily pushed through the soft kidney substance as far as the calculus, which was then seized and withdrawn, it being about the size of a horse bean. Very little bleeding occurred; a drainage-tube was inserted, but not into the kidney, and the wound stitched with silver sutures. The tube was removed on the third day, and the sutures on the eleventh day, the wound having nearly all healed by first intention without elevation of temperature, the urine all passing by the normal channel from the first. For a few days after operation the water contained blood, but by the end of the third week it was normal, there being not even a trace of albumen. Three months afterwards the patient remained perfectly well, and had had no return of his attacks.

Case III. *Exploration of Kidney.*—W. M., aged 39, a cloth dresser, was admitted on April 24th, 1885, with the history of having been quite well up to nine months previously, when he began to have pain at the end of his penis, the attack lasting from fifteen seconds to two minutes, continuing intermittently for about three weeks, and being accompanied by the passage of coffee-coloured urine. There was no recurrence for four months, when he was seized with intense pain in the right loin lasting for two hours and a half; this was repeated twice within the next fortnight, after which he was perfectly well for three months, when the attack recurred, accompanied on this occasion by right genito-crural pain and retraction of the testicle. When admitted he was free from pain. The urine was quite normal, and micturition was painless; physical examination of the kidneys and bladder was negative. After consultation the kidney was exposed on April 30th by the transverse lumbar incision, and although it was freely manipulated and afterwards explored in every direction by a long needle, no stone could be felt. The wound was drained; some suppuration occurred, and the temperature rose to 102° at the end of the week, after which it was normal. The day after operation he had a slight attack of pain in the loin, but it was not repeated, and he was discharged quite well on June 2nd. When seen nearly a year afterwards he remained well, and had had no return of his trouble.

Case IV. *Exploration of Kidney.*—F. T., aged 32, mechanic, was admitted on February 24th, 1887, under the care of Dr. Churton, with the following history: That two months previously he was seized while at work with a pain in the left testicle, lasting five hours, since which time he had had frequent recurrence of pain in the left loin shooting into the testicle, so severe as to compel him to go to bed, rest always giving relief. He noticed that during the attacks the urine was cloudy, but he thinks it was not dark coloured, and he never knew it to contain blood. Six weeks before admission, during a seizure, he noticed red, sandy material in the urine, since when he had been unable to work, as exertion always caused a relapse. His seizures had never been accompanied by rigors or vomiting. On admission there was no increased frequency of micturition, and, beyond slight tenderness in the left loin, physical examination by palpation and by the sound revealed no abnormality in the kidneys or bladder. Twenty-eight ounces of alkaline urine, specific gravity 1016, were passed in the twenty-four hours, containing albumen, phosphates, and a few blood cells. He was treated with Carlsbad salts, but without relief, and Dr. Churton, suspecting renal calculus, asked me to see the case with him. On March 17th I exposed the kidney by the transverse lumbar incision. In consequence of the great obesity of the patient, and of the ribs being almost close to the crest of the ilium, the operation was attended with considerable difficulty, the kidney being placed at so great a depth that the hand had to be passed completely into the wound to effect palpation. This being negative, the kidney was punctured about twelve times very freely in all directions, without finding any stone. The after-progress of the wound was quite satisfactory, and the patient was discharged on the 27th day with the wound healed, the urine being acid and free from albumen. In the interval he had had three attacks of the old pain. When seen a few weeks afterwards the urine again contained albumen.

Case V. *Nephrotomy for Abscess in Tubercular Kidney.*—G. B., aged 35, with a good family history, was admitted on May 14th, 1886, suffering from painful and frequent micturition, the urine, which was scanty, containing much albumen and pus, together with tubercle bacilli. He was profoundly weak, and suffering from hectic; the right kidney was enlarged to the size of a fœtal head, and gave an obscure sense of fluctuation. On sounding, the bladder was found to be roughened and ulcerated. There was dulness at the apex of the left lung. He had been suffering from urinary symptoms for four and a half years, and had attended at the Leeds Infirmary two years previously for right genito-crural pain of an intermittent character, which was accompanied by hæmaturia and retraction of the right testicle, together with increased frequency of micturition and some pus in the urine. Nephrotomy was then proposed, but he declined to have an operation, and did not put in an appearance until the above mentioned date, when it was evident that he was suffering from tuberculosis of the urinary organs and lungs, as well as an abscess in the right kidney, and that any form of treatment could give him but temporary relief. On May 20th nephrotomy was performed, four ounces of offensive pus being evacuated, and a drainage-tube left in. Relief was only temporary, and within a few days he died suddenly whilst turning in bed. At the necropsy, numerous miliary tubercle were found in both lungs and in the peritoneum; masses of cheesy tubercle were present in both kidneys, all kidney tissue having quite disappeared from the right.

Case VI. *Nephrotomy after Catheterisation of Ureters.*—M. T., aged 34, was admitted on June 18th, 1886, with the history of having suffered from pyuria with right genito-crural pain during the previous nine months. Micturition had not been very frequent, but had been painful during the act. She had been quite regular in her menses. On admission the urine, which was passed with pain about six times in the twenty-four hours, had a specific gravity of 1023, was alkaline, and very offensive, and contained about one-fourth of pus, with a few granular casts. There was slight tenderness in the right loin. On sounding the bladder nothing abnormal could be felt; but, on examining the pelvis bimanually, a swelling was discovered high up on the right side, which was not very tender, and did not seem to have any connection with her disease. On June 24th the bladder was dilated, but nothing abnormal found until the ureters were catheterised, when clear secretion was drawn from the left and offensive purulent urine from the right; the bladder was well washed out with weak perchloride lotion, and immediately afterwards nephrotomy was performed, but no pus was found, and the kidney appeared, and felt perfectly healthy. The wound was drained, the tube being removed on the third day, the sutures on the seventh, when it was found to be healed. It was now evident that the pus entered the ureter at some place between the kidney and the bladder; and as a pelvic swelling had been discovered before the previous operation which was believed to be either a retro-peritoneal abscess or a pyo-salpinx, it was concluded that this must be the source of the pus; and, as the patient was running down from the continual discharge, it was felt that the abscess ought, if possible, to be evacuated and drained. After stating the case to the patient, and with the concurrence of my colleagues, I, six

weeks afterwards, opened the abdomen in the linea alba below the umbilicus for the purpose of either removing the disease or draining the abscess; but it was found to be quite impossible either to bring the wall of the abscess forward or to remove the disease, for the intestines were matted over it firmly, and the abscess sac was quite fixed to all the surrounding parts, therefore aspiration was simply performed. The patient made a steady recovery, and from that time forth began to pass less and less pus with the urine, and to improve in her general health. She returned to her home in America, and six months afterwards wrote to say that she was strong and well, and was doing her household work.

REMARKS.—The last case presents many points of interest which in a paper on kidney surgery it would be irrelevant to touch upon. It shows the fallacy of implicitly relying on catheterisation of the ureters, and also shows that an antiseptic incision into a healthy kidney, though an undesirable operation, is not necessarily productive of harm.

Case v calls for few comments, the prognosis in advanced renal tuberculosis must always be serious, and nephrotomy was simply done to give relief. The interest lies in the fact that two years previously he was suspected of having renal calculus, of which he had all the symptoms, and nephrotomy was then suggested.

The method of performing nephrectomy, carried out in Case I, differs from those usually adopted, and seems to present certain advantages. 1. The incision into the peritoneal cavity enables both kidneys to be explored before the diseased one is removed, thus avoiding the danger of removing a solitary kidney or of excising the wrong one. 2. The suturing of the cut edges of the visceral peritoneum to the edges of the abdominal incision completely shuts out the region of the wound, and especially of the cut ureter, from the general peritoneal cavity. 3. The ureter can easily be separated from the renal vessels and brought forward out of the lower part of the incision, or by another method, which I think of following out in my next nephrectomy, the peritoneal incision may be sutured and completely closed after an opening has been made in the loin by a large trocar or by an incision, through which the cut ureter can be protruded, together with a celluloid or some firm drainage-tube, an antiseptic dressing being applied both over the anterior incision and over the lumbar drainage opening.

If renal calculus be diagnosed, I suppose no one can have doubts as to the expediency of removing it by the lumbar incision, as in the satisfactory case of nephro-lithotomy described in Case II. If, after the capsule has been incised, closed dressing forceps he pushed through the soft kidney substance as in Cases II and IV, there will be much less hæmorrhage than if the knife be employed, which is a matter of some importance, as very serious bleeding has at times occurred after a simple incision of the kidney.

The chief difficulty lies in the diagnosis, and there are now numerous examples recorded where surgeons have opened kidneys without finding a stone; of such, Cases III and IV are instances; fortunately, whatever may have been the pathology, Case III was cured and Case IV was temporarily relieved.

In all future operations, if I fail to find the stone by palpation or by puncture, I shall open the kidney, and explore the pelvis and calyces by means of the finger, the wound in the kidney seeming to render the operation very little more serious.

Intermittent hæmaturia with lumbar pain, relieved by rest, and brought on by exertion, seem to be the only certain symptoms of renal calculus; all the others—namely, genito-crural pain; pain in, and retraction of, testicle; frequent micturition; lumbar tenderness, with rigidity of muscles; pyrexia; rigors or vomiting during the attack—whilst of value if present, may be entirely absent, although stone exists in the kidney.

Early tuberculous kidney, pyelitis, spinal neuralgia depending on caries, ovarian neuralgia, nephralgia depending on a floating kidney, or on lithiasis or other cause, may all simulate stone in the kidney; but, with the exception of the first two, it would seem that there should not, as a rule, be much difficulty in making a diagnosis, the chief points to bear in mind being intermittent hæmaturia, however slight, combined with lumbar pain. As a matter of fact, however, the subject is not so clear; for, although in some cases no difficulty arises, in others exploration of the kidney is the only means of clearing up the doubt. Fortunately, this does not appear to be a dangerous operation; and, moreover, in some examples where no stone has been found, as in Case III, it has actually proved curative.

THE TREATMENT OF PILES BY INJECTION.

By F. SWINFORD EDWARDS, F.R.C.S.,

Surgeon to the West London Hospital; Surgeon to Out-patients at St. Peter's Hospital: Assistant-Surgeon to St. Mark's Hospital for Fistula, etc.

SO-CALLED quacks, both in this country and in others, have been in the habit of using various injections for the cure of piles, advertising their method as being one which cured without the use of the knife, an instrument the public is unduly afraid of. I was led to test this treatment from the accounts given me by several American surgeons who have from time to time attended the practice at St. Mark's Hospital for Fistula. They confirmed what I had already heard, that Kelsey, of New York, a well-known rectal specialist, treats a large number of hæmorrhoidal cases by the injection of carbolic acid, and this with brilliant results. There can be no doubt that if by this method the pain and confinement attendant upon an operation, whether by ligature, clamp and cautery, crushing, or excision, can be obviated, an immense boon is conferred upon the patient.

Now, amongst the out-patients at St. Mark's, and including two or three private patients, I have tried this method in thirty-eight cases, and I may say at once that I have been agreeably surprised with the results. It is now over two years since I commenced, and up to the present time I have only met with one relapse, whereas three cases have remained well for nearly two years, and fourteen others for periods varying between this and six months. In nine cases there are no symptoms remaining, such as hæmorrhage, pain, or prolapsus; but sufficient time has not elapsed for me to discharge them as cured. I have lost sight of two, and ten are still under treatment, but all of these are improving. Excluding, then, the two cases which did not attend again after the first injection, all have been either cured (for a time, at all events) or are in a fair way to attain this end, with the exception of the case I have mentioned as having relapsed; but, indeed, this patient never gave the treatment a fair trial. He was a clerk in the City, and had been troubled with prolapse and bleeding at stool for seven years. After the administration of an enema, four large and well-developed piles were to be seen; and so large were they that I urged him to have them tied, but for this the patient had no time. In fact it was a question of the loss of his berth if he were obliged to lie up. Accordingly I injected about two minims and a half of a carbolic solution, 1 in 10, into each pile, and returned them. There was a little bleeding, but no pain. This was on May 5th, 1887. On July 1st he wrote: "I have felt no pain whatever, and until to-night I have seen no blood, and now it is very slight." I did not see him again, but on November 11th, six months after the injection, he wrote to say he was quite well. It is but fair to say that he was taking a mixture of iron and magnesia, and using an ointment of the persulphate of iron. A few days ago he wrote to say that his piles troubled him somewhat and came down at stool. The only wonder to me is that he should have had so long a respite.

In one case only was any, or perhaps I should say much, pain complained of. The subject was a young man who, on my passing the needle into the first pile, jumped off the couch as if he had been shot. It was lucky that he did not break off the needle of the syringe. As he had not sufficient control over himself, I did not tempt Providence a second time, but admitted him into the hospital, where he underwent the usual operation of ligature. Our house-surgeon told me that he was very nervous and sensitive, complaining of more pain than his fellow patients.

The ages of my patients ranged between 21 and 68, and they were all men, from the fact, I presume, that during the time I have been trying this method I have been in charge of the male out-patients at St. Mark's. In only one case had I to repeat the injections four times. One or two injections, as a rule, sufficed.

As to the Method Employed.—Various fluids have been used, as carbolic acid, perchloride of iron, sulphate of iron, and ergot. I have confined myself to the first named, using this formula: carbolic acid gr. xij; glycerine and water of each ℥j, or 1 in 10, though in severe cases I have increased the strength to 1 in 5. If the piles are not down, that is, visible on separating the buttocks, an enema should be given; then, when the patient has strained his piles down as much as possible, he is placed on a couch on his elbows and knees. A hypodermic syringe, with a needle of good lumen, having been filled with the solution, an injection is made into the centre of each pile in turn of from two to five minims,

and this should be done slowly, in order to give time for the fluid to diffuse itself. The piles having been oiled, should then be at once returned, and the patient may be allowed to depart. I advise him not to have an action of the bowels for twenty-four hours, and caution him to return the piles at once should they perchance become prolapsed. A mixture of sulphate of iron, dilute sulphuric acid, sulphate of magnesia, and infusion of quassia, three times a day, is prescribed, with an ointment of the subsulphate of iron to be passed up the bowel before and after stool. As a rule, I do not see the patient again for a week, when the report is usually satisfactory, that is, bleeding and prolapse have lessened or disappeared. A fortnight or more should be allowed to elapse between each injection; at least, I have not found the necessity of repeating it at a shorter interval.

Of course, it is only of internal hæmorrhoids we are speaking. It seems to me that every variety of these may be treated by this method, though not so advantageously should the pile be much indurated, or have become semicuticular. It is obvious that sloughing and prolapsed hæmorrhoids, which are irreducible, are beyond the reach of this remedy.

There are certain cautions which it is as well to bear in mind. In the first place, make a thorough examination of the rectum to see that no other disease coexists, as for instance polypus, fissure, fistula, and stricture, either carcinomatous or fibrous; the latter I have known more than once to have escaped recognition, whilst the piles alone were treated. Before operating, see that the bowel is empty, and that the piles are well protruded. If the patient is unable to force them out with the help of an enema, I hardly think it worth while attempting this method, for careful constitutional and local treatment is usually sufficient, though it is recommended that the hæmorrhoids be injected through a speculum. Take care that the needle be inserted into the centre of each pile, or it is said that sloughing of the mucous membrane may be caused. After the injection swelling of the pile rapidly occurs, and if it is left long outside the sphincter there may be a good deal of difficulty in returning it. A digital examination after a week or so will discover slightly indurated swellings, corresponding to the tumours which have been injected. No doubt inflammatory thickening, with some thrombosis, is produced, which in time undergoes shrinkage, until at last an examination fails to discover anything abnormal.

There is a point one cannot lay too much stress upon, and that is to impress upon the patient the necessity of returning the part at once whenever it comes down. From the neglect of this one of my patients suffered great and unnecessary pain for three days, during which time the piles, which had become extruded, remained outside the sphincter.

The advantages of this method must be apparent to all, for the patient is not laid up, suffers practically no pain, and runs no risk to life from hæmorrhage, tetanus, erysipelas, or pyæmia, though I may here mention that my friend Mr. Cripps tells me that in some twenty cases one of his injections was followed by abscess. The patient commences to get better at once after the first injection, and is able to attend to his usual occupation during the whole course of treatment. Contrast this with any of the recognised operations. Although many of them are excellent, they necessitate the administration of an anæsthetic—at least, it is the usual thing, though it is possible to operate painlessly under cocaine, witness a case I reported some two or three years ago. Then a week in bed, and a subsequent week or two on the sofa, is generally required; in fact, it is usually three weeks or a month before the patient is fit for work again, although I am aware that some men have gone to work with the ligatures still *in situ*.

As to the strength of the solution, it will be seen that I have employed comparatively weak ones, for Kelsey recommends 15 to 20 per cent. solutions, and even the pure acid; but then he only injects one hæmorrhoid at a sitting, which takes place weekly. Ball, in his recent work on the Rectum, says that Dr. Matthews, of Louisville, declares this method to be painful, insufficient, and liable to cause death by peritonitis, embolism, and pyæmia. All I can answer is that, in these thirty-eight cases, extending over the past two years, I have been fortunate enough to meet with none of these things. I admit that the number of cases I have brought forward is but limited, probably not sufficient to allow one to form a definite opinion; however, I trust that I may be as free from accident in subsequent cases as in those I have already had. My colleague, Mr. Allingham, in the fourth edition of his work, throws cold water on the method, for he says he has "tried the plan in a few cases, but the result was much pain, more inflammation than was desirable, a lengthy treatment, and the result doubtful—certainly not a radical cure."

Only once have I met with anything deserving the name of pain; as a rule the prick of the needle only is felt. Excess of inflammation I have not seen. As to radical cure, it seems to me that many years must yet elapse before we can judge of that. As I have pointed out, three of my cases operated on two years ago are, I have reason to believe, still well.

I would that I could close this paper here; but it is only right that it should be known that the chief advocate of this method, Kelsey himself, is no longer so enamoured of it as he once was, when he had had a series of 200 successful cases. It appears that he has published a pamphlet, which I am sorry I have not been able to see, in which, having had some unsuccessful cases, he now recommends the operation (if such it can be called) in certain selected cases only.

SURGICAL MEMORANDA.

INTERNAL STRANGULATION.

THE following case of internal strangulation may be of interest, on account of its rarity, and because of the patient's antecedents.

A young woman, aged 26, came from Yarmouth on September 22nd, to make her first visit to London. In the evening of Sunday, September 23rd, as she was travelling from Battersea in an omnibus, she complained to her husband of pain in the belly. After reaching home, she vomited, and was so ill that Dr. Qualtrough, whose name is not unknown in connection with abdominal surgery, was called to see her at 2 A.M. on Monday, September 24th.

She was then suffering much pain, and was vomiting constantly. Morphine was immediately given, and its use was continued up to the hour of her admission to the Great Northern Hospital, at noon on Wednesday, September 25th, when I saw her for the first time.

She had married when she was 17 years of age, and had borne three children. About four months after the birth of the second, when she was 19, she underwent ovariotomy at the hands of Mr. Cross, of Norwich. Ever since that operation she had been subject to colicky pains in the abdomen, and was seldom quite well for a week together. At the age of 21, some months after her third child was born, she had an attack of obstruction, lasting fourteen days, from which she recovered.

During the present illness she had been frequently sick, and was said to have brought up on the morning of admission stercoraceous matters, though her rectum had been emptied by enema the night before of a small quantity of solid fæces.

At my visit she complained of pain in the belly, but her face was calm, and gave no indication of great suffering. Her skin was cool, the pulse quiet, and the tongue moist and clean. A small ventral hernia was found at the site of the ovariotomy wound. The abdomen was symmetrical, somewhat prominent, but soft. There was some tenderness on pressure, perhaps more marked in the right lumbar region than elsewhere. She vomited some green bilious fluid that was quite without odour. Her condition was so good, the vomited matter so innocent, and the history of the previous illness so circumstantial, that my colleagues agreed with me that palliative measures should be first adopted. In the evening I found that she had vomited again several times, and had at last brought up a quantity of dark fluid, holding brown powdery matter in suspension, and having an insupportable stercoraceous odour. She was said to have hiccoughed occasionally. At 10 P.M. her husband, who had returned to Yarmouth, arrived again in London. After seeing his wife, he repeated the story of the former illness, through which he had himself nursed her: that five years ago she had been suddenly seized with pain in the belly, constipation, and vomiting; that the vomit was of the same colour, and of the same stench as now; that for four days these symptoms had lasted, and that she had then gradually and completely recovered. Her condition was still very good, and had altered from what it was at midday only so far that her cheeks had a little more colour, her temperature had risen to 99°, and her eyes began to show faint evidence of abdominal disturbance.

Setting the history aside, there could be no doubt about the propriety of immediate interference, but though little credit should, as a rule, be given to "histories," this one was so precise in all par-

ticulars, that it might justify some hesitation in coming to a decision. The patient and her husband readily consented to the operation, but, with the result of the previous attack before their minds, it was easy to see that they doubted its expediency. Not being satisfied, however, that this "history" would "repeat itself," I proceeded to open the abdomen. The incision followed that of the ovariotomy. The omentum, which was adherent in several places along the line of the scar, was ligatured and divided. In the right iliac fossa several bands of old adhesions were found holding down the small intestines. These bands resembled generally in size and appearance a crow's quill, and passed transversely from small intestine to small intestine, or from small intestine to iliac fossa. After four such bands had been ligatured and divided, a deeper one was discovered, beneath which several folds of intestine were tightly strangulated. When these loops were liberated, one among them retained the impress of the stricture, and further examination showed that this constriction was of old standing, and had resulted in hardening of the wall of the gut. To make sure that the intestine was pervious, part of the wall of the bowel near the stricture was invaginated, and the narrowed portion was found to admit the end of the index finger. It was manifest that the bowel had slipped under the band of adhesion five years before, when symptoms of obstruction were set up, and that, without changing its position, it had accommodated itself to the pressure at the expense of part of its calibre. As the contents of the gut could be passed freely from the full upper part to the empty tube below, the operation was concluded. The symptoms ceased, the wound has healed, and the patient is progressing satisfactorily.

Improbable as was the previous history, there can be little doubt of its accuracy. This case shows in what manner an internal strangulation may undergo, in the words of the midwives, "spontaneous evolution," and it illustrates, at the same time, one of the remote consequences of ovariotomy. J. MACREADY,

Surgeon to the Great Northern Central Hospital.

Queen Anne Street, W.

ACCIDENTAL CURE OF HYDROCELE.

A PATIENT of mine, suffering from hydrocele of the tunica vaginalis for several years, was last tapped by me on March 7th, a pint of fluid being drawn off. On August 1st he arranged with me to have the operation repeated on the following day; but that evening, on his return home, he accidentally struck the tumour on the corner of a table, giving himself little or no pain. To his astonishment, on awaking next morning he found the swelling much less; and at the end of a week after the occurrence of the accident I again examined him, and could discover no trace of fluid. JAMES E. SINCLAIR.

1, Princes Street, Storey's Gate, S.W.

THERAPEUTIC MEMORANDA.

SANTONIN IDIOSYNCRASY.

SIR,—I have recently witnessed a peculiar manifestation of idiosyncrasy, where a general morbilloid cuticular efflorescence, accompanied by a punctiform rash on the buccal and pharyngeal mucous membranes followed, within three hours, the administration of a five-grain dose of santonin to an adult male, intense itching being concomitant. There was an entire absence of catarrhal and febrile phenomena (axillary temperature 98.4°). No cases of measles had been reported in the town; careful inquiry into history and association failed to elicit aught that would render the theory of exposure to contagion tenable. The physiological symptoms characteristic of santonin being attendant, I was led to conclude that the rash was the result of idiosyncrasy. The symptoms subsided within forty-eight hours of their development under alkaline treatment. I may state that I found the santonin chemically pure. The experience to me being unique, I should be pleased to learn if a similar has offered to any of your numerous correspondents. EDWARD F. UNDERWOOD, B.A., M.D.

Meadow Street, Bombay.

COCAINE LOCALLY IN VAGINISMUS.

HAVING read the interesting correspondence in the JOURNAL on the employment of cocaine in vaginismus, I thought the following case might be of interest.

A lady who had been married for two years consulted me about twelve months ago. She was in great trouble, as her married life was not so happy as it might be. She stated that her husband had never had proper sexual intercourse with her. When he attempted it she got into such a state of nervousness, and such painful spasm of the muscles round the vaginal orifice was set up, that coitus was rendered impossible. I examined her *per vaginam*, and found no fissures in the neighbourhood of the vaginal orifice, no urethral caruncle, no ulceration—only slight vulvitis from unsuccessful attempts at coitus. I prescribed a bromide mixture and a sedative lotion locally, but to no pupose. Dr. Burton saw her with me. We decided to try cocaine vaginal pessaries (one grain in each, made with cocoa-butter), to be inserted in the vagina each night, and be allowed to melt, so as to lubricate the passage. The result was wonderful; coitus became possible, and what otherwise might have led to an unhappy life terminated most favourably. I saw the lady a few months ago. She said that the treatment was most successful and permanent.

JAMES EDWARDS,

District Surgeon to the Liverpool Lying-in Hospital.

Elm Bank, Liverpool.

CLINICAL MEMORANDA.

TWO CASES OF ALBUMINURIA.

As the whole medical art is based on observations, perhaps the following cases of albuminuria may not be unworthy of recording. Both were seen in one week.

CASE I.—A lady, aged 25, who had been married for some years without having had children, and had suffered much from anæmia and hæmorrhage from the uterus, consulted me in September, 1888, for swelling of the lower extremities and puffiness of the face. On examination her urine was found to be highly albuminous, of specific gravity 1015, and smoky. It transpired, however, that the patient was pregnant. Having had other cases of a similar character, my prognosis was favourable, and I expect that, after delivery, the patient will lose her albuminuria.

CASE II.—A gentleman, aged 44, consulted me for another purpose in September, 1888, and mentioned that in 1881, being in a most serious state of health, he had been found to be suffering from chronic albuminuria. His medical adviser, a most distinguished authority, compelled him at once to give up business, to live a country life *curâ solutus*, and to have no master. The consequence was that he has for some years been quite free from albuminuria. C. R. DRYSDALE.

Sackville Street, W.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

ST. MARY'S HOSPITAL.

A CASE OF INTRACRANIAL (SUBDURAL) HÆMORRHAGE; LOCALISATION: TREPHINING: RECOVERY.

Read in the Section of Surgery at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888,

By Mr. EDMUND OWEN.

[From Notes by Mr. A. H. BINDLOSS, B.A.]

ON May 8th, W. MacC., a well-grown boy of 9 years, was brought to St. Mary's Hospital stunned by a fall from a cart. He vomited profusely, turned his head from the light, and, when asked questions, said, "Go away." The pupils were equal, and acted to stimulus. No fracture of the skull could be detected. The movements of the limbs were perfect. He was very drowsy. Next day (the 9th) he answered questions occasionally, was extremely restless, frequently muttering, and jumping out of bed. Temperature, 101°.

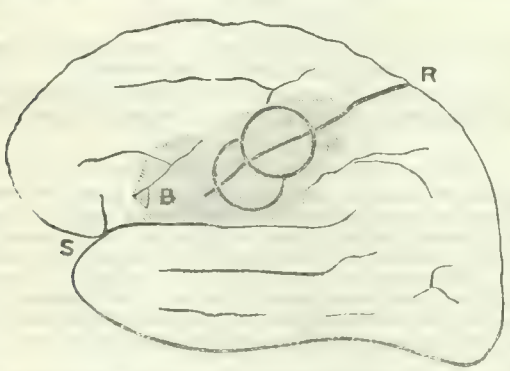
May 10th. The condition was unaltered, except that the skin felt hot and dry. Small and repeated doses of calomel, and an enema were ordered, which seemed to have a good effect, for next day (the 11th) he had lost his restlessness, and he understood questions, though he did not answer them. Temperature, 101.2°.

Until the 13th there was no material change, but on that day

convulsions set in. The first fit was at 7 A.M., and lasted about half an hour, the right facial and supra-hyoid muscles acting in a tumultuous and energetic manner. At 8.30 there was a similar fit, but on this occasion the eyes as well as the mouth were drawn to the right side, and the right fist was firmly clenched; the tongue also worked backwards and forwards. In the course of the day he had nine fits, and after the last one the right facial muscles and the right arm seemed to be worn out. He used the left arm freely; he understood questions but could not answer them by words. Sensation was perfect over all the affected parts—sure evidence that only the motor area was implicated. Evening temperature 100.8°.

Next day, May 14th, the temperature was normal, pulse 72; he had several slight fits, but towards night he had a most severe attack, lasting nearly two hours; and, in addition to the muscles already mentioned, the diaphragm and the right sterno-mastoid worked spasmodically. The flexors of the right wrist and fingers contracted violently about ninety times a minute. The boy did not lose consciousness during the fit, but he was unable to speak.

May 15th. Though he had had no more definite attacks since the severe one of the previous night, he was still aphasic, though conscious, and twitchings of the muscles of the right side of the face and of the right forearm and hand persisted. (In the course of clinical remarks made upon the case, Mr. Owen gave it as his opinion that a blood clot was forming over the left fissure of Rolando; that it was spread over the lower part of the fissure and over the adjacent part of the inferior frontal convolution, the centres for movement of the muscles of the forearm, fingers, and face, and for those of speech. That the pressure was probably due to extravasation of blood, and not to a depressed fragment of bone or to a collection of matter was evinced by the fact of the symptoms not occurring directly after the fall, and by the absence of all evidence of fracture of the skull; and, as regards abscess, by the fact that the aphasia and twitchings, which began within a couple of days of the injury, though they kept on increasing in severity, were not accompanied by rise of temperature: for thirty-six hours, indeed, the temperature had not been above normal, and during that time he had had fourteen fits.) At 4 P.M., therefore, the hair having been some time previously removed, and the scalp rendered aseptic, ether was administered, and as the boy came under its influence the facial twitchings ceased. The position of the fissure of Rolando was marked on the wet scalp with an aniline pencil by a line drawn from the vertex, immediately above the external auditory meatus, to the depression just in front of the meatus; this line was prolonged on to the masseteric region, so that during the operation the surgeon might always have an index to the position of the fissure. A crescentic flap of the scalp was then turned up, according to Horsley's plan, and a disc of bone an inch in diameter having been raised, the dura mater was exposed, of a somewhat greenish hue, and bulging into the gap. When this was incised a considerable amount of dark fluid blood escaped, and the upper border of a solid clot was exposed at the lower part of the incision. The trephine was, therefore, again applied, and a half circle of bone removed at the lower part of the opening. The incision in the dura mater was also prolonged downwards, when the clot was thoroughly exposed and removed; it was estimated to measure about half a fluid ounce. A flexible catheter was then fixed with rubber tubing to an irrigator, and the end having been passed between the dura mater and arachnoid down to the base of the brain, the space was washed clean with plenty of warm carbolised water. The irrigation was also carried out above and at the sides. The edges of the incision in the dura mater were sutured, the parts were dusted with iodoform, and a small drain having been laid through the scalp, and sutures having been inserted, a dry mercuric dressing was applied. That evening the temperature rose to 102°, and as the bandages were soaked through with blood, fresh dressings were applied. The boy had a quiet night; but in the morning (May 16th) he had a severe seizure, which lasted nearly two hours. The same muscles were attacked with the exception of those of the arm, and the diaphragm. When the spasm passed off, however, the boy was quiet and conscious, and far less irritable. When asked to shake hands he put out his left hand; he was still aphasic. Temperature 101°.



Convex surface of left hemisphere. R, fissure of Rolando; S, fissure of Sylvius; B, Broca's region. The shaded part shows the area of the clot; and the circle and the half-circle indicate the trephine-wounds.

May 17th. Pulse 82, temperature 99° F. But at midday he had a severe fit (the second since the operation), the pectoralis major and most of the other muscles of the right upper extremity being also involved. The right rectus abdominis, and many of the muscles of the right lower extremity were rigidly contracted. The left sterno-mastoid, and the diaphragm were also excited, but there was no loss of sensation anywhere. As a further extravasation was suspected, it was agreed that the wound, which had almost entirely healed, should be reopened. No blood was found in the subdural space, but on incising the arachnoid, which, covered with healthy granulations, was bulging towards the trephine-wound, a small quantity of dark fluid blood escaped. The sub-arachnoid space was then freely irrigated, and the wound was dressed as before.

That night the boy had two slight attacks of about five minutes each, but they were the last that he had.

On the second day, after a severe effort he could shake hands with the *right* hand, and three days later, after similar efforts, he succeeded in getting out a few words. Gradually speech and complete muscular power returned; the wound healed without delay. After the second operation the temperature was never above normal until he was discharged cured, on June 15th.

In his valuable Cavendish Lecture, Sir William Stokes has referred to several other recent cases of successful trephining for effusion over the motor area of the brain, and has duly acknowledged the debt which operative surgery owes to the experimental research of Professor Ferrier and to the great principles taught by Sir Joseph Lister. In this expression of indebtedness I beg leave most heartily to join, for I am convinced that but for their work this case would not have been thus satisfactorily recorded.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, OCTOBER 3RD, 1888.

JOHN WILLIAMS, M.D., President, in the Chair.

Specimens.—Mr. J. BLAND SUTTON exhibited Ovarian Cysts with Mucous Membrane.—Dr. J. PHILLIPS showed Microscopic Sections from his case of Congenital Sarcoma in a New-born Infant.

Congenital Sarcoma.—A report was read on Dr. PHILLIPS'S case exhibited before the Society on July 4th.

A New Operation for the Cure of Vesico-uterine Fistula.—In this paper Dr. CHAMPNEYS described a case where he performed his new method of operating. The cervix being held down, the anterior vaginal wall was dissected away from the cervix to beyond the limits of the fistula. By this process a hole was left in the bladder, and another in the cervix; these were closed and the vaginal wall repaired with complete success. The author compared this operation with those in use, and enumerated what he believed to be its advantages. In this case silver sutures were used; those closing the two holes were cut short; those uniting the vaginal wall to the cervix were afterwards removed. Dr. Champneys used silver sutures because he was anxious not to fail in a new operation on account of the sutures. In subsequent operations he would be inclined to try silk, so great was his belief that fistulæ would be easily and successfully closed by this method.—Dr. PERCY BOULTON, with a large experience of injuries of the female bladder, had seen few cases of vesico-uterine fistula.

In each the anterior lip of the os had been torn through at the time of the accident up to the seat of the fistula. Dr. Boulton thoroughly denuded the opening of the fistulous tract at its uterine end, closing this by means of a single "purse-string" suture, and at the same time repairing the torn cervix by an ordinary Emmet's operation; the top suture in the cervix made the fistula doubly secure. He had no dread of operating on uterine tissue. In Dr. Champneys's case the fistula was comparatively accessible, and might have been pared and stitched from the intra-uterine side, after widening of the os by Hegar's dilators, if necessary. Dr. Boulton saw certain objections to the new operation. 1. The pelvic cellular tissue was opened up and freely bathed with urine during the whole of a long surgical proceeding. 2. The amount of necessary repair was more than trebled, since three large openings had to be closed. Dr. Champneys admitted that he used fifteen silver sutures. 3. All the sutures put into the bladder and uterus were shut up and left behind—seven in the bladder, and four in the uterus. Though (as Dr. Champneys had noted) silver sutures were left in the uterus without evil results in Sänger's Cæsarean operation, there was no alternative in that case; whilst leaving or removing sutures was a matter of choice in repair of vesico-uterine fistula. Even now the patient might not be free from future complications, such as escape of a suture into the bladder and formation of calculus, or trouble during a future delivery.—Dr. HERMAN thought that the operation was a great improvement in the treatment of these cases, as far as could be judged from the description; but very few persons had practical experience of vesico-uterine fistula. He would suggest that the objection raised by Dr. Boulton as to the undesirability of leaving so many silver sutures in the parts could be met by using catgut, which would certainly be absorbed. If this were done, there would be no need for packing the vagina with gauze.—Mr. ALBAN DORAN referred to Dr. Bozeman's recent bold innovations in the treatment of urinary fistulæ. That authority recognised two obstacles to success in extensive plastic operations. The vaginal and vulvar tissues were kept in an unhealthy state, being constantly soaked in urine. The urine itself was in a morbid condition through pyelitis, a complication constant, in his opinion, in old-standing fistula. Dr. Bozeman therefore fitted a drainage-apparatus to the fistula, protecting the vagina, and after a time catheterised the corresponding ureter and washed out the kidney daily with sublimate lotion till the urine became healthy. Then he repaired the fistula. He had extended this operation to cases of primary pyelitis, making an artificial fistula, so as to reach the ureter.—Dr. CHAMPNEYS, in reply, stated that in future he would use silk or perhaps chromic gut for sutures. Why he used silver in this case was already explained in his paper. With antiseptic irrigation there was no reason to dread opening up the cellular tissue or the passage of a few drops of urine. He preferred to close a fistula at its origin and, practically, throughout its course, to attempting its closure at the distal end only. Uterine tissue would of course heal, but it was not nice to work in. If Dr. Boulton had not performed vaginal extirpation of the uterus or supravaginal amputation of the cervix, he would be astonished at the ease with which the bladder could be approached by the way indicated in the paper, and Dr. Champneys verily believed that whoever once operated by the method described in his paper would use no other operation in the future.

On the Value of Pilocarpine in Pregnancy, Labour, and the Lying-in State.—Dr. JOHN PHILLIPS, who read this paper, gave as his reason for bringing this subject forward the uncertain and diverse opinions held upon the value of pilocarpine. He treated the questions at issue under five heads. (1) The use of pilocarpine as an abortive; (2) for the induction of premature labour; (3) *intra-partum;* (4) *post-partum* and during the puerperium, and (5) in albuminuria with or without eclampsia. Seven cases had been experimented upon and the results given in detail. Forty-eight cases under the second heading had been collected from all sources, of which twenty-seven had been arranged in two tables, while two original cases had been appended in full. The author concluded that five only of these could be considered as unqualified successes, and thought that pilocarpine was able in a certain number of cases to induce labour, but that it was not in any way reliable as an ecbolic; those cases in which there was a tendency to premature termination of pregnancy being most suitable for its administration. Pilocarpine *intra-partum* was considered under three heads: (*a*) The "latent period" of labour; (*b*) the dilating stage of labour; (*c*) the expulsive stage of labour. Five instances occurred in the author's practice, and in one sphygmographic tracings were taken at various intervals. The result of thirty-nine cases was worked out, twenty-eight being successes, and eleven failures. The author concluded that during the dilating and expulsive stages of labour pilocarpine was equally productive of increase and intensification of labour pains with ergot, but with more certainty of action and with none of its ill-effects. Cases of simple uterine inertia were the most suitable for its administration. The drug was useless *post-partum* and to stay hæmorrhage. In a third table, the results of thirty-nine published cases of puerperal eclampsia were given with recovery of thirty-one mothers and eight maternal deaths, or 20.5 per cent. Although good effects were produced in twenty-eight cases, yet in nine such dangerous symptoms manifested themselves that the author felt bound to warn others against its use, especially when coma was pronounced. He recommended bleeding in conjunction with pilocarpine where it would not act alone, and adduced evidence to show that the mortality was not greater under this mode of treatment than in any other. Statistics of treatment by other methods were given and the results compared. The question of the reason why pilocarpine was productive of uterine pains was discussed and three theories given; the "latent period" of the drug was referred to and illustrated by cases. Further remarks were made upon the action of pilocarpine on the fœtus, complications attendant on its use, the proper dose for administration, and contra-indications. The paper terminated with conclusions as to its value and the precautions to be observed when used.—Dr. CHAMPNEYS eulogised this monograph as a most valuable summary of our knowledge on the subject, calculated to render reference easy in the future. He confessed that it had not made him feel anxious to use the drug.—Dr. HERMAN observed that Dr. Phillips had stated, in his exhaustive treatise, that during the dilating and expulsive stages of labour, pilocarpine was equally productive of increase and intensification of labour pains with ergot, but with much more certainty of action and with none of its ill-effects. Dr. Herman thought that there were few drugs so certain and so definite in their action as ergot. That drug produced its effects wherever it was administered, throughout the stages of labour, or when the uterus was delivering a fibroid. Provided that ergot was not given when contra-indicated, no ill effects ensued. Whenever it was beneficial that uterine contraction and retraction should be produced, ergot could be given with confidence that this effect would follow, the causes of the few exceptions being pretty well known. The effect, on the other hand, of pilocarpine during the first and second stages of labour did not follow in every case, and, even when observed, was transitory. In the third stage, when certainty of action was especially wanted, its advocates admitted that it was valueless. The pains of the first and second stages of labour were influenced by so many causes that to determine the action of any agent upon the uterus it must be shown that its effect is both marked and constant. The entrance of the doctor into the lying-in chamber frequently stopped the pains for a time, but nobody contended that his movements had any special effect upon the uterus; therefore, the evidence failed to convince Dr. Herman that, in its effect on the uterus, pilocarpine was at all to be compared with ergot, either as to power or certainty. Assuming that the effect could be relied on, he thought that, remembering the sweating, giddiness, etc., which resulted from pilocarpine, there were fewer objections to the forceps. Dr. Herman concurred with Dr. Phillips in his warning against pilocarpine when eclampsia with coma had set in, on the ground of the dangerous liability to filling of the bronchial tubes with secretion. In eclamptic patients who recovered from convulsions and coma, the great danger was from pulmonary complications, resulting from the great congestion of the lungs during the fits, and Dr. Herman thought that the liability to these lung troubles would be increased by pilocarpine. Dr. Phillips's warning was hard to reconcile with his subsequent statement that the mortality was not greater under this mode of treatment than under any other. If the dangers were real, they must raise the mortality. Dr. Herman thought that there was no satisfactory standard by which to estimate the mortality in puerperal eclampsia, since we did not know what was the average mortality when that complication was left untreated.—Dr. DYCE BROWN was struck with the uncertainty of the action of pilocarpine as an ecbolic, according to Dr. Phillips's evidence. Not only was it useless for eclampsia, when not actually dangerous, but the dose which had produced dangerous symptoms in some cases was not

higher than that which had been administered in other cases. Pilocarpine appeared to Dr. Brown to be a valueless addition to the obstetrician's *armamentarium*.—Dr. JOHN PHILLIPS remarked in reply that he had undertaken his researches with the greatest impartiality. Before commencing them, he had studied all the literature upon the subject, and had condensed the results in his tables. He had laid especial stress upon the danger of its use in puerperal eclampsia, a matter which had not received sufficient attention. Sänger's idea that its use might supersede the forceps was necessarily chimerical, and should not be entertained for a moment. He was sorry that all his evidence pointed to the fact that pilocarpine was not desirable as an ecbolic remedy, and that no positive evidence of its value could be adduced.

REVIEWS AND NOTICES.

A TEXTBOOK OF PHYSIOLOGY. By JOHN GRAY MCKENDRICK, M.D., LL.D., F.R.S., Professor of the Institutes of Medicine in the University of Glasgow. Including Histology by PHILIPP STÖHR, M.D., of the University of Würzburg. In two volumes. Vol. I—General Physiology. Glasgow: James Maclehose and Sons. 1888.

To those who can remember the relative importance attached to anatomy and to physiology as parts of the medical curriculum even fifteen years ago, the change which has since occurred is most significant; the almost superstitious reverence for human anatomy which has been handed down from generation to generation of teachers has given place to a more rational appreciation of its relative importance as an element in medical education. It has come to be more and more generally recognised that human anatomy ought to be studied by the medical student as a department of physiology, and as a consequence there has grown up a method of teaching the whole subject which is an enormous advance upon old methods. It is only in such grotesque examples of an antiquated pedantry as the First Fellowship Examination of the Royal College of Surgeons of England that the old-fashioned system survives anywhere in the world, and even there its influence is diminishing. One of the most hopeful signs of the spread of the scientific, as opposed to the pedantic, spirit in British medical schools is the multiplication of textbooks on physiology, written in a broad and liberal spirit, and embodying the latest advances in knowledge. When a master of the subject takes up his pen he is generally able to show that the newest theory and the most recent discovery have not really added to the complexity of his subject, but by supplying a missing link or explaining what was previously incomprehensible have simplified our conceptions, and increased the facility with which the subject under discussion may be grasped.

Professor MCKENDRICK need have offered no apology for giving us a new textbook of physiology; emulation is a good spur to the enthusiasm and the industry even of a professor, and the keener the competition the better for the interests of the student. The first volume only of the new book is before us, but from it we can judge that the whole when completed will form a most excellent textbook of physiology well adapted for the use of students.

Professor McKendrick states in the preface that the general plan of his textbook has been to give an account both of methods and of results, and, as a general rule, this plan has been successfully carried out. After some preliminary chapters on "matter and energy," and on the general principles of biology, the systematic study of the chemical constitution of the tissues is taken up. Here, and especially in the section on the proteids, it has clearly been the author's object to stimulate thought and reflection rather than to overload his pages with details of proteid derivatives, the very existence of which is in many cases doubtful. The chapter on pigments is unusually full, and the author acknowledges indebtedness to Dr. MacMunn in its preparation; it is illustrated by a well-printed chart of spectra.

An important chapter is that on the chemical reactions in the living organism, which is immediately followed by a chapter on fermentation. A short historical introduction will give a living interest to the pages which follow; in them considerable space is given to the organised ferments—a bad phrase, but one sanctioned by use. The article on the soluble ferments is somewhat meagre, but amends will probably be made when the author comes to treat of the functions of the stomach and pancreas in the second volume.

The Section of the present volume which deals with histology—in which term is included the physiology as well as the morphology of the tissues other than special glandular organs—is based on Professor Philipp Stöhr's *Lehrbuch der Histologie*, and contains all the admirable illustrations prepared by him from actual specimens. The subject is introduced in a brief but remarkably well-compiled historical sketch, and in it is incorporated a description of the earliest stages of embryonic development. The chapter giving directions as to the mode of using the microscope is illustrated by large drawings of two German instruments and of an Abbé's condenser. It would, perhaps, have been well to have illustrated one English pattern, and to have explained the mode of action of the condenser. The directions for preparing specimens are all that could be desired, no important process being omitted, and the descriptions of the various microtomes are clear, and well illustrated by drawings of all the best instruments in general use.

The last Section is concerned with the physiology of muscle, to which, in a concluding chapter, is added a rather full account of the peculiar phenomena presented by the electric fishes. A good deal of space at the beginning of the Section is given to the methods of investigating the phenomena of muscle; the electric and graphic apparatus employed in such investigations are fully described. Professor McKendrick discusses at some length the advisability of introducing details as to electrical and other physical apparatus and theories into a textbook of physiology; the chief reason he assigns for so doing is that the teacher of physiology "has usually to deal with students who know little or nothing of physics." Even, however, if the average student of the future shall never attain to the enjoyment of "a course of instruction in general physics before beginning the study of medicine," it would be questionable whether such chapters as the two on electrical apparatus and the graphic method could be excluded from a textbook of physiology without leaving a sensible gap. The physical methods used in physiology are in their details very specialised, and a student even fairly well acquainted with general principles is glad to have an account of the special department presented to him in a consecutive form.

A final opinion upon the work must be reserved until the second volume—which is stated to be ready for the press—is published; but there is already much evidence that when complete it will combine the best features of the old and of the new physiology, retaining the practical usefulness of the one without sacrificing the scientific precision of the other.

MIND AND MATTER. A Sermon preached before the British Medical Association, on Tuesday, August 7th, 1888. By JOHN CAIRD, D.D., LL.D., Principal of the University of Glasgow. Published by request of the Association. Glasgow: James Maclehose and Sons.

THE Glasgow meeting was remarkable for the originality and practical value of several of its addresses; but we venture to think that the more thoughtful of our members who listened to the sermon of Principal CAIRD found as much food for reflection in his sermon as in any other of the psychological problems propounded for solution at that Congress. To have introduced St. Paul's outburst of "passionate religious emotion" towards God as the efficient, the administering, and the final cause of all things to a body of students of Nature, who are sometimes accused—however unjustly—of having almost eliminated Him from their consideration, was, perhaps, no more than might be expected upon such an occasion from an eminent and scholarly clergyman. But that the case for supernaturalism should be so well and scientifically presented by a Churchman, not only competent, but desirous, to appreciate the standpoint of the materialist, makes Principal Caird's discourse far too valuable to be allowed to pass into the oblivion of an ordinary pulpit utterance.

Sir Andrew Clark, in his recent Sheffield address, assured his hearers that, much as science had told us about the universe, "it had told us nothing of the actual nature of things, it had proved nothing to extinguish belief in a Personal Ruler of the Universe." How true this statement is no one can rise from the study—for study it demands—of Dr. Caird's sermon without appreciating. He withholds nothing from us that science has demonstrated, and values at its own estimate all its achievements; he grudges nothing to

evolutionists or physicists, yet he proves to us that materialism is not a good working hypothesis for solving the riddle of the universe. The atoms, the awful, eternal "atoms despise us." "The small becomes the dreadful and immense," as Browning says, "for God is behind them."

"The Name comes close behind a stomach cyst," and the gulf which divides vital phenomena from physical or chemical agencies is as wide as ever. We are told that thought is but a function of matter, the play of the molecular forces of protoplasm. But that explains nothing. Not even when Dr. Henry Maudsley declares that "emotion means the special sensibility of the vesicular neurine to ideas," are we any nearer understanding how a mother's love is produced, or why a patriot or a martyr holds pain and death as nothing in comparison to an idea.

Dr. McKendrick says, in his new book on physiology, that "it is probable that the molecular changes associated with vital phenomena may never be thoroughly understood. Vitality may be nothing more than a mode or condition of matter."

Dr. Caird allows that "the aim of materialistic theories is a true one," because they seek concatenation, which is of the essence of the harmony of the universe. Estimate the atom at its true value, and it must lead us up to God; for the tiniest atom is significant, like the first note of a great symphony of that to which it belongs—"the prelusive note" of the harmony to follow. Does the knowledge of the mechanism and molecular changes of the organ of mind help us to understand mental processes? It does to some extent; but when Mr. Huxley says that "thought is as much a function of matter as motion is," he forgets that none of us really know what we mean by matter. Aristotle regarded the mind as a material substance, but even he believed in the existence of a "double." The universe has been well said to be "the crystallised thought of God." "God the perfect poet, who in His person acts His own creations"—will generating force, and force generating matter. In truth, we know more about spirit than about matter. We can at least say, "I think, therefore I am." Yet to comprehend fully earth's least atom is beyond us. Dr. Caird's hammer for the demolition of the materialist theory of mind is one of the most ingenious and powerful pieces of reasoning that we have ever met with upon this subject. Briefly it is this: that the law of the conservation of energy is against it. "If thought," he says, "is transformed physical energy, the amount of physical energy in the world will vary with the number of thinkers and the activity of their minds." With the advance of culture, he suggests "that the material system might ultimately collapse, through the intellectual development of its inhabitants." This may be only a quaint conceit, but it is a very nice little nut for the materialists to crack. The preacher concludes his elaborate argument with a beautiful peroration, wherein he urges the worship of the God of Truth, the true God of Science, who is "no blank mystery," "no phantom of nescience," but the inestimable reward which "the greatest of the sons of men have ever sought with a thirst unquenchable."

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M.A., M.D., LL.D., Professor of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, Physician to the Philadelphia Hospital, etc. Sixth Edition. London: H. K. Lewis. 1888.

When a work has attained to the dignity of a sixth edition, it is hardly necessary to do more than specify the additions which have been thought necessary in order to bring it down to date. Dr. Bartholow may well remark that as years pass the duties of the author of textbooks on materia medica become more and more arduous. In addition to his technical lore, he is called upon to exercise judicial functions in selecting the innovations worthy of record. If it be desirable on the one hand that the reader should be posted in all the most recent departures in therapeutics, it is not less desirable on the other that he should not have his scientific curiosity stifled beneath an avalanche of so-called remedies, the most salient feature of which is often their novelty.

The general plan of the work is excellent. Remedies are grouped according to their local or general effect, and according to the particular group of organs on which they act. Such an arrangement is well adopted to facilitate the study of the subject, though so rigid a classification is apt to hamper the practitioner seeking for special information.

A novel and valuable departure calls for notice in the chapter on alimentation in disease. It is a comprehensive and practical summary of physiological and clinical data bearing on the nature, value, employment, and effects of particular articles of diet and methods of administering nourishment. This chapter alone would ensure for the work a favourable reception from the profession, who desire something more than the vague and uncertain indications, which is all they can obtain from most works of a similar kind. It is essentially practical, and comprises a large number of directions calculated to prove of the greatest assistance to the medical man puzzled to draw up a suitable dietary for his patients. The space, however, allotted to peptonised foods is hardly commensurate with the progress of this department of therapeutics, or with the extent to which it is employed. Even pepsin is dealt with in a somewhat niggardly manner, and the author contents himself with recommending a particular preparation, always an undesirable proceeding when it can be possibly avoided. There are one or two omissions to remark, for instance, no mention is made of araroba, chrysarobinum or its derivative, chrysophanic acid, if we except the casual mention of the latter as a constituent of rhubarb. In a book recently published, one would expect to find some details respecting hydrofluoric acid and the fluorides. There is an apparent slip on page 626, where pilocarpine is said to be contra-indicated "in weak heart due to disease of its muscular substance, or of its contained ganglia or of the valves," and the author goes on to say that "it is a remedy of great value in cardiac dropsy, provided these contra-indications do not exist." One would like to know what other forms of cardiac dropsy there are when the above forms are excepted.

Practical treatises are necessarily didactic in tone, and under these circumstances it is difficult to convey an exact idea of the comparative value of methods of treatment, all of which would seem to be capable of relieving this or that diseased condition. Indeed, the feeling after reading such a treatise is rather one of surprise that, with so many reliable remedies, any diseased condition should resist them. Cod-liver oil, for instance, applied as an inunction, or ingested as a food, would appear to be little short of a universal panacea, but, unfortunately, one's daily experience does not bear out the sanguine expectations that are sure to be formed after a study of the very detailed virtues of this not over agreeable material.

Passing on to the "antiseptics," it is not easy to explain why salol, antipyrin, etc., should be placed under that heading. To ascribe their therapeutical effects to their antiseptic properties is surely a rather bold step in the present state of knowledge. The approval expressed by the author of the use of such terms as antipyrin will, moreover, not be shared by all his readers. The practice, indeed, is one which, if generally followed, would result in a most undesirable and unnecessary confusion, seeing that the ultimate application of a given drug may differ widely from that first proposed. Antipyrin is at least as valuable an anodyne as an antipyretic, and the French Academy of Medicine, while expressing a general disapproval of any such system of nomenclature, have, most inconsistently, determined to specify it in future under the designation of "analgésine." Moreover, the author himself alters his mind when antifebrin comes before him for discussion. The chapter on electricity has about the dimensions of an elementary treatise, which it resembles in several other points. The principles of the various apparatus and their use are explained. magnetism, the author apparently thinks, has a therapeutical action. In relation to the effect of static electricity he asserts that "chorea and other nervous affections may be readily cured by static electricity."

With some few exceptions, in which the author's views clash with those generally received, the analyses of the effects and use of drugs are carefully and judicially rendered. Every essential point is attended to, including the incompatibles and the most suitable vehicles. It concludes with a clinical index, which is neither better nor worse than such compilations generally are. The English system of weights and measures, and the Fahrenheit scale of thermometry are used, a detail which will materially contribute to the comfort of readers on this side of the Atlantic.

Fever: A Clinical Study. By T. J. Maclagan, M.D. London: J. and A. Churchill. 1888.

Following the reviews by Dr. MacAlister of the recent work done on fever, Dr. Maclagan publishes a consideration of the phenomena of fever, studied from the clinical standpoint. The work

consists of a series of papers already issued in serial form, and we welcome their reproduction in their present shape. The book bears the impress of careful thought, and of an earnest attempt to grasp the whole of the facts at our disposal, and judiciously weigh their importance and relations.

In his opening chapter, Dr. Maclagan asserts his thesis, that there are two theories of fever to be considered: "first, that according to which the rise of temperature results from increased activity of the process by which heat is naturally formed; secondly, that according to which the rise of temperature is due to impairment of that inhibitory force by which the heat-producing process is kept within normal physiological bounds;" that these, the metabolic and neurotic theories, are not antagonistic, that each is complete in itself, each applicable to certain definite phases of disease. In the opening chapter, Dr. Ord's views are referred to, and discussed with, as we think, too hasty a judgment. Admittedly, they are not a complete exposition of the fever process; but the epithet "essentially and physiologically unsound" applies, in our opinion, rather to the criticism than to its object. It is assumed that heat is entirely an excretory product, that the cessation of tissue formation could not lead to its liberation, because the heat was not yet formed, and that Dr. Ord's cucumber experiments were "beside the mark." With these strictures we beg to differ, and to remind the author that the point of Dr. Ord's address to the Medical Society is to be found in its application of the known facts of *latent heat*, of its essential presence in every substance, and of its liberation or absorption during a change of form, to the changes occurring physiologically or pathologically in the solids and liquids of the body. This point seems to us to have been overlooked by Dr. Maclagan.

The following chapter gives an account of the neurotic theory of fever, which Dr. Maclagan adopts for certain forms of pyrexia. He considers all cases of hyperpyrexia as of neurotic origin, and due to paralysis of the heat-inhibiting function. The neurotic theory is believed to be applicable also to the pyrexia of hysteria, cerebral hæmorrhage, spinal injuries, and heat apoplexy. In connection with this part of the subject Wood's experiments are reviewed, and, after careful criticism, it is decided that his conclusions are not borne out by his experiments, but that probably the high temperature in the animals experimented upon was secondary to the disturbance of the nervous centres, and not *vice versâ*. In adopting the neurotic theory to a limited extent, Dr. Maclagan makes a protest, which we think is needed, against a careless assumption of its universal applicability. The more ordinary forms of pyrexia are best explained, in Dr. Maclagan's opinion, by the metabolic theory, to an enunciation of which the remainder of the work is devoted. Of the forms of pyrexia best explained by this theory, the specific fevers are taken as the most important examples. Assuming that these are due to the presence of germs which are reproduced in the system, explanations are offered of the manner in which they cause the various phenomena of the febrile state. Thus, the wasting of the nitrogenous tissues is attributed to consumption of "constructive" store albumen by the germs in the process of their reproduction, and to consequent starving of the tissues; thirst, loss of appetite, dry skin, and scanty urine are believed to be due to similar consumption of water by the contagium. Decreased elimination of urea, such as occurs in some cases of fever, Dr. Maclagan thinks is produced by deficient action of the kidneys, mainly due to defect of water. "The kidneys are thus placed in the position of the Israelites of old when they were ordered to make bricks without straw; they have more than enough urea, but scarcely any water with which to form urine." The metabolic theory is further traced in the explanations which it affords of other febrile symptoms and pathological conditions, of the different degrees of contagiousness and of severity, of the fixed duration of the fever, and of immunity from second attacks. The author believes that the view generally held of the production of nervous phenomena in fever by poisoning of the nervous centres is erroneous. The convulsions which in the initial stage of fever are, he thinks, due to cerebral anæmia; those of the later stages, like the other nervous phenomena, are produced by exhaustion of the centres, the poisoning of the system assisting somewhat in increasing the already existing malnutrition of these centres.

Dr. Maclagan rejects the view that the increased body heat of the specific fevers is ordinarily due to an effect of the fever poison on the heat-inhibiting function, because "nothing worthy of evidence can be adduced in support of such a view." We confess to thinking that he has brought forward but little true evidence in favour of the metabolic theory. His assumptions seem reasonable; in his hands they afford plausible explanations of the varied phenomena of fever; but Dr. Maclagan himself knows well that this is not conclusive proof of their verity.

The book before us presents the results of deep and careful thought, and points out on almost every page openings for experimental work, which may in the future give the requisite basis of fact to the views advocated.

TRANSLATIONS OF FOREIGN BIOLOGICAL MEMOIRS. I. Memoirs on the Physiology of Nerve, of Muscle, and of the Electrical Organ. Edited by J. BURDON SANDERSON, M.D., F.R.SS.L.& E. Oxford: Clarendon Press.

THIS is the first of a series of translations of foreign (that is, German) memoirs and monographs, undertaken by the Oxford School of Physiology, which is now coming into existence under the auspices of Professor BURDON SANDERSON. The limitations under which physiology has obtained its first footing in the Oxford world are such—and, it is to be feared, must long remain such—as to forbid the practical study of the central province of modern physiology, namely, the living though non-sentient animal. But the outlying provinces are open; the living tissues of dead animals may be investigated, and the central province itself may be entered upon *literis scriptis*.

The volume now before us contains translations of memoirs relating to three principal subjects. Part I. contains five papers by Tigerstedt, Hering, and Grützner relating to "The Law of Contraction;" Part II. five papers by Du Bois-Reymond, Hering, Hermann, and Biedermann on "Secondary Electromotive Phenomena;" Part III. three papers by Du Bois-Reymond on "The Electrical Phenomena of Malapterus and Torpedo." From this table of contents it will at once be apparent that the volume is addressed to students of pure science, and to readers who desire to form an idea of the kind of interests by which physiologists are engrossed.

To the first class of readers the volume will be of value as an introduction. It is not, and cannot be, exhaustive of the literature of any one of the subjects treated of; it has, and it must have, only the time and place value which individual memoirs have amongst the crowd of memoirs which precede and succeed them. The memoirs have, indeed, been selected as representative efforts of leading workers. In some cases—more especially as regards the theory of the break-contraction and secondary electromotive phenomena—they have been selected as representing the opposite experimental pleadings in questions which are still under trial. Obviously such memoirs are not final. They represent the state of the matter at the time (1887); for it is a characteristic of physiology—constituting to some minds its charm, to others its blemish—that the written science is constantly growing by assimilation of new statements and disassimilation of old statements—in short, that it is alive, not dead. The value of this volume, and of the series which we hope it heralds, is that it gives a glimpse and true picture of this living state.

OUTLINES OF PRACTICAL PHYSIOLOGY. By WILLIAM STIRLING, M.D., Sc.D. London: Griffin and Co.

THIS is essentially a laboratory book, clear and practical, containing just what is wanted by the student who, in working for the higher examinations, finds it necessary to "take his coat off." Although of comparatively small bulk (300 pages clearly paragraphed, and including 140 simple explanatory figures), these "outlines" cover practically everything classical in physiology with which a student can make himself acquainted *de visu*. They also include not a few of those experiments which, although current in laboratories, are hardly yet crystallised in textbooks. We allude more particularly to Kühne's experiments on curarised muscle, to the use of the capillary electrometer, to various experiments on the heart, etc.; and no better proof that Professor STIRLING's book is up to date could be given than to compare its muscle experiments with the text of Kühne's 1888 Croonian Lecture delivered to the Royal Society.

The preface states that the experiments herein described are performed by every member of the class. We cannot help thinking that this must involve too great an expenditure of time upon pure physiology. Not many demonstrators nor perhaps lecturers on physiology have themselves performed successfully the whole list (containing over one thousand experiments, some, indeed, to

be disposed of in a few minutes, but many requiring several hours for their successful performance); but it is easy to select and eliminate in such a way as to vary the illustrations and exercises given each year, and for such a purpose these outlines afford an admirable store, quite free, we think, from impracticable experiments too often recommended by stay-at-home travellers in physiology. We would, however, make the following criticism, because the book is practical. The mysteries of physiology are superficially obscured to some minds by the use of long words; and though it is, of course, necessary to explain the meaning of long words which have obtained their footing in the common language of the laboratory (for example, kymograph, sphygmograph, ophthalmoscope, perimeter, etc.), we think long words should be discouraged rather than encouraged, and would set our faces against such labels for little things as "neuramœbometer," "psychodometer." Other words (for example, hæmocytometer, æsthesiometer) are perhaps on the borderland, and to be kept alive. Others, again, such as the obtrusive "oncograph," we are glad to see omitted.

NOTES ON BOOKS.

An Elementary Textbook of Physiology. By J. McGregor Robertson, M.A., M.B., C.M. (Blackie and Son, London and Edinburgh.)—Dr. McGregor Robertson's textbook is of about the same size, and nearly the same scope, as Huxley's *Elementary Lessons.* This textbook presents some advantages, inasmuch as it is written mainly from the laboratory, and inclines somewhat more to the physiological than to the anatomical point of view. It contains, of course, an anatomical introduction, which is good and well illustrated; so is Huxley. The physiological portion is given in greater detail than in Huxley, the arrangement and headings are clear, and are better printed and separated. Turning to the index, we find in McGregor Robertson, "lecithin," "goitre," "localisation of brain function," etc., which are not in Huxley; and turning back to the text, we find that the canvas is filled more fully, and that, therefore, as an elementary textbook to be read up by junior students preparing for a professional examination, it is the safer provision to make. But to lay readers and to school teachers it does not, we think, present much advantage, and it seems at times to use popular comparison in a dangerous way; for example, at pp. 137, 138, where the blood-supply to the body is compared "to a stream flowing through a tract of country, and giving off branches in all directions, so that it waters every quarter of the district." A pupil teacher might well be suddenly pulled up in his understanding, and feel that he has been letting his mental picture of the facts run the wrong way.

Forty-fifth Annual Report of the Trustees of the Mutual Life Insurance Company of New York.—It is very much to be regretted that so little use is made of the valuable information which life offices accumulate, especially as to relative mortality of trades and professions. The medical reports, if drawn up on a good plan, and containing statistics compiled on a uniform system, would be very valuable; unfortunately, the medical report before us is so insufficiently compiled as to be absolutely worthless.

REPORTS AND ANALYSES AND DESCRIPTIONS OF NEW INVENTIONS,

IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

NEW SPLINT FOR FRACTURE OF THE LOWER JAW.

The figures illustrating Dr. Ward Cousins's description of his new splint for fracture of the lower jaw, published in the Journal of October 6th, page 767, were accidentally transposed. Figure 1 represents the apparatus applied for fracture of the condyle or ramus; figure 2 that applied for fracture of the body of the lower maxilla.

University of Cambridge.—Dr. Norman Moore, of St. Catharine's College and St. Bartholomew's Hospital is nominated Assessor to the Regius Professor of Physic for M.D. degrees.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

Subscriptions to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, OCTOBER 13th, 1888.

THE ARMY MEDICAL SCHOOL AT NETLEY.

We regret to hear that the abolition of the Army Medical School at Netley is again under the consideration of the Government, and is not unlikely to be carried into effect. Against this retrograde policy we wish to record an earnest and emphatic protest, a protest based not merely on the narrow ground of the interests of the service or even of the profession, but on the broader ground of the interest of the nation. It is now almost universally acknowledged that if we are to maintain our commanding position and influence amongst European nations we must neutralise the numerical insufficiency of our standing army by taking care that in material and organisation it shall be as nearly perfect as possible; in no department is the maintenance more important than in the medical, and any policy which has the slightest tendency to lower this standard can only be looked upon as essentially suicidal.

The proposed abolition recommends itself to the Government mainly as a measure of economy, but we believe its advocates profess to base it also upon the expressed opinion of many who have passed through the curriculum, that the training received at Netley is of little practical utility. We have some reason for thinking that this opinion is supported by a small substratum of fact; that the curriculum at Netley follows too closely upon the lines of an ordinary medical school, and that the authorities have failed to realise the true objects the institution was intended to subserve, namely, to superadd to a complete civil education a special training for an army medical career. If this be so, if the authorities at Netley have hitherto failed to fully utilise their unrivalled resources for carrying out such work, the fact may furnish a strong argument for reform, but certainly affords no justification for abolition. The real question which is at the root of the matter is this: Is special training a necessity to render an army medical officer thoroughly efficient? And if this question is answered in the affirmative, the further question arises, Can such training be given more economically and more efficiently elsewhere than at Netley, or may the desired knowledge be acquired individually in the ordinary routine of the regular service? The preliminary question, we think, can only be answered with an unhesitating affirmative. Even in the matter of departmental and hospital organisation much knowledge has to be acquired which no civil medical school can impart; and there are specialities in military hygiene and in the medical and

surgical treatment of disease in an army scattered, as ours is, over the whole face of the globe, a knowledge of which certainly does not come by Nature, and which an unfortunate medical officer should not be expected to acquire, as it were, by experiment upon the valuable person of the British soldier. We are convinced that no senior member of the Army Medical Staff, whose fortune it may have been to be sent upon active service early in his career, will hesitate to acknowledge that he has personally felt the need of special knowledge and training, or scruple to confess that the acquisition of that knowledge in the ordinary routine of the service was a weary, arduous, and unsatisfactory task.

For imparting all this special information, we firmly believe no place presents anything approaching the facilities which Netley possesses, provided its resources are fully utilised; its hospital is crowded with cases from our varied possessions, affording an unparalleled field for special clinical instruction, whilst its museums and laboratories are thoroughly efficient and complete. In the case of the Indian Medical Services it has been asserted that the special instruction required could be more economically and more thoroughly imparted in the Presidency hospitals and medical schools. This, however, is decidedly a mistake: the schools are essentially civil schools, conducted strictly upon the plan of the home schools, whilst the hospitals are mainly filled with native patients and their organisation is civil, and not military. To afford the necessary teaching, therefore, a special professional staff would have to be appointed in each Presidency, in itself scarcely a measure of economy, whilst the appliances at the command of the teachers would be far less efficient and complete than those at the disposal of the Netley staff.

We may briefly summarise our views on this very important question by affirming that a brief course of special training after the completion of the ordinary course of civil medical education is essential to the efficiency of an army medical officer; that Netley affords greater facilities for giving this training than any other institution, but that its curriculum requires reform; and that much knowledge absolutely necessary to the army surgeon can never be imparted in the ordinary medical schools. To speak metaphorically, the tool therein manufactured is accurately ground and thoroughly well tempered, but none the less requires to be carefully set, to fit it for its special work efficiently. A government or a country that, through false economy, is content to work with unsharpened tools, will inevitably in the end suffer for its parsimony.

NO LIFE INSURABLE UNDER THREE YEARS OF AGE.

Renewed attention has been recently directed to the evils attending the practice of permitting insurances on the lives of infants: grave doubts as to the propriety of the system have always existed. These doubts have from time to time been confirmed, and public interest in the question stimulated by cases in which it has been clearly shown that infant life has been either culpably or criminally sacrificed, the inducement being shown only too certainly to be the small sum obtained on the child's death. Beyond this, there has for some time been a conviction in the minds of those whose duties bring them into intimate contact with the lower working classes that there are a number of cases constantly occurring where children's deaths are hastened by culpable negligence—short, perhaps, of legal crime, but certainly constituting moral guilt—from the same sordid motive. As a Parliamentary Committee has recently been appointed to consider certain matters connected with the operation of the Friendly Societies Act (1875), the subject, which has been discussed at intervals for over twenty years with little result, has now recurred very opportunely; and it will be matter for regret if the question is not fully ventilated when the Committee resumes its labours. Unfortunately, there are at present no exact data on which to base scientific or even demonstrable conclusions. This is, however, a matter that can now be easily remedied, as means exist by which the Committee alluded to can obtain returns as to the proportion of infant deaths to the lives at risk, where insurance contracts are in force, and a comparison could then be made with the ratio among mixed or uninsured lives, which would be of the greatest interest.

If the system of infant insurance be traced to its origin, it will be seen that the Friendly Societies Act of 1875 (which was the result of the very exhaustive labours of a Royal Commission) gave it legislative sanction, and expressly set aside, to a limited extent, the principle laid down in reference to life assurance by an Act passed in the fourteenth year of the reign of George III. This principle was that no legal assurance could be made by one person on the life of another, unless the assurer had an "insurable interest," that is, would suffer monetary loss by the death, which the amount of the insurance was presumably to cover. The soundness of this restriction has never been challenged; but it was relaxed by the Friendly Societies Act of 1875, to the extent of allowing parents or their legal representatives to effect insurances on the lives of children of any age up to ten, the total amount of such insurance being, however, limited to £6 under five years of age, and £10 under ten years. This was presumably done for the encouragement of thrift amongst the working classes, and (rather curiously) the industrial assurance companies, although not under the supervision of the Chief Registrar of Friendly Societies, were admitted in terms to participation in this privilege. A little examination will show that this was a complete reversal, so far as it went, of the principle of "insurable interests." So far from having a money interest in the lives of their infant children, it is, unfortunately, only too clearly established that a proportion of the population regard them as a burden. It, therefore, became a grave question how far the system would intensify already existing evils rather than promote true thrift.

The working out of the problem has been singularly unfortunate for the advocates of the system. The moral and material evils foreseen have undoubtedly arisen, although in what proportion remains to be proved. But, in addition, the people for whom the Friendly Societies Act was intended have never taken up the business of infant life insurance. This has become the monopoly of certain collecting friendly societies (the official extravagance of some of which has lately become notorious), and of the more pushing of the "industrial assurance societies." As the proportion of premiums collected by such societies and companies absorbed in official expenses

varies from a minimum of over 30 per cent. to a maximum of over 60, it will be at once apparent that an average of quite one-half of the pence of the insurers is swallowed up in expenses of management. To put it plainly, infant insurance does not exist as a system by reason of the spontaneous desire or the self-organisation of the working-classes. It is created by an army of house-to-house collectors and officials, who appropriate one-half the revenues derived from the insurers, and carry on a business which certainly tends to accentuate and increase evils in the relationship between parents and children, too often originally existing as the result of poverty and a lax sense of parental duty.

Fortunately the Friendly Societies Act provides another system which has proved practically free from the evils alluded to, and may furnish a means of solving the difficulty. In one of its clauses provision is made for the creation of societies for children only—which have come to be known as "juvenile" societies. The Act stipulates that there shall be no members of there societies under three years of age. In spite of such restriction, this class of society has been largely organised by the members of friendly societies (properly so-called), and there are at present many thousands of children and youths connected with them. This may certainly be taken as proof that large numbers of the working classes do not desire infant insurance, and are content to wait until their children are of a reasonable age. The advantages of such a delay are obvious, since it avoids the period of extreme helplessness, and renders protest by the insured and protection from ill-treatment or neglect more probable and possible. If the two classes of societies be further contrasted, some striking differences will be found to exist; the better kind, for instance, provide medical assistance for their members, and thus adopt means to preserve life, a provision almost uniformly neglected in societies of the other type.

Briefly, experience seems to have demonstrated that infant insurance (on its present basis, at all events) is not a necessary element of working-class thrift. It frequently provides the means of over-insuring the expenses arising at death three or four times, and thus, naturally, in some cases leads to a miserable gambling with human life, in which it is unfortunately too certain that what is morally and sometimes legally child murder occasionally plays a part. On the other hand, a sweeping measure prohibiting the insurance of children altogether would scarcely be justifiable or expedient. The better plan would appear to be to follow the lead already given by the more thoughtful and responsible section of the people themselves, and prohibit such insurances on the lives of children under three years of age. This would be in effect to destroy the system of infant insurance. Should such a course provoke any considerable opposition, those who oppose it would probably be silenced, if not convinced, by the tabulation and publication of statistics of infant mortality on the lines already indicated.

BABY-FARMING: THE DEFECT IN THE LAW FORESEEN AND SHOULD BE AMENDED.

A CORONER'S inquiry which has just concluded shows that the trade of "baby-farming" is carried on with impunity in country towns, in spite of the Infant Life Protection Act, owing to the supineness of the local authorities who are charged with its due administration. One person at Great Yarmouth who advertised for children to adopt had at least two infants under 1 year of age in her care without a licence. It was through the circumstance of a child dying suddenly whilst in the care of a licensed nurse at Tooting, and on which the inquest was held, that the *modus operandi* of a new phase of the trade was brought to light.

This has been developed by an ingenious and cunning woman, a Mrs. Arnold, of Wolverton. She had been for about four years in the practice of advertising for children to adopt. With each she received from £20 to £40; and then, placing them out with other women desirous of adopting (!) children, she paid them in one instance £10, in other cases 5s. a week, which payment, after a few weeks, she failed to maintain, knowing that the majority of infants so put out died. She remarked to Mr. Lawrence, of Yarmouth: "If it should please God to take him, he would escape all the trials of the world and be better off." There is no knowing how many infants passed through the hands of this "baby-sweater." The coroner said he had a list of twenty-four, to which she replied: "I don't admit that I have had any!"

Through the defect of the law this woman cannot be punished for what she has done, and she can with impunity act on her notoriety and carry on her business without check or hindrance. The Coroner, Mr. A. Braxton Hicks, in his summing-up, said:

> The Infant Life Protection Act of 1872 was totally incompetent to deal with such a case as this, as it did not reach Mrs. Arnold. If the law had been strong enough, the system of trafficking in children would have been stopped long ago. The Metropolitan Board of Works, who had the carrying out of the Act, had found that the section did not go far enough. It was suggested in 1884 that the operations of the Act should be extended to infants under five years of age, and that parents should not be relieved of their responsibility by the payment of sums of money to the people who undertook to adopt their children. In his opinion, then, it was desirable to amend the Infant Life Protection Act, 1872, in the manner suggested by the Metropolitan Board of Works; and, in addition, to make it an offence to take for hire or reward any infant under the age of 7 years, unless such person was registered under the Act, or unless the particulars of the agreement or undertaking entered into between the parties to the transaction were registered by the local authority under such Act.

It will be remembered that this very defect of the Act was foreseen by Mr. Ernest Hart, and was pointed out in advance in the evidence which he gave before the Select Committee of the House of Commons which was appointed to consider the evidence obtained by the BRITISH MEDICAL JOURNAL on the subject of baby-farming, and which, with the assistance of Mr. Curgenven and Sir T. Charley, forced the existing legislation. It should be known that the first Bill drawn up by these gentlemen as members of the Society which they formed for the purpose and brought into the House of Commons by Sir Thomas Charley in 1871 stipulated that "it shall not be lawful for any person to receive or retain for hire or reward any child under the age of 6 years for the purpose of nursing or maintaining such child," etc. The Bill also provided for the regular inspection of children in the care of licensed nurses by the poor-law medical officers. Yielding to a feeble opposition, the Government, after the inquiry by the Select Committee of the House into the subject, reduced the powers of the Bill to dealing only with women who took into

nurse "two or more infants under 1 year of age," and struck out altogether the inspection by the poor-law medical officers.

We earnestly hope that the Government and the new County Council will, in this next session, bring in a short Bill amending the Act of 1872, making it unlawful to receive for hire, etc., any child under 5 years of age, as children are just as helpless for self-defence and preservation up to that age as infants. And it should be unlawful for any parent to transfer his or her responsibility for the health and life of his child on a money payment or other consideration. No adoption by one person of the child of another should be legal without an instrument signed by both parties before a magistrate or a notary.

THE RELATIONS OF SARCOMA, PRURIGO, AND NÆVI TO THE NERVOUS SYSTEM.

Professor Campana, of Genoa, in a paper on Neuropathic Dermatoses in the *Viertl. f. Derm. u. Syph.*, 1888, 2nd Heft, relates facts that lead him to believe that sarcoma of the skin is intimately related to the nervous system. He states that this affection is commonly accompanied by sarcoma and fibroma of the peripheral nerves, and that the nerves have a considerable influence in the spreading and reproduction of the disease in the skin. He insists that sarcomatous changes in the skin and nerves are found associated, and that the changes in the nerves often antedate those of the skin; that many vascular and lymph angiomata are distributed in the territories of certain nerves (Recklinghausen), and that many fibromata of the skin have relations to neuromata and fibro-neuromata; that a form of sarcoma of the skin which he described had appeared symmetrically like an exanthema, in the manner of various erythemas which are at present accepted as of nervous origin (Lewin), and which frequently correspond to the peripheral distribution of certain nerves. He calls attention to the fact that, in the neoplasm, all the elements in the growth are not sarcomatous cells, and, further, that in places in which there is special accumulation of indifferent cells, nerve terminations with sarcomatous swellings are found. He has made the observation that recurrent nettle rash or itching in the extremities frequently precedes sarcoma, and that these are symptoms which can only be ascribed to the nervous system: that there is severe pain in the course of the nerves which lead to the affected parts, especially on pressure; and that in these forms of sarcoma a period of hyperplasia and a period of atrophy can be observed, an atrophy without ulceration, which is rare in other forms of sarcoma. Campana considers that the first localisation takes place either in a tumour of the skin or in a tumour of another organ. Thence there is localisation in the nerves that are in connection with it, and, through the medium of the nerves, development of tumours in other parts of the skin.

In another section of the same paper Campana discusses the nature of the changes that cause prurigo, the pathology of which he assigns to the nervous system, although he remarks that inflammatory affections of the nervous system are common, whilst cases of prurigo are rare, and that every neuritis is not accompanied by itching. In this connection he points to the fact that in a case of multiple fibro-sarcomatous neuritis the prominent symptom was neither anæsthesia nor hyperæsthesia, but itching. In prurigo he has found changes in the peripheral terminations of the nerves, and has seen that many of the nerves of the skin in subcutaneous tissue have lost their form, and are much thicker than in normal conditions. He has observed that on the parts where these changes are found, even in a dead body, the skin was observed to be rough, scaling, and pigmented in small spots. In this connection he refers to a case in which sarcomatous changes in the nerves were not preceded, but followed, by itching, and in which afterwards changes took place in the skin which were suggestive of prurigo.

In the same paper, in a section on nævi, Professor Campana states that he has a record of fifty cases in which the distribution of nævi showed unmistakably their relation to the nervous system. He considers that changes in such cases should be looked for not in the nerve-centres, but in the peripheral nerve branches.

Professor A. R. Simpson, Edinburgh, has been elected an Honorary Fellow of the American Gynæcological Society.

Miss Frances Power Cobbe also has a theory about the East-end murders; it is that they have been committed by "a physiologist delirious with cruelty." She attributes it to the coroner, but it is all her own.

At the last meeting of the Metropolitan Asylums Board, on October 6th, the Chairman was able to announce that no case of small-pox had been received for more than a month, and that not one of the beds provided for small-pox patients was occupied.

Dr. Gamaleia has left Odessa for Paris, in order to explain his system of vaccination against Asiatic cholera to the Académie des Sciences. In March he proposes to go to India, to test practically the efficacy of his method on cholera patients.

It is stated that the Egyptian Government has suppressed the Arabian medical journal *Shifa*, because it reported a conversation on cholera between Professor Virchow and Dr. Grant Bey, in which the eminent pathologist declared himself in favour of a rigorous quarantine on vessels coming from India.

It seems to be very probable that the Royal Commission on University Education in London will not hold another sitting for the purpose of taking evidence, but we understand that the Commissioners have expressed their willingness to receive statements in writing. It is probable that several such documents will be submitted.

MEETING OF THE GENERAL MEDICAL COUNCIL.

The next meeting of the General Medical Council will, in compliance with the new Standing Orders (Cap. 1, Sec. 1) begin on Tuesday, November 27th, and not at the date previously announced by us. The Executive Committee will meet on the day before, November 26th.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

The annual meeting of this Society will be held at the Holborn Restaurant on Friday next, October 19th, at 4 P.M. The President-elect, Dr. Corfield, will deliver an address, and the usual business of the election of officers will be proceeded with. After the meeting the members and their friends will dine together at 6 P.M. at the same place.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.

A MEETING of the Executive of this Society will be held on Wednesday, October 17th, at 4.30, and of the General Committee at 5 P.M., at 38, Wimpole Street. A further sum of £2,000 is, we understand, ready for investment, and the report presented will be of an exceedingly satisfactory character. Documents and all particulars relating to the Society may be obtained of the Secretary, Mr. C. J. Radley, 26, Wynne Road, Brixton, S.W.

THE ISOLATION OF DIPHTHERIA IN THE METROPOLIS.

THE debate which took place at the meeting of the Metropolitan Asylums Board on October 6th shows that the majority at least of the managers are at length becoming alive to the necessity of bringing pressure to bear on the Local Government Board to remove its veto on the admission of cases of diphtheria to the hospitals for infectious diseases, or, if that may not be, to undertake to introduce and pass an enabling Act in the next session. The medical officers of the Fever Asylums have sent in special reports on the subject; these state that there will be no difficulty so far as their departments of work are concerned. Dr. Seaton, in an able speech, pointed out that the isolation of diphtheritic patients in hospitals had been tested in New York, and had been found to redound to the advantage of the patients and of the community. A further memorandum has, as a consequence of this debate, been addressed by the Metropolitan Asylums Board to the Local Government Board, inviting it to reconsider its unfortunate interpretation of the Act or to get a new Act. We understand memorials are also in course of preparation by the executive committees of several of the great general hospitals in London, asking that action may be taken.

TECHNICAL COLLEGE FOR GENTLEWOMEN.

THE early days of many a young married woman are clouded by the endless troubles and annoyances due to her own ignorance of the duties involved in the management of a house. For some time past courses of lectures on cookery, dressmaking, household management, domestic economy, and such like matters, have been organised by Miss Forsyth, and now an appeal is issued asking for funds to build and equip a proper college in which to carry on the work. Ignorance of domestic economy may lead to much domestic unhappiness, but the ignorance that we see, even in good society, as to the elementary hygiene of domestic life, and the physiology of child life, lead to graver results. It is to be hoped that hygiene, physiology, and some instruction as to methods of studying and guiding the development of children's bodies and brains, will form a part of the course in the new college.

SMALL-POX IN MOROCCO.

MR. HAROLD CRICHTON BROWNE, writing from the city of Morocco on August 7th, says: A terrible epidemic of small-pox is raging here. In a country where the phrase "It was written" is considered an ample explanation of all individual, social, and national calamities statistics do not exist, but a well-informed Moorish official has told us that the deaths have been as numerous as 200 a day. I can well believe it, for in riding about I hear echoing from house to house the plaintive wail that is set up by the women when there is one dead within. A few nights ago that melancholy sound came from the house next to ours. Could a deputation of antivaccinationists be sent out here and see the hideously bloated, scarred, and speckled faces which are to be met with every few paces in the streets and markets, they would, I think, believe and tremble. Strong in our revaccination, Thomson and I move about saddened by the misery around us, but without any apprehension for our own safety.

HEALTH OF THE PANAMA WORKMEN.

THE health of the workmen engaged on the Panama Canal has materially improved owing to the arrangements made by the Company for their benefit. Formerly thousands succumbed, soon after their arrival, to the fever which few newcomers escape; now as soon as ever a workman is attacked he is removed to the hospital, which has been erected on the pavilion system on high ground about one mile from Panama. As soon as convalescence is established he is removed to a convalescent home built on one of the beautiful islands which dot Panama Bay. The dread with which the works were until recently regarded by workmen of all nations owing to the fearful mortality due to fever is now passing away, and immense numbers are continually applying to be taken on. The correspondent of the *Medical Times* of Sacramento, California, who makes the above statements, adds that the natives, and the negro workmen also, seek to induce copious sweating when attacked by fever, and for this purpose take a decoction of a sour orange which grows wild throughout the isthmus; medical opinion is in favour of quinine in large doses.

A SUCCESSFUL OPERATION.

SIR HENRY KEATING, the eminent judge, whose death at the age of 84 took place last week, owed the whole of his judicial career to a successful surgical operation: he survived the performance of ligature of the external iliac artery for femoral aneurysm for nearly thirty years. The operation was performed by Sir William Ferguson in 1859 whilst Sir Henry Keating was Solicitor General, and it was mainly owing to his illness that he accepted a puisne judgeship, an office entailing no fatigue of standing. The late Mr. Frank Mason, surgeon to St. Thomas's Hospital, was at the time of the operation assisting Sir William Ferguson, and remained in surgical charge of Sir Henry Keating at night, thus laying the foundation of a life-long friendship.

THE MEDICAL REGISTER.

THE commencement of the fourth quarter of the year is the proper moment to remind all medical practitioners registered by the General Medical Council that it is their duty to send to the Branch Registrar by whom they were originally registered notice of any change of address, in order that the proper description may appear in the next edition of the *Medical Register*. Practitioners who fail to make such notification, and to answer letters of inquiry, are liable to have their names erased from the *Register*, and thereby incur serious legal disabilities more fully set forth in an advertisement which will be found in this number. The Registrars are, in London, Mr. W. J. C. Miller, B.A., 299, Oxford Street, W.; in Edinburgh, Mr. James Robertson, 1, George Square; and in Dublin, Dr. R. L. Heard, 35, Dawson Street.

INFECTION OF FŒTUS THROUGH PLACENTA.

THE precise manner in which the fœtus is infected by a disease which has attacked the mother has often been disputed. Small-pox, tuberculosis, and syphilis may infect the fœtus. If these diseases depend on micro-organisms, these germs must pass through the placenta; if so, the placenta is not a filter which arrests all solid or noxious bodies, as an old theory supposes. If it be a filter, how is it that, as experience has proved, it does not always let the same micro-organism pass? This is the case with charbon in rabbits. And how is it that the placenta always gives transit, on the other hand, to certain specific micro-organisms, as in the case of chicken-cholera? These questions have been propounded in the *Archives de Tocologie* for August. They appear to be solved by certain experiments conducted by M. Malvoz, of Liége, recapitulated in that periodical. M. Malvoz contends that micro-organisms only clear the placental barrier and enter the

fœtus when the placenta itself presents pathological changes in its chorionic villi, changes generally due to the micro-organisms themselves. Thus Malvoz injected into the blood of pregnant rabbits emulsions of Indian ink, an inert substance, and into others solutions containing non-pathogenic bacilli. In no case were any granules of the ink or any bacilli found in the fœtus, and in all far less of the infected substances were detected in the placenta than in the liver of the mother. After similar infections with bacillus anthracis, the tissues of 32 fœtuses were subjected to cultivation, but, in 163 tubes of cultivating fluid, only 4 showed the charbon bacillus. Lastly, M. Malvoz inoculated pregnant rabbits with chicken-cholera. In every case the specific bacillus was found in the fœtal tissues. On examining the placentæ in the latter case, they were invariably found to be diseased; in the charbon experiments the placentæ were but rarely diseased; in the Indian ink and non-pathogenic bacilli cases the placenta was never diseased. The placenta was diseased in all the few cases where the charbon bacillus infected the fœtus. The germs were found abundantly in hæmorrhagic areas disseminated over the placenta. Clinically, placental lesions are found in syphilis and small-pox, diseases often communicated to the fœtus. Thus it would appear that the placenta allows the transit to the fœtus of those micro-organisms only which have the property of first setting up morbid changes in its own substance.

THE EXTINCTION OF THE AMATEUR DOCTOR.

One of the marked features of the age is the specialisation of science as a profession, and the consequent extinction of the once large class of men who took medical degrees without any intention of practising. As long as a pure scientist had no distinct, well-understood, social position, the man who wished to dedicate his life to science found it advisable to take a degree. Then his friends could always speak of him as "a doctor," and strangers understood that denomination, whereas had they heard him described as "the great authority on the archetype," or "the man who wrote that splendid monograph on aberrant types amongst the Coelenterata," they would have been mystified, despising him henceforth as a man with no visible means of subsistence. The *Observer*, in a leader on October 1st, dwells upon the old amateur doctor. To the difficulty of the modern curriculum, our contemporary attributes the extinction of that once familiar type. "It is even becoming difficult to find properly qualified candidates for the Swiney Lectureship in Geology, the holder of which must be an Edinburgh, M.D., though not many years ago the patrons had an ample choice of medical geologists of eminence, not merely of medical men willing to draw the salary." Very significant, no doubt, but in this question science does not play a passive part as would at first appear. The non-practising scientific doctor is not only extinct, as a class, because medical education is so steep, but also because science has become a recognised profession. Society now understands a man who is spoken of by his friends as "a man of science," "a great scientist," so that even the few well-known biologists who did begin their career as doctors need not take the slightest pains to remind inquisitive quidnuncs that they technically belong to the medical profession.

THE FIRST OPERATION ON THE FALLOPIAN TUBE.

The nationality of the first surgeon who performed ovariotomy and the place where that operation took place have often been disputed, but now it is practically settled. M. Schlesinger, of St. Petersburg, has discovered that the first case of operation on the Fallopian tube was performed in 1784 at Sarepta, Astrakhan Government, Russia. The case is noted in Dr. Monprofit's *Salpingites et Ovarites*. A multiparous woman, aged 42, was taken ill after an abortion, and a painful tumour appeared in the right iliac fossa. On February 21st, 1784, the operation was undertaken by a Dr. Seydel. An incision was made from the umbilicus to the right abdominal ring, passing over the middle of the tumour. The operator opened the peritoneum with a curved, probe-pointed bistoury. Three veins were tied, the protruding intestines were kept back by a napkin soaked in tepid milk. The tumour was attached by a pedicle to the uterus, and strongly adherent to neighbouring structures. The operator carefully examined its relations, and discovered that the ovary was distinct, the tumour being clearly tubal. "Quâ quidem investigatione certo et indubitato cognovi tumoris hujus sedem non ovarium fuisse sed tubam." As it could not be removed it was laid open, washed out with a decoction of bark mixed with a solution of myrrh, and then stuffed with charpie soaked in balsam of Arceus. To prevent the intestines from adhering to the parietal peritoneum pieces of linen, soaked in oil of roses, were laid over them. The abdominal wound was dressed with linen supported by a plaster; later on sutures *(sutura cruenta)* were applied. Drainage by means of a silver tube did not answer, so the operator aspirated, by suction with his mouth, the purulent fluid which collected in the cavity of the dilated tube. This was done four times a day, and the dressings were changed on every occasion. There was fever for a week, but in a fortnight's time the discharge ceased and the wound began to close, the patient recovering completely. At the end of two years Dr. Seydel heard from his patient; she was in perfect health. The operator was decidedly before his time.

THE FLORIDAN OSTRICH.

The epidemic of yellow fever in Florida seems to have been, as usual, originated by neglect of ordinary sanitary safeguards, and aggravated by concealment in the supposed interest of trade. The *New Orleans Medical and Surgical Journal* states that yellow fever has existed in the State of Florida for over a year, "exactly how long or to what an extent will perhaps never be known, since the barbarous plan of concealment has been so generally practised by every county board of health which has been called upon to deal with the disease. It was prevalent in Jacksonville for days, perhaps weeks, before it was officially announced." The hotel proprietors and traders thought that their business would be injured by the publication of the fact that there were a few cases of yellow fever in the State, so they succeeded in concealing the fact until the sporadic cases had been converted into an epidemic which has, of course, ruined Florida as a health-resort for the next decade. This blundering self-interest is quite on a par with the intelligence of the ostrich when that sagacious bird seeks to hide from its pursuers by concealing its head behind a stone. Our New Orleans contemporary, while not apprehending any general epidemic in the Southern States, thinks it not improbable that Florida may continue to be a permanent home of yellow fever, unless a State Board of Health is constituted with power to take prompt means to exterminate the scourge.

THE HOUSING OF HOUSE-SURGEONS.

Is as much done for the physical welfare of house-surgeons, house-physicians, and midwifery assistants as for hospital patients? The answer must be in the negative. A hospital is built for patients, and the attention of authorities is ever directed towards patients rather than towards the staff. The patients are defenceless; the institution is founded for their benefit. It is quite right that they should be duly considered; nevertheless, it is more than advisable that the authorities should see that the house-staff are not neglected. The house-surgeon, in particular, has heavy responsibilities. He cannot choose his lodgings, and has little time to attend to housekeeping. He is always young, and, therefore, can tolerate gloomy, dusty, malodorous sitting-rooms, opening

into gloomier bedrooms. He is very liable to extortion from housekeepers, and to sundry evils from bad attendance. Should he be sharp and experienced, he recognises the disadvantages of his position, but knows full well that there is little chance of remedy for himself, and less chance of benefit to his successors if he acts on public grounds, for acting on those principles means, in his case, presenting a formal complaint to some committee of management, and the committee generally do nothing beyond lamenting that "young men are always finding fault." In some cases the complainant does himself actual harm. The authorities should make sure that the house-staff is well housed and well fed. The rooms for the house-surgeons and house-physicians should be high and well ventilated, never opening into the bedrooms. The young house-surgeon, after the fatigue of his day's work, should not be compelled to dine in a close, low-ceilinged apartment, as is too often the case. For one house-surgeon who dies in office a hundred, roughly speaking, have to retire for a short or long holiday through ill-health, whilst nearly all are occasionally so much harassed by colds, sore throats, or pure fatigue, as to be more or less unfit for the duties which they continue to discharge. In the case of Mr. Hawkins no blame, we believe, can be attached to the authorities of his hospital, but the same cannot be said in respect to the general arrangements which prevail in the resident staff quarters in most medical schools. In a hospital, as on the field, the staff in command have the right of special protection, and, unless specially protected, they cannot properly discharge their functions.

A BURIAL SCANDAL.

A CIRCUMSTANCE which has created a good deal of excitement in Leeds came to light before the Leeds Borough Coroner, at an inquest held upon the body of Mrs. Powell, wife of Charlton Powell, described as M.R.C.S. and M.R.C.V.S., of New Wortley, whose name does not appear in the *Medical Register* or in the list of Members in the *Calendar* of the Royal College of Surgeons. In his evidence before the coroner, he said that his wife began to be ill about three years back, and Drs. Mann, Woodcock, Hunt, and Eddison had attended her; she had been in bed four or five weeks. In reply to a question put by the coroner, he acknowledged that he had been making arrangements for the funeral, and had gone to the undertaker and registrar before death. His wife did not know of the arrangements. He kept everything from her. Every care was taken of her, and he had not had his clothes off for six or seven weeks. The Coroner: "You took her to an empty house—what for?" Witness: "For the *post-mortem* examination which I expected would be made, and then for sanitary reasons." In reply to further questions, witness said he got the certificate the night before. The certificate was signed and the cause of death given. He had one previously, but returned it to Dr. Woodcock, because the month of September had passed. The coroner pointed out to the witness that it was bad not to conform with the usages of society, and wait until his wife was dead before taking the steps which had led to such a scandal. The witness: "You know it is done in medical practice many times." The coroner replied that he had never known it before, and he hoped he never should again; it was most unseemly. Mr. Herbert Woodcock, of Messrs. Mann and Woodcock, surgeons, Leeds, said he and his partner had attended the deceased for eighteen months for cancer, and laudanum was prescribed. On being asked by the coroner to explain the giving of the certificate before death, this witness said to his mind the deceased was dying, and could not move, speak, or eat. It was thought she would probably die in an hour or two, and certainly on the following morning. On being asked, he gave the certificate. The jury, after consultation, returned a verdict of "Death from natural causes," adding a rider censuring the husband for obtaining, and Dr. Woodcock for granting, a certificate before death had taken place. Everyone will concur in this censure.

THE BLUE COLORATION OF THE VAGINA DURING PREGNANCY.

DURING the past summer several interesting articles on this subject have appeared in the *Boston Medical and Surgical Journal* and the *Medical Record* of New York. Dr. J. W. Farlow believes that inspection of the vulva has not been carried out so regularly as digital and bimanual examination in cases of suspected or admitted pregnancy. He has tabulated 141 cases of pregnancy, which he has examined with a view to throw more light on the frequency of this blue coloration. He classified his cases into three groups. The first was placed under the heading "No blue colour," the second under "suggestive," that is to say, slight blue coloration not limited to the region of the urethra or anterior vaginal wall; the third group included cases where the colour was more or less markedly blue or violet throughout the tract, or locally near the urethra. The table is here appended:—

Table of 141 Cases of Pregnancy.

How Long Pregnant.	No Blue Colour.	Suggestive.	Characteristic.	Total.
6 weeks	1	1	—	2
2 months	11	10	1	22
2½ ,, ...	5	3	—	8
3 ,, ...	12	5	11	28
3½ ,, ...	1	1	1	3
4 ,, ...	1	8	10	19
4½ ,, ...	3	4	7	14
5 ,, ...	—	1	15	16
5½ ,, ...	—	1	4	5
6 ,, ...	1	—	11	12
6½ ,, ...	—	—	1	1
7 ,, ...	1	—	3	4
8 ,, ...	—	1	6	7
	36	35	70	141

Dr. Farlow analyses the "No blue colour" cases. In the seventh month case there was severe chronic eczema of the vulva. In the sixth month case the patient was syphilitic, and miscarried. In one of the fourth-month-and-a-half cases there was severe eczema of the vulva; in the second gonorrhœa had been contracted a few months previously; in the third there was a strong tendency to miscarriage. A considerable proportion of the remaining cases had some local lesion, or had recently recovered from some local disorder. To sum up the "no blue colour" column, there were included four cases of eczema, one of syphilis, four of recent hæmorrhage, two of gonorrhœa, two of cases of patient suckling previous child during pregnancy, four of retroversion of the uterus, one of unrepaired complete rupture of the perineum with firm cicatrix, one of large, wrinkled, and pigmented clitoris and labia, and one of eroded cervix. This is certainly a suggestively large proportion. In the "suggestive" column were two cases of syphilis, one of recent hæmorrhage, two of suckling during pregnancy, one of recent removal of a cervical polyp. Dr. Farlow rightly attaches little or no import to the cases of syphilis, retroversion, etc., but believes that where there have been hæmorrhages, a decided change being caused in the pelvic blood-supply, the blue coloration, due to hypertrophy of the venous plexuses of the vagina and not to pigmentation, might be absent. Eczema and vaginitis might mark or alter this coloration. Dr. Farlow turns to 2,000 gynæcological cases which he examined, and declares that, out of this series, he found but four where the patient was not pregnant, but a blue coloration, more or less characteristic, existed. In the first it was very marked around the introitus; in the second, where there was anal fistula, it was

limited to a bluish tinge around the meatus; in the third the introitus "had a blue sheen;" in the fourth, a case of elongated cervix and dysmenorrhœa, there was a marked coloration around the urethra; it extended after dilatation of the cervix. Dr. J. R. Chadwick, who has written on the same subject, examined fifty-six women, who suspected wrongly that they were pregnant The colour was discovered in four of these cases, "suggestive" in three, "somewhat characteristic" in one. This is a very much higher proportion of coloration in non-pregnant women than Dr. Farlow has noted, from extensive observations; and, what is most important, it belongs to a series of the very kind of cases where alleged tests and symptons of pregnancy are the most eagerly sought for. The tables prove that in one symptom, as in many other attributed to pregnancy, a sign is not necessarily a proof; still, the blue coloration is an important sign of pregnancy; so it is to be hoped that obstetricians and gynæcologists in this country will continue Drs. Farlow's and J. R. Chadwick's interesting researches.

NEPHRECTOMY: RAPID RECURRENCE OF DISEASE.

Dr. Alsberg, of Hamburg, had under his care, last year, a female child, five years of age. She had suddenly passed blood in her urine. No cause could be ascertained for the symptom; no tumour could be felt on palpation. About three months later, the child began to emaciate; a tumour was then detected between the right hypochondrium and the crest of the right ilium. An exploratory puncture brought away morbid elements, which, examined under the microscope, were found to consist of clusters of closely aggregated round-cells. Malignant tumour of the kidney was diagnosed. The tumour was extirpated, through a lateral incision, without great difficulty. The wound healed, with a moderate amount of suppuration. Dr. Alsberg, whose paper is published in the *Deutsche Medicinishe Wochenschrift*. No. 40, 1887, and in abstract in the *Centralblatt für Gynäkologie*, No. 17, 1888, rightly adds, in a note, an important piece of information. The patient died eleven weeks after the operation, with not only local recurrence of the new growth, but also widely disseminated secondary deposits in the liver and lungs. The great principle that an operation is not necessarily justified by the temporary or even complete recovery of the patient must never be overlooked. Such might have happened by precedent in the present case, had not Dr. Arlsberg, through candour, and also opportunity, reported its very brief and unsatisfactory after-history. Yet many other severe operations, successfully performed by equally honest surgeons, may be held as justifying their repetition in other cases, the operators being ignorant of after-histories much less satisfactory than they expected.

THE STRYCHNINE CURE FOR INEBRIETY.

The inordinate crave for intoxicants seems at last to be in a bad way, and, if we can rely on various emphatic declarations, to be in danger of extinction. As if the absolute cure of the "drink curse" by vegetarianism were not enough, the official organ of an influential temperance organisation gravely states, in speaking of the hypodermic injection of strychnine, that nothing more simple could have been discovered, nor anything so absolutely removed from any risk to health. This "simple and safe" cure is further described as a daily injection subcutaneously of five drops of a solution of one grain of strychnine in 200 drops of water. It is puzzling to understand why there should be a daily administration, as after the very first injection the inebriate is depicted as regarding intoxicating liquors with positive aversion. After this wondrous discovery, surely the next step must be the "happy despatch" of the Inebriates Legislative Committee of the Association, the immediate repeal of the Inebriates Acts, the disbandment of all our abstinence and prohibition societies, and absolutely free and unrestricted manufacture and sale of inebriating drinks. All that will be necessary will be the arming of missionaries, district visitors, and policemen with hypodermic syringes and a supply of the "simple and safe cure," so that, on anyone showing the slightest symptom of inordinate alcoholic indulgence, the subcutaneous strychnic panacea may be administered, and a positive distaste for the seductive fluids be immediately engendered. We trust that the true friends of temperance will take our advice in good part when we warn them against all cures, antidotes, and specifics warranted to cure and prevent inebriety or to destroy the drink crave. Were strychnine an efficient antidote to alcohol (which it is not, though it has often been useful in the therapeutic treatment of alcoholism), the popular practice of strychnine auto-injection would be but an added evil and danger, for few lovers of liquor would care to go about without so potent a talisman against the perils of inebriate excess. The administration of powerful medicinal poisons ought to be limited to duly qualified medical practitioners, and we cannot be too emphatic in warning the non-medical community of the very great risk involved in the administration of poisonous therapeutic remedies by the non-medical clergy and laity.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

The first meeting of the Congress of American Physicians and Surgeons was held in Washington, on September 18th, 19th, and 20th; it has been formed by a coalition, for certain purposes, of eleven existing special national associations or societies; these are the Association of American Physicians, the American Surgical Association, the American Gynæcological Society, the Association of Genito-Urinary Surgeons, the American Neurological, Ophthalmological, and Dermatological Societies; the American Orthopædic, Laryngological, and Climatological Associations; and the American Physiological Society. Three other associations, of anatomists, of obstetricians and gynæcologists, and a pædiatric association, are anxious to join the organisation. All these societies will hold meetings in future every third year in Washington, and will, in fact, on these occasions, discharge the functions of sections in a grand national Medical Congress. The Congress this year was presided over by Dr. J. S. Billings, who at the third general meeting gave an interesting address on museums, during the course of which he incidentally expressed the opinion that London was at the present time the city which possessed the most valuable aggregate of anatomical and pathological specimens. He described the scope of the great Medical Museum at Washington, which may be more properly said to have grown out of than to be the Army Medical Museum. A somewhat novel point was his contention that an ideal medical museum ought to contain a hygienic department, provide specimens and apparatus, illustrating the influence of geological and meteorological conditions, of foods, occupations, and houses on health; he also expressed the opinion that a medical museum ought to contain a materia medica department, so arranged as to illustrate its relation with commerce, natural history, and the arts. Two meetings were held on the first day; at the first, purely formal business was transacted; at the second, the subject of acute intestinal obstruction was introduced by papers read by Dr. Reginald H. Fitz, of Boston, and Dr. Nicholas Senn, of Milwaukee; and among subsequent speakers were Dr. W. M. Ord, Mr. Arthur Durham, and Professor Thomas Annandale. On the second day, the general session of the Congress was occupied with the subject of cerebral localisation, introduced by Dr. Charles K. Mills, of Philadelphia, and Dr. Roswell Park, of Buffalo; Dr. David Ferrier, and Mr. Victor Horsley took part in the discussion which followed. Among other English visitors who took part in the Congress were Sir Spencer Wells, Sir William Mac Cormac, Dr. Graily Hewitt, Mr. F. S. Eve, Mr. Reginald Har-

rison, Dr. Priestley, Dr. Pye-Smith, Dr. Sansom, and Mr. Charles Williams, of Norwich.

MORTUARY ACCOMMODATION IN LONDON.

THE scandalous insufficiency, or rather absence, of mortuary accommodation for many districts in the metropolis has long been a subject of just and frequent complaint, and members of the medical profession are only too familiar with the inconvenience and positive danger to public health which result from this disregard of an important sanitary requirement. One more protest against the present state of things was entered by a medical witness at the inquest on the body of one of the women recently murdered in Whitechapel, and we are glad to observe that the protest was strongly supported both by the coroner and by the foreman of the jury. "The mortuary," the coroner is reported to have said, "is not fitted for a *post-mortem* examination. It is only a shed. There is no adequate convenience, and at certain seasons of the year it is dangerous to the operator. As a matter of fact there is no public mortuary from the City of London up to Bow. There is one at Mile End, but it belongs to the workhouse and is not used for general purposes." The duty of making proper provision in this matter devolves upon the vestries and district boards. Section 27 of the Sanitary Act, 1866, enacts that "any nuisance authority may provide a proper place for the reception of dead bodies," etc., and Section 28 provides that "any nuisance authority may provide a proper place (otherwise than at a workhouse or at a mortuary house as hereinbefore provided for) for the reception of dead bodies, for and during the time required to conduct any *post-mortem* examination ordered by the coroner of the district or other constituted authority, and may make such regulations as they may deem fit for the maintenance, support, and management of such place," etc. But these provisions, it will be observed, are altogether permissive, and hence, if an authority choose not to put them into effect it cannot be compelled to do so. In this respect the law for the metropolis differs from that for the provinces, for in the case of the latter the Local Government Board have power, under Section 141 of the Public Health Act, 1875, to compel a neglectful sanitary authority to provide mortuary accommodation. It is only just to say that in some few London districts excellent mortuary and *post-mortem* provision has been made and public benefit has resulted, but we fear that the recent protests as regards the East End localities will have as little useful effect as have the scores of protests made on former occasions. When the new county and district councils for London have been elected, this question of mortuary accommodation should be one of the first sanitary questions taken in hand.

SCHOOL BOARD OF LONDON.

THE chairman of the School Board of London has presented his annual report, and the ratepayers will be called upon in a few weeks to elect a new Board. As to the work of the Board that has all but completed its term of office, it is said in the report that it has succeeded in the difficult task of combining efficiency of management with economy to the rates. The interest of the ratepayers is to obtain from their expenditure efficient and adequate results, and it is to be hoped that public opinion is awakening to the many-sided results of national education. On the one side there is the necessity for the provision of means by which education may be extended and elevated, as by evening classes and university extension lectures, and on the other side is the great duty of providing for the children of lower grades of brain-power, in the attempt to check the growth of those waste-heaps of humanity from which there arise the degraded, the useless, and the criminal sections of society. The new School Board will have a smaller portion of their resources taxed for the erection of new schools than was the case with their predecessors, and will have better opportunities of extending and enlarging the scope of primary education. The brain condition of the population is to a great extent in the hand of our educators; improved sanitation, the erection of new artizans' dwellings, and the provision of means of recreation for the masses may do much, but unless efficient means are taken in the poor districts to secure the attendance of children at school, and to provide for them educational methods suited to their condition and requirements, that which is to be regretted as a waste of human lives will continue among us. The time has come when a strong and united effort should be made by all interested in the brain culture of English people to see that those poor and weak in brain power, and in physical development, are sought out and cared for by receiving such modes of training as are suited to them. This care of exceptional children is a duty, and a means of social protection, more neglected in this country than on the Continent; we need in our large towns some means of finding out the children whose feebleness and defects of organisation prevent them from attending the classes of the ordinary primary school. Exceptional schools, or special classes, should be provided for them, as is done in Germany, in Belgium, and in Norway. Medical experience shows that there is a large number of such children, and it is well known that the boy of poor make of brain, cases of chorea, epilepsy, migraine, etc., as well as those who may be paralysed or crippled, need the benefits of mental and moral training no less than the stronger children; in fact, they are more in need of the means of brain development. It is time that this section of the juvenile population attracted the attention of our school boards, who are responsible for the education of all the children in their district; these weak-brained boys and girls need not necessarily be included in the ordinary classes, or taught upon the lines of literary learning. Their education might be conducted on the lines of industrial training, and they could be exempted from all ordinary examinations, the inspectors' duties being confined to reporting upon general efficiency of method in these exceptional schools, the average attendance and average results. Many members of the profession are now members of the school boards of their districts, and it may be hoped that their knowledge of the people and their social influence will be exerted to draw the attention of those who direct the funds for primary education to the wisdom of making some adequate provision for the children whose condition prevents them from working in the classes arranged in the ordinary grades and standards. Kindergarten training, "sloyd" classes, industrial schools, and the special schools for truants, indicate that already special provision is found necessary for certain exceptional cases, while, in London, inspectors and directors of education for the blind and the dumb are appointed to see that their special needs in education are met. It is, therefore, not beyond the bounds of practical management to make provision for the requirements of the three or four per cent. of the school population who need special training to meet their exceptional conditions of brain development.

THE EXPULSION OF THE PLACENTA.

THE manner in which the placenta is expelled is a subject of high interest, both to the scientific obstetrician and to the practitioner. Baudelocque maintained that the placenta was detached by the effusion of blood between its inner surface and the uterine wall. This theory implied that the uterine muscular apparatus played a passive part in the process, and that flooding was, so far as needed for detaching the placenta, a physiological and not a pathological process. Matthews Duncan's theory, now generally accepted, is very different. The uterus, he still insists, is active in expelling the placenta. Its retraction and contraction progressively dimin-

ish the uterine cavity until the placenta is forced beyond the os. Effusion of blood may occur, but that accident is not essential. According to Baudelocque's theory, the fœtal aspect of the placenta should present; after Duncan's doctrine, either side or the edge may present. Dr. Auvard, who has recently considered the whole question (*Archives de Tocologie*, August, 1888), dwells on the fact that on Duncan's theory the presentation of the fœtal aspect is comprehensible. The placenta is first detached by uterine contractions, and blood is accidentally effused between the uterine wall and the placenta during muscular relaxation. A contraction follows, and presses on both the clot and the placenta, the latter turns over and its fœtal aspect presents. Even without hæmorrhage the placenta detached from the fundus may fold in on its uterine face, and thus come to be expelled with its fœtal aspect foremost. M. Varnier has described a case where a clot was discovered, and where the placenta was found curled in on its uterine aspect. He believed that this case verified Baudelocque's theory, but Dr. Auvard disagrees with him, and notes that if true it ought to explain every case. Yet the hæmorrhage theory could not, he says, explain the detachment of a placenta prævia at the moment of birth. Again, in some labours, there is little or no hæmorrhage, so the placenta must be detached otherwise than by blood. Dr. Auvard distinguished two mechanisms by which the placenta is retained. Bandl's ring may close up, so as to make an hour-glass contraction, completely imprisoning the placenta in the upper or thick segment of the uterus. This Dr. Auvard terms *emprisonnement*. Sometimes, however, an accessory ring forms by contraction high up in the upper uterine segment, and contracts sufficiently over the edges of the placenta, so as to retain it, as a stone is retained in the bezel (Fr. *chaton*) of a ring. Hence Dr. Auvard gives to this variety of retained placenta the name *enchatonnement*. He finds that it is much rarer than "imprisonment." When it exists the normal uterine circle is detected above the flaccid lower segment, and the finger passes into the cavity of the upper segment till the placenta can be felt retained high up in this segment.

INHALATION IN PULMONARY TUBERCULOSIS.

Dr. Edgard Krull, of Güstrow, in Mecklenburg, in a contribution to the *Berliner Klinische Wochenschrift* (Nos. 39 and 40), describes a new method of giving inhalations, employed by himself in cases of phthisis. The apparatus consists of a cylinder lined with a coiling steampipe, in which the air is warmed and moistened; it is fitted with thermometers, and so regulated by a movable lamp that air saturated with moisture is supplied at a uniform temperature of 40° to 50° C. The object of the inhalation is to cause dilatation of the vessels of the pulmonary vesicles, and thus introduce a larger quantity of blood into the lungs without increasing the frequency of the pulse. By this means it is hoped the aëration of the blood would be promoted, in spite of the slight rarefaction of the heated air, and the still healthy portions of lung would gradually gain in vitality from improved nutrition, so as to be better able to resist the inroads of bacilli, and to complete the absorption or resolution of the lowly organised products which perpetuate the disease. The cases published by Dr. Krull are all examples of advanced phthisis, and his results have been such as to ensure a wider trial of his method; but he looks for even greater success in cases in earlier stages. The treatment is carried out by administering, once or twice daily, an inhalation at 43° to 44° C., for a period of thirty-five to forty minutes, the patient breathing in, at natural intervals, through the mouth and out through the nose. All medicinal treatment is discontinued, a daily walk in the open air (with all precautions), occasional tepid baths and skin-rubbing, and properly regulated diet, being the only adjuncts. After each inhalation the patient rests on the sofa with his mouth shut for half an hour or so. The results of this treatment in several cases of advanced disease are stated to have been marvellous, an apparent cure having ensued in the course of a few months to a year. The body-weight increased steadily. The temperature not infrequently rises soon after beginning the inhalations, and is accompanied by a profuse purulent expectoration; later on the former gradually drops to normal, and the latter, which is nearly always increased at first, is reduced to a minimum, and finally loses all traces of bacilli. This points to the resolution of caseous masses. Hæmorrhage occurred only in three cases, and then in no connection with the inhalations, but during attacks of coughing; whereas the majority of cases treated had suffered from attacks of hæmorrhage before. Other symptoms share in the general improvement, and the repair to the lung is further verified by the physical signs. Advanced cases associated with active syphilis, albuminuria, or tubercular intestines are considered unsuitable.

ELECTION TO ORPHAN ASYLUMS.

Experience in looking at the work done by various charities in which the profession has some interest has made it plain that in the case of orphan asylums there is a connection between the kind of children found in those schools and the mode of admitting candidates. We avoid on the present occasion referring to particular institutions because we desire to draw attention to the matter, not to pass criticism upon one or other method of election. In our remarks on this subject in the Journal of September 22nd, we referred very briefly to the social advantages and disadvantages of each system of selection, that by canvassing and that by non-canvassing, the selections being determined by a committee appointed for the purpose. A letter in the Journal of September 29th from "Humanitas" seems to indicate the assumption that we are against the non-canvassing system of election. That is not so; it is our wish to maintain neutral ground on such a matter, but as the result of facts within our knowledge, we wish to point out the special responsibilities thrown by the non-canvassing system upon the selecting committee, the nominating and guaranteeing governors, and the medical officers of the orphanage. We pointed out among other things that it is necessary not only to look at the general health of body and freedom from disease, but also to make careful examination as to the development of brain, to see that it is not too far below the average to allow of education under the ordinary school processes. These points a single nominating governor is apt to overlook; when many governors are interested in the child there seems to be greater security against the passage of specially bad-brained children into the orphanage. The question of "merits of candidates" may have a different aspect to a body of kindly and charitable gentlemen from that which it presents to our profession. Questions of both "brain-soundness" and "conditions of health" ought to be carefully considered by the Selecting Committee, as well as the social circumstances or conditions of distress and poverty; it is not sufficient that the medical officer of the Society is there to give his veto. In all orphanages, industrial schools, boarding schools for the blind and the deaf, etc., it is very desirable that not only should great care be taken in selecting and admitting children, but also that once a year a careful inspection be made to see that no cases of defective, abnormal, or exceptional development remain unknown to the managers, for a child sound in brain and body at 7 years old may have fallen behind at 10 years. It would be well that certificates presented by applicants should state not only particulars as to their bodily health, but also as to their freedom from bodily deformity and defect of brain, as well as their position in the school they attend.

SCOTLAND.

THE VICTORIA INFIRMARY, GLASGOW.

Messrs. W. R. Hilliard and Sons, the instrument makers, Glasgow, have presented an operating-table, of Mr. Hilliard's design, to this Infirmary. The table was shown in the Museum of the Glasgow meeting of the British Medical Association.

EPIDEMIC OF MEASLES AT PAISLEY.

Dr. Donald, medical officer of Paisley, reports great prevalence of measles in that town, 2,000 school children being, according to his estimate, absent from school on that account. The death-rate of the town was, in September, 24.2 per 1,000.

THE MORISON LECTURES AT THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.

The Morison Lecturer for this year is Dr. Keiller, Edinburgh. The lectures, which number six, are now in course of delivery on Tuesdays and Fridays at the Royal College of Physicians, Edinburgh. The subject for this year is the "Nervous Diseases of Women."

GLASGOW ROYAL INFIRMARY.

In connection with the New Nurses Home recently opened at the Royal Infirmary, the Superintendent, Dr. Thomas, has formed a good tennis court for the use and recreation of the nurses. To meet the expense of this, some members of the staff undertook to get up two concerts, and to hand over the proceeds to Dr. Thomas. The concerts took place last week. They were held in the large dispensary hall, and were most successful.

GLASGOW SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.

During the month of September this Society has dealt with 83 new cases, involving the welfare of 108 children, and 4 old cases. There had been 84 children sheltered, 582 meals given, 9 children clothed, 15 placed in industrial schools, etc., 67 placed under the supervision of the School Board, 11 sent to poorhouses, 4 to work, 1 to hospital, and 13 left with parents under visitation. During the month several convictions were obtained against parents prosecuted by the Society for assault, exposure, and neglect.

THE LATE PROFESSOR HENNEDY, GLASGOW.

A marble bust of the late Roger Hennedy, for many years the distinguished Professor of Botany in Anderson's College, has just been presented to the governors of the Technical College. The presentation was made by Sir Michael Connal in Anderson's College, in presence of a large number of friends and students. Principal Dyer, on behalf of the governors of the Technical College, said he had much pleasure in accepting the bust, and in undertaking that arrangements should be made for its due preservation as a very worthy addition to the collection already in the college.

GLASGOW UNIVERSITY EXTENSION BOARD.

The Executive Committee of this Board are now engaged in making arrangements for the working in Glasgow and other centres of the recently organised university extension scheme. The beginning already made in Paisley has been followed by negotiations with other towns, while lectures in one or more districts of the city are also in contemplation. A meeting of the whole Board, under the presidency of the Lord Provost, will shortly be held to consider the arrangements which have been made and are in progress; and, in the meantime, information regarding the scheme will be furnished on application to either of the secretaries—Professor McKendrick, or Mr. Craig.

GLASGOW SUBURBAN DEATH-RATE.

The death-rate of the numerous suburbs of Glasgow for the past month show very considerable variations. Rutherglen heads the list with 17 per 1,000; Govan, with mainly a working class population, shows 13.3; Maryhill, 12.8; Partick, 12.06; Kinning Park, 12; and Pollokshields East, 5.1. In Partick, 19 cases of typhoid fever had been registered during September, and 9 other cases were considered to be typhoid fever also, but were doubtful. The sanitary inspector reported that nearly all the infected cases received milk from the same dairy, where a girl lay ill, who had been isolated after the inspector's visit. No cases had been reported since September 20th.

EDINBURGH AND ST. ANDREWS UNIVERSITIES: PARLIAMENTARY VACANCY.

By the promotion of the Right Honourable J. H. A. Macdonald, Lord Advocate for Scotland, to the office of Lord Justice Clerk, from which Lord Moncrieff has just retired, a vacancy is created in the conjoint parliamentary representation of the Universities of Edinburgh and St. Andrews. In the general election of 1885 it will be remembered that the seat was contested by Mr. Erichsen, but that gentleman, though largely supported, was defeated by Mr. Macdonald. In 1886 the Lord Advocate was returned unopposed. Coming at a time when a University Bill is pending, the vacancy is one of peculiar interest, and the selection of candidates, which is already the leading topic of conversation in many circles, will be no easy matter.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

The first meeting for the session of this Society was held on October 5th, when the following office-bearers were elected, namely:—*President:* Dr. McCall Anderson. *Treasurer:* Mr. H. E. Clark. *General Secretary:* Dr. W. G. Dun. The officers of the Section of Medicine are:—*Vice-President:* Dr. Wallace Anderson. *Secretary:* Dr. G. S. Middleton. *Councillors:* Dr. S. Gemmell and Dr. Hugh Thomson. In the Surgical Section:—*Vice-President:* Dr. D. N. Knox. *Secretary:* Dr. John Barlow. *Members of Council:* Dr. Beatson and Dr. W. J. Fleming. In the Pathological Section:—*Vice-President:* Dr. Alex Robertson. *Secretary:* Dr. T. K. Dalziel. *Council:* Dr. William Macewen and Dr. Henry Rutherford. In the Section of Obstetrics:—*Vice-President:* Mr. E. S. MacMillan, L.R.C.S.E. *Secretary:* Mr. Thomas F. Gilmour, L.R.C.P.Ed. *Council:* Dr. A. Wallace and Dr. W. L. Reid. The treasurer's statement showed a large balance in favour of the Society in the bank. At the close of the private business, Dr. J. Francis Sutherland read a paper on "The Break-down of the Hospital System."

PATHOLOGICAL AND CLINICAL SOCIETY, GLASGOW.

The first meeting of this Society was held on October 8th, Professor W. T. Gairdner, M.D., President, in the chair. The President gave a short introductory address, thanking the members for the honour they had done him in electing him a second time to the presidential chair. When the Society was founded fifteen years ago he had been their first president, and had assisted in drawing up a working programme for the Society, the main features of which were that the Society should be a clinical as well as a pathological one, its membership limited, every member to do some work, and every communication to be based on a specimen or patient, so as to secure accuracy and conciseness. This programme he found had been thoroughly well followed, and, he believed, had been a means of great benefit to the members. Professor Gairdner then proposed that certain nights during the coming session should be devoted to the special study and observation of skin diseases, and that not only members of the Society, but other members of the profession, should be in-

vited to send contributions or patients. He also proposed that during the session special attention should be given to the study of lesions that were cured or in process of cure. The further consideration of these proposals was remitted to the Council. Dr. Beatson then showed a child on whom he had operated successfully by Morton's method for spina bifida in the cervical region nearly two years ago. Dr. Beatson also showed the parts removed from a fatal case of spina bifida. The tumour had been very large, projecting laterally in the right lumbar region, and was accompanied by great deformity of the pelvis and lower limbs. Dr. Newman showed a patient suffering from laryngeal stenosis under treatment by means of tupelo wood dilators.

THE QUEEN VICTORIA NURSES' INSTITUTE: SCOTTISH BRANCH.

THE work of the Scottish Branch of the Queen Victoria Nurses' Institute has now been inaugurated. Several committee meetings have been held in Edinburgh and Glasgow, and on Monday, October 8th, at a meeting in the Edinburgh Royal Infirmary, under the presidency of Lady Rosebery, a report was adopted for presentation to the governing body in London. From this it appears that £300 per annum has been granted by the trustees towards the expenses of the Scottish Branch. The Committee does not intend to take more active steps till farther funds are available. So far their public appeal for help has resulted in: donations, £220; subscriptions, £65. The appeal is to be renewed during the present week. The Committee has appointed Miss Peter, matron of the Royal Hospital for Sick Children, Edinburgh, to the post of Lady Superintendent, and proposes to send her to the Bloomsbury Home, to acquaint herself fully with the arrangements there. Two suitable nurses have been found. The Committee has approached several persons who have already practically interested themselves in the home nursing of the sick poor, and has received the most encouraging promises of support, and the Committee has agreed that ladies and gentlemen interested in promoting such work be invited to become associates.

HOME-NURSING OF THE SICK IN EDINBURGH.

THE inauguration of the Queen's Institute affords fitting opportunity for referring to the very successful work which has for long been carried on in Edinburgh in the way of home sick nursing. Since 1881, when the work was initiated by Miss Ann Maitland and Mrs. Chiene, who established a district sick-nursing home for the old town of Edinburgh, more than one similar philanthropic effort has been made. In more than one instance a nurse has been maintained by the liberality and benevolence of one individual, or the burden has been carried by united voluntary subscription. Many physicians, with large experience in dispensary practice, have borne testimony to the very excellent character of the work, and to the amount of good effected. In some districts it is hardly possible to meet with a case among the poor where the services of these nurses have not been made use of. The nurses have been thoroughly trained women, with tried experience, and their devotion and self-denial have been worthy of the highest praise. It seems but fair, when the larger movement is being hopefully heralded with flying colours, to recall with gratitude the noble, if less obtrusive, work which the enthusiasm and patience of these good women has already effected.

CHEMISTS AND MORPHINOMANIACS.—The tribunal of Correctional Police at Senlis sentenced a chemist to 600 francs fine and fifteen days' imprisonment on August 13th for having dispensed, either without a prescription or on prescriptions of ancient dates, solutions of morphine and cocaine to two ladies inhabiting that town. One of the purchasers had succumbed to an attack of syncope directly attributable to the abuse of morphine.

IRELAND.

QUEENSTOWN WATER-SUPPLY.

DR. DOWNING, medical officer of health for the Queenstown Sanitary District, in a recent report to the Town Commissioners, refers to the chief source of supply to the Ballywilliam Waterworks. He shows that the Annebrook stream is much polluted, and that on the banks of the reservoirs at Ballywilliam are situated six manure heaps, two large cesspools, and five pigsties. The water, it is also alleged, is contaminated by leakage from a graveyard, and from a cesspool attached to a slaughterhouse which Dr. Downing found, on the day he inspected it, to be filled with putrid blood and offal, the leakage from which goes directly into the Tick Knock stream. The commissioners have postponed the consideration of the report for a fortnight.

BELFAST DISTRICT LUNATIC ASYLUM.

AT the monthly meeting of the governors of this institution, held on October 8th, the question of the enlargement or rebuilding of the asylum was considered. A communication was read from the Lunacy Commissioners, suggesting that a new building, to accommodate 800 patients, should be erected in the country. The cost of this new building would be £72,000, and of the site and grounds £15,000. The value of the present site is estimated at £50,000, leaving a balance to be defrayed out of the rates of £37,000. After discussion, the governors were unable to agree to any reply to the proposals of the Commissioners, and the matter thus remains unsettled. The present building accommodates 550 patients, but is quite inadequate to the needs of the district.

THE AMALGAMATION OF DUBLIN MEDICAL SCHOOLS.

THE Council of the College having submitted the draft scheme of amalgamation to the proprietors of the Carmichael and the Ledwich Schools of Medicine, it has been accepted by them. The professors of the College School are, however, divided, and seven out of thirteen have issued a letter to the Fellows stating the grounds of dissent. They object that, according to counsel's opinion, the Council of the College cannot co-opt the new professors, but that they must be "selected in the open market." It is, however, replied to this that the principle of co-option has been given up, and that the lecturers in the schools are perfectly ready to be elected to the amalgamated College School in the ordinary way. The dissentient professors call attention to the following opinion of the Right Hon. S. Walker, Q.C.: "Further, as regards the existing professors of the College, their tenure or emoluments cannot be altered without their assent." It is a curious circumstance that the authors of this letter have stopped short in the quotation—which proceeds thus: "or previous determination of their office"—and comment is freely offered. The Council has the power to declare any professorship vacant in the month of May of each year, and it is the intention of some members of the Council to move that in May, 1889, all the college chairs shall be so declared vacant. Meantime, however, a general meeting of the Fellows is to be held on October 23rd, for the consideration of the whole subject.

THE RECENT POISONING CASE AT THE BELFAST ROYAL HOSPITAL.

AFTER a prolonged investigation into this case, of which we have already given the facts, the coroner's jury have returned the following verdict: "That the said James Jeffers, on the 6th day of September, 1888, in the Royal Hospital, in the Borough of Belfast, came to his death from the effects of a quantity of crude carbolic acid, which was administered to him by misadventure

by Nurse Torrens for a dose of black draught. And, further, the jurors do say that, inasmuch as there was some carelessness in placing the carbolic acid bottle in a wrong position, they do recommend that in future the Board of Management of the Royal Hospital do see that all poisonous drugs be kept locked up in a separate compartment. And, further, that the prescribing medical attendant do give his instructions to the nurse in writing." We fail to see that either of these recommendations meets the facts of the recent accident, or will serve to render such fatalities less likely in future. The carbolic acid in question was intended for use in the closets, and it would be surely an excess of caution to demand that disinfectants should never be left in such places. As regards the second recommendation, no one practically acquainted with hospital work will regard it as feasible to exact a written order from the medical attendant in every case. If students and nurses cannot be trusted in the vast majority of cases to receive verbal orders for the administration of a purgative or the application of a liniment, then our whole hospital system is unworkable. We must exercise some confidence in the intelligence and trustworthiness of our subordinates, and if serious accidents sometimes, unhappily, occur, we may fairly congratulate ourselves upon their extreme infrequency, when the opportunities for them are taken into account.

THE NEW SYDENHAM SOCIETY'S ANNUAL MEETING.

THE thirtieth annual meeting of this Society was held in Glasgow on August 10th, Sir Spencer Wells, President, being in the chair. The report and balance sheet, as prepared by the Council, were read and adopted by the meeting for publication, and officers for the ensuing year were elected by ballot.

The balance sheet showed that the income of the year had been £2,444, being a slight but decided increase on the former year. We append the report and list of officers.

The report states that the following have been issued as the series of works for 1887:—

1. The first volume of Spiegelberg's *Midwifery*; translated by Dr. Hurry. 2. The fourteenth fasciculus of the Society's *Lexicon of Medical Terms* (to Kidney). 3. The sixth fasciculus of the *Atlas of Pathology*. 4. A volume of selected monographs. Of the works in course of printing for the current year, the following were well advanced:—The second and concluding volume of Spiegelberg's *Treatise on Midwifery*. A volume of *Clinical Lectures on Subjects Connected with Diseases of the Nervous System*. By Professor Charcot; translated by Dr. Savill (deferred from last year owing to the illness of the translator). Fasciculi of the *Lexicon of Medical Terms*. Flügge on *Micro-parasites*; translated by Mr. Watson Cheyne.

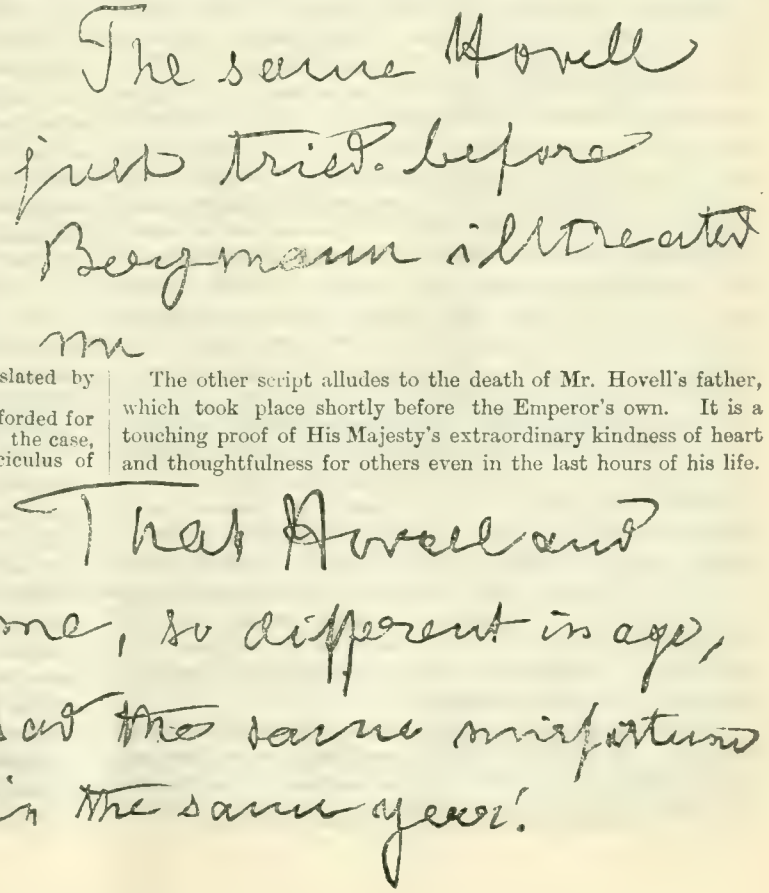
It is not probable that more than the above can be afforded for the year's subscription; but, should such prove to be the case, the Council has in preparation the following:—A fasciculus of the *Atlas of Pathology to Illustrate Diseases of the Gall-Bladder and Biliary Calculi*. A volume of selected monographs and clinical lectures, chiefly from German sources. Selections from the works of Professor Alfred Fournier. In addition to these, Hennoch's *Treatise on Diseases of Children* has been adopted for translation, but is not yet commenced.

Professor Gairdner was elected President of the Society. The officers and council for the year 1888 and 1889 were elected. Mr. Jonathan Hutchinson, F.R.S., 15, Cavendish Square, W., was re-elected Honorary Secretary.

LEICESTER CHILDREN'S HOSPITAL.—The foundation stone of a new Children's Hospital for Leicester was laid on Tuesday last by the mayor.

THE HANDWRITING OF THE DYING EMPEROR.

WE are able to present facsimiles of two of the last scripts which the Emperor Frederick wrote, which will be perhaps of special interest in connection with the summary which we give on another page of the German account of the late Emperor's illness and his treatment by Sir Morell Mackenzie, and that physician's reply, of which the full text will in a few days be published. Both these scripts are in relation to the circumstances connected with the Emperor's illness. They are both of deep significance, each in a different way. They are of unquestionable authenticity. It is our duty, however, to state that Sir Morell Mackenzie is in no way responsible for their publication, nor have we obtained them directly or indirectly from him. The first one needs some explanation to make it intelligible. It is, we understand, a reply to a casual remark of one of the physicians about some alteration in the Emperor's medicine, and the expression was absolutely spontaneous on His Majesty's part, being used simply as a proof that he recognised the draught which had again been prescribed for him. It was written only a day or two before his death. Its chief interest, however, lies in the expression which is given to the view which the Emperor entertained of the incident referred to, but it is of course always understood that a patient's view of such circumstances is often far from being the correct one, and such subjective impressions have only a psychological value; the incident to which it refers occurred on April 12th, and Professor von Bergmann's own version of the facts will be found at p. 839 of our present issue.



The other script alludes to the death of Mr. Hovell's father, which took place shortly before the Emperor's own. It is a touching proof of His Majesty's extraordinary kindness of heart and thoughtfulness for others even in the last hours of his life.

THE CASE OF THE LATE EMPEROR FREDERICK.

As we are now in a position to present both sides of this memorable case to our readers, we propose to lay before them an impartial summary of the views of the two contending parties, expressed as far as possible in their own words, leaving everyone to form his own judgment on the matter. Both the German attack and Sir Morell Mackenzie's reply are disfigured by personalities which are quite out of place in a scientific controversy, and which are of no interest to anyone but those immediately concerned. We have pruned off these excrescences, and have confined our analysis to the essential features of the case, as shown from the two different points of view.

I.—The Indictment—The German Pamphlet.

The German attack, which practically amounts to a charge of malpraxis against Sir Morell Mackenzie, is embodied in a pamphlet purporting to be drawn from "official sources," which was issued three months ago from the Imperial Press at Berlin.[1] This document consists of separate statements by Professors Gerhardt, von Bergmann, Schrötter, Tobold, Bardeleben, Kussmaul, and Waldeyer, and Drs. Moritz Schmidt, Bramann, and Landgraf; the whole, it is understood, having appeared under the editorship of Professor von Bergmann.

Professor Gerhardt's report states that in January, 1887, the late Emperor—then Crown Prince—became hoarse, in consequence, as was supposed, of having "taken cold." There was, however, neither cough nor other sign of laryngeal catarrh, and the usual remedies were of no avail. After some time Dr. Wegner, physician-in-ordinary to the Prince, called in Professor Gerhardt, who goes on to say: "On March 6th, by desire of Surgeon-General Wegner, and in his presence, I made a laryngoscopic examination. The vocal cords showed slight uniform redness. During respiration one could see on the edge of the left vocal cord, between the middle thereof and the *processus vocalis*, but nearer the latter than the former, a pale, somewhat uneven-looking prominence, resembling a tongue or flap in shape. The length of this was about four, the height about two, millimètres. In phonation the vocal cords came tightly together, and at the point just mentioned a rather elongated, slightly raised, pale-red nodule projected upwards above the glottis. In respiration the vocal cords separated freely from each other, and the pale-red nodule came again fully into view. It easily followed all the movements of the cord—that is to say, there was neither fixation nor impaired mobility of the latter. The hoarseness was caused by the growth becoming caught between the vocal cords in phonation, so that the vibrations of both were interfered with. A diagnosis was made of polypoid thickening of the edge of the left vocal cord."

Professor Gerhardt attempted to remove the growth with the snare and afterwards with the "ring-knife," but without success, owing to the hardness of its surface. He therefore determined to destroy it with the galvano-cautery. This was applied on March 14th and 16th, and on the 18th the growth was much smaller, and the voice was decidedly improved. From the 18th to the 26th the treatment had to be interrupted on account of the Court festivities on the occasion of the Emperor William's birthday. On March 26th the tumour measured about half a centimètre in length. The galvano-cautery was applied every day from that date to April 7th, when the edge of the affected cord was smoothed over with a flat burner. On the 8th no trace of the growth was visible, but its site was occupied by a reddish, uneven surface. There was no cough or expectoration, and the voice was much clearer than it had been.

On April 13th the Prince went to Ems in accordance with advice which had been given by Dr. Wegner at a very early period of the case. Professor Gerhardt gave his sanction to this arrangement, because, having already begun to feel doubtful as to the nature of the disease, he thought it important to see whether, after a short period of rest, the tumour which he had destroyed would recur. The grounds for his suspicions were (1) the situation of the growth at the posterior part of the vocal cord, where benign neoplasms are of uncommon occurrence; (2) its appearance. It had a larger surface of attachment than an ordinary papilloma, and was rather a thickening of the cord than an outgrowth from it. It was moreover unusually hard, and changed its appearance day by day; after cauterisation it grew again very rapidly. In order to cope with this the galvano-cautery had to be applied on ten consecutive days; in this way the tumour was destroyed, but the wound showed no tendency to heal.

On May 15th, when Professor Gerhardt next saw the Prince, the growth was larger and the voice hoarser than ever. There was impairment of mobility of the left vocal cord beyond what could be accounted for by the mechanical obstacle presented by the tumour—a symptom of ominous significance in such cases. Professor Gerhardt begged that a surgeon might be called in, and accordingly, on May 16th, Professor von Bergmann was summoned. That gentleman advised that thyrotomy should be performed, and the growth extirpated. Dr. Wegner proposed that a laryngological specialist should first be consulted. "Several names were brought forward. Wegner suggested Mackenzie; Bergmann and I agreed, because we considered the laryngoscopic evidence and the clinical history so clear and decisive that anyone who could use the laryngeal mirror must come to the same conclusion."

In the meantime Professor Tobold, who was asked to see the Prince, at once pronounced the growth to be cancerous. This diagnosis was formally accepted on May 18th by all the medical men in attendance, and it was unanimously agreed that the tumour should be removed without delay. All the circumstances of the case made it an exceptionally favourable one for operation. The growth was only half a centimètre in diameter; its situation made its removal easy; the patient was a powerful man in the most robust health. No statistics can fairly show the chances of success under the conditions here present.

On May 20th Mackenzie arrived, and at once declared that an external operation should on no account be done till the growth had been proved by microscopic examination to be

[1] *Die Krankheit Kaiser Friedrich des Dritten.* Berlin. 1888.

malignant. Professor Gerhardt continues: "On the 21st Mackenzie removed a small piece of tissue. Immediately afterwards I saw a slight loss of substance in the mucous membrane on the upper surface of the left vocal cord near the outer border of the tumour. In the base of this loss of substance some yellow, elastic tissue lay bare. Virchow's examination showed only irritative processes and an isolated nest of concentric stratified epithelial cells in the midst of proliferating epithelium. He informed us verbally at the time it might be a case of *pachydermia laryngis*. There was still the objection that the piece removed and examined might not have come from the tumour itself. Mackenzie therefore tried to obtain a further test-fragment. On the evening of May 23rd, at Potsdam, he made another attempt with strong, sharp forceps. I saw him take the forceps from his breast pocket and introduce it without previous cleansing; whilst he was introducing it the light which he threw on the laryngeal mirror by means of a frontal reflector was directed sideways, and fell on the cheek, instead of the mouth, of the exalted patient. The forceps came back empty. He would not operate further that day. I examined immediately after him, and found both vocal cords very much reddened, the right one covered with blood in its whole extent, whilst from its edge in front of the middle a dark-red swelling projected into the glottis. Without making any further reference to the subject, I asked Dr. Wegner also to examine. He did so, and assured me he had not been able to see anything. We retired to Mackenzie's room, and I there told him plainly that he had seized, crushed, and torn the right cord, which had hitherto been healthy, instead of the left, with the strong forceps already mentioned. He said, 'It can be,'[2] and then spoke of immediate departure. We said he must stay at least that night at Potsdam, and Surgeon-General Wegner mentioned to him a military surgeon in Potsdam who could assist in tracheotomy if it should become necessary."

Professor Gerhardt goes on to say that Dr. Mackenzie stated that he proposed to remove the growth with forceps, and afterwards to apply galvano-cautery, adding that, "humanly speaking," he was confident of being able to effect a cure in this manner. On May 25th it was decided that he should carry out this treatment, Drs. Gerhardt, von Bergmann, and Tobold nevertheless adhering to their opinion that the disease was malignant. Dr. Mackenzie promised to discontinue his mode of treatment as soon as any extirpated fragment showed evidence of cancer, or if the tumour should increase in size. On June 1st, when Professor Gerhardt examined the Prince for the last time, the tumour was larger, and extended further back, and there were already signs that the disease was invading the posterior wall of the larynx. It was decided that the Prince should go to England, in spite of the protests of the German physicians, who thereupon urged the desirability of the two following conditions being imposed on Dr. Mackenzie, namely, that every fragment removed should be sent to Professor Virchow, and that the treatment in England should be carried out under the inspection of a German physician skilled in laryngoscopy.

Professor Gerhardt proceeds to point out the fallacies of microscopic evidence in cases of suspected cancer, and blames Dr. Mackenzie for attaching undue importance to it. He adds that although the English specialist's attention was called to the progress of the disease, in particular to its extension to the posterior wall of the larynx and to the immobility of the vocal cord, his only reply was, "I do not see it."

Professor Gerhardt also affirms that one of the reasons given for the removal of the Prince to England was that, according to Dr. Mackenzie, the climate of the Isle of Wight was likely to prove beneficial for his complaint. It had been arranged, in the first instance, that Dr. Gerhardt should accompany the Prince; but on June 6th he was informed that his services would not be required. He then asked that his assistant, Dr. Landgraf, should be associated with Dr. Wegner, and this was agreed to.

Dr. Landgraf's first report, dated June 18th, was as follows: "The right vocal cord is reddened, somewhat swollen, and shows a small excavation opposite the tumour. On the left cord is a broad-based, cone-shaped tumour, directed upwards and backwards, which occupies about the posterior third or fourth of the cord. The growth is of a pale yellowish-red colour; there is no great redness either on the tumour or in its neighbourhood. On the left side, on the anterior surface of the posterior wall of the larynx, the mucous membrane is thickened. The mobility of the left cord is somewhat less free than that of the right in adduction. In phonation there is a space between the cords. No ulceration; complete aphonia."

On the 17th Mackenzie had reported to Wegner that there was no congestion; the condition was satisfactory; he noticed no defect in the right cord, and explained the aphonia by the projection of the swelling on the left cord, which prevented the apposition of the two cords. Landgraf had therefore observed what Mackenzie had not, namely, the redness of the right cord, the unevenness of its edge, the invasion of the posterior wall of the larynx, and the partial fixation of the left cord.

"On July 1st Landgraf, after Mackenzie's operation on June 28th, found the interior of the larynx red; the excavation on the right cord and the tumour on the left were no longer visible, but on the posterior wall of the larynx there was a distinct swelling of greyish-yellow appearance. Landgraf saw this on July 1st. Mackenzie's attention was first drawn much later at the Isle of Wight to a thickening of the mucous membrane on the posterior surface of the arytenoid cartilage by his assistant, and then also saw it." After July 1st Dr. Gerhardt received no further communication on the subject of the Crown Prince's illness.

Professor von Bergmann states that after having examined the Crown Prince's throat on May 16th and 18th he advised that thyrotomy should forthwith be performed. He has done the operation seven times, and cricotomy twice; all these cases were successful. Thyrotomy in itself is not more dangerous than simple tracheotomy. Dr. von Bergmann says he explained to the Prince that the operation would leave his voice permanently hoarse, but still intelligible. He points out that microscopic evidence, always somewhat untrustworthy in such cases, was particularly so in the present instance, "as it was hardly possible to reach the portion of the tumour containing characteristic elements, as it was situated on the under surface of the cord, and perhaps also on the side wall of the

[2] *Sic* in the original.

subglottic part of the larynx." Virchow's examinations were therefore quite inconclusive. Dr. von Bergmann and his colleagues soon lost all confidence in Dr. Mackenzie. "To this we were led in the first place by the uncertainty of his manipulations in the larynx, which did not give us the least security, that it was, in fact, the growth and not some other part in the interior of the larynx (as, for example, the right cord, which, as was notorious, had been badly wounded) which was reached by his instruments; secondly, by the unscientific and entirely arbitrary use which he made of Virchow's opinion, in opposition to his own previous teaching, as also by his shifting all responsibility from himself to the pathological anatomist; thirdly, by the manner in which after Mackenzie's appearance in Berlin the press took possession of the illness of our exalted patient." Dr. von Bergmann accuses Dr. Mackenzie of not having adhered to the conditions on which the German physicians had consented to hand the case over to him. Professor Virchow himself described the piece of tissue sent to him from Norwood as a "superficial shred of mucous membrane," from which it was impossible to draw any conclusion as to the deeper parts, whilst Dr. Landgraf observed the tumour distinctly growing from one week to another. On August 7th the latter states that he pointed out that as the disease was making steady progress a general consultation should be called, with the view of having a radical operation performed without further delay.

No attention, however, was paid to the suggestion. "Dr. Mackenzie admitted, as I was told, that there was as yet no improvement; but all the cases of cancer which he had seen had had a different appearance. If it had been a cancer, the tumour would certainly have undergone suppuration. He had not before paid any attention to the mobility of the vocal cord. Perhaps it had been still less free previously. This confession of the cursoriness of his examination was to me nowise surprising. I had already repeatedly expressed my doubts as to the thoroughness of Dr. Mackenzie's examination, especially when I was told that I took too much time in making mine." (Landgraf.)

Meanwhile, Professor von Bergmann points out that the actual condition was grossly misrepresented in the journals inspired by Dr. Mackenzie, so that the public was extremely surprised in November to learn that Sir Morell Mackenzie looked upon the case as very serious. There is little of a controversial nature in Professor Schrötter's narrative of his visit to San Remo. Dr. Moritz Schmidt expresses the opinion that the course of the disease was "normal from beginning to end." He states that an official protocol was drawn up by Drs. von Bergmann, Wegner, Gerhardt, Tobold, Leuthold, Landgraf, and himself, in which, after setting forth the reasons which had prevented the performance of an operation in the summer, they expressed themselves as follows: "After the physicians, assembled in June of the foregoing year, received the distinct assurance that an operation would be done if the tumour increased, they must lay the blame for its being now too late on the physician who overlooked the fact that it was growing larger, and even denied it when Dr. Landgraf maintained the contrary view with the greatest firmness, and urgently asked for a fresh consultation!"

Dr. Bramann, who was sent to San Remo in order to perform tracheotomy in case of emergency, arrived there on November 18th, but was not permitted to see the Prince till the 28th. He examined him at irregular intervals afterwards, and each time found that the larynx was becoming more and more blocked up by cancerous growth, in spite of the favourable reports which were issued by the physicians in charge. At the end of January the orifice of the larynx was diminished to less than half its natural size, and the vocal cords were almost fixed. There was swelling of the left side of the larynx, perceptible from the outside. He urged that Professor von Bergmann should be sent for, but his request was not acceded to. Dr. Bramann complains that, although the dyspnœa was becoming steadily worse, he was not allowed to see the Prince till February 9th, when he was suddenly asked by Sir M. Mackenzie to perform tracheotomy. After some demur he operated, making an incision five centimètres in length, and opening the trachea exactly in the middle line from the fifth to the third ring, and introducing a silver tube, the inner orifice of which measured eleven millimètres in diameter.

Professor von Bergmann arrived at San Remo on February 11th. He states that he found the Prince's condition satisfactory, and the wound, which he describes as being exactly in the middle line, in a healthy state. The next day a thick, brownish, offensive material began to be coughed out through the tracheotomy-tube. This contained clots, and sometimes a few drops of fresh blood. As Sir M. Mackenzie attributed this bleeding to scratching of the interior of the windpipe by the tube, Professor von Bergmann separated the edges of the wound, showed him the mucous lining of the trachea intact, and expressed the opinion that the blood came from disintegration of the cancerous mass in the larynx. Sir M. Mackenzie, however, adhered to his own view, which he lost no time in communicating to the Crown Princess, and which was forthwith published in various journals. In a report dated February 12th Sir M. Mackenzie stated that, in his opinion, the clinical symptoms were compatible with non-malignant disease, and that the microscopic evidence was in favour of this view. A day or two later Drs. von Bergmann and Bramann found distinct cancerous elements in the expectorated matter. It was evident that the whole structure of the larynx was involved in the destructive process, elastic fibres, muscular tissue, and, after a time, fragments of cartilage being found in the discharge. Mackenzie, however, persisted in laying the blame on the cannula, and on February 20th it was agreed that he should try one of his own choosing. On the following night the Prince was more comfortable, and this fresh triumph of English medicine was at once trumpeted forth by inspired newspapers. The improvement, however, was short-lived, for the good night was followed by a bad day, and the state of things was as unsatisfactory as before. As there was more bleeding than usual on the night of February 22nd-23rd, Dr. von Bergmann thought that this might be due to the breaking down of a secondary cancerous formation in the lung. Sir M. Mackenzie attributed the bleeding to Dr. Schrader's awkwardness in changing the inner tube. On the 24th he had to acknowledge that his cannula answered no better than the German one, which was accordingly reinserted.

Professor Kussmaul, who was called in to give an opinion on the condition of the lungs, arrived at San Remo on February 25th. He found no evidence of pulmonary disease, but confirmed the presence of cancerous elements in the expectoration, which he pronounced to come from the larynx. As Sir M. Mackenzie still refused to accept this diagnosis, Dr. von Bergmann summoned Professor Waldeyer, whose authority finally forced the English specialist to abandon the negative position which he had so long maintained.

After this there is nothing of special interest in Professor von Bergmann's report till the early part of April. On the 8th of that month he observed the skin in the neighbourhood of the tracheotomy tube covered with fleshy vegetations, reddish-yellow in colour and about five millimètres in height. Sir M. Mackenzie would not allow that these were cancerous. Dr. von Bergmann pointed out to him that they were gradually pushing the cannula out of the trachea, and recommended that one with a longer curve should be used. This suggestion was not acted on.

On the 12th Dr. von Bergmann received the following note: "Dear Professor von Bergmann,—We have difficulties with the cannula, and I shall be glad if you will see the Emperor with me *as soon as possible*.—Yours truly, MORELL MACKENZIE." He at once proceeded to Charlottenburg, taking Dr. Bramann with him. The sequel must be told in his own words: "I was received by Surgeon-General Wegner, and learned from him what he had written in his diary. 'The night was restless. In the morning, oppression of the chest. On taking out the cannula, the breathing became easier, and this continued after another shorter cannula was introduced. Difficulty of breathing from one o'clock at night well into the daytime. The cannula projected out to some extent; the attendant, Beerbaum, had noticed this during the night. The breathing was very much embarrassed.' It is assuredly not forgotten by many persons that Mackenzie, in his reply to the *Cologne Gazette*, with reference to its account of the occurrences of April 12th, maintained that the German physicians who were present at the consultation on the morning of that day had not remarked any difficulty of breathing any more than he had, and are ready to bear witness to the fact. Now here lies written evidence given one hour later, which is not in Mackenzie's favour.

"Being immediately conducted to Mackenzie, I found him in the Emperor's anteroom with one of Windler's, the instrument-maker's, workmen, occupied in bending a leaden tube so that it could be passed deep into the trachea. He thought in this way he should be able quickly to fashion a suitable cannula. I showed him that I had a Hahn's sponge-cannula which had precisely the curve, which he also now recognised as suitable, and I immediately removed the sponge from it. Mackenzie agreed that we should try to introduce this tube, and hurried with me to the Emperor. I was alarmed when I found the exalted patient sitting in a chair on the point of suffocation. His cheeks and lips were blue; there was stridor on inspiration, which could be heard in the next room; inspiration was in the highest degree difficult, all the muscles being contracted, and retraction of the *scrobiculus cordis* being distinctly visible through the open coat. It appeared to me that death by suffocation would occur in a few minutes. I thought no time was to be lost; and after asking and obtaining Mackenzie's permission, I sent a servant for my assistant, Dr. Bramann, and proceeded to examine the wound. Round the cannula there were vegetations which had become much higher and broader, arranged partly in larger, partly in smaller, masses; they were gangrenous, and everywhere the induration had extended more deeply, so that the part of the neck where the cannula projected was like a short obtuse cone. Only the outer tube was in the wound. On my asking since when the inner jointed tube had ceased to be introduced, a servant replied that this has been the case since early in the morning. Mackenzie added that several attempts had been made to introduce it again, but without success. Whilst on Sunday, only four days previously, I could see the posterior wall of the trachea in the depth of the wound, I could now see nothing of it. Large, round, red excrescences sprang from the bottom and sides of the wound and completely blocked the way to the opening in the trachea. The outer tube reached near to, but not into, the air-channel. I explained to Mackenzie that immediate interference was necessary. If it should be found impossible to introduce the cannula which had hitherto been in use, the edges of the wound must be held apart with large hooks, and the opening in the trachea reached; if that did not succeed, a way should be made with a probe-pointed knife. Mackenzie agreed with everything, and especially approved of the long blunt hooks which I had brought with me. He immediately placed himself behind the exalted patient, whose head he took hold of, a position which certainly did not give me the idea that he had any intention of introducing the cannula himself. I attempted to insert it, but did not succeed, being prevented by the broad and large granulations which filled the whole canal. I put down the cannula, and took the hooks in my hand. Meanwhile, Bramann had arrived, and undertook to hold the hooks; I could not, however, make way with the cannula, whilst the exalted patient's difficulty of breathing became still greater and more alarming. I, therefore, tried, after dipping my hand in a bowl full of carbolic acid solution which was standing near, to push aside the fungosities with my finger, and to reach the tracheal opening and fix a hook there. After I had done this, and when I was holding the hook in my hand, Bramann passed a somewhat less curved cannula—indeed, the very one he had used at his operation on February 9th—into the trachea. The Emperor immediately breathed easily and freely, which he acknowledged by a joyful gesture, and grateful hand-shakings. Of course, some bleeding was caused by my manipulations, but it was only moderate in amount. Some of this blood, as well as the disintegrating tissue and the sanious fluid always trickling from the larynx, no doubt ran down into the trachea, but it was immediately coughed up again. As soon as the cannula was introduced, the hæmorrhage ceased; and when Wegner, Bramann, and myself left the sick chamber half an hour afterwards the expectoration had already recovered its former brownish-red colour. The whole operation of dilatation and introduction of the bent tube occupied only a few minutes."

Professor von Bergmann calls attention to the different light in which this occurrence was afterwards presented by

Sir M. Mackenzie and Mr. Hovell, but he says that nothing can alter the fact that "the Emperor was at the point of suffocation before [his] arrival, and a few minutes later could breathe freely." He leaves to the judgment of the profession the contention of Sir M. Mackenzie that the removal of a few cancerous vegetations shortened the patient's life by six months. He also states that for six days before this operation the temperature had been above normal, and there had been rigors.

On the 13th the Emperor said he had passed a better night than he had done for some time, and on that day he drove into Berlin in spite of Dr. von Bergmann's protests. The same evening he had a shivering fit with high temperature. Sir M. Mackenzie asserted that there was inflammation of the areolar tissue round the trachea, and that this had been set up by the forcible introduction of the tube. Dr. von Bergmann, on the other hand, maintains that there was no sign of this, and that the symptoms were due to putrid bronchitis. "The necropsy proved that the mucous membrane of the trachea was, at the place where the lower end of our cannula had rested, absolutely smooth, without trace of cicatrix or other previous irritation, and that the connective tissue round that segment of the trachea showed, as the pathologist who made the dissection dictated, 'normal conditions.' The disintegration of the carcinomatous formations extended only two centimètres and a quarter down the trachea. On the other hand, all the cannulæ, even the shortest, passed at least from four to five centimètres down the trachea; they touched only tissues which were healthy and which had remained so."

II.—The Defence—Sir Morell Mackenzie's Reply.

Sir Morell Mackenzie's reply[3] is divided into three parts—historical, controversial, and statistical. It contains twenty-one illustrations showing the conditions of the late Emperor's larynx at different periods, the various cannulæ used in the later stages of the case, measurements made by Mr. Hovell with the view of proving the asymmetrical position of the tracheotomy wound, and the lesions which are alleged to have followed the attempts of Professor von Bergmann to push a cannula into the windpipe. Sir Morell Mackenzie deals solely with the medical aspects of the case, without touching on political questions. He complains that he has been refused access to important documents which have been at the disposal of his assailants. In the narrative portion of his work he describes the progress of the case from the time he was called in till the Emperor's death. He denies the allegation that he deceived His Majesty as to his condition, and states that he can bring forward unimpeachable proof of this assertion. He also denies that he ever said the disease was not cancer; all that he did was to point out that that conclusion had been arrived at on insufficient grounds, and that the first step towards a rational diagnosis, namely, the removal of a piece of the growth for microscopic examination, had been omitted by the German physicians. This Sir Morell Mackenzie was able to do, and Professor Virchow gave so favourable a report on the fragments extracted that the proposed radical operation was abandoned, and the case handed over to the English physician. With regard to the charge made against him by Professor Gerhardt of having wounded the right vocal cord in his second operation, Sir Morell points out that such an accident is almost impossible with his forceps. He has never known it to occur even to beginners; and, as a matter of fact, in the case of the Emperor Frederick, there was no objective sign of such an injury having been inflicted, nor did the august patient afterwards complain of any pain or discomfort such as he must have felt if the supposed wound had had any existence outside Professor Gerhardt's imagination.

Sir Morell Mackenzie accuses the German physician of having made a charge which he knew to be false in order to shake the confidence of the Crown Prince in his new adviser. He maintains that his German colleagues fully share his responsibility for the line of treatment which was adopted, as, if they distrusted him, they should at once have openly dissociated themselves from him. They made no sign, however, and even as late as the beginning of October, Professor von Bergmann is said to have admitted that the course which Sir M. Mackenzie had pursued was the right one. This statement, though made in the most positive manner in our columns (Journal, November 19th, 1887, p. 1127), has never been denied by the gentleman in question.

Sir M. Mackenzie affirms that, so far from his having spirited the Crown Prince away to England, as he is accused of having done, the illustrious patient came over to this country mainly in order to be present at the Queen's Jubilee, in accordance with arrangements made before the English physician had been called in. He complains that Dr. Landgraf was appointed to accompany the Prince without any hint having been given him that that surgeon was one of Professor Gerhardt's assistants.

Sir Morell Mackenzie describes the clinical incidents of the case very much as they were set forth in these columns at the time. We are admitted behind the scenes at the eventful consultation held at San Remo in the early part of November, when the great crisis in the evolution of the disease occurred. Interesting details are given as to the heroic fortitude with which the Prince received what was in fact a sentence, not only of death, but of prolonged previous suffering. Amusing sketches are also given of the attitude of the various physicians who took part in the consultation. Our author informs us that on that occasion Dr. Schmidt, so far from thinking that the case was one of "cancer running a normal course," maintained in opposition to all the others that the disease was "specific," a notion which Professor Schrötter characterised as "an old wife's tale." Notwithstanding this, Dr. Schmidt took an early opportunity of expressing the same opinion in a public lecture at Frankfort, an indiscretion which caused the greatest annoyance to the Prince.

Sir M. Mackenzie, in describing the tracheotomy, admits that the operation was, on the whole, performed by Dr. Bramann in a satisfactory manner, but he affirms that the trachea was opened three millimètres to the right of the middle line. This was proved by Mr. Hovell by an ingenious method of measurement, which is fully described and illustrated. Dr. Bramann inserted a cannula of altogether unusual size and shape. The lower end of this instrument, according to

[3] *The Fatal Illness of Frederick the Noble*, London, 1888.

Sir M. Mackenzie, impinged on the posterior wall of the trachea, causing destruction of tissue and intense discomfort, with consequent exhaustion. There was at this time great tension in the relations of the English medical attendants with their German colleagues. Sir M. Mackenzie complains that the latter obstinately refused to listen to his suggestions as to a more suitable tube till it was too late. When the case was restored to the English physician, he substituted a Durham's tube for the German cannula with relatively satisfactory results, but irretrievable mischief had already been done.

Professor von Bergmann is accused of having diagnosed secondary cancer of the lung from finding dulness in the back over the liver; Professor Kussmaul had to be brought all the way from Strasburg to convince him of his mistake.

Sir Morell Mackenzie's account of the events of the fatal April 12th is very different from Professor von Bergmann's. It is substantially the same as was supplied to us at the time by a trustworthy correspondent (JOURNAL, May 12th, 1888, p. 1029). The Emperor's own view of the situation is sufficiently expressed in the words which we give elsewhere in his own handwriting (p. 835). Sir M. Mackenzie does not hesitate to say that Frederick the Third received his death-blow on that occasion. The "false passage" made by the tube gave rise to extensive suppuration around the trachea, which steadily drained away the remaining strength of the august patient, and shortened his life by about ten months.

An interesting statement is made in connection with this subject, that except at the time the "false passage" was made, and especially when Professor von Bergmann thrust his finger into the wound, the Emperor never suffered any actual pain.

After the death of Frederick the Third, Sir Morell Mackenzie alleges that an attempt was made to entrap him into a false position. It was settled that there should be no *post-mortem* examination, and the English physician was urged to give his opinion in writing as to the nature of the disease, in the hope, no doubt, that, thinking himself safe from any possible exposure, he would return an ambiguous answer. He disconcerted his enemies, however, by stating unequivocally that the Emperor had suffered from cancer of the larynx.

In the controversial part of his reply, Sir M. Mackenzie contends that thyrotomy in cases of cancer, so far from being free from danger, is in fact a most deadly operation, showing a mortality equivalent to nearly 91 per cent. He also maintains that it is, in the vast majority of cases, inadequate for the complete removal of the growth, which, therefore, speedily returns, the average rate of recurrence being almost 90 per cent. Apart from this, the voice is destroyed or "modified" in 77.77 of the whole number of cases. Lastly, he argues that in a case of such transcendent importance, it would have been utterly unjustifiable to perform an operation of such a nature without the clearest proof of its necessity. This, he maintains, was not forthcoming till a late period of the illness.

In dealing individually with his German assailants, Sir M. Mackenzie rejects the testimony of Professor Gerhardt as being that of a discredited rival. He brushes aside the evidence of Dr. Landgraf on the score of want of laryngoscopic skill, which was so marked that the Prince was with difficulty prevented from dismissing him. Dr. Bramann is objected to on the same ground. To the evidence of these inexperienced laryngoscopists is opposed the testimony of experts like Dr. Krause, Dr. Wolfenden, and Mr. Hovell. Professor Gerhardt's "ruthless cauterisations" on so many consecutive days is condemned in the strongest terms as absolutely without example in medical practice, and as being likely to irritate the disease, if originally benign, into malignancy.

The statistical portion exhibits the results of twenty-two cases of thyrotomy for cancer, only *two* of which were successful; of thirty-five cases of partial excision of the larynx, only *one* of which was successful; and of 138 cases of total extirpation, only *eight* of which were successful.

We have here given, as it were, the "dry bones" of Sir Morell Mackenzie's argument. There is much in the book, however, apart from its purely medical interest which makes it worth reading, but on these extraneous subjects it is not within our province to touch.

NATIONAL PENSION FUND FOR NURSES.

ON Wednesday last, by invitation of the President and Council of the Hospitals Association, a meeting was held in the Governors' Hall of St. Thomas's Hospital in support of the National Pension Fund for Nurses. Dr. J. S. BRISTOWE, the President of the Association, occupied the chair. A paper dealing with the position and prospects of the Fund was read by Mr. EDWARD T. CLIFFORD, the honorary manager, who was able to report that within three months of its inauguration nearly 2,000 letters and applications for prospectuses had been received, and nearly 500 definite proposals had been completed and signed. Of these, over 200 had already been paid upon, representing an amount of £3,500. Nurses in joining the fund would in no sense be sacrificing their independence or self-respect; for, although the fund would be largely added to by donations from the public, yet these would be gifts of gratitude—returns for services rendered. Where a hospital took the services of a nurse during the whole or the greater part of her active life, that hospital was indebted to the nurse for more than the mere wages given. Therefore it was the most elementary duty of a hospital to help to make provision for faithful nurses in advancing age, and the Council of the Fund had devised certain methods whereby hospital managers might contribute a definite proportion towards securing pensions for their nurses.

Mr. BURDETT, one of the promoters of the fund, said that, at the present rate of issue, a thousand policies would be issued by March of next year. There were not more than 15,000 trained nurses in this country, and of those he doubted very much whether there were more than 10,000 who were really actually engaged in a way in which they would be able to contribute to the fund. If one in ten nurses, therefore, were not prepared to save a little and trust it to an organisation which was specially instituted upon lines which had been chosen in order to afford them the utmost assistance, they would be compelled to think that the time was not ripe to help the nurses, and sorrowfully and regretfully, but none the less wisely, they would have to let the matter drop.

Mr. KING, the actuary to the fund, and other gentlemen having addressed the meeting, the proceedings closed with votes of thanks to the Chairman, and to Mr. Clifford for his paper.

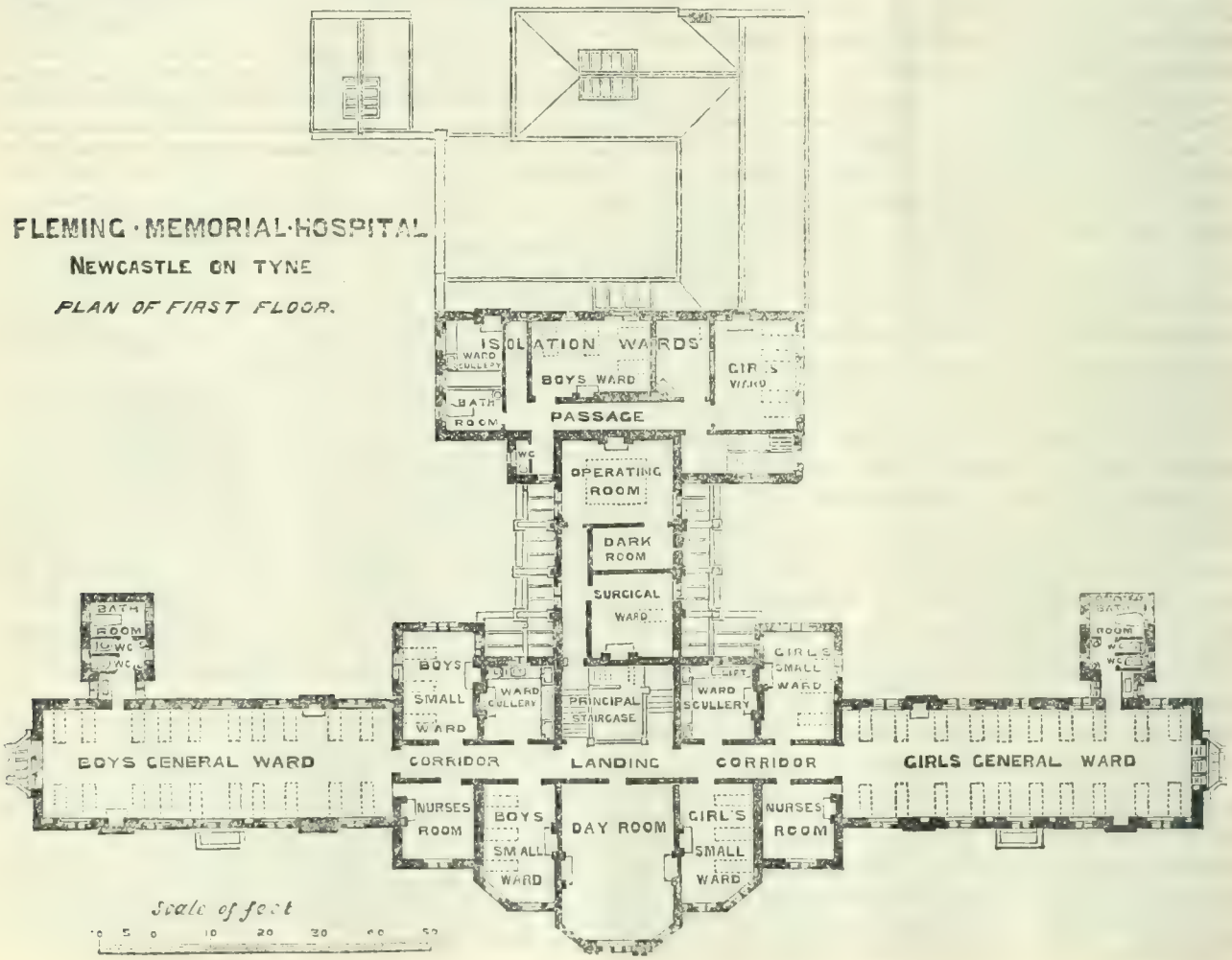
FEVER IN LONDON.—The fortnightly returns from the fever hospitals presented at the meeting of the Metropolitan Asylums Board held on Saturday last showed that 244 cases had been received, as against 207 in the previous fortnight; 20 had died, and 139 had been discharged, leaving 956 under treatment (including 205 convalescents), as against 871 a fortnight ago. These included 878 cases of scarlet fever, 1 of typhus, and 77 of typhoid.

PRESENTATION. — Mr. James Leslie Callaghan, L.R.C.P.Ed., L.R.C.S.I., was presented with an address, a bag of midwifery instruments, and a purse of sovereigns, by his patients and other friends, as a token of their esteem for him, on the occasion of his leaving Street, Somerset.

NEW CHILDREN'S HOSPITAL AT NEWCASTLE.

THE Fleming Memorial Hospital for Sick Children, Newcastle-on-Tyne, opened by Lord Armstrong a short time ago, is in the Elizabethan style of architecture, and stands in its own grounds, about four acres in extent, facing to the south-west over a wide expanse of moor. It is intended to accommodate from sixty to eighty patients. The building is made up of two similar halves. The ground-floor is entered by a spacious and handsomely furnished hall; on the right is the board-room and matron's department, including linen and store cupboards; on the left, the out-patient and resident medical officers' department, consulting-room, and surgery. Leading from the hall to the staircase, lighted by a dome roof, immediately facing the staircase on the second floor, is a large play-room, which forms the centre of this floor; it is airy, well-ventilated, and has a magnificent view from its windows. South-west and north, adjoining the play-room on south, are two small wards of three beds each, the nurses' sitting-room, and ward kitchen and scullery. Adjoining these is a large ward of twenty beds. These wards form the medical portion of the building. To the north of the day-room a precisely similar arrangement exists, which forms the surgical portion of the institution. Leading out of the wards through a ventilated lobby are the ward lavatories and bath-room. The large wards are lighted on both sides, and are warmed by two hygiastic stoves; fresh-air inlets are provided, and the vitiated air is extracted by a large air-pump ventilator on the roof communicating with the ceiling gratings over each gas pendant. The ward floors are of solid pitch pine; and the beds are of solid brass, the sides sliding down to allow of easy management of the patient. Halfway up the principal staircase is a smaller one, which leads to the operating theatre, a large and airy room, lighted from the roof; leading from this is a small dark room for ophthalmoscopic work, etc.; and adjoining is a small ward of two beds for emergency cases. Eastward of the main building is the isolation department, consisting of two wards of four beds each, nurses' room, ward kitchen and scullery, with lavatory and bath-room. Apart from the building at the back is the *post-mortem* room and mortuary.

The hospital will supply a much-felt want, and is a most munificent gift, the building and furnishing of which cannot have cost the donor much short of £30,000. The present staff are, on the medical side, Dr. Coley and Dr. Beatley; on the surgical, Mr. Baumgartner and Mr. Black. At present it is only intended to open twenty-four or thirty beds; but as more subscriptions are received, and when the old hospital is sold, doubtless the number of occupied cots will be increased. The hospital reflects great credit on the architects, Messrs. Quilter and Wheelhouse, of London, who have spared neither time nor trouble in bringing their design to a successful termination.



ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held at the Offices of the Association, No. 429, Strand (corner of Agar Street), London, on Wednesday, the 17th day of October next, at 2 o'clock in the afternoon.

The following Committees will also meet:—

Tuesday, October 16th, 1888.—Trust Funds Committee, 3.0 P.M.—Scientific Grants Committee, 4 P.M.—*Wednesday, October 17th, 1888.*—Arrangement Committee, 9.30 A.M.—Journal and Finance Committee, 11.30 A.M.

FRANCIS FOWKE, *General Secretary.*

October 11th, 1888.

NOTICE OF QUARTERLY MEETING FOR 1888. ELECTION OF MEMBERS.

A MEETING of the Council will be held on October 17th, 1888. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 28th, 1888.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—An intermediate meeting of the Branch will be held in the Co-operative Hall, Warrington, on Tuesday, October 23rd, at 3.15 P.M. Gentlemen wishing to read papers, make communications, or show cases, are requested to write at once to Dr. GLASCOTT, 23, St. John Street, Manchester, Honorary Secretary.

WEST SOMERSET BRANCH.—The autumnal meeting of this Branch will be held at the Railway Hotel, Taunton, on Thursday, October 18th, at 5 P.M.; dinner at 5.30 P.M. The subject for discussion after dinner will be: "What Connection, if any, exists between Hæmorrhage and Mal-hygiene?" The discussion will be opened by Dr. Meredith, who will read a paper on the subject. Members having any communication to bring before the meeting are requested to send notice of its title to W. M. KELLY, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The fifteenth annual general meeting of this Branch will be held at the North-Western Railway Hotel, Stafford, on Thursday, October 25th, at 3.30 P.M. An address will be delivered by the President, Dr. F. Boldero, Penkridge.—T. VINCENT JACKSON, Wolverhampton.

OXFORD AND DISTRICT BRANCH.—The next meeting of this Branch will be held on Friday, October 26th, in the Radcliffe Infirmary, at 3 P.M. Members intending to read papers or show cases are requested to communicate with the Honorary Secretary, W. Lewis Morgan, 42, Broad Street, Oxford, on or before October 12th.—S. D. DARBISHIRE and W. LEWIS MORGAN, Honorary Secretaries.

SOUTH-WESTERN BRANCH.—An intermediate meeting of the Branch will be held at the Angel Hotel, Tiverton, on Thursday, October 25th, 1888, at 2 P.M. Luncheon will be provided between one and two o'clock, at three shillings a head. Notices of papers, cases, etc., to be sent to the Honorary Secretary; and members who propose to attend the meeting and luncheon are requested to inform the Honorary Secretary a few days beforehand. Mr. J. D. Harris, Exeter, will read a paper "On the General Condition of the Injured on Admission to the Devon and Exeter Hospital after the Theatre Fire." Mr. L. Mackenzie, Tiverton, will show: 1. A Case of Arsenic Poisoning simulating Addison's Disease. 2. A Case of Fracture of the Spine.—P. MAURY DEAS, Honorary Secretary, Wonford House, Exeter.

NORTH OF ENGLAND BRANCH.—The clinical meeting will be held at the Ingham Infirmary, South Shields, on Wednesday, October 24th, at 4 P.M. Cases of interest will be shown by the members of the staff of the hospital, and by others.—G. E. WILLIAMSON, F.R.C.S., Honorary Secretary, 22, Eldon Square, Newcastle-upon-Tyne.

BORDER COUNTIES BRANCH.—The autumn meeting of this Branch will be held at the Infirmary, Whitehaven, on Friday, October 19th. The chair will be taken by the President, Dr. Robertson, of Penrith, at 1 P.M. A meeting of the Council will precede. Mr. Crerar, Maryport, will read a paper on An Undescribed Factor in the Treatment of Fractures. Dr. Highet, Workington, will read a paper on the Treatment of Pneumonia. Dr. Welby I'Anson will read Notes on Two Cases of Concealed Accidental Hæmorrhage. Dr. Thomson, Penrith, will read Notes of Cases of Fracture of the Base of the Skull. The President will read Brief Notes of some Cases of Acute Peritonitis treated by Sulphate of Magnesia. Dr. W. I'Anson: Fibro-Cystic Tumour of Uterus. Dinner at the Grand Hotel at 4 P.M.—HENRY A. LEDIARD, Honorary Secretary.

BRITISH GUIANA BRANCH.

THE quarterly meeting of this Branch was held on July 6th at the Public Hospital, Georgetown. The private business occupied the whole of the time, and two adjourned meetings were held in the succeeding weeks for the discussion of papers on Yellow Fever by Drs. Wallbridge, Veendam, and Castor. The President, Dr. GRIEVE, was in the chair, and there were about twenty members present at each meeting.

Yellow Fever.—Dr. WALLBRIDGE read a paper on Yellow Fever in which he reviewed the most prominent symptoms of the disease, together with some points in connection with the differential diagnosis from bilious remittent fever. He discussed the question of the communicability of the disease, and gave the result of his work in the epidemic which occurred in Georgetown in 1881. He had traced no less than nineteen cases to one case in one series, and had traced several other shorter series.—Dr. VEENDAM read notes of his observations on yellow fever, giving evidence in support of the theory of communicability, and strongly condemning the use of stimulants until convalescence was established.—Dr. CASTOR gave a summary of the evidence against contagion.—In the discussion which followed Drs. GODFREY and G. C. LEARY gave some of their experience in the colony, and traced cases occurring after exposure to the poison.—Dr. POLLARD made remarks on the treatment, while Drs. MASSIAH and PEREIRA supported Dr. Castor's position.—The PRESIDENT formulated the following general proposition, which he said appeared to him best to explain all the facts in connection with yellow fever: "Every case of yellow fever depends for its causation upon an antecedent case. It results from the action of infective material of which the place of origin is the human body. The connected cases may be proximate or distant in time or place, and the connection immediate or mediate. When the interval between the cases exceeds the incubation period, the poison has remained in some medium external to the human body. Places, ships, and certain articles, retain the poison for an indefinite period, and being thus infected give rise to the disease in susceptible persons coming in contact with them under certain conditions. The evidence of direct and immediate contagion from person to person is very weak as compared with that showing the occurrence of the disease by contact with infected articles, ships, or places. The poison when leaving the body, if at all infective, seems to be made less so than it is after having undergone a further change external to the body. It multiplies in suitable media external to the body."

Votes of Thanks.—At the end of the meetings a vote of thanks was carried, with acclamation, to the readers of the papers.

Auditors.—Auditors were appointed.

SOUTH MIDLAND BRANCH.

THE autumnal meeting was held at Oundle on October 2nd, fourteen members being present and one visitor, who were entertained at luncheon by Mr. Calcott prior to the meeting.

New Members.—The following gentlemen were proposed and elected new members of the Association and Branch, or Branch only: Wm. Easby, M.D., and Geo. Kirkwood, M.D., Peterborough

Mr. Lewis B. Calcott and Dr. Elliott, Oundle; J. W. Gainer, M.B., Thrapston; and Mr. Jones, Northampton; the five latter from the commencement of the new year.

Communications.—Mr. CREW read a paper on Diphtheria, dwelling especially on its origin and treatment, and expressing his high opinion of the value of the vapour of iodine.—Mr. CALCOTT introduced by a few remarks a discussion on the surgical treatment of pleuritic effusions.—These two papers led to discussions, in which most of the members present took part.—Mr. HEMMING read some Recollections of the Recent Annual Meeting at Glasgow. —Other papers were deferred owing to want of time.

Visit to the School.—Mr. Park, head-master, kindly conducted the members over the new school buildings, the sanatorium, etc., lending the former for the use of the meeting.

Votes of Thanks.—Votes of thanks were passed to the Chairman, Mr. Calcott, Mr. Park, and to the readers of papers.

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

M. Budin on Artificial Suckling.—M. Verneuil on Filipuncture in the Treatment of Aneurysm.—Cod-liver Oil.—Case of Ectocardia. — Treatment of Cervical Rheumatism. — Ergot in Polyuria.—Benzoic Acid as a Food Preservative.—Saccharin in its Hygienic Aspects.—Saccharin and Insects.—Small-pox Hospitals and their Neighbourhood

THE difficulties of suckling infants may arise from numerous causes. In the mother the nipple is sometimes too short, or the skin is chapped or cracked. The infant is occasionally incapable of making the necessary effort of suction, owing to some affection of the mouth, or to defect in the lips, tongue, palate, etc. Some babies are so feeble that they cannot swallow the milk introduced into their mouth. In such cases it is necessary to resort to an artificial method of suckling. Among the apparatus usually employed for suckling children is that of Dr. Bailly, which consists of a cylindro-conical glass cup, of which the base is well hollowed out, and to the summit of which an india-rubber teat is attached. M. Auvard says that with this apparatus the infant has to make a greater effort in order to draw up the milk than with the natural nipple. M. Auvard has therefore devised an instrument by which the mother herself causes the milk to flow, and the infant has only a very slight effort of suction to make. This apparatus, which M. Auvard names the "biaspiratory suckler," consists of (1) an elongated, conical glass cup; two small tubes are attached to this cup close to the extremity of the cone, the outer opening of one being directed upwards, and that of the other downwards; (2) an india-rubber tube terminating in a teat intended for the infant; this tube is fixed on the lower of the small tubes above described. The teat contains a safety-valve which opens to let the milk through when the infants sucks, and shuts when the aspiratory action is exercised in a contrary direction; (3) a second longer india-rubber tube, terminating in a mouthpiece, intended for the mother; this tube is fixed to the upper small tube, which is close to the extremity of the glass cone. M. Auvard's apparatus is employed in the following manner. The cup is placed on the breast; the teat is placed in the infant's mouth; the mother sucks through the mouthpiece, thus creating a vacuum in the cup; the milk flows into it, and passes into the india-rubber tube leading to the infant's mouth. A few weeks after the appearance of M. Auvard's instrument, Dr. Smester described an apparatus he had invented in the preceding year. This consists of a glass cone wider and more hollowed out, and with a longer cone than that of Dr. Bailly. This india-rubber teat in M. Smester's apparatus is furnished with a safety-valve of the same material; a hollow glass mouthpiece, to which is attached an india-rubber tube, terminating in another teat with another safety-valve, is fixed to the wall of this cup. There is thus a safety-valve to each mouthpiece. Moreover, the opening through which the milk flows is situated in the lower portion of the cone, instead of at its extremity, the teat intended for the infant being fixed on a more or less elongated tube, instead of being placed immediately on the conical extremity of the cup. M. Smester, while condemning M. Auvard's instrument, is not entirely satisfied with his own, the mechanism of which he admits to be imperfect in several respects. The safety-valves do not act properly; they shut too closely, or not closely enough. The ideal safety-valve has not yet been discovered, and this discovery must be made by a mechanician. According to M. Smester, the following are the chief defects of M. Auvard's apparatus. When the mother puts aside the mouthpiece, the air penetrates into the apparatus; and, if the breast becomes umbilicated, the nipple contracts. If she continues to suck through the mouthpiece, the action of suction hermetically closes the safety-valve in the mouthpiece intended for the infant, and she draws up the milk into her own mouth. If both mother and infant suck at the same time, the suction exercised by the infant should be much stronger than that of the mother, which of course is impossible in the case of a weakly baby. M. Budin, however, states that he has found M. Auvard's apparatus extremely useful at the Clinique d'Accouchements of the Faculté de Médecine. According to him, the mother inspires the air contained in the cup; a vacuum is thus created, and the milk spurts forth. It falls by its own weight into the lower portion of the cup, where it forms a liquid layer. It is above this layer that the vacuum is created by the mother; the milk continues to flow without any tendency to rise into the mother's mouth. At the first effort of suction by the infant, the lower layers of milk in the cup flow into its mouth. When the milk in the cup is exhausted, a fresh effort of suction on the mother's part closes the safety-valve in the lower teat, a vacuum is created, and the milk again flows out. In certain instances, however, this apparatus has not acted successfully, and this fact is accounted for by M. Budin in the following manner: 1. The india-rubber tubes are simply placed on different portions of the apparatus, so that during aspiration the air frequently penetrates with a slight hissing sound between the tubes and the surface with which they are in contact, thus preventing the possibility of a vacuum. It is, therefore, necessary to attach the india-rubber tubes tightly with thread, so that no air can pass between them and the parts they cover. 2. The conical cup being very wide and hollowed out, it sometimes happens that nipples which are very supple penetrate to the bottom of the cup and completely fill it; in such cases the milk flowing from the breast ascends into the mother's mouth. 3. If, whilst the child is suckling, the mother is in a recumbent position, the apparatus is often directed upwards. The extremity of the cone of the cup being considerably elevated, the apparatus must be entirely filled before the milk can flow into the tube leading to the infant's mouth, the result being that it rises into the mother's mouth at the same time. It is, therefore, essential that the apparatus should be maintained in a horizontal position. In order to remedy these defects, M. Budin has adopted the following modifications of M. Auvard's apparatus. Instead of a conical, or cylindro-conical, cup, he employs a spherical glass receptacle, something like a cupping glass in shape. On one side is an opening, which is applied to the breast; the rims are very wide and curved, so that the nipple cannot become strangulated. At the two ends of the large diameter of the glass, on an axis which would be perpendicular to a line passing through the centre of the largest opening, are placed two orifices which communicate with the external air through two hollow glass tubes. An india-rubber tube for the mother, to the extremity of which a mouthpiece is fixed, is attached to the upper tube. On the lower glass tube is fixed an india-rubber tube with a teat for the infant. A safety valve may be placed in this teat. The mouthpiece intended for the mother is made of china. The india-rubber tubes are closely attached to the apparatus with thread. The dimensions of this spherical glass should be carefully graduated. The concave portion which is applied to the breast is 6 centimètres in diameter at its base, and 24 millimètres at the place where it opens into the apparatus, the full diameter of which is 4 centimètres. It should be made of thick glass. The method of using this apparatus is the same as in the case of M. Auvard's; but, owing to the shape of the glass and the arrangement of the two tubes, the milk can never be drawn up into the mother's mouth. It can also be employed for infants too weak to make the necessary effort of suction; in such cases the safety valve in the teat intended for the infant should be first removed. The apparatus is placed on the breast, the mother presses the tube leading to the infant's mouth firmly between her finger and thumb. She then aspirates, and the milk flows into the spherical glass receptacle, and fills the lower part of it. When a sufficient quantity is collected, the mother ceases to press the tube. The milk descends by its own weight into the teat, which is perforated with small holes in the

mouthpiece, and falls into the infant's mouth. When the milk is swallowed the mother again squeezes the tube, and the same process is repeated. The apparatus works much more simply without safety-valves, which are difficult to clean, and often act imperfectly. M. Budin has at present in his wards an infant with ill-formed lips and without a palate. It is therefore incapable of taking the breast, and the mother is able to feed it satisfactorily by means of this apparatus. The apparatus can also be employed for children who are able to suck, but the holes made in the mouthpiece are replaced by lateral slits, so that the infant may not lose the habit of sucking. The instrument is easily mounted and cleaned with a brush fixed to a movable rod. M. Budin keeps it immersed in a solution of naphthol (0.40 centigrammes of naphthol β and 1 cubic centimètre of alcohol to 1 litre of water). Before use he dips it into boiling water. The system of feeding children with a *gaveuse* usually adopted is as follows: after passing the tube of the machine into the stomach, the mother or nurse, by pressing her breast, causes the milk to flow gently into the cup. The tube being pressed between the finger and thumb, the milk collects in the apparatus. When a sufficient quantity has been collected the pressure is suspended, and the milk falls into the stomach. The *gaveuse* is then withdrawn. This system is attended with certain drawbacks. Some nurses find great difficulty in pressing out the milk from their breasts; moreover, the repeated pressure may cause pain, and set up inflammation of the breast. The infant does not usually suffer from the use of the artificial feeder. If the india-rubber tube, however, remains too long in the throat, nausea ensues, and the milk is vomited if the tube is not withdrawn directly the milk enters the stomach. With the aid of M. Budin's modified apparatus this process is greatly facilitated. The nurse presses between her finger and thumb the india-rubber tube which is lowermost, and to which no teat is attached; she sucks through the other tube, and the milk begins to run. When the spherical glass receptacle is sufficiently full, the infant is held on the lap of another person who introduces the tube into its stomach; the nurse places the end of the indiarubber tube in the cup of the *gaveuse;* she then ceases to press the tube, and the milk flows through into the infant's stomach. The tube is then immediately withdrawn. This operation does not cause any kind of inconvenience to the nurse.

M. Verneuil's recently expressed views on the treatment of aneurysms by the introduction of foreign bodies into the sac may be summarised as follows: 1. Moore's method (for which M. Verneuil proposes the name "filipuncture") which was especially devised for aneurysms of the aorta, consists of introducing wire into the sac of the aneurysm, and leaving it there. 2. Physiologically, it is founded on the property which foreign bodies, introduced into the circulation, have of causing coagulation of the blood, and separating the fibrin. 3. These clots and fibrin, forming partly on the wire and partly on the walls of the sac, fill up the cavity of the aneurysm, thus retarding rupture and prolonging the life of the patient. 4. The tolerance of the organism for foreign bodies ensures the constant deposition and progressive solidification of the clots and fibrin. 5. Operators do not agree on any technical point; nearly every one has a special method. 6. The operation is not so easy as might be imagined; it sometimes even causes serious accidents. 7. Sometimes the quality or quantity of the fibrinous clots formed is unsatisfactory; sometimes the sac is not effectively filled up. Frequently the operation fails through non-persistence. 8. The wire sometimes causes grave accidents, mechanical or inflammatory, primary or consecutive. 9. Up to the present, whether in deep-seated or external aneurysms, filipuncture has produced only lamentable results, greatly inferior to those given by other modes of surgical, or even medical, treatment. 10. It has never been efficacious in aneurysms of the aorta, or of the innominate, subclavian, iliac, femoral, or popliteal arteries. It is more successful in aneurysms of the abdominal aorta, and of the brachial artery. 11. It is not more successful as a palliative method. The amelioration produced by filipuncture is rare, partial, and transitory, and is neutralised by the subsequent aggravation of the symptoms which it entails. 12. It has often hastened death, and has never been proved to prolong life. 13. Out of 34 patients treated by filipuncture, 30 died before the end of the year, and most of those before the end of the first month. Some of these deaths must be attributed to the bad state of health of the patients, or to pre-existing lesions in other organs. But the gravity of the operation itself is sufficiently proved by the accidents resulting, and by the rapid aggravation both of the local disease and the systemic disturbance. M. Verneuil concludes that filipuncture should be abandoned.

MM. Armand Gautier and L. Mourgues have discovered that cod-liver oil contains a certain number of alkaloids, of which some are very active. They have analysed both brown and colourless cod-liver oil; the alkaloids have been found in the latter, which is recognised as being the most active. The bases, subjected to fractional distillation in a bath of oil, separate into two groups, almost equal in weight, of volatile and fixed bases. The bases are as follows: Morrhuine (a new basis), butylamine, amylamine, hexylamine, hydrolutidine (a new basis), aselline (a new basis). A small quantity of lecithine and gaduinic acid also exists in cod-liver oil; the latter is an azotic acid, very easily crystallised; it is powerful, and gives crystallised chloroplatinates.

At a recent meeting of the Société Médicale des Hôpitaux, M. Huchard showed a woman, aged 36, who was the subject of congenital ectocardia. The heart, which beat in the epigastric region, could be grasped by the hand; the contraction of the auricles and ventricles could be plainly seen. The pulsation was noticed above the heart rather than at its level. The development of the sternum and the muscles of the abdomen had been arrested. The patient had been confined four times; since her last confinement the projection of the heart was more noticeable. A hernia of large size presented above the heart. The patient was advised to wear a truss to contain the hernia and protect the heart.

In a clinical lecture recently produced by the *Bulletin Médical*, M. Grancher stated that cervical rheumatism, so common in children, could be successfully treated with salicylate of soda, whether the affection be muscular, articular, or both. Antipyrin, in doses of three, four, and five grammes, is as efficacious as, if not more so than, salicylate of soda, but is not so well tolerated by children. This treatment nearly always succeeds in curing the patients rapidly and completely. Sometimes, however, a slight muscular stiffness remains after the pain and fever have quite disappeared. In such cases M. Grancher recommends regular massage.

The following remarkable results have been obtained by Dr. Bucquoy with ergot of rye in a case of simple polyuria. The patient was a man of robust constitution, who after being nearly drowned in the sea, five years before, presented symptoms of polyuria, and of severe polydipsia. After treatment with valerianate during five months, he recovered. At the beginning of 1888, polyuria reappeared, the affection being apparently caused by violent grief. The patient passed from 9 to 14 litres of urine in the twenty-four hours. The density of the urine was 1004; its reaction was slightly acid; it contained neither albumen nor sugar, but 3.95 gr. of urea per litre. M. Bucquoy administered 75 centigrammes of ergot of rye on the 14th of the month, the quantity of urine passed daily being then 14 litres. On the 15th it was reduced to 11 litres; on the 16th, to 7 litres; on the 19th, to 7 litres; on the 20th, M. Bucquoy reduced the dose of ergot to 50 centigrammes, and the urine continued to diminish. On the 30th of the same month the treatment was suspended, but the quantity of urine went on diminishing. When the patient left the hospital he only passed from $1\frac{1}{2}$ to 2 litres in the twenty-four hours. M. Bucquoy has observed similar effects from the administration of ergot in other cases of polyuria of nervous origin. He has never obtained satisfactory results with valerianate, even in large doses.

The French Comité Consultatif d'Hygiène Publique has decided to adopt the conclusions of a report presented by M. Pouchet, on the use of benzoic acid for the preservation of food. The antiseptic properties of benzoic acid being injurious to the digestive functions, the Comité has declared that it must on no account be employed to preserve beer or alimentary substances. The Comité has also issued a decree setting forth the danger of employing metal stoppers which contain lead for bottles intended to hold milk.

At a meeting on August 13th, 1888, the Comité Consultatif d'Hygiène Publique de France approved the following conclusions expressed in the report of MM. Brouardel, Pouchet and Ogier, on the use of saccharin in articles of food, from a hygienic point of view. 1. Saccharin is not an aliment, and cannot replace sugar. 2. Saccharin in food suspends or retards the transformation of starchy or albuminous substances in the digestive organs. 3. Saccharin therefore will most probably increase the number of affections known under the general name of dyspepsia. 4. The consequences of the daily consumption of saccharin have not yet been fully determined; but it is beyond doubt injurious to the

digestion, and the Comité are inclined to think that it should not be used in articles of food.

MM. Fischer and Rabow have lately investigated the manner in which different insects are affected by saccharin. Ants, flies, and wasps appear indifferent to it. A bee-breeder has observed that saccharin acts as an irritant to bees, and that they become angry when compelled to remain near this substance.

Dr. Créquy, chief physician to the Eastern Railway Company, Paris, has lately made an interesting communication to the Academy with regard to the propagation of small-pox at a distance, and on the limits of secondary centres round a hospital. From the following facts it will be seen that small-pox can be transmitted by the atmosphere alone, but that it is not transmitted beyond a certain distance. The Assistance Publique has erected a special hospital for small-pox in the commune of Aubervilliers near the fortifications. The Compagnie Parisienne du Gaz has, in the same commune, but inside the fortifications, its most important gasworks. Small-pox broke out amongst the workmen in the beginning of October, 1887; fourteen were attacked at first; since that time forty-four cases have been recorded, of these eleven died. From this fact Dr. Créquy concludes that no small-pox hospital should be erected within one kilomètre of dwellings, and that great companies should only employ workmen who have been revaccinated.

MANCHESTER.

[FROM OUR OWN CORRESPONDENT.]

Offer of Hospital to Owens College by the Whitworth Legatees.—Munificent Gift to Owens College Museum.—Salford Hospital.—Manchester Sewage.—Dinner to Professor Paterson.—Introductory Address by Professor Hare.

IN the JOURNAL for October 6th we were able to announce the munificent offer by the residuary legatees of the late Sir Joseph Whitworth to Owens College Medical School; at the half-yearly meeting of the Court of Governors of the College the offer was read and considered. The legatees offer to the College the opportunity of increasing the efficiency of its medical education by providing a general hospital on a site conveniently near to the College, and under its own direction. They trust that this plan may be carried into operation without interfering with the existing friendly relations between the College and the infirmary, and without effecting the discontinuance of the recourse to the infirmary, from which the students of the College have hitherto derived so much benefit. As a commencement, they will provide a sufficient site and will pay a sum of not less than £35,000 towards the cost of erecting and furnishing the first portion, comprising somewhat over 100, say 120, beds, of such a hospital, and will undertake to provide an annual income of £1,000 towards its maintenance. The legatees suggest that provision be made for the treatment of some special diseases, such as cancer and affections of the skin, but they have no desire to prescribe these suggestions, or to interfere with the freedom of the College to arrange and regulate the hospital and its work as they may from time to time think best. They further suggest that a plain style of building should be adopted, and that the money saved thereby would be advantageously used in completing the internal arrangements in the most effective form. The Court recorded its grateful acknowledgment of this munificent offer, and its satisfaction that if the proposals be adopted the friendly relations existing between the College and the Manchester Royal Infirmary be not interfered with. The matter was referred to the Council for full consideration and report. The acceptance or otherwise of so munificent an offer throws a heavy responsibility on the Council and Court of the College. Undoubtedly increased hospital accommodation is much and urgently needed in Manchester, and the erection of such a hospital on so suitable and open a site would go far to diminish this shortcoming. The site faces what is to be the Whitworth Public Park in one of the most healthy parts of the city not far from the College, the latter a matter of no small moment to the students. Primarily the poor of Manchester would be the gainers by the erection of such a hospital, but Owens College also has a deep and enduring interest in securing now and for all time what it has always lacked, namely, the power of giving to its professors in its practical departments of medicine and surgery a sufficient number of beds whereby the teachers of these subjects would have opportunities of practically illustrating what they teach. At present there is no such arrangement, and no organic connection between the College and the infirmary. Were the College in a position to offer to the holders of certain of its practical chairs a hospital appointment, it is undoubted that the effect would be to attract not only distinguished alumni resident in our city, but also teachers of eminence from elsewhere when there was a vacancy. For the permanent success and steady progress of a medical school, if it is to reach the front rank and compete with the universities north of the Tweed, there must be this intimate relation between the College and the hospital. The same energy which has secured for Manchester the establishment of Victoria University with its seat in Owens College will, we feel sure, find ways and means to secure for the suffering poor of Manchester this much needed extension of its health-saving machinery, and to Owens College Medical School what would undoubtedly make this medical school one of the most efficient in the kingdom. There is, we feel sure, sufficient energy and resources in Manchester to find the necessary funds to complete the endowment and maintain so necessary and desirable an addition to its institutions. The authorities of the College have to face the question of raising annually a sum of about £5,000. This is undoubtedly no light task, even with one-fifth of this sum already guaranteed. This is not merely a question affecting the future prosperity of the Manchester Medical School, but it is one in which the public of Manchester have also deep interest; and, this being so, it remains with the public to give their hearty and material support towards the furtherance of so desirable a scheme. If, through lack of public support, the authorities of the College feel that they are not in a position to undertake so heavy a responsibility, it will be a great misfortune both for the sick poor of Manchester and the future progress of the school of medicine.

At the same meeting of the Court it was announced that the Whitworth legatees had given £25,000 to the Museum Building Fund.

At the annual meeting of the Salford and Pendleton Royal Infirmary, it was announced that the number of beds has been increased to over 100 at a cost of £12,000, and without the necessity of calling upon the inhabitants for any contribution whatever, thanks to several generous benefactors, including the late John Pendlebury, Alderman Rose, J. W. Walker, and Sir Joseph Whitworth. It was stated that the expenditure during the past year exceeded the income by £1,586, the increase being mainly under the head of "housekeeping."

This week the Inspector of the Local Government Board concluded his inquiry on the proposed Manchester sewage scheme. The Inspector will report direct to the Local Government Board.

Dr. A. M. Paterson was entertained at dinner by a number of friends on the occasion of his leaving Manchester to fill the Cox Chair of Anatomy in University College, Dundee. Dr. Paterson has acted as Demonstrator of Anatomy in Owens College for a period of five years, first under the late Professor Morison Watson, and since his death under Professor Young.

Professor A. W. Hare, the recently-elected Professor of Surgery in Owens College, gave his inaugural lecture on Wednesday, October 3rd, "On the Study of Surgery." There was a large attendance, and Mr. Hare was frequently applauded during the course of his address. He met with a very favourable reception from the students.

The annual Owens College medical dinner was held last week under the Presidentship of Professor D. J. Leech.

CORRESPONDENCE.

PUERPERAL FEVER.

SIR,—Dr. Cullingworth, in his introductory address to the students of St. Thomas's Hospital, as reported in the JOURNAL, makes the following statement: "The circumstance that the retention of *débris* in the genital passages is an essential factor in the production of puerperal fever due to putrid intoxication has led to this form of disease being described as autogenetic. Nothing could be more misleading.....I hope, to-day, to contribute in some degree to the overthrow of a doctrine that has caused incalculable mischief."

The lecture was, of course, delivered over the heads of the audience. It was really addressed to the medical profession and the public at large. It is not unfair, then, to ask Dr. Cullingworth to state with precision the doctrine he aspires to overthrow, and

to cite the authorities who uphold it. This statement, as it stands, "is, to say the least, very misleading." He is simply beating the air in his ambition to overthrow a subjective phantom.—I am, etc., ROBERT BARNES, M.D.

15, Harley Street, October 6th.

JUDICIAL EXECUTIONS.

SIR,—I will not occupy much space in criticising Dr. Marshall's paper on the above subject in the JOURNAL of October 6th, because my views on this question have been pretty fully expressed in my evidence given before Lord Aberdare's Capital Sentences Committee. I had then the opportunity of witnessing Dr. Marshall's demonstration before the Committee, and, as he is fully aware, I was not specially impressed with the utility of his device. I may safely leave him to settle his own grievances with the Committee for not adopting his suggestions, though, in my opinion, they recognised any merits which his chin trough may possess, but I think they acted wisely in not recommending it, as its advantages, if any, are so exceedingly trivial as to be more than counterbalanced by other considerations. When the unfortunate culprit is standing on the scaffold almost fainting in dreadful anticipation of what is going to happen, time becomes a matter of great moment, and therefore the Committee recommend that the apparatus used should be as simple in construction as possible. The Committee favour the production of death by rupture of the spinal cord as being the best method of producing instantaneous loss of consciousness. I am in favour of this mode of death as being, in my opinion, the most humane, though I know that such an eminent authority as Dr. Benjamin Ward Richardson believes that death from asphyxia is less painful. In my evidence I have shown that in no case of dislocation of the cervical vertebræ with rupture of the cord in an execution can the shock occupy more than the twentieth part of a second, and therefore in such cases I think loss of consciousness may be fairly said to be instantaneous, whereas in death from strangulation I believe that consciousness is preserved for a period of one to three minutes. No doubt death from rapid asphyxia cannot be considered very painful, but the prolonged suffering is much greater, and the spectacle much more shocking to the bystanders, than in the case of death by rupture of the spinal cord.

When this mode of death has been determined upon, the question arises, how will it be best effected? A certain force is necessary to dislocate or fracture the vertebræ, and how that force can be best applied is a question for physicists, not for physiologists, as stated by Dr. Marshall. This gentleman thinks that the neck should be dislocated by leverage action, but no physicist would ever think of constructing a lever out of a hempen rope, because it is deficient in the first quality of a lever, namely, rigidity. It is true he has added a chin trough, which makes a few inches of the rope rigid, and which he thinks will jerk back the head during the drop, and so produce dislocation with a much shorter drop than I have recommended, and which drop the Committee have adopted. Even with his chin trough he has constructed a very flexible lever, and one without another essential quality, a good fixed point or fulcrum.

But granting for the sake of argument that his lever is a good one, what can it accomplish? The antero-posterior movement of the occiput on the atlas is so very free that anyone can throw his head either slowly or swiftly up to an angle of seventy-five degrees, and the most that his chin trough could possibly do would be to throw it up to a right angle, or ninety degrees; that would only be an additional fifteen degrees, as pointed out by Dr. Gover and myself. Now if we take a circle having a cervical vertebra for its radius, the diameter will not be more than three inches, and consequently the circumference nine inches and a half. A segment of fifteen degrees of this circle would only measure two-fifths of an inch at the circumference, and therefore Dr. Marshall's lever could only stretch the anterior ligament between the occiput and the atlas two-fifths of an inch. This leverage action alone, without any other force, would always affect the occipito-atlantoid joint, but the dislocations in executions never take place so high up. I have seen the ligaments of this articulation stretched, but I have never known dislocation to take place higher than between the first and second vertebræ. If the neck is to be broken by leverage action, then there will be no difficulry whatever in constructing a lever on proper mechanical principles; but the one which Dr. Marshall has devised cannot be said to be either ornamental or useful. Dr. Haughton mentions the case of a boy in Dublin who had his neck dislocated while carrying a hand-basket over his head and shoulders, with the handle across his forehead, by a man coming forcibly against the upper end of the basket when turning round a corner. Here there was a very long and rigid lever, with a good fulcrum of the lower end of the basket against the spine. In the case of the plasterer, recorded by Dr. Marshall, the lever was also a rigid one. His statement that "the leverage could be increased to almost any extent by standing the culprit sideways on the drop a couple of feet or more out of the vertical line of the overhead attachment of the rope, the back being, of course, towards that point," shows that mechanics is not a strong point with Dr. Marshall. Such a position might start the body to wag like a pendulum, but could effect no leverage action.

Dr. Marshall quotes me correctly as in favour of placing the knot under the chin, and the reasons I gave for this opinion were as follows: "There is a slight leverage action, and it also tightens better. If it is placed at the occiput, probably the rope will not tighten at all, but the ring will get fastened up against the occiput, and the rope will not be tight; but if it is placed underneath the chin, the head is thrown so far back that the tightening takes place very quickly. The chief factor is the energy of the fall, and the position of the knot is of secondary importance."

Dr. Marshall thinks the great flaw in the report to be the ignoring in the recommendations of the submental knot, and especially not adopting his modification of it. He is rather severe on Dr. Haughton, and thinks he would make an awkward twelfth on a jury with "iliven obstinit min." Most men, however, who know Dr. Haughton's knowledge of mechanics would prefer his opinion on such a subject to that of a good many jurymen. Dr. Marshall mentions further on that his invention at first "met with decided encouragement from the Committee;" but he seems to have forgotten that Dr. Haughton recommended him to try an experiment on the cadaver. If Dr. Marshall has adopted this suggestion, he has not let us know the result of the experiment. If Dr. Haughton made a mistake in attributing the death of Currell to suffocation, he must have drawn his conclusion from Dr. Marshall's description of the case, as he had no other source of information. That he should have been thus misled is not at all surprising, as Dr. Marshall now states that Currell's "pulse beat normally at about 80 to the minute."

I have seen Dr. Morgan to-day, and he has handed me his excellent pulse-tracings of Currell, Lipski, and King. I find that Currell's pulse at the end of three minutes and a half was 162, hyperdicrotic; at four minutes, 156; at five minutes and a half, 132; at six minutes and a half, 102; at nine minutes, 84; at twelve minutes, 78, barely perceptible.

Dr. Morgan says that Currell's neck was dislocated; but he also states that there was no *post-mortem* examination to show the nature of what Dr. Marshall calls "fearful injuries to the spine." I can scarcely allow the following charge against Dr. Haughton to pass unnoticed: "However, I can see, in the face of the new tables, it would never do to admit that a dislocation could be produced by an energy of 1,029 foot pounds (Dr. Barr's lowest being 1,121 foot pounds, and his highest for asphyxia being 1,106 foot pounds), or dislocated and fractured with one of 1,120 foot pounds (Lipski 140 lbs.×8)." No one, so far as I am aware, has ever stated that dislocation may not be produced in some cases by even a less energy than 1,000 foot pounds, while the destructive force in the case of Lipski was just what I had previously recommended for culprits of his build; but to accuse Dr. Haughton of trimming facts to suit any particular theory is an accusation which requires no refutation.

Hangmen may be as vain and ignorant as Dr. Marshall asserts, but we cannot expect too much refinement from men who adopt such an avocation; however, if they are not willing to learn, they can be easily made to comply with any rules or regulations. But Dr. Marshall commits a gross libel when he says that "Berry's statements are often backed up (as the Committee seem well to know) by the prison surgeons, more especially I have noticed since I, an outsider, have dared to suggest humane improvements." On the contrary, I can assure Dr. Marshall that prison medical officers would be very glad to be relieved of this repulsive duty by him or by anyone else; but if he has not met with much encouragement from them, it is because they do not think his invention a "humane improvement."

In the following sentence Dr. Marshall is equally severe upon the Committee:—"That the Committee should have found reasons for the rejection of my recommendations has not altogether surprised myself when I consider the gulf which separates me from

the Prisons Board, namely, the fact of my not belonging to the select brotherhood of prison surgeons; but that they could sacrifice on the altar of departmental red tape the recognised principles of the 'submental knot,' in order to do so after the foregoing evidence adduced in its favour, is difficult to understand." In answer to this I need only mention the names of the gentlemen who are supposed of being guilty of "red tape" motives in rejecting Dr. Marshall's recommendations, namely, Lord Aberdare, The Right Honourable Sir Henry Selwin Ibbetson, Bart., M.P.; Sir Frederick Joseph Bramwell, F.R.S.; Reverend Professor Haughton, M.D., F.R.S.; Dr. Robert Mundy Gover. Perhaps the *raison d'être* of Dr. Marshall's forcible advocacy of his recommendations may be found in the last sentence of his paper. "On the other hand, I believe that executions carried out by the means which I suggest on the principle of *arte non vi*, which governs all surgical proceedings, and properly superintended by a humane, responsible, and practised expert, would prove swift, painless, and merciful, an opinion for the confirmation of which I confidently look to the physiologists of the country."

For my own part, I am of opinion that if the recommendations of the Committee be adopted, a great and humane improvement will be effected in the execution of criminals. There is not much science in the art of hanging, and the rules are so plain that no scientific expert is required to carry them out.—I am, etc.,

Liverpool, October 6th. JAMES BARR.

DENTAL SCHOOLS AS DEPARTMENTS OF MEDICAL SCHOOLS.

SIR,—I must confess to being a convert on the above question. Indeed but three or four years ago I was in communication with all the London hospital dentists to show my committee the dental out-patient department of the West London Hospital was in touch with others. The need of reform is clearly shown by one answer I received from a deservedly eminent dentist. He wrote: "We do not stop teeth at —— (naming his hospital), but send them all except extractions to the dental hospitals.....the tooth complained of is always extracted unless the patient asks that it may be stopped."

The reasons that caused me to change my mind I have summarised under three heads: 1. The improvement of medical students; 2. The benefit to dental students and dentists; 3. The sad condition of the teeth of the poor. 1. The medical world—I speak with due deference—is not so well initiated into the art of dentistry as it ought to be. I, in common with most hospital dentists, have seen well-informed senior students, and even qualified practitioners, mistake temporary for permanent teeth, and *vice versâ*, whilst the open-mouthed wonder when they learn that the ulceration of the gum produced by a necrosed root is not an epithelioma or that the normally serrated cutting edges of erupting permanent incisors bear no resemblance to the teeth of inherited syphilis proves that with them dentistry is still a dark cloud. 2. The manifest disadvantages under which the dental student of to-day is labouring would easily be rectified were each hospital dentist to "reform" his department. It may not generally be known that our dental bear no analogy to other special hospitals, inasmuch as the dental specialist is absolutely compelled not only to attend special lectures (dental surgery, human and comparative dental anatomy, metallurgy, etc.) at a special hospital, but also to study dissections, general anatomy, etc., at a general hospital, thus paying two sets of fees and oscillating between the two at a considerable expenditure of time and energy. Why should not the dental bear the same relation to the general as the throat, eye, and ear hospitals? Why should not the dental student be able to qualify in dentistry from a general hospital, and subsequently, should he so wish, gain further experience as a clinical assistant or house-surgeon to a dental hospital? The answer is not difficult. It is because there is no proper accommodation or teaching at our general hospitals. 3. The dental hospitals are totally inadequate to meet the demands of the community for whom hospitals exist. The "masses" can neither spare the time nor money in migrating to a special hospital, perhaps three or four miles off. I have tried transferring patients, and have found that in the majority of cases it is a perfect impossibility. The effect on the teeth of the poor is a growing scandal, and what follows is worse—dyspepsia with its attendant evils, unfitting a man for his employment and a woman for her household duties, is daily becoming more common, and all because conservative dentistry is not placed within their reach, and because their dental troubles are met by the forcible application of cold steel, the one and only treatment practised in so many London hospitals. Divide the number of dental students amongst the metropolitan medical schools, and there would result a staff, aided by one or two qualified dentists, capable of coping with the diseases of the teeth of the London working classes.

Possessing an operating chair and a few miscellaneous instruments, the entire outlay of "reforming the dental out-patient department" of my hospital was under £30, the expense being unhesitatingly borne by the hospital. Of course for this amount I have only implements for the crudest work. As there is no medical school, and consequently no students, the number of patients is limited.

I trust others will follow the example so unselfishly set at Guy's and St. Bartholomew's, and that hospital dentists will soon cease to deserve the by no means euphonious epithet of "molar-jerkers," and aspire rather to be looked on as surgeons in charge of the diseases of the teeth.—I am, etc.,

HENRY L. ALBERT, M.R.C.S., L.D.S.,
Dentist to the West London Hospital.

49, Sloane Street, S.W., October 3rd.

SIR,—In Mr. Newland Pedley's letter in the JOURNAL of October 6th, replying to Mr. Storer Bennett's of the previous week, he says that the case of the dental student is different from that of the ophthalmic in that "his attendance at a special hospital is compulsory, and as part of his studentship he must attend a special hospital for two years." In this Mr. Pedley is mistaken. The regulation of the Royal College of Surgeons for the L.D.S. diploma reads thus: "Candidates are required to produce the following certificates.....10. Of having attended at a recognised dental hospital or in the dental department of a recognised general hospital the practice of dental surgery during the period of two years." Yet few who have seen the detail of the work done at our dental hospitals can, I think, doubt their superiority as schools for the dental student in his special work over anything that is possible at our general hospitals.

Mr. Pedley does not attempt to combat the difficulties mentioned by Mr. Storer Bennett as to the space, light, and funds necessary for the transformation of the dental departments of our general hospitals, and at most of them at least I feel sure these difficulties would be insuperable.

At the present time the medical student can learn all that will be necessary or useful to him in after practice in the dental department of his hospital, but as a rule he unfortunately does not make use of his opportunities. The dental student will in my opinion do well to still continue to study his special work at a special hospital, and his general medical and surgical work at a general hospital; this I consider no disadvantage; the time spent in walking from one hospital to another is not wasted, but is a healthful and advantageous change after some hours of uninterrupted hospital work.—I am, etc.,

ASHLEY GIBBINGS, M.R.C.S., L.D.S.,
Professor of Dental Surgery at King's College; Dental Surgeon to King's College Hospital.

18, Stratford Place, W.

THE PROGNOSTIC POWER OF THE ELECTRIC CYSTOSCOPE.

SIR,—Few cases would point more impressively to the value of the electric cystoscope in the prognosis of vesical growths than the sequel to the case which was published in the JOURNAL of September 22nd under the title of The Bloodless Method of Removing Vesical Growths Controlled by Electric Illumination.

When I first saw the patient, who is the subject of that communication, he had been only ailing for five weeks, and the note of the appearance of the bladder by electric light was "mucous membrane in the immediate neighbourhood of the hanging body has an injected appearance, extremely suggestive of carcinoma . . . . this cystoscopic appearance contra-indicates operative interference." It is now three months since that was written, and to-day the patient visited me looking hale and hearty, and declaring himself in the best of health. His general condition gave no indication of carcinoma, and I doubted its existence, believing that I had been optically deceived as to the nature of the group of nodules on the mucous membrane. I, therefore, re-examined him, and was somewhat astonished to see that the group of isolated nodules had grown into a confluent walnut-sized tumour, which was deeply cleft, lobulated, and of a gelatinous

aspect, a growth which I at once recognised as a succulent epithelioma.

I venture to ask you to record this sequel, for although the immense diagnostic value of the electric light cystoscope in obscure bladder disease has been realised by the profession, yet the sound prognosis and judgment of vesical disease which an intelligent study with the instrument will confer has been apparently overlooked.—I am, etc., E. HURRY FENWICK.

Old Burlington Street, September 24th.

OVARIOTOMY IN AGE.

SIR,—In the July 14th number of the JOURNAL, you give some information about "Ovariotomy in Age," and specially refer to Dr. Homan's successful case in a patient 82 years of age. I wish to draw your attention to a successful case operated upon at this side of the world just five weeks prior to the date of Dr. Homan's operation. The particulars are related in the *Australasian Medical Gazette* for February, 1888, the operator being Mr. E. Matthews Owens, of Brisbane, Queensland. The patient was 79 years and 10 months old when operated on, and she went home well on the thirteenth day. My paper on the "History and Progress of Ovariotomy in the Australian Colonies." was read at the Medical Congress in Adelaide three months before Mr. Owens's case occurred, otherwise I should have had much pleasure in quoting it as the oldest successful case in Australia.—I am, etc.,

ROBERT DURHAM PINNOCK, M.D., Ch.M.,

Ballarat, Victoria, August 27th.

CASE OF APYRETIC TYPHOID.

SIR,—I am glad that Dr. Nicholson should have given me an opportunity of rectifying an omission in the note I published in the JOURNAL of September 29th, on a case of typhoid. I should have stated that the thermometer used was one of Immisch's metallic instruments, that it is extremely delicate, and that it has a perfect register from Kew. Of course the ordinary thermometers do not register within some 5° or 6° of the lowest point the temperature reached in this case. Dr. Nicholson does not seem to have heard of the epidemic of apyretic typhoid which occurred among the German troops during their investment of Paris. It has been fully described, with *post-mortem* examinations. My case was fortunately not available for the latter purpose. Dr. Cayley's little book—his Croonian Lectures on typhoid—will tell him all about it. I submitted the notes of the case at the time to one of our leading authorities on fever, after I had made my own diagnosis, and it was confirmed by him with a quotation about the above mentioned epidemic, on which I had based my own opinion.—I am, etc., F. R. HUMPHREYS.

79, Queen's Crescent, N.W., October 5th.

SIR,—I do not agree with Dr. Nicholson as to the impossibility of typhoid disease without fever. A series of four or five cases which I attended some time ago in conjunction with my then principal, Dr. Davies, of Ebbw Vale, convinced me of its occasional occurrence. At first these cases were very puzzling to us, but the course of one or two of them quite convinced us of their nature. In all these cases there was the usual fluctuation of temperature; but it was with a maximum rather below than above normal. I am writing from memory, so cannot give exact temperatures. Curiously enough all these cases, which occurred very nearly at the same time, resembled one another also in the presence of severe meteorism and retention of urine. Two of them were fatal, but no *post-mortem* examination was made. One of the cases in which recovery took place, by its whole course and tedious convalescence, left no reasonable doubt of its nature; and, if this was a typhoid attack, the others resembled it so closely in most important points that I think the diagnosis was fully justified.—I am, etc., HUGH WOODS.

Highgate, October 6th.

PAYNE'S "MANUAL OF PATHOLOGY."

SIR,—I must thank you for the full notice of my *Manual of Pathology*, which appeared in the JOURNAL of September 22nd; but at the same time I should like to be allowed to point out that the reviewer has fallen into a few errors of fact, and thus attributed to me some statements which I have not made.

When the reviewer regrets that the words "homologous" and "heterologous" are retained in the classification of tumours, he seems to have overlooked the fact that I have substituted in my classification the words "typical" and "atypical." I have rather used the word "homoplastic" in the sense in which he uses "homologous," and, making this substitution, the words of his criticism might almost have been borrowed from the work criticised. He writes: "Nearly all neoplasms are homologous, in that they grow from pre-existing tissue similar to that comprising the individual tumour, but are heterologous inasmuch as they never exactly resemble the matrix tissue. Homologous and heterologous are terms which, for classificatory purposes, should not be retained in pathology." My words are: "The great majority of new growths are in a broad sense homoplastic—that is to say, connective-tissue growths arise from connective tissue, and so on.....But, on the other hand, no growth is strictly homoplastic, since the tumour growth is never precisely identical with normal tissue. This distinction, then, cannot be used with precision as the basis for classification of tumours."

Again, the reviewer writes: "It is also very unusual to find the bony and calcareous plates so common in the choroid coat of diseased eyes classed among tumours; yet these and similar bony formations found in the membranes of the brain are classed as heterologous osteomata." Now, as to the first statement I might join issue, since this classification is really a very usual one, being adopted, for instance, by Virchow (*Tumours*, ii, 99), Cornil and Ranvier (i, 269), Lancereaux (i, 359), Bristowe (page 56, first edition), Coates (page 193), and probably by others. But, with regard to the latter part of the sentence, I must protest that the statement there conveyed is the precise opposite of the fact. Bony formations in the membranes of the brain are in my book, rightly or wrongly, not classed as heterologous osteomata. That name is applied to certain very rare tumours which have been observed in the brain quite unconnected with the skull or membranes (Virchow and others). Bony formations in the meninges are spoken of under another class of objects, of which it is expressly said that they are not true tumours.

With regard to the chapter on cysts, it is hardly fair to say that teratoid tumours are classed with cysts, whereas they are rather tacked on to the chapter on cysts, not being enough to form a chapter by themselves. A simple alteration of typography would remove the ambiguity, if there be any.

Again, it is misleading to say that "no care is taken to discriminate between true cysts and those arising by softening and degeneration of tumours, parasitic cysts and diverticula." The attempt has certainly been made to discriminate between the kinds of cysts usually recognised—whether successfully or not it is not for me to say. But, with regard to parasitic cysts, I must again protest that the reviewer's statement is entirely contrary to the fact. Would anyone suppose from his words that those objects are only mentioned in order to be expressly excluded from the class of cysts? I write as follows: "In addition to these [six classes of cysts], we have what are called parasitic cysts.....but .....[for reasons given] it is better not to reckon these among cysts properly so-called." Yet this the reviewer calls taking no care to discriminate!

I do not enter on the general question; though, if the chapter were to be rewritten, I am not quite sure that I should do it on the lines laid down by the reviewer, since, I suspect, we should not agree on the definition of a cyst. Nor do I touch on the numerous points where the differences between the reviewer and myself refer to controverted topics or to matters of opinion, such as the definition of "hypertrophy," on which we must agree to differ.—I am, etc., J. F. PAYNE.

Wimpole Street, September 29th.

*** Our reviewer sends us the following observations on the above letter:—In reply to Dr. Payne's letter, let me again urge that the use of the terms "homologous and heterologous," in his excellent text-book of pathology, is much to be regretted, and as the author admits the terms to be valueless, this amounts to an admission of the justice of my criticism, which applies not only to this book in particular, but to the use of these terms in pathological text-books in general. Concerning the calcareous plates found in disused eyes, I again repeat that they ought not to be classed among the osteomata, any more than every form of exostosis is to be considered a neoplasm. The elastic way in which the distinguished Virchow employs the term "tumour," is not consonant with the strictness and advances of modern pathology, and I was full of hope that in a class-book from the pen of such an experienced and erudite pathological anatomist as Dr. Payne is acknowledged to be, the various classes of neoplasms would have been defined with that consistency which modern patho-

logy clearly demands, in order to prevent every "swelling" perceptible clinically from being ranked as a tumour independently of its mode of genesis. Concerning the teratoid tumours, I am glad Dr. Payne admits that it was not a good topographical arrangement to "tack them on to the chapter on cysts." The criticisms on cysts I would emphasise afresh. The chapter is a blot, which in a new edition could certainly be removed.

THE MONOPOLY OF MEDICAL APPOINTMENTS.

SIR,—The prominence accorded in the JOURNAL of October 6th to a letter from "M.D." upon the above subject must be my excuse for troubling you with this communication, as I believe that it is only by free discussion that the true significance of the growing discontent can be fully appreciated and the evil complained of remedied. The existence of such a monopoly will hardly be doubted; but even the most sceptical will be convinced if they take the trouble to watch closely for a few weeks the columns of the JOURNAL in which the various vacancies are usually advertised.

The hospitals of London may, for our purpose, be roughly divided into schools and local hospitals. With regard to the former, it is, perhaps, only right that special and prolonged training in scholastic methods should be required, and, therefore, there may be some excuse for admitting within their pale only those possessed of certain qualifications; but even in this direction I feel sure that greater latitude and less exclusiveness might be observed.

With regard to local hospitals, however, a great alteration in existing regulations is imperatively called for, and it cannot be too often reiterated that it is absurd and unjust to a degree to attempt to officer the hospitals of the north, south, east, and west of this huge metropolis by men of whom it may be said that the very degrees and diplomas which they hold compel them to live almost exclusively in the last of these quarters. In some instances I believe that rules expressly excluding local practitioners are in force.

The question is a very wide one, involving many interests, and, therefore, quite incapable of exhaustive treatment within the short space of a letter. Taking only one of the points raised, namely, the influence of such a monopoly upon the profession at large, is it for good or for evil? I believe that it is an unmitigated evil, for the following reasons:—

1. As your correspondent points out, it introduces the pecuniary element, or "power of hanging on," into the profession, with all its disadvantages and evils.

2. It intensifies the element of class jealousy, and tends to create grades and distinctions in a profession the boast of which has always been its liberal views and "free trade" proclivities.

3. It blots out at once all ambition or desire of individual improvement, the importance of which the schools in general and the leading lights of our profession in particular are so fond of impressing upon the student while he is a student.

Truly those who, whether from necessity or choice, enter upon the career of general practitioners in the suburbs of our great cities, may be said, metaphorically, to pass through a gateway over which is inscribed the pregnant motto, "All hope abandon ye who enter here;" and are, on the contrary, encouraged to accept the dictum of the Mississippi pilot who, when underpaid, suggested that he "knew as much as he could afford to know," at the price.

4. It affords additional encouragement to the student to believe that the end and aim of all his training is not the knowledge of his profession, but the obtaining of degrees and diplomas, and the dodging of successive examiners; in fact, justifies the advice I have frequently heard given to students, that if they intend going in for general practice, they should get qualified as soon as they can and make a start, to which is occasionally added some such phrase as "you can learn your work afterwards," or "never mind about appointments," etc.

I believe, too, that not only is the existing arrangement bad from a professional point of view, but that it is detrimental to the best interests of the patients and of the public at large. I have, however, occupied more of your space already than I originally intended. Personally I much object to the assumption of a *nom de plume*, but, in attacking a great and powerful monopoly, no good purpose would be served by the publication of the name of such a humble individual as myself; and I must, therefore, ask you to allow me to subscribe myself, yours, etc.,

A SUBURBAN PRACTITIONER.

NAVAL AND MILITARY MEDICAL SERVICES.

FOREIGN MEDICAL REGULATIONS.

M.S. asks: 1. Whether the Regulations of the Medical Departments of the various European armies and of the American army can be obtained; and, if so, where? 2. What are the best French works on military surgery, and especially on hospital administration?

*** The Medical Regulations of foreign armies are, like our own, "published by authority." No doubt Messrs. Harrison, of Pall Mall, would be able to say whether the books in question could be obtained, and we advise our correspondent to apply to that firm. We are not prepared to say which is the "best French work on military surgery."

THE VOLUNTEER MEDICAL SERVICE.

DR. JNO. W. COOK (Acting-Surgeon 2nd Volunteer Battalion, Essex Regiment) writes: I have just seen the letter of Surgeon Crockwell in the JOURNAL of October 6th, and entirely differ from him in his consideration of the, as he designates them, three burning questions therein referred to. In point of fact, those three are similar to the three points raised in the circular letter issued from Colonel Eyre to volunteer medical men, asking for suggestions thereon for the information of a committee about to sit at the War Office to inquire into the Volunteer Medical Service. In order that all readers of the JOURNAL may fully understand these points, as many of them may not have seen the latter, I will copy them *verbatim*, and add the suggestions I sent to my senior officer to be, by him, forwarded to the War Office in accordance with instructions.

1. The regimental organisation for volunteer corps, as far as it affects the rank and position of medical officers in such corps.

2. The Army Medical Reserve, as far as commissions in it affect the status and position of volunteer medical officers.

3. The condition under which all classes of volunteer medical officers are, or should be, made liable to be called upon for service with volunteers or with troops generally.

I ventured to forward the following suggestions:—

1. That each volunteer battalion should have a surgeon-major, and a surgeon or surgeons in accordance with its strength. That these officers should have the rank and position of similar officers of the Army Medical Department. That each battalion should have an ambulance detachment of the average strength of two men per company, such detachment to be under the command of the medical officer in charge; hence medical officers ought to attend battalion and other drills, and be bound to be present at the annual regimental encampment.

2. That the Army Medical Reserve should consist of officers retired from the Army Medical Department, and only be supplemented by volunteer medical officers when the numbers of such retired officers are insufficient for the needs of the service.

3. That volunteer medical officers should serve only with their own battalions or regiments, and not be called upon to serve with troops generally, unless in the event of a very pressing emergency.

In my opinion, it would be impossible to work the Volunteer Medical Service as a department. It must continue to be regimental or it would soon prove a failure. Of course, when serving, volunteer medical officers should be under the command and orders, in a professional point of view, of the principal medical officer of the district in which their duties are performed.

I should much like to see this question settled satisfactorily, both to the Army Medical Department and the Volunteer Medical Service, and that the officers of each branch should work together, not for selfish ends, but for the common good and welfare of our Queen and country.

DR. W. BAINES, Surgeon-Major Army Medical Reserve of Officers, and 1st Middlesex Engineer Volunteers, R.E. (Retired), writes: The letters published in your last and previous numbers of the JOURNAL compel me to state I have resigned my commission, as has been announced, not from any unexpected discovery of unfair treatment, nor from dissatisfaction of any kind, but because I had reached the limit allowed in paragraph 3 of the Warrant, and also because I had sent in the resignation of my commission in the volunteer corps to which I have belonged since its first enrolment. It is with considerable regret that I have been induced to do so after twenty-eight years' service, which step alone would have necessitated the resignation of my army commission, as the fact of being gazetted out of a volunteer regiment renders the Reserve one void. When I first applied for the commission in the Reserve, I knew my position, and accepted it, *honoris causâ*, in the hope that the rule would not have been so rigorously carried out, but it was otherwise; and, being so, it would appear that the authorities were not so anxious "to make a show" as your correspondent would lead the public to believe. In fact, what happened to me is constantly done in the army, as is probably unknown to your correspondent, namely, I was allowed the privilege of the new Warrant, even though it had permitted me to be gazetted for only a single day.

With respect to the Army Medical Reserve (and I feel that I speak for all who have joined it), I may say that there is no desire or intention to prejudice in any way the Army Medical Staff; indeed, what is wanted is to consolidate the medical arrangements of the service on one broad basis during peace, so as to be ready and prepared for action in the time of national emergency. By this means, it is hoped to avoid the errors of past administrations, so that, when the time of action comes, our great volunteer army will be as fully equipped in the hospital as in the field.

It is clear that a great deal of nonsense is written on the subject, and about private interests being interfered with, and duties being insisted on which will ruin private practitioners, as will be apparent on studying the Warrant, in which it is stated that each Reserve officer shall accept the charge of any station, etc., "at which they reside." At present, during peace, that charge is not even compulsory, as I myself can testify, having been offered duties in the army, temporarily, which I was unable to accept; and we must bear in mind that the discharge of these duties has been accorded to volunteer medical officers at their own request, they asking to be selected for army work in preference to civil practitioners. But in time of war things would be different, and every officer must be prepared to accept his liability, and sink his conveniences for the good of his country. Even in that case, the volunteer

medical officer, supposing him to be detached away for hospital duties, will be in no way differently placed from what he would be were he to remain with his regiment, since it is well known that each battalion has its special locality throughout the country allotted to it, at which centre, probably far away from home, medical aid must be provided, and a surgeon stationed. Besides, should the duties asked of us during peace be irksome or unacceptable, there is always the alternative to resign, which privilege there is no reason to believe would be refused; though, if it were, the resignation of the volunteer commission at fourteen days' notice would compulsorily carry with it that of the Reserve.

As to Surgeon Crockwell's suggestion that the only way to improve the Volunteer Medical Service would be to absorb all regimental surgeons into the Medical Staff Corps, I am sure that such a proposal would be very decidedly objected to by the whole service of volunteer surgeons, who value the present association and fellowship they enjoy with the other officers of their respective regiments. The two branches of the service must, under present conditions, be entirely separate, and no amalgamation must be contemplated, and any *rapprochment* that occurs between them must be on equal footing through the Reserve.

Before concluding I take this opportunity of correcting an error which you made in your remarks on my previous letter. The reserve of combatant officers is on the same footing exactly as that of the medical officers—that is to say, the service is open to all officers of the army or of the auxiliary forces (which includes volunteers), and not, as you stated, confined to retired army officers only.

Again you ask (and expressed your anxiety to know) whether I had the permission of my commanding officer to accept my late commission in the army. Considering that the Warrant states that application for such commissions must be made through the officers commanding, I conclude that in so doing I had his full sanction when he forwarded my application.

Again you wished to know how I could hold two commissions at the same time, such being contrary to regulations. These regulations, however, apply only to volunteer commissions, and the Warrant instituting the Reserve distinctly gives the permission and allows the holding of the two commissions.

With these remarks I conclude, regretting much the unfair abuse which has been thrown on the authorities in their action as regards the Reserve, and the unworthy motives which have been attributed to them in the promulgation of the Warrant, and hoping that our intentions may be respected as regards their relation to our fellow army officers and to duties which our country may require of us. If anyone thought that by his action in joining the Reserve the Army Medical Staff would be prejudiced, or its prospects injured, or its officers unduly expatriated, as has been persistently stated, I am sure there is no one on the list who would not regret his step and immediately resign. We wish, however, in organising the Volunteer Medical Service to work in harmony and good fellowship with our brethren in the army in all that pertains to the advantage of the cause which we are called upon to serve together.

*** No one has a better right to be heard on volunteer medical matters than Dr. Baines (should we still style him Surgeon-Major?). He is a sort of *doyen* among medical volunteers, and has ever had, according to his lights, their interests truly at heart. Yet we venture to think he is mistaken on the broad points of the reserve scheme. We are glad to think his resignation was for a reason always to be honoured, but also find the resignation of his active commission as a volunteer necessarily ended his passive commission as a reservist; the two hang together. It is precisely this absurd system of concurrent commissions to which we wholly object; we know it had been partially carried out—not without strong protest—in the Army Reserve of officers, but in the Medical Reserve it is made the absolute rule, not the exception. If it be right to count officers twice over, why not the rank and file? In either case the result is a mere paper army.

We confess to be in the dark as to the "privileges" our correspondent considers medical volunteers secure by even "a single day's service" in the Reserve. Do they consist of the liberal gazetting, "rapid promotion," and skipping of ranks to which another correspondent called attention?

We most willingly believe that no one who has joined the Reserve had any deliberate or malign desire or intention to prejudice the Army Medical Staff, yet injury may be unintentionally done; the unwitting reservist may become the means in the hands of others of inflicting injustice on that Staff, and grievous loss of efficiency in the regular medical service.

We cannot quite follow Dr. Baines when he speaks of the Reserve scheme as it stands putting medical organisation on one broad basis, that not only will "errors of past administration" be avoided, but, "when the time of action comes our great volunteer army will be as fully equipped in the hospital as in the field." How, we ask, will these desirable results be brought about by the futile expedient of stripping the volunteers of their officers to do duty with regular troops?

He further says no reservist will be compelled during peace to assume a charge inconvenient to his private interests, and that if such compulsion is attempted he can at once fall back on the summary remedy—resignation.

Prudent policy would doubtless prevent any approach to compulsion during peace, but in so-called "national emergency" it must necessarily be rigorously enforced, and we hardly think the remedy of resignation will then be allowed.

We quite agree that it would be most injudicious to abolish the regimental volunteer surgeons; we rather expect a partial return to the regimental system in the regular army.

We heartily concur in the wish that all the medical branches of the army may be—not jumbled up—but harmoniously co-ordinated into a workable whole; only the enemies of the medical profession seek to create antagonism.

PASS LETTERS IN ARMY LIST.

F.R.C.S., M.S., writes: With reference to the above heading in the JOURNAL of September 15th, I would suggest that all officers who have obtained the Fellowship of their College should write to the Director General, "respectfully suggesting that the letters corresponding to their Fellowship might be entered after their names in the monthly *Army List*." This has already been done in the quarterly *Army List*, and also when an officer's name appears in the *Gazette*.

I am sure if this small favour was granted it would be greatly appreciated by those officers who have obtained their qualifications, and would be an incentive to the others to go and do likewise.

ADMIRALTY SURGEONS AND AGENTS.

SURGEON AND AGENT writes: Drs. Pollard and McFeely deserve the thanks of all Admiralty surgeons and agents for protesting against the ridiculously low fees allowed by the Admiralty. I fully agree with them that a fixed stipend would be a more equitable arrangement. At present the Admiralty pay for purely professional work only, making no allowance whatever for the other duties which as agents we are bound to perform when called on to do so. It is to be hoped that no member of our profession will be found to replace Drs. Pollard and McFeely.

THE NAVY.

SURGEONS J. D. HENWOOD, H. W. D. WALSH, M. O'C. MCSWINY, T. E. H. WILLIAMS, W. M. RAE, L. H. KELLETT, M.A., M.D.; J. C. DOW, M.B.; C. F. NEWLAND, P. J. BARCROFT, G. D. TWIGG, and G. J. FOGERTY, all of whom entered the service September 30th, 1876, have been promoted to be Staff-Surgeons. Of the foregoing, the following have been reappointed on promotion:—J. D. HENWOOD, to the *Rapid*; L. H. KELLETT, M.A., M.D., to the *Rover*; J. C. DOW, M.B., to the *Cordelia*; C. F. NEWLAND, to the *Calypso*; and G. J. FOGERTY, to the *Cruiser*.

THE MEDICAL STAFF.

SURGEON-MAJOR J. F. BEATTIE, M.D., is promoted to be Brigade-Surgeon, *vice* J. Paxton, M.D., retired. His previous commissions are dated:—Assistant-Surgeon, September 30th, 1863; Surgeon, March 1st, 1873; and Surgeon-Major, April 28th, 1876. He served in the Ashanti war in 1873-74 (medal); in the Afghan war in 1878-80, including the defence of Candahar (medal); and in the Egyptian war in 1882, including the battle of Tel-el-Kebir (medal with clasp, and Egyptian bronze star).

Surgeon-Major C. M'D. CUFFE, C.B., whose previous commissions are contemporaneous with those of Brigade-Surgeon Beattie, is also promoted to be Brigade-Surgeon, *vice* J. T. M. Symous, M.D., retired. He was Principal Medical Officer of the Transkei Column throughout the operations against the Galekas in South Africa in 1878, and during the Zulu war in 1879 he was Principal Medical Officer of the Northern and subsequently of Wood's Flying Column from the commencement of operations till the action of Ulundi and the conclusion of the war (mentioned in dispatches, medal with clasp). He was nominated a Companion of the Order of the Bath in 1879.

Surgeons-Major FORBES DICK, M.D.; JAMES BARKER; W. F. BENNETT, M.D.; and F. A. DAVY, M.D., are granted retired pay. The commissions of Surgeons-Major Dick and Barker are dated: Assistant-Surgeon, September 30th, 1863; Surgeon, March 1st, 1873; and Surgeon-Major, April 28th, 1876; those of Dr. Bennett, Assistant-Surgeon, October 1st, 1867; Surgeon, March 1st, 1873; and Surgeon-Major, October 1st, 1879; and those of Dr. Davy, Assistant-Surgeon, October 1st, 1868; Surgeon, March 1st, 1873; and Surgeon-Major, October 1st, 1880. Dr. Bennett served in the Ashanti war in 1873-74, including the engagement at Dunquah (medal), and in the Afghan war in 1878-80, among which he took part under Sir Frederick Roberts in the march to the relief of Candahar, and was at the battle of September 1st, 1880 (medal with clasp, and bronze decoration). Surgeons-Major Dick and Barker have no war record.

Surgeon-Major R. W. O'DONNELL has retired on temporary half-pay. Entering the service March 30th, 1872, he became Surgeon, March 1st, 1873; and Surgeon-Major, March 30th, 1884. During the Nile expedition in 1884-85 he had charge of the hospital at Assouan and with the River Column (medal with clasp and Egyptian bronze star).

The undermentioned officers serving in the Madras command will, on completion of a tour of foreign service, proceed to England during the trooping season of 1888-89, and will be detailed by the Surgeon-General, Her Majesty's forces, for duty with troops embarking in the several troopships of the country: Surgeon-Major W. KEIR, M.D.; Surgeon-Major G. J. GIBSON, M.D., in exchange with Surgeon-Major W. P. Smith; Surgeon-Major R. D. BENNETT. Surgeon-Major G. B. HICKSON, in exchange with Surgeon-Major J. N. Stock; and Surgeons R. J. FAYLE, F. H. M. BURTON, M.B., J. D. T. RECKITT, T. A. P. MARSH, R. KIRKPATRICK, M.B., and A. A. PECHELL, M.B.

ARMY MEDICAL RESERVE.

ACTING-SURGEON H. G. THOMPSON, M.D., F.R.C.S.I., 1st Volunteer Battalion Royal Fusiliers (late the 10th Middlesex) to be Surgeon (ranking as Captain).

INDIAN MEDICAL SERVICE.

SURGEON J. G. HANCOCK, M.B., who entered the service on March 31st, 1877, has been transferred to the half-pay list. He served in the Afghan war in 1878-80, and was at the engagements at Mattoon and Charasiah, and in the operations round Cabul in December, 1879, including the investment of Sherpore (medal with two clasps).

The services of Surgeon-Major T. HUME, M.B., Madras Establishment, are replaced at the disposal of the Commander-in-Chief.

Brigade-Surgeon H. V. CARTER, M.D., Bombay Establishment, is permitted to retire from the service on a pension of £700 per annum, and is granted the extra pension of £100 per annum. He entered the service as Assistant-Surgeon on January 27th, 1858, and rose to the rank of Brigade-Surgeon, September 20th, 1882. The *Army Lists* do not assign him any war service.

THE VOLUNTEERS.

SURGEON-MAJOR P. Y. GOWLLAND, of the Honourable Artillery Company, has retired out of the Veteran Company with the honorary rank of Brigade-Surgeon, and with permission to retain his uniform.

Surgeon W. C. JAMES, M.D., is promoted to be Surgeon-Major, *vice* Gowlland.

The undermentioned are appointed Acting-Surgeons to the corps specified:—JOHN WILLIAMS, 1st Flintshire Engineers; DUNCAN M'MILLAN, M.B., 5th Volunteer Battalion Argyll and Sutherland Highlanders (late the 1st Argyll); R. G. ROBERTS, M.B., 1st Volunteer Battalion Liverpool Regiment (late the 1st Lancashire).

Acting-Surgeons D. HUGHES and R. C. ROBERTS, of the 1st Volunteer Battalion Royal Welsh Fusiliers (late the 1st Denbigh), and whose commissions date from July 22nd, 1869, and October 14th, 1874, respectively, have resigned their appointments.

MEDICO-LEGAL AND MEDICO-ETHICAL.

A QUESTION OF BREACH OF PRIVILEGE.

AN application for the renewal of a licence was recently opposed on the ground that the tenant had been convicted of offences under the Licensing Acts; that he had suffered from delirium tremens, and consequently was not a fit and proper person to hold the licence. A medical man, residing near Bristol, who was subpœnaed to give evidence, objected to do so on the ground that it was a breach of privilege between doctor and patient. His objection was overruled. We have been asked to give an opinion as to the law of the case.

A medical practitioner is not privileged from disclosing in a court of justice particulars as to the state of the health of a patient if the court decides that the information is required. The safe course for the practitioner where he is not called as a witness by his patient is to answer only such questions as the court directs him to answer. If he does this his patient will have no right to complain.

B. G. K.—There is nothing in the advertisement to imply that the advertiser is a medical practitioner according to the law of this country.

DISHONEST ASSISTANTS.

H. F. C. E. having related a case in which an assistant obtained through an agent committed embezzlement, asks: 1. Can I get any redress from the medical agent? 2. Can I get any redress from his referee? 3. Ought his College to be made aware of the facts? It seems to me a burning shame that medical men should be allowed to give such false testimony to the character of their late servants and go scot free. There have been many great and good things undertaken by the British Medical Association, and undertaken successfully, and if it would undertake, as it might do with little outlay or loss of time, "the registration of medical assistants," it would be a boon and a blessing to those who are compelled to employ them. It would soon weed the black sheep out. Let every employer at the end of the engagement state his experience of the man to the "Assistant Department" of the British Medical Association, and as no one would employ except the report was good the scoundrels would have to get into some other calling.

*** 1 and 2. An action might be maintained against either agent or referee if it can be shown that he knew or ought to have known that the good character he gave was false. Before commencing such an action all the evidence obtainable should be submitted to counsel and his opinion taken. 3. It would be right to inform the College of the facts as to the assistant, and also the Medical Council, so that they may judge whether he is a fit person to remain on the *Register*.

If the British Medical Association were to establish a registry of assistants it would no doubt be useful to many practitioners; such an undertaking would, however, involve a good deal of trouble and responsibility.

"MY POVERTY, BUT NOT MY WILL, CONSENTS."

J. W. B. writes: On September 18th I was sent for to see a man who had met with an accident. On the following morning I saw him again, but in the afternoon the man's employer sent his own medical man, Mr. B., to see him. Was Mr. B. right or not in seeing the patient without first communicating with me?

*** Under the circumstances, and assuming that Mr. B. was cognisant of the fact that "J. W. B." was in attendance on the case, he ought not to have visited the patient in question except in consultation or with the sanction of the attendant practitioner. The following rule is strictly applicable to the case, and should have been observed by Mr. B.:

"When an employer or other person becomes anxious and apprehensive in regard to the illness of an *employé*, or in the case of an impending action for damages, and the like, and for his personal satisfaction, requests his own family or another doctor to visit the patient and report to him thereon, it is the duty of the deputed practitioner to point out to the employer or other interested party their respective ethical obligations in the matter; and, prior to making such visit, to solicit and obtain the sanction of the medical attendant in the case; otherwise he will commit a grave breach of professional etiquette, and justly subject himself to severe criticism and reproof."

ETIQUETTE OF SUBSTITUTES.

M.D. C.P., asks whether under the following circumstances he should refuse to meet that medical man: I was out, and a child was taken suddenly ill; on my return I found my wife had sent them to another doctor for me. He went; I took on the case. Some six weeks afterwards the father was hurt; they did not send to me, but went to the same as my wife had sent them. He stuck to the case, and went on with the family.

*** The ethical rule by which the attending practitioner in the above case should have been governed is as follows:—

"When a practitioner is called to an urgent case, either of sudden or other illness, accident, or injury, in a family usually attended by another, he should (unless his further attendance in consultation be desired), when the emergency is provided for, or on the arrival of the attendant in ordinary, resign the case to the latter, but he is entitled to charge the family for his services."

The question, however, which presents itself to our mind is as to whether the instructions given by Mrs. P. to the messenger were properly delivered to the practitioner in question. In all such cases it is far better to write a brief explanatory note than to instruct a messenger verbally, with the view to avoid any mistake. Under the circumstances, we would suggest that our correspondent should, by means of a friendly chat, seek for an explanation from the practitioner alluded to, and be guided in his future relations with him by the result of the converse.

OPEN SHOP.

"A LICENTIATE WHO DOES NOT KEEP AN OPEN SHOP" writes: If Dr. Gage Parsons will refer to a copy of the laws of the Edinburgh College of Physicians published in 1882, he will find the prohibition to keep an open shop does not extend to Licentiates.

LICENTIATES OF THE SOCIETY OF APOTHECARIES AND THE TITLE OF SURGEON.

F. P. M. (Manchester).—Practitioners who have obtained the L.S.A. since the Act of 1886 have the right to call themselves "surgeon."

A MOTHER'S LIABILITY.

A CASE of some medical interest came recently before the Leeds County Court. Mr. Horsfall, F.R.C.S., brought an action against a Mrs. Baines for £18 18s. on account of professional attendance to her son, who is now dead. It was stated that the defendant, after acknowledging her liability and offering £10 in settlement of the account, which the plaintiff refused to accept, came into court denying liability. The plaintiff said that, if the young man had lived, he should have looked to him for payment of the bill. He had applied to the executors several times for payment. He had sued the mother because the son was living in her house, and he attended him with her cognisance and consent. In reply to a question from the judge, the counsel for the plaintiff said he rested his case upon the liability of a parent to pay for medical assistance for a son over age, who was unable to pay himself, rendered in the house of that parent. The principle which had been held to apply between the wife of a man and a third party ought, he suggested, to hold good in this case. His honour said he should give a verdict for the defendant with costs. She had never made any promise to pay the plaintiff, and was, therefore, not liable.

BABY-FARMING: SEVERE CENSURE.

MR. BRAXTON HICKS has just concluded his inquiry as coroner into the circumstances attending the death of an infant, and the evidence adduced in the case shows the necessity for some amendment of the Infant Life Protection Act of 1872. The coroner remarked upon the important nature of the case, which showed that a woman named Arnold began baby-farming three years ago, and practised a pernicious system of "sweating" infants. The children were advertised for, and, when their premium had been obtained, they were farmed out to other women at a lower rate than that paid by their guardians; evidence showed that at least twenty-five infants had been thus "sweated." The coroner further said that Mrs. Arnold had made so many false statements in the course of the inquiry that he certainly would send a copy of her depositions to the Public Prosecutor, with a view to her being prosecuted for perjury. He then added that "the Infant Life Protection Act was totally incompetent to deal with such a case as this. If the law had been strong enough, the system of trafficking in children would have been stopped long ago. The Metropolitan Board of Works, who had the carrying out of the Act, had found that the Section did not go far enough. It was desirable to amend that Act in the manner suggested by the Metropolitan Board of Works, and in addition by making it an offence to take for hire or reward any infant under the age of 7 years, unless such person was registered under the Act, or unless the particulars of the agreement or undertaking entered into between the parties to the transaction were registered by the local authority under such Act."

OBITUARY.

DEPUTY SURGEON-GENERAL R. A. CHAPPLE.

DEPUTY SURGEON-GENERAL ROBERT AUGUSTUS CHAPPLE died at Bombay on September 3rd, at the age of 56. Entering the medical staff of the army as Assistant-Surgeon in 1854, he received his full rank of Surgeon eleven years after. On his first joining the army in 1854 he accompanied the troops then proceeding out into the Crimea, and was present with the Scots Greys at the affair of McKenzie's Farm. He was also present at the capture and battle of Balaclava, and while attached to the Royal Artillery was at the memorable battle of Inkerman. For more than ten months during this campaign Mr. Chapple served with the right siege train and performed constant trench duty, which was so trying to the medical men. He was also in the trenches during the bombardments of April 6th and June 17th, and was present at the final assault. For his valuable

services which he rendered upon all occasions with the utmost promptitude, he received a medal with three clasps, the fifth class of the Medjidieh, and the Turkish medal.

UNIVERSITY INTELLIGENCE.

VICTORIA.

EXAMINATION LISTS.

(Candidates' names are in alphabetical order throughout.)

FACULTY OF MEDICINE.

Preliminary Examination (Entrance in Arts Examination).

First Division.	*Second Division.*
Scanlon, L. E.	Cheetham, D. H.
Thompson, S.	Compston, E. L.
	Fish, F. W.
	Harrison, E.
	Heathcote, H. C.
	James, M. B.
	Lawton, R. M. T.
	Leigh, A.
	Lilley, A. W.
	Lindon, E. H. L.
	Maclaren, J. A.
	Mathwin, F. S.
	Oulton, G. H. E.
	Quinby, A. H.
	Speight, A.
	Spink, W. L.
	Thomas, H. C.
	Veale, H. de P. B.
	Whitaker, J. D.

Preliminary Examination in Science.

First Division.	*Second Division.*	
Ashworth, H. W., Owens College.	Brushfield, A.,	Owens College.
	Davies W. E.,	University ,,
	Day, F. H.,	,, ,,
	Darbyshire, D. E.	,, ,,
	Miller, E. S.	,, ,,
	Tomlinson, W. H.,	Owens ,,
	Wood, R. L.,	University ,,

CAMBRIDGE.

THE following qualified practitioners have passed the examination in Sanitary Science just held, and receive the diploma of the University in Public Health.

G. Adkins, A. J. Anderson, S. Barwise, F. F. Caiger, S. Davies, E. Drummond, R. S. O. Dudfield, E. Evans, G. F. W. Ewens, W. B. Featherstone, J. Glaister, J. Hickman, W. Little, W. T. G. Robinson, A. Sheen, P. C. Smith, T. Thomson, F. C. A. Treadgold, W. Venis, G. Vincent, H. E. Waddy, S. White, A. D. Williams, F. M. Williams, C. R. Woods.

The examiners were Sir Charles Cameron, and Drs. Airy, Carpenter, and Corfield.

DURHAM.

FACULTY OF MEDICINE.—Examination for the Licence in Sanitary Science, at the College of Medicine, Newcastle-upon-Tyne, September, 1888.

The following candidates satisfied the examiners.

F. Chand, M.B., B.S., L.R.C.P., L.S.A., L.M.S.India, Punjaub University; H. Goude, M.D., F.R.C.S.Edin., M.R.C.S., L.S.A.; A. Robinson, M.D., M.R.C.S., L.S.A., College of Medicine, Newcastle-upon-Tyne.

First examination for the degree of Bachelor in Medicine. The following candidates satisfied the examiners.

In all subjects.

T. M. Allison, College of Medicine, Newcastle-upon-Tyne; E. W. P. Baines, College of Medicine, Newcastle-upon-Tyne; J. Clay, College of Medicine, Newcastle-upon-Tyne; H. A. Collinson, College of Medicine, Newcastle-upon-Tyne; A. Cox, College of Medicine, Newcastle-upon-Tyne; R. L. Daly, Yorkshire College, Leeds; W. J. Durant, College of Medicine, Newcastle-upon-Tyne; F. Hunton, College of Medicine, Newcastle-upon-Tyne; J. A. Kendal, College of Medicine, Newcastle-upon-Tyne; J. Law, College of Medicine, Newcastle-upon-Tyne; A. E. Neale, College of Medicine, Newcastle-upon-Tyne; W. Oliver, College of Medicine, Newcastle-upon-Tyne; J. A. W. Watts, The Owens College, Manchester; H. B. Wilson, Bristol Medical School.

In Elementary Anatomy and Elementary Physiology.

T. Dixon, College of Medicine, Newcastle-upon-Tyne; G. H. Fowler, College of Medicine, Newcastle-upon-Tyne; R. N. Lishman, College of Medicine, Newcastle-upon-Tyne; R. McCoull, College of Medicine, Newcastle-upon-Tyne; E. Mitchell, College of Medicine, Newcastle-upon-Tyne; R. Muschamp, Yorkshire College, Leeds.

In Chemistry with Chemical Physics, and Botany with Medical Botany.

J. Atcherly, Yorkshire College, Leeds; E. Bromley, Yorkshire College, Leeds; W. A. Clayton, College of Medicine, Newcastle-upon-Tyne; R. H. Cole, University College; H. W. J. Cook, Charing Cross Hospital; A. J. Dale, College of Medicine, Newcastle-upon-Tyne; C. B. Dale, St. Bartholomew's Hospital; R. B. Duncan, College of Medicine, Newcastle-upon-Tyne; W. Fowler, College of Medicine, Newcastle-upon-Tyne; A. A. Hewer, St. Bartholomew's Hospital; K. C. Hill, College of Medicine, Newcastle-upon-Tyne; D. A. Hughes, Middlesex Hospital; W. D. Johns, College of Medicine, Newcastle-upon-Tyne; H. M. Jones, College of Medicine, Newcastle-upon-Tyne; R. S. Macpherson, College of Medicine, Newcastle-upon-Tyne; E. S. Perkins, Yorkshire College, Leeds; G. B. Robinson, Sheffield School of Medicine; F. Robson, College of Medicine, Newcastle-upon-Tyne; W. J. N. Vincent, London Hospital; G. T. Wayman, College of Medicine, Newcastle-upon-Tyne.

In Chemistry with Chemical Physics.

J. H. Blight, L.R.C.P., M.R.C.S., Guy's Hospital; A. Caddy, L.R.C.P., M.R.C.S., St. George's Hospital; R. Pearson, L.R.C.P., M.R.C.S., St. George's Hospital.

Second examination for the degree of Bachelor in Medicine. The following candidates satisfied the examiners.

P. R. Adkins, College of Medicine, Newcastle-upon-Tyne; F. H. Alderson, Middlesex Hospital; T. Beattie, College of Medicine, Newcastle-upon-Tyne; A. Crick, St. Thomas's Hospital; E. W. Diver, University College; C. M. Hardy, College of Medicine, Newcastle-upon-Tyne; R. D. Hotchkis, St. Bartholomew's Hospital; E. B. Hulbert, University College; A. M. Martin, College of Medicine, Newcastle-upon-Tyne; W. E. Peacock (Materia Medica), College of Medicine, Newcastle-upon-Tyne; S. W. Plummer, College of Medicine, Newcastle-upon-Tyne; C. B. Smith (Materia Medica), College of Medicine, Newcastle-upon-Tyne; H. Smith, College of Medicine, Newcastle-upon-Tyne; H. S. Stockton, M.R.C.S., L.S.A., Charing Cross Hospital; B. T. Stokoe, College of Medicine, Newcastle-upon-Tyne; A. A. D. Townsend, Queen's College, Birmingham; R. A. Welsh, College of Medicine, Newcastle-upon-Tyne; G. B. M. Wood, University College.

HOSPITAL AND DISPENSARY MANAGEMENT.

GREENOCK FERGUSON EYE BEQUEST.

AT a meeting of the trustees of this bequest, held at Greenock on October 8th, the annual report of the Eye Infirmary was submitted. It showed that the number of patients during the past year had been 2,380, an increase of 340 on the previous year, the total number of visits being 14,850. Of the total, 2,261 were dismissed cured, 86 improved, and 33 as incurable. The trustees voted to Dr. Cluckie, the surgeon, a special grant of £50. The annual income amount to £544, and the expenditure to £480.

PUBLIC HEALTH AND POOR LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 5,478 births and 3,286 deaths were registered during the week ending Saturday, October 6th. The annual rate of mortality, which had risen in the three preceding weeks from 17.7 to 18.3 per 1,000, declined again to 18.2 during the week under notice. The rates in the several towns ranged from 12.8 in Oldham, 13.1 in Nottingham, 13.4 in Wolverhampton, and 14.1 in Bristol to 24.0 in Birkenhead, 24.1 in Blackburn, 27.6 in Bolton, and 29.8 in Manchester. In the twenty-seven provincial towns the mean death-rate was 19.7 per 1,000, and exceeded by as much as 3.2 the rate recorded in London, which was only 16.5 per 1,000. The 3,286 deaths registered during the week under notice in the twenty-eight towns included 286 which were referred to diarrhœa, 55 to measles, 49 to scarlet fever, 47 to diphtheria, 40 to "fever" (principally enteric), 28 to whooping-cough, and not one to small-pox; in all, 505 deaths resulted from these principal zymotic diseases, against 545 and 569 in the two preceding weeks. These 505 deaths were equal to an annual rate of 2.8 per 1,000; in London the zymotic death-rate was 2.2, while it averaged 3.3 per 1,000 in the twenty-seven provincial towns, among which it ranged from 0.5 and 0.8 in Bristol and Oldham to 6.1 in Blackburn, 6.6 in Preston, and 7.4 in Bolton. Scarlet fever caused the highest proportional fatality in Bolton and Blackburn; whooping-cough in Norwich; "fever" in Salford and Cardiff; and diarrhœa in Sheffield, Bolton, Portsmouth, Wolverhampton, and Preston. Of the 47 deaths from diphtheria recorded during the week under notice in the twenty-eight towns, 35 occurred in London, 5 in Manchester, and 2 in Birmingham. No fatal case of small-pox was registered in London or in any of the provincial towns, and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. These hospitals contained, however, 886 scarlet-fever patients on the same date, against numbers increasing from 716 to 880 in the six

preceding weeks; the new cases admitted, which had risen from 76 to 127 in the six previous weeks, declined again to 85 last week. The death-rate from diseases of the respiratory organs in London was equal to 2.9 per 1,000, and was slightly below the average.

HEALTH OF SCOTCH TOWNS.—During the week ending Saturday, October 6th, 808 births and 429 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had risen from 16.0 to 17.6 per 1,000 in the three preceding weeks, declined again last week to 17.0, and was 1.2 per 1,000 below the mean rate during the same period in the twenty-eight large English towns. Among the Scotch towns, the lowest rates were recorded in Aberdeen and Greenock, and the highest in Dundee and Paisley. The 429 deaths in these towns during the week included 45 which were referred to the principal zymotic diseases, equal to an annual rate of 1.8 per 1,000, which was 1.0 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Dundee and Paisley. The 181 deaths registered in Glasgow during the week included 7 from diarrhœa, 3 from whooping-cough, 3 from diphtheria, 2 from "fever," 1 from measles, and 1 from scarlet fever. Three fatal cases of diphtheria occurred in Edinburgh, and 7 of measles in Paisley. The death-rate from diseases of the respiratory organs in these towns was equal to 3.1 per 1,000, against 2.9 in London.

HEALTH OF IRISH TOWNS.—In the sixteen principal town districts of Ireland, the deaths registered during the week ending Saturday, October 6th, were equal to an annual rate of 18.9 per 1,000. The lowest rates were recorded in Wexford and Sligo, and the highest in Dublin and Kilkenny. The death-rate from the principal zymotic diseases averaged 3.2 per 1,000. The 158 deaths registered in Dublin during the week under notice were equal to an annual rate of 23.3 per 1,000, against 18.5 and 24.4 in the two preceding weeks. These 158 deaths included 37 which were referred to the principal zymotic diseases (equal to an annual rate of 5.5 per 1,000), of which 19 were referred to diarrhœa, 7 to whooping-cough, 7 to "fever," 2 to measles, and 2 to scarlet fever.

MEDICAL MEMBERS OF LOCAL BOARDS.

THE "MEDICAL MEMBER OF THE RAWMARSH LOCAL BOARD" writes: Owing to absence from home I have only now seen a reprint, in a local newspaper, of an article from the JOURNAL of August 25th referring to the part I took in a discussion at a recent meeting of the Rawmarsh Local Board. I do not remember using "strong terms" in opposing the removal of an enteric fever case to the small-pox hospital; but I know I made it plain that my object was simply to raise the question whether or not these cases should be kept in the hospital at the expense of the ratepayers. I reminded the members that, owing to the unsatisfactory financial condition of the parish, it was their duty to economise as much as they could without impairing the efficiency of the hospital as a place for the reception only of patients suffering from infectious diseases that could not otherwise be prevented from spreading. I pointed out that the consensus of opinion among medical men was that the medium of infection in typhoid fever was the bowel discharges, and that it was really these, and not the patients, that required isolation. I argued that by means of covered pails left at the patients' houses the excretions could be immediately isolated, and removed daily by the sanitary authority, and disposed of in a way that would prevent their being a probable source of future danger to others. My opinion is that preventive plan would be as effectual and much cheaper than taking all the cases to the hospital, and would certainly be more effectual than the present system of removing some and leaving others at their homes. In the latter instances the evacuations are generally emptied into ashpits, the poisonous contents of which are ultimately distributed nobody can tell where, and infect nobody knows how many people. I consider I should have failed in my duty as a medical member of the board if I had not said what I thought on this important question.

You stated that I "objected to the medical officer of health receiving extra remuneration for extra work done during a period of epidemic small-pox." I never did anything of the kind, and I should have been the last to do so. The principal facts are these. The board, instead of voting a grant for extraordinary services, increased the medical officer's salary, for the ensuing year only, from £40 to £70, on the distinct understanding that they were thereby paying for these services. He afterwards applied for a grant for the same work, and a majority allowed him another £20. During a correspondence with the Local Government Board about the increase of salary and the grounds for it, resolutions were informally altered, the effect if not the purpose of which was to throw dust in the eyes of the Local Government Board, and to deceive the ratepayers. What I conscientiously, and I still think properly, objected to was paying twice for the same services, the irregular method of procedure which led to it, and the double dealing which resulted.

No one can deny the truth of your remarks about the difficulties of medical officers of health and the duties of medical men in relation to them. I have always readily assisted sanitary authorities and their officials as long as they treated me with ordinary courtesy. But is there not another side to your picture? Are medical officers of health under no restrictions in their behaviour towards medical men? Are there no medical officers who create great difficulties for themselves and their professional brethren, and who, in return for assistance rendered voluntarily, use their official position to trample on the rights of their brother practitioners and on the rights of their patients, and treat the former as if they were ignorant and unscrupulous quacks? If you have never heard of or had to deal with such, I have. I am fully alive to the importance of *esprit de corps*, and have more than once stretched a point under difficult circumstances to preserve it; but I must draw the line if I find I can only maintain it by humbly submitting to any indignities that may be heaped upon me, at the expense of honest and straightforward dealing and at the loss of my self-respect.

Your remarks were based on incomplete and incorrect information evidently derived from a tainted source. With all due deference to your impartiality, I am certain if you had 5½ years' experience here similar to mine you would be the first to admit that you were then better able to weigh my professional conduct in your editorial balance. Medical gentlemen acquainted with all the facts have in conversation with me approved of my actions in my relations with the board directly or indirectly concerning the medical officer of health. Further, I have an approving conscience, and that is a source of far more satisfaction to me than the approval or disapproval of anyone.

I hope that, under the circumstances referred to in my first sentence, you will, in fairness to me, insert this rather lengthy letter in your earliest issue if possible.

POOR-LAW MEDICAL OFFICERS.

J. C. M. L. asks: 1. Does holding an office under guardians, such as poor-law medical officer, incapacitate one from being a guardian? 2. I have to visit once a quarter a pauper child boarded out; this quarter when I went the house was closed, but I saw the child and its foster parents at a school some 200 yards further on. In the printed form I have to fill up, there is a column with the heading "Observations as to the Appearance and Health of the Child, the State of the House, and other Remarks." Shall I be required to make a second visit? and if so, can I claim another fee (2s 6d.)? I may mention that the house is 4½ miles at least from mine.

*** 1. Yes. 2. Probably not.

SINGLE QUALIFICATIONS AND PUBLIC APPOINTMENTS.

M.B. B.CH. writes: I am selling my practice, including appointments of union medical officer and public vaccinator. I have had an application for it from a man holding the M.D. of Dublin University, but who has no surgical qualification (he is of course registered). He asks me if he can be appointed to the posts mentioned, having but the one degree or qualification. There is no one within five miles who could be appointed, and no one will offer for the post. Was I right under these circumstances to reply to my applicant that I thought the guardians of the union had power to appoint him?

*** Under special circumstances the Local Government Board will occasionally consent to such an appointment.

MEDICAL NEWS.

EXAMINING BOARD IN ENGLAND, BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the second examination in Anatomy and Physiology at a meeting of the Board of Examiners on October 8th, namely:—

N. C. Gwyn and G. T. Kevern, students of Bristol Medical School.

Passed in Anatomy only.

R. Edwards, of Bristol; G. Allcock, J. Neal, E. F. Page, and T. H. Wilkins, of Queen's College, Birmingham; G. H. Crofts, H. W. Fisher, and D. F. Williams, of University College, Liverpool; E. B. Collings, G. W. Litley, and A. G. Hebblethwaite, of Yorkshire College, Leeds; R. Gillibard and A. T. Jago, of Guy's Hospital; H. A. Julius, of St. Thomas's Hospital; E. B. Wrench, of St. Thomas's and Cambridge University; and Montague Knapp, of Cork and Mr. Cooke's School of Anatomy and Physiology.

Passed in Physiology only.

B. C. Kendall, B. G. Neale, and James Smith, of Bristol; E. T. Hollings and T. W. Swales, of Yorkshire College, Leeds; F. W. Pogson, of Leeds and Mr. Cooke's School; W. Hall and D. Headridge, of Owens College, Manchester; J. A. Hogg and M. J. Houghton, of Queen's College, Birmingham; A. W. German and S. Melville, of University College, Liverpool; H. H. Weekes, of University College, London; S. J. Roberts, of Guy's Hospital; and G. T. Eccles, of Cambridge University.

Passed in Anatomy and Physiology on October 9th.

H. A. Bryant and E. G. March, of Guy's Hospital; R. C. Worsley and G. P. Glyn, of University College; G. C. Powrie and A. E. E. Twynam, of University College and Mr. Cooke's School; C. A. Owen, of Calcutta; G. A. Féré, of Toronto and Mr. Cooke's School; E. W. G. Masterman, of Edinburgh and St. Bartholomew's; C. Paine, of St. Mary's Hospital; G. R. F. Stilwell and E. W. Senior, of St. Thomas's Hospital; W. R. Boyd, J. S. Thomson, and C. D. Russell, of Melbourne University; S. A. Rowley, of Bristol and Mr. Cooke's School.

Passed in Anatomy only.

Messrs. H. M. Alexander, H. H. L. Patch, and C. R. M. Woodward, of St. Thomas's Hospital; W. J. Covey, of University College and Mr. Cooke's School; G. H. Brand, of King's College; C. W. H. Newington, of St. Bartholomew's Hospital; and Henry Collier, of University College, Liverpool.

Passed in Physiology only.

A. White, of Guy's Hospital; and Richard H. Griffith, of University College.

Passed in Anatomy only on October 10th.

L. A. Johnson, of Yorkshire College, Leeds; M. R. Rich, of London and Mr. Cooke's School of Anatomy; E. C. Hope, of Melbourne University; B. J. Singh, of Lahore Medical College; A. H. Turner, of London Hospital; G. A. Simpson, of London and Mr. Cooke's School; C. E. Oakeley, of St. George's and Mr. Cooke's School; S. James, of St. Thomas's Hospital; C. W. Allen and A. W. C. Herbert, of St. Mary's and Mr. Cooke's School; A. D. Humphry, of St. Bartholomew's Hospital; T. S. Byass, C. D. Cooper.

of University College and Mr. Cooke's School; H. H. Pearse, F. D. Lumley and A. H. Meadows, of Guy's Hospital.

Passed in Physiology only.

W. Handcock and L. F. West, of Yorkshire College, Leeds; F. J. A. Dalton, A. O. Hubbard, St. John B. Killery, W. E. Sargant, and M. Swabey, of St. Bartholomew's Hospital; W. H. Dixon and W. A. Higgs, of Guy's Hospital; F. A. Osborn, of Guy's and Mr. Cooke's School; S. Garrard, of St. Mary's; B. S. Foulds, of Westminster Hospital; Isaac Newton, of Charing Cross Hospital; J. C. Ellis, of St. George's Hospital; D. L. Freeland and A. R. McFarlane, of Middlesex Hospital; W. C. H. Wroughton, of St. Thomas's Hospital; E. B. Allen and R. T. Cassal, of University College Hospital; C. E. Dawes, J. S. Matthews, and J. F. S. Passmore, of London Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the necessary examination in Surgery, and having obtained a medical qualification, were, at a meeting of the Council on October 11th admitted Members of the College, namely:

Slyman, William Betenson, L.S.A., 26, Cavendish Road, N.W.
Whitaker, George Herbert, L.S.A., White Lodge, Enfield.

The following gentlemen having passed all the necessary Examinations, and having attained the legal age (25 years) were at the same meeting admitted Fellows of the College:

De Sauti, Philip Robert William, L.R.C.P.Lond., 6, Great Ormond Street, W.C.
Metzgar, Charles, L.R.C.P.Lond., Guy's Hospital.

MEDICAL VACANCIES.

The following Vacancies are announced:

BRISTOL DISPENSARY.—Medical Officer. Applications by October 18th to the Secretary, Castle Green, Bristol.

ENNIS DISTRICT LUNATIC ASYLUM.—Visiting Physician. Salary, £100 per annum. Candidates, who must be doubly qualified, should forward their applications to the Board of Governors.

GENERAL INFIRMARY, Leeds.—Resident Obstetric Officer. Board, lodging, and washing. Applications by October 16th to W. H. Brown, Esq., 19, Queen Street, Leeds.

GENERAL INFIRMARY, Leeds.—Two House-Physicians. Board, lodging, and washing. Applications by October 16th to W. H. Brown, Esq., 19, Queen Street, Leeds.

GENERAL INFIRMARY, Leeds.—Two House-Surgeons. Board, lodging, and washing. Applications by October 16th to W. H. Brown, Esq., 19, Queen Street, Leeds.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Physician to Out-Patients. Applications by October 27th to the Secretary.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Surgeon to Out-Patients. Applications by October 27th to the Secretary.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician. Applications by October 13th to the Secretary.

KILBURN, MAIDA VALE, AND ST. JOHN'S WOOD GENERAL DISPENSARY.—Honorary Medical Officer. Applications by October 20th to the Honorary Secretary, 13, Kilburn Park Road, N.W.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House-Surgeon. Board and lodging. Applications by October 15th to the Honorary Secretary.

NATIONAL DENTAL HOSPITAL, 149, Great Portland Street, W.—House-Surgeon. Applications by October 19th to the Secretary.

NORTH-WEST LONDON HOSPITAL, Kentish Town Road.—Senior Resident Medical Officer. Applications by October 22nd to the Secretary.

PADDINGTON GREEN CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £50 per annum, with board and lodging. Applications by October 20th to the Secretary.

PAROCHIAL BOARD OF TINGWALL, WHITENESS, AND WEISDALE, Shetland.—Medical Officer. Salary, £40 per annum. Applications by October 18th to Mr. C. C. Beatton, Inspector of Poor, Tingwall, Shetland.

RUBERY HILL ASYLUM.—Assistant Medical Officer. Salary, £100 per annum, with apartments, board, etc. Applications to Dr. Lyle, Medical Superintendent.

ST. MARYLEBONE GENERAL DISPENSARY.—Resident Medical Officer. Salary, £105 per annum, with apartments, etc. Applications by October 20th to the Secretary.

SEAMEN'S HOSPITAL SOCIETY, Greenwich.—Resident House-Physician. Salary, £75 per annum, with board and lodging. Applications by October 22nd to P. Michelli, Esq., Secretary, Greenwich, S.E.

SEAMEN'S HOSPITAL SOCIETY, Well Street, London Docks.—Dispenser. Salary, £40 per annum. Applications to P. Michelli, Esq., Secretary, Greenwich, S.E.

SEAMEN'S HOSPITAL SOCIETY, Well Street, London Docks.—Surgeon for the Dispensary. Salary, £63 per annum. Applications by October 22nd to P. Michelli, Esq., Secretary, Greenwich, S.E.

WESTERN DISPENSARY, Rochester Row, Westminster.—Resident Medical Officer. Salary, 100 guineas per annum, with furnished rooms, etc. Applications by October 18th to the Secretary.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—House-Surgeon. Salary, £60 per annum, with board and residence. Applications by October 18th to the Honorary Secretary.

MEDICAL APPOINTMENTS.

BOURNS, N. Whitelaw, M.D., L.R.C.P., M.R.C.S., appointed Administrator of Anæsthetics to the Westminster Hospital.

BOWIE, Alex., M.D., C.M.(St. And.), L.R.C.P.Edin., appointed a Physician to St. John's Hospital for Diseases of the Skin.

BOYD, John St. Clair, M.S., apointed Assistant-Surgeon to the Belfast Hospital for Sick Children.

CARNALL, E., L.K.Q.C.P.I., appointed House-Surgeon to the Westminster General Dispensary, Soho.

DAWSON, W. E., L.K.Q.C.P., L.S.A., L.M., appointed Assistant-Physician to the City Provident Dispensary, Little Britain, E.C.

DOCKRELL, Morgan, M.A., M.D., B.Ch.(Dub.), appointed a Physician to St. John's Hospital for Diseases of the Skin.

FERGUSON, Donald, M.B., C.M., appointed Medical Officer to the Parochial Board of Pennygowan and Torosay.

HARGREAVES, Mark K., M.D., C.M.(Glasg.), appointed an Assistant-Physician to St. John's Hospital for Diseases of the Skin, *vice* Alex. Bowie, M.D., C.M., elected a Physician.

HARRISON, James, M.B., C.M., appointed House-Surgeon and Dispenser to the North Shields and Tynemouth Dispensary, *vice* J. M. Robson, M.B., resigned.

HAVILAND, Henry A., M.B.Cantab., appointed House-Physician to the Great Northern Central Hospital, *vice* C. Mortlock, M.R.C.S., L.R.C.P., resigned.

HAYCOCK, Henry E., L.R.C.P.Edin., M.R.C.S.Eng., appointed Medical Officer and Public Vaccinator of the Third District, Hitchin Union, *vice* T. Hillier Chittenden, L.R.C.P.Lond., M.R.C.S.Eng., resigned.

HERB, R. G., M.D.(Cantab.), appointed Assistant-Physician to the Westminster Hospital, S.W.

IRVINE, William, M.D., M.Ch., appointed Visiting Physician to the City Hospitals at Parkhill and Grafton Street, Liverpool.

JONES, E. Lloyd, M.B., B.A., B.C.Cantab., appointed House-Physician to St. Bartholomew's Hospital.

MORTLOCK, C., M.R.C.S., L.R.C.P., appointed House-Surgeon to the Great Northern Central Hospital.

SINCLAIR, F. Howard, M.D.(R.U.I.), L.K.Q.C.P., appointed Assistant-Physician to the Belfast Hospital for Sick Children.

TURNER, Alfred, M.B., C.M.Edin., appointed Assistant Medical Officer to the West Riding Asylum, Menston, near Leeds.

WILLIAMSON, G. E., F.R.C.S., appointed Surgeon to the Royal Infirmary, Newcastle-upon-Tyne, *vice* Luke Armstrong, M.D., deceased.

SERIOUS ASSAULT ON DR. BARR.—We regret to announce that Dr. Barr, Physician to the Liverpool Northern Hospital and Medical Officer to the Kirkdale Prison, who is well known as a medical authority on prisons, is suffering from a wound of a serious nature, inflicted on October 8th by a negro, an inmate of the gaol. The man, about whose sanity doubts were entertained, had been examined by Dr. Barr, and, on the warder proceeding to remove him to his cell, he became violent and seized the short knife used in picking oakum. The warder, and another convict who was by, closed on the prisoner, and in the struggle the convict who was assisting received a serious wound. Dr. Barr, seeing the men were becoming overpowered, now interfered to assist them, and received from the prisoner a wound on the dorsum of the left wrist. Some other men now arrived and the negro was secured, when it was found that the other convict had received a serious wound, which Dr. Barr dressed before having his own injuries attended to. Dr. Barr then consulted his colleague, Mr. Chauncy Puzey, surgeon to the Northern Hospital, who found that all the superficial tendons on the dorsum of the left wrist, as well as the tendon of the extensor indicis, were divided. Chloroform was administered, and Dr. Puzey, with the assistance of Mr. Damer Harrisson, sutured the tendons, and the patient is doing well.

ST. THOMAS'S HOSPITAL.—The new session of the Medical School was opened on October 1st by the delivery of the introductory lecture by Dr. Cullingworth in the Operating Theatre of Hospital at 3 P.M., after which those present visited the Medical School and viewed the important improvements which have been made there for the reception of students. In the evening at 6.30 P.M. the annual dinner of old and present students was held in the Governor's Hall, at which more than a hundred were present. Under the able chairmanship of Dr. J. C. Crosby a most enjoyable evening was spent. After the loyal toasts, Dr. Crosby proposed the "Army and Navy and Reserve Forces," to which Surgeon E. C. Freeman responded. Mr. Le Gros Clark proposed the "Medical School," to which Dr. Gervis replied, giving numerous interesting reminiscences of his old teachers and fellow students. Sir Henry Doulton responded to the toast of the "Governors of the Hospital." Dr. Stone proposed the "Health of the Chairman," who briefly replied. Dr. Bristowe proposed the "Health of the Old Students," and Mr. Henry Lankester and Dr. Rhys Williams replied. The "Health of the Secretaries" was given by Mr. H. H. Clutton, and replied to by Mr. Battle, who regretted the absence of Dr. Hawkins, his fellow secretary, and acknowledged the help given by Drs. Mackenzie and Robinson.

THE SANITARY INSTITUTE.—The legal formalities attending the amalgamation of the Parkes Museum of Hygiene and the Sanitary Institute have been at length completed by the meeting of the combined Councils on October 5th. The new Council formally took over the duties and responsibilities of the two institutions, and elected Sir Douglas Galton as the first Chairman of the Council of the new Sanitary Institute. Mr. Symons was elected Registrar. A letter was read from the Charity Commissioners, saying that they considered that the new institute was likely to prove a powerful means for the diffusion of sanitary knowledge, and promising to grant facilities to the Institute to deliver lectures in the various buildings which the Commissioners propose to establish in different parts of London. The Parkes Museum will be maintained under that name, and every pains will be taken to extend the sphere of its usefulness.

SCHOLARSHIPS AT MEDICAL SCHOOLS.—The scholarship of fifty guineas, at Charing Cross Hospital Medical School, open to students of the Universities of Oxford and Cambridge, has been awarded to Mr. Albert Carling, of St. John's College, Cambridge. The entrance scholarship of one hundred guineas has been awarded to Mr. William Escombe, and that of fifty guineas to Mr. Percy J. Probyn.—The open scholarship in Arts of 125 guineas at Guy's Hospital has been awarded to Mr. J. B. Leathes, of Rochester. The open scholarship in Science of 125 guineas has been awarded to Mr. W. J. Johnson, of Shefford, Bedfordshire.—An Entrance Arts Scholarship at the Westminster Hospital, value £80, has been awarded to Mr. Witham.

POST-GRADUATE LECTURES, CHARING CROSS HOSPITAL.—The first lecture of the third course was delivered on October 5th by Dr. Julius Pollock on "Gout." The lecturer went fully into all parts of the subject, but dwelt more especially on the diagnosis and treatment of the disease. There was a large attendance of the members, and many new entries were made. Judging from the continued interest shown by the practitioners in the lectures, it is evident that their wants and wishes have been met by the way in which the course has been carried on. At the suggestion of the members, more clinical teaching will be given.

THE PARIS FACULTY.—In the Paris Faculty of Medicine in the scholastic year 1887-8, the degree of M.D. was taken by 373 students; of this number, 50 were foreigners, and two were women, of whom one was a foreigner. The number of students was 3,668, including 114 women and many foreigners. The foreign country which sends the largest number of students to Paris is Russia, 136; then comes America, 131; Roumania, 60; Turkey, 56; Spain and her Colonies, 41; and England, 34. Strange to say, one of the Turkish students is a woman.

PERTHSHIRE MEDICAL ASSOCIATION.—The office-bearers of this Society for the current session are: *President:* Dr. Robertson (Errol). *Vice-President:* Dr. Kennedy (Perth). *Secretary and Treasurer:* Dr. Gowans (Perth). *Council:* Dr. Beattie (Stanley); Dr. Bramwell (Perth); Dr. Wilson and Dr. McCallum (Dunning). The President delivered an opening address on "Our Conduct to One Another as Medical Men."

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—The inaugural meeting will take place on Friday, October 19th, at 8 P.M., when Mr. Frederick Treves will deliver an address upon "The Anatomical Conditions which Underlie Surgical Affections of the Intestines."

BROMPTON HOSPITAL.—A smoking concert was given by the medical staff of the Hospital for Consumption, Brompton, on Thursday evening, October 4th, in the theatre of the new wing. The members of the acting medical staff and many old resident clinical assistants, or as they are now more properly called house-physicians, were present.

IT has been decided to erect additional buildings in connection with Dover Hospital, at a cost of £3,000 or £4,000. The accepted designs for the buildings are by Mr. Grant, of the Sittingbourne Local Board.

PARACELSUS.—The session of the Browning Society will be opened by a paper by Mr. Edward Berdoe, M.R.C.S., on "Paracelsus, the Luther of Medicine," at University College, London, on Friday, October 26th, at 8 P.M.

SOME highly successful trials are said to have been made in New South Wales of M. Pasteur's method for preventing anthrax among sheep and cattle.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 8.30 P.M.—Opening address by the President, Sir William Mac Cormac. Mr. Edmund Owen: A Case of Acute Intestinal Obstruction Successfully Treated by Abdominal Section. Mr. Charles Ballance: A Case in which the Sternum was Trephined for Mediastinal Abscess.

TUESDAY.

PATHOLOGICAL SOCIETY OF LONDON, 8.30 P.M.—Mr. Hutchinson, jun.: Syphilitic Disease of Knee-joint. Dr. H. W. G. Mackenzie: Blood Calculi in Ovaries. Mr. A. Doran: Large Ovarian Tumours in a Seven Months' Child. Mr. Bruce Clark: Encysted Prostatic Calculi. Mr. Spencer: Varicocele—a Spontaneous Variation in the Spermatic Veins. Mr. Sheild: Complete Rupture of Left Bronchus from Fractured Rib. Card Specimen: Dr. Cayley: Congenital Stricture of Ileum.

THURSDAY.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 8.30 P.M. Patients and Card-Specimens at 8 P.M.—Mr. Hartridge: Case of Double Optic Neuritis following Injury to the Head. Mr. Gunn: Case of Acute Double Proptosis: Mr. Silcock: 1. Case of Connective Tissue Tumour in each Orbit; 2. Sarcoma of both Orbits. Papers.—Mr. Grossmann: Stereoscopy by Difference of Colour for the Normal and for the Colour-Blind Eye. Mr. Lang: On a Case of Absence of Iris following Injury. Mr. Silcock: Further Report on Case of Sarcoma of Frontal Bone.

HARVEIAN SOCIETY OF LONDON, 8.30 P.M.—Mr. Jonathan Hutchinson, F.R.S., will read a paper on Some Operations for Abdominal Tumours. Mr. Pepper will show a case of Ligature of the Femoral Artery and Vein. Mr. Malcolm Morris will also show some cases.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, 4 P.M.—Dr. P. W. Latham: The Harveian Oration.

FRIDAY.

SOCIETY OF MEDICAL OFFICERS OF HEALTH, 4 P.M.—Annual Meeting (at the Holborn Restaurant), with address by Professor Corfield.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

MARRIAGES.

BARROW—SLEDDON.—September 26th, at Holy Trinity Church, Hoylake, by the Rev. John Yolland, M.A., Roger William Barrow, M.R.C.S., L.R.C.P., third son of Roger Barrow, of Liverpool, to Amy Constance, second daughter of John Norris Sleddon, of Marysville, Hoylake, and Needwood House, Fairfield, Liverpool.

ERRINGTON—BOUSTEAD.—On September 4th, at Christ's Church, Ahmednagar, by the Rev. E. Jenkyns Bowen, Chaplain, assisted by the Rev. J. Taylor, S.P.G., R. Errington, Esq., Lieutenant 1st Grenadier Regiment N.I., third son of G. H. Errington, Esq., of Merry Oak, near Southampton, to Essie, eldest daughter of Surgeon-Major R. Boustead, M.D., F.R.C.S., H.M.'s Indian Army.

OLIVER—YOUNGER.—On October 4th, by the Rev. Canon Dixon, assisted by the Rev. W. D. La Touche, at the parish church, Warkworth, James Oliver, M.D., F.R.S.(Edin.), of 18, Gordon Square, London, to Mary Jane, only daughter of the late George Younger, of Church Hill House, Warkworth, Northumberland.

DEATHS.

CHAMBRES.—August 2nd, at sea, on board the African steamship *Winnebah*, aged 29 years, Charles Chambres, L.R.C.S., L.R.C.P.E., son of the late Dr. Chambres, of Llanrwst, and medical officer of the above vessel.

DAVIS.—October 8th, at Wreckenton House, Gateshead-on-Tyne, Robert Davis, M.R.C.S.Eng., L.S.A., aged 64.

ELLIOTT.—On September 25th, at his residence, North Street, Chichester, George Hurlstone Elliott, M.R.C.S., L.S.A., aged 49 years.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL, are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications, should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies.*

ANSWERS.

H. H.—The Secretary of the St. John Ambulance Association is Major Sir H. C. Perrott, Bart., St. John's Gate, Clerkenwell, London.

TRAINING OF DEAF AND DUMB CHILD.

DR. W. G. BOWER (Leyland) writes: In a recent issue of a local newspaper a letter appears signed, "James Muir, Missionary North and East Lancashire Deaf and Dumb Society, Blackburn," in which the writer says: "As the education of these children is of the utmost importance.....the public are earnestly requested to send me the name and address of any uneducated deaf and dumb child known to them." This is not a direct answer to the query of "L. N." but I send the information in the hope that it may be of use to him.

MEDICAL SERVICES IN TURKEY AND EGYPT.

DR. JAMES CAMERON (Edinburgh) writes: The following may be of some little use to your querist "D.S., M.B." with respect to the Turkish and Egyptian services. For the Imperial Ottoman Service address "The Minister of War, Imperial Ottoman Government, c.o. Ottoman Turkish Consul-General, Ottoman Consulate-General, 7, Union Court, London. For medical appointments under the Egyptian Government address "Dr. Greene Pasha, Bureau d'Administration des Services Sanitaires et d'Hygiène Publique, Le Caire (Cairo), Egypte. With respect to the former "D.S., M.B. will probably experience Ottoman sluggishness before getting his appointment, and with regard to the latter there seems at present to be no opening for British medical officers.

PRURITUS VULVÆ.

DR. J. O'CONNOR (Manchester) recommends for the itching in pruritus vulvæ liq. carbonis detergens 3j, ad Oj. The urine may be tested for sugar.

HUELVA (SPAIN) AS A WINTER RESIDENCE.

IN reply to "Carver," Huelva is spoken of highly as a winter residence. Snow is unknown there. The average temperature recorded from October, 1882, to March, 1883, was as follows:

		Midday.		Midnight.
1882.	October.....	74.25° Fahr.	.....	64.15° Fahr.
,,	November.....	70.20° ,,	.....	57.50° ,,
,,	December.....	59.20° ,,	.....	51.50° ,,
1883.	January.....	56.55° ,,	.....	52.85° ,,
,,	February.....	63.90° ,,	.....	56.90° ,,
,,	March.....	64° ,,	.....	54° ,,

The Columbus Hotel is situated on the estuary of the river Odiel near to Seville and Cadiz, about 37° north latitude, and being exposed to the Atlantic breezes, is a very first-rate establishment. It is arranged in four separate buildings, and surrounded by gardens. The south building contains thirteen suites of apartments, each composed of sitting-room, bedroom, dressing-room, and bath-room (with water-closet) provided with hot and cold and sea water. The west building consists solely of bedrooms, and the north building contains dining-room, restaurant, ladies' drawing-room, reading, smoking, and card-room, and English and French billiard-rooms. All the sanitary arrangements (supplied by Mr. George Jennings, of Lambeth, under the advice of Mr. J. C. Mellis, sanitary engineer, of London) are of the most approved kind, all drains, etc., being properly disconnected and ventilated. There is an English medical man resident at Huelva, Dr. W. A. Mackay, M.B.(Edin.). There are Protestant services in English every Sunday. International sleeping carriages from Paris to Seville. Travellers from England can journey by steamer to Lisbon, and thence by rail *viâ* Badajos, Merida, and Zafra, or *viâ* Paris in the international sleeping cars to Seville. The terms at the Columbus Hotel are very reasonable; single bedroom and board, with wine and service, 10s. a day; for a period of one month, 8s. a day; suites of apartments from 16s. a day, with 8s. a day a head for board. Special terms for families. The *cuisine*, it may be added, is very good.

NOTES, LETTERS, ETC.

HYPODERMIC SYRINGES.

M.D. writes: Several short letters have appeared lately in the JOURNAL regarding the imperfections of hypodermic syringes, but so far none of them touch what I consider a very important point. In any syringes which I have used I have found, after injecting the contents, that about two minims remain in the barrel; this can be obviated, when using a solution, by taking an additional quantity into the syringe, but when using the tabloids, which are so convenient and in general use, it follows that we must give a considerably smaller dose than intended. What we want is a syringe with a short needle and a piston which will fit well down to the end of the barrel, and the graduation to represent what will be injected, not what the piston will take up.

FOREIGN CIGARETTES.

MESSRS. B. MURATTI AND CO. (Constantinople) write: Seeing by English papers to hand that attention has been directed to the above subject in your columns, perhaps you will kindly permit us to say a few words. That the smoking of Egyptian cigarettes, whether made in Egypt or in England, is sometimes injurious has long been proved, both in this country and in Russia, where cigarette smoking predominates. A clear distinction should be drawn between Egyptian and Turkish cigarettes. The former are made of the various kinds of Turkish tobacco leaf mixed with another tobacco from the district of Smyrna called "aya soulouk," whilst the Turkish cigarettes contain no "aya soulouk" whatever. It has been conclusively proved in this country and in Russia, where "aya soulouk" was also popular for a time, that that to which your correspondents refer was directly attributable to the partial use of this tobacco. Aya soulouk possesses a strong, but by no means delicate, aroma, which effectually prevents the detection of any inferior leaf with which it may be blended.

During the last Egyptian campaign your English officers often had the opportunity of making the acquaintance of these cigarettes, so much so that they soon became fashionable. English manufacturers were thus apparently compelled also to use this "aya soulouk." No matter where made "aya soulouk" blended cigarettes are always more or less injurious, for there is present the same subtle irritant, whether in the English manufactured or in the imported so-called Egyptian cigarettes.

Our experience as purveyors of Turkish tobacco leaf for upwards of sixty years to several of the European Government monopolies justifies our opinion that cigarettes, whether of foreign or English manufacture, when made from sound, mature, and genuine Dubec, Cavalla, Bochtza, Basma, Baffra, etc., leaf could not possibly produce any of the ill effects alluded to, and that any such result could only be accounted for by an admixture of the particular tobacco we have mentioned.

A CORRECTION.

DR. OSWALD ZIEMSSEN (Wiesbaden) writes: The JOURNAL of September 23rd having published Professor McCall Anderson's Address on the Diagnosis and Treatment of Syphilitic Affections of the Nervous System, with the discussion that followed, I find, with regard to the treatment recommended by me, a typographical error which puts a wrong interpretation upon what I said. I do not give daily doses of from ten to fifteen grains of the mercurial ointment, but doses of from ten to fifteen grammes, that is to say, 166-250 grains, the ointment having the strength of two parts mercury to one part lanolin or vaseline.

NOTES ON THE ABSENCE OF THE MAMMARY GLANDS.

DR. JAMES NEISH (Port Royal, Jamaica) writes: Dr. Wylie's report of a case of absence of both mammæ in a young female (contained at page 285, and accompanied by a portrait of the Amazon) has its chief interest, it appears to me, in the fact that, notwithstanding the absence of these accessory parts of the sexual apparatus, the essential genital organs were present, and in a state of functional perfection, as proved by reproduction having taken place. Dr. Wylie invites comment on the abnormal state of things which he witnessed in this case by asking if similar cases have been reported before. Absence of the mammary glands, though not often referred to in the textbooks in general use, is, however, known to occur, and is referred to occasionally both by surgeons and obstetricians. The cases noted, however, appear to have been attended with total absence of the uterus, or to have occurred along with an imperfect development or rudimentary condition of the uterus and vagina, or else to have been associated with defective development of the pectoralis major muscle and the ribs.

A very short notice is contributed to Heath's *Dictionary of Practical Surgery*, second edition, 1887, by Professor Marcus Beck, under the heading of Amazia, in which it is stated that "complete absence of the mamma is very rare. It has usually been associated with absence or imperfect development of the pectoralis major, and sometimes of some of the ribs on the side on which the gland was wanting." (Professor Beck evidently here refers solely to the absence of a single mamma.) "A rudimentary condition of the breast in the female resembling that of the male has been met with in conjunction with congenital absence of the ovaries."

A fuller account of the anomalies of development of the female breast will be found in Professor Winckel's *Treatise on the Diseases of Women*, in which an entire section is devoted to the anomalies and diseases of the mammary glands. This work is almost quite new, and a translation, made under the supervision of Professor Parvin, has been recently published by Mr. Young J. Pentland, of Edinburgh. According to Professor Winckel, it would appear that complete absence of both mammæ has been once noted in a case of total absence of the uterus, as reported by Säxinger. Further, Professor Winckel writes: "Billroth states that Louisier had observed a case of congenital absence of one of these glands. Frerich and Schlözer have reported congenital absence of one mamma and the principal portion of the pectoral muscle, in a case in which there was also union of the third and fourth ribs with the sternum. Pears, Cooper, Caillot, and Laycock have reported cases in which both breasts were in the same condition as before puberty, and the ovaries imperfectly developed. Rossignol found the mammæ rudimentary in a patient who had no vagina." Unfortunately, Professor Winckel does not give the references to the cases of Pears, Cooper, and Laycock, which, we may suppose, belong to English medical literature.

We must seek for the explanation of Amazia by going beyond and studying the allied subject of Polymazia, or that of supernumerary mammary glands. Professor Winckel gives us the key to an explanation by a reference to comparative embryology. In zoology the cheiroptera rank next to the bimana, with the quadrumana intervening, and there is a link to this relative rank in the embryonic breasts of the human female and of the bat. Citing from Meckel von Hernsbach, Winckel points out that "the embryo of the human female contains the germs of five mammæ as in the bat; two are situated in the middle of each half of the thorax, one in each axilla, and one above the umbilicus just beneath the sternum;" and he adds in confirmation that "Gorré saw a woman in whom the five mammæ of this primitive division were well developed." It follows, therefore, with reference to the cause or mode of congenital defect of both mammæ, that the abortive process, which in the normal human subject leaves only two embryos out of five for ultimate development, is extended to the complete extinction of all five, and that, in the case of supernumerary mammary glands, three, four, or five are permitted to develop. There are many analogies of this suppression of germs in the vegetable kingdom; for instance, in the fruit of the cocoa-nut palm there are three embryos corresponding to the tripartite formation of the nut, but two of them are always suppressed, leaving only one to develop and germinate.

Such an explanation may probably suffice to account for deficient or redundant mammary glands, but does not cover the case of ectopic mammary glands, as, for example, the very curious case reported by Robert (quoted from Winckel's *Diseases of Women*), in which milk could be drawn from a supernumerary mamma situated on the outer surface of the left thigh, the mother of the patient having a double nipple. Perhaps the wide distribution of lymphoid or adenoid tissue in the subtegumentary structures would account for the accidental development of a milk-secreting gland in such an out of the way locality.

Dr. Wylie's case is a very rare one, and worthy of a full description on points omitted, such as the condition of the musculi pectorales, etc.

VACCINATING WITH ONE VESICLE.

DR. W. WOODWARD (Public Vaccinator, Worcester District) writes: As whatever facilitates vaccination and makes it less unpopular is of consequence, probably you will kindly allow me to draw attention to the above. All public vaccinators know that the less they pretend to vaccinate the infant the better will the mother be pleased; hence to assure them that it will only be done in one place gives unfeigned satisfaction. It has many advantages, too, which experience will show. It can be more readily performed. The one compound

vesicle in the hollow of the arm can be better protected (especially with the shield, if used) than four vesicles in different places, and lymph can be more easily taken. Of course the area of not less than a square inch can be produced to meet the requirements of the Local Government Board. I think if public vaccinators will try this method, together with the removal of the lymph by exosmosis with glycerine (if it succeeds) they will find the difficulties of vaccination reduced to a minimum, and—what is of consequence now the antivaccinators are so active—that the operation will be rendered less unpopular.

THE TREATMENT OF OBESITY.

DR. N. F. DAVIES (Sherborne) writes: Physiologically there is no other safe means of reducing fat that I am aware of than by a carefully chosen system of diet and proper exercise, but here the sufferer is handicapped, for I know of no cookery book containing a large choice of aliments of all descriptions suitable for such persons only. I have for some time been engaged in leisure hours in compiling such a work. Few fat people have the necessary determination to refrain from taking things injurious to them, even if they knew what these are, which they seldom do. I believe if they knew how many luxuries there are that can be indulged in with impunity many would so live and diet, that their lives, instead of being a burden, would be made enjoyable. Establishments for the treatment of fatty disease would only be within the reach of the wealthy, as the spas abroad are, for instance; but chosen, regulated diet would be within the reach of almost all, and this I hope to furnish. I believe that proper dieting for three months in the year, with well regulated exercise, would meet the requirements of most cases, if not all.

THE USE OF THE LEFT HAND IN OPERATIONS.

DR. J. P. R. JAMISON (Broughshane, Co. Antrim) writes: Dr. Bower seems to think that the best plan for exercising the left hand is the playing of a musical instrument, particularly the piano or organ. He is right in his presumption that I do not play the piano, but I do play the violin (and have done so for ten years), which requires even more precision of the left hand than the piano, as in the former each note has to be made by the finger, in the latter each note is made and only requires to be sounded. It was because I understood the value of having the left hand in training, and because, even with my violin-playing, that it was not nearly so dexterous as the right, that I thought of and adopted the writing exercise. The holding of the pen, to my mind, corresponds very closely to the way in which small knives are held. Not all students play the piano or violin, nor are all even musical. What would be the best plan for exercising the left hand in these? Dr. Bower admits that the lumbricales are the muscles to be exercised, and anatomists say these are used in writing.

STOVES, ETC., IN BEDROOMS.

DR. E. H. JACOB (Leeds) writes: For heating a bedroom or any room only occasionally occupied nothing can be better or more convenient than gas. It is necessary to decide whether to adopt radiant or convected heat or a mixture of the two. For the latter probably Fletcher's 3 F tubular gas stove is as good as any. I have one in my laboratory which answers well. For radiant heat Wilson's gas fire is very good, though Fletcher's new type of gas fire with iron fretwork is probably but little inferior. If a mixture of the radiant and hot air effect is preferred, Fletcher's B 3 is suitable, or the "Wilson" fire may be obtained with an external casing, which answers the same purpose as the tubes in Fletcher's pattern.

A fair result can be obtained by fitting burners outside an ordinary fireplace to heat fireclay lumps within, provided that the greater part of the grate space is stopped by a brick and only about three inches left to be filled with the "asbestos fuel." This has the advantage that, if it be required, the "fuel" can be removed and the gas burners used to light an ordinary coal or coke fire. In cases of illness, when continuous heating and thorough ventilation are required, nothing is so convenient as a good slow combustion grate, such as the "Abbotsford," or the form with close ashpit recommended by Mr. Teale. I am surprised to find any medical man recommending a flueless stove. In spite of the elaborate arrangements for "condensing" the impurities (as if CO_2 and SO_2 could be condensed by any ordinary method), they cannot be anything but poisonous if used for any but the shortest periods, and there are seldom any satisfactory arrangements for ventilating a room where there is no fireplace. For warming rooms where no flue can be placed, it is easy to fix a small coil of hot water pipes heated by a diminutive gas boiler, which can be placed in a small wooden shed outside the house or in an adjoining room which possesses a flue.

COMMUNICATIONS, LETTERS, etc., have been received from:

Dr. W. B. Cheadle, London; Mr. W. J. C. Miller, London; Dr. Karl Grossmann, Liverpool; Dr. J. O'Gorman, Spilal, Co. Galway; Mr. H. Hine, South Cave, Yorks; Sir J. Crichton Browne, London; Mr. H. E. Jones, Hereford; Dr. W. Neale, Mountmellick; The Secretary of the Medical Society of London; Dr. F. W. Kidd, Dublin; Mr. J. S. Storr, London; A. K. Holt, M.B., Stoke-on-Trent; Mr. B. D. Ker, Bath; Mr. F. R. Humphreys, London; Mr. C. H. Wells, London; Dr. C. R. Drysdale, London; The Editor of the *Nursing Record*, London; Mr. L. B. Willoughby, London; Mr. H. M. Matheson, London; Mr. C. B. Lockwood, London; Mr. T. Blair, Leeds; Dr. A. Mitchell, Great Yarmouth; Dr. A. Waller, London; Dr. W. Woodward, Worcester; Mr. A. S. Patton, Jersey; Discontented; Dr. Mules, Manchester; Mr. B. Walker, Kirkby Stephen; Mr. H. Woods, London; Mr. Little, London; J. Cameron, M.B., Edinburgh; Dr. R. D. Pinnock, Ballarat, Victoria; Mr. A. Gibbings, London; Mr. T. Lyons, Dublin; Mr. T. Moynihan, Dunfanaghy; Dr. W. H. Mathen, Louisville; Dr. Maguire, London; Mr. N. L. Davies, Sherborne; Mr. R. Barwell, London; The Honorary Secretaries of the Nottingham Medico-Chirurgical Society, Nottingham; Mr. S. Craddock, Bath; Mr. H. Birley, Manchester; Mr. J. E. Sinclair, London; Mr. W. Johnson Smith, London; Dr. Ward Cousins, Southsea; Mr. C. R. Leader, Chichester; Dr. J. F. W. Silk, London; Mr. C. D. H. Drury, Darlington; Dr. J. Vivant, Monaco; Dr. R. Barnes, London; Dr. Brasseur, Liège; Mr. A. W. Mayo Robson, Leeds; The Editor of the *Chemist and Druggist*, London; Brigade-Surgeon A. Doig, Ross, Hereford; Mr. S. W. Smart, Walthamstow; Mr. J. O. Sinclair, Edinburgh; Mr. W. H. Battle, London; Mr. O. H. Evans, Brynsiencyn, Anglesea; Mr. E. Somerset, Salop; Mr. S. B. Mason, Pontypool; Mr. A. E. W. Fox, Bath; Professor A. R. Simpson, Edinburgh; Mr. W. G. Dun, Glasgow; Dr. J. Phillips, Sunderland; Mr. H. P. Taylor, Bradford-on-Avon; Dr. Norman Kerr, London; Mr. W. Boggett, London; Mr. O. Withers, New Basford; Mr. E. C. Long, London; Dr. T. Laffan, Cashel; Dr. G. Crichton, Twickenham; Dr. Donkin, London; Dr. W. Latty, Southam; Mr. J. H. Griffin, London; Surgeon-Major O. Baker, Burmah; Our Manchester Correspondent; Mr. L. Roe, Eccles; Mr. W. Race, Eccles; Mr. L. M. Buckell, Southampton; Dr. Ord, London; Mr. F. W. Moore, Ely; Mr. H. E. Haycock, Welwyn; Dr. E. H. Jacob, Leeds; Our Newcastle Correspondent; Mr. T. Blair, Leeds; An Old Dublin Physician; Mr. E. T. Freer, Birmingham; Dr. A. Bonner, Bradford; Dr. R. Perry, Glasgow; Mr. J. P. R. Jamison, Broughshane; Mr. A. S. Stokes, Wansford; Dr. J. Barr, Liverpool; Mr. G. O. McKane, Whitburn; Dr. J. Edwards, Liverpool; Mr. J. L. O'Callaghan, London; Mr. T. W. Walford Reading; Dr. J. O. Affleck, Edinburgh; Mr. S. Macvie, Churnside, N.B.; Mr. G. C. Harding, London; Dr. Anningson, Cambridge; Dr. D. A. Sheahan, Hernesford; Surgeon J. Hickman, Sheerness; A Subscriber; Mr. R. Main, Newbury; Mr. G. E. Williamson, Newcastle-on-Tyne; Dr. Tatham, Salford; Mr. W. Prowse, Weston-super-Mare; Dr. Cassidi, Derby; Dr. Gillespie, Perth; Dr. Norman Kerr, London; Mr. H. H. Marsden, Southport; Mr. H. Shackleton, Sydenham; Mr. E. H. Bowker, Scarborough; Dr. Murphy, Queenstown; Mr. G. A. West, London; Dr. G. P. May, Maldon; Dr. Illingworth, Clayton-le-Moors; Dr. F. H. Sinclair, Belfast; Mr. J. St. Clair Boyd, Belfast; Mr. H. Page, Redditch; Mr. J. Hamilton, Newcastle-on-Tyne; Mr. A. N. Barnley, Wigston; M.D.; Mr. A. D. Cameron, Liverpool; Our Glasgow Correspondent; Mr. J. H. Griffin, London; Dr. Ralph Stockman, Edinburgh; Dr. J. F. Payne, London; Dr. Paterson, Colchester; Dr. Devereux, Tewkesbury; Mr. G. Russell Beardmore, London; Colonel Sillery, Bath; Dr. J. L. Steven, Glasgow; Mr. E. White Wallis, London; Professor C. Roy, Cambridge; Mr. G. A. Rae, Stoke; Messrs. Grimaldi, Ridley, and Co., London; Messrs. Alabaster, Gatehouse, and Co., London; The Secretary of the Harveian Society, London; Mr. J. Davies, Sunderland; Mr. W. Galloway, Eighton Banks; Mr. H. H. Sturge, New Eltham; Messrs. Baillière, Tindall, and Cox, London; The Dean of Charing Cross Medical School, London; Mr. S. Plowman, London; Mr. J. A. Tonthem, Derby; Mr. Wickham Barnes, London; Mr. J. R. Essex, Pontypool; Dr. G. B. Batten, Dulwich; Mr. J. Davis, Little Bedwell; Mr. P. G. Gilmour, Pensford; Dr. P. J. Cremen, Cork; Mr. W. H. Brown, London; Mr. T. Shaw, Dublin; Dr. Curgenven, London; Dr. F. J. Bryant, Tavistock; Messrs. Bagshawe and Hall, Sheffield; Mr. W. W. Pike, Curragh Camp; Our Liverpool Correspondent; Mr. W. E. Dawson, London; Surgeon G. H. Fink, North-West Provinces, India; Dr. A. D. L. Napier, London; etc.

BOOKS, ETC., RECEIVED.

A System of Midwifery. By William Leishman, M.D. Vol. i and ii. Fourth Edition. Glasgow: James Maclehose and Sons. 1888.

A Class Book of Elementary Chemistry. By W. W. Fisher, M.A., F.R.S. Oxford: At the Clarendon Press.

Handy Book of Medicine Stamp Duty with the Statutes and Appendices. By E. N. Alpe. Published at the Office of the *Chemist and Druggist*, London, and Melbourne.

Elocution, Voice, and Gesture. By Rupert Garry. London: Bemrose and Sons.

A Textbook of Human Physiology. By Dr. L. Lamdois, with additions by William Stirling, M.D., Sc.D. Third Edition. London: C. Griffin and Co.

Outlines of Qualitative Analysis. By A. H. Sexton. With illustrations. London: C. Griffin and Co.

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THE HARVEIAN ORATION.

ON BLOOD-CHANGES IN DISEASE.

Delivered before the Royal College of Physicians, October, 1888.

By P. W. LATHAM, M.A., M.D.,

Fellow and Censor of the College; Downing Professor of Medicine in the University of Cambridge; Senior Physician to Addenbrooke's Hospital, Cambridge.

Mr. President and Gentlemen,—To-day we meet together in fulfilment of the express wish of Harvey, our illustrious benefactor, and most distinguished ornament, and it is my duty "to commemorate the benefactors of the College, and to encourage its members to search out the secrets of Nature by way of experiment."

I will not apologise for endeavouring to perform this duty, imposed upon me by our past President, heartily though I wish it had fallen into worthier hands. As a duty I accepted the task; and it is made a pleasant one by the feeling that, in commemorating the achievements of the past, I shall have the sympathy of my audience; and if whilst looking to the future, and pointing to the direction in which further advances are possible, and suggesting routes by which these advances may be made, some here present are encouraged and stimulated by what I say to search out these secrets of Nature, I shall feel that the very deep anxiety with which I venture to address you has not been altogether fruitless.

And what are the achievements of the past and of the present? Is disease being prevented? Is life being prolonged? Is pain lessened? When disease arises can it be more skilfully treated or more rapidly controlled? It is almost superfluous for me in this assembly to answer these questions or to point out how intimately our progress has been associated with and dependent upon Harvey's great discovery. As illustrations, need I speak here of the diminished mortality from consumption, which, by the recognition of and attention to ordinary sanitary laws, has during the last quarter of a century been reduced in England and Wales 28 per cent., or of the diminished mortality from ague or from typhoid fever? Is pain lessened? Need I refer to ether and chloroform, or to nitrite of amyl which is now finding a more extended use than in simply relieving angina pectoris—or to the hypodermic injections of remedies such as morphine and ether? When disease arises can it be more skilfully treated or more rapidly controlled? Need I speak of the effects of the bromides in epilepsy and allied disorders—of the specific effect of quinine in ague, or of the equally specific effect, in proper doses and with suitable diet, of the salicyl compounds in acute rheumatism, of the diminished mortality from pneumonia, of the use of the aspirator in pleuritic and pericardial effusion, of our increased skill in the localisation of cerebral disease and the brilliant results which are now achieved by surgery in connection therewith? All these are modern advances of which we may well be proud. The names of those (many still happily living among us) to whom we owe this increased knowledge are known to you all. It is unnecessary, therefore, to commemorate singly those distinguished Fellows of this College whose names connected with the advance of medicine will be cherished by posterity not only as benefactors of this College, but of mankind at large.

And what shall I say of our greatest benefactor whose memory we specially commemorate to-day? When I turn to the orations delivered by my predecessors, I find that the history of Harvey's life, his surroundings, his mode of investigating Nature, his early studies, classical, dialectical, and physical, his habit of inductive reasoning, the steps leading to his great discovery, the grounds for asserting his rightful claim to be the discoverer, have all been so eloquently discussed and so exhaustively displayed before you, that it would be out of place for me to dilate on any of these themes. Permit me rather to picture before you to-day some of the discoveries which have been made in modern times in matters connected with the circulation, and more particularly in reference to some of the changes in the blood which may be associated with or productive of disease, and thus to indicate some of the additions to that fabric of scientific medicine of which Harvey's great discovery is the corner stone.

Following upon the labours of Harvey, we note the discovery of the capillaries by Malpighi, about 1687, our knowledge thereof improved by Leeuwenhoek in 1729 and then by Hales, Cowper, Haller and Lieberkühn, and perfected by Prochaska in his publication in 1812. Subsequently we learned how the rhythm of the heart may be interfered with by causes acting through the nervous system, and how the calibre of the minute arteries may be modified through the same agency. Then we have the changes connected with inflammation; and can we not picture to ourselves with what special interest such an observer as Harvey would have watched the changes which take place in the vessels and the surrounding tissues following upon irritation or inflammation; and which, by the aid of those appliances with which modern science has furnished us, have been discovered in recent times? I refer to the dilatation and relaxed condition of the vessels, the slowing of the blood stream, the falling out of the colourless corpuscles, like tired soldiers on the march, as Professor Burdon Sanderson has expressed it, leaving the mid-stream and loitering against the vein wall, afterwards sticking to it, and then in some wonderful way wandering out, emigrating through the unbroken vascular wall into the surrounding space, some of them becoming disintegrated and dissolved in the liquid, which is also effused, and so leading to an accumulation of coagulable lymph or inflammatory exudation external to the vessels. How much is there in these phenomena which still require investigation and explanation! Why do the blood-vessels dilate? How is the emigration of the colourless corpuscles to be explained? By what means, also, do these corpuscles "penetrate into dead tissue and, indeed, into any material capable of imbibition with which they are brought into contact in an active state?" And then the further questions may be suggested: does there exist an antagonism or attraction between these white corpuscles and those recently discovered organisms the bacilli? Is there a struggle for existence between them? How are the powers, and action, and growth of the colourless corpuscles modified by the presence of these micro-organisms? What part do the latter play in the production of disease? Is it true that a large part of all health and disease in the world is dependent upon them? Such questions as these indicate the degree of importance which must be assigned to the discovery of these bodies, and account for the interest in them which prevails at the present time. Probably no other discovery since that of the circulation of the blood appears to be so full of promise in elucidating the causes and courses of some diseases as this one. These micro-organisms in various forms seem to take part in the destructive changes with which we are familiar in the animal and vegetable world; they are found in connection with certain diseases, and some of them have their home in the circulatory apparatus. Is it not then peculiarly fitting that on an occasion like this some reference should be made to these micro-organisms? We can rightly commemorate and rejoice over the work which has been done in this direction, whilst we feel at the same time how much there is still unsettled and obscure. The knowledge gained from the experimental observations on animals is as yet applicable only within very narrow limits to the human subjects. Nay, more, the results of clinical observation are altogether inconsistent in many cases with what these experiments would suggest; and yet how fruitful and full of promise does the territory seem from our present standpoint. Is it not one to which I may point encouragingly, and ask you to explore it, and bid you, in Harvey's words, "search out its secrets by way of experiment."

Let me briefly remind you of some of the facts which have been made out regarding these bodies.

There can be little doubt that in some disorders these organisms in their various forms, round, corkscrew or straight-rod shaped, are the causal connection, the virus, of the disease. The bacilli are constantly present in the affected parts, the organisms have been cultivated outside the body, and separated from all the morbid materials, and the disease has been produced by the introduction of these cultivated organisms into healthy animals. As examples of such disorders, we have, as described by Koch, anthrax or splenic fever, a septicæmia in mice due to bacteria, and a septicæmia in rabbits due to micrococci. After inoculating an animal with the smallest drop of anthracic blood, provided it contains bacilli or their spores, it dies within twenty-four or thirty-six hours—and then in the capillaries of the liver, spleen, lungs, kid-

neys and stomach, incredible numbers of these bacilli can be seen permeating this portion of the vascular system, whilst in the larger vessels, even in the arteries and veins of an intestinal villus, they may be entirely absent or only seen at long intervals—and it is remarkable that in the capillaries of the brain, skin, muscle, and tongue there are fewer than elsewhere. The development of such numbers in so short a time appears almost incredible. The bacillus subtilis, however, which is not parasitic, but otherwise very much like bacillus anthracis in all respects, with a good supply of food and oxygen and a temperature of 30° C. (86° F.), doubles its length and divides once every thirty minutes, forming two separate organisms. By an easy calculation, therefore, we find that at the end of twenty-four hours, the progeny of such a bacillus increasing at such a rate would amount to upwards of eight hundred millions of millions.

In anthrax it would seem to be quite clear, then, that the bacillus will give rise to the disorder. There can be little doubt also that wool-sorters' disease, malignant pustule, and intestinal anthrax in the human subject are developed from the same source.

As an example of a disease connected with a spirillum or spirochæta we have that of relapsing fever, a disorder in the spread of which it is certain that contagion from the sick or through the intervention of articles of daily use plays a very important part. During the febrile condition of the patient, a slender threadlike and twisted organism, which is never still, but always moving about in various directions, is found in great numbers in the blood—the sphirochæta Obermeieri—closely resembling spirochæta Cohnii or plicatilis found in the mucus of the teeth, but innocuous. During the intervals between the febrile attacks none of these organisms can be detected in the blood. Outside the body they show active movements at a temperature of 60° or 70°, become languid at blood heat, and die at fever heat. The pyrexia, therefore, of the patient is supposed to destroy the organism, which then breaks up into a number of minute granules, some of which may constitute the spores from which fresh crops of the organism may develop. If blood is taken during the stage of pyrexia, and containing spirochæta, from a patient, and human beings or monkeys inoculated with it, the disease can be reproduced, but not by blood taken during the intervals between the febrile attacks. Injections of the blood into other animals, such as dogs, rabbits, and guinea-pigs were always without result. All attempts to cultivate the organism outside the body have not as yet been successful—so that we really know very little of its history.

Here again we have a disorder associated with a bacillus, the organism disappearing and reappearing from the system, and the blood of the infected animal being intermittent in its power of communicating the disease to other animals.

Perhaps few disorders of the human frame have greater interest attached to them than those associated with tubercle, and when we remember that one-seventh, on an average, of the deaths of human beings result from pulmonary tuberculosis, the importance of any fresh light shed on this disorder, or the discovery of any new fact, cannot easily be overestimated. The discovery, then, by Koch, in 1882, of a bacillus in the tubercular diseases of man and animals has necessarily attracted a good deal of attention and led to a good deal of discussion. These rod-shaped bacilli have been shown to exist, in all cases of human tuberculosis, in the sputum, in caseating scrofulous glands, and in the tubercular masses in the lungs. Pure cultivations of these bacilli, when introduced beneath the skin of susceptible animals, such as rabbits, guinea-pigs, cats, and field mice, always produce after three, four, or more weeks the typical tubercular lesions, swollen lymphatic glands, deposits in the spleen, liver, and lungs, and enlargement and caseation of the bronchial glands. Different species of animals present very different degrees of susceptibility; the domestic mouse is not easily affected, whereas the field mouse is highly susceptible; and, as every practical physician knows, in certain families of the human species there is an unmistakable liability, an inborn tendency to suffer from tuberculosis, whereas other families entirely escape. Wherein lies this great difference of susceptibility? In what way do the micro-organisms, either in tuberculosis or anthrax or relapsing fever, influence the economy—how do they produce the disease? Why should some animals resist their power and others be overwhelmed by them? Recent investigations seem to me to throw some light on these points, and in some degree to answer these questions.

When certain forms of bacilli, of the so-called non-pathogenic character, are introduced into the blood of the lower animals, even in large numbers, their existence is of comparatively short duration, and they speedily disappear. The living blood has the power of destroying them. In three hours, according to Wyssokowitsch, none are present, even though enormous numbers are injected. They are deposited in the liver, spleen, and medulla of bone, and soon die if they do not contain spores. If spores are injected, these live much longer than those of bacillus subtilis, being still alive after three months. But there is another way in which they are destroyed: "When bacteria are injected into the tissues, there follows a struggle for existence between them and the cellular elements. Leucocytes quickly accumulate in the neighbourhood of the mass of bacteria, and then there follows a fight for the mastery between these cells and the bacteria. The cells take up the bacteria into their interior, and, where the bacteria are non-pathogenic for the animal employed, they are destroyed" (Cheyne). The discovery of this is due to Metschnikoff. It is well known that the colourless blood-cells possess the power of constantly changing their shape, exhibiting amœbulatory movements and alternate protrusion and retraction of processes; they are also able to take up and absorb solid bodies into their soft substance. "If the foreign body comes into contact with the surface of the cell, the latter puts out processes, which embrace it and gradually close over it, as the waves close over a drowning animal, so that it lies at last inside the soft cell substance. It may be cast out again at some future time; but it may also suffer decomposition inside the cell, be killed, and disappear." These well-known facts led Metschnikoff to investigate the behaviour of the colourless blood-cells of the vertebrate animals towards the bacillus of anthrax. He found "that the virulent rods, when introduced by inoculation into an animal liable to take the fever, such as a rodent, were not absorbed by the blood-cells, or only in exceptional instances. They were readily absorbed by the blood-cells of animals not liable to the disease, as frogs and lizards, provided the temperature was not artificially raised, and then disappeared inside the cells. The same thing happened when susceptible animals were inoculated with bacillus anthracis which had been attenuated to the harmless state. Metschnikoff, therefore, assumed "that the bacillus is harmless because it is absorbed and destroyed by the blood-cells, and injurious because this does not happen; or, at least, that it becomes harmless if the destruction by the blood-cells takes place more rapidly and to a greater extent than the growth and multiplication of the bacillus, the converse being also true." If, in the case of frogs, the temperature be raised, "thus favouring the growth of the bacilli, and at the same time lowering the vitality of the cells, the bacilli grow and penetrate into the circulating blood."

If, however, the bacilli when introduced into the blood or into the tissues are not destroyed by the colourless blood-cells or otherwise, but are such as are able to live in the blood or tissues of living animals, what is the nature of the change which they produce? It appears that among the products which result from the decomposition of organised matter and associated with the growth of bacteria, certain chemical poisons appear, which are capable of destroying animal life. We have long been familiar with the fact that the micrococcus or bacillus lacticus is the agent by which the lactic acid fermentation of the sugar contained in milk takes place, and this lactic acid being then neutralised with lime or other substance, will, after a time, through the agency of another micro-organism, probably the bacillus amylobacter, undergo a further change or fermentation, and be converted into butyric acid, with the simultaneous evolution of carbonic acid and hydrogen.

$$2C_3H_4\begin{cases}OH\\COOH\end{cases} = C_3H_7COOH + 2CO_2 + 2H_2$$

lactic acid — butyric acid

And there are other fermentations of a similar character. But it is only in recent times that it has been discovered that, as the result of albuminous or proteid decomposition or putrefaction, certain animal alkaloids are produced, similar in their nature and in their chemical composition to the vegetable alkaloids. Some of these products, or ptomaines as they are called, are innocuous, others possess poisonous properties varying in degree from the slighter forms to the most intense activity. Nearly seventy years ago Kerner pointed out the similarity of the effects produced by sausage-poison to those produced by atropine, but the symptoms are slow in appearing—sometimes two, three, or four days may elapse before they manifest themselves. Dr. Alfred Swaine Taylor

mentions the fact that in 1859 sixty-four persons suffered from the poisonous effects of a certain batch of sausages, only one case however proving fatal. Chemical analysis of the sausages yielded nothing of a poisonous nature, though there could be no doubt that they had caused the symptoms and death. The symptoms were burning in the throat and stomach, followed by vomiting and purging; giddiness and confusion in the head, and in some cases delirium.

It might now possibly be urged, with our present knowledge, that the symptoms arose from the formation of an animal alkaloid in the meat, developed through the agency of such an organism as Cohn's bacterium termo or Bienstock's drumstick bacillus.

From partial decay, through the agency of tyrothrix tenuis or some other bacteria, cheese sometimes acquires irritant properties, and will give rise to vomiting and purging more or less violent in those who have eaten it.

Pickled or tinned salmon, salted herrings, and even fresh mussels, are examples of articles of diet which have caused poisonous symptoms in those who have partaken of them.

In 1856 Panum showed that these effects were the result of some chemical poison developed in putrefying material. He subjected the fluids to prolonged boiling, so as to destroy any living organisms, and on injecting it into animals the poisonous effects were still produced though in a slighter form than from the unboiled fluid. Further, after filtering the fluid and boiling it for an hour he evaporated it to dryness, then digested it with absolute alcohol and treated the residue with boiling water. This watery extract also was poisonous. Some of these chemical substances or animal alkaloids were separated by Armand Gautier in 1872 and by Professor Selmi, of Bologna, and named by him ptomaines. Professor Brieger has since succeeded in producing these bodies, and some not poisonous, in a crystalline form, and in determining their chemical composition. The following are some of them:

Neuridin $C_5H_{14}N_2$, a non-poisonous alkaloid, is the one which is most constantly present at the commencement of putrefaction, and which appears in largest quantity. This substance can be split up into dimethylamine and trimethylamine.

$$C_5H_{14}N_2 + H_2 = NH(CH_3)_2 + N(CH_3)_3$$
neuridin dimethylamine trimethylamine.

After the removal of this from putrefying flesh, two poisons can be extracted, neurin $C_5H_{13}NO$ and cholin $C_5H_{15}NO_2$, differing only in composition by a molecule of H_2O, but the neurin being ten times more poisonous than cholin, which latter exists normally in the bile, and as a constituent of lecithin in the brain, and in yolk of egg. From putrefying fish and gelatine muscarin $C_5H_{15}NO_3$ is obtained—an alkaloid previously discovered by Schmiedeberg and Koppe as the poisonous agent in a disease of flies caused by a fungus, the agaricus muscarius. Brieger also obtained other substances from decomposing albuminous substances and human corpses, namely ethylene diamine $C_2H_4(NH_2)_2$, gadinin $C_7H_{17}NO_2$, trimethylamine $N(CH_3)_3$, dimethylamine $NH(CH_3)_2$, and triethylamine $N(C_2H_5)_3$, cadaverin $C_5H_{16}N_2$, putrescin $C_4H_{12}N_2$, saprin $C_5H_{16}N_2$, and mydalein; the amount of these substances obtained depending upon the stage of decomposition and the temperature at which it took place. I will not stop to describe the poisonous effects of these products on the system. For that I must refer you to Professor Brieger's publications, or to Dr. A. M. Brown's treatise on the *Animal Alkaloids*. The point of interest is that they are developed during the process of putrefaction in which bacilli take an active part, and probably it is from the development of these poisons that the effects on the animal system are produced when certain of the micro-organisms gain an entrance into it. It is to be observed that these poisons are developed by the action of bacilli on dead or effete animal matter, not necessarily on living tissue; and it might be suggested, therefore, that if they are produced from living tissues by the micro-organisms, this can only take place when the tissue has lost its so-called vitality, or when there is a departure in the tissue from the normal condition which constitutes health. But this will hardly apply to such a disorder as splenic fever, or even to tuberculosis in guinea-pigs, etc., in which cases we have very clear evidence that the introduction of the pure cultivated micro-organism into healthy animals will produce the disease. This at once suggests the question, Can the apparently innocuous or non-pathogenic bacteria be so cultivated outside the body as to develop an intense virulence and become pathogenic—endowed that is, with the power of growing and multiplying within a living animal? To this I will briefly refer later on.

Now, not only has it been demonstrated that certain poisons or ptomaines can be derived from dead putrefying animal substances, but moreover it has been shown by Gautier that certain alkaloids which he terms leucomaines, having poisonous properties, are formed within the living organism and independently of the action of bacteria—waste or effete *débris*—by the accumulation of which in the system the vital processes are arrested. As examples of these he gives betain, gnanin, xanthin, kreatinin, etc. The accumulation of these substances in the system is prevented either by their destruction by oxygenation or by their elimination through the agency of the kidneys and liver. That products are formed in the living body which, if not eliminated, produce poisonous effects, is well shown in cases, for example, of uræmia, gout, or diabetes. The majority of observers are of opinion that uræmia is not solely due to the effect of an excess of urea or of carbonate of ammonia in the blood, but to the poisonous action, in addition, of such substances as kreatin, kreatinin, and *other extractives* or waste materials which have accumulated in the system from defective excretion by the kidneys. In gout we have uric acid exerting its poisonous effects on the nervous centres and modifying the nutrition of parts of the body. In diabetes we have not only in some cases the formation of glucose taking place in the system even when saccharin and starchy foods are withheld, but we have also evidence of some abnormal molecular change in the constitution of the tissues, as shown by the marked tendency to carbuncle and to tuberculosis of the lungs. As the disease advances we have symptoms of drowsiness showing themselves, the result of some abnormal product in the blood acting on the nervous system—later on acetone appears in the urine, and in general, not long after this stage has been reached, death takes place. In the Croonian lectures for 1886 I endeavoured to show that there were grounds for regarding living albuminous compounds as made up of certain cyan-alcohols united to a benzene nucleus, or, in other words, by combining hydrocyanic acid with a compound belonging to the benzene group and with the five aldehydes, methylic, ethylic, proprionic, butyric, and valeric, a compound would be formed having the same ultimate composition as albumen, and also that a considerable number of the substances, such as glycocoll, lactic acid, leucin, etc., which are obtained from albuminous substances, could be prepared in the laboratory artificially from these cyan-alcohols. Assuming such a constitution for albumen, I indicated how, if the force, vital or otherwise, which held these molecules, forming living tissue, together were modified or lessened, so that the molecules, instead of undergoing the normal changes, fell asunder and were partially oxidised, such substances would be produced as glucose from methylic cyan-alcohol; lactic acid and para-aldehyde from the next in the series, and oxybutyric acid and acetone from a third. I refer to this here because the same assumption as to the constitution of albuminous material helps to explain the origin and formation of Brieger's ptomaines. From the lowest cyan-alcohol in the series $CH_2\begin{cases}OH\\CN,\end{cases}$ glycocoll $CH_2\begin{cases}NH_2\\COOH\end{cases}$ should be obtained, which, under certain conditions, splits up into carbonic acid and methylamine $NH_2(CH_3)$. This methylamine may, under certain circumstances, form dimethylamine $NH(CH_3)_2$ and trimethylamine $N(CH_3)_3$, the two substances into which neuridin (the alkaloid which is the first to be separated from putrefying meat) can be decomposed. The following equation then would represent the origin of neuridin.

$$5CH_2(NH_2)COOH = C_5H_{14}N_2 + 5CO_2 + 3NH_3 + H_2$$
glycocoll neuridin.

If now we take trimethylamine and combine it with the next cyan-alcohol in the series, the ethylic, cholin should be the result

$$N(CH_3)_3 + C_2H_4\begin{cases}OH\\CN\end{cases} + H_2O = C_2H_4\begin{cases}OH\\N(CH_3)_3OH\end{cases} + HCN$$
trimethylamine ethylic cyan-alcohol cholin,

for cholin has been formed synthetically in the laboratory by heating ethylene chlorhydrin $C_2H_4\begin{cases}OH\\Cl\end{cases}$ with trimethylamine, and the same reaction should hold good for the cyan-hydrin or cyan-alcohol.

Neurin differs from cholin by H_2O, and the former can be obtained by heating cholin with hydriodic acid and then acting upon it with moist silver oxide

$$C_2H_4\begin{cases}HO\\N(CH_3)_3HO\end{cases} = C_2H_3\begin{cases}OH\\N(CH_3)_3\end{cases} + H_2O$$
cholin neurin.

By oxidising cholin (by gently heating its hydrochloride or platino-chloride with strong nitric acid) we obtain muscarin.

$$C_2N_4\begin{cases}HO\\N(CH_3)_3HO\end{cases}+O=CH_2\,.\,CH\begin{cases}(OH)_2\\N\,.\,(CH_3)_3OH\end{cases}$$

cholin muscarin hydroxide.

Oxidised in a different fashion cholin is converted into betain, the alkaloid of beetroot,

$$C_2H_4\begin{cases}HO\\N(CH_3)_3HO\end{cases}+O=CH_2\begin{cases}CO\\N(CH_3)_3O\end{cases}+H_2O$$

cholin betain,

a substance which has also been found by Liebreich in the human urine.

Such facts as these lend some support to the view which I have advanced as to the constitution of albumen, and I mention them here in order again to call the attention of those interested in chemical physiology to the close relationship which exists between these compounds of prussic acid with the various aldehydes, or the cyan-alcohols, and the different substances which can be extracted from albuminous tissues.

Let me now return from this digression.

From the data which I have placed before you, I wish to draw the inference that in the living animal organisms, owing to slight departures from the normal nutrition of parts, arising probably through nervous agency—the trophic nerves—various substances such as extractives or alkaloids, will be produced, which, if not eliminated or neutralised, will lead to pathological changes in the system, absolutely and entirely independently of any bacterial action.

As an illustration, I would refer to the pyrexia or fever which even in healthy individuals may follow over-exertion or excessive fatigue, and which is still more readily developed in convalescents or in persons who are not very strong. Sir William Aitken has directed special attention to this condition, "which is constantly seen in all forms of physical over-taxation or over-exertion, as in a prolonged march or by excessive drill, especially in young and adolescent soldiers"—and he refers to the investigations made by Professor Angelo Mosso, of Turin, on the physiology of fatigue as developed in the soldiers of the Italian army, and the pathological manifestations which accompany it. "Fatigue carried beyond the moderate stage, at which it is decidedly beneficial, subjects the blood to a decomposing process through the infiltration into it of substances which act as poisons—substances which, when injected into the circulation of healthy animals, induce malaise and all the signs of excessive exhaustion."

In convalescence from disease, too, how readily does the evening temperature rise after any slight physical exertion; and at the commencement of typhoid fever perhaps nothing tends to intensify the severity of the attack so much as physical fatigue. It would seem in this case as if the soil for the cultivation of the fever germ was materially enriched by the products of disintegration.

In "fatigue fever" these products are formed more rapidly than they can be eliminated or neutralised. With rest the febrile condition soon passes off, if the individual is otherwise healthy. Now it appears to be the function of certain glands, besides the liver and kidneys, to get rid of the poisonous products resulting from the disintegration of the tissues, either by neutralising or decomposing them or otherwise. If the action of the glands is checked or modified either by disease or by their removal, then the poisonous material soon begins to exert its specific effect on the system. We have recently been taught that, following upon disease or removal of the thyroid gland, the condition known as myxœdema, with all its attendant phenomena, arises. Again, in disease of the suprarenal capsules, "effete pigments and effete proteids circulate in the blood; the former, or their incomplete metabolites, producing pigmentation of skin and mucous membrane, and appearing often in the urine as urohæmatoporphyrin; the latter producing toxic effects, and leading to further deterioration of the blood with its consequences" (MacMunn). If, then, from any cause due to glandular, nervous, or other derangement in the system, these poisonous substances are developed, or not eliminated, they will alter the composition and constitution of the blood; the white corpuscles may be destroyed, or their movements enfeebled, and, by any such changes, the blood, which previously could resist the attacks of the various parasitic micro-organisms, is so modified as to render it a suitable soil in which these organisms may develop and thrive. This view is confirmed by the experiments of Rossbach and Rossenberger, who found that when papain or sterilised septic blood was injected into the vessels, micrococci developed in the blood with extraordinary rapidity. The blood, that is to say, was so modified in character that the micrococci, which could gain no entrance previous to the injection of papain, afterwards found a congenial soil for their development.

We may take another illustration from the process of fermentation. By fermentation sugar can be converted into carbonic acid and alcohol; but a pure saccharin solution does not ferment on the addition of a small quantity of fungi or bacteria in a pure state. Some nitrogenous material must be added as well, to act as food to the organisms, and then the transformation in carbonic acid and alcohol commences.

That it is only in particular conditions of a tissue, or at special times in its growth, that it furnishes suitable soil for the growth of the bacilli is shown by the following illustration from the vegetable world, furnished by De Bary:

"The common garden cress Lepidium sativum, is often attacked by a parasitic fungus of comparatively large size, Cystopus candidus. In consequence of this it shows considerable degeneration, swellings, curvatures of the stem, and often also of the fruits, and on these parts and on the leaves white spots and pustules subsequently turning to dust, which are formed by the sporogenous organs of the Cystopus, and give the entire phenomenon the name of the white rust in cress. This is a case of disease, and so striking that everyone notices it at once with the naked eye. Now we find in a bed of cress at about flowering time a certain number of rusty plants, two, for example, or twenty. They are in the middle of the other hundred or thousand plants, and these are healthy and free from the fungus, and continue so till the period of vegetation is at an end. This is the case, though the cystopus forms countless spores in the white rust-pustules, and the spores are dispersed as dust and are at once capable of germination, finding the necessary conditions for their further development in the bed of cress, and are the instruments by which the white rust-disease is eminently infectious. Nevertheless those hundred or thousand plants are not infected. All that has been hitherto said is strictly correct, and if we limit our view to this, we shall see in the phenomena which have been described a conspicuous case of individual difference in predisposition; a case too perhaps, if we judge hastily, of sickly predisposition in the plants attacked, for they do become sick and the others do not. And yet this is not the true account of the matter. Every healthy cress plant is equally liable to the attacks of the cystopus and to the rust-disease which it causes, only the liability is confined to a certain stage of the development, and ceases once for all when that stage is past. The germinating cress plant in effect first unfolds two small three-lobed leaves, the seed-leaves, or cotyledons. When it has grown a little further and formed more foliage-leaves, the cotyledons wither and drop off. It appears then, that the germ-tubes of the fungus of white rust find their way into all the cotyledons and are able to develop there, and if this development has at once begun, the fungus establishes itself at once in the tissue into which it has penetrated, and grows on in and with the growing plant, and produces the disease. The germ-tubes of cystopus may indeed make their way for a short distance into all the other parts of the plant, but are unable to establish themselves inside it and continue their development. The plant is for the future safe from the attacks of the parasite as soon as the cotyledons have fallen off. The two or the twenty rusty plants in the beds are the ones in which the fungus attacked the cotyledons in good time; if it had attacked the thousand others in equally good time, all would have been rusted. They continued healthy, because they were not infected in the stage in which they were open to infection, that is, predisposed."

We may take another example from the human subject. Ringworm of the scalp due to the fungus tricophyton tonsurans is not infrequently seen in children under 16 years of age, but after that age, though the fungus may affect other parts of the body, the scalp is generally free from it. Some change has taken place in the tissue there, which makes it less suitable for the growth of the parasite.

Now, may not the function of the glands to which I have just now alluded, namely, that of destroying or neutralising effete or toxic products formed in the system, have some bearing upon the development of tuberculosis? Thirty years ago it was suggested by Buhl, that in the human subject acute miliary tuberculosis was due to the absorption into the blood of caseous matters from various sources. "It afterwards became the fashion to regard tubercle as always a secondary product, the origin of which was

sought for in 'caseous foci' of which the formation was supposed to precede, in all cases, the development of tuberculous lesions.....The acute tuberculosis of children was traced back in a large number of instances to a simple intestinal or bronchial catarrh; this was supposed to lead first to swelling of the corresponding abdominal or thoracic lymph glands, and then to their caseation; and when once caseation had commenced the conditions for the development of tubercle were assumed to be present."

"But," says Dr. Hilton Fagge, whom I have just quoted, "nothing is more certain than that in man, the inspissated pus of a common abscess, or the caseous matter of an atheromatous artery, or of a degenerating new growth or gumma, does *not* produce tuberculosis." We may neglect then the consideration of these caseous glands as "caseous foci," and yet their existence antecedent to or associated with tuberculosis is so general, that to the mind of the practical physician it would seem as if there must be some distinct relationship, as to cause and effect, between them.

May I venture to offer an interpretation of the fact?

Suppose that in an individual we have such a condition of the glands either inherited or acquired, such a "vulnerability," so to speak, that from more or less slight irritation of the mucous membrane of the throat, of the lungs, or of the intestines, the glands in connection with those parts become enlarged and inflamed and, instead of recovering, become caseous, these organs then would no longer be able to perform their function, whatever that function may be, and if it be that of modifying or destroying the effete material coming to them as the result of normal changes in the mucous membrane, this effete material must pass on into the circulation generally, and produce its noxious effects, lessen it may be the vitality of the white blood-corpuscles or the epithelial or endothelial cells, or so modify the condition of the blood, that the tubercular bacillus finds a suitable soil in which to develop and flourish. Or it may be that these poisonous substances act specially as irritants of epithelial structure, causing an overgrowth of epithelial cells, just as we know will be the result when any other irritant is applied to these tissues; and so the soil is prepared for the lodgment of the bacillus. The human body in the normal state of things may be able to destroy the bacillus tuberculosis, just as the white corpuscles of the frog in Metschnikoff's experiment could destroy the bacillus anthracis, but not when placed in abnormal conditions.

In connection with this view of the matter it is significant to find in the case of animals innoculated with tubercle that the lymph glands in the neighbourhood of the inoculation become enlarged and caseous, and this precedes general tuberculosis by a longer or a shorter time.

Nor would I maintain that the loss of function caused by the swelling and caseation of the various glands was the only way in which the tissue soil could be prepared for the reception of the bacilli. If, as I urge, tissue in a state of decay is suitable, so then I would suggest that imperfectly formed tissue would furnish equally suitable food for these parasites—such tissue as would result from living in a close atmosphere with poor and insufficient food and insufficient exercise.

We could not imagine any conditions better calculated than these I have just mentioned to lower the activity or vitality of the epithelial cells of the pulmonary alveoli, or to interfere with the perfect organisation of the tissues generally, or to conduce more effectively to the accumulation of waste or effete material in the circulation, or to impede generally the action of the glandular structures, whereby these waste products should be rendered innocuous; and no wonder that under these conditions the tubercle bacillus finds a congenial home in which it spreads and thrives and multiplies.

Again, the condition often seen in some parts antecedent to the formation of tubercles in the human system indicates that there is often some structural change before the bacilli take possession of the part, and "that their appearance on the scene is subsequent to the damage of which they are in fact the pathological consequences." Not infrequently, in cases of acute tuberculosis of other organs we find an affection of the membranes of the brain presenting all the characters of simple inflammation, no tubercles being discoverable. And in the lungs the first stage of the morbid process is of a similar character, namely, the filling of the alveoli with epithelial cells, or in other words a "catarrhal pneumonia." And according to the vitality of these epithelial cells will be the changes produced in them by the bacilli. Some of the cells possessing greater vitality will, when attacked by the bacilli, go on increasing or coalescing, and so, in some way or other, the formation of the so-called "giant cells" takes place, which at one time were regarded as the typical elements of tubercle, and the remarkable phagocyte property of which has been recently shown by Metschnikoff to be something more than a theory. If the cells are of a weaker nature they quickly die and undergo degeneration, and become caseous.

And, once again, it may be suggested that when the bacilli have gained a footing in this effete or enfeebled tissue, whilst absorbing from it the constituents of their own protoplasm, they may give rise to, or secrete, poisonous products or ferments, capable of still further destroying or weakening the surrounding tissue or cellular elements and so obtain fresh food on which they can thrive. In this way, to use Dr. Sanderson's words: "Germs are not so much 'mischief makers' as mischief spreaders, that is to say, that although an inflammation may come into existence without their aid, their presence communicates to it after it has come into existence the power of reproducing itself in previously healthy tissues whether by extension or dissemination."

Sometimes, however, even though the tubercle bacilli establish themselves in the tissue, the epithelial cells may become strong enough to resist their further invasion and destroy them. The bacilli disappear and a "fibrous tubercle" containing giant cells but no bacilli is left behind as evidence of the fight which has taken place.

And does not this fact furnish us with our most important lesson, namely, that in the prevention and treatment of consumptive mischief our aim must be not so much to fight against the bacillus as to strengthen the parts attacked? To improve, that is, the condition of the blood and of the cellular elements by suitable dietetic, hygienic, and medicinal means. And is not this in accordance with sound practical experience? That the tubercle bacillus will communicate the disease under ordinary circumstances to healthy individuals cannot for one moment be admitted. The statistics compiled by Drs. Cotton and Theodore Williams and Mr. Edwards, from the records of the Brompton Hospital relating to several hundreds of individuals, subjected more or less to contact and association with consumptive patients for three months and upwards, directly negative any idea of consumption being, in the ordinary sense of the word, an infectious disease. And therefore if a healthy human system can resist the invasion of the bacillus, surely the common sense view of preventing its invasion, or arresting its progress, must be to adopt such measures as will tend to the development of healthy tissue. That the internal administration of cod-liver oil is of great service generally in the treatment of phthisis few, I think, will deny, and the same may be said of the free use of butter as an article of diet, the latter sometimes even appearing to answer better than the cod-liver oil, and is certainly more willingly taken. But what possible effect can these have on the bacilli? Indeed, I fear the discovery of the tubercle bacillus has not proved in some respects to be an unmixed benefit, and that by treating patients in various ways by antiseptic remedies the result has been that the patient, and not the bacillus, has succumbed.

Lastly, there is one important point to refer to in connection with these micro-organisms. We are surrounded on all sides with certain forms of them which, under ordinary circumstances, produce no injurious effects on the human frame, living only as saprophytes on dead animal or vegetable matter. Can these harmless organisms under any mode of cultivation acquire virulent or poisonous properties enabling them to attack living animal matter? Can the common bacillus of hay infusion, the bacillus subtilis, be transformed into the bacillus anthracis? Or, putting the question more generally, can a specific disease arise *de novo*? Pathologists and bacteriologists differ strongly on this point. Buchner says that the transmutation of the hay bacillus into the bacillus anthracis does take place. Koch and Klein say it is impossible. All admit that the bacillus anthracis, if cultivated outside the human body, artificially, at a certain temperature, can have its properties so modified that it ceases to be poisonous, and, after six weeks' attenuation, can then be injected into the blood of a living animal without producing any injurious effects—rabbits resisting the injurious effects at an early stage of attenuation, later guinea pigs, while it is only after the parasite has been cultivated for a period somewhat less than the six weeks that mice seem to be impervious to its attacks. But how is it that this attenuation takes place? whether it is due to the effect of heat alone or to the effect of oxygen, bacteriologists are by no means agreed. Further, it has been shown that when the attenuation of the bacillus has been brought about in a certain way (by the addition, for instance, of carbolic acid or potassium bichromate to the cultivation) its

virulence is not regained when cultivated in fresh material at the ordinary temperature. But, attenuated in a different fashion, it does regain its virulence under those conditions.

Again, the virulence of a parasitic organism is materially altered according to the animal through which it has been transmitted. "In the course of Pasteur's interesting researches on swine plague, he found that pigeons inoculated with the virus of swine plague died in six or eight days, after suffering in the first instance from symptoms like those of fowl cholera. If the disease is transmitted from pigeon to pigeon, the organism after a time acts more violently, and the animal dies sooner. If, now, pigs are inoculated from these pigeons, death occurs more quickly than when inoculated from a pig, the organism having become more virulent. With the rabbit the converse is the case. The virus kills rabbits, but if it is passed through a series of rabbits it is no longer able to kill pigs" (Watson Cheyne).

Now, if this is the case, if the virulence of parasitic or pathogenic organisms can be thus modified, it seems incredible that organisms of similar structure, though apparently harmless saprophytes, cannot be cultivated in some way or other so as to become pathogenic. And when the bacteriologists tell us that it is impossible, that only means, I suppose, that they have not yet discovered the way. Specific diseases and pathogenic bacteria can hardly have existed from the foundation of the world, they must each have had their period of development, and what has developed through one period of time may be developed again under similar circumstances. This may require a combination of circumstances acting simultaneously. Each circumstance separately may be in frequent action, but the necessary combination may present itself very rarely. A certain temperature and a special pabulum, a product, perhaps, of a certain stage of putrefaction, may be the first requisites to develop the pathogenic power of the bacterium[]: it may then require a special condition of the living animal organism, a lowered vitality, or an enfeebled state of health, the result, perhaps, of the same conditions of air, soil, and temperature, etc., which have called forth the power of the parasite before it can find an entrance; and possibly, after that, its transmission through different species of animals may be necessary before it acquires destructive virulence, and is able, like the bacillus anthracis, to attack sound and healthy tissue.

Instances are not rare of vegetable cells possessing poisonous properties at one time and not at another. Nägeli has called attention to one of the most striking, which is thus described by De Bary:—"The bitter almond tree is poisonous from the amount of amygdalin it contains, though it is not very dangerous to human beings; the sweet almond contains no amygdalin, and is not poisonous. The sweet almond tree does not differ specifically from the bitter; a tree with bitter seeds may be produced from a sweet seed; bitter and sweet seeds may even be borne on the same tree in flowers and fruits not morphologically distinguishable from each other." What the origin or cause of this difference is has not yet been discovered, and no explanation can as yet be offered; but the fact will help us to understand that cells may be developed by these micro-organisms capable of producing very different effects upon the system; and I incline, therefore, to the view that, probably from the simple neglect of ordinary sanitary measures, innocuous micro-organisms may become virulent, and that diseases may arise *de novo*.

I have, however, detained you already too long with these speculations, and will not proceed further with them, tempting and important though the subject may be. One thing is clear and certain: there is very distinct evidence showing a relation between bacteria and certain diseases both in man and animals; but what the exact *modus operandi* is in the production of the disease can only be learned from further investigation; and additional study may throw a very different light on the relationship of these organisms to the respective maladies from that in which it may now be regarded. Whether this will be so or not, it seems to me, that with increased knowledge of the chemical changes in the blood and in the tissues, we are on the threshold of most important discoveries, and of a very marked advance in the science of medicine. That physiologists are recognising in a greater degree than formerly the importance, nay the absolute necessity, of further acquaintance with chemical physiology, is shown in a marked way by the appearance of such works as those of Gamgee and Charles, and especially the most recent and most valuable one of McKendrick. Perhaps by further investigations into the chemical changes produced by bacilli, the constitution of the proteid molecule, complex as its nature is now regarded, may be unravelled and its properties better understood; we may be able to discover, possibly, what poison it is which the bacillus secretes, or how it is formed, or from what constituent of the proteid molecule it is derived. The other constituents of the molecule may perhaps furnish the antidote, or a poison antagonistic to that produced by the bacillus; for we know that poisons are antagonistic to each other, atropin and muscarin for examples. We may even hope to find that the action and growth of the bacilli may be inhibited by certain substances, and then by injecting these substances into the blood disease may be prevented, or if disease exists it may be arrested or cured. Is there not then, in this direction, much that should attract you, and, in Harvey's words, "encourage you to search out the secrets of Nature?" The changes seem so minute and inscrutable, sometimes so transitory, that amidst difficulties and disappointments we may often be discouraged and inclined to abandon the investigations. So it was with Harvey: "I found the task so truly arduous, so full of difficulties, that I was almost tempted to think with Fracastorius, that the motion of the heart was only to be comprehended by God.....At length by using greater and daily diligence.....I thought that I had attained the truth.....and that I had discovered what I so much desired, both the motion and the use of the heart and arteries." Reverently, earnestly, and hopefully he continued his work and succeeded. Let us follow in his footsteps, gathering up the facts, and, with minds educated and trained to reason upon the facts, try and penetrate further into Nature's mysteries; and thus may we be enabled to do God's work in the world, by preventing and healing all manner of diseases, and so promoting the happiness and welfare of mankind. One, whose memory is reverenced by all here, Dr. Parkes, wrote: "In the scheme of Providence it may not be meant that man shall be healthy. Diseases of mind and body may be the cross he has to bear; or it may be the evil against which he has to struggle, and whose shackles he has finally to unloose. The last disease may disappear, we may believe, only when man is perfect; and as in the presence of the Saviour all disease was healed, so, before perfect virtue, sorrow and suffering shall fade away. Whether the world is ever to see such a consummation no man can say; but as ages roll on hope does in some measure grow. In the midst of all our weaknesses and all our many errors we are certainly gaining knowledge, and that knowledge tells us, in no doubtful terms, that the fate of man is in his own hands." Let us hopefully strive to increase that knowledge, and so help, each one, to hasten on the time, far distant though it yet appears, when the last disease will disappear and man be perfect; when "there shall be no more death, neither sorrow, nor crying, neither shall there be any more pain: for the former things are passed away."

MAIDSTONE (Population, 31,987).—*Low Death-rate: Neglect of Vaccination: Small-pox in a Rag-Cutter: Duration of Infectiveness in Scarlet Fever.*—Mr. Matthew A. Adams is justly proud o the position which Maidstone occupies among the fifty large towns of England and Wales in respect of death-rate. In 1887 i headed the list with the remarkably low rate of 12.3 per 1,000, a return which is quite unprecedented and may well be made a subject for congratulation. Having obtained this position, Mr Adams naturally aims at keeping up the standard, and points out the weak spots in the sanitary defence. One of the most palpable defects is the neglect of the vaccination laws, which from mere indifference and from no active opposition, have been allowed to lapse. This is a serious matter in a district where paper-mills abound, as the liability of the spread of small-pox through rags such as are used in the manufacture of paper is an established fact. Indeed, one of the two outbreaks of this disease that occurred during 1887, in Maidstone, appears to have been traced to this source, the first patient, a woman, being a rag-cutter at a paper-mill. Before the case was reported, she had communicated the disorder to a sister living in the same house. The whole family was thereupon isolated and the house disinfected, so that no further spread took place. Mr. Adams had little trouble with other zymotic sickness. His experience as regards the duration of the infection of scarlet fever is noteworthy, and is given as a warning as to the necessity of maintaining proper isolation. He considers that six weeks is not a safe limit to the period of infectiveness, as he has several times had reason to know that a convalescent returning home on the forty-third day after the appearance of the rash, has communicated the disease to others, the chief risk being run in the act of kissing.

AN ADDRESS
ON
THE OLD SURGERY AND THE NEW.

Being the concluding Portion of an Introductory Address delivered to the Medical Society of London at the First Meeting of the Session 1888-9.

By Sir WILLIAM MAC CORMAC, F.R.C.S.,
President of the Society.

It will not, I think, be out of place for your President, who is this year a surgical one, to say a few words, however imperfectly, about this great branch of our common profession.

I often think we are too apt, in the preoccupation of the present, to forget what a great amount of work was accomplished by our predecessors and how completely, in many instances, they fashioned the pathway which has led to many of our modern achievements. Only to mention the honoured name of Celsus, we find several of the operations described by him are still performed, and he has recorded his experience, or rather the experiences of his time, with a force and precision that never probably have been surpassed. Some perhaps may say, "What have we to do with ancient surgery? We are practical men; give us the surgery of the present day." But much of the practice of the present is founded on the labours of the past, on the thought and the toil of those who are no more:

Vergiss die treuen todten nicht.

There is some tendency to displace the leaders of the generations who have gone before from the pedestals on which the admiration of their contemporaries has placed them. The traditions of the past are, I suppose, a part of the discipline of the surgical mind. At the same time, one cannot look back to some of the procedures of our ancestors without horror. Imagine limbs being literally chopped off, and the raw surface partially charred to restrain the hæmorrhage, and that without anæsthesia, without narcotics to soothe the horrible anguish. Fancy the red-hot knife, the quivering flesh, the slow and painful healing of wounds by second intention, the fatal atmosphere of hospitals, the gangrene, the larvæ that infested the sores, the vermin, and the deaths! At one time two, three, and even four persons usually occupied the same bed in the Hôtel Dieu of Paris. In the same hospital, and at no very remote date, I have myself seen two and three in a bed. The atmosphere in the wards was sickening, and reeked with the odours of burning flesh arising from incessant moxas. One could not wonder at the dreadful mortality following every sort of operation.

Never were the arms of surgery—literally as well as metaphorically—so well appointed as they are now. People speak of "conservative surgery;" but all surgery, in strictness, is conservative; in fact, to speak of surgery as otherwise is a *non est*.

The exigencies of practical work, perhaps, require divisions; but while it does not follow that the physician must be a surgeon, it is quite needful that the surgeon be a physician also; if he be not, how can he properly understand the so frequent constitutional origin of local disease, the true nature of tubercular and other deposits? We know that neurosis of a joint, a localised hysteria, has been often treated by means least calculated to benefit it, and has even ended in the excision of an articulation in every structural respect normal. Not once or twice only has pregnancy been looked upon as ascites, and ascites as pregnancy, or has ovarian disease has simulated, or seemed to simulate, pregnancy, and pregnancy been taken for ovarian tumour, with disastrous consequences. Abscess has been mistaken for aneurysm, and, worse still, aneurysm for abscess. Think of the trocar being resorted to under any of these conditions erroneously. These considerations are not new, but they are none the less of moment.

The future of surgery, I am of opinion, will be found in a greater breadth of culture on the part of those who practise it, and in dealing with the body as a whole, as well as looking to the various requirements of its parts.

Our most cultured intelligence is not too much to devote to the noble object of appeasing anguish, and directing to safe issues the casualties that beset the most wondrous structure this world contains. If one of the old surgeons should return to earth, how greatly, for instance, would he be astonished at the simplicity of the procedure now adopted for the reduction of dislocation. The pulleys, the rack, appliances more befitting a room of torture than the operating theatre of a hospital, are replaced by an assistant or two, a sheet or napkin, or often the unaided *tour de maitre* of the surgeon himself. On the manner of dealing with wounds it is unnecessary to speak; everyone must admit the vast progress which has been made; within the last few years it has amounted to revolution. As contrasted with the methods of ancient days, it is safe and painless. It is no longer needful to insist upon the necessity of aseptic and antiseptic procedures, of strictest cleanliness in air, person, and environment. The relative rarity of so-called hospital diseases, blood-poisoning, traumatic fever, erysipelas, and gangrene bespeaks the improved hygiene of modern times. Secondary hæmorrhage is much less frequent, wounds, as a rule, heal by first intention, the tendency to pain and inflammation is abated. In every branch of surgery progress has been made.

Our fathers would look on with amazement could they but witness the ablation of a diseased ovary, spleen, or kidney; the modern methods of dealing with stone in the bladder, the treatment of aneurysm by ligature or by compression, instead of the former evacuation of the sac with its attendant risks; the radical cure of hernia and much besides.

Tubercular disease under a multitude of circumstances has to be dealt with by the surgeon. Its etiology is surely better determined than it was before. Among animal poisons, syphilis, glanders, and the poisons of hydrophobia and of tetanus, we have as yet been unable to remove from our midst. Yet they are managed, on the whole, more successfully than in days gone by, and their causes and manner of treatment are becoming better known. Cancer we have hitherto striven against in vain. Its etiology is among the problems which await solution, I would fain hope, in a near future.

Yet we can accurately localise a tumour or abscess in the brain, and in many cases relieve the patient from an otherwise certain death. We deal with the former sealed cavity of the skull and its precious contents almost as freely as with other parts of the body.

To discover the precise position and afterwards to successfully remove a tumour of the spinal cord is an achievement of which any body of surgeons might be proud.

Diseases of the lungs and chest cavity are directly dealt with in a manner heretofore unthought of.

And as for the abdomen, an "open sesame" has been found for every organ within its cavity. Cases both of disease and injury have alike been submitted to active intervention at the hands of the modern surgeon, whose courage has been amply justified by his success.

The field of practice is vast, the subjects of inquiry are multitudinous, and surgery is always progressive. New triumphs of skill, a deeper insight into the causes of premature human destruction, and more effective means of dealing with them await, without question, the surgeon of the future, as they have more or less attended the surgeon of the present and his brother of the days that are gone by.

Yet medicine and surgery are not two sciences, but one science, aiding and aided, having the same end in view; and any disparaging comparison of one in regard of the other is not less futile than it is absurd.

This Society, in its purpose and its work, exemplifies the union of the two great branches of our profession in their common task of alleviating all kinds of suffering, and prolonging, as far as may be, the span of a healthy life.

An interesting ceremony recently took place at the Devonshire Hospital, Buxton, a three-quarters life-size portrait of Dr. Robertson being presented to the trustees and committee of management of the hospital on behalf of the subscribers, who included His Grace the Duke of Devonshire, K.G.

Lectures to Plumbers.—The West of Scotland Technical College authorities and the District Council, acting in conjunction with the Plumbers' Company, have started technical classes for plumbers. On the occasion of the introductory lecture at Glasgow, upwards of 800 plumbers—masters, operatives, and apprentices—from all parts of the district were present.

INTRODUCTION TO A DISCUSSION ON INTRA-UTERINE DEATH: ITS PATHOLOGY AND PREVENTIVE TREATMENT.

Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By Professor SIMPSON,
Edinburgh.

The topic which has been proposed for discussion to-day has recently been expounded with great ability and fulness of illustration by Dr. Priestley. When I remind you that Dr. Priestley tells us he found it impossible to treat The Pathology of Intra-uterine Death exhaustively in the Lumleian Lectures, you will see that I must not attempt to do more than outline the subject now, by way of indicating the points on which we may hope to gain information from the wisdom and experience of the obstetricians here assembled.

Pathology.

Let me group the causes of intra-uterine death under the three rubrics of, 1, Fœtal; 2, Maternal; 3, Placental. I do not overlook the well-known circumstance that conditions of disease or debility on the part of the male parent are often the obvious source of the pregnancy disaster. But the paternal influence, as a rule, produces its mischievous effect by the development of morbid processes in the fœtus, in its mother, or in the placenta which forms the channel of communication between the two.

1. *Fœtal Causes of Intra-Uterine Death.*—As regards the causes of death *in utero* on the part of the fœtus itself, we note that it may die, first, of some acute disease; secondly, of some chronic affection; thirdly, from some accident.

First, we have occasional illustrations of the death of the intra-uterine fœtus from Acute Disease during certain epidemics, when the mother is affected with a zymotic poison, and passes through the attack without aborting, but casts a dead fœtus with healthy appendages a few weeks later. We may have a woman seven months pregnant, for example, passing through an attack of modified small-pox, and three weeks after the fever has subsided she may give birth to a dead fœtus with pustules all over the body, and the placenta giving no evidence of pathological disturbance. Such cases we may any of us have seen, when probably the fœtus died of the pyrexia. In this category we may class the cases where the fœtus has been the subject of extensive inflammation, as in those instances where not only effusion into the abdominal cavity, but the presence of flakes of lymph on the liver, spleen and intestinal coils gives evidence of active peritonitis.

Secondly, in those women who have a succession of infants dying *in utero*, we have far more frequently to do with cases where the fœtus is the subject of some Chronic Affection. The syphilitic affections of the viscera, for instance, would be enough of themselves to prove fatal to the fœtus, apart from the morbid changes in the placenta, which are, however, more commonly the cause of death; and in this group we must place some of the dead infants that are born dropsical, scleremic, or the subjects of malarial or other affections of the spleen, liver, or kidneys.

Thirdly, the death of the fœtus may be Accidental—the result of some traumatism, or it may be brought about from some unusual condition of the umbilical cord, whether from the much debated and doubtful exaggeration of its torsion, or from its more clearly established pathological convolutions and knot-formations. Thus we may see a dead fœtus with the cord coiled simultaneously round the neck and the right thigh, in such a fashion that the struggles of the infant set up by interference with the funic circulation must necessarily have increased the difficulty and brought about the death; and in cases where twins are developed in a common sac, the cords may be so entangled that in one the circulation is completely arrested, and the child to which it is adherent dies.

2. *Maternal Causes of Intra-Uterine Death.*—The conditions on the part of the mother that lead to death of the fœtus are sometimes: First, general, when the woman is the subject of some constitutional disorder, or of disease in some important organ; or, secondly, local, when the fault is in the uterus itself or its immediate surroundings.

First, of Constitutional diseases affecting a pregnant woman, and liable to cause interruption of her gestation, we may take note of the zymotic affections, which may produce their fatal effect either by their pyrexial intensity, or by stimulating the uterus to cast its contents untimeously, or by the tendency to hæmorrhage resulting from the changes in the blood; all this, it may be, before there is time for the fœtus itself to give evidence of having been infected with the poison. The same results are seen in acute diseases, such as pneumonia, acute yellow atrophy of the liver, septicæmia, erysipelas, metallic poisonings, etc. Where a woman has a series of miscarriages, however, we are more likely to have to do with one who is the subject of some cardiac lesion which becomes aggravated during pregnancy; or she suffers from anæmia or leukæmia. In some rare cases the urine is diabetic; not so seldom it contains albumen. Death of the fœtus may here be due to imperfect nutrition or respiration from the morbid condition of the blood; which may also, however, tend to set up premature uterine activity, or, more frequently still, give a proclivity to uterine hæmorrhage.

Secondly, as regards the Local maternal causes of intra-uterine death, we note that, whilst displacements and chronic inflammations of the uterus are to blame for many cases of habitual abortion in the early months, these do not manifest their pernicious influence so commonly after the fœtus has come to its fuller development. Only in some of the cases of chronic endometritis, where the ovum has escaped the risks of the imperfect formation or dangerous implantation of the placenta and of the decidual hæmorrhages to which such patients are so prone, the fœtus may suffer and languish and even die when the catarrhal condition becomes established, which is associated with the debilitating drain commonly described as hydrorrhœa gravidarum.

3. *Placental Causes of Intra-uterine Death.*—The greatest number of cases of intra-uterine death by far are traceable to morbid conditions of the placenta. This is just what we might expect from a consideration of the functional importance of this organ. As regards the fœtus itself, we may meet with individual cases where the brain and spinal cord are wanting, where the liver is ductless, the gullet or intestines occluded, or the kidneys supplanted by two cystic masses, without any impairment of its intra-uterine vitality; and the acardiac monster lives on till the close of pregnancy because its circulation is kept up by the effort of its large-hearted twin brother. In every one of these conditions, alimentation, oxygenation and elimination of waste products all go on through the medium of the placenta, and the defect or degeneration in the fœtal organ only comes into prominence when there is a call for its functional activity after the work of the placenta is done. As regards the mother, she may be reduced to the last degree of weakness, as we may see in some cases of phthisis, and yet the parasite in her womb will live and thrive at her expense if only the medium of its communication with her system remain unaffected.

In taking up the placental causes of death we may leave out of our discussion to-day the cases where the placenta has been implanted in dangerous zones, or presents peculiarities in its size or mode of development, and fix our attention on the morbid changes in its structure, whether these be, first, neoplastic; secondly, nutritional; or thirdly, apoplectic.

First, Neoplastic degenerations of the placenta may be found either in the fœtal or maternal elements of it, the new growths taking the place of the normal structures or interfering with their functional activity. In the myxomatous placenta we have an instance of degeneration of tissues belonging to the ovum. This kind of mal-development is much more familiar to us in the cases where it sets in at an early stage of pregnancy, and affects the whole chorionic surface, so that all the villi become the seat of hydatigenous change, and the pregnancy ends in the production of a vesicular mole; but the same process may set in at a later stage among the growing placental villi, with the result that many of the villi become transformed into cystic masses pressing upon the healthier structures, and according to their extent impairing or abolishing the life-sustaining function of the whole placenta. Growths of various kinds but of somewhat doubtful character have sometimes been described as seated in the decidual portion of the placenta. Perhaps we should reckon amongst these the

gummata that have been found by various observers in the uterine portion of the placenta in women who are markedly syphilitic, and that consist of patches of fibrous and granulation tissue scattered through the cotyledons. Decidual neoplasms, however, are usually localised and too limited in extent to affect deeply the integrity of the organ.

Secondly, the Nutritional changes in the placenta include the inflammations and degenerations of tissue, which are beyond all question the most common cause of the impairment of its functions, and so of interference with the vigour or vitality of the infant. They are the pathological processes to which it is most needful to direct our attention, and in regard to which important aid will be given by clearer views as to the structure and development of the normal placenta. Until, for instance, anatomists have succeeded in determining for us whether the epithelial mantle of the active placental villi takes its origin from the chorion or from the decidua, we remain uncertain whether to seek for the explanation of its pathological changes in causes on the part of the ovum or the uterus. Referring it provisionally to the chorion we may note that the pathological processes in (1) the Fœtal portions of the placenta usually affect all the elements of a villus, but can sometimes be traced primarily or principally to changes (*a*) in the Vessels, (*b*) in the Parenchyma, (*c*) in the Epithelial investment.

(*a*) Researches into the degenerative processes in syphylitic placenta have made it very plain that the coats of the placental Blood-vessels undergo in many cases a degree of thickening and hypertrophy that may lead to obliteration of their canals. Where such changes affect the capillaries in the villi, morbid processes are often found reaching back into the larger vessels, and occasionally it is in the umbilical cord itself that the intima or adventitia are more distinctly atheromatous or thickened.

(*b*) In other instances the occlusion of the vessels is due not so much to thickening of their walls as to compression caused by morbid processes going on in the surrounding Parenchyma. Instead of remaining as a layer of transparent mucoid tissue sustaining the capillaries and allowing them to lie close to the epithelial surface bathed in the maternal blood, the substance of the villus becomes swollen and dim, sometimes simply in a state of great œdema, sometimes crowded with granulated cells. The enlarged structures fill up the lacunar spaces and obstruct the maternal blood-flow in the affected cotyledon, whilst the compression of the fœtal blood-vessels may lead to congestion in the neighbouring territories. The irritative process that at first causes hypertrophy of the chorio-placental parenchyma may produce a secondary stage of fibrous degeneration when the tissue becomes dense and cirrhotic and atrophy sets in in the morbid areas.

(*c*) It is in their Epithelial covering, however, that we should look for the most important of the pathological processes in the placental villi. Whilst the walls of the capillaries and their surrounding parenchyma may have a mechanical influence in determining the flux and reflux between mother and fœtus, it is to the epithelial cells that invest them that the more vital function must belong of elaborating from the maternal blood the pabulum necessary for transmission to the fœtus, or of extracting from the fœtal blood the waste products to be thrown into the mother's circulation. It is in this element of the placental villi, accordingly, that we find the most constant changes when the function of the placenta is interrupted. When the fœtus dies from any non-placental cause, the first and most advanced retrogressive change in the placenta is fatty degeneration of the villous epithelium. Whenever damage is done to the placenta, as in cases of blood-extravasation, again the epithelial cells degenerate. When the placenta is œdematous, and when it is cirrhotic, whatever changes affect the vessels or the parenchyma, we constantly see that the epithelial covering shares in the morbid process. Sometimes it is in a state of swelling and hyperplasia, its cells enlarging, multiplying, and becoming cloudy, or its elements become fattily degenerated and disintegrated, and according as the process is more or less widely diffused throughout the cotyledons is the degree of danger to the life of the fœtus. The agent which can be most distinctly recognised as active in the production of these villous diseases and degenerations is the syphilitic virus, and where this has been introduced into the ovum of a healthy woman by tainted semen it is in these fœtal portions of the placenta that we have the primary and principal manifestations of the mischief. But probably the degenerative processes have at times another origin, as we may see the œdematous or fatty placenta associated with dropsical states of the fœtus or morbid conditions of the maternal blood, where no history of syphilitic infection can be obtained, and no pathological changes of a distinctively syphilitic character can be observed.

(2) The Maternal portion of the placenta may be the seat of inflammatory, hypertrophic, and degenerative changes. The irritative process may affect chiefly the uterine or external parietal layer of the placenta, leading to induration of the surface such as renders the separation difficult in the third stage of labour, and gives rise to the varieties of adherent placenta which cannot be thrown off by an active uterus. The cases with which we have at present to do are those where the trabecular and boundary layers are implicated as well, and the decidual tissue through which the maternal blood circulates and in which the fœtal villi are embedded are the seat of change. Here processes parallel to those seen in the fœtal elements have been observed. Sometimes the tissue is œdematous, soft, and swollen, with the decidual cells enlarged and dim and hyperplastic, the whole placenta being enlarged and pale. In other cases the cells are found in a state of fatty degeneration with granular exudation in the intercellular matrix. Or there may occur a hypertrophic proliferation of the connective tissue leading to induration of the structure, and in some cases to a consecutive condition of atrophy that has been described as cirrhotic. Where there is a syphilitic taint in the maternal system the granulation tissue has the features characterised as gummatous. The various processes may owe their origin to syphilitic irritation. But the simpler forms of inflammation and degeneration are also sometimes found in women without traceable syphilitic history, but who have been the subjects of chronic endometritis, or of some blood-dyscrasia. The result of them is friability of tissue, with proclivity to hæmorrhage, or compression of the vascular sinuses, or of the stems of the villi leading to secondary changes there and total loss of function of the affected part.

Thirdly, the Apoplectic changes in the placenta present themselves under different forms, and may be of various origin. Among them have sometimes been described cases where there may not have been much or any laceration of tissue, but, in a cotyledon, the blood seems to have been detained and coagulated. It is difficult to account for this thrombotic occurrence, except on the supposition that the fœtal villi in the affected sinuses have first become diseased, and acted as foreign bodies on the encircling fluid, and the normal hyperinosis of pregnancy is sometimes exaggerated to a degree that renders the blood liable to thrombosis in any space where it meets morbid structures, or is slowed in its transit. True extravasations may take place on the uterine surface of the placenta. When confined to one cotyledonary area, the blood crushes the corresponding lobule; and if there be no recurrence, the damage is not detected till after the expulsion of the secundines, when the blood-clot will be found on the compressed cotyledon fresh, or decolourised, or undergoing further change, according to the more or less recent date of its occurrence. When the blood-escape is more extensive, or when it occurs near the placental margin, it is likely to lead on to a labour complicated by accidental hæmorrhage. The true apoplexies, however, take place into the cavernous portions of the placental lobules. In some of them the extravasations may have so distended the cavity it has produced as to have burst the parietal layer of the placenta, and become visible through the opening seen on the uterine surface after the placenta is expelled. But in most cases they are detained within a cavity, which is only exposed after an incision is made into it, either from the bulging uterine or amniotic surface. They are single or multiple. They may occur at different dates of pregnancy, and according as they are more or less recent the affected lobule is found in very varying conditions. Where the accident is of recent occurrence, the placenta is markedly thickened at the seat of extravasation, and, when the cavity is opened, the blood is found still fluid or loosely coagulated, and the placental tissues are simply compressed. Perhaps in the same placenta may be found another cotyledon, also thickened, but more dense to the feel, and in it the blood is firmly coagulated and becoming decolourised, whilst the placental tissues are becoming the seat of fatty degeneration. In yet another it has begun to contract, and the placental tissues are disintegrating and shrivelling; and in another part of the placenta that has become thin and hard, the whole of the placental tissues, with the entangled blood-clot, have become transformed into a dense node of fibrous tissue, in which no further trace of chorionic or decidual elements can be discovered. It is not always easy to determine whether the extravasation is a cause or a consequence of the attendant tissue degenerations. In some of the syphilitic placentæ it seems pretty

evident that the interference with the circulation in a specially affected area may lead to hyperæmia in neighbouring territories, and so to the tendency to congestion and extravasation there. In some cases the degenerative processes in the placental elements will render them unusually friable, so that a degree of disturbance that in a healthy placenta will cause only a temporary congestion will in them bring about a laceration in the wide-meshed trabecular layer. But in other instances the extravasation is primary. The placental tissues may be all healthy, and yet extravasations will take place in women who are the subjects of typhoid or other fever, or who suffer from anæmia, leukæmia, or other morbid states of the blood. There is a notable tendency to such recurrent placental apoplexies in pregnant women with chronic Bright's disease, and the hæmorrhages occur more readily in women of relaxed fibre, in whom there is marked relaxation of the uterine walls and deficiency in the tonic rhythmical contractions characteristic of the healthy gravid uterus. The influence on the life and development of the fœtus vary with the number of the lobules implicated, and the dates at which the accident occurs. If many lobules are simultaneously implicated, the fœtus may die quickly of the sudden interference with its oxygenating organ. When the lobules are affected in succession and with some weeks of interval between the destruction of the several lobules, the fœtus may survive, but be born ill-nourished, delicate, and difficult to rear.

Diagnosis.

The conditions which we have thus been considering may never be suspected, and some of them can never be recognised when they are suspected till after the expulsion of the sanguinolent fœtus and its secundines. But when such a fœtus has been born, careful examination should be made of the viscera, and especially of the liver and spleen, which are apt to be distinctly enlarged and otherwise modified in syphilitic children, and of the bones to trace the osteo-chondritis syphilitica of Wegner, as well as of the placenta and umbilical cord, to find the varying forms of disease they may present. And when we have a patient giving birth to a succession of such dead children, we must watch her through her following pregnancy, observing whether there be any tendency to such special tenderness in the uterine walls as has sometimes been noted in placentitic patients, or recurrence of sensations of local uneasiness or general faintness such as have sometimes seemed to indicate the dates of the occurrence of hæmorrhagic extravasations; and, above all, to note the character of the fœtal heart-beats, so as to catch in the slowing and weakening of its sounds the indications of vital depression or impending death of the fœtus.

Preventive Treatment.

When in our obstetrical practice we have a patient giving birth to a series of still-born children, our first aim is to determine whether she be the subject of any constitutional diathesis, or, where she seems to be healthy, whether there be any such indications on the part of the fœtus. In a large proportion of cases there will be syphilitic manifestations more or less distinct. In giving the proportion of 83 per cent. as the result of his own investigations, Carl Ruge is probably not far off the average mark. In such patients we may hold out the hope that with the lapse of years matters will improve. If the wife, as is commonly the case, had been previously healthy, and the husband can be persuaded to let the uterus remain at rest until in process of time the virus in him has lessened in its intensity and the tertiary symptoms have disappeared, it may become possible for him to impregnate a healthy ovum that will develop and be carried to the full term. But it should be remembered that, even where the tertiary stage has been reached, we can give no certainty of healthy procreation to a man once constitutionally syphilitic, and the most hopeful results are to be obtained by the enforcement of anti-syphilitic treatment.

I fix attention on the marital syphilis because in at least four cases out of five it is the husband who brings this miserable endowment into the marriage contract, and because it is sentimentally cruel and scientifically stupid to make the wife the subject of our efforts to counteract the effects of the poison in her person while nothing is done to neutralise it in him who at each fresh conception is infecting her anew. Mercury in its various preparations has too often been introduced into the system of pregnant women, to the detriment of their constitution, when it might have been administered with the happiest consequences to the husband. Only after his system has been sterilised as well as hers by the lengthened use of the protiodide or other salt of mercury in regulated doses should she be exposed to the chance of a fresh conception; and, when conception has taken place, the use of the mercurial once or twice a day in small tonic doses should be continued far into or throughout the pregnancy. The administration of iodide of potassium may occasionally accompany or succeed the mercury, and the waters of Aix-les-Bains, Ems, and Kissingen have sometimes been useful, especially where there remains a tendency to uterine inflammations in a patient in whom the syphilitic taint has been otherwise counteracted.

As regards other constitutional conditions, it is equally clear that we must use the resources of our art to remedy them. The anæmic patient must take iron during her pregnancy, and she will sometimes do well to take arsenic in small doses along with it. The patient with albuminuria should be dieted with milk, and in her also the use of iron is often serviceable. In such patients, as well as in those affected with cardiac difficulties, the iron may be given along with digitalis, or with strophanthus, which is an excellent substitute for digitalis in the cardiac complications of pregnancy.

Where the placental disease is traceable to chronic inflammatory processes in the uterus, care must be taken to secure complete involution after the dead child has been born, and it may be necessary, before another fertilised ovum is allowed to lodge in the uterus, to make some applications to the endometrium, or let the patient have a course of the waters of Ems, Karlsbad, Kreuznach, or Kissingen.

When we have done all that we can in the way of eliminating diathetic mischiefs, and building up the patient's system and restoring the uterus to health, we ask whether there be any means of promoting the placental functions in cases where there is reason to apprehend disease or degeneration in that organ. Perhaps various substances may prove useful in this direction, but as yet the only drug that has given quite satisfactory results is the chlorate of potass. The idea under which it was first administered, that this richly oxygenous salt would part with its oxygen to the fœtal blood, and so supplement the respiratory action in the impaired conditions of the placenta, has long been given up. A dose of twenty grains passes within about twenty-four hours out of the system, and can be obtained almost in its entirety in the patient's urine. But observation has abundantly confirmed the importance of its full and continuous administration, in enabling patients with placental weakness to carry their infants on to viability or to full development. It should be given in doses of fifteen or twenty grains every six or eight hours, so that there may always be some of the salt in the circulating fluid. Its use should be begun as early in pregnancy as at the third month, and it should be continued up to the hour of the infant's birth.

Our final resource in certain cases is to induce labour after the period of viability is passed, and when a fœtus is nearing the stage of development at which its uterine predecessor perished, or when by the stethoscope we detect the signs of impending danger. The hint is often given us by what is seen to take place naturally. In the cases especially of the placental apoplexies, the blood extravasation sometimes produces such a degree of separation of the membranes and placenta that uterine activity is set up. We can most safely imitate the natural process by having recourse to the use of hot vaginal douches. When the period of viability is passed, the douche may be employed with water moderately warm for short periods twice a day, with the result that the uterus will simply be stimulated to healthy tonicity of action. Then, as the period of danger approaches, the douche should be used more frequently, for greater lengths of time, and with water raised to a higher temperature (110° to 120° F.) If uterine action remain too long in abeyance, it may be started by the introduction of a gum-elastic bougie, carried up for six, eight, or ten inches into the cavity of the uterus, between its walls and the membrane of the ovum. Introduce the bougie in such a case at bed-time and leave it there, and in the morning you may expect to be called to assist at the delivery of—happily—a living and life-like infant.

Dr. Barnes expressed his admiration of the excellence of Professor Simpson's survey of the causes of intra-uterine death. He would first touch upon the relations of albuminuria. He understood the profession to say that when albuminuria was observed, the proper course was to put the subject on milk diet, which implied a trust in expectancy. Now it had occurred to him to meet in consultation, even lately, three cases of albuminuria in ad-

vanced pregnancy; in each case a physician of great and deserved repute for skill in kidney disease opposed his advice to induce labour; in each case the fœtus was born dead, in one case the mother died. He believed that albuminuria was a common cause of intra-uterine death, and that it was the best practice, in the interest of mother and child, to induce labour. In regard to fatty degeneration, he wished to point out a distinction he had pointed out in his original memoirs between fatty degeneration and fatty metamorphosis. Degeneration affected living tissues, metamorphosis was a *post-mortem* change. Metamorphosis was seen in placenta of the mummified embryo in the case of twins, of which the fellow embryo lived to term. The apoplectic placenta was not always due to disease of mother or father, nor to any abnormal condition of maternal blood. It was in some cases a protest of Nature against pregnancy. Nature could not always tolerate pregnancy. This was especially observed in conceptions at early and late ages. In the first case the reproductive organs were imperfectly evolved; in the second case senile involution had set in. Then there were cases in which, under excessive nervous and vascular tension, exaggerated at the menstrual epochs, effusions of blood took place most readily at the wonted points that are in the uterine structures, hence apoplectic abortions. In other cases, hæmorrhages might occur from the nose, lungs, or bowels; these hæmorrhages were in some sense vicarious; they might thus avert an abortion. In regard to syphilis, he felt it was sometimes cited vaguely, and too often assigned as the cause of abortional disease of placenta. He would not trespass further. The subject, as handled by Professor Simpson, was so vast that it covered the whole range of gynæcology.—Dr. BYERS said that Professor Simpson's admirable address clearly showed that the causes of intra-uterine death were very numerous, and that in the case of recurring abortions, the problem of causation was one demanding very careful consideration. Looking at the question from the practical point of view, he thought, apart from such causes as anæmia of the mother, high temperature, albuminuria, etc., there were three common causes: 1, syphilis, which had a direct action on the fœtus, and was also associated with placental disease and hydramnion. The results of treatment of both parents was, he thought, most satisfactory; 2, endometritis: here he had found curetting useful; 3, displacements. He wished to draw attention to the value of treatment in two sets of cases. 1. In cases of recurring deaths of the fœtus towards the latter part of gestation, where there was no history of syphilis, he had found the treatment recommended by Dr. McClintock, of Dublin, of great service—namely, combining tincture of iron with the chlorate of potash, commencing the drugs some weeks before the time at which, in previous gestations, death had occurred, and continuing them on to the end of gestation. In cases of recurring abortions in the early months, where there is no syphilitic history and no evidence of local disease, Dr. Byers said he had found the ext. viburni prunifolii of considerable use—that is, in cases of "irritable uterus." Finally, he drew attention to the value of preventing constipation, which from its effect in causing pelvic congestion he thought often gave rise to intra-uterine death.—Dr. FORDYCE BARKER (New York) drew attention to one cause of intra-uterine death, which he considered apt to be overlooked. He called it perverted maternal nutrition, a state in which the patients became increased in weight during pregnancy, and yet aborted apparently from lack of proper nutrition of the fœtus. He gave details of cases where a spare diet and active exercise kept down increased body weight, and resulted in the birth of children at the full time.—Dr. PARVIN said that after one speech by an American physician they would hardly care for another one, but, if they insisted, he would merely refer to abortion occurring from that condition of the uterus first described by Gooch as irritability of that organ. There was a difference in the response given to an irritant by the uterus of one woman and that of another. Those very slight, possibly inappreciable, causes might, in one instance, cause miscarriage, while the fullest violence to which another might be subjected was harmless, the pregnancy going to term. Then, too, we had this difference in irritability illustrated in some cases in which we wished to induce premature labour. In one woman the separation of the membranes by a bougie left in the uterus twenty-four hours, or even less, would bring on labour, while in another repeated application would be made, and it might be a week before labour pains were fairly established. He thought it must be admitted that in some cases abortion resulted purely from the irritable condition of the uterus, there being no other obvious disease of that organ. Whether we had any special uterine nerve-sedative might be questioned. Such virtue had been claimed for viburnum prunifolium, but the testimony was conflicting. He might mention that this remedy was first used by slave women in the southern part of the United States, and their professional attention called to it by Dr. Phares, of Mississippi.—Dr. H. P. C. WILSON (Baltimore) said he would not say anything upon the pathology of intra-uterine death. This had been exhausted by Dr. Simpson's paper. He would speak solely of those causes external to the uterus, within the pelvis. He referred to uterine displacements, constipation, retention of urine, and shortening of the uterine ligaments by which the uterus was prevented from resting in the pelvis as the fœtus grew. Often a properly adjusted pessary, which restored a retroversion and retained it comfortably in place, would prevent an abortion; so, also, the use of gentle cathartics every day. He had not much confidence in any medicine as a preventive of abortion. The first indication of an approaching abortion was a slight show of blood. In many instances, if the woman was kept in bed, and given moderate doses of ergot, so as to produce contraction of the vessels of the uterus, the hæmorrhage was checked, separation of the fœtal membranes from the wall of the uterus prevented, and the fœtus saved. It should not be given in doses sufficient to produce uterine contractions.—Dr. AUST LAWRENCE related two cases; in the first, a woman had had six dead children at full time, and was diabetic; labour was induced, and a living child resulted. In the second, a woman had had four dead children at full time; labour was induced at the eighth month, with a living child resulting, which died one month afterwards with acute jaundice, with fatty liver, which no doubt had commenced *in utero*, and was probably the cause of the death of the other infants. There was no history of syphilis.—Dr. ARTHUR W. EDIS (London) thought the subject was too comprehensive to consider it fully in detail. Professor Simpson's able statement of the numerous conditions affecting the fœtus *in utero* only showed how vast was the outlook, and the practitioner would do well to bear this in mind. In any individual case he should carefully endeavour to ascertain what special series of causes were influencing the gestation, and obviate them. In the early stages, doubtless, misplacements, constipation, chronic metritis, and other local conditions had great influence. Later on, pot. chlor. and iron was of great service if all trace of syphilis could be excluded; but Professor Barker had suggested a most practical conclusion—which he (Dr. Edis) had long since acted upon. In one case, a yeoman farmer's wife, who had given birth to no less than eleven stillborn children prematurely, Dr. Edis succeeded in carrying her safely on to full time, with three living children, merely by ascertaining carefully her mode of life. She was a healthy, well-made woman, but thought much more of breeding and fattening turkeys and fowls than looking after her own health. Attention to a series of details, abstention from stimulants, and exhorting the husband to give the same care to his wife as he did to his brood mares, succeeded in accomplishing the object desired, with very little aid from medicine.—Dr. AMAND ROUTH emphasised especially the importance of examining the urine carefully in all cases where no other local or constitutional cause was discovered. He had found, in quite a number of such cases, slight traces of albumen in women who had the habit of aborting, in whom albuminuria was unsuspected. This albuminuria is sometimes due to causes dependent upon the pregnancy, but are not very rarely due to insidious granular disease, and such cases are not unlikely to be the cause of puerperal eclampsia, if abortion does not early occur. In two or three cases, where every organ and function seemed normal in the woman, he had found granular kidney disease to exist in the husband.—The PRESIDENT (Dr. MORE MADDEN) said that no subject could more properly occupy the attention of the Section than the preventive treatment of intra-uterine death, the frequency of abortions being more than one-third that of normal living births. The causes of abortion had been so fully considered during this discussion, he would not further occupy their time, except to add that he had learned, by long obstetric experience, that of all the causes of abortion by far the most frequent was the syphilitic taint, and the only effectual preventive treatment was the long-continued administration of bichloride of mercury in minute doses, and given in tincture of bark.

BEQUESTS.—The Glasgow Royal and Western Infirmaries have each been bequeathed £500 free of legacy duty by the late Mr. James W. Greenlees, distiller, of Campbeltown.

INTRODUCTION TO A DISCUSSION ON OBSTRUCTIVE DYSMENORRHŒA AND STERILITY.

Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

By J. HALLIDAY CROOM, M.D., F.R.C.P.Ed.,
Physician to the Royal Infirmary, Edinburgh.

The discussion which I have been asked to inaugurate seems to open such a wide field, that it is difficult to know how and where to begin.

Dysmenorrhœa is but a symptom, and a symptom of such varying conditions that any discussion as to its relation to sterility would probably resolve itself into a discussion of the various diseases with which it is associated. Menorrhagia, amenorrhœa, dyspareunia occupy a precisely similar position. Dysmenorrhœa, as a general question, is a difficult one. The views with regard to it are various, conflicting, and most of them require revision. There are no end of classifications of dysmenorrhœa, but such classifications only cause confusion, and empirically laid down and acted on cause unsatisfactory treatment and disappointing results. Wylie has well said: "If we knew definitely the physiological processes of normal menstruation, we could soon determine the pathology of dysmenorrhœa; but since our knowledge is so slight, and the views of the best investigators so conflicting, we are obliged to rely on clinical experience to guide us."

Clinically these fine distinctions cannot be made. I regard dysmenorrhœa as mainly due to some hyperæmic conditions of the endometrium or Fallopian tubes or ovaries. To use the term obstructive dysmenorrhœa is a misnomer. I regard the term as misleading; and so far as the pain of menstruation is due to some obstruction to the flow of the menstrual discharge, I believe it to be non-existent. Let us look, for example, at the ordinary varieties of dysmenorrhœa, and we shall see that congestion characterises them all. First, there are those which are simply diathetic, due to gout and rheumatism, or which are purely neurotic in their origin. That these form a large class of dysmenorrhœas there can be no reasonable doubt. How else account for the persistence of dysmenorrhœa in members of the same family? How else account for the persistence of sterility associated with dysmenorrhœa in members of the same family? I have frequently seen large families of daughters all dysmenorrhœic and sterile. Now in this case I believe that the dysmenorrhœa was due to gouty or rheumatic inflammation of the endometrium, along with resulting spasm of the os uteri internum, and that the sterility was due, not to interference with conception, but rather to the congested mucous membrane forming a bad nidus for gestation.

Again, take the question of membranous dysmenorrhœa, which is uniformly associated with sterility: it will scarcely be denied that this is inflammatory in its origin; and if the views advocated by Kundrat and Engelman be correct, this is merely an exaggerated form of normal process due to endometritis. With regard to the ovarian and tubal form, it also is unquestionably congestive in its essence. In this form the pain is usually pre-menstrual, and often relieved after the menstrual flow is developed. The explanation of this is not far to seek: take a case of salphingo ovaritis, either specific or simple. The organs are chronically inflamed and congested, pelvic pain is constantly present, but gradually grows worse towards the menstrual epoch, as the organs become more and more congested, with corresponding relief after the discharge is established, displaying, therefore, that the flow relieves the vascular tension, and thus lessens the pressure on the sensitive ovaries, tubes, or peri-uterine tissue.

When we come now to the variety called obstructive dysmenorrhœa, and which forms the title of the discussion, I feel inclined to discard it altogether, and to regard all such forms of dysmenorrhœa as due entirely either to non-development of the uterus or some change in the endometrium, or both. No doubt associated with dysmenorrhœa there are to be found frequent deviations in the size, shape, and position of the uterus. For example, the uterus may be small with a conical cervix. The dysmenorrhœa here will be due to an imperfectly developed uterus imperfectly performing its function. In like manner, in the case of an acute anteflexion, so often found in nulliparous women, the dysmenorrhœa is due partly to an imperfectly developed uterus and partly to a hyperæmic condition of the endometrium. Again, in cases of retroflexion the dysmenorrhœa is mainly due to a congested condition of the endometrium brought about no doubt in great part from an alteration in the circulation due to the flexion.

It seems to me, therefore, that displacements, flexions, versions, although they are unquestionably associated with dysmenorrhœa, yet are not in themselves the cause of it—that the cause is to be found essentially in a hyperæmic, hyperæsthetic condition of the endometrium.

With regard to the relation existing between dysmenorrhœa and sterility, this has been frequently enough observed. "We know that disordered function is always dependent on structural change." It is by no means ascertained what the exact relationship is which exists between them. In many cases it is entirely accidental. As far as I am able to judge, the association of dysmenorrhœa with sterility is not so pronounced as is generally supposed.

Kehrer, who has gone into this matter at some length, has shown that a history of painful menstruation before marriage was only slightly more common in sterile than fertile women. Kammerer, in the *Transactions of the New York Academy of Medicine*, gives a table of 408 cases of sterility in which dysmenorrhœa was a prominent symptom in 67. Jackson gives a table of 72 cases of sterility in which dysmenorrhœa was a prominent symptom in 16. Certainly, looking over my own experience, I should not be inclined to give dysmenorrhœa a prominent place in relation to sterility. Obstructive dysmenorrhœa, putting the term conversely, and regarding various conditions of the uterus as obstacles to conception, scarcely appears to me to have any foundation—in fact, as Jackson says: "The obstacles which are overcome by spermatozoa in their progress towards the uterine cavity are, to say the least, remarkable." Bozeman relates a case occurring in his own practice "in which there was a continuous flow of urine through the os arising from a vesico-utero-cervical fistula. Notwithstanding this adverse current they reached their destination in the cavity of the uterus, and conception, gestation, and safe delivery followed."

Simon relates "a case in which a vesico-vaginal fistula complicated with stenosis of the vagina had been operated on for incontinence of urine by closing the mouth of the vagina about half an inch behind the meatus urinarius. The operation was so nearly successful that an opening only the size of a cambric needle was left. Strangely enough the spermatozoa passed through this minute orifice, traversed the stenosed vagina which was then the receptacle of the urine from the bladder, and made their entrance through the os uteri into the cavity of the organ. Conception and gestation followed but the woman died." And most of us must be acquainted with cases where, notwithstanding a small external os, impregnation and gestation have followed.

The view which commends itself to me is that in cases of dysmenorrhœa associated with sterility, the explanation of both conditions is to be sought for rather in general congestion of the pelvic organs, more especially of the endometrium, than in any mechanical cause. The dysmenorrhœa is accounted for by a hyperæsthetic condition of the uterus brought about by hyperæmia, and the sterility seems to be explained not by any mechanical interference with conception, but rather to some condition of the endometrium interfering with the continuance of gestation. In other words, the dysmenorrhœa is due to congestion of the uterus associated with spasm of the os uteri internum, and the sterility to a hyperæmic condition of the endometrium.

Such a view as this explains how it is that, after treating various conditions of apparent mechanical obstruction, such as anteflexion, stenosis, and so on, the sterility remains unaffected. A very large number, no doubt, of the processes concerned in generation are wholly mechanical, and it is therefore not surprising that in cases of sterility presenting some apparent obstacle of a physical character this condition should be promptly accepted as the efficient cause, and mechanical means should be re-

sorted to for its relief. It is certain that the cure of an anteflexion or a retroflexion, or in other words the removal of the apparent mechanical causes, has resulted in the cure of dysmenorrhœa, and we have learned clinically that it has sometimes been followed by a pregnancy. Far oftener, however, these mechanical means, while relieving the dysmenorrhœa, have failed entirely to remove the sterility; failed, no doubt, because they did not remove some condition other than the mere narrowing of the cervical canal, which condition seems to me to be a morbidly hyperæmic condition of the endometrium, rendering the grafting of the ovule an impossibility.

Such women become frequently enough pregnant, but their pregnancy ends in a menstrual miscarriage. Even in those cases in which conception has followed the use of surgical means for enlarging a narrow cervix or straightening a flexion, it does not at all prove that the conception was the result of mere enlargement of the passage. For whether this operation be performed by cutting or stretching, something more is effected than the mere increase of the lumen of the tube. "Such an operation, if conducted properly with the adjuncts of hot douching, purgation, and so forth, produces a distinct effect upon the congested endometrium, and I have myself no doubt that such operations, so far as sterility is concerned, do more to promote pregnancy by relieving long-standing congestion and inflammation, which have hitherto prevented the uterus from receiving and nourishing the ovum, than by any mechanical aid."

Such is the view as to the nature of the condition under consideration. The treatment, therefore, consists in removing the cause of the dysmenorrhœa, namely, the congestion, by means of careful attention to the condition of the bowels, which in nineteen cases out of twenty require careful regulation. I always avoid the use of opium, chloral, and alcohol, as likely to increase congestion, and recommend the use of the hot vaginal douche. When the congestion is confined to the uterus proper, say, in the case of an acute version or flexion, and where there is no tenderness nor any morbid condition to be detected in the appendages, the use of the dilator or graduated bougie, by destroying the spasm at the os internum and generally relieving uterine congestion, will give relief; but unless the cases are carefully chosen, ovaritis and so forth is apt to be set up, and the patient's sufferings increased rather than relieved.

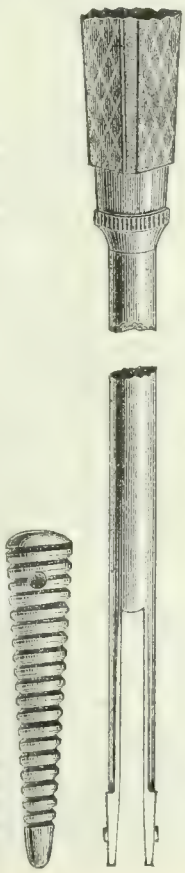
If the patient be married, such treatment, along with prolonged absence from her husband, is often followed by the most beneficial effects. As the point under discussion is the relation of so-called obstructive dysmenorrhœa with sterility, I should be travelling beyond my subject were I to allude to the treatment of sterility more in detail. This much I, perhaps, may be allowed to say, that where there is no marked dysmenorrhœa nor any very definite local condition to treat, sterile women had better be left alone. I venture to think that there is too much interference with such women, and with comparatively little benefit. Sterility depends on so many slight irrecognisable causes entirely beyond treatment —a fact proved by the reports of Winckel on 160 necropsies of women between 15 and 45 years of age—that unless some very definite local cause be found, local treatment should be avoided.

I do not wish to underrate the importance of the subject, but when we consider that statistics based upon many thousands of observations show that one marriage in about ten is unfruitful, this fact alone is sufficient to establish the importance of sterility, whether it be viewed from a scientific or social point. And when we further consider that any opportunity of studying the conditions leading to sterility *post mortem* are exceedingly infrequent, it is only by the record of clinical experience which I trust these remarks of mine may elicit, that we can hope to advance a knowledge of the subject.

Dr. BARNES believed that dysmenorrhœa in a large proportion depended upon obstruction. To begin with the most absolute case, that of complete occlusion, was in imperforate hymen; then ascend to the os externum uteri partially closed; here they had dysmenorrhœa frequent, not indeed constant. It was in accordance with the laws of physics and of gravitation that a narrow outlet and flexion would obstruct the flow of menstrual fluid. It had been said that flexions would no more cause dysmenorrhœa than the bends of the Thames would hinder the flow. Now, as an old sailor, and one who had spent much time on the river, he was in a position to affirm that these bends did obstruct the flow, causing back eddies. Then, again, the comparison with a river was false; the cervix uteri was a closed conduit. Now, anyone who had handled a Higginson's syringe must know that flexion of the tube would obstruct the flow, and he knew that he must straighten the tube to facilitate the flow. As to treatment, he appealed to very long experience. He had begun, as the late Professor Simpson did, by dilating by bougies, and has many had done since he had made for himself graduated dilators. The method was unsatisfactory; it was tedious, painful, and the contraction often returned. He had, therefore, adopted the method of "discission" of Dr. Peaslee, that was a carefully defined bilateral incision, extending only half way between the os externum and the reflexion of the vagina. If you incised beyond this point you were apt to divide vessels, which remained gaping, giving rise perhaps to septicæmia and pelvic peritonitis. He found it unnecessary to use intra-uterine stems. Nothing but the limited incision and rest was required. He could say honestly that for the last fifteen years he had had no accident to regret, and the success was almost uniform. In reply to Dr. Stephenson, Dr. Barnes said he fully recognised that there were cases due to other causes than obstruction, but the cases he had treated by incision came to him after the methods described by Dr. Stephenson had failed.—Dr. DUKE said it would no doubt be generally conceded that the most common cause of dysmenorrhœa was a narrowing of either the inner or outer os, in which cases either the cutting or dilating operation was sufficient to cure the affection; but what he wished to draw attention to was that the cure was not due to the dilatation *per se*, but the exit given to the unhealthy discharges collected in the uterus, and the operation afforded more room afterwards for the use of the curette, so as to remove the entire unhealthy surface, and thus put the endometrium into a more suitable condition as a nidus for the growth of the ovum.—Professor STEPHENSON (Aberdeen) remarked that this stock question might be discussed for months and years without a true conclusion being come to. The past history of dysmenorrhœa was not creditable to the profession, and the future was likely to judge us as we judged those before us. The "personal equation" of the operator as well as the patient was too much overlooked, and in some cases he was disposed to make it a very large negative one. He disputed the theory of obstruction, and referred to the well-known facts against it. Obstruction did not explain the nature of the suffering, and where obstruction undoubtedly existed, the pain was of a different character. From experience he now trusted to dilatation by bougie, he had the greatest faith in it, but not because it removed obstruction. He remembered Dr. Mackintosh's first case, where the patient had never menstruated, and in whom therefore there was no discharge to be obstructed; there were many elements in this complicated condition, and men who were keen for operation too frequently overlooked the constitutional element.—Dr. BYERS said he had listened with the greatest pleasure to the admirable, concise, and full address of Dr. Croom, but after hearing this and Dr. Barnes's and Professor Stephenson's addresses, he was convinced those present, seeing how much leaders of the profession differed, would feel that the causes of dysmenorrhœa were numerous. His experience was that in a case of dysmenorrhœa associated with sterility, and with absence of any disease in the uterine annexæ, dilatation was a method which would in the majority of cases cure, or at any rate relieve, the dysmenorrhœa. In a few cases also with sterility, the dilatation would be followed by pregnancy. In cases where this line of treatment failed he curetted the uterus, but he would insist in all such cases in the most careful use of antiseptic precautions. He agreed very thoroughly with Dr. Croom, that the causes of sterility were very numerous, and that in every case the most careful examination of both constitutional and local conditions was necessary.—Dr. AUST LAWRENCE considered the most important point to be that women should not be treated for sterility *per se*, if nothing local could be found it was not advisable to do anything. He related two cases; in the first case an operation was performed for laceration of cervix uteri, with the result that only a penhole was left. There had been no dysmenorrhœa before this operation, and six children had been born; since the operation dysmenorrhœa and sterility had existed. In the second case the woman was sterile for fourteen years, with dysmenorrhœa and a discharge at end of every two weeks. The cause appeared to be acute anteflexion; this was treated with a stem pessary, the dysmenorrhœa was cured and pregnancy ensued.—Dr. BRAITHWAITE observed that a stranger listening to the discussion would be somewhat confused as to the best course of treatment in any case which might come before him. This arose from the fact that dysmenorrhœa was only a symptom, and might

be produced by many different causes. Each case required separate and careful consideration. The usual cause of dysmenorrhœa was undoubtedly spasm at the os internum (case related showing the spasm intermittent, sometimes absent). The best way of treating this variety was over-dilatation, for, unless it was well and thoroughly done, it returned. Dysmenorrhœa from flexions required treatment of the flexion; that from tubal or ovarian disease might require oöphorectomy, or what was known as Tait's operation; that from constitutional, and especially from nerve causes, required general treatment.—Dr. WALTER (Manchester) considered that the most common cause of obstructive dysmenorrhœa and sterility was stenosis of the cervix, either of the entire canal or of the internal or external os. Before giving a prognosis in such cases, especially with regard to overcoming the sterility, he recommended care to be taken in ascertaining whether the stenosis existed alone, or whether any ill results such as endometritis, metritis, or general enlargement of the body or fundus uteri were superadded. When any marked disease was discovered above the inner os, he did not feel justified in giving so favourable a prognosis. As regarded the treatment of stenosis, he advocated greater care in the antiseptic precautions adopted, and especially to the advisability of inserting into the uterus a bougie or suppository of iodoform, unless a solution of corrosive sublimate was thoroughly applied to the parts after the dilatation.—Dr. W. L. REID believed very strongly in obstructive dysmenorrhœa, but not at all so strongly in obstructive sterility. Treatment of obstructive dysmenorrhœa often so altered the condition of the uterus in important respects, that sterility was thereby cured. — Dr. HEYWOOD SMITH, while agreeing with Dr. Halliday Croom as to inflammation of the endometrium being a factor in some cases of dysmenorrhœa, yet joined issue with him as regarded the actual existence of dysmenorrhœa due to definite obstruction. He thought that the pain of dysmenorrhœa was the great guide to the diagnosis, as there was a distinct pain arising from ovarian trouble, and the pain which we called uterine dysmenorrhœa was due to the effort "pains" made by the uterus to expel the accumulating fluid of the menstrual flow. With regard to what Dr. H. Croom said about an undeveloped uterus, there was no doubt but that such a uterus would have an undeveloped vascular system, and so there would not necessarily arise any pain from disproportion between a uterus and its vessels. There was no doubt that in his (Dr. Smith's) experience there was such a thing as obstructive dysmenorrhœa, and also that he had seen much good by proper incision when combined with dilatation. He was greatly against the use of scissors for the purpose of incision, as by their means the injury was often produced that Emmet's operation was devised to obviate. The method he pursued and recommended was to draw down the uterus, pass graduated sounds up to Nos. 9 or 11, then pass a blunt-pointed bistoury or Sims's knife, and divide slightly the whole cervical canal from the inner os downwards; then the canal was to be dilated with some dilator, and the best he knew of was Sims's; and here he would give a warning against using any screw appliance, the dilator should be used with the hand alone, as then they were able to feel the amount of tearing of the fibres that went on, and there was less risk of injuring the uterus. After this operation it was only necessary to pass a warm sound of about size 13 or 15 once or twice after a day or two's interval. Of course, in this discussion they were considering not only the dysmenorrhœa, but the sterility. Now in the ordinary position of the uterus the os tincæ acted by imbibing the semen, which in the supine position gravitated towards the posterior *cul-de-sac*. If the shape of the os uterus was much interfered with this process of imbibition was interfered with. In cases of retroflexion the position of the os uteri with regard to this posterior *cul-de-sac* (or pond) was but little altered, but in cases of anteflexion the os uteri was lifted out of this pond. Mere dilatation of the uterine canal by sounds or bougies only was comparatively ineffective, as the uterus invariably returned to its abnormal construction, but the proper combination of slight incision and dilatation was in his (Dr. Smith's) opinion the best for their patients.—Dr. AMAND ROUTH thought obstructive dysmenorrhœa rare, and that it was advisable when true obstruction did exist to try to divide cases into (1) congenital contraction, (2) secondary (congestive or inflammatory). The congenital forms were especially important, as, according to Emmet, 73 per cent. of these cases were sterile when married. Of the inflammatory causes of obstructive sterility, Dr. Routh believed that gonorrhœa, arising from a neglected gleet in the male, remaining perhaps for years without symptoms in the female (so-called latent), was the most serious, producing both occlusion of the Fallopian tubes and an intractable endometritis. As regarded contractions of the uterine canal, which were rarely productive of dysmenorrhœa, he did not believe that dilatation alone would permanently cure. Dilatation, with subsequent introduction of a stem over a few periods, would permanently cure true stenosis. Many of the cases of so-called obstructive dysmenorrhœa were really caused by congestion of the endometrium, and these would, of course, require quite a different treatment.—The PRESIDENT (Dr. MORE MADDEN) congratulated the Section on the discussion on Dr. Halliday Croom's valuable paper. That discussion, however, forcibly exemplified the first aphorism of Hippocrates—namely, "Experience is fallacious and judgment is difficult," inasmuch as this discussion had turned mainly on the obstructive or non-obstructive general origin of dysmenorrhœa and sterility. On this point more than a dozen gentlemen of great eminence and experience in this special branch of practice had just spoken, and no two of these gentlemen had been of the same opinion with regard to the relative frequency of the different factors in the causation of the morbid conditions under discussion. These causes had been sufficiently discussed, and therefore he would not again refer to them further than to say that the result of his experience, and it was not a limited one, was that obstruction was by far the most frequent of all the causes both of dysmenorrhœa and of the sterility so commonly associated therewith. And, secondly, whether that obstruction was due to a displacement or flexion, or merely to stenosis of the cervical canal, in either case the removal of the resulting sterility or dysmenorrhœa could only be obtained by recognition and effectual curative treatment of the obstruction; in the former case by the rectification of the displacement, and in the latter case by dilatation or incision of the stenosed cervical canal.—Dr. CROOM briefly replied.

INSTRUMENT FOR THE RAPID DILATATION OF THE CERVIX UTERI.



Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

BY W. L. REID, M.D., F.F.P.S.G.,

Physician to the Dispensary for Diseases of Women, Western Infirmary, Glasgow.

IT is generally conceded that where dilatation of the canal of the cervix uteri is necessary, rapid dilatation is the most satisfactory proceeding. Bladed dilators are either too large for introduction in cases of stenosis, or, when opened, too weak to be effective. Ordinary conical dilators are extremely painful in the application.

To dilate an organic structure thoroughly, it is necessary to rupture the tissues, and the question is, how this may be most safely accomplished. The conical screws shown are graduated from a point which is small enough to pass in any ordinary case of stenosis up to one which, on its withdrawal, permits of the finger being freely inserted into the uterine cavity. The threads are sufficiently blunt to prevent their cutting the tissues, yet prominent enough to make the tissues act as a female screw, and so draw the uterus down over the instrument, instead of requiring the instrument to be forced into the uterus. As the screw-head dilates equally in every direction, the damage to the parts concerned is reduced to a minimum. There is no fear of injury to the body of the organ, as the screw-heads are only an inch and three-quarters in length. Considerable experience in its use shows that it is comparatively safe and perfectly efficient.

ON RAPID DILATATION OF THE CERVIX UTERI.

Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By ALEXANDER DUKE, F.K.Q.C.P.I.,

Ex-Assistant Master to the Rotunda Hospital, Dublin; Gynæcologist to the Steevens's Hospital, Dublin.

One of the greatest strides made by the gynæcological branch of surgery has been the substitution of rapid dilatation of the cervix uteri in place of the slow, uncertain, and dangerous methods by the use of the sponge-tent or sea tangle. The antiseptic treatment has certainly contributed much to this advance, and has thus made the older plans of dilatation a thing of the past. We can now effect in almost as many minutes what occupied the same number of hours to accomplish previously, and I think with less pain to the patient, less trouble to the doctor, and a vast saving of time and anxiety. With a properly constructed dilator, when once carefully introduced into the cervical canal, we have the carrying out of the process of dilatation very much in our own hands, and the subsequent success of the operation depends quite as much on the judgment of the operator, and the time he takes to effect that dilatation, as in the selection of the case itself and the time chosen for interference.

I cannot but think it a great improvement to be able to accomplish with one instrument the combined work of a number, the continual introduction and withdrawal of which must prove a source of irritation even to the most tolerant uterus.

The American gynæcologists have shown that, with ordinary care, rapid dilatation is a safe operation, and can even be partially carried out in the consulting-room. Goodell, in his lectures on gynæcology, states: "For straightening out anteflexed and retroflexed uteri, and for dilating or shortening the canal in cases of sterility, or of dysmenorrhœa arising from stenosis, the dilator will be found a most efficient instrument."

Professor Munde says in his *Minor Surgical Gynæcology*. "Either the graduated sounds or the divergent dilators may be used, and I most decidedly prefer the divergent dilators, and have seen excellent results from their frequent and careful employment."

Dr. Ellinger, another American authority, says he has "found forcible dilatation a very efficacious remedy for flexions."

Opinions are much divided as to whether forcible dilatation or the cutting operation is the best to adopt for the cure of stenosis; for my own part I prefer the cutting operation in cases of narrow canal, conical cervix, and pinhole os, reserving the use of the dilator for the purposes of diagnosis (in cases of hæmorrhage, for instance, when the cause is doubtful), or when we wish to obtain more room in the unimpregnated organ to explore its cavity, or in cases of incomplete abortion before using the curette. The better means of access we can obtain to the uterine cavity, the better and more rapid will be our treatment of the endometrium, and instead of a long course of caustic applications, or perhaps uterine injections extending over weeks, we can remove by the curette the whole affected surface, keep the canal patulous as long as we like by a suitable flexible spiral wire stem, and so secure the recovery of the patient in one-tenth of the time required by the older methods.

I entirely agree with Dr. Goodell's statement: "I have been surprised at the improvement following a forced dilatation made in cervical endometritis for the easier introduction of remedies. Perhaps this may be explained by the change produced in the nutrition of the parts or the temporary paralysis of the constrictor fibres, just as fissure of the anus is cured by stretching the sphincter."

The dangers of rapid dilatation of the cervix are the lighting up of old inflammatory mischief, which of course contra-indicates its employment—cellulitis, subacute ovaritis, metritis, or even peritonitis—so that considerable caution has to be observed, the case properly selected, and the operation only undertaken by skilled hands. The uterus, as a general rule, is a most tolerant organ, but if dilatation or incision be carried to excess it will probably set up a train of symptoms analogous to those observable when laceration of the cervix has taken place during the process of labour, and may even demand a reparative operation to remedy the mischief done by a careless or too zealous practitioner.

The dilators made to divaricate by pressure on the handles are very liable to feather at the points, and unless made of a clumsy thickness are bound to yield by the pressure of the cervical canal, so that I venture to think the plan of expansion observable in my instrument will supply the desired strength to effect the dilatation required, and when thus room for the introduction of the finger is gained, any more room desired may be had by crowding in an additional finger, which I think will give ample room for exploration. It has struck me that a view of the uterine cavity could be obtained with little trouble in these cases by using the electric lamp, the value of which has been recently shown in exploration of the male bladder, a much more difficult organ to inspect than the uterine cavity.

The operation of dilatation being of short duration the exhibition of cocaine applied locally will be sufficient to keep any severe pain in check, and a few drops of a 10 per cent. solution injected into the cervix at each side of the os will in a short time allow interference without any complaint on the part of the patient.

The resistance felt by the operator's hand while using the screw of my instrument will be the best guide as to the amount of force to be used in each case, but as a rule ten to fifteen minutes' time ought to suffice for obtaining sufficient room for introduction of the finger, which is more than half the battle.

It is always safer to confine the patient to bed or the recumbent posture for at least twenty-four hours after the dilatation, though slight expansion of the canal can be carried out in the consulting room.

My dilator can be had from Messrs. Arnold and Sons, West Smithfield, London, and has already had considerable sale.

Dr. Imlach objected to the dilating instrument exhibited by Dr. Reid on account of its large size and its cutting edge. Such an instrument would require considerable and even dangerous force to drive it through a stenosed cervix, whereas with graduated sounds force was avoided, and there was no subsequent hæmorrhage.—Dr. Heywood Smith observed, with regard to Dr. Reid's instrument, that he feared the screw process would injure the uterus by exercising torsion upon it; and as to Dr. Duke's dilator, he thought the divaricating blades might injure the fundus uteri. He still preferred rapid dilatation by means of graduated sounds.—Dr. Aust Lawrence objected to rapid dilatation; he held to dilatation with tents, and proper antiseptic precautions.—Dr. Barnes concurred in the objections to rapid dilatation, except in cases where some indication existed for reaching the cavity of the uterus. He repeated his preference for incision, which not only opened up access to the uterus, but relieved congestion and inflammation which so frequently attended stenosis of the os. This dilatation could not do.—Mrs. Garrett Anderson was surprised to hear any speak against rapid dilatation of the uterus. She was using rapid dilatation every week, often several times a week, and she looked upon the change from the old plan of tents to the new one of rapid dilatation as one of the most solid advances in gynæcology in recent years.—Professor Stephenson did not like the screw character of Dr. Reid's instrument—its action was delusive. Any benefit was due to the rotatory action, not the thread. Rotation was a manœuvre adopted by all in introducing the hand or any instrument, and could be imparted to a smooth dilator.—Dr. Murdoch Cameron agreed with the statement made by Professor Stephenson, namely, that the screw was of little value, and the power of the instrument lay in the movement of rotation. If one of the instruments was inserted into the mouth, for instance, one could easily feel that the screw did not hold, but slipped out and in as easily as a glass tube.—The President (Dr. More Madden) was surprised to hear, as he had just heard, that any gynæcologist still preferred the old-fashioned, slow, painful, and, as he thought, comparatively unsafe method of gradual cervical dilatation with sponge or laminaria tents, to the rapid methods now available for this purpose. The advantages of the latter were self-evident; and whilst showing an instrument of his own, designed for the more effectual carrying out of this process of rapid dilatation, Dr. More Madden recognised fully the excellence of the instruments just exhibited by Dr. Reid and Dr. Duke, both of which reflected great credit on the ingenuity of their inventors.—Dr. Parvin (Philadelphia) said it seemed to him that, looking at these dilators, the uterus of the British woman was not quite of the same form as the uterus of the American woman, for all these instruments were straight. He thought that in most of the cases in which dilatation for the cure of dysmenorrhœa, for example,

was required, a curved dilator was much more readily introduced, and that was the variety most frequently used in the United States. In these cases, certainly not very numerous, of dysmenorrhœa, where upon the introduction of a sound exquisite sensibility was found at the internal os, a cure was almost certain to follow the use of a curved dilator—the curved form being especially required by the fact that a flexion, usually anterior, was present. He did not believe that enlargement of the canal was in itself the curative means, at least in the majority of cases. If a computation was made of the quantity of blood that the canal must transmit in a given time, supposing the flow was of the average amount, it would only be one drop in three minutes. Surely a canal must be very small that would not permit this amount to pass without pain. So too, in some cases where the pain of menstruation was intense and the uterine sound of ordinary size could be readily passed; as it was not then enlargement of the canal, but possibly nerve-stretching, or the relief of a local inflammation, similar to the result from stretching of the anal sphincter in which painful, spasmodic contraction followed an anal fissure, that was accomplished by the use of the dilator, and thus the painful menstruation was relieved. As to the question of rapid or gradual dilatation, he certainly preferred the former, giving an anæsthetic if necessary. If dilatation was necessary for the removal of the remains of an incomplete abortion, or of an intra-uterine growth, his preference was for Hegar's dilators, or the use of sponge tents. Hegar's instruments could be made so completely aseptic, the operation could be accomplished in so short a time, and the method in all its steps could be rendered so readily and completely aseptic, that it seemed to him much better than the so-called gradual method, requiring sometimes a day or more for its accomplishment.—Dr. Reid, in reply, said that he believed that in all cases of recent pregnancy, and where remains of the product of conception were retained, the finger was the best instrument both for dilatation and treatment. His dilator did not readily injure the endometrium, because the small end of the dilator projected into the cavity of the uterus. It was generally at the os internum that difficulty was found, and thus the screw had a fair hold of the tissues of the cervix below, before the point reached the difficult portion of the canal. It was a powerful dilating instrument, and therefore ought to be used cautiously and with thorough antiseptic precautions.

PELVIC PERITONITIS.

By JAMES OLIVER, M.D., F.R.S.Edin.,
Assistant Physician to the Hospital for Women, London, etc.

Pelvic peritonitis is an acute or chronic disease, consisting in inflammation affecting, it may be the whole, but more usually some part only of that serous membrane which, located within the cavity of the pelvis, enters not only into the formation of its walls and floor, but covers, more or less completely, the organs contained therein. The appellation is one, therefore, which includes peri-metritis, peri-oöphoritis, peri-salpingitis, and peri-proctitis. Although originating locally in the pelvis the inflammatory disturbance may, nevertheless, through a direct continuity of tissue, spread to and affect the whole peritoneal sac, constituting then what is called general peritonitis.

Inflammation of the pelvic peritoneum may occur at any period of life. It may exist before the establishment of menstruation or be developed after the cessation of the functional activity of the sexual organs. More commonly, however, it is engendered during the child-bearing epoch, the organs of generation being then more vulnerable. In the marital state the serous lining of the pelvis is especially prone to become the seat of inflammatory change, because of an increased liability to injury and disturbance of the sexual organs, consequent upon parturition and abortion. Ignorantly and unsuspiciously the woman often runs the risk of specific infection—a potent but occult influence, in many cases constantly at work, and tending to induce the disorder in question.

The inflammatory process may result in a thickening of the peritoneum and adhesion of opposing surfaces, the neighbouring organs, contained in the pelvis, being thereby firmly glued together. Very commonly, however, the material which exudes from the vessels, and subsequently coagulates, produces a distinct swelling, the consistence of which varies greatly. These phlegmons are often difficult to differentiate from those resulting from inflammatory exudation into the cellular tissue itself. By a process of fatty degeneration and liquefaction the plastic exudation occurring in pelvic peritonitis may eventually become absorbed. Adhesions, however, generally ensue, the existence of which may be indicated by a more or less marked deviation of the uterus, the organ, that is, being more or less closely applied to one or other wall of the pelvis. Effusion of serum may take place, and this, when confined and large in amount, or rather, when capable of detection, constitutes what is termed encysted serous peritonitis. The transition from that of a serous to a purulent effusion is a gradual one. In the latter case the pus corpuscles are merely far more abundant than in the former. When effusion of serum has occurred the liquid portion may at length completely disappear by a process of gradual absorption. At first absorption takes place, as a rule, somewhat rapidly; as concentration advances, however, it is much more slowly effected. After absorption the disordered peritoneal surfaces come in contact and adhere. When the exudation is purulent this, too, may eventually become absorbed—the serous portion directly, the fibrin and pus after undergoing a fatty metamorphosis. This, however, comparatively speaking, rarely happens.

In pelvic peritonitis small suppurations frequently take place, and these, as distinct abscess formations, cannot be detected by the most careful examination. The probable existence of such in any given case is only surmised when small quantities of pus are detected with the rectal evacuations. Fortunately these ruptures occur most commonly into the gut; they may, however, as I have occasionally witnessed, rupture into the peritoneal sac, and so cause death. Regarding the mode of formation of these small suppurations, I have a word to say. They appear to me to result from the generation of pus corpuscles in the tissue of the peritoneum itself, and the perforation results merely from the deep penetration of these cells.

As to the etiology of pelvic peritonitis I have but little definite information to impart. The disease is especially rife in women, and may be considered peculiar to the female habit of body. This, to my mind, apart altogether from the risks incidental to child-bearing, or those dependent to a certain extent upon anatomical construction and direct structural continuity, points to a marked disposition on the part of this serous membrane in the female to inflammatory change.

Pelvic peritonitis is frequently idiopathic, and in many cases the exciting causes are not to be explained. The disease often develops in persons already debilitated or in association with some other disorder; this, however, proves no dependence, and does not justify the conclusion that the disease is secondary. Under such circumstances it ought to be viewed rather as a complication. Peritonitis accompanying puerperal fever and other infectious disorders may, however, be considered secondary. Injury is an exciting cause, and this need not be severe, as some persons seem especially prone to this inflammatory disease. I have seen fatal peritonitis follow upon the most trifling interference with the uterus, and this accident, when it occurs, is a most unfortunate one, apt as it is to engender invective. A most careful and thorough examination of the pelvic organs should be effected prior to undertaking any surgical or other interference with the uterus. Even in the hands of the most skilled gynæcologist this task is not always an easy one, as it is often most difficult to detect slight adhesions.

Pelvic peritonitis may be induced by a direct extension of inflammatory disturbance through continuity or contiguity of tissue, as happens frequently in salpingitis, especially when this is the result of gonorrhœal infection.

Inflammation of the serous lining of the pelvis may also be caused by neoplasms approaching the peritoneal surface, as happens frequently when the growth is malignant, and much more rarely when it is benign.

In many cases this disorder appears to result from exposure to cold, from the indiscriminate use of medicated injections, and the adoption of other ill-advised methods of protection against impregnation. It may also be caused by the rupture into the peritoneum of a cyst (containing virulent fluid), or abscess of the ovary or of any other structure. Such abscesses may be simple or tubercular. It sometimes results from the discharge of any irritant fluid into the peritoneal sac, either through an abnormal or, it may be, the natural opening of the Fallopian tube, hence the risk in injecting simple or medicated fluids into the cavity of the uterus.

Pelvic peritonitis, it is alleged, is more common in primiparæ

than multiparæ; this however is simply due to the fact that being in many cases connected with parturition and abortion, those who are susceptible to this inflammatory disturbance evince it when those causes which tend to induce this disorder are for the first time called into existence.

If the disease be due to the rupture of any sac containing pus, or to the escape of any irritant fluid into the sac of the peritoneum the patient may never rally, but die within a few hours, it may be in a state of collapse. In a few rare cases it happens that adhesions already formed may prevent the extensive or free escape of such fluids, and recovery more or less complete is thereby rendered possible.

In the more acute cases the disease may be ushered in by a distinct "chill" or rigor, a feeling of intense indisposition being thereafter experienced. In the majority of cases there is no chill, and the patient is wholly unable to fix a time when the inflammatory process may have originated. Usually the onset is insidious. Often I have seen patients the victims of pelvic peritonitis who were wholly ignorant of the possible existence of anything like a grave disorder. The disease may, as in a patient recently under my care, develop in the peritoneum covering the rectum, without giving rise to any symptom other than a feeling of discomfort and pressure in the "back passage." In this case the uterus was closely applied through the medium of a small amount of plastic exudation to the upper part of the rectum. In many other cases which have come under my care, the insidious character of the disorder has been noteworthy and astonishing. In the majority of cases pain is the symptom most frequently complained of. This is as a rule referred (although not constantly) to the side which is the seat of inflammatory change. I have occasionally, as in the case of the pleura, noted its reference to the opposite, and as far as examination goes healthy, side. Sometimes the pains are ill-defined, and are felt more or less extensively in the lower abdomen. They may recur in paroxysms, and continuing severe for two or even five hours, leave the patient afterwards so very tender that she is wholly unable to bear even the slightest pressure on the lower abdomen. Such paroxysmal pains may, like those complained of at the onset of the disease, be accompanied with nausea and vomiting. The pains vary; sometimes they are slight, sometimes severe, and occasionally, especially when the peritoneum covering the uterus is involved, they are likened to those of labour.

Menorrhagia is a most common association of pelvic peritonitis, and in many cases it is this alone which leads the patient to seek advice. There is as a rule no pain so long as the hæmorrhagic discharge is free, a fact explicable on the ground of depletion. Pain may, however, develop and continue whilst the patient is losing, the loss apparently being insufficient to relieve the state of consequent increased vascular tension. This is especially apt to be the case if the inflammatory attack develop during menstruation, and there results no augmentation in the amount of discharge.

Pelvic peritonitis may develop in a woman who has either recently miscarried or been delivered of a full time child. Under such circumstances the symptoms are especially prone to be insidious. Slight pains may have been experienced since the abortion or confinement, or a hæmorrhagic discharge more profuse than usual may appear without the patient experiencing any other discomfort. The discharge, once established, continues as a rule free, and more or less constant for weeks or even months. Occasionally clots are expelled. In such cases no pain whatever may be complained of till the hæmorrhagic discharge ceases. The pain may be of the "bearing down character." This bearing down pain differs from that associated with initial prolapse in that it continues when the patient is recumbent. This symptom in pelvic peritonitis is the result of structural change, although it may sometimes be associated with structural enfeeblement as well. In prolapse it is a direct result of gravitation, and ceases to be experienced when the influence of this factor is withdrawn.

Pain may be referred to the hip, the thigh, or vagina, according to the distribution of those nerves implicated, whether directly or in a reflex manner. As a result of pressure, I have occasionally noted a distension of the superficial veins of the thigh.

Bladder Symptoms.—If the disorder be free from complication, there is, as a rule, no frequent desire to pass water. In the early days pain during micturition is seldom complained of. When, however, adhesions have formed, pain is experienced, either when the bladder is over-distended or over-contracted, and the pain will continue so long as either of these states of this viscus exists. If the patient, therefore, does not answer immediately the call to pass urine, pain more or less severe is complained of. Under such circumstances pain is specially noted in the early morning after sleep. In the majority of cases pain is experienced for a greater or less length of time after the bladder rids itself of its contents.

Rectal Symptoms.—Plastic deposit may insidiously encircle the sigmoid and upper part of the rectum, and induce symptoms of pressure, with or without pains of a shooting character referred to the "back passage." The gut may even, in some rare cases, become completely constricted, and serious symptoms in consequence ensue.

In the majority of cases of pelvic peritonitis the temperature of the body is but slightly elevated, except when the inflammation is severe and extensive, or when the effusion is from the first purulent or has become so. In chronic cases the pain is, as a rule, aggravated just before, but is relieved by the appearance of the recurring hæmorrhagic discharge. Suppuration and abscess formation is not at all an uncommon result of pelvic peritonitis. Purulent exudation sometimes takes place (commonly in association with metrorrhagia and little pain), and usually ends fatally when the inflammation is severe and extensive. As a rule, adhesions are formed before the granulation tissue generates pus, and the pus so confined and accumulating produces one variety of pelvic abscess. The peritoneum itself, as well as the inflammatory adhesions confining the purulent exudation, become adaptatively thickened, and thereby the risk of extravasation into the general sac of the peritoneum is minimised. Fortunately rupture takes place rather towards the bowel, vagina, or some other pelvic structure, or occasionally towards the abdominal wall. The most frequent and by far the most advantageous location for discharge of the contents of a pelvic abscess is at some part of the bowel. I have seen pelvic abscesses in which the walls of the sac had become so thickened, and the fluid therein contained caused so much tension, that the differential diagnosis from that of uterine fibroid was rendered most difficult.

REPORT OF A CASE WHERE, FROM CONGENITAL DEFORMITY, A MAN AGED FIFTY-FOUR YEARS HAS PASSED HIS FÆCES AND URINE BY THE URETHRA ALL HIS LIFE.

By FREDERICK PAGE,

Honorary Surgeon to the Royal Infirmary, Newcastle-upon-Tyne; Examiner in Clinical Surgery, Edinburgh University.

A. B., aged 54, a small-built man of a peculiar dark complexion, not unlike that of a person suffering from Addison's disease, was admitted into the Royal Infirmary, Newcastle-upon-Tyne, May 21st, 1888, and gave the following history. Immediately after birth it was discovered that fæces and urine were passed from the meatus urinarius, and that the anus was imperforate. An attempt was made by a surgeon to establish an anus in the natural situation, but the operation was not successful; fæces and urine still passed by the urethra, though fluid has from time to time escaped from the anus. At the age of 10 years the urethra became blocked by hardened fæces. Relief was obtained from an incision into the urethra immediately in front of the scrotum, and through the fistula thus formed the patient has continued with great difficulty and discomfort to pass his fæces and urine. He says he is in the habit of taking aperient medicine daily, and has to squeeze his fæces through the fistula with his fingers, the proceeding generally occupying from an hour to an hour and a half. From time to time the fistula has become blocked, and then the patient has passed his fæces and urine from the meatus. Sometimes, too, the urethra became blocked, and then the patient has passed his fæces through the fistula and his urine by the fistula and from the anus, till he has succeeded in displacing the obstruction. His urine is generally clear and natural in appearance, but sometimes there is a brown deposit from it, and it has a fæcal smell. He has been married twenty-four years, and is the father of one child.

Latterly, the fistula has contracted, and thus his difficulty has been increased. Three days before admission the urethra became

blocked, and, being unable to remove the obstruction, he found himself, to use his own expression, fast, and was compelled to seek assistance. Upon examination, a fistulous opening into the urethra was found immediately in front of the scrotum, along which a probe passed readily towards the bladder. On attempting to pass the probe in the opposite direction, its progress was arrested by a hard substance firmly impacted in the urethra; the anal aperture would just admit a probe into the gut.

On May 25th, the urethra was slit up through the fistula for an inch and a half, and the substance blocking the canal, which was again a piece of hardened fæces, removed. The mucous membrane was then secured to the skin with sutures, and the fistula thus converted into a good-sized opening, through which he has continued to pass his fæces and urine so satisfactorily, that he is unwilling to submit to any other operation.

October 3rd. The patient reported himself to-day. He has to a considerable extent lost his dark, unhealthy complexion. His bowels act regularly without medicine, and he says he is more comfortable than he has ever been in his life.

In Mr. Harrison Cripps's recently published pamphlet on the passage of air and fæces from the urethra, sixty-three cases are quoted, but among them there is no example of the condition being due to congenital deformity. I think this case sufficiently unusual to be worth recording.

SURGICAL MEMORANDA.

ACCIDENTAL CURE OF HYDROCELE.

MR. SINCLAIR'S case of rupture of a large hydrocele (in last week's "Surgical Memoranda") is interesting, but I do not think a week is sufficient time to have elapsed to prove that the case is cured. My friend Mr. Nelson Foster, of Bicester, some years ago published a case of permanent cure after spontaneous rupture, but usually the accident does not excite sufficient inflammatory action to result in radical cure. If this were otherwise we might intentionally subcutaneously rupture hydrocele sacs, hoping to bring about an easy and safe radical cure.

For ten years I had regularly tapped W. H. M., aged 76, for a seventeen-ounce hydrocele. On April 25th, 1885, the hydrocele was very large, and he thought of coming to see me, but instead went to a Turkish bath, where rupture took place. The following September the hydrocele had returned to its usual size, and I drew off seventeen ounces.

I had three times in two years tapped H. W., aged 50, for a sixteen-ounce hydrocele. He went to the last Derby, and while there burst his hydrocele. The next morning I found the penis and scrotum full of fluid. He made a perfect recovery, but the sac is gradually filling, and will require tapping about the end of the year.

In both cases the extravasated hydrocele fluid was left entirely to the absorptive powers of Nature.

Wimpole Street, W. G. BUCKSTON BROWNE.

COMPARATIVE VALUE OF RIVAL METHODS OF REDUCING SUBCORACOID DISLOCATIONS.

ON September 30th, 1888, I was called to see Mr. W. S., a stout, heavy man, aged 65. I found him suffering from a subcoracoid dislocation of the humerus, the result of a blow. Not caring to give an anæsthetic (having no assistance) I had him laid on the floor and endeavoured to reduce the dislocation by the method described by Dr. Neil Macleod in the JOURNAL for January 30th, 1886. I followed out his instructions, but could not succeed in accomplishing reduction; moreover, contrary to Dr. Macleod's experience, the right-angular traction method caused my patient intense pain. I then tried the old method with my heel still in the axilla, but this time bringing the arm down to the side, almost instantly the head of the bone went in with a loud snap, and (at least so the patient said) with very little pain.

Oulton. J. R. PURDY, M.B.

GYNÆCOLOGICAL MEMORANDA.

AMENORRHŒA FROM IMPERFORATE HYMEN.

A TALL, well-developed young girl, aged 16, factory worker, complained of severe and continuous pain over the hypogastrium, with frequent and painful micturition. She had never menstruated, but for five months previously, at intervals of about three weeks, she suffered from attacks of abdominal pain, accompanied by nausea and dysuria, lasting for several days, and compelling her to remain in bed. She felt well and was able to attend her employment during the intervals of the attacks. Her mother had noticed lately an increase in the dimensions of the abdomen. Upon examination the abdomen was found to be considerably enlarged. A globular, elastic tumour, extended from the pubes to within two inches of the umbilicus. A catheter brought away an ounce of urine. In the act of introducing the instrument an elastic tumour, which bulged outwards between the labia, was felt by the finger. It was found that pressure over the abdominal swelling increased the tension of the tumour at the vulva. This condition, on further examination, proved to be due to the presence of an imperforate hymen. The patient, who was of a nervous temperament, was anæsthetised. The vulva and adjacent parts having been well washed with perchloride solution, a medium-sized trocar was passed through the centre of the hymen. A chocolate-coloured fluid, inodorous and of the consistency of syrup, escaped through the cannula with considerable force, to the amount of fifty-four ounces. After the discharge ceased to flow the cannula was withdrawn, and the hymen divided by by crucial incisions. The vagina was then well washed out with antiseptic solution. A plug of cotton wool was placed within the orifice, and a pad of the same material placed over the vulva. A dark-coloured discharge continued to come away in small but constant quantities for three weeks, at the end of which period it increased in quantity and assumed the character and appearance of ordinary menstrual fluid. The patient experienced complete relief after the operation. For the first week she remained in bed; her temperature never exceeded 99°, and she has menstruated painlessly and with perfect regularity since.

The membrane forming the hymen in this case was exceedingly strong and dense on its external surface; running in an antero-posterior direction were several serrated ridges, having the appearance of the comb of a cock in miniature. The internal surface was perfectly smooth. Microscopical examination showed no trace of muscular fibre. It was evidently composed of mucous membrane and strong fibrous tissue. D. W. CURRIE, M.B.

Tillicoultry, N.B.

CLINICAL MEMORANDA.

ABSENCE OF MAMMÆ IN A WOMAN.

A CHILD, prematurely born, was brought to me for treatment aged about one week. I was told that the mother had "no nipples, and was like a boy." On examining her, I found she had no mammæ, also no nipples, the position of the latter being marked by pigmented skin, about the size of a sixpence. On inquiry, I was told that in other ways she was as women usually are, and that labour had been performed quickly and naturally.

H. T. BATCHELOR, L.R.C.P., M.R.C.S., L.S.A.

Queenstown, Cape Colony.

A CASE OF MALFORMATION.

A CASE of multiform deformity which came under my care lately may be worth noting. When I first saw the child it was a few hours old, the mother having been attended by a midwife. In the lumbar region the child was the subject of a well-marked spina bifida. Arrest of development had also occurred in the frontal bone, a deep sulcus indicating the absence of bone leading from the supraorbital ridge to the anterior fontanelle, which was very large. The scrotum was represented by a very small loose pouch of smooth skin entirely empty, the testes being absent. The child was also the subject of talipes varus, or rather talipes equino-varus, in both feet, the latter being so much turned that the soles were uppermost. Hydrocephalus, as might have been expected, was very speedily developed, and the spina bifida became a large rounded semi-translucent tumour. Operative procedure was obviously out of the question. The vegetative life was well maintained. The child took the breast greedily and the bowels acted regularly. The usual nervous symptoms soon presented themselves, and the child died in convulsions at the end of three months. JAMES R. BUCHANAN, L.F.P.S.G.

Glasgow.

REPORTS

OF

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

STATION HOSPITAL, DALHOUSIE, PUNJAB.

CASE OF HYDROPHOBIA.

(By G. HARRISON YOUNGE, L.K.Q.C.P.I., etc., Army Medical Staff.)

PRIVATE W. P., 2nd West Yorkshire Regiment, came to hospital at 5.45 P.M. on May 31st, 1887, complaining of fever. He stated that for the past three days he had had attacks of ague.

Previous History.—He was a man of splendid physique, and since his arrival in India in November, 1878, had enjoyed excellent health. His last admission into hospital was in November, 1886, for contusion of the leg caused by a severe fall. Several of his comrades stated that, to their certain knowledge, he had three times been bitten by dogs, namely, at Fort Attock in September, 1882; at Sialkote in August, 1883; and again at Mooltan in February, 1886. The dog which bit him at Mooltan had to be shortly afterwards destroyed "because it became ferocious and attacked several other persons," but positive proof that it suffered from rabies is wanting. There were no signs of recent wounds or abrasions on his face or hands. Over the second joint of the right thumb on its radial side there was an elevated cicatrix about four lines in length, and his comrades stated that this was the result of the bite received at Mooltan. At the wrist on the same side there were two oblong swellings, which felt like lymphatic glands. The right pulse was very indistinct, being obscured by these enlargements.

On arrival at hospital the patient's temperature was 102.2°, and he presented the symptoms of an ordinary attack of ague. There were no muscular tremors, mental excitement, spasm on drinking, or any other unusual symptom; and he took medicine without difficulty. At 9 P.M. he was perspiring freely, and complained of uneasiness about the throat, but he swallowed some water after a slight effort.

June 1st. He had passed a very restless night; and, although it was quite cool, complained greatly of the heat. At 5 A.M. he attempted to swallow some water, and found he could not do so. At 8 A.M. he presented the following symptoms: The conjunctivæ were quite clear; the pupils were dilated, but irregular, the right one being the smaller of the two; the eyes were slightly staring, and the face had a frightened expression. The skin was cool and moist, and the temperature 99°. The tongue could be protruded without difficulty. The mucous membrane of the pharynx was slightly congested, but unswollen. There was neither soreness nor tenderness on pressure over the larynx or parotid glands. When at rest the breathing was tranquil and regular, but when spoken to he took a number of deep and rapid respirations, and his lips trembled, before he could reply. When he attempted to convey any fluid to his mouth his hand began to tremble, and the frightened look in his face increased. When the cup came within three or four inches of his face it was spasmodically jerked away, and violent spasms of the muscles of deglutition occurred. These spasms lasted from one to two minutes, and were followed by a sense of exhaustion and by profuse perspiration.

In consultation with Surgeon-Major J. P. Rooney, A.M.S., the case was diagnosed as one of hydrophobia, and we decided to try the effects of frequent doses of bromide of potassium. Fifteen grains were given every second hour throughout the day. His nourishment, consisting of milk and beef-tea, was given every third hour. This he took with some difficulty by sucking it from a sponge. Any attempt to drink in the ordinary way brought on violent paroxysms. The bromide appeared to soothe him and to diminish the paroxysms, and he dozed occasionally. During the day there was no aggravation of his symptoms.

June 2nd. He passed a very restless night, and only slept for about an hour. During the past twenty-four hours he only passed nine ounces of urine. This was slightly hazy; specific gravity 1022, reaction distinctly acid, and it contained a small amount of albumen. The pupils were widely dilated, and the conjunctivæ slightly suffused. Drinking fluids of any kind was quite impossible, and any attempt to do so excited violent spasms. These began in the muscles of deglutition and then quickly extended to those of respiration. During the paroxysms he sprang into a sitting position and struggled violently. The paroxysms were excited by any attempt to drink, by light, or by any sudden movement near him, but not by the sight or sound of water. The wild frightened expression became greatly intensified during the paroxysms, but it continued even during the intervals. There was no frothing at the mouth, but he constantly hawked up thick, viscid, and blood-stained mucus and saliva. At the commencement of the spasms the respirations became loud and gasping, and somewhat resembled the barking of a dog. After each paroxysm perspiration poured from the whole body, completely saturating the bed clothes. At 10 A.M. the mind began to wander slightly. As the bromide of potassium had lost its effect the treatment was altered. Enemata of strong beef tea and whisky were given every hour. Each enema consisted of beef tea ʒiv, whisky ʒii. To every second enema was added chloral hydrate gr. xv. Hydrochlorate of morphine gr.ss. was given hypodermically every second hour, alternating with the enemata of chloral. This treatment appeared to diminish the frequency and pain of the paroxysms. Inhalation of chloroform was tried, but he could not bear it. Once or twice when he tried to drink severe spasms occurred, and the fluid was forcibly ejected from the mouth. During the day the paroxysms increased in frequency until there was only an interval of about ten minutes between them. The mind wandered more and more, but there were frequent lucid intervals. About midday the general distress due to frequent spasm of the respiratory muscles became more marked; and he sat doubled up in bed, bent towards the left side, and with the legs drawn up under him. The face and lips became cyanotic and covered with a cold clammy sweat. The pulse became more and more feeble, but was not increased in frequency. He died at 5.30 P.M. (forty-four and a half hours after the first symptoms of hydrophobia set in) from syncope and asphyxia, during a very severe paroxysm.

Post-mortem Examination Thirteen Hours after Death.—The body was well nourished. Rigor mortis was very marked, especially in the lower extremities. There was a marked subcuticular mottling of the whole body. The heart weighed 10 ounces; the valves were quite healthy; all the cavities were empty. The blood throughout the body was dark, tarry, and uncoagulated. The lungs were deeply congested, but crepitant throughout. On both sides there were firm old pleuritic adhesions. The larynx and trachea were intensely congested, and the mucous membrane of both was covered with thick, viscid, dark-coloured mucus. The vocal cords were slightly œdematous. The membranes of the brain were intensely congested. The subarachnoid and ventricular fluid was normal in colour, but was increased to about three ounces. The puncta vasculosa were very marked. The under-surface of the medulla oblongata was congested, but the floor of the fourth ventricle was normal. The origins of the seventh, eighth, and ninth nerves were congested; but there was no thickening or other change apparent to the naked eye. The enlargements which were felt at the right wrist proved to be small sacs, about the size of a kidney bean, which were filled with a clear jelly-like mass. They resembled in every way ganglia, but were unconnected with the sheath of any tendon. They were firmly adherent to the radial artery. The spinal cord was not congested, but it was thought to be slightly softened. All the remaining organs were congested, but otherwise healthy.

REMARKS.—This case is chiefly interesting on account of its prolonged period of incubation. There can be little doubt that the disease was caused by the bite received at Mooltan in February, 1886. The day of the month could not be ascertained, but it was inflicted in the first week of the month. This would give an incubation period of close on one year and four months. The treatment was of course only palliative. The bromide of potassium and morphine appeared to be of great use in relieving the patient's sufferings. The chloral, however, was, if anything, injurious. Surgeon-Major Rooney was inclined to attribute the cyanosis which occurred to its influence.

GLASGOW SOUTHERN MEDICAL SOCIETY.—The first meeting of the forty-fourth session of this Society was held on October 11th, when the following office-bearers were elected:—*President:* John Glaister, M.D. *Vice-President:* Robert Pollock, M.B. *Treasurer:* Thomas F. Gilmour, L.R.C.P.Ed. *Secretary:* James Erskine, M.A., M.B. *Editorial Secretary:* Richard A. D. Robb, M.B. *Seal Keeper:* John Dougall, M.D. *Court Medical:* Drs. MacMillan, Knox, Morton, Dunlop, and H. E. Clark. Members to complete the *Council:* Alexander Rankin, M.D.; Alexander Miller, L.R.C.P.Ed.; and Maxwell Adams, M.B.

REPORTS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, OCTOBER 16TH, 1888.

Sir JAMES PAGET, Bart., F.R.S., President, in the Chair.

Syphilitic Disease of Knee-joint.—Mr. JONATHAN HUTCHINSON, jun., showed a specimen of syphilitic disease of the knee-joint, which illustrated a form of specific joint disease not perhaps previously recognised in this country. The right knee was the only one affected; it was obtained from the body of a sailor, aged 23, who died of syphilitic stricture of the rectum and chronic nephritis. The patella was much thickened, and had left its normal groove on the femur to articulate with a ridge on the outer side of the external condyle, on which the cartilage was greatly hypertrophied. The internal condyle of the femur had lost its cartilage, and was adherent to the internal tuberosity of the tibia by firm fibrous bands, in which was merged the internal semilunar cartilage; the external tuberosity of the tibia was roughened on its cartilaginous surface. In the centre of the ligamentum mucosum was a leathery gummatous mass, which the microscope showed to consist of ill-defined cells and fibrous tissue. There were no nodes about the bones; the synovial membrane and the other ligaments appeared healthy, the chief seat of the disease being in the cartilaginous surfaces of the joints. Unlike chronic rheumatic arthritis, there was eburnation, although at parts there were grooves in the cartilage, especially one deep one between the facets for the patella and the external tuberosity of the tibia. The changes seem to be similar to those described by Professor Virchow[1] as due to syphilis in as far as the chief seat lay in the cartilage, and to differ from the more common cases of tertiary syphilitic joint disease in which periosteal nodes or periarticular gummata are the chief features. Both kidneys were greatly enlarged, weighing together no less than 35 ounces; they were firm, pink, mottled, with whiter patches, but no isolated gummata were found. Sections showed interstitial cellular exudation, with obliteration of many of the Malpighian bodies and comparatively slight involvement of the tubes, most probably a form of diffuse syphilitic disease. The rectum showed a fibrous stricture with extensive ulceration around it. The patient being a Swede, no clear history of acquired syphilis could be obtained from him; there was no evidence of inherited syphilis.—Mr. ROGER WILLIAMS mentioned the case of a man who was supposed to have a foreign body in his knee-joint, but which turned out to be a gumma in the synovial fringe.—Mr. WILLIAM ADAMS asked Mr. Hutchinson if he considered that the primary seat of change was in the cartilage, as in the cases that he had seen the syphilitic change had always commenced in the periosteum.—Dr. QUAIN asked if the urine was in any way peculiar.—Mr. HUTCHINSON replied, stating that he believed the changes started in the cartilage, relying on Professor Virchow's paper above referred to. The urine, so far as he remembered, was of low specific gravity.

Blood Calculi in Ovaries.—Dr. H. W. G. MACKENZIE showed a specimen of concretion in the ovaries from a woman aged 41, who had suffered from menorrhagia for two years and had a large fibro-myoma of the uterus. She had disease of the mitral valve and fatty degeneration of the liver. The uterus was uniformly distended by the tumour, which was a globular mass about four inches in diameter growing inwards from the uterine wall on the left side. The uterine walls were themselves hypertrophied. The ovaries were enlarged and contained a large number of black, flat concretions of various sizes and irregular shapes. These concretions were smooth, firm, and hard, though they could be cut with a knife. They were contained in cavities, sometimes two or three together, in which case the concretions were flattened where they touched each other. Microscopic examination of a thin section showed absence of structure. The concretions were found to be exceedingly soluble in acids and alkalies, and were only slowly dissolved by digestion with gastric juice, and they were found to be proteid bodies probably allied to the colloid bodies sometimes found in the prostate. The specimens were very uncommon, perhaps unique. The enlargement of the organs was probably due to chronic congestion in consequence of the large uterine growth. It was suggested that the concretions were derived from hæmorrhages into Graafian follicles which had undergone a rare colloid change.—Mr. ALBAN DORAN referred to a specimen in the Museum of the Royal College of Surgeons which contained somewhat similar concretions.

Large Ovarian Tumours in a Seven Months' Child.—Mr. ALBAN DORAN, exhibited a pair of ovarian tumours removed after death from an infant which survived its birth but a few minutes. Mr. C. Hooper, of Aylesbury, who attended the case, reported that the infant's abdomen was distended with ascitic fluid and the superficial veins were engorged, as in malignant tumours of the ovary in the adult. Each tumour looked like a cystic kidney when fresh, and consisted of a single cystic cavity surrounded by a thin wall composed of a highly reticulated tissue. The trabeculæ which traversed this tissue in all directions were composed of collections of round cells in a transparent matrix, an arrangement recalling the structure of the inter-follicular tissue of the ovary in an earlier stage of fœtal life than that which this patient had attained. The growth appeared to represent persistence and hyperplasia of the entire embryonic tissue of the parenchyma of the ovary rather than round-celled sarcoma, which, even when congenital, was in every respect of a different character, as proved by a recent case described by Dr. John Phillips. Graafian follicles were found in the substance of the tumour, which therefore originated in the ovarian parenchyma and not in the hilum, but the tumour was clearly of extra-follicular origin. The cavities and the large central cyst appeared to be the result of breaking down of the tumour substance; they bore no epithelial lining. The tumours thus bore no resemblance to the common multilocular ovarian cyst. The larger of the pair had been presented by Mr. Thornton to the Museum of the College of Surgeons.—Mr. BLAND SUTTON mentioned that in some of the amphibia the ovary consists of a central chamber, in the walls of which the Graafian follicles are situated.—Mr. DORAN thanked Mr. Sutton for his observation, which rendered more probable his hypothesis that the ovaries shown were in a state of arrested development.

Encysted Vesical Calculus.—Mr. BRUCE CLARK showed a bladder from a man, aged 55, who had been twice operated on for stone, once for one in the urethra, and once for a vesical calculus. At a third operation, no calculus could be found, and at the *post-mortem* examination the calculus was found to be lying in a cyst, which communicated with the bladder by a small aperture, which would scarcely admit a probe. The calculus had almost ulcerated through the cyst wall into the peritoneal cavity. The question was how had the calculus got into such a position. Had a small nucleus originally passed through the small aperture communicating with the bladder, and increased in size by phosphatic deposit, or had it originated in the prostate? The first supposition appeared to him to be the more probable.—Mr. ROGER WILLIAMS asked if a section had been made of the calculus; and Mr. BRUCE CLARK replied in the negative.

Varicocele—a Spontaneous Variation in the Spermatic Veins.—Mr. W. G. SPENCER read a paper on the above subject, illustrated by numerous preparations and transverse sections of spermatic cords, human and mammalian, at various ages, which showed the following points: 1. That there are a large number of veins present in the spermatic cord at all ages. 2. That they are more numerous and larger in the left than in the right cord. 3. That there are in each cord a number of very small and of obliterated veins. That the spermatic veins are derived from those of the Wolffian bodies, very vascular organs, that, as development progresses, the Wolffian bodies disappear, and at the same time several of the spermatic lose their lumens, or become obliterated; and that whenever there is want of disappearance of the Wolffian bodies, a large number of the spermatic veins remain patent, and may become varicose. Of the numerous causes mentioned as producing varicocele in the textbooks, there was no evidence for some, as the sigmoid flexure loaded with fæces, obstructing the return of blood in the veins; and some others could only be considered as determining rather than radical causes, and others, such as heredity, were not mentioned. The condition of the veins was very variable, from such as could just be felt to the largest varicocele; in France, where accurate statistics were kept about young men entering the army, it was found that in 32 per 1,000 it was necessary to perform some operation for the cure of varicocele; but that in as many as 60 per cent. the spermatic veins were more or less varicose, but the condition did not incapacitate them from active service. The reason why varicocele was more common in the left cord than in the right cord was probably of developmental origin, though undoubtedly the anatomical relations of the left spermatic veins had something to do with it.—Mr. BLAND SUTTON had found that varicocele in monkeys was

[1] *Berlin. Klinische Wochenschrift*, August 18th, 1884.

commoner on the left side than the right; and that here there could be no pressure exerted by an over-loaded bowel, as the intestine passed down the middle line. That in animals during the rutting season the testes became heavier, and had a richer supply of blood flowing to them. There might be some relation between this and the frequent onset of varicocele at puberty, following Darwin's law of inheritance, that, at whatever period of life peculiarities first appear, they tend to reappear in the offspring at a corresponding or somewhat earlier age.—Mr. JOHNSON mentioned a case of a patient with transposition of organs, who had a varicocele of the right spermatic cord.—Mr. JONATHAN HUTCHINSON said he had been unable to find differences in weight between right and left testicles, but that lipomata of the inguinal canal were more frequent on the left side than on the right, and that he had not been able to detect any reason for this.—Mr. PEARCE GOULD considered that varicoceles were considered as more serious than they really were. In the allied condition of varicose veins he mentioned a family where they were present in three generations.—Mr. BRUCE CLARK mentioned a case where apparently a large varicocele came on shortly after a fall from a horse.—Dr. WILBERFORCE SMITH said that it was often extremely difficult to account for varicosity in veins; he had, however, often found it occurring in patients with port-wine marks, or other unusual vascular conditions.—Mr. SPENCER, in reply, said he differed from Mr. Bland Sutton's theory that acquired variations tend to become inherited, and asked Mr. Johnson if, in the case of transposition of organs, the aortic arch was on the right side; but Mr. JOHNSON did not know.

Card Specimens.—Mr. RAYMOND JOHNSON (for Mr. CHRISTOPHER HEATH): Large Retroperitoneal Tumour.—Dr. H. W. MACKENZIE: Ulceration of Œsophagus in Diphtheria.

The PRESIDENT announced that vol. xxxix of the Society's *Transactions* would be issued shortly; that the Debate on Alcohol in relation to Diseases of the Kidneys would be held at the Society's meetings on Tuesday, December 4th and December 18th.

CLINICAL SOCIETY OF LONDON.

FRIDAY, OCTOBER 12TH, 1888.

W. H. BROADBENT, M.D., F.R.C.P., President, in the Chair.

Injury to the Elbow-joint, involving the Ulnar Nerve.—Mr. T. W. NUNN read notes of this case. The patient was a boy, aged 16, who, while at school in France, fell in taking a leap, making it probable that the hand first came in contact with the ground. Mr. Nunn saw him about two months after the accident, when it appeared that the radius was dislocated forwards. In consultation with Sir Prescott Hewett (then Mr. Hewett) reduction under an anæsthetic was attempted, but without success; at that time the arm could not be fully extended, and extension, as far as it went, was not in the normal line, but in a line bending inwards. The hand was *en griffe*, indicating lesion of the ulnar nerve, of which some indistinct thickening could be detected above the elbow. There was loss of sensation in the little and ring fingers. After an interval of five years from the date of the accident (November, 1881), if the arm were kept flexed for any length of time "pins and needles" would be felt in the two fingers mentioned, and on examination the head of the radius could be seen, without question, resting on the front of the capitellum of the humerus, proving that dislocation had occurred simultaneously with the other injuries. In conclusion, Mr. Nunn remarked that one of the chief questions which arose in respect of the treatment of such injuries was as to whether the arm should be kept extended or flexed.—Mr. CHRISTOPHER HEATH considered such cases difficult both to diagnose and to treat. The injury was not generally a simple one; it was usually complicated with dislocation and fracture of the epiphysis, which was drawn up and gave rise to distortion. He had recently excised the elbow-joint of a young man, aged 18, who, in the early part of this year, had met with a football accident. Mr. Heath had not seen him until after a lapse of a few weeks, when the dislocation could not be reduced. Subsequently the joint had become ankylosed. At the excision it was a tough job to saw out the bones, as there was much thickening of the lower end of the humerus around the fractured and separated epiphysis. The proper position for a joint thus injured was for the hand of the limb to be placed on the opposite shoulder, in which conclusion he was, he knew, supported by Mr. Hutchinson. If the arm was bent at a right angle, so much new bone was thrown out in front and behind that ankylosis was produced. There was further a difficulty in getting the fragments into position when the elbow was at a right angle, but when the hand was carried across to the opposite shoulder the fragments fell naturally into good position. And even if ankylosis occurred with the arm so fixed, the position was not a bad one, as the patient could feed himself.—Mr. BRYANT stated that most of these accidents to the elbow were mixed, and were cases of dislocation associated with fracture. In Mr. Nunn's case there was a fracture and probably a dislocation. The accident was not a rare one; the force of the concussion transmitted by the radius, chipped off a piece of the external condyle of the humerus, and caused some rotation of the broken fragment. Mr. Heath had advised forced flexion, under the impression that the dislocation would be thereby reduced; but if the dislocation were once reduced, why keep the arm thus flexed? If, on the other hand, the dislocation were not reduced, Mr. Bryant was ready to agree with him in the treatment he advised.—Mr. HEATH explained that he had been speaking only of the complicated cases of fracture and dislocation.—Mr. NUNN said, in reply, that the cases which he had witnessed had generally come before him a long time after the accident. He had, however, seen one recent case in a child; but he had never seen any other case of injury to the ulnar nerve except in the case he had related that evening. He should himself put the arm out perfectly straight in a child of from 5 to 8 years old, hoping eventually to get the joint into its normal condition.

Pulmonary Gangrene treated by Incision and Drainage.—Dr. PASTEUR related the particulars of this case. The patient was a delicate-looking boy, aged 7. His illness was insidious in the onset, but had developed rapidly. On the morning before admission to the North-Eastern Hospital for Children, he coughed up a quantity of bright blood, and his mother noticed that his breath had become very offensive. On admission (October 22nd) ten days after the onset, he was febrile, with thickly coated tongue, quickened breathing, and gangrenous fœtor of breath. Over the right upper lobe were impaired resonance, weak tubular breath-sounds, and diminished voice-conduction. During the next three weeks cavity signs developed at the right apex, and the remainder of the right lung become pneumonic. Temperature ranged between 100° and 103.6°. He spat up daily from two to four ounces of stinking watery fluid, mostly saliva. Mr. Pollard operated on November 13th. The cavity was incised at the anterior extremity of the right second space, one inch from the sternum. Large quantities of gangrenous lung and putrid fluid were expelled through the wound. The cavity reached down to the sixth rib. A counter-opening was made in the sixth space, flanged tubes inserted, and a blue wool dressing applied. Next morning the child was much relieved, nearly free from cough, expectorating small quantities of frothy sputum almost free from odour, and practically free from pain, which had hitherto been a most distressing symptom. The cavity was washed out daily once or twice, as occasion required. At the end of a week the washings deposited a copious sediment of pus. The improvement, however, was not maintained. The temperature, pulse, and respirations remained high, fœtor of breath reappeared on the tenth day, and the patient sank rapidly three days later. A huge cavity occupied the anterior third of the right lung. It was lined for the most part with a thin layer of granulation tissue. At the inner margin the necrotic process had invaded the pericardium, and set up acute pericarditis. The œsophagus was firmly adherent to the right bronchus, and a narrow sinus, about three-quarters of an inch long, led from a minute valvelike opening in the œsophagus to a small ragged opening in one of the main divisions of the right bronchus. There were no signs of tubercle or of caseating or suppurating bronchial glands. The gangrene was undoubtedly due to the passage from the œsophagus into the lung of some irritative material (probably decomposing food-stuffs) along the sinus above mentioned. Whether this sinus was the remains of a glandular abscess or was caused by the passage of some pointed foreign body from the œsophagus, was doubtful. The limitation of the gangrene was the anterior region of the lung, and the implication of all the three lobes in a single cavity was worthy of notice. Pericarditis appeared to be a rare complication of pulmonary gangrene. The indications for surgical interference were sufficiently clear, namely, imperfect communication of gangrenous area with the bronchi, failure of expectant treatment, signs of a cavity in an accessible situation. The amount of repair which took place under unfavourable circumstances was very encouraging. An earlier operation might have saved the life of the patient.

—Mr. GODLEE said that he had seen only one case of the kind, which was at University College Hospital, under the care of Dr. Poore. The symptoms pointed to a gangrenous abscess of the apex of the lung; the expectoration was fœtid to a degree. An incision being made, the pleura was found not to be adherent, as one might have expected it would be. He, therefore, sewed the costal to the pulmonary pleura by a few stitches, and then opened the lung abscess. The patient died in three days. At the *post-mortem* examination a cavity of the same kind was found in the opposite lung. But although the operation had been done rapidly, as the patient could not be kept under chloroform for long, and only two stitches had been put in to join the pleura around the opening, he was pleased to say that the lower part of the pleural sac was found after death to be without sign of any fluid in it, and was non-adherent.—Mr. NUNN knew of a case of the kind (abscess of the lung) in which Mr. R. W. Parker had operated, and in which a most successful result ensued.—The PRESIDENT had once seen the attempt made. The cavity in the lung was reached, but no relief followed.— Dr. PASTEUR wished to know the opinion of the meeting as to the nature of the sinus found extending from the œsophagus—whether it was due to a congenital diverticulum, or to a foreign body, or the ulceration of a caseous gland.—Dr. BARLOW had never seen a case exactly of the kind. He, however, recollected the case of a boy who had a collection of pus in the posterior mediastinum, with gangrene of the adjoining piece of lung. In that case the mischief was supposed to be due to a foreign body, though such was never found. If a caseous gland suppurated, the pus might gravitate into the lung, and set up gangrene. He believed that Dr. Pasteur's case had probably had its origin in a foreign body. In four of the cases of gangrene he had seen there was pericarditis as well.

Extensive Ankylosis of the Skeleton, with Diaphragmatic Breathing.—Dr. ALEXANDER MORISON related this case. The patient was a male, aged 44, of neurotic and rheumatic family history, and himself rheumatic. His present condition seemed likewise to be related to an attack of gonorrhœa. The joints chiefly involved were both shoulders, both hips, all the ribs, and the vertebral column. The knees were almost, but not quite, stiff, the head was twisted to the left shoulder, he had talipes equinus of the right ankle, and some stiffening of the inferior maxilla and the auditory ossicles. Thoracic respiration was abolished, and its place taken by exaggerated abdominal breathing. The expiratory capacity of the chest was reduced to 96 cubic inches from a probable average of 156 cubic inches. The pectoral muscles were atrophic. The excretion of urea ranged from 210 to 276 grains per diem, and the patient had recently begun to deposit fat in excess. Dr. Morison remarked upon the influence of prolonged rest in favouring ankylosis, on the relation of gonorrhœa to articular disorganisation, and upon the gradual substitution of abdominal for thoracic respiration, and the defective metabolism as evidenced by fat formation consequent thereupon.—The PRESIDENT had seen two such cases in which there was fixation of the ribs, with diaphragmatic respiration. Such respiration seemed to be more important to life than the thoracic respiratory movements, as was proved when there was from any cause loss of diaphragmatic respiratory power, when great difficulty of respiration immediately supervened.—Mr. GODLEE remembered the case of a man with fracture of the thoracic spine, but who could breathe with his diaphragm. The dressers had assisted him to breathe by pressing on his chest, and with such assistance he could cough; but after a time he died. He knew of the case of a man with chronic knee trouble, in which the joint had been punctured by Sir Joseph Lister, with much resulting improvement. He then contracted gonorrhœa, and since then nearly all his joints had stiffened.—Mr. SAINSBURY made some remarks on the force of expiration.—Mr. HUTCHINSON thought there were cases of spondylitis deformans without a suspicion of gonorrhœa, which were quite as bad as Dr. Morison's case; and he believed that cases of gonorrhœal rheumatism only occurred when there was a very strong tendency to rheumatic gout.—Dr. BARLOW had seen four cases of general ankylosis, and only in the first of the four was the disease due to gonorrhœa. He had also seen two cases in children, both in little girls; in one the mischief resulted from measles, in the other it came on very insidiously, progressed for several years, and then became quiescent. They both became pitiable objects. He inquired whether Dr. Morison's patient was growing shorter.—Dr. PASTEUR had a case of a girl under his own care who had pain on attempting to flex almost any joint of the body.—Dr. ANGEL MONEY had seen a few cases, in some of which the condition was the outcome of a peripheral neuritis. In one case there was considerable wasting of the muscles which gave the reaction of progressive muscular atrophy. Other symptoms in the case also pointed to peripheral neuritis. In one man there was a blue lead line on the gums, and it was possible that lead-poisoning, which produced gout, might have something to do with others of these cases.—Dr. MORISON, in reply, said that as to the force of his patient's expiration, his laughing and coughing were distinctly jerky, but there was a very small quantity of expired air. The man was certainly now below his normal height. It was not possible to obtain any flexion of his knee-joints.

Peculiar Skin Disease: possibly a Form of Lupus.—Dr. STEPHEN MACKENZIE described the case. The patient, a woman, aged 35, was under treatment for auditory vertigo when the disease first appeared, about six years ago. Since then she had had recurrences and subsidences, the former generally occurring in the autumn or winter. She had never had syphilis. The eruption had always been practically confined to the backs of the (upper) arms and the calves of the legs, but extended on the left arm below the elbow. In one attack spots occurred on the ears. The eruption consisted of nodules or tubercles and erythema, the former slowly disintegrating and leaving scars, so that the general appearance of the affected parts was an erythema interspersed with circular scars. There had been no pain, and only slight itching at the commencement of the attacks. Attention was directed to (1) the symmetry of the eruption, (2) its anatomical characters, (3) that it destroyed the skin, leaving scars. No precisely similar case was known to have been observed, and discussion was invited on its nature. The following diagnoses were discussed: 1. Dermatitis medicamentosa; 2, syphilis; 3, lupus or an ally. Against a drug eruption, the identity of the eruption whilst the patient had taken a variety of medicines, and the fact that the disease had appeared when the patient had not taken any drugs for weeks or months, were held to be conclusive. Against syphilis, besides the negative history, the symmetry and recurrence taken together were held to be strongly antagonistic, and the eruption had subsided without anti-syphilitic treatment being employed. With regard to lupus, it was pointed out that the age of the patient, the symmetry of the disease, the absence of ulceration, and the subsidences, were against lupus vulgaris, whilst the age, symmetry, and erythema were in favour of lupus erythematosus. On the other hand, the nodules or tubercles, the absence of scales, and occurrence of the eruption on covered parts of the skin were different to what was usually observed in lupus erythematosus. It was thus clear that the disease conformed to the type of neither lupus vulgaris nor erythematosus, though it resembled the latter in several respects. The author concluded that, though not definitely lupus, he regarded the disease as belonging to the lupus family.—Mr. HUTCHINSON thought the case very interesting and peculiar. He had seen cases of the kind, and had published two such in a book on syphilis, in neither of which could he ever find any indication of syphilis. One case was that of a married lady, with an eruption similar to that in Dr. Mackenzie's case, only that it was worse. There was a symmetrical eruption on the backs of the legs, and the backs of the arms. The symptoms yielded very slowly to mercurial treatment, much more slowly than was usually the case with syphilitic eruptions. Should we call the cases lupus? One point was characteristic of lupus, and was wanting in these cases. All lupus inflammations were serpiginous; therefore he considered that they were not cases of lupus. Lupus also was asymmetrical, except in a very few cases. In one of his cases a cure was effected at the end of two years, and after taking mercury through a lengthened period.

MEDICAL SOCIETY OF LONDON.

MONDAY, OCTOBER 15th, 1888.

SIR WILLIAM MAC CORMAC, President, in the Chair.

President's Address.—The PRESIDENT opened the session by an address, which will be found on page 865. He also congratulated the members on the continued success of the Society, which now numbered above 500 adherents, while deploring the loss of four valuable members during the past year.—On the proposition of Dr. THEODORE WILLIAMS, a vote of thanks was given to the President for his eloquent address.

Intestinal Obstruction cured by Operation.—Mr. EDMUND OWEN recorded a case of acute intestinal obstruction which was successfully treated by abdominal section. The patient, the wife of a small

shopkeeper, was 50 years of age, and for a long while had been in the habit of taking a purge every Saturday night; and on Sunday, July 29th, very early in the morning, she was seized with violent pains across the abdomen, which she attributed to the effect of the medicine. On getting out of bed to try to pass a motion, she fainted and fell upon the floor. All that Sunday she was vomiting and in great distress, and so till Monday evening, when Mr. Owen was asked to see her. She did not show much sign of collapse. On examining the exterior of the body, a small, irreducible femoral hernia was found on the left side. This, it was stated, had existed for many years, and, though it had sometimes caused discomfort, it was on this occasion neither painful nor tender. Though it was improbable that her urgent symptoms were dependent upon this hernia, it was decided to cut down upon it and explore. This being done, the protrusion was found to be omental, with adhesions to the sac; it was not inflamed. The adhesions were gently torn through, and the mass was returned into the abdomen. Had it been practicable, abdominal section would have been performed there and then, but it had to be deferred until the next day (Tuesday, July 31st, 2 P.M.), when the woman was admitted into St. Mary's Hospital. She had been constantly vomiting since the Sunday; her abdomen was distended and tympanitic, the peritoneum being evidently inflamed. After a brief consultation, a five-inch incision was made in the linea alba. When the peritoneum was opened, about half a pint of dark serum escaped, and coils of inflated and dusky intestine presented themselves. On turning aside one or two of these coils, but keeping them still within the abdomen, a pale and collapsed piece of small intestine was discovered, which, being traced upwards, was found to join on to the distended piece just beneath a tight and rigid band of omentum which was completely occluding its lumen. This was torn through, and the bowel was set free. A few inches distant up the distended bowel was a permanent annular constriction, which had evidently been caused by the long-continued pressure of that same band. This piece of the bowel had, no doubt, become gradually accustomed to the pressure, and probably the action of the purgative had caused displacement, and had subjected a fresh piece of bowel to the strangulation. Probably, also, this old-standing pressure had been the cause of the patient resorting to the weekly purge. The abdominal wound was closed with silk sutures, dusted with boracic acid powder, and covered with absorbent mercuric pads under a binder. After the woman had been put to bed there was no more vomiting, and she made a complete recovery, the first change of dressing being on the seventh day. Mr. Owen remarked that clinical experience had already given ample evidence of the fact that a cleanly incision into the abdomen was not in itself a dangerous measure, though of course the danger was increased if there had to be much overhauling of intestine in a prolonged search for an internal strangulation. In the case reported there had been no doubt as to the existence of an acute internal strangulation, and fortunately there had been no difficulty in finding it; and, lastly, as there had been no great delay in undertaking the exploration, the woman was brought within the range of successful interference.—The PRESIDENT quoted a case to which he had recently been called. The patient was a man, aged 29, who had developed symptoms of intestinal obstruction. He had proposed an exploratory incision, but this was declined, and the patient died suddenly a few hours afterwards. *Post mortem*, they found ulceration and gangrene of the vermiform appendix.—Mr. THORNTON mentioned the case of a child in which the division of the constricting band was followed by extravasation of fæces and death.—Dr. DE HAVILLAND HALL recalled a case which had been treated some time since at the Westminster Hospital. The patient was a cabman who was suddenly seized with the characteristic symptoms, and he was operated on, but no evidence of obstruction was found, yet the patient made a good recovery.—Mr. BALLANCE related the case of a lady with similar symptoms in which surgical assistance was refused, with the result that just when everybody thought she was about to die, the impaction yielded to a copious enema, and she recovered.—Mr. OWEN expressed regret that the case mentioned by Dr. Hall had not been published, and claimed cases of intestinal obstruction as the property of surgeons, and surgeons only.

Trephining of Sternum for Mediastinal Abscess.—Mr. BALLANCE read the case of a woman who developed suppuration in the anterior mediastinum for which the sternum was trephined, with the result of showing that the suppuration was due to caries of the posterior surface of the sternum. He removed the carious bone, in conjunction with Mr. Bernard Pitts, and kept the cavity sweet with a solution of corrosive sublimate, and the patient made a perfect recovery.—Mr. SHEILD mentioned having seen pyæmic abscesses perforate the sternum.—Mr. BALLANCE, in reply to Mr. DAVIES-COLLEY, explained that examination with the probe had demonstrated the presence of suppuration behind the sternum. He attributed the good result largely to the use of the sublimate solution.

MANCHESTER MEDICAL SOCIETY.

WEDNESDAY, OCTOBER 3RD, 1888.

JULIUS DRESCHFELD, M.D., F.R.C.P., President, in the Chair.

Trephining for Traumatic Paraplegia.—Mr. JONES brought before the Society a young man whose spine was trephined for traumatic paraplegia twenty months previously. The case had already been reported by Dr. William Thorburn (*Brain*, January, 1888). The condition of the patient was now very satisfactory. Sensation was normal in both legs, which were, however, much wasted, and there was evidence of degeneration in the muscles of the left limb. The movements of the knee-joints were normal, but those of the ankle were limited to extension, flexion being practically abolished. He had perfect control over his bladder, and could urinate normally. He was able to walk three miles with short intervals for rest. When standing he was obliged to lean on some support unless he bent the knees. He was gradually improving.

Removal of an Orbital Growth.—Dr. HILL GRIFFITH showed a patient, aged 36, from whom seven months previously he had removed an encysted growth from the upper part of the right orbit. There had been proptosis and downward displacement of the globe with ptosis for some six months. The tumour was square shaped, flattened from above downwards, and moulded into its position; it measured 1 inch by 1 inch by ¾ inch. There had been no return so far, the eyeball was in its proper position, movements perfect, save for slight deficiency in the upward direction.

Trephining in Traumatic Epilepsy.—Mr. SOUTHAM showed a patient, aged 32, in whom the skull had been trephined twelve months previously for traumatic epilepsy. The operation was performed at the site of an old scar in the left temporal region, and a crown of thickened, sclerosed bone was removed. The attacks from which he had suffered for about nine months, and which commenced with twitching of the muscles of the right side of the face, accompanied by sudden loss of consciousness, entirely disappeared after the operation.

Phenacetin.—Dr. LEECH gave an account of phenacetin, pointing out its chemical relation to other antipyretics, and its advantages as a temperature reducer. He likewise gave details of experiments, showing that it dilates the vessels through its influence on the vasomotor centres, and not by directly influencing the vessel walls or their contained nerve endings.

Pyrodin: a New Antipyretic.—Dr. DRESCHFELD made some observations on a new antipyretic drug named pyrodin, (manufactured by Messrs. Levinstein, of Manchester), the active ingredient of which was acetyl-phenyl-hydrazin. This substance was a powder, which was very sparingly soluble in cold water; it had no unpleasant taste, and produced neither nausea nor vomiting. It acted much more quickly and powerfully than antipyrin, antifebrin, or phenacetin. It reduced the fever temperature within a few hours, and kept the temperature down for six or eight hours: this reduction was followed by a rise, and this was succeeded by a second fall, so that rarely more than one dose need be administered within twenty-four hours. The reduction of temperature was associated with sweating, but neither collapse nor rigor had been observed, though in some cases the reduction of temperature amounted to 7° F. The drug had been found especially useful in pneumonia, typhus, and scarlet fever; in typhoid fever the antipyretic properties were equally well marked, but slight toxic effects were occasionally noticed after a few doses had been given. The powerful antipyretic properties were also noticed in non-zymotic, inflammatory fevers, such as peritonitis. It acted well also in cases of migraine, even when antipyrin failed. Given in repeated doses of eight to twelve grains, pyrodin was apt to produce toxic effects; these consisted in the appearance of jaundice, due to commencing hæmoglobinæmia, as was proved by a series of experiments on rabbits. The dose of pyrodin for children was three to four grains, for adults eight to twelve grains.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

THURSDAY, OCTOBER 11TH, 1888.

G. H. HUME, M.D., President, in the Chair.

Business.—The HONORARY SECRETARY, Dr. OLIVER, read the annual report, in which it was shown that the Society was in a flourishing condition, both as regards its finances and number of members; eighteen new members had been added to the Society last year; the members now numbering 172. Dr. Auvard, of Paris, was elected an honorary member of the Society. The officers for next session were elected as follows: *President:* Dr. James Murphy. *Vice-Presidents:* Drs. Hume, Philipson, Anderson, and Mr. Morgan. *Honorary Secretaries:* Drs. Oliver and Limont. *Committee:* Drs. Drummond, Gowans, Mears, Arnison, Mantle, and Jas. Drummond, and Messrs. Williamson, Page, and Black.

Retiring President.—Dr. HUME, in retiring from the chair, spoke of the continued prosperity of the Society, and alluded to the loss which it had sustained in the death of a former president, the late Dr. Luke Armstrong. The first meeting of the Society for the session was now held, Dr. MURPHY taking the chair. A vote of thanks was proposed to the retiring President, on the motion of Dr. GIBSON, seconded by Dr. EASTWOOD, and replied to by Dr. HUME.

Rodent Ulcer under Process of Cure.—Dr. HERBERT BRAMWELL exhibited a man, aged 70, successfully treated by chloride of zinc paste. Patient had been ill for five years.—Remarks were made by Drs. GOWANS, JAS. DRUMMOND, and HUME.

Spina Bifida Treated by Morton's Method.—Dr. GEO. TAYLOR showed a child, 5 months old, treated successfully.—Dr. LYON and Mr. PAGE, in their remarks, said they had not had such good results in their practice; sudden death had followed the operation; but this Dr. DRUMMOND said he had seen occur by simply changing the position of the child suddenly where no operation had been performed.—Dr. GIBSON alluded to the investigations of the Clinical Society on this subject.

Allingham's Modification of Anterior Colotomy.—Dr. ARNISON read a paper and expressed a strong preference for this operation. Seven cases had been successfully treated in Newcastle Infirmary. —Remarks were made by Mr. PAGE, Mr. MORISON, and the PRESIDENT.—Other papers by Dr. OLIVER and Dr. DRUMMOND were taken as read.

Pathological Specimens.—Mr. PAGE exhibited Calculi 3¼ ounces in weight removed from the bladder of a boy, aged 16, by suprapubic method.—A very beautiful and complete collection of drawings of Pathological Specimens was exhibited by Dr. DRUMMOND in the anteroom. Most of the specimens had come under his observation in the *post-mortem* room of the Royal Infirmary. —On the motion of the PRESIDENT, seconded by Professor PHILIPSON, a vote of thanks was awarded to Dr. Drummond for his valuable exhibition.—Mr. RUTHERFORD MORISON exhibited a specimen of Villous Tumour from the Bladder, removed from a man, aged 63, by suprapubic method; recovery.—Mr. PAGE exhibited and described a Water-logged Kidney which had been successfully removed.

REVIEWS AND NOTICES.

ZUR PATHOLOGIE UND HYDROTHERAPIE DES FIEBERS. Von Professor Dr. W. WINTERNITZ. Leipzig und Wien: Franz Deuticke. 1888.

THE work before us constitutes the third part of a series of clinical studies from the Hydropathic Division of the Vienna Polyclinic, under the direction of Professor WINTERNITZ. It gives an account of the scientific basis of hydrotherapy as practised by Professor Winternitz, and is an able exposition of his views. The first chapter is by Dr. Winternitz himself. He here lays down as his axioms that the increase of temperature in fever is due to a retention of heat, because of a diminished radiation from the body surface, and that together with this heat-retention there is also a diminution of the excretion of water from the surface. To counteract these conditions is the object of hydrotherapy. It would be easy to argue that, at any rate, the first of these axioms is not borne out by the results of experiments by other observers, were it probable that many of our readers would be inclined to adopt the view.

Dr. Winternitz then proceeds to show how his remedies relieve the febrile state, mainly by stimulating the nerve endings and by their influence on the circulation. We note that collapse is considered a counter indication for the wet pack, and that, in the opinion of the author, there is no more powerful means of overcoming collapse than the application of cold. Doubtless, in states of hyperpyrexia, the results of the cold bath support this view. We confess, however, to a feeling, after reading the chapter, that the author is labouring to find a theory of fever which will explain the good results obtained by his treatment without carefully considering all the work done in the pure pathology of the febrile state.

There follows a critical account of the literature of antipyresis by Drs. Ludwig Schweinburg and Alfred Winternitz, in which all that can be quoted in favour of the author's methods is collected.

The scientific interest of the pamphlet centres in a report of calorimetric observations upon the amount of heat radiation from the body surface, made by Otto Pospischil. These appear to have been most carefully done, and in spite of the modest protest of the contributor that they "evidently do not suffice to bestow absolute proof-authority upon the results," we think his conclusions of considerable importance. He finds that the amount of heat given off from a part of the body is diminished (1) 70.6 per cent. by removing the blood, (2) 46.2 per cent. by hindering the circulation by the production of passive hyperæmia, (3) is increased 95 per cent. by mechanical irritation, (4) is increased 40 per cent. by weak, diminished 8 per cent. by strong, chemical irritation, and (5) is diminished 44.5 per cent. by thermal influences which produce the cutis anserina. Other observations given refer to the influence of special forms of baths, etc.

Such a work as this is to be welcomed as reporting attempts to place the water-cure upon the footing of rational therapeutics. The influence and method of action of the "cure" upon other forms of disease will form the subject of future as of the past numbers of these reports.

A MANUAL OF PHYSIOLOGY. By GERALD F. YEO, M.D., F.R.C.S. Professor of Physiology in King's College. London: J. and A. Churchill.

WE have on a previous occasion reviewed this manual (JOURNAL, April 26th, 1884). The second edition now before us proves that it has taken its place among the other manuals, handbooks, textbooks, and notes of physiology which are current among medical students. The best praise which can be accorded to this class of books is to say that it has enabled a large proportion of students to get through their physiology, and, it might be added, to have done with it. They have no pretension to be addressed to the comparatively small proportion of men who continue during afterlife students of medicine and of its institutes. Professor YEO's manual takes a somewhat intermediate position; it contains what is wanted by the general run of medical students, *plus* a portion of what is required by the exceptional few who aspire to the London university degree: but the commentaries and appreciations which the author introduces and discusses, the material facts which must form the substratum of every textbook, do not, as a rule, appear specially convincing, or drive any facts or arguments home to the understanding of the reader with particular force or clearness.

We have turned over the pages of the manual to see whether we could find a passage or a section of which we could say that it was better or more clearly expressed than in other textbooks. Any such passages have escaped our search. On the other hand, we have repeatedly paused at instances of what appear to us to be the best feature of the book, namely, the illustrations, many of which explain and speak to the eye clearly and simply. Figs. 128, 134, 141, 151, 231, and those illustrative of cerebral localisation are particularly happy. The histological illustrations from Cadiat are also excellent. Many of the errors, clerical or otherwise, which cannot well be avoided in a first edition, have been corrected, the most misleading of all to the effect that "hemisection of the cord is followed by loss of sensation on the same side and loss of motion on the opposite side to the injury" has disappeared, but others have escaped the author's attention. The well-known cardiogram of Marey and Chauveau is still assigned to Chauvian (p. 219). The mean temperature of the blood is stated to be higher than that of any other tissue (p. 365). The wave of muscular contraction in the ureter is said to last one-third of a second (p. 348); and on p. 361 we still find a classification of food-stuffs which, though perhaps not positively erroneous, is, nevertheless, awkward and ill-chosen. The German expres-

sion, "food-stuff," is descriptive and picturesque, but it is not correctly employed when the item "fæces" figures first in the list. A paragraph at the foot of p. 533 gives a very imperfect idea of the truth, leading the reader to imagine that sclerosis is identical with the degeneration of peripheral nerves, and that this change takes place "at the peripheral end of an efferent and central end of an afferent fibre."

Lunacy in Many Lands. By G. A. Tucker. Sydney. 1887.

A ponderous book by a ponderous author. As is well known, the writer has during his travels occasioned a large amount of criticism and opposition, especially in Toronto and in some of the American asylums. Many have been the complaints of medical superintendents that the reports of the institutions under their care are incorrectly given. To visit asylums throughout the civilised world was the aim of Mr. Tucker, and he has pursued this aim with much pertinacity. Whether the value of this massive tome is in direct ratio to its bulk may well be doubted. At the same time there is unquestionably a considerable amount of information which is likely to prove useful to those interested in asylum work. If incorrect observations have been made and recorded, and if on this ground doubt be thrown upon the author's own statements, there remain the replies of the medical superintendents themselves to his inquiries, and these, which are numerous, possess undeniable value.

The Colonial Secretary, Sir John Robertson, complied with Mr. Tucker's request for a letter of introduction, prior to his entering on his travels. This letter, which is dated April 18th, 1882, from Sydney, New South Wales, describes Mr. Tucker as a gentleman of some standing, and as visiting Europe and America "in the interest of his business, for the purpose of inspecting institutions for the care of the insane." It does not appear that the Colonial Government commissioned Mr. Tucker to inspect asylums, as was done when Dr. Manning visited them in 1868, and drew up a report which remains of value to the present day. We may say, indeed, in passing, that a new edition of this report, edited by an English physician familiar with asylums, and corrected up to date, would be an important addition to the world of insane literature.

Returning to our author, we note that he has visited 400 asylums and travelled 140,000 miles in pursuit of his object. He gives a general summary of his experience under various heads, "Ventilation," etc., but our space will not allow of our importing it into this notice. We may take, however, as an illustration, one conclusion which is agreeable to our national *amour propre*, having reference to the furnishing of asylums. Mr. Tucker writes:

"In the county and borough asylums of Great Britain the furniture and general surroundings of the patients are of the most comfortable, home-like, and, in many cases, elaborate and artistic description; and this condition of things is almost universal throughout the island. Many of those asylums are so decorated throughout as to have the appearance of large conservatories. In many places, as on the continent of Europe and in Ireland, I have no doubt the plain and inexpensive furniture used is in accordance with the home habitudes of the patients—at least, I have been told so; but this should be no reason for the almost total absence of pictures, books, and other inexpensive objects of interest calculated to advance the mental condition of the patients, nor for the total exclusion of all means of recreation, amusement, and occupation."

We think that, while exception cannot be taken to this statement, there is in some pauper asylums an excess of ornamentation and show which may seriously tend to make the patient dissatisfied with his own humble home when he returns to it on his recovery.

With regard to the inspection of asylums, Mr. Tucker thinks that the visits are not sufficiently frequent, that they ought not to be made at stated times, and that the inspection is not sufficiently minute. We are not inclined to think that these objections apply to any serious extent to the inspection made by the British Commissioners. For example, a six days' visitation of the Colney Hatch Asylum, as reported in the last Lunacy Blue-book, means a somewhat laborious and minute examination. We should hope that the visits of the Commissioners are as a rule unexpected on the particular day they arrive.

We dissent from the author when he says that asylums should be accessible to the friends of the patients and the representatives of the press at all reasonable times. Well, yes; all "reasonable" times; but our definition of this word would apparently be very different from Mr. Tucker's. Indeed, as regards the press, we do not see that any time is reasonable.

The author makes the same blunder that the *Times* recently made, as pointed out by Dr. Tuke in that journal, namely, that insanity is largely on the increase, the proof advanced being "the new additions being made to present buildings, and the large number of new asylums constantly demanded as necessary to meet the requirements." Obviously, this is no proof.

At page 1346 a mistake occurs in the name of the director of the Rilhafolles Asylum at Lisbon, which should be Craveiro da Salva, instead of Dr. De Senna, who is only responsible for the direction of the Oporto Asylum. Again, in the description of the latter institution, the figure at the entrance is that of the late Count de Ferreira, and not a saint, as stated at page 1349.

In conclusion, we would remark that it is impossible to fairly estimate the worth of this book without ascertaining the extent of the mistakes into which the writer may have fallen, a task we cannot undertake. Some there must necessarily be. Their correction on the part of those concerned is a public duty. Silence in this instance must be construed into acquiescence on the part of the superintendents of asylums.

Beiträge zur Pathologischen Anatomie und Physiologie. Ziegler und Nauwerck. Zweiter Band. Drittes Heft. 1888.

Beiträge zur Pathologischen Anatomie und zur Allgemeinen Pathologie. Ziegler und Nauwerck. Drittes Band Erstes Heft. 1888. Jena: Fischer.

These numbers, the scope and size of which have lately been augmented, contain a series of contributions of different degrees of merit, and many of them very prolix. The last part of the second volume contains a paper by Ziegler and Obolonsky, upon the experimental effects of arsenic and phosphorus upon the liver and kidneys. The illustrations which accompany this are very clear and good, and above the average of our English works of a like nature. Sudakewitsch continues his researches upon lepra Arabum, and shows the effects of this disease upon the Bucinian corpuscles. The question of infantile osteomalacia is discussed by Adolf Hermann, who describes a case which he believes illustrated such a condition rather than rachitis. However, a very excellent photograph is given of the child, which shows very marked beading of the ribs. Edmund Leser describes, at inordinate length, certain tumours of the breast; and Hildebrant gives an interesting account of experiments upon the entrance of micro-organisms through the air-passages, and Gaupp also describes a curious case in which were found two neuro-fibromata and an angioma of the cauda equina, together with dilatation of the central canal of the conus medullaris. He also describes cases of hæmorrhage and spinal meningitis, which are of minor interest.

The first part of the third volume contains essays by Klebs upon thrombosis of the liver during pregnancy, and by Suchannek upon the normal and pathological anatomy of the pars nasalis pharyngis; also two other contributions by W. Eisenlohr and Favre.

On Evolution. An Address delivered at the opening of the Owens College Medical School, October, 1888. By James Ross M.D., LL.D., F.R.C.P., Physician to the Manchester Royal Infirmary, etc. Manchester: Cornish.

We may fitly consider this address upon evolution as complementary to the sermon of Principal Caird, which was reviewed in the Journal for October 13th. If in the latter we had a generous tribute from a learned divine to the value of the scientific activity of our time, we have in the former a not less liberal concession of a cultivated scientist to the demands of a religious idealism. This is essentially as it should be, and a man might do worse than bind these two closely reasoned essays together, and preserve them as a proof that a harmony of religion and science was a perfectly reasonable thing.

Dr. Ross begins by pleading for a wider mental culture in medical men than is involved in the mere achievement of their professional honours and success; and here he strikes the right note. The medical curriculum is now so severe that men who strive for the front rank have little time for "the ever-verdant fields of literature" or for speculative philosophy. This is unfor-

tunate, for just by how much these studies are neglected, by so much is the doctor's higher education diminished. Dr. Ross urges those who aspire to be thinkers—and a medical man who has not this ambition seems an anomaly—"to make a profound study of the problems of knowing and being." The lecturer traces the transformation of our cosmology from Dalton's "rude shock," when he enunciated his atomic theory, to the epoch-marking labours of Darwin; and though he admits that we must give up our cataclysms and sudden creative acts, he sees no reason whatever why we should surrender our idealism, which enables us to form "a regulative conception of God." We may permit Kant to convince us that it is impossible to prove the existence of God by either the ontological, the cosmological, or the physico-theological argument, but no doctrine of evolution will ever convince us "that intellect and moral emotion," as Carlyle says, "could have been put into us by an entity that had none of its own." Heine says that Kant had to postulate a deity out of compassion for his housekeeper, but we fancy that we can see in Kant's arguments against the physico-theological theory that he was not unwilling, great philosopher as he was, to worship "the mind that meditates in beauty and speaks in law."

Dr. Ross is not willing, like Professor Max Müller, "to stake his philosophy and religion upon the probability that chemists can never produce starch from carbonic acid and water." Most of us would think this far too risky. Not even if "the chasm between the living and the not living" ultimately be bridged, and we have to abandon the miraculous production of life, shall we find ourselves orphaned of God. Our author briefly but clearly states the outlines of the rival scheme of Professor Max Müller to that of Darwin on the evolution of species. Though he considers the origin of the *clamor significans* from the *clamor concomitans*, or the intellectual proposition from the mere automatic sound, as a theory which is a great advance on the onomatopœic hypothesis of the origin of language, he does not see any reason to doubt that Darwin would have accepted it had he been living. Even were it otherwise, he thinks the special-creationist can find but scant comfort in the arguments of Max Müller, who declares that "an act of creation is inconceivable," and he holds that Darwin's theory of the survival of the fittest is a much more plausible explanation of our condition. The lecturer beautifully says that God is in the dust beneath us and the stars above us—within us in our reverential feelings and our longings for the Eternal, and in the still small voice of conscience, though we fail to find him in the cataclysm.

We need not doubt, much less despair. Modern thought is sceptical because past ages made demands too absurd for credence. We must have our "vernal growth" and "the summer luxuriance, of opinion," as Carlyle said, "followed by autumnal decay and winter dissolution." And the way out of the trouble is to do the work lying nearest to our hands. Were we slowly evolved from brutes? Doubtless we acquired much in the process, and there may be even more before us. Truth seeking and duty following are the truest notes of the age; and for our encouragement let us remember that—

> Time means amelioration, tardily enough displayed,
> Yet a mainly onward moving, never wholly retrograde.

An imperfect physiology seemed at one time to favour materialism, but, as Lotze says, this hypothesis has reached its high-water mark in Germany, and has long been ebbing. Thought is far less likely to be a function of matter than matter a function of thought.

Dr. Ross concludes his learned address (which is a valuable contribution to medical literature) with the confession that he is an idealist who has "no hesitation in addressing the Deity in the language of human thought and emotion, and saying, "His eyes are upon the ways of a man, and he sees all his goings."

Dr. Ross twice refers to the *late* Dr. Martineau. The veteran thinker is still with us. Although 83, he has published one great work this year—*Studies in Religion*—and is now engaged upon another.

THE SALIVA AS A TEST FOR FUNCTIONAL DISORDERS OF THE LIVER. By SAMUEL FENWICK, M.D., F.R.C.P., Physician to the London Hospital.

THIS small work is a reprint and extension of a lecture delivered at the London Hospital. It deals with an interesting physiological anomaly, namely, the presence of sulpho-cyanide of potassium in the saliva. From his numerous experiments, Dr. FENWICK has shown that this salt varies greatly in amount in various diseases, and concludes that it has some relation to the functions of the liver. The great interest of the presence of sulpho-cyanide in a secretion rests in the theory that it is a result of proteid metabolism. Proteids are by some supposed to have a cyan-radical in their composition, although no very direct proof of this existence is as yet forthcoming. Sulphur is also a constituent of many proteids, and any experiments tending to show that a cyanide is derivable from a proteid must help in elucidating the very obscure chemical constitution of this important class of bodies.

The facts which Dr. Fenwick has obtained as the result of his investigations are extremely interesting; they are too numerous to detail here. The conclusions drawn are not so certain, and at present can only be considered as suggestions. In 23 cases of jaundice, for example, the salt was found deficient in the saliva in 18, and from this it is concluded that "it would seem probable that, in order that the salt should appear in the saliva, the bile must be able to enter the duodenum." Other cases are adduced to support this, but the arguments are not very conclusive.

One remark may be made regarding the mode of estimating the sulpho-cyanide. This is admittedly difficult. Dr. Fenwick has attempted it by taking as the normal a certain grade of colour produced by adding a salt of iron to his own saliva, and comparing this grade with that produced by equal quantities of specimens of saliva secreted by patients under observation. This is at best a rough test, as the amount of saliva secreted during the day is not estimated, nor is the relative indigestion of food taken into account. Such a rough test hardly, we think, warrants such minute differences of estimation as 0.47, 1.1, and 0.66—figures quoted from the work.

Although, however, the figures given must be taken with a certain amount of reservation, yet Dr. Fenwick has, by his laborious and extended inquiry, opened the way for future investigation into this interesting problem.

RECHERCHES SUR L'ANATOMIE NORMALE ET PATHOLOGIQUE DE LA GLAND BILIAIRE DE L'HOMME. CH. SABOURIN. 233 figures. Paris: Felix Alcan.

IN his preface the author apologises for the boldness of his views. He has certainly endeavoured to shake our faith in much that has hitherto been accepted; but the endeavour is obviously that of one who is an enthusiast, and who believes what he writes. It certainly takes one aback to be asked to agree that the sublobular and interlobular veins are a myth, and yet this demand is unhesitatingly advanced. Surer ground is trod upon when the fallacies due to the use of the livers of pigs and other animals is discussed. It is argued that that has given origin to the idea that the human liver lobule is a more definite and circumscribed structure than it is in reality. If this impression is conveyed by what our author calls the classical descriptions, it ought to be, and usually is, effaced by reference to more recent authors, and by a glance at an ordinary section. Indeed, we cannot help thinking that the so-called classical description, which is spoken of so often, is a creature of the imagination, and has been brought into being for the purpose of being soundly belaboured. After the process has been heartily performed, we still find that we believe in the existence of both the interlobular and sublobular veins—indeed, some of the figures (for example, Fig. 52) seem to demonstrate the latter unusually well. The idea that the liver is a tubular gland is well and clearly discussed. The idea itself is by no means new, but a good deal of very interesting pathological evidence is adduced in its favour, and the drawings which illustrate this branch of the subject are clear and instructive. However, the more successful this effort is, the more difficult does it become to explain the existence of the pigmentary, amyloid, and fatty zones. An endeavour is made to meet this difficulty by the creation of a theoretical biliary acinus in which the idea of a tubular gland is ingeniously used. Whilst agreeing that, in a degree, the liver is after the fashion of a tubular gland, as is excellently shown in a recent histological treatise, yet we are unable to accept the theoretical considerations here advanced. Nearly half this volume is devoted to theoretical considerations of this sort. The figures which illustrate this are, in many cases, exceedingly complicated and strange. They call to mind the figures seen in the kaleidoscope, *minus* the colours.

THE HOSPITAL FOR SICK CHILDREN.—The Princess Frederica having altered the date for the distribution of prizes at the Doll Show, the exhibition has been postponed until November 9th and 10th.

NOTES ON BOOKS.

On Diabetes and its Connection with Heart Disease. By JACQUES MAYER, M.D.Vienna, Carlsbad. (London: J. and A. Churchill. 1888.)—This little book represents the author's experience in connection with its subject, derived from an observation of a large number of private patients at Carlsbad and an investigation of the *post-mortem* reports of the Berlin Charité for thirty-two years. The author shows that three types of diabetic patients are met with: (1) pale, feeble, and delicate; (2) florid, vigorous, and animated; (3) obese, and either pale or ruddy. Patients of the first type are prone to suffer from dilatation of the heart and occasionally endocarditis, those of the second type from hypertrophy of the heart, and those of the third type from fatty infiltration of the heart, which seems to be accelerated by the diabetes. Dr. Mayer concludes that in a large number of cases of diabetes the heart becomes hypertrophied or dilated without there being any morbid change in the other organs, and without the presence of high arterial tension. He would attribute the heart lesion to the condition of the blood, to the glycæmia and the azotæmia, the latter being due to deficiency of kidney action. He believes, however, that the retention of renal excrementitious matters acts directly upon the heart, and not indirectly by the agency of the blood-vessels and by producing high arterial tension. In this latter conclusion we personally do not agree with him, but nevertheless we heartily commend the book as being the outcome of really good work.

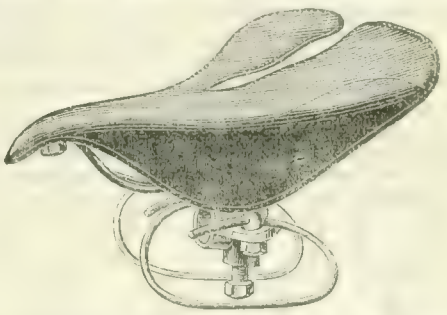
Die Arzneimittel der Heutigen Medicin mit Therapeutischen Notizen, etc. By Dr. OTTO ROTH. Sixth Edition, by Dr. GREGOR SCHMITT, Kgl. Regierung's- und Kreis-Medicinalrath zu Würzburg. Würzburg, 1887. (The Drugs of Modern Medicine, with Therapeutic Notices.)—This compilation has passed through five editions in Germany, and is well deserving of the favour with which it has been received in that country. A short space is allowed for a description of classes of drugs (purgatives, etc.), with examples. But the greater part of the work is taken up with an account of all the drugs used in treatment, in alphabetical order, making the work very easy of reference. Under each heading, a short account of the origin, characters, and solubility of the drug is given, with the preparations used, and, in many instances, the combinations which have been found most useful in the form of prescriptions. The work is quite up to date, and will thus be found of great use to practitioners who wish to refer to any new drug before trying it. The last hundred pages of the book are occupied with an account of the drugs which have been used in different diseases; this will be found suggestive in difficult cases. Although there is an English work of a similar character to the one under consideration, Dr. Roth's book will be of great service for reference by English practitioners. It is convenient of size, and possesses a good index.

Henry's Posological and Therapeutic Tables, containing the doses, actions, and uses of the medicines in the *British Pharmacopœia*, with poisons. Third Edition. (London: Simpkin, Marshall, and Co.; and Baillière, Tindall, and Cox. 1888.)—This little book is intended as a pocket companion to students beginning the study of materia medica. The acquisition of this subject is always more or less a "grind," and the author has endeavoured, with considerable success, to compress the material into a series of literary pills, which the assiduous and persevering student may swallow with as much ease as the arid nature of the subject permits. Books of this class fulfil a special and praiseworthy object by enabling the student to avail himself of spare moments to impress upon his memory details which only constant reiteration can be relied upon to secure.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

OPEN BACK CYCLE SADDLE.

APART altogether from the exhaustion of nervous energy from excessive cycling, which has overtaken not a few of such enthusiasts as have loved this delightful pastime "not wisely but too well," the ordinary cycle saddle has been the cause of considerable discomfort, and at times of functional disorder. Herr L. von Lubbé has just invented a new open-backed suspension spring saddle, which obviates those drawbacks to the full enjoyment of this fascinating exercise. The main feature of the new saddle is the open back, which is attained by the division of the saddle



There is no pressure on the perineum or jarring of the spine, each hip resting upon one of the two divisions of the saddle. In this way the longest ride gives rise only to healthy fatigue, with none of the present too common spinal and cerebral pains. As the spring of the saddle is divided, and each hip has a different resting place, the movement of the rider passes first down the one side of the saddle, and then the other side, each downward pressure being followed by a rebound which impels the rider forwards and sidewards, and thus facilitates running. The suspension of the spring is valuable, for, on the proper adjustment of the saddle, the rider's weight rests on the hip supporters and the treadles, leaving the perineum free—an important provision against the shocks hitherto often experienced during the jolting of the machine over rough roads. The seat is thus buoyant, and the vibration imperceptible. The adjustment of the inclination of the saddle to the rider is very simple. By pushing the two curved ends of the spring, which are rods resting in convex grooves in the clamp, backwards or forwards, the saddle is adjusted to the required inclination, and the fastening of the nut secures it in position.

CHAMOIS LEATHER CLOTH.

WE have received from Messrs. J. Hothersoll and Co., 42, Corporation Street, Manchester, samples of their chamois leather cloths: a textile fabric introduced as a substitute for chamois leather, adapted to all the purposes to which that article is applicable, and in some respects superior to it. It is perfectly washable, and never becomes hard after washing, as does real leather. They are, moreover, more useful for a variety of purposes of cleaning, polishing, and dusting, than leather; are much cheaper, and are said to last longer in use. These cloths, which are exceedingly soft in texture, are well adapted for polishing surgical and other instruments, and as dusters for many other cleansing purposes. They are made in various sizes, 18×18, 24×24, 28×36, etc.

CELLULAR CLOTHING.

THE material to which the name of cellular cloth has been given, for which great hygienic value is claimed, consists of cotton or a combination of cotton and silk; the threads are lightly woven into a fabric of porous texture, which, by virtue of its interstitial character, affords a free escape of the skin exhalations, and is stated to be free from the uncomfortable and unhealthy feeling and effects resulting from excessive perspiration, the material drying quickly on account of the penetrability of its texture.

It has been sought to combine lightness and durability with the largest possible air surface, the air, which has unrestricted passage between the clothing and the skin, acting as a good conservator of the body heat, and so averting chill. The material is easily washed, and does not shrink. The hygienic value which undoubtedly attaches to the cellular cloth would be far greater had woolen threads been used. Underclothing of all kinds, sheets, etc., are made of this material, as well as bandages, for which it is eminently successful and highly to be recommended. The cellular fabric, of which the manufacturers are the Cellular Clothing Company, Limited, 75, Aldermanbury, E.C., was awarded a medal oy the Sanitary Institute in 1887.

ANTROPHORES, OR SPRING BOUGIES, FOR THE TREATMENT OF GLEET.

As the multiform sequelæ of gonorrhœa are evidenced for the most part by a single symptom, gleet, and as our treatment of that symptom is not only empirical but haphazard, being carried out by the local application of certain antiseptic, astringent, or sedative substances to the urethra, regardless of the precise site of the disease; and as, moreover, the antrophore, or spring bougie, is attracting some considerable notice as a remedy for these complaints, the following short sketch of its manufacture and use may prove of interest.

It was, we believe, originally designed and patented in Germany by Dr. Francke, but the article did not find favour, and the patent was permitted to lapse. It is, therefore, an unpatented article.

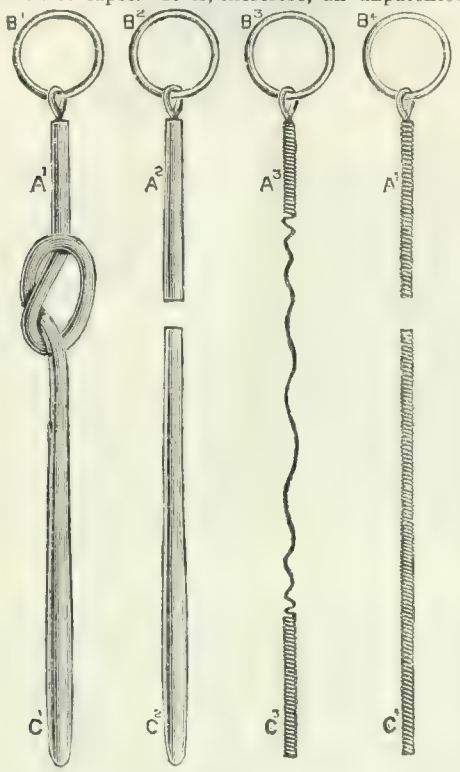


Fig. 1.

Fig. 1 shows the construction of the bougie. The wire spring A^4 C^4 is coiled by a special machine, the wire that is used being tough and very resistant, any extra traction upon its end causing it to uncoil A^3 C^3 rather than to break. Its length is 4, 6, or 8 inches. One end, C^4, is now specially blunted, and to the other is attached a large ring, B^4. This ring is valuable in preventing the bougie slipping bodily into the urethra out of the surgeon's or the patient's control. The spring next receives a coating of shellac in order to enable the medicament used to adhere to the wire. It is then dipped into a composition which consists of gelatine mixed with the drug to be used—such as thallin sulphate, iodoform, tannic acid, sulphate of zinc, nitrate of silver (it was found that lead compounds and bismuth rapidly decompose; bougies of these drugs are, therefore, valueless), until the whorls of the coil become entirely coated. It is now suspended by its ring until the gelatine mass solidifies. Several dippings increase the thickness of the bougie to the required size (15 French gauge).[1]

It will be noticed that suspension causes the composition to accumulate at the lower end C^2—in fact, just where it is generally most needed. When the bougie is nearly dry after its final dipping, it is sprinkled with powdered talc. The bougie is extremely pliant; it can be knotted like a Jacques catheter, A^1, and, like that instrument, it may be passed with ease and without discomfort. It is neither too hard before use, nor too soft whilst in the canal as its predecessor, the cacao butter bougie, is. It is, moreover, long enough to reach the most important gleet section of the urethra, the deeper part.

These bougies have been well spoken of in the cure of gleet, especially those composed of 5 per cent. of thallin sulphate, by Drs. Krause, Nachtigall, Lohnstein, Bessard, and many medical men in this country. Most, however, agree that some cases are rendered worse by them, those in which the gleet depends upon a stricture, or localised patches of granular urethritis, or congestion. These latter cases require the incandescent lamp urethroscope (JOURNAL, March 3rd, 1888), and some form of direct local treatment.

In order to localise the action of the medicament for cases of patchy congestion or ulceration of the urethra, and for topical applications to the prostatic canal another form (which is represented in Fig. 2) has been made at the suggestion of Mr. Hurry Fenwick.

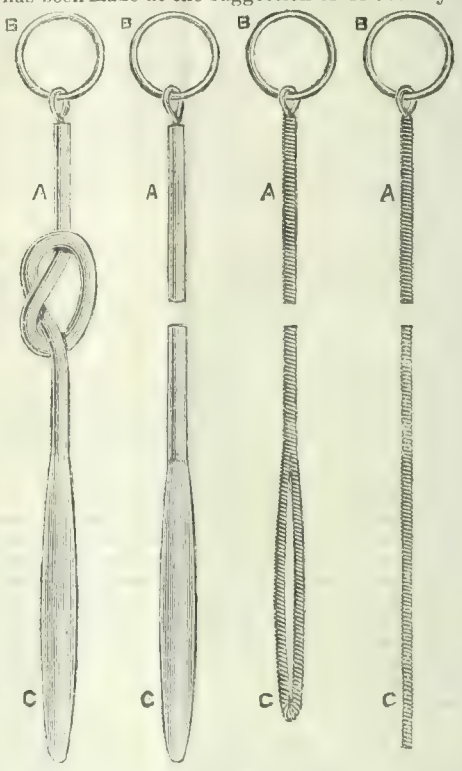


Fig. 2.

It will be seen that this, the prostatic spring bougie (Fig. 2), is the same in principle and construction as the ordinary antrophore (Fig. 1), only that in the former the medicament is localised at the end, C, and that the remainder of the shaft is protected by a layer of pure gelatine, A. The shaft is 6 or 8 inches long, and the bulbous end can be guided into, and located in, the prostatic canal by means of the finger in the rectum. We have obtained our information and specimens from Messrs. Thos. Christy, and Son, the agents for the manufacturers in Saxony.

TOILET LANOLIN.

THIS is a very seasonable pharmaceutical product, prepared by rubbing together Liebreich's lanolin and purified petroleum jelly: the combination being slightly perfumed with otto of roses. This preparation of lanolin is a very valuable local antiseptic preparation when applied to the skin. Experience has shown that lanolin possesses really remarkable properties in the prevention of sunburns and freckles, and it has in the present season a large sphere of usefulness in the prevention of chapping of the skin and chilblains. It is an admirable type of a soothing and local unguent, and is likely to have extended popularity as an emollient of the skin and preservative, lanolin being a natural keratine fat, such as is contained in all the cutaneous tissues. The agents are Messrs. Burroughs, Wellcome, and Co.

[1] The gelatine shrinks if the bougie is kept long; but this is not to its detriment.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, OCTOBER 20TH, 1888.

THE CASE OF THE LATE EMPEROR FREDERICK.

THE publication of Sir Morell Mackenzie's reply, and the circulation of the English translation of the German records of the fatal illness of the late Emperor Frederick, put the medical profession in possession of nearly all the materials which can be required for the formation of a judgment on this distressing and much debated case; materials which have hitherto been wanting. We say nearly all, for Sir Morell Mackenzie complains—and the complaint is one of some gravity—that while the report of the German surgeons and physicians has been prepared with the help of all the official documents deposited in the records of the House of Hohenzollern, he has, notwithstanding his formal application, been denied access to the same series of records; and that thus documents of some importance for the adequate statement of the full facts from his point of view have been kept back from his use. This is a matter of some importance in the formation of a judgment; because among the documents which it would have been desirable to produce, and which are not to be found in the German statement, are the records by the Crown Prince himself of his own decisions and views on the facts and opinions submitted to him by his medical attendants on the one side and the other.

These decisions are obviously a most important element in the question, since on them hinges largely the crucial question how far the will of the Crown Prince, enlightened by the opinions and statements of his medical attendants, defined the course of proceedings to be adopted under doubtful conditions, and how far he was willing to incur the risks of operation at various stages of the disease. It is, therefore, much to be regretted that the German officials have not afforded to Sir Morell Mackenzie the same facilities for drawing up his reply which they had previously accorded to their own officers, the German professors concerned in preparing what is nothing less than a formal indictment.

THE MAIN ISSUES TO BE TRIED.

Although such a case is surrounded by many complications—owing to the rank of the patient, political influences, and, unhappily, professional jealousies of a most lamentable kind,—the main issues are not very numerous, and may be tried on very simple and generally recognised principles.

Two main questions interest the profession in such a case. Was the conduct of the several physicians and surgeons in attendance in accord with the ordinary rules of professional ethics, or, as it is sometimes called, professional etiquette? And was the treatment conducted with just diligence and attention, and with adequate professional skill?

THE QUESTION OF "MEDICAL ETHICS."

We have always preferred a very simple view as to what is known as "professional etiquette." It is, in our view, nothing else than the application of ordinary recognised ethical rules to the circumstances of professional life. The first duty of the physician is to his patient; the second and collateral duty is to respect the position of the medical colleagues whom he finds in attendance, and to do nothing avoidable which can injure the estimation in which they are held; in other words, to do his full duty to his patient, and to do to his medical colleagues as he would have them do to him. If the physician divulges, contrary to the wish of his patient, or contrary to his interests, and without feeling assured of his approbation, any of "the secrets of the sick room," he fails in a duty to the patient, which is one of great importance, and lays himself open to the most severe censure of the College of Physicians in this country to which he might be attached. That charge has been very freely urged against Sir Morell Mackenzie, and at times with much plausibility, but it is one of which the patient himself was the best, if not the only, judge. It is well understood that royal and high official persons stand in a different relation to their people and to the world than persons who occupy a less conspicuous position. The extent to which they think it desirable that the nature and progress of their illness should from day to day be made known, and their own decisions discussed, is a matter on which they alone are able to form a judgment. The evidence before us in this case is that, whether as Crown Prince or as Emperor, the late Emperor Frederick—who was undoubtedly fully aware of the extent to which, in the words of the German report, "the press had taken possession of his case"—appears from first to last to have loaded Sir Morell Mackenzie with public and private testimonies of his affection and esteem, testimonies of the most touching and intimate kind, as well of a formal official and public character, which are quite incompatible with the theory that he felt that that physician had betrayed his confidence by making communications to the press, or had in any way outraged the rule which requires the physician to be guided by the patient's wishes in any utterances regarding his malady.

THE PROFESSIONAL RELATIONS OF THE PHYSICIANS IN ATTENDANCE.

On another point we cannot arrive at an equally satisfactory conclusion. The professional relations of the German medical attendants and Sir Morell Mackenzie have been of the most distressing character: the open strife; the violent expressions of mutual distrust; the bandying of charges of incompetency; the unconcealed allegations of untruthfulness which disfigure both reports, are sources of humiliation to the profession throughout Europe. All the more so because

they are without precedent, and because they show before all Europe a very pitiful spectacle of littleness and passion, which contrasts with the grand figure of the noble Prince, whose patience, courage, magnanimity, and faithfulness rose above the severest trials, and never deserted him in moments of the greatest anguish and despair. That such an unseemly strife should rage with so much violence around the sick chamber and over the grave of this illustrious man is a profound discredit to all concerned.

If we have to begin, as in justice we must, with the first incidents which led to this unseemly display, we cannot acquit Sir Morell Mackenzie of departing from the rules of professional conduct recognised in this country as binding on medical consultants, by the nature of the proceedings following the first consultations. It is the accepted duty of a consultant who differs from those who first called him to make them the medium of communication to the patient of the difference of opinion which has arisen. We see no evidence that this precaution was adopted. Had it been, much of the ill-will which subsequently arose might have been avoided. On the other hand, one at least of the German medical attendants seems from the first to have shown the utmost ill-will. Of Sir Morell Mackenzie's high ability and great experience no one can entertain a doubt, nor is it doubtful that he brought to this case complete devotion of the best faculties of his mind, and a manipulative skill which is confessedly unsurpassed in Europe. Under these circumstances, the imputation made in the very earliest stages of the case that he "actually *tried* to remove, *by mistake (aus Versehen versuchte)* a piece of the healthy vocal cord," is not only unpardonable but monstrous. With the instrument used by Sir Morell Mackenzie, the physical probabilities are opposed to such a hypothesis; and his removal of the whole or greater part of the growth itself on subsequent occasions does not afford it any countenance. The repetition of the charge in this pamphlet will not increase our confidence in Professor Gerhardt's calmness of judgment or justness of view, and will go far to explain the difficulties under which Sir Morell Mackenzie must have laboured in professional relations with colleagues who from the first were willing to assume that in fulfilling a responsible and sacred duty he was actuated by the basest motives, and acted with the blackest treachery. Relations so unhappily begun were embittered from time to time as the case went on. Sir Morell Mackenzie does not appear to us to have given that adequate notice of the progress of the case to his German colleagues which they allege that he was pledged to do. While they make against him the grossest charges without a shadow of reasonable foundation, he treats them throughout with scant respect. The contempt with which he treats Dr. Landgraf is not at all justified by the reports from that gentleman which appear in the pamphlet. These reports strike us as being particularly able and well drawn up. The charge which he makes against Professor von Bergmann of making a false passage and setting up a large abscess which hastened the Emperor's death by many months, finds no support in the context, nor in the evidence of other witnesses, nor in the result of the *post-mortem* examination. Of the charge against Dr. Bramann, that he made the tracheal incision on one side of the middle line some evidence is produced, but too much importance appears to have been ascribed to this incident.

On the whole, it may, we think, be said that neither party establishes, by the evidence adduced, the violent charges which it brings against the other; that, being all men of experience and ability, each did his best when called upon to act; and that, with a little better feeling on all sides, we should have heard nothing of these scandalous charges, all of which seem alike to be devoid of solid foundation.

The Line of Treatment Pursued.

In considering the line of treatment pursued we miss greatly the documents to which we have above referred, and from which the determining influence of the Crown Prince himself might have been better ascertained. Events proved that Sir Morell Mackenzie was wrong in his conclusions from the clinical appearances. It is no secret that from the first the mass of specialists, in England as well as abroad, were, so far as data for judgment were afforded, filled with misgivings, and were by no means able to coincide with Sir Morell Mackenzie in the hopeful anticipations which he allowed himself to entertain. But it is well known that in such cases Sir Morell Mackenzie is an optimist, and that quality often finds unexpected rewards in practice by the fulfilment under unpromising circumstances of a hopeful prognosis.

However undetermined the prognosis, however clouded the future, the patient himself has the final voice in settling the proceedings to be adopted in a case of probable cancer. It is known that at one stage the Crown Prince recorded in writing his unwillingness to undergo any other operation than that of tracheotomy, and it is much to be regretted that this document is not printed in the official report nor made accessible to Sir Morell Mackenzie for his reply. In a case of doubtful, as of undoubted, diagnosis of malignant disease, the patient has the right to consider his own personal preferences amidst several distressing alternatives.

The Crown Prince, when fully alive to the absolute certainty that the diagnosis of the German medical attendants was the correct one, never manifested for a moment any sentiment that he had been misled by Sir Morell Mackenzie, or that any false impressions had been given to him, or that he had been unduly deprived at any time of his free choice of surgical expedients. On the contrary, he expressed to him throughout his profound gratitude and esteem. In the absence of any records expressing the illustrious patient's own views (which it said to be "high treason" to publish), it is hard indeed to arrive at any positive conclusion. This much, however, stands upon record, that in their conclusion from the clinical appearances, the German physicians were from the first right and Sir Morell Mackenzie was wrong. This question of treatment is altogether a different one; and here the only person who had a right to decide is silenced, and the records which might have thrown a fuller light are withheld.

The Final Conclusion.

The final conclusion is that the case itself was by no means an unusual or extraordinary one. The minute care with which the development of the disease was observed and recorded day by day brought into prominence some features of the disease

not generally recognised, while the high station, the noble character, and the great political position of the victim gave a tragic interest to every detail of his suffering, to every hope and to every fear.

The political passions and the medical disputes which have raged around the bed and the tomb of the illustrious Prince are discreditable and humiliating to all concerned, and distressing to lookers on. The sooner they are forgotten the better. In any case the result could not have been very different from what it has been.

VACCINATION.

We have repeatedly had occasion to express our satisfaction with the fearless and uncompromising attitude assumed by the present President of the Local Government Board in dealing with the cavils of antivaccinationists and the thorough and intelligent command of the whole question of small-pox and vaccination he never fails to display. On June 1st he gave in reply to Mr. Picton, in the House of Commons, an analysis of the recent epidemic of small-pox at Sheffield to which he had already referred at a political meeting held in that town on January 30th last, with this difference, that whereas his figures were then merely approximate, subsequent inquiries had given them a precision and a value they did not at that time possess. He also took occasion to adduce the experience of Montreal in the terrible epidemic of 1885. Our leader having been copied into a provincial paper aroused the ire of a local antivaccinator, a Mr. Graves, whose letter to that journal has been forwarded to us. It is a somewhat violent effusion, but affords a good illustration of the sophistries by which the opposition to vaccination is upheld, and of the assumptions and fallacies persistently employed by the champions of the party. Foremost among these fallacies, and indeed essential to their arguments, is the neglect or refusal to take into account the constitution of a population as regards age and the ratio which the vaccinated and the unvaccinated bear one to the other in the entire population and in the portion attacked, as well as the number, or rather the percentage, of deaths occurring in each section. The assumptions are that because vaccination at some age or other is supposed to be compulsory, all persons whatever may be deemed vaccinated, and that, should the compulsion be withdrawn, the whole population may be looked on as unvaccinated. Less gross, but scarcely less grave, is the refusal to recognise the imperfect character of much that passes for vaccination, especially where public prejudice is hostile, and lastly, the progressive enfeeblement of the protection afforded by a single vaccination performed in infancy, and the necessity, in order to obviate this, of a repetition of the operation once at least, preferably about puberty. It is to this, and this alone, that the extraordinary immunity now for some fifteen years enjoyed by the Germans is due, the rising generation in that Empire, and in that only, being thus protected.

The effect of infant vaccination only as carried out in this and other countries, however general, is simply to postpone the period of the incidence of small-pox. In prevaccination times, as the statistics of Dr. Haygarth for Chester in the eighteenth, and of Caspar Neumann for Breslau in the seventeenth century clearly show, small-pox was precisely as measles is now, in virtue of its extremely infectious nature, a disease of childhood, the vast majority of cases and, in a still more striking degree, of deaths being those of children under ten and nearly all under fifteen years of age, whereas now they fall mostly on adults between their twentieth and fortieth years, when the protective influence of their infantile vaccination has to a great extent worn out; another contingent with a far greater percentage of fatal cases being furnished by infants not yet of the age for vaccination or in whom it has been evaded or delayed. The insusceptibility to further infection conferred by an attack of small-pox itself shows the same tendency to impairment by lapse of time, and it would be strange indeed if the very modified form of the disease, known as vaccination, should not be less enduring in its effects. The fact that in any epidemic occurring in a more or less vaccinated community, the cases, however numerous, are mainly confined to these two classes of the unvaccinated, and those who were vaccinated twenty, thirty, or forty years ago, so far from telling against vaccination, is the strongest argument for its more efficient and repeated performance, amounting, as it does to this, that the protected escape while the unprotected and those whose protection had worn out succumb; but to reckon the deaths of the unvaccinated to the disparagement of vaccination, because their brothers and sisters, who escaped, had been vaccinated, is an unpardonable fraud. Yet it is often done, as are other manipulations of statistics of so glaring a character that it is impossible to believe that the authors could have deceived themselves. To return to Mr. Graves's letter—he begins with a statement so palpably false that we know not how to describe it. "Time was when the vaccination of a small percentage of a population was assumed to have protected the whole from small-pox." By whom? we ask, and deign no further notice. "Leicester is unvaccinated and zealous for sanitation." Here are two statements neither of which are strictly correct. We have Dr. Tomkins's report before us. It is only since 1885 that compulsion has ceased to be enforced, prior to that year the great majority of infants were vaccinated, and consequently the whole of the population now over three years of age is as "vaccinated" as in other towns, even in 1886 a quarter of the children born were vaccinated and though now a tenth are so, it will be many years before the population can with any semblance of truth be described as "unvaccinated" like those of China and the greater part of India.

Next, Leicester is "zealous for sanitation," we believe it is, in so far as their able engineer is constructing a new system of sewers, not before they were wanted. The infant mortality from diarrhœa is very properly viewed as one of the best tests or indications of the sanitary conditions of a town, and in this respect Leicester has long borne a sad notoriety, this class of deaths being twice as numerous as in the twenty-eight other great towns of England. There is not a tittle of evidence that the best sanitary arrangements or even social advantages confer any exemption whatever from small-pox any more than from measles and whooping-cough, which attack alike the children of prince and peasant: while some German towns, in which no improvements have as yet been effected, and where, consequently, enteric fever and diphtheria are as rife as ever, enjoy equal immunity now from small-pox as the

healthy and wealthy Frankfort. Filth and poverty favour its spread, simply so far as they presuppose overcrowding, impossibility of isolation, neglect of disinfection, and so forth.

At Sheffield it is true, as Mr. Graves states, that 95 per cent. of the children are vaccinated, but with the analysis of the incidence of the disease and the deaths on the 95,000 vaccinated and the 5,000 unvaccinated children under ten years of age, which we gave, before him, he deliberately shuts his eyes to the extraordinary difference in the percentages, and writes as if the epidemic attacked the entire childhood of the town without distinction. We defy him to twist these figures to the depreciation of vaccination; to explain, if he can, how among the 95,000 vaccinated children there were but 189 cases and only 2 deaths, while among the 5,000 unvaccinated there were 172 cases and 70 deaths, absolutely 35 times as many and relatively 700 times. Among the adults admitted into the small-pox hospital there were 32 deaths, 21 being those of unvaccinated persons and 11 of individuals once vaccinated, but on an average thirty years ago. The better claim the population of Sheffield has to his description of a well vaccinated one, the worse for his argument and the more conclusive is the history of the epidemic in favour of vaccination. What difference was there between the nineteen-twentieths who furnished two deaths and the one-twentieth who contributed seventy save vaccination? This minority were not the "upper ten" that is certain, and until he will face these questions, judgment goes against him by default.

With regard to Montreal the case is very different. Unfortunately we have not, so far as we know, the same means of clearly distinguishing between those who were attacked and those who escaped as we have at Sheffield. Here he can riot in uncertainties; but while the insulting epithet of "thimble-rigging" which he contemptuously flings at Dr. Tomkins is most appropriate to his own wilful suppression of Mr. Ritchie's facts and figures, he asks us to take the impressions and hearsay evidence of a casual visitor, well meaning and honourable though he be, as against official statements and the testimony of the resident medical men. This much he admits, that the Roman Catholics had been violently prejudiced against vaccination, and when we find at the end of September 1885 no fewer than 695 of that creed and only 35 Protestants had died, we are perfectly justified in assuming that no great change had come over the sentiments or practices of the Roman Catholic population, and this is confirmed by the repetition of their attacks on the houses of the health officer, the public vaccinator, and the health offices, as well as by the board having passed a law for enforcing vaccination, which he would have us believe had been voluntarily submitted to by the very same persons—*credat qui vult, non ego.* Why even the Pope felt it his duty to cause a letter to be read in the churches urging on his flock the duty of vaccination. After this it is surely more reasonable to believe the official statements that more than half the population was still unvaccinated.

THE HARVEIAN ORATION.

The task to which the Harveian Orator has year by year to address himself is one not altogether easy to perform with success; the mere fact of its annual repetition begets a certain mental weariness in his hearers or readers, and while he must seek, for his own sake, to avoid commonplace, the circumstances of the place and of the audience impel him with almost equal force to eschew paradox. Rather it would seem to be his duty to deal only with matters about which some approach to certainty has been attained, and in this respect he has a useful function to discharge if he have but the courage to give, as it were, a kind of stamp of authority to doctrines which cause serious discomfort to many timid members of the profession by reason merely of their novelty. With one exception—his theory as to the chemical constitution of albuminous bodies—all that Dr. Latham had to say about micro-organisms and ptomaines is familiar to everyone who has given any attention to the subject; but the oration is an interesting sign of the times, in that the orator frankly accepted the theory of pathogenic organisms, and discussed with breadth of mind some of the consequences which flow from its acceptance.

The notion that in diseases dependent upon the growth of micro-organisms within the economy two main factors—the vital characteristics of the micro-organism and of the tissues of the individual attacked—have to be taken into account, though generally accepted by bacteriologists, has forced itself upon those who were disposed to offer opposition to the germ-theory of disease with singular slowness. Yet the notion is by no means new, or special to this class of disease; in autochthonous diseases, as, for instance, gout, and in diseases due to other external agencies, such as coryza, the influence of tissue peculiarities, hereditary or acquired, permanent or temporary, cannot be ignored and is indeed generally admitted.

The most interesting part of Dr. Latham's oration was devoted to elaborating the theory that the pathological processes induced by micro-organisms were analogous to those produced in autochthonous diseases. No hard-and-fast line can be drawn between ptomaines produced by decomposition of albuminous bodies outside the body and certain excretory products, and there is good room to believe that poisonous bodies are produced by pathogenic organisms within the body analogous in their chemical constitution with the ptomaines of decomposition and with the leucomaines described by Gautier.

Assuming that the micro-organisms are the active causes of certain diseases, Dr. Latham, with many other thinkers on the subject, inquires by what means the symptoms of disease are produced. Here we find ourselves on the threshold of a great investigation which cannot but have important results. It is the duty of the Harveian Orator to quote the words of Harvey himself, to encourage his hearers "to search out the secrets of Nature by way of experiment," and Dr. Latham indicated this fruitful field without attempting to enter upon it. The moment is indeed not ripe for formulating any decisive opinions, but several directions in which the inquiry ought to be pushed were pointed out. Certain it is that a solution will only be found by attaching due importance to both factors in the struggle for life—the capabilities of the micro-organism for mischief, and of the blood and solid tissues for resistance. The conditions are complex, for the influence of either factor may vary, and the one reacts upon the other. When dealing with the virus of tuberculosis, Dr. Latham is supported by an overwhelming array of clinical facts when he urges that it is

far more important to reinforce the power of resistance possessed by the tissues than to exclude or destroy the bacillus, but with our present knowledge the converse appears to hold for the acute zymotic diseases. The researches of Pasteur, Koch, and Metschnikoff have contributed important facts to the store of pathological knowledge, but perhaps the next advances will be achieved by pathological and physiological chemistry.

IRRIGATION OF THE PELVIS OF THE KIDNEY.

Dr. Bozeman has recently contributed to various American medical papers a series of interesting articles on a new way of treating pyelitis. In the *Transactions of the Ninth International Congress* he reported a case of pyelitis which occurred as a complication of a large urinary fistula involving the urethra, uterus, and both ureters. By special contrivances the urine was drained away so as not to injure the vagina or vulva, and the pelvis of the kidney irrigated. The renal symptoms having disappeared after over a year's treatment, the fistula was closed. Encouraged by the cure of the pyelitis in this case, Dr. Bozeman conceived the idea of extending the method of treatment to cases of pyelitis where no fistulous opening existed. A patient, aged 34, came under his care suffering from calculous pyelitis of the right kidney. The bladder was explored, and unsuccessful attempts were made to pass a probe into the ureter. On May 6th, 1887, the operation of "kolpo-uretero-cystotomy" was performed. The case is fully described in the *American Journal of the Medical Sciences*, March and April, 1888. The orifice of the right ureter was exposed by the removal of a circular piece of the vesico-vaginal septum large enough to allow the forefinger to be introduced into the bladder. The vesical and vaginal mucous membranes were brought together around the opening by suture, and a catheter was then passed into the ureter; it entered the pelvis of the kidney without meeting with any obstruction. Water was gradually injected into the pelvis, and allowed to escape until the fluid which came away was free from blood. The catheter was retained for thirty-six hours. On the next day Dr. Bozeman's ingenious "drainage support" was introduced into the vagina. By the tenth day the vesical and vaginal mucous membranes had united around the artificial fistula, and systematic treatment of the pyelitis was begun. A flexible olivary catheter was passed daily into the ureter, and the pelvis of the kidney was irrigated with a solution of one part of sublimate in twenty thousand of warm water. The sensations of the patient allowed the operator to know when the pelvis of the kidney was distended. At the end of three weeks the urine was perfectly clear and deposited no sediment. On June 25th, the urine from the right and left ureter was collected separately, and the result of the examination of the two samples proved that the pelvis had returned to a normal condition. The patient was sent home and gradually regained excellent health: the drainage-support kept the vagina and vulva perfectly healthy. She returned to hospital on November 8th, 1887, for the closure of the fistula. The ureter had contracted; too large a catheter was passed, and slight cystitis and pyelitis were the consequence. The renal pelvis was irrigated once more. On December 4th, the fistula was closed with the button-interrupted suture. Five weeks later, the patient looked and felt perfectly well; the fistula had closed, and the vesical and renal symptoms had all disappeared.

Dr. Bozeman has since extended his application of kolpo-uretero-cystotomy to the cure of disease of the urinary tract. In a paper entitled "Renal Tenesmus" (*N. Y. Medical Record*, August 4th, 1888), he professes that the earlier stage of extension of bladder disease towards the kidneys can be distinguished by clinical symptoms. He traces vesical disease in women to previous urethritis, with hypertrophy of the urethral mucous membrane, and recommends, for chronic cases, an opening in the vesico-vaginal septum, between the orifices of the ureters, to secure physiological rest, the vagina being protected by his drainage-support. He extends this method of treatment to cases where the disease has advanced high up the urinary tract, involving the lower part of the ureters. He believes, as we have noted, that inflammation of the lower part of the ureter can be diagnosed. To its symptoms he applies the term "renal tenesmus."

This condition closely resembles renal colic, and pain over the corresponding kidney usually exists before that organ is itself involved in organic disease. Micturition is painful, crampy sensations, which run upwards along the track of the affected ureter, being noticed in all cases; artificial distension of the bladder to a moderate degree produces the same renal and ureteric pain. Dr. Bozeman also shows that, on vaginal examination, the vesical extremity of the inflamed ureter proves tender on touch; sometimes that duct feels like a hard rounded cord. In two cases he relieved "renal tenesmus" by kolpo-uretero-cystotomy and drainage, as in the case of pyelitis above noted; taking, in addition, several precautions to allow of free escape of urine. He makes the opening into the bladder "about the size of a silver half-dollar." Dr. Bozeman is so satisfied with his principle of treatment that he will not hesitate to apply it in future to all but the graver forms of vesical and renal disease. In the treatment of pyelitis, renal calculi, and other obstructions of the ureters, it will, in his opinion, restrict within narrow limits the operations of nephrotomy and nephrectomy.

Dr. Bozeman's opinions deserve attention; they refer to grave pathological conditions, and advocate a serious and difficult surgical proceeding. If, as he alleges, his protective drainage of the bladder and other appliances may allow the worst forms of urinary fistula to be cured without any necessity for such objectionable operations as plastic occlusion of the vagina, occlusion of the os uteri, and incarceration of the cervix in the bladder or rectum, a great advance has been made in the treatment of a loathsome infirmity. His treatment of pyelitis and of ureteritis threatening to extend to the kidney is as bold as it is ingenious. It is never likely to be very widely adopted, as plastic operations on the upper part of the vagina and catheterisation of the ureter demand great manual dexterity. Yet its aim is rational, so it is to be hoped that pyelitis may yet be cured by easier means, though on the same principle.

The opening meeting of the twentieth session of the Royal Colonial Institute will be held at the Whitehall Rooms, Hôtel Métropole, on Tuesday, November 13th, when Dr. E. Symes Thompson will read a paper on "South Africa as a Health Resort."

SCHOOL LIFE AND EYESIGHT.

THE connection between education and the production of myopia is one which has been discussed almost *ad nauseam* without any really satisfactory conclusions having been arrived at. Some recent investigations of Dr. Stilling,[1] of Strassburg, induce us, however, to return to the subject, as they enable us to examine it from a somewhat novel standpoint.

Dr. Stilling's monograph and our remarks have nothing to do with that form of myopia which has sometimes been called "malignant," and which is accompanied by extensive changes in the choroid; this appears to be as common in those who have not used the eyes for near vision as in those who have, and to occur not infrequently in one eye only, sometimes before the commencement of school life. The opinion is gradually gaining ground that the elongation of the eye in these cases is not the essential, but merely a concomitant, symptom, and that these cases are of an entirely different nature from those with which we are now concerned.

There is no doubt that uncomplicated axial myopia is frequent in proportion to the extent to which the eyes are used for near objects during childhood, and that it usually comes on during school life, progresses for a few years, and then remains stationary. The inference, therefore, is that school work has a great share in its production, and it is generally believed that any conditions which compel the scholar to bend down over his work increase the liability to myopia. The alarm has been raised in more than one quarter that we are in danger of becoming a nation of myopes: and this has led to the use of improved type in our school books, better lighting in our school rooms, and the use of seats and desks, and head rests, which remove the temptation to stoop, or render it impossible.

No serious attempt has, however, hitherto been made to explain how it is that, under identical conditions, some children become myopic, and others do not. No doubt heredity has something to do with it, but certainly not much, nor does the general condition of the myopes and non-myopes prevent any contrast sufficiently well marked to justify us attaching much importance to it. The condition of the eyes at the commencement of school life does not appear to help us much, for the hypermetropic eyes seem as liable (some say more so) as the emmetropic to become myopic. Congenital weakness of the tunics and imperfect closure of fœtal fissures have been spoken of, but, as these conditions cannot be recognised, it is a mere begging of the question to put them down as causes.

Although it is generally admitted that the use of the eyes upon near objects is the immediate cause of the myopia, there has hitherto been no consensus of opinion as to the manner in which this causes the elongation of the globe. The convergence, the accommodation, and the lateral to-and-fro movements have all in turn been blamed. There were cogent reasons to be advanced against each, but there did not appear to be any other factor in the case until Stilling, in an earlier paper, suggested that the reflected tendon of the superior oblique might be the culprit.[2] He showed that the position and direction of this varied very much, as did the amount and direction of the pressure that it exercised upon the globe. The material at his disposal was not very great, but, as far as it went, it seemed to show that when the tendon had an approximately transverse direction, and pressed much upon the globe, the latter was more often elongated from before backwards. Other things being equal, the lower the pulley of the superior oblique, the greater would be the pressure exercised by the tendon. If, therefore, this were really the cause of the myopia, the vertical diameter of the orbit should be less in myopes than in others, assuming that the height of the trochlea varies with that of the orbital roof. From a large number of measurements Professor Stilling concludes that this is the case. The vertical and transverse diameters of the orbit were measured during life by means of a pair of compasses placed within the orbital margin, and the proportion of the former to the latter expressed as a percentage (the "height-breadth index"). It is admitted that the method is but rough, and the results would be of little value unless the differences were considerable. Adults were taken from the educated classes, in whom myopia had developed during school life, and had since become stationary. Among the 140 myopes the average height-index was 77.8, and among 120 emmetropes and hypermetropes it was 89.1. If the figures are examined it will be found that many exceptions occur; for example, a high orbit is sometimes met with in myopia, but in most of these it will be found either that the myopia was very slight, or that the cornea had an unusually short radius of curvature, so that the myopia was really due to this, and not to the increased axis of the globe. Taking the various degrees of myopia, there does appear to be a gradual diminution of the height-index as the higher grades are reached.

It seems to us that one weak point about Dr. Stilling's case is that it is extremely difficult to judge of the exact position of the pulley of the superior oblique, either during life or by an examination of the dry bone. A table is given, compiled from measurements made on the skull, to show that the position of the trochlea does vary with the height of the orbit, but the results are by no means conclusive, and show a good deal of variation. Besides this, no account is taken of differences in the prominence of the eye, but, as Stilling has himself previously pointed out, this must have a considerable influence on the direction of, and the pressure exerted by, the superior oblique. It would be interesting to know whether, in cases of monocular myopia, there is a marked difference between the orbits.

This paper will certainly do good service in directing attention to what may prove an important factor in the production of myopia, and if further investigations should justify its conclusions, much of the apprehension that has been felt as to the effect upon the nation of our present system of education will be shown to be groundless, since the development of myopia need then only be feared in those who are predisposed to it by the formation of the cranium. It is evident also that an explanation such as this might account for the prevalence of myopia among certain races.

[1] *Schädelbau und Zurgsichtigkeit*, Bergmann, 1886.
[2] *Ber. Oph. Gesellschaft*, 1886.

THE Bedford Town Council are contemplating the erection of an infectious diseases hospital.

Dr. Graily Hewitt has been elected an Honorary Fellow of the American Gynæcological Society.

The debate at the Pathological Society of London on the Relation between Alcohol and Diseases of the Kidneys will be held at the meetings of the Society on Tuesday, December 4th, and on Tuesday, December 18th.

Professor v. Esmarch, who was among the foreign visitors at the Congress of American Physicians and Surgeons in Washington last month, is lying ill in New York. His condition on Monday was considered critical, but on Tuesday an improvement was recorded.

Dr. Gamaleia, according to an Odessa telegram, has been informed by the French Academy that his proposal to repeat his experiments on the inoculation of cholera before a Commission appointed by them has been accepted.

The Goulstonian Lectures at the Royal College of Physicians next year will be delivered by Dr. Howard Tooth, the Lumleian Lectures by Dr. John Harley, and the Milroy Lectures on Hygiene by Dr. J. T. Arlidge, of Newcastle-under-Lyme. The Croonian Lectureship has been accepted by Dr. Lauder Brunton, F.R.S.

The table, founded on official information, which is published at page 901, shows that the total number of new students in the London medical schools this winter session is 668. In this number are not included twenty-five ladies who have commenced study at the London School of Medicine for Women. The provincial medical schools, excluding Oxford and Cambridge, where the returns are not yet complete, have 201 new students.

The main business to come before the meeting of the General Medical Council next month will be, as we have already announced, the reports of the Inspectors of Examinations. These will not be altogether pleasant reading for persons who take a sanguine view of the progress of medical education, and are disposed to believe that the general standard of culture among medical students has reached a lofty level. The inspectors will be able to produce some curious examples of Latinity in the prescriptions "written out in full" by undergraduates of each and all the universities inspected.

The architect of the new Court Theatre in Vienna has taken to heart so well the terrible lesson taught by the fire in the Ring Theatre that in the new theatre the space occupied by the staircases, corridors, and lobbies is quite double that alloted to the auditorium and stage. There are separate entrances for boxes, pit, and gallery, and the doors are so many and so wide that no panic, says the *Times* correspondent, could produce a crush. Experience, however, has shown that it is not sufficient to afford ample corridors, staircases, and doorways; it is necessary also to organise a system of inspection which shall prevent lessees and persons in their employment from erecting barricades in the corridors and locking the doors on the outside.

SIMULTANEOUS LIGATURE OF CAROTID AND SUBCLAVIAN ARTERIES.

A case in which the right common carotid and right subclavian arteries were ligatured simultaneously is reported by Dr. John A. Wells in the *New York Medical Journal*. The patient was a coloured woman, aged 70, who was suffering from an aneurysm in the right subclavian triangle, thought to be connected with the aorta, though possibly with the innominate artery. Catgut ligatures were used, the ends cut short, the wounds sprinkled with iodoform, small drainage-tubes introduced, and a dressing of bichloride and iodoform gauze applied. The carotid, at the point of ligature above the omo-hyoid, was dilated and atheromatous; the subclavian, where ligatured in its third part, was not dilated. With the exception of an alarming attack of syncope half an hour after the operation, the patient made an extremely good recovery; pain was completely relieved, and the aneurysm apparently very much diminished.

A NEW METHOD OF TREATING YELLOW FEVER.

A method of treating yellow fever, proposed by Dr. George Sternberg, and founded on theoretical considerations, is reported to have met with an encouraging amount of success. He points out (*Therapeutic Gazette*, vol. xii, No. 8) that in this disease the vomited matters, the contents of the intestines, and the urine are highly acid. He has found that no micro-organism capable of developing in the culture media usually employed by bacteriologists is constantly present in the blood or tissues of those recently dead from yellow fever. He therefore thinks that the specific micro-organism which he believes must be the cause of the disease finds its *habitat* in the alimentary canal. The most important element in the treatment recommended is the administration of large doses of an alkaline mixture, to which, in order to obtain an antiseptic action in the stomach, small quantities of perchloride of mercury are added. Dr. Sternberg's prescription is as follows: "℞ Sodii bicarb., grammes x (gr. 150); hydrarg. chlorid. corrosiv., centigrammes ii ($\frac{3}{10}$ gr.); aquæ puræ, litre i (1 quart); M. Sig., 50 grammes (about $1\frac{3}{4}$ oz.), every hour; to be given *ice cold*." The treatment has been tested in the Garcini Hospital, Havannah, by Dr. Raphael Weiss, on thirteen patients, all of whom recovered; of eight patients previously treated symptomatically, five died. The prescription gives a solution containing 1 part of perchloride in 50,000, but the dose was in several cases increased to 1 in 20,000; the proportion of bicarbonate of soda is 1 per cent.

POISONED BY MISTAKE.

A death from accidental poisoning is always a distressing occurrence, and when this takes place in a hospital it is peculiarly so. The recent case in Dublin has called forth strong, and we are bound to add not wholly unwarranted, comments from at any rate a section of the lay press. Dr. James Robert Panter was admitted into the Hardwicke Hospital on Saturday, October 5th suffering from insomnia; a dose of morphine (equivalent to six grains) was given to him in mistake for bromide of potassium, and from the effects of this he never rallied, and died the following morning. An inquest was held the next day, when the coroner directed the jury that if they were satisfied that there had been no carelessness or irregularity in the dispensing of the medicine they must find that the medicine was administered through misadventure. The jury, however, did not quite follow out their instructions, for they returned a verdict that the deceased had taken an overdose of morphine by misadventure. This, as has been pointed out, is really a verdict of suicide, which is of course absurd and could not have been intended. A grave error seems to have been committed by the authorities, whether with a view to hush the matter up or not we cannot say, in holding the inquest at an unusual hour, and in not giving notice of it to the police so that no representatives of the press were present. This may have been a pure accident, but it savours of an attempt to avoid publicity, and the extreme brevity of the inquest (it is said to have lasted less than fifteen minutes) lends support to such a suspicion. As far as we can judge from the meagre report we have seen, there is no doubt whatever that the administration of the poison was a pure accident. It appears that the resident student in charge had two bottles in his pocket on the occasion of his night

visit, one containing bromide of potassium for the deceased, and the other containing morphine; and that, being in a hurry, he took out the wrong bottle, poured the contents into a tumbler of water, and the deceased then drank it. The coroner has been pretty roundly abused for omitting to inquire into a great many points all more or less irrelevant to the case; but there are certain matters which should have been investigated, but which were passed over in silence. In the first place, we are told that the student was in a hurry. Was he late in going his rounds: and, if so, why? or was he anxious to get away soon; and, if so, for what reason? What is the custom at the hospital with regard to the administration of sleeping draughts? For how many other patients had such draughts been ordered that evening? Were the bottles containing the bromide and morphine exactly alike in shape and size and in quantity of contents? It is impossible not to feel some dissatisfaction at an inquest which does not supply answers to any of these questions. We purposely leave out of consideration the propriety of such a responsible duty as that of the night visit to the wards being entrusted to a student, because in this matter, we believe, the custom in Dublin is very different from what obtains in London; but we cannot refrain from saying that the chance of such a fatal mistake being made is reduced to a minimum by the employment of duly qualified men as resident officers in a hospital.

THE DENTAL SCHOOL OF GUY'S HOSPITAL.

We understand that steps are likely to be immediately taken to found a dental school within the walls of Guy's Hospital, which will supply all the necessary lectures and practice in stopping, at present only to be obtained at a special dental hospital. In order to render it complete some new buildings and a considerable increase in the dental staff will be required, but it is probable that Mr. Newland Pedley's scheme for bringing his speciality again more closely in contact with its parent profession will be adopted at Guy's Hospital. This may lead to a very considerable change in the view taken of the speciality by the body of the medical profession; for whilst the latter is generally regarded as overstocked, Mr. Pedley shows that the number of qualified dentists is rapidly decreasing, and that the existing special hospitals could not possibly meet the future demand. But in recommending the governors favourably to consider the proposal of founding a complete dental school in Guy's Hospital, the medical staff have laid stress on the fact that the poor in the east of London must suffer extraction for a decayed tooth or go away unrelieved, since neither here nor at any of the general hospitals has a dental staff been provided sufficient to cope with the demand for fillings. It will undoubtedly prove a great boon to the poor if a number of new centres for teaching the higher branches of dentistry be established, where, as in the case of midwifery or surgical dressings, it is not doubtful that there will be found plenty of students ready to carry out the treatment of individuals under the supervision of their teachers.

CLINICAL SOCIETY OF LONDON.

This Society held its first meeting of the present session on Friday, October 12th, and the proceedings will be found fully reported elsewhere in our pages. The President addressed a few words of greeting to the members. He augured a successful session, and remarked that there could be no better harbinger of future success than past achievement; and, in placing before the members the volume of the *Transactions* of the Society during the past session, and another volume containing the report of the Myxœdema Committee, he expressed a pardonable pride in presenting to the Society such tangible proofs of good work. He also requested that members would send in early notice of the papers to be read before the Society, so that they might be grouped; and papers of a similar nature discussed together, to the saving of the Society's time, and the more careful discussion of the various questions raised in the papers. He specially invited general practitioners to give the Society the benefit of their experience, remarking that the consultant members of the profession did not pretend to a monopoly of intelligence, nor of the diligence to profit therefrom. He added that they were constantly meeting with general practitioners who were competent to be their instructors. It is to be regretted that general practitioners do not more generally appear before such a Society as the Clinical with the fruits of their experience. One class of the cases which they have unsurpassed opportunities of observing is that of illnesses lasting for months or years, but which, being watched throughout by the same medical attendant, usually are only occasionally visited by consultants, and possibly by various consultants at different times, so that these latter have no such opportunity of giving a connected history of the whole of such a case as the general practitioner enjoys. But that the work may be appreciated, it must be done with scientific accuracy, and naturally entails no small amount of labour, and careful reporting of all needful particulars respecting the various phases of the illness as they arise and progress. Such a careful account of a case was that given by Dr. Alexander Morison at this same meeting of the Society.

FIRE PREVENTION.

A correspondent, who has been making inquiries in Amsterdam, Vienna, and Berlin as to the methods adopted by the fire brigades of those countries for saving life from fire, calls attention to the fact that at Amsterdam and Vienna the life-saving appliances form part of the equipment to accompany the first engine, this comprising ladder, ropes, slings, canvas, etc.; and in both cities the telegraphic arrangements are most complete. He adds it is but seldom that there is any loss of life from fire. At Berlin the arrangements are said to be very perfect. The police control the construction of buildings to insure escape. Notices are freely placed to make known the position of the police officers and fire-brigade stations. Children at school are educated as to the course they should adopt in the case of fire, and all gas-supplies can be cut of in a minute. The inefficiency of our present arrangements has been recognised by a resolution passed at a meeting of the Metropolitan Board last week. Hope is expressed that, when Parliament reassembles, a committee or a commission will be appointed to investigate and report upon this important matter.

THE GERMAN ATTACK ON SIR MORELL MACKENZIE.

We have been favoured with a copy of the English translation of *The Illness of the Emperor Frederick the Third*, of which it is said large numbers are being distributed in this country. The following note by G. Schenck, "Royal Publisher," is prefixed to the translation:

In May, 1887, when Drs. Von Wegner, Gerhardt, and von Bergmann had asked the specialist Dr. Morell Mackenzie to come to Berlin and consult with them about the Crown Prince and late Emperor Frederick III, the political and medical papers of England began to attack the German physicians most severely. At first they doubted their diagnosis, which had been overthrown by Sir Morell Mackenzie; they called this the triumph of English science over the German. The proposal of Drs. Gerhardt and von Bergmann to undertake the discision of the larynx was talked about very unfavourably and in a very offhand manner by the English press, as well as the tracheotomy made later on by Dr. Bramann, and also every proposal or every action of one of those physicians whose names are at the head of this book. To all these reproaches and offences the said physicians have not responded, for the simple reason that they did not think it worthy their honour to render the illness of the high patient a matter of public discussion as long as the patient was alive. It was only after the death of the Emperor Frederick III that they

followed the demand of the Prussian Cabinet and published the reports which had been laid down by them in the royal archives. As in these days Sir Morell Mackenzie is expected to publish an answer to the work of Messrs. Bardeleben, etc., which I herewith enclose, the publishers think it but right that their book ought to be known in Great Britain as well. Therefore, I beg of you, dear Sir, to read it and to make known its contents, so that the sound sense of the English nation may judge if Sir Morell Mackenzie has acted professionally.

The translation, though showing evidence of having been made by a German unacquainted with medical terminology, is on the whole fairly well done. The report of the *post-mortem* examination is taken *verbatim* from our own columns (JOURNAL, July 21st, 1888, p. 141) without acknowledgment.

BRAIN-FACULTY FITTING CANDIDATES FOR PUBLIC SERVICE.

CANDIDATES for the public service are mostly selected by two methods, examination in arts, and other tests of intellectual acquirements and mental power and endurance, after which they are submitted to a physical examination as to development of the body and general health. In some cases additional tests are applied as to eyesight. Such tests are not entirely satisfactory as the means of selecting the fittest men for the services, and inquiry is sometimes made as to whether it would be possible to employ other physiological tests of aptitude. Many tests of perfection of development, physical strength, and aptness of the nerve system, are used in the laboratories devoted to anthropometry and psychological research. Some of these are easily applied, and might be employed at small cost of time and money as evidence of the brain-faculty of candidates for appointments. There is no difficulty in formulating the accuracy of perception by eye and ear, the readiness in determining variations in illumination, or the muscular sense and perception of varying pressure upon different parts of the body. It would be satisfactory to hear from those who have worked in psychological laboratories what tests they would suggest as means of determining the average acuteness of brain-power, and the condition of the nerve-system submitted to examination.

CHRISTIAN SCIENCE HEALING.

CHRISTIAN science healing is a glorified form of faith healing, and has an immense following in America. During last season the drawing-room of Lady Mount Temple at Shelley House was for several weeks filled by a fashionable crowd of people to listen to a course of lectures by Miss Lord, the editor of *The Woman's World*. This particular sort of teaching has evidently an attraction for theosophists, spiritualists, mesmerists, *et hoc genus omne*. Miss Lord has since published as the outcome of the course of lectures a volume of some 500 pages. The essence of the teaching lies in denying the reality of any form of evil—evil is illusion, good only is real and permanent. As pain and disease are forms of evil according to this theory, they do not really exist, except in the imagination, which no doubt might with truth be said of many of the ailments of a fashionable audience. To be rid, therefore, of disease (not surgical diseases, be it remembered, for even toothache, if proceeding from caries, resists the treatment), it is not necessary to have faith, but reason. Suppose the case is one of facial neuralgia, you may cure your patient either by making a negation or an affirmation. Nothing can be simpler. You say either "Your head does not ache, you really have no pain at all, you only think you have, it is all an illusion," or you may proceed by the other method, and say: "You are perfectly well, you were never really better in your life, for good is real and pain is illusion," and that is all; no nasty drugs, no hypodermics, no constant or intermittent currents, no passes, no anything but "words, idle words,"—no, not *idle* words, you must be in deadly earnest, and under a proper course of this treatment your patient gets well. It beats homœopathy, as you have not even to order globules. Its simplicity is its great drawback with the vulgar, but the highly intellectual theosophical folk who hold that "words are creative acts" find it highly consonant with their ideas, and say it does them and their friends as much or more good than regular practice. Miss Lord cautions her pupils that they must not take fees for their treatment, as people have been prosecuted in America for obtaining money under false pretences when they have taken money for their negation and affirmation. But of course this is an additional merit of the system to the patients. Surgery is not attempted; it has not been found uniformly successful in cases of dislocation or fracture. It is on record that a Christian science healer did once reduce a dislocated arm by vigorously working it aimlessly about while declaring that "the arm was perfectly well," but that is not to be taken as a precedent. An old monastic chronicle tells how a good brother who had lost an eye prayed for a new one at the shrine of St. Thomas of Canterbury; in the course of time he received a new eye, but the chronicler quaintly adds that "it was a verrey litel one." Christian science healing has not even got to that yet.

ELECTRICAL ENGINES FOR THE METROPOLITAN RAILWAY.

ALL who travel habitually by the Metropolitan Railway must wish that something could be done to improve the atmosphere in the tunnels and stations on that line. The air, laden with sulphurous fumes and other products of combustion, is often in such condition as to prove dangerous to any passenger liable to bronchial irritation or spasmodic asthma, to say nothing of the minor dangers from irritation of the mucous membrane of the nose and the pharynx. Extensive improvements are in progress for the complete ventilation of Baker Street station, but it would be satisfactory to hear that the directors had found some practicable plan of employing electrical power for their engines in place of coal. Electrical force as a motor power is making great strides. A pleasure boat driven by electrical power storage accumulators is now plying with passengers on the Thames, and is designed to carry eighty passengers. When the crowded traffic of the metropolitan railways is carried on in an atmosphere pure from the fumes of coal, and renewed by proper ventilation, many who now are compelled for health's sake to travel by public conveyances over ground, will be glad to employ the more expeditious underground route.

THE MYSTERY OF OVARIAN DERMOIDS.

SCIENCE is averse to mystery, but many pathologists who regard carcinoma and sarcoma as comprehensible still look upon the presence of teeth and hair in certain ovarian tumours as mysterious. They show how a sarcoma develops, and do not plunge into speculations why it should develop, but when they turn to the consideration of dermoid cysts they too often seek the why before the how. Hence theories of included fœtation have been promulgated, though the included fœtus must needs have 40 to 100 teeth and a fine head of air, or, rather, much hair and no head, in many cases of dermoid cyst. A vainer theory is the parthenogenesis of dermoids, hardly worth discussion, as it involves argument in a vicious circle. Dr. Poupinel has recently shown in the *Archives de Physiologie*, vol. ix, that every gradation can be traced between the common multilocular and the dermoid cyst. The former is lined with the mucous membrane, which may bear every pattern of mucous gland. The latter is lined with skin, which may bear all kinds of epidermic appendages. Mixed cysts are invested with a partially mucous, partially epidermic lining. Dermoid cysts, then, according to Dr. Poupinel, are not more

mysterious than the common multilocular cyst; mucous membrane is as wonderful as epidermis and cutis. Mr. Bland Sutton has even improved upon the theory first propounded by Poupinel. A series of independent researches on dermoid cysts have led the English to the same conclusions as the French pathologist. In demonstrations made before meetings of two medical societies in London, Mr. Sutton has maintained, not only that transitional stages between cysts with mucous lining and cysts with a lining of skin exist, as Poupinel first noted, but that transitional stages between the pathological cyst with mucous membrane and the natural Graafian follicle have been detected by himself, Alteration in the character of the epithelial lining is already well known to pathologists, as in the case of fibroid uterine polypi before and after their protrusion from the vagina. The above researches show that there is a direct gradation from the follicle to the common ovarian cyst and onward to the dermoid cyst. The cause of the gradation may be a mystery, but the dermoid cyst is not specially mysterious.

TYPHOID FEVER IN CONNECTION WITH WATER.

At the meeting of the Académie de Médecine on September 4th, M. Marty made the following report on the well water employed by the school of female teachers at Saint Brieuc, amongst whom an epidemic of typhoid fever lately broke out. The chemical analysis of this water, made by M. Schutzenberger, of the Collège de France, showed that it contained a large proportion of lime phosphates and organic substances. In the cultivations, made by M. Vignal, of the Collège de France, upon gelatine plates, three kinds of bacillus were detected: 1, the characteristic bacteria of putrefaction; 2, a streptococcus analogous to that usually found in fæcal matters; 3, Eberth's bacillus, which was isolated, and sown in different media; it fructified in every case. M. Marty concludes that the use of this well water should be forbidden on account of the phosphates, the organic substances, and the pathogenic bacillus of typhoid fever which it contains.

LANOLIN AND BORIC ACID IN SKIN DISEASES IN CHILDREN.

The combination of lanolin and boric acid as an ointment is said to have a most gratifying effect in certain skin diseases in children, especially eczema of the head and face, intertrigo, and seborrhœa. In the case of eczema, for example, with raw patches on the cheeks and yellowish crusts on the head, the surface is first cleansed in the usual way, and then dusted over with finely-powdered boric acid. On the following day this washing and dusting over is repeated; already the inflammation will seem lessened. The process is then repeated twice daily, the washing being always done gently, until the skin is in a condition to bear an ointment containing 30 per cent. of lanolin and 8 per cent. of boric acid. In the squamous form of eczema with considerable induration, olive oil is well rubbed in and then removed with Castile soap, and an ointment containing ½ or 1 per cent. of salicylic acid with 30 per cent. of lanolin is energetically applied according to the degree of induration. This washing and application are repeated twice daily. The strikingly beneficial action of this course of treatment, which is less painful than the use of strong alkalies or oil of cade, is ascribed to the penetrating properties of lanolin, which thus facilitates the entrance of salicylic acid into the deeper layer of the epidermis. Dr. Russell Sturgis, who advocates the above treatment, also finds lanolin a reliable means of alleviating the irritation due to chronic urticaria.

HEREDITARY INFLUENCE IN PARTURITION.

Dr. Auvard has recently conducted some instructive observations on the Hereditary Duration of Labour. To speak of inherited influences affecting parturition would, in many respects, be either frivolous or futile. In one sense, labour may be set down as of necessity hereditary, since every parturient woman must have had a parturient mother. In another respect, the commoner phenomena of normal labour cannot be considered hereditary, except in a very secondary degree; the left occipito-anterior presentation is common in living women, and was common in their great-grandmothers; the cause cannot be explained by heredity. Dr. Auvard, in the *Archives de Tocologie*, endeavours to trace true hereditary influence in the duration of labour. He refers solely to natural labours, eliminating all the causes of dystocia. The practitioner is constantly asked how long a labour will last. He generally gives an evasive answer, or, if he chooses to make an estimate, he inquires about previous labours in the same patient. In 1867, Cazeaux noted that heredity had an influence in the duration of labour. It is not rare, said he, to observe labours of the same character throughout three or four successive generations; certain families being distinguished for long or short labours. Tarnier and Joulin rejected Cazeaux's doctrine. Dr. Auvard brings forward six cases where labour was either unusually short or long in mother and daughter. In another case, the daughter had a lingering labour without any cause of dystocia, though the mother's labours had always been rapid. The daughter, however, closely resembled her father, and his mother had invariably long labours. Excluding every source of fallacy, Dr. Auvard believes that the length of duration of labour in any woman not subject to any of the causes of dystocia may be determined by that in the case of the patient's mother or paternal grandmother, according as she resembles her father or her mother. A very large series, tabulated on the principles adopted by Dr. Boxall in his researches on scarlatina in pregnancy and parturition, must be demanded before obstetrical science can come to any conclusion on this interesting subject.

COMPULSORY LEGISLATION FOR INEBRIATES.

A permanent though imperfect measure for the treatment and detention of habitual drunkards having, largely through the efforts of the British Medical Association, been passed, the amendment of the Inebriates Acts is urgently called for. At present only such drunkards as voluntarily apply for admission into a licensed retreat can be treated under the provisions of the law. The large number of confirmed inebriates, whose will power has been so broken down and whose *morale* has been so degraded that they are incapable of the slightest effort at their own cure, are utterly uncared for. It is with peculiar pleasure that we read in the report of the recent Merionethshire Temperance Conference the first signal for action on the part of temperance reformers, who ought to energetically support the initiative of the medical profession and the Association. Dr. Hughes (Bala) opened a discussion on the expediency and justice of Parliament making the Inebriates Acts compulsory instead of voluntary, as at present. He pointed out the absurdity of fines for habitual drunkenness, asserting that it would be as reasonable to fine a man for being in a fit. Inebriety was a disease, and judicious treatment had been, in genuine homes, remarkably successful. Notwithstanding opposition by Dr. Edward Jones, mainly with reference to the liberty of the subject and inebriate responsibility, the motion in favour of compulsory dealing with habitual drunkards was carried, according to the *Oswestry Advertiser*, with one or two dissentients.

SCOTLAND.

THE SCOTCH UNIVERSITIES BILL.

It is stated that Mr. Wallace, M.P., when the Scotch Universities Bill reaches the Committee stage at the autumn sitting of the

House of Commons, will persist with his proposal to throw open, under certain conditions to be defined, University degrees to competent persons who have not gone through a regular college curriculum. It will probably also devolve on Mr. Wallace, in the absence of Mr. Bryce in India, to deal with the question of theological tests.

PARLIAMENTARY REPRESENTATION OF THE UNIVERSITIES OF EDINBURGH AND ST. ANDREWS.

No time has been lost in connection with the vacancy in the Parliamentary representation of Edinburgh and St. Andrews Universities, caused by the elevation of Lord Advocate Macdonald to the Lord Justice Clerkship, and there seems every likelihood that there will be a keen contest. From one side it was mooted that the new Solicitor-General might be elected unanimously; but this was manifestly premature. The General Committee of the Edinburgh and St. Andrews Liberal Association held a meeting this week, when it was resolved by a majority to remit to a small committee to see if a candidate of academic eminence could be obtained to contest the seat in the Liberal interest.

EDINBURGH UNIVERSITY COURT: CHANGED MEDICAL REGULATIONS.

At a meeting of the Edinburgh University Court this week it was reported that an Order of Her Majesty in Council had been received, approving of an alteration of Section V, Ordinance No. 5, Edinburgh No. 2, under which an increased amount of practical instruction in midwifery will be required of candidates for graduation in medicine.—The following teachers of medicine received formal recognition: (1) Mr. A. G. Miller, F.R.C.S.E., Lecturer on Clinical Surgery, Edinburgh; (2) Dr. J. W. B. Hodsdon, Lecturer on Surgery, Edinburgh; (3) Dr. Alexander James, Lecturer on Practice of Medicine, Edinburgh; (4) Mr. Patrick Geddes, Lecturer on Botany, Dundee; (5) Mr. J. Rymer Paterson, B.Sc., Teacher of Practical Chemistry, Edinburgh.

EDINBURGH SCHOOL OF MEDICINE: OPENING OF WINTER SESSION.

The University and extra-mural classes of medicine were opened this week. The attendance of students at the opening lectures was very large. The constitution and arrangement of the curriculum was the principal topic of discussion in the opening addresses. Dr. Macgillivray, in opening the session at the Royal College of Surgeons, considered the question at some length. He expressed the opinion that they would be compelled ere long to consider the expediency of relegating chemistry, together with botany and natural history, to preliminary examination. The chief disadvantage of the present system was the difficulty of acquiring a sufficient amount of practical knowledge and experience during the limited time at the student's disposal. Professor Grainger Stewart advocated a better arrangement of the curriculum, whereby men would be able to get a knowledge of medicine before they came to the clinical part of the work, and would be able, when they went to the wards, to take hold of and use facts as presented to their observation.

NOTIFICATION OF INFECTIOUS DISEASE.

A very extraordinary result of the notification of infectious diseases to the authorities has recently occurred in Partick. Dr. Arthur Mechan writes to the *Glasgow Herald* to say that having seen and reported to the sanitary inspector some cases of enteric fever, with the further information that he had ascertained that all the persons affected obtained their milk from the same dairy, he had recommended that steps should be taken to have the dairy closed, his well-meant efforts resulted in the receipt of a letter from a firm of solicitors acting on behalf of the owners of the dairy, requesting an explanation and withdrawal of his unwarrantable interference, or threatening him with an action for damages. Dr. Mechan is not aware whether other medical practitioners in Partick were treated in the same way, but, if so, he is surely justified in saying that this may account for some hesitation in reporting cases of this sort. The remedy for the evil is twofold—first, that the suburban burghs be united with the city, and all dairies be brought under the same central and efficient supervision; and secondly, that there be compulsory notification of infectious diseases by medical men, so that they may be freed from the opposition which such notification meets with from private patients, and from the possible consequence of legal proceedings.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

The first meeting of the Surgical Section was held on October 12th, Dr. D. N. Knox, Vice-President, in the chair. Dr. Knox showed a large mulberry calculus, successfully removed by Buchanan's rectangular method; also a case of double talipes equino-varus, cured by excision of the astragali. Mr. H. E. Clarke showed a sub-peritoneal sarcoma of the tibia of seven weeks' growth, for which amputation of the thigh was performed. Dr. Campbell showed a similar case, and Mr. Knox showed a central sarcoma of the head of tibia. Mr. George A. Clark read notes of a case of foreign body in the trachea, successfully removed by tracheotomy, and showed the patient.

IRELAND.

PREVALENCE OF RABIES IN GALWAY.

For the past six months rabies has been very prevalent in the various districts surrounding this town, and the number of cattle and sheep which have died from hydrophobia is very large.

ROYAL ACADEMY OF MEDICINE.

The sixth annual meeting of the Royal Academy of Medicine will be held on Friday, October 26th. There are two candidates for the presidency, Dr. S. Gordon and Dr. G. H. Kidd. It is rumoured that there will also be a contest for the presidency of the Section of Obstetrics. The annual report is a favourable one, and shows a substantial increase of the invested funds. It will be proposed to appoint a lecturer annually, who will be asked to address the Academy on some important subject. Several alterations in the rules will be proposed.

A PHASE IN THE LATE EMPEROR'S ILLNESS.

FROM DIFFERENT POINTS OF VIEW.

Without entering into the question as to the nature of the disease at the outset, the history of the case of the late German Emperor naturally divides itself into two distinct periods: (1) one in which there was more or less doubt as to the diagnosis; (2) one in which the existence of cancer was unquestionable. The time at which the latter period begins may conveniently be taken as the early part of November, though as late as February 12th, 1888, Sir Morell Mackenzie stated in an official report to the Emperor William I that "Medical science [did] not permit [him] to affirm that any other disease is present than chronic interstitial inflammation of

the larynx combined with perichondritis."[1] In the former of these stages of the malady there is a period as to which there is a direct conflict of testimony between the English physician and his accusers, which refers to matters of the greatest importance both from the medical and the ethical point of view. Sir Morell Mackenzie's contention, if we do not misapprehend him, is that as a matter of fact he cured the original disease, and that the later phenomena of the case were due to an entirely new affection which first showed itself in the autumn of 1887. His critics, on the other hand, maintain that even before the Prince came to England (in the beginning of June) there was distinct evidence that the disease was extending beyond its original limits to other parts of the larynx, and that while the English specialist was concentrating his attention on the little growth which was the first symptom of the complaint, the morbid process was already invading the neighbouring parts, and continued to spread. With regard to this point, the testimony of Dr. Landgraf is, from the German point of view, of crucial importance, and we therefore publish it here in full, together with Sir Morell Mackenzie's criticisms thereon.

Dr Landgraf's Report.[2]—Before the journey to England, in the suite of His Imperial Highness, the then Crown Prince of the German Empire and of Prussia, I asked Privy Councillor Gerhardt on June 12th to give me information as to the illness of His Imperial Highness, and some hints with regard to the commission with which I had been entrusted. Privy Councillor Gerhardt declined to tell me his opinion as to the nature of the disease; he was also not in a position to give me special instructions, and referred me to Surgeon-General Wegner, as whose assistant I was to make the journey, and whose directions I was to follow. The latter made me promise in Berlin to send no communications home. At Norwood he made me acquainted with the previous course of the disease, and informed me that His Imperial Highness had given himself entirely into the hands of Dr. Mackenzie for treatment, and did not wish that we should take any part in it. My activity was therefore limited to making laryngoscopic observations, and discussing their significance with my superiors.

Upon the other points necessary for forming a judgment on the progress of the disease, such as the general health, the variation in weight, swelling of lymphatic glands, pain in swallowing, etc., I could obtain hardly any certain information.

The results of my first examinations on June 17th and 18th have been communicated by Privy Councillor Gerhardt (see JOURNAL, October 18th, pp. 837-8).

At this time, Dr. Mackenzie, in opposition to my observations, denied the presence of inflammation, as also the impairment of mobility of the left vocal cord; and in a hasty sketch drawn for Dr. Wegner he indicated neither the defect in the right cord nor the swelling on the posterior wall, so that already there was a difference of opinion, which convinced me that we ought to be informed as to Dr. Mackenzie's therapeutic measures. On the evening of June 19th I made the following proposal: That an endeavour should be made to procure from His Imperial Highness a command that Dr. Mackenzie, every time he might make any change in the treatment, should communicate to Surgeon-General Wegner the specific grounds for his action. Such specification I proposed should each time be embodied in a protocol. This proposal was declined by the person concerned.

A few days later I heard that Dr. Mackenzie was then applying a solution of chloride of iron, and that His Imperial Highness had felt pain after the applications, which was subdued by sucking pieces of ice. Dr. Mackenzie considered that the tumour had been reduced in size by these applications. On June 24th I pointed out the importance of making repeated examinations for swelling of the glands, and laid before a person connected with the highest circles the chances offered by external division of the larynx. On June 26th I also made a similar statement. In the conversation which followed this communication I learned that Dr. Mackenzie intended soon to remove another piece of the tumour for microscopic examination. This operation was performed on June 28th by Dr. Mackenzie, in the presence of Dr. Wegner, without my receiving an invitation to attend. The result of this operation I saw on July 1st. The tumour had been removed. There was considerable redness and tumefaction. The swelling on the posterior wall was more distinctly visible; its surface had a greyish-yellow appearance. The swelling was situated almost in the middle, but was rather more developed towards the left side.

As Dr. Mackenzie only confirmed the first portion of my observations, serious doubts arose in my mind as to the accuracy of his examinations, which I did not conceal. In view of the importance of the matter, I begged that Mackenzie should be asked in writing whether he had not seen the swelling on the posterior wall, and what significance he attached thereto. This request I reiterated on July 2nd, when I handed in my drawings. A written inquiry was refused, but verbal discussion of the matter at the earliest opportunity was promised.

On July 4th Professor Virchow's report arrived, together with a letter written in a hopeful strain. On July 8th I learned that Dr. Mackenzie affirmed that he considered the posterior wall to be healthy. I may, perhaps, add here that after I had shown Dr. Wolfenden, on July 29th, at Norris Castle, by a sketch, where I saw the swelling referred to, Dr. Mackenzie admitted its existence on July 31st. On July 22nd I again had the honour of examining His Imperial Highness at Norris Castle, and found that now, after an interval of three weeks, the redness and swelling were on the whole somewhat less, especially on the ventricular bands. The right cord was still very red, but it was less swollen. The left cord showed on its posterior two-thirds a broad-based saddle-shaped prominence; swelling and redness of the posterior wall of the larynx; no tumour. The tumour had, therefore, reappeared at the same place from which it had been removed on June 28th. Dr. Mackenzie himself admitted this on July 23rd.

On July 27th I heard that it was intended to apply galvano-cautery. Before this was begun I was allowed to make another examination on July 29th. The appearances were about the same as on the 22nd. The mobility of the vocal cord seemed to me to be greater. On this day His Imperial Highness spoke with a distinctly double voice. On July 31st Dr. Mackenzie made another examination, and afterwards a rather long conference took place between Surgeon-General Wegner and Dr. Mackenzie. The former related the conversation to me as follows: "He had pointed out to Dr. Mackenzie that it was for him (Mackenzie) to indicate the time when he could do no more and recourse must be had to extreme measures. Dr. Mackenzie had told him that he saw a ridge extending from the left vocal cord to the left arytenoid cartilage (*cf.* my statement on July 1st), and stated further that there were three possibilities whereby the course of events might be unfavourably affected: 1. The least probable development was that the neoplasm might become malignant. 2. The case might turn out to be one of multiple papilloma, which might arise in other parts of the larynx in addition to those which had heretofore been attacked. 3. It might develop into chronic laryngitis, whereby the deeper structures of the larynx would become affected."

On August 4th Her Imperial Highness did me the great honour to converse with me, when she asked in the most loving and anxious manner as to the state of health of her august consort. I learned that His Imperial Highness had ever since March suf-

[1] JOURNAL, February 18th, 1888, p. 370.
[2] *Die Krankheit Kaiser Friedrich des Dritten.* Berlin, 1888, p. 29.

fered pain in swallowing, from which he had been free only for a few days at Norwood. Latterly this pain had increased, and was now accompanied by a difficulty in respiration. I did not hesitate to give my opinion as to the cause, and to state that I thought the matter a serious one, to which the closest attention should be given; and I insisted on the improbability of the explanation given by Dr. Mackenzie, namely, that it had no connection with the original illness, but was merely caused by an inflammatory cold. I could not hold out any hope that a change of climate from the Isle of Wight to Scotland would be of any benefit.

After the application of the electric cautery by Dr. Mackenzie during the next few days, I was enabled on the 7th of August to make the following observations:—

The tumour had increased, had extended no further downwards, had a rough and uneven surface; in the centre of it there was a blackish spot. The swelling on the back wall of the larynx was unchanged; there seemed to be a ridge from the lower edge of the tumour to this swelling. The left vocal cord was almost immobile, and the right vocal cord, which to-day was less red and less swollen, and on which the lesion referred to was plainly visible, came in direct contact with the tumour. I asserted that the almost complete paralysis of the left vocal cord might be a sign of important changes. On this day Dr. Mackenzie admitted the failure of action of the left vocal cord.

On the afternoon of the 7th of August, I took the opportunity of a walk to say to Dr. Wegner that Mackenzie had now had the eight weeks of treatment entirely conducted by himself which he had previously demanded for the complete cure of His Imperial Highness, with the result that not only had he not succeeded in curing him, but, on the contrary, the disease had made distinct progress. This being the case, I considered it highly desirable there should be an immediate consultation with the Berlin physicians in accordance with the previous arrangement, and I insisted on the risk of delaying the operation any longer, and expressed the opinion that even then it might possibly be too late to obtain any benefit from simple removal of the tumour, and that the only course open was the extirpation of half of the larynx.

This proposal for a fresh consultation was supported by Dr. Wegner. In spite of this the consultation never took place.

Dr. Mackenzie, as I was informed, had admitted that there was no improvement in the disease, but said that in all the cases of cancer which he had seen the appearances had been different. Had it been cancer the tumour, in his opinion, must have suppurated before this. He admitted that hitherto he had not paid much attention to the immobility of the left vocal cord, and that it was, therefore, possible that this want of motion might formerly have been greater.

This admission of the want of thoroughness of his examination did not surprise me. I had already given expression to my doubts as to the accuracy of his examination, especially when I was told that I spent too much time over mine.

On August 9th we travelled to Edinburgh, and later on to Aberdeen, while his Imperial Highness (in whose suite Dr. Hovell now was) took up his residence at Braemar. Thither Dr. Wegner and I were ordered on August 23rd, and there I had the honour of examining His Imperial Highness for the last time.

The right vocal cord was less red than before. The left vocal cord did not move, either in breathing or in phonation. It remained stationary in a position midway between that of respiration and that of phonation.

The surface of the tumour was covered with a number of little pointed excrescences which reached to the middle line of the glottis. By these the view of the lower parts on the left side was concealed, so that little could be seen even of the ridge on the posterior wall.

His Imperial Highness complained of constant pain in swallowing, and believed it to be situated on the left side of the upper part of the throat.

Immediately after the examination Dr. Hovell asked me what I had discovered. He failed to see any increase of the tumour. I regretted not being in a position to give him any information with regard to this, and could only express my astonishment at being asked such a question by him, who had had much more frequent opportunities of examining it than I had.

On my return from Braemar I felt compelled to declare that, in my opinion, the disease was becoming rapidly and steadily worse. There then arose a discussion as to the importance of my observations, in which I was met with the statement that the pointed excrescences I had seen were the remains of the old tumour, which had not been destroyed by the electric cautery. I, on the other hand, maintained that they were new growths, and based my opinion on the fact that the tumour, as was shown by its further projection into the glottis, had increased, and that, moreover, no marks of cautery were to be seen. I then further proposed that, if it were considered necessary to remove a portion of the tumour for the purpose of a further microscopic examination it should be done now, as the tumour was at present of such a size as to make it easy to pinch a piece off. This proposal I repeated later on, on August 29th, on which day I was informed of the bulletin which it had been decided to send to the *Reichs-Anzeiger*. This was drawn up by Dr. Mackenzie, and in it he denied the increase of the tumour which I had testified to. In the original draft no mention at all was made of the still existing hoarseness.

This bulletin was shown to me, with the intimation that no alteration in it would be permitted.

We returned to London shortly after this, and His Imperial Highness took leave of us very graciously, expressing the hope of seeing us again in Berlin. Our return home took place on September 3rd.

Sir Morell Mackenzie comments on Dr. Landgraf's clear, detailed, and dispassionate statement as follows:[3]

Sir Morell Mackenzie's Reply.—I need not waste words on this gentleman's report. The remarks which I have felt obliged to make in the earlier parts of this book as to his mode of making laryngoscopic examinations suffice to show the value which I attach to his "observations." The self-satisfied confidence with which his wonderful statements are made would be sublime if it were not ridiculous. Dr. Landgraf may by this time be an excellent laryngoscopist; but it is quite certain that when he was "controlling" me in the summer of 1887 he had not learned the rudiments of his art. Hence I am surprised to find that, after I had removed the growth on June 26th, the young Stabsarzt actually saw that it was no longer there. If he had said that it was twice as large as before, or had moved bodily over to the other side of the larynx, or perched itself on the top of the epiglottis, the discovery would have been more in character. The following extract from Dr. Landgraf's diary is a fair specimen of the whole: "I proposed to Dr. Wegner that we should induce His Imperial Highness to give orders that, when Dr. Mackenzie made any change in the treatment, he should communicate the details and the special reason for it to Dr. Wegner. These details I proposed to take down every time in the form of a protocol. This proposal was declined by the party concerned." As I was never consulted, I presume "the party concerned" means the Crown Prince. On June 25th, I find the following interesting entry: "I referred to the importance of repeated examinations for swellings of lymphatic glands, and discussed the chances of thyrotomy (*Laryngofissur*) with one of the highest personages in the august circle." I will not trouble my readers with further extracts from this remarkable document.

[3] *The Fatal Illness of Frederick the Noble*, p. 222. London. 1888.

The following little incident, which is related by Dr. Landgraf with the most portentous gravity, is thoroughly characteristic of the man. After he had made an examination of the illustrious patient's throat at Braemar, Mr. Hovell asked him what he saw. I do not know whether Mr. Hovell asked this question merely out of politeness, or whether he wished to ascertain what wonderful discoveries Dr. Landgraf had made. Mr. Hovell has practised laryngoscopy during the last ten or twelve years, and I have never come across a more careful or more accurate observer. The young Stabsarzt, however, was under the impression that he was a much more skilful laryngoscopist than Mr. Hovell, and expressed his surprise that a gentleman who had had so many opportunities of examining the throat should ask him for *information!* It would indeed be matter for surprise if anyone who had ever seen Dr. Landgraf use the laryngoscope should ask him for information."

In another part of the book[4] Sir Morell Mackenzie deals with Dr. Landgraf's competence as a laryngoscopic observer as follows:

With the disappearance of the young Stabsarzt from the scene, I feel it necessary to say a few words on a subject I would have gladly refrained from touching on. The importance attached by my German critics, however, to what I may call Dr. Landgraf's evidence, leaves me no alternative but to speak quite plainly on this matter. After Dr. Landgraf's first examination, the Crown Prince complained to me of his roughness and want of skill, and on many subsequent occasions His Imperial Highness assured me that after the young German surgeon had used the laryngoscope his throat felt sore and tired for several hours. The Crown Prince, whose consideration for the feelings of others was of the most chivalrous description, bore with the infliction as long as he possibly could; but after a time he asked me if I could not give Landgraf a hint to be more gentle and to take less time in making his examinations. I ventured, however, to represent to His Imperial Highness that this would place me in a very invidious position, and that it would be said in Germany that I did not wish Landgraf to get a proper view of the larynx. I had two or three times the opportunity of seeing him examine the Crown Prince's throat, and his performance was almost as painful for me to witness as it was for the august patient to undergo. Just before his departure for Scotland His Imperial Highness again complained to me about Landgraf's clumsiness, and I felt it necessary to tell Dr. Wegner that if the young surgeon did not mitigate his style of examination I was sure that the Crown Prince would send to Berlin for some less inexperienced laryngoscopist to replace him. Dr. Wegner begged me to use my influence with His Imperial Highness to prevent a step being taken which would have a most injurious effect on Landgraf's career, while he promised to warn the young surgeon to be more careful in future.

I confess, after seeing how little familiar Dr. Landgraf was with the laryngoscope, I did not attach any importance whatever to his observations. And it would seem as if Landgraf was regarded at Berlin very much as he was by me, for though this gentleman every few days sent from the Isle of Wight and elsewhere most alarming reports to the Prussian capital, no more notice was taken of them than if they had been drawn up by a person who had never used the laryngoscope. I shall refer to this matter again in dealing with Dr. Landgraf's separate report.

When the Crown Prince was staying in the Isle of Wight, Landgraf, who had then been some weeks in attendance, seems to have suddenly become distinctly aware that the left vocal cord did not move quite as it should do. This startling discovery he forthwith communicated to some of His Imperial Highness's suite, and it finally came to the ears of the Crown Prince, who was rather alarmed about the matter. When, however, I explained to him that the condition which Landgraf had just noticed for the first time[5] had existed from the date of my first visit to Berlin, he was perfectly satisfied! Again Landgraf appears to have mistaken the ridge outside the larynx behind the arytenoid cartilages which I have described (p. 52) for a swelling on the posterior wall that is to say, inside the larynx below the level of these cartilages. On this, as I afterwards learned, he founded most alarming reports of cancerous infiltration spreading round the orifice of the windpipe, which, as we now see, have been duly deposited in the archives of the Prussian Kingdom!

I found that Dr. Wolfenden entirely agreed with me as to Dr. Landgraf's want of laryngoscopic skill. To him also the Crown Prince repeatedly complained of the German surgeon's examinations, and my colleague expressed to me his surprise that if it was thought necessary to send anyone from Berlin, a more competent observer was not chosen.

When, in November, a report based on Landgraf's observations was drawn up at Berlin, I requested Dr. Wolfenden to give me his views on the subject in writing. The following is his statement:—

"I never considered Landgraf a person to be treated seriously. Whatever he may be as a surgeon, and of this I have no knowledge, he is certainly nothing of a laryngoscopist. His laryngoscopic examinations of the Crown Prince were prolonged, unskilful and exceedingly tiresome, so much so that the Crown Prince made complaint after the second examination at Norwood, and asked me whether he should not speak to Landgraf and request him to desist from examining his throat daily. The Crown Prince stated also that Dr. Landgraf's examinations were painful to him, and his manner objectionable. I had not the slightest confidence in the accuracy of Dr. Landgraf's observations, as he constantly imagined he saw things which were not present, and at the same time overlooked the most obvious phenomena. Notwithstanding this I never stood in his way, and whenever he expressed a desire to see the Crown Prince's throat I always permitted him to do so before I myself applied any medicament."

It is with the greatest reluctance I have had to deal thus frankly with Dr. Landgraf, but so much has been made by my opponents of his testimony that I am compelled in self-defence to show exactly what value should be attached to it.

[4] *The Fatal Illness of Frederick the Noble*, p. 55.

[5] At the time I was under the impression that Landgraf had recognised the imperfect action of the left vocal cord for the first time, and I am still unable to account for his extraordinary excitement on any other ground. I was very much surprised, therefore, on looking over Dr. Landgraf's report, to find that this condition is mentioned in his first letter to Berlin. The only explanation I am able to offer now is that, although he denies it, Dr. Landgraf must have received some useful "hints from Professor Gerhardt." It would appear, therefore, that Landgraf in his earlier reports embodied the hints, whilst on a certain date he actually saw what he had previously described from the "Informationen" of Professor Gerhardt (*op. cit.*), which the Professor evidently gave his assistant before he heard that the young surgeon had been appointed to "control" me. After that time Gerhardt says, "I *ceased* to have any correspondence with Dr. Landgraf on the subject" (*op. cit.*, p. 15). As all the instructions were evidently already given, no further correspondence was required.

ACCIDENTS TO FIREMEN.—At the great fire in Buchanan Street, Glasgow, on the morning of October 14th, when so many warehouses were burnt down, some of the firemen received very severe injuries. By the simultaneous falling in of the roof and the giving way of the floor of a building, five men were carried down and embedded in the *débris*. Two hours elapsed before they were rescued, but fortunately they were extricated alive. They are much bruised, and have received a severe shock to the nervous system. They were removed home.

YELLOW FEVER IN FLORIDA.—A Reuter's telegram from Jacksonville, under date of October 17th, states that 58 fresh cases of yellow fever and 2 deaths occurred on the day previous. The total number of cases up to that date was 3,627, and of deaths 318. A telegram from Gainesville announces that yellow fever has appeared there.

CALENDAR OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual Calendar has just been published by the Council of the College. From it we ascertain the following facts, namely:

It appears that there are 1,122 Fellows of the College, of whom 703 obtained the Fellowship by examination, 10 were elected as members of twenty years' standing under Section 5 of Charter 15 Victoria, and 2 *ad eundem*.

There are 17,027 Members, and 890 Licentiates in Midwifery (the examination for this licence has been suspended for the last thirteen years). The Licentiates in Dental Surgery number 646. Holders of the diploma of Public Health (granted by the Royal Colleges of Physicians and Surgeons) number 6.

The examiners in Elementary Anatomy and Physiology, appointed in conjunction with the Royal College of Physicians, under the scheme for an examining board in England, are elected annually. There have been four examinations during the last collegiate year. 735 candidates presented themselves in Elementary Anatomy and Physiology, of whom 547 passed in both subjects, 98 in Elementary Anatomy, 44 in Elementary Physiology. 46 candidates were referred in both subjects; 26 candidates presented themselves in Elementary Anatomy, 25 of whom passed; 113 presented themselves in Elementary Physiology, of whom 80 passed. The fees received from candidates for this examination amounted to £4,166 2s. 9d., the examiners receiving in fees £591 5s. 871 candidates presented themselves in Chemistry, 568 passed, and 303 were referred; 769 presented themselves in Materia Medica, 509 of whom passed, and 260 were referred. The examiners in Chemistry and Materia Medica are appointed by the Royal College of Physicians.

The examiners in Anatomy and Physiology appointed in conjunction with the Royal College of Physicians, under the scheme for an examining board in England, are elected annually. They have conducted the "Primary" Examination under the old regulations, as well as the Second Examination of the examination of the examining board, and have held during the year four examinations, at which 889 candidates presented themselves in Anatomy, 546 of whom passed, and 343 were referred; 881 candidates presented themselves in Physiology, of whom 519 passed, and 362 were referred. The fees received from these examinations from the candidates amounted to £4,428 18s., the examiners receiving in fees £1,700 15s.

The Board of Examiners in Anatomy and Physiology for the diploma of Fellow consists of nine members, annually elected by the Council from the Fellows of the College, and has held during the past collegiate year two examinations; 137 candidates presented themselves, of whom 62 passed, and 75 were referred. The fees received for this examination amounted to £903, the board receiving in fees £616 10s.

The Court of Examiners consists of ten members, elected by the Council from the Fellows of the College. They have conducted the Third or Final Examination in Surgery of the Examining Board, as well as the Pass or Final Examination under the old regulations and the Pass or Final Examination for the Fellowship. During the year the Court has held two examinations for the Fellowship and four for the Membership. At the former there were 88 candidates, 44 of whom passed, 25 being referred for one year, and 19 for six months. For the Membership there were 862 candidates, of whom 473 passed and 389 were referred. The fees paid by candidates amounted to £11,055 9s. 6d., and the fees paid to the Court of Examiners and examiners in Midwifery amounted to £5,350 5s. 6d. The examiners in Medicine under the scheme are elected by the Royal College of Physicians; 291 candidates presented themselves, of whom 228 passed and 63 were referred. The examiners in Midwifery are appointed in conjunction with the Royal College of Physicians; 331 candidates presented themselves, of whom 239 passed and 92 were referred.

The Board of Examiners in Dental Surgery has held three meetings for the examination of 43 candidates, 31 of whom received their diplomas. The fees paid by them amounted to £325 10s., of which the board received £135 9s.

The income of the College from all sources during the past collegiate year amounted to £40,654 19s. 7d., derived principally, as already shown, from fees paid by candidates for the diplomas of the College—namely, £20,933 1s. 9d. Erasmus Wilson Bequest, £11,899 12s. 1d.; rents from chambers adjoining the College produced £1,815 15s. 5d.; dividend on stock, £654 2s. 8d.; sale of stock, £4,637 19s. 4d.; sale of calendars, diploma stamps, trust funds, etc., £714 8s. 4d.

The expenditure for the year amounted to £40,017 11s. 3d. (leaving a balance of £637 8s. 4d., not taking into account the fee retained for candidates, etc.), the largest item being £8,398 9s. fees paid to examiners; the next largest amount being for extension of College premises, £8,152 7s. 11d. Salaries, wages, and pensions for officers and servants in the three departments—library, museum, and office—amount to £4,699 14s. 6d.; taxes, rates, diploma stamps, and insurance absorbs the sum of £1,451 6s. 8d.; half expenses for Examination Hall, £2,919 13s.; Savoy Estate, £1,800 14s. 7d.; purchase of stock, £7,518 15s.; fees to Council, £318 3s.; alterations and repairs, £753 8s. 4d.; under miscellaneous items—fuel, light, printing, stationery, trust funds, lectures, etc.—about £4,000 appears to have been expended.

At the quarterly meeting of the Council held on Thursday last, Mr. W. S. Savory, F.R.S., was re-elected a member of the Committee of Management; Mr. Samuel John Hutchinson, M.R.C.S., L.D.S., was elected an examiner in Dental Surgery, in the place of Mr. J. Smith Turner, resigned; and on the recommendation of the Committee of Management of the two Colleges Dr. Thomas Stevenson, Dr. Edward Ballard, Dr. Thorne Thorne, and Dr. William H. Corfield were re-elected examiners for the diploma of Public Health.

THE ENTRIES AT THE MEDICAL SCHOOLS.

BY the courtesy of the Deans, Sub-deans, Wardens, and Secretaries of the medical schools in London and in the provinces, we have received reports of the number of students who have commenced their special studies this month in the various medical schools. The subjoined table indicates the number who have joined for the full curriculum (A), and for special classes (B). The number of dental students (C), and the number of students who have entered for classes for preliminary scientific instruction only (D), are separately shown.

	A.	B.	C.	D.	E.
St. Bartholomew's Hospital	108	20	0	*	128
Charing Cross Hospital	32	17	18	1	67
St. George's Hospital	31	2	—	—	33
Guy's Hospital	74	13	—	16	87
King's College	35	47†	0	19	82
London Hospital	78	42	1	4	121
St. Mary's Hospital	71	33	—	7	104
Middlesex Hospital	59	31	7	6	97
St. Thomas's Hospital	94	27	0	5	121
University College	70	18	0	65	88
Westminster Hospital	16	6	1	0	23
London School of Medicine for Women	25	4	—	—	29
Cambridge University ‡					
Oxford University ‡					
University of Durham College of Medicine§	34	33	1	—	68
Bristol Medical School	21	—	—	—	21
Owens College, Manchester	73	23	5	45	101
Queen's College, Birmingham	33	23	3	13	59
Yorkshire College, Leeds	40	6	1	15	47
London School for Dental Surgery	—	1	24	—	25
National Dental Hospital	—	1	6	—	7

A. Number of students who have entered for full curriculum.
B. Number of students who have joined for special classes.
C. Number of dental students.
D. Number of students who have joined classes for preliminary scientific instruction.
E. Total, excluding students attending classes for preliminary scientific instruction.
* In compliance with the regulations of the University of London, students attending these classes are not counted as medical students.
† Thirty-seven of this number for bacteriology.
‡ Returns not yet complete.
§ The number in column B. represents those who have entered for the required term of residence for the degree.

The total number of students who have entered for the full medical curriculum in the metropolitan medical schools, excluding the London School of Medicine for Women, according to these returns, is 668, a number which shows only a slight and probably non-significant falling-off as compared with last year. The total numbers in previous years have been: 1883, 622; 1884, 605; 1885, 587; 1886, 647; 1887, 683.

ASSOCIATION INTELLIGENCE.

ELECTION OF MEMBERS.

ANY qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: SOUTH LONDON DISTRICT.—A meeting will be held (by kind permission of the Treasurer) in the Governors' Court Room, St. Thomas's Hospital (entrance from Westminster Bridge), on Thursday, October 25th, at 8.30 P.M. Dr. Brodie Sewell (President of the Branch) will take the chair. Dr. Ord will read a paper on the Diagnosis and Treatment of Ulcer of the Stomach. Cases of interest, from the wards of the hospital, will be on view from 8 o'clock.—R. PERCY SMITH, Honorary Secretary, Bethlem Royal Hospital, S.E.

STAFFORDSHIRE BRANCH.—The fifteenth annual general meeting of this Branch will be held at the North-Western Railway Hotel, Stafford, on Thursday, October 25th, at 3.30 P.M. An address will be delivered by the President, Dr. F. Boldero, Penkridge.—T. VINCENT JACKSON, Wolverhampton.

OXFORD AND DISTRICT BRANCH.—The next meeting of this Branch will be held on Friday, October 26th, in the Radcliffe Infirmary, at 3 P.M. Members intending to read papers or show cases are requested to communicate with the Honorary Secretary, W. Lewis Morgan, 42, Broad Street, Oxford, on or before October 12th.—S. D. DARBISHIRE and W. LEWIS MORGAN, Honorary Secretaries.

SOUTH-WESTERN BRANCH.—An intermediate meeting of the Branch will be held at the Angel Hotel, Tiverton, on Thursday, October 25th, 1888, at 2 P.M. Luncheon will be provided between one and two o'clock, at three shillings a head. Notices of papers, cases, etc., to be sent to the Honorary Secretary; and members who propose to attend the meeting and luncheon are requested to inform the Honorary Secretary a few days beforehand. Mr. J. D. Harris, Exeter, will read a paper "On the General Condition of the Injured on Admission to the Devon and Exeter Hospital after the Theatre Fire." Mr. L. Mackenzie, Tiverton, will show: 1. A Case of Arsenic Poisoning simulating Addison's Disease. 2. A Case of Fracture of the Spine.—P. MAURY DEAS, Honorary Secretary, Wonford House, Exeter.

NORTH OF ENGLAND BRANCH.—The clinical meeting will be held at the Ingham Infirmary, South Shields, on Wednesday, October 24th, at 4 P.M. Cases of interest will be shown by the members of the staff of the hospital, and by others.—G. E. WILLIAMSON, F.R.C.S., Honorary Secretary, 22, Eldon Square Newcastle-upon-Tyne.

LANCASHIRE AND CHESHIRE BRANCH.—An intermediate meeting of the Branch will be held at the Co-operative Hall, Cairo Street, Sankey Street, Warrington, on Tuesday, October 23rd, at 3.15 P.M. Dr. Watkins, President of the Branch, in the chair. The following medical and surgical communications have been promised: Dr. Hill Griffith will exhibit some cases of Mules's Operation "Artificial Vitreous." Mr. C. E. Richmond will read a paper entitled "Cases of Lymphatic Obstruction." Dr. Dreschfeld will make some observations on "Pyrodin, a new Antipyretic." Dr. Mitchell Banks will read a communication on the "Uses of Turpentine and Scraping in Unhealthy Wounds." Mr. Jones will mention a case of "Tumour of the Hard Palate," and exhibit the specimen. Dr. Brooke will read a short paper on the "Bases of Ointments." Dr. Leech will make some remarks on "Some of the Newer Soporifics." Dr. Walter will exhibit a patient from whom he removed a Hydrosalpinx. Lunch will be provided by the members of the Branch residing in Warrington, at the Town Hall, from 2 to 3.15 P.M. Dinner: By the courtesy of the Mayor of Warrington, the dinner after the meeting will be held in the Council Chamber of the Town Hall, at 6 P.M. Tickets 7s. 6d. each (wine not included). It would greatly facilitate the arrangements if members intending to dine would write for tickets to Mr. C. E. Richmond, Bold Street, Warrington, before the day of meeting.—CHARLES E. GLASCOTT, M.D., General Secretary, 23, St. John Street, Manchester.

SOUTH-EASTERN BRANCH: WEST SUSSEX DISTRICT.—A meeting will be held at the Marine Hotel, Worthing, on Tuesday, October 30th, at 3.45 P.M. W. J. Harris, Esq., of Worthing, in the chair. Dinner at 5.30 P.M. Communications by Dr. A. E. Buckell, of Chichester; and Dr. Gostling, of Worthing. Members desirous of reading papers or showing specimens are requested to write at once to the Honorary Secretary, W. AYTON GOSTLING, West Worthing.

SOUTH-EASTERN BRANCH: WEST SURREY DISTRICT.—The next meeting will be held at the Royal Surrey County Hospital, Guildford, on Thursday, October 25th, at 3.30 P.M. Albert Napper, Esq., of Guildford, in the chair. Agenda: Bilton Pollard, Esq., F.R.C.S.: The Treatment of Tubercular Disease of Joints, with especial reference to the Hip and Knee Joints. Dr. Herbert J. Stowers: The Treatment of Eczema. Anyone wishing to read papers, etc., should communicate at once with the Honorary Secretary. Dinner at 6 P.M., at the White Lion Hotel. Charge, 7s. (exclusive of wine).—J. PERCY A. GABB, M.D., Honorary Secretary.

SOUTH EASTERN BRANCH: EAST SUSSEX DISTRICT.—A meeting of the above District will be held at the Queen's Hotel, Eastbourne, on Friday, November 23rd. Dr. Roberts in the chair. Those desirous of reading papers or showing cases, should communicate with the Honorary Secretary, T. JENNER VERRALL, 97, Montpellier Road, Brighton.

SOUTHERN BRANCH: ISLE OF WIGHT DISTRICT.—The quarterly meeting of the above Branch will be held at the Bugle Hotel, Newport, on Thursday, October 25th, at 4.45 P.M. The President, T. A. Buck, M.B., in the chair. Proposed new district member, Surgeon E. J. Erskine Risk. Agenda: 1. Election of President-elect. 2. Notes on an Outbreak of Typhoid Fever in one Family, T. A. Buck, M.B. 3. A Case of Factitious Urticaria, R. Robertson, M.D. 4. The Influence of Race and Class upon the Course of Disease, B. Hoffmeister, M.D. 5. Mr. John Ellis will show his new Dental Mallet, capable of making over 1,200 strokes per minute. 6. A Question, W. E. Green. 7. A Fatal Case of Atrophy and Dilatation of the Stomach: Necropsy, T. A. Buck, M.B. New Drugs and Pharmaceutical preparations will be exhibited by Messrs. Wyley and Co, of Coventry; Mr. G. Brown, of Sandown and Newport; Messrs. Richardson and Co., of Leicester. Gentlemen who are desirous of introducing patients, exhibiting pathological specimens, or making communications are requested to signify their intention at once to the Honorary Secretary. Dinner at 5.30 P.M. Charge 6s. (exclusive of wine).—W. E. GREEN, Honorary Secretary.

YORKSHIRE BRANCH.—A conjoined meeting of the East York and North Lincoln, and Yorkshire Branches will be held in the Museum of the Yorkshire Philosophical Society, in York, on Wednesday, October 31st, at 2.30 P.M. Members intending to read papers are requested to send in their names at once to ARTHUR JACKSON, Secretary.

DORSET AND WEST HANTS BRANCH.—The next meeting will be held at Wimborne, on Wednesday, October 24th. The business meeting will be held at the Board Room of the Union, by permission of the guardians, at 2.30 P.M. Agenda: Election of officers for 1889. Place of May meeting. Election of new members of the Branch. Communications:—Mr. Wyke Smith: 1. Bandage used in Cases of Operation for Hernia and Wounds in the Groin. 2. Strap for Ganglia of the Wrist. Mr. Mahomed: Some Cases treated at the Mount Dore, Bournemouth. Dr. Greves: Notes on a Case of Acute Intestinal Obstruction: Operation: Recovery. Mr. Wyke Smith: A Case of Land Scurvy. Discussion: Vomiting in Pregnancy. Dinner at the King's Head Hotel at 5 P.M.; charge 6s. each, without wine. Members intending to be present are requested to communicate with Mr. Parkinson, on or before Saturday, October 20th.—WILLIAM VAUDRY LUSH, M.D., Weymouth, and C. H. WATTS PARKINSON, Wimborne, Honorary Secretarios.

SOUTH-EASTERN BRANCH: EAST SURREY DISTRICT.

THE autumn meeting of this district was held at the White Hart Hotel, Reigate, on Thursday, October 11th, at 4 P.M.; C. HOLMAN, M.D., of Reigate, Treasurer of the British Medical Association, in the chair. Forty members and visitors were present, of whom twenty-two dined together after the meeting.

Functional Albuminuria.—Dr. RALFE read a paper on "Functional Albuminuria," in which, after discussing the theories of the cause of the presence of albumen in the urine—namely (1), as a result of increased pressure in the renal vessels causing its transudation; or (2), that in health the epithelium of the glomeruli or tubules absorbs any albumen in the urine; and where this function is impaired by disease the albumen escapes—Dr. Ralfe inclined to the latter view, and explained the albuminuria of some forms of dyspepsia by the hypothesis that, owing to functional derangement of the liver, and consequent impaired metabolism of excreta into urea, there might be excess of albuminoids in the blood passing through the renal vessels, and, the epithelium being unable to reabsorb all, some escaped in the urine. Dr. Ralfe described the clinical varieties of functional albuminuria, dividing them into three classes: 1. Cyclical; either intermittent or continuous, but always with a daily exacerbation (usually in the morning). 2. Paroxysmal; in this form there were also frequent exacerbations, but not so regularly. The albuminuria of glycosuria was usually of this variety. 3. Intermittent; having varying causes, either

digestive, neurotic, or toxic. The difficulty occasionally experienced in diagnosing functional albuminuria from that of early chronic interstitial nephritis was pointed out. In both, polyuria was frequent; in the former, it was more proportionate to the amount of fluid taken; in the latter, to the arterial tension. Under the forms of intermittent albuminuria due to neurotic causes, Dr. Ralfe described cases where worry or overstrain of mind produced it, as in candidates for examination and for life-insurance, and insisted on the need in such instances of frequent and careful examination of the urine before deciding that the albuminuria had an organic origin. It was probable that in some cases continued functional albuminuria might lead to nephritis.—A discussion followed, in which Drs. HOLMAN, J. H. GALTON, BERRIDGE, DUNCAN, and KELSEY took part.

Avulsion of Leg.—Mr. H. W. DREW read notes of a case of avulsion of the lower limb from an accident, where there was escape of cerebro-spinal fluid, with recovery. The case was unique in many respects.

Adenoid Vegetations of Naso-Pharynx.—Mr. T. MARK HOVELL read a paper on "Adenoid Vegetations of the Naso-pharynx," in which he described the etiology, symptoms, and treatment of the affection. He showed the forceps which he used for removal of the growths; it had a cutting edge all round; one blade, fitting into the other accurately, punched out any projecting tumour laid hold of. Mr. Hovell advised an anæsthetic to be given, and as much as possible removed at one sitting. Recurrence to any extent was infrequent.—Dr. J. H. GALTON, Mr. WRAY, Drs. PRANGLEY, CHALDECOTT, and BERRIDGE made remarks.

Electricity in Insanity.—Dr. G. H. NEWTH gave illustrations of cases showing the value of electricity in the treatment of insanity.

SPECIAL CORRESPONDENCE.

VIENNA.

[FROM OUR OWN CORRESPONDENT.]

A New Method of Mixed Narcosis.—The Rudolfsquelle of Marienbad.—The Effect of Hyoscine.—Eight Fatal Cases of Rupture of Tubal Pregnancy.

IN a recent number of the *Wiener Klinische Wochenschrift*, Professor Obalinski proposes the following method of mixed narcosis, which he has repeatedly tried and found very useful. Pure chloroform is given to begin with in the usual way (that is, by means of Esmarch's mask) for from four to twelve minutes, the quantity of chloroform used being equal to from 4 to 12 grammes. A quantity of from 3 to 5 centigrammes of a 3 to 5 per cent. solution of cocaine is then injected into the place to be operated upon. There is no reason to be afraid of injecting even a larger quantity of cocaine, as chloroform, which is one of the best antidotes of cocaine, is administered at the same time; and also, because a part of the cocaine is removed by operation. After the injection of cocaine Professor Obalinski does not use any more chloroform, especially when the operation is one of short duration; occasionally he employs it in small quantities and at long intervals of time. The method has hitherto been employed in twenty-four cases, and the following are its advantages: 1. The advantages of both the general and local anæsthetising methods are combined in it. Certain dangers proper to each of these methods are excluded by the combined procedure. The fact that a smaller quantity of chloroform is used gives greater confidence in its use, and besides at the same time a drug is employed which is known to be the best excitant, as it causes contractions of the blood-vessels as well as of the cardiac muscle, whereas chloroform paralyses these organs. Again, there are individuals who have a certain idiosyncrasy in respect of cocaine; in these, even proportionately small doses of the drug produce disagreeable symptoms of cerebral anæmia, shown by "tinnitus aurium," pallor of the face, giddiness, etc.; and an antidote, such as amyl nitrite, chloral hydrate, chloroform, ether, or morphine, when administered at the same time, instantly causes all these disagreeable phenomena to disappear. From all these facts it may be concluded that local cocaine anæsthesia in connection with semi-narcosis produced by chloroform is more reliable than pure chloroform narcosis. 2. Vomiting occurs much more rarely in mixed than in chloroform narcosis. 3. The patients awake more easily from the mixed narcosis, and do not feel depressed or weary. The sole disagreeable symptom—and it is one of rare occurrence—is that there is more excitement, especially in nervous persons. This is manifested by crying, uneasiness, or strong tetanic muscular contractions. Similar symptoms are, however, also observed in pure chloroform narcosis.

Dr. Hans Kopf, of Marienbad, contributes a paper to a recent number of the *Internationale Klinische Rundschau* on the Rudolfsquelle of Marienbad. By the use of the "Rudolfsquelle," Dr. Kopf has obtained good results in the treatment of different diseases of the urinary apparatus during a period of ten years. The "Rudolfsquelle" water is colourless and quite clear, having a temperature of 10.25° C., equal to 8.2° R.; its taste is pungent, saline, and slightly astringent. A glassful of the water shows numerous air-bubbles. When exposed to the air, the water forms a yellow deposit. Its reaction is acid. According to Professor Lerch's analysis in 1866, "Rudolfsquelle" contained a considerable quantity of carbonate of lime, as well as large quantities of carbonate of magnesia; it also contained very considerable quantities of sparry iron ore. As to the physiological effect of the "Rudolfsquelle," it is the carbonic acid, carbonate of lime, and carbonate of magnesia, as well as sparry iron ore contained in it, which produce the therapeutic effect in certain diseases. The "Rudolfsquelle" water, when taken in a large quantity, especially increases diuresis, and causes a more copious elimination of urea. The effect of the carbonic acid chiefly manifests itself in an irritation of the nervous system. The functional activity of the stomach and the intestine is quickened, the circulation is favourably influenced, and particularly the secretion of urine augmented. Owing to its chemical composition, and according to the experiments of Dr. Kopf and his colleagues, the "Rudolfsquelle" has as much right to be considered a specific against the various diseases of the urinary apparatus as the springs of Wildungen. The use of the "Rudolfsquelle" is indicated in several affections—especially, in chronic catarrh of the bladder. During the past ten years a great number of Dr. Kopf's patients suffering from this disease have been perfectly cured after a four weeks' use of the "Rudolfsquelle" and a simultaneous use of the baths of the "Marienquelle" (27° C.) thrice a week "Rudolfsquelle" is also used with good results in cases of gravel, neuroses of the bladder, cystospasmus and neuralgia cystourethralis, pyelitis, renal and vesical calculus.

Dr. S. Fischer, of Buda-Pesth, writing in the *Gyógyászat* on the influence of hyoscine, arrives at the following conclusions:—1. The "hyoscinum muriaticum" may be successfully used as a sedative in greatly-excited or maniacal patients. 2. As the effect of hyoscine manifests itself even after a dose of half a milligramme, larger doses should be avoided, though the dose may be increased to one milligramme without any harm. 3. No bad after-effect is observed in such doses. 4. The drug also proves efficient as a hypnotic; but, owing to its depressing influence on the organism, it should only be used in those cases in which other drugs are ineffectual. 5. In five cases—namely, of chronic mania, chronic dementia, and acute insanity—the drug did no good. This was perhaps due to idiosyncrasy on the part of the patients.

At a recent meeting of the Obstetrico-Gynæcological Society of Vienna Professor Edward Hofmann showed specimens of a number of cases of tubal pregnancy in which death had occurred through rupture. An analysis of these cases showed that: 1. Among the eight women, six were over 30 years of age; in one instance the age could not be determined; one of the patients was 22 years old. 2. As to one of these women, it could be stated with certainty that she had already been confined; in another this was doubtful. 3. In two cases the right Fallopian tube, and in six instances the left, was the seat of pregnancy. 4. In three cases the pregnancy was situated in the middle, and, in the rest of the cases, in the internal portion of the tube. 5. The passage of the ovum had taken place in only two cases; in one from the left to the right side, and in another from the right to the left side. 6. In half the number of the cases peritonitic adhesions of the Fallopian tube were detected. 7. In seven cases rupture occurred in the second, and only once in the third, month of pregnancy. 8. In one-half of the cases, several hours (from four to twelve) elapsed between the first symptoms of the disease and the death; in the rest of the cases, however, it was questionable whether death occurred suddenly, as there was no exact history of disease. It is thus obvious that in most of the cases, provided the diagnosis is made in proper time, there is sufficient time for surgical interference. 9. In two cases of fresh hæmorrhage the fœtus was already found in a macerated condition; this, as

well as the strong torsion of the umbilical cord in one of these cases, led the author to conclude that the critical hæmorrhage did not in all instances occur simultaneously with the rupture of the amniotic sac or the Fallopian tube, but only at a later date.

MANCHESTER.

[FROM OUR OWN CORRESPONDENT.]

Appointment of Assistant-Physician.—Increase in the Number of Medical Students at Owens College.—Combe Lectures.

SOME time ago Professor Morgan resigned his appointment as physician in the Royal Infirmary. This led to the appointment of Professor Ross as full physician. Mr. Thomas Harris, assistant to the Professor of Pathology in Owens College and Pathologist to the Royal Infirmary, has been elected to the post of assistant-physician.

It is stated that the number of medical students attending the medical school of Owens College is larger than in any previous year. This is gratifying, no doubt, to the authorities. This increase in numbers and the popularity of the medical school have, it is stated, forced upon the authorities the question of extension of the medical school. With all the facilities which Manchester possesses as a great medical centre, it behoves the authorities of the College to keep well abreast of the requirements of the students. Already, we believe, the accommodation provided is not more than is necessary for the students at present attending the School.

It is announced that, under the auspices of the Combe Trustees, Professor Stirling will give a course of evening lectures during the present winter session, on the "Physiology of the Nervous System." These lectures are free to all the students of the College. This is the third course of Combe Lectures Professor Stirling has given in the College.

CORRESPONDENCE.

PUERPERAL FEVER A PREVENTABLE DISEASE.

SIR,—My attention has been directed to the necessity of noticing certain inferences in Dr. Cullingworth's excellent address delivered at St. Thomas's. I do not doubt that everyone who has read his paper has warmly appreciated his work. All his facts and recommendations I most heartily accept. But the general doctrine of puerperal fever being solely due to the entrance of micro-organisms by the genital tract either during or immediately after parturition does not seem warranted by our actual knowledge of the disease.

Dr. Cullingworth quotes Dr. Gordon, of Aberdeen, at some length; but although Campbell, of Edinburgh, is referred to, his views, which were based on a consideration of Gordon's papers and his own experience of 800 cases under his own supervision, were markedly opposed to the doctrine of contagion as the sole cause.

The late Dr. Hamilton, of Edinburgh, a decided contagionist, wrote: "I cannot account for many cases seen both in the upper and lower classes." Home, in his *Clinical Experiences*, relates that "in 1780 a woman was delivered in the Edinburgh Royal Infirmary; she occupied the same bed in which another woman had died a few days before of puerperal fever, yet she did not become affected, and continued in the same bed till she was discharged." Dr. Alfred McClintock, writing in 1869, said "in twenty-five years' practise he could conscientiously aver he had never carried contagion." Dr. Churchill, in 1876, wrote: "In the course of forty years' practice I have had puerperal fever among my patients; but the most rigid inquiry has failed to show me any connection between any two patients." My own experience does not warrant so decided a belief; but, on the other hand, I am equally convinced that in heterogenetic infection by direct manual conveyance to the genitalia we have only one, not the sole, cause.

I congratulate Dr. Cullingworth on the excellent fresh statistics he gives; yet what do all these prove? Simply that "hospitalism" is a thing of the past; that ordinary septic poisoning may be avoided by attention to sanitation and antiseptics: and that, with a recognition of the true nature of many cases of m-tria, modern prophylaxis has proved sufficient.

I need not adduce facts which my accomplished friend is th roughly familiar with in support of my belief that puerperal fever may be accounted for by many causes. I, however, think it fair to argue that if we find micro-organisms existent in every acute inflammation, we must doubt the wisdom of too fully accepting these as the only cause of puerperal fever. As a matter of fact we do not know whether the common bacterium termo may or may not become a pathogenic bacterium. Koch has stated that all pathogenic bacteria are of distinct species—that the spherical do not pass into rod forms: on the other hand, we are told by Ray-Lankester and others that micrococci may develop into bacilli, and these again into spirillæ. Klein has said that certain septic (non-pathogenic) organisms may be changed into pathogenic forms. Braidwood and Vacher demonstrated the existence of bacteria in healthy lochia several years ago, "free from infection but capable of producing it;" and in 1865 Mayerhofer described vibriones in the lochia of sick women. Pasteur holds that the lochia of a puerpera in good condition contain few or no micro-organisms: but "should there be a threatening of puerperal fever there is an abundance of microbes." He, by examining the lochia of a patient, has been able to predict an attack of fever before any clinical symptoms were manifest. But do these organisms actually account for septicæmia? Septic infection seems most frequently due to the absorption of ptomaines, poured into the blood from some local deposit of micrococci, but, according to Ogston, more especially in puerperal cases as the result of the development of micrococci or bacilli in the blood. Apart altogether from the fatty changes connected with uterine involution, Fischel finds there is a very large production of peptones amongst the muscular fibres. This is an expression of the rapid reduction of tissue elements into a soluble form. We find, in such circumstances, insoluble myosin breaking down and forming soluble peptones. In the puerperal uterus, then, we have a very suitable nidus for the development of micro-organisms. But we postulate unwisely if we state that puerperal fever is only caused by absorption by the genital passages. It seems to me that the lungs, the skin, and the stomach may afford a channel of entrance, and that the special physiological condition of the uterus renders it the site of micro-organic selection for development. Is it possible to account for ante-partum puerperal fever by believing that heterogenetic microbe-uterine poisoning, directly conveyed, is the sole excitant of the disease? Despite the quotation from Parvin, and the assertion that we have never an autogenous origin, in some cases it is quite impossible to prove the converse. I would respectfully submit that I proved the existence of puerperal fever, as apart from ordinary septicæmia, some years ago, and while my views are left unassailed I may be allowed to believe that it is not altogether because they are deemed unworthy of refutation.—I am, etc.,

A. D. LEITH NAPIER, M.D., M.R.C.P.

3, Beaufort Gardens, S.W., October 10th.

DENTAL SCHOOLS AS DEPARTMENTS OF MEDICAL SCHOOLS.

SIR,—There is, I trust, no danger that Mr. Newland Pedley and the authorities at Guy's will be turned from their purpose of establishing a complete dental department in their hospital and school by the opposing arguments of some of your correspondents. These arguments really amount to the statement merely that Mr. Pedley's scheme will be difficult to carry out, and that, particularly, it will be difficult to provide facilities for the instruction of dental students equal to those existing at the admirably organised school of the London Dental Hospital. These difficulties are not insuperable, and if the authorities at Guy's will provide space and equipment, they can readily recruit from among past students of the Dental Hospital a sufficient number of young dental surgeons to form a teaching staff whose competency and adequacy shall be unquestionable.

The prime function of a hospital is the relief of suffering, and no valid reason can be given why dental diseases should continue, as they do now, to receive less attention than others scarcely more dangerous, and certainly not more hard to bear. Apart from this, every well-wisher of the dental profession must rejoice to see the speciality receiving due recognition at the most ancient and most famous of our medical schools, for this must help the already rapid advance of dentistry to the position which its importance demands.

Whether or not Guy's men avail themselves fully of the opportunities of acquiring knowledge which the dental school will afford, it must surely happen that a large proportion of these future medical practitioners will, if only casually, be made

aware what a wonderful art modern conservative dentistry has become. These practitioners going out into the world will diffuse their information among the public, vast sections of whom still need enlightenment in this matter. Once the public fully made aware what scientific dentistry can do for them, not only would every well-trained qualified dentist be soon fully employed, but there would be speedily a demand for a large increase of the profession. Room would so be made for many students inclined to qualify as dentists, and thus escape the overcrowded ranks of general practice, with its keen competition for a bare livelihood. By these means, also, less and less ground would gradually be left for the advertising American and English quacks who, in spite of the Dentists' Act, still flourish by preying upon the public, and bring the speciality into disrepute, and cast unmerited dishonour on the name of dentist.—I am, etc., HENRY SEWILL.

40, Wimpole Street, October 13th.

SIR,—In the JOURNAL of October 13th Mr. Ashley Gibbings says I am "mistaken" in asserting "that the case of the dental student is different from that of the ophthalmic in that his attendance at a special hospital is compulsory, and as part of his studentship he must attend a special hospital for two years."

I adhere strictly to my statement. One of the certificates required by the Royal College of Surgeons from candidates for the L.D.S. diploma reads thus: VIII. "Of having attended at a recognised school two courses of lectures upon each of the following subjects, namely, Dental Anatomy and Physiology (Human and Comparative), Dental Surgery, Dental Mechanics, and one course of Metallurgy, by lecturers recognised by this College." These courses of special lectures, extending over two years, are only to be obtained at the two special hospitals, and hence every dental student in London must go to one or other of these institutions. True it is that the College of Surgeons has invested certain metropolitan general hospitals with the power to sign up dental students for the practice of dental surgery, apart from the special lectures. This training of the dental surgeon in his practical work is supposed to be afforded by the special department of the general hospital recognised. I leave it to the dental representatives of such general hospitals to consider their responsibility to the College of Surgeons, and I would urge all who hold dental appointments to aim at raising their special work to the level of ophthalmic surgery.—I am, etc.,

F. NEWLAND PEDLEY, F.R.C.S. and L.D.S.,
Dental Surgeon to Guy's Hospital.

MIND AND MATTER.

SIR,—May I be allowed to point out that the "hammer" used by Dr. Caird for the demolition of the materialist theory of mind is by no means peculiarly Dr. Caird's? The argument that the conservation of energy is opposed to a materialistic position was stated with emphasis and lucidity by Professor Clifford (amongst others) several years ago. It was stated by Mr. Romanes in his Rede Lecture at Cambridge, in 1885; it may even be found in such a condensed epitome as Mr. Belfort Bax's *History of Philosophy*.

May I also remark that the law of the conservation of energy is an impartial principle, indifferent alike to heresy and orthodoxy? If, then, we admit that this principle forbids us to call thought "transformed physical energy," we must admit that such an assertion as your reviewer makes when he speaks of "will generating force and force generating matter" is also wholly unjustifiable. The assertion of a causal relation between mind and matter is surely equally illegitimate, whether it be made from the mental or from the material side, and the hammer which demolishes materialist psychology may likewise be used to pulverise spiritualist mechanics.—I am, etc.,

Hadley Green, Herts. R. J. RYLE, M.A. M.B.Oxon.

APYRETIC TYPHOID.

SIR,—I have frequently observed that cases of fever resulting from the inhalation of sewage-gas run their entire course with a subnormal temperature. Some time ago I attended five members of the same family, father and four children, suffering from fever caused solely by an escape of sewage-gas through a long split in the soil-pipe of the water-closet. In this series of cases the temperature varied between 94° and 97°, never higher. I tried several thermometers, and had two trained fever nurses in constant attendance, who took the temperature frequently at different hours day and night. Dry tongue, with bright red lip, gastralgia, constipation, fœtid ashy-grey stools, hepatic enlargement, meteorism, dysuria, lobular pneumonia, great prostration, and tedious convalescence mark the progress of such cases.

I have found in such cases that a free discharge of bile is generally followed by a steady rise in the temperature, and strange to say that salicin, one of our best antipyretics, is the most efficacious medicine in restoring the hepatic and caloric action to a healthy state. In my experience a subnormal temperature is a certain sign of a long, tedious, interrupted convalescence.

In my paper on Bilious Relapsing Fever, read at the Dublin meeting of the British Medical Association, I referred to cases of subnormal temperature that had come under my observation.—I am, etc., JOHN RINGWOOD,

October 16th. Medical Officer, Kells Fever Hospital.

ELECTION TO ORPHAN ASYLUMS.

SIR,—The election to orphan asylums, upon which you commented last week, has been for many years under the careful consideration of this Association, in which the medical profession is ably represented. The principal objections to the method of election adopted by the governing bodies of the London orphanages may be briefly stated as follows:

First, that as candidates are admitted from all parts of the United Kingdom, and in some cases from the Colonies, the nominating governor, to whom the candidate is in all probability personally known, is, under the voting system, constituted the sole judge of the qualifications and needs of his nominee. The medical officer of the orphanage has really no voice in the matter, and he cannot exclude the child after once elected, unless it be upon some other grounds than those of health. In the great majority of instances the claims and fitness of the candidate are absolutely unknown to the great body of the subscribers, whose votes carry the election.

Secondly, after a candidate has attained to a certain age, he or she is, by the rules of the orphanage, ineligible; and so it frequently happens that a candidate, after standing several elections, all of which have been attended with great anxiety, toil, and cost, ultimately fails.

Thirdly, and this is a very important part of the subject under discussion, ample provision has been made by the Legislature for all the afflicted classes coming under the poor-law, and full powers have been given to guardians of the poor and to school boards throughout the country for making provision for all such destitute children.

Unfortunately, owing to the very loose and uncertain way in which candidates get on lists of charitable institutions, the majority of the elected candidates strictly belong to the poor-law, and really have no claim on public charity.

These objections I venture to think point to the necessity of each institution having a committee of investigation to scrutinise each case both socially and medically, a duty which cannot be performed under the voting system by governors scattered far and wide, and who transmit their patronage through the post from every part of the country without any further inquiry into the needs and merits of the case.

As a matter of fact the claims of candidates can be far more carefully examined by a committee before the names are admitted on the lists. If a small body of gentlemen are incompetent to judge of the relative merits, social needs, and fitness, brain soundness and health, how can it be expected that a better decision will be arrived at by a widely-scattered body of governors to whom the candidates are literally unknown.—I am, etc., J. A. DOW,

30, Charing Cross, S.W. Secretary to the Charity Voting Reform Association.

CHÂLETS IN LONDON, BERLIN, AND PARIS.—The application made by the International Hygienic Society to the St. Pancras Vestry to erect a *châlet* at the southern end of High Street, Camden Town, has, we regret to see, met with considerable opposition and been rejected. There is urgent need of such accommodation in London. In Unter den Linden in Berlin, under the very windows of the Royal Palace, and on the Boulevards of Paris, in the most fashionable and brilliant quarters, such necessary accommodation is provided, and Londoners and their visitors to the metropolis suffer much from the ill-timed and senseless squeamishness which prohibits it. The *châlets* in Unter den Linden are admirable models, in every way unobjectionable, and most serviceable to the health and comfort of the wayfarer.

NAVAL AND MILITARY MEDICAL SERVICES.

CHANGES OF STATION.

THE following changes of station among the officers of the Medical Staff of the Army have been officially notified as having taken place during the past month:—

	From	To
Surgeon-General D. A. C. Fraser, M.D.	Netley	Malta.
Deputy Surg.-Gen. J. A. Marston, C.B. M.D.	Woolwich... ...	Egypt.
Brigade-Surgeon T. H. White, M.D. ...	Bengal	Winchester.
Surgeon-Major W. Ffolliott	—	Dover.
,, F. Dick, M.D.... ...	Portsmouth ...	Lancaster.
,, J. R. Greenhill ...	Dover	Bengal.
,, D. C. Grose	Belfast	,,
,, T. O'Farrell, M.D. ...	Bengal	Dublin.
,, R. C. Eaton	Norwich	Colchester.
,, G. Corry	Sheffield	Salford.
,, E. A. H. Roe	Home District ...	Headquarters.
,, O. F. Molloy	Aldershot	Belfast.
,, R. Exham	Kinsale	Templemore.
,, R. H. Robinson ...	Dublin	Madras.
,, W. C. Grant, M.B. ...	Parkhurst ...	Bengal.
,, W. B. Slaughter ...	Dover	Madras.
,, W. E. Webb, M.B. ...	Headquarters ...	London.
Surgeon P. B. Tuthill, M.D.	Netley	Gibraltar.
,, E. A. Roche	Aldershot	Portsmouth.
,, K. S. Wallis	Strensall Camp ...	Northampton.
,, J. W. H. Flanagan	Woolwich... ...	Bombay.
,, M. D. O'Connell	Dublin	Curragh.
,, F. R. Barker, M.B.	Weymouth ...	Hilsea.
,, J. D. Day, M.B.	Loughrea ...	Naas.
,, G. T. Goggin	Colchester ...	Norwich.
,, P. M. Carleton, M.B.... ...	Glencorse	Netley.
,, R. W. Barnes	Sandown, I.W ...	Bombay.
,, G. H. K. M'D. O'Callaghan ...	Horfield	Netley.
,, J. O. G. Sandiford, M.D. ...	Dublin	Clonmel.
,, R. L. Love, M.D.	Guernsey	Netley.
,, H. W. Murray, M.B.	Netley. ...	Woolwich.
,, J. G. W. Crofts	Fleetwood ...	Netley.
,, W. Dugdale	Newbridge ...	,,
,, C. H. Clabburn, M.B. ...	Aldershot	N. British Dist.
,, H. Saunders	,, ...	Netley.
,, A. J. Struthers, M.B. ...	Glasgow	Aldershot.
,, A. P. Hart, M.B.	Devonport ...	Pembroke Dock.
,, S. C. B. Robinson	Pembroke Dock ...	Netley.
,, S. Townsend, M.D.	Dublin	Kinsale.
,, J. Gibson, M.B.	Netley	Aldershot.
,, T. R. Lucas, M.B.	Devonport ...	Netley.
,, F. A. Harris	Chatham	,,
,, T. A. Dixon	Burnley	,,
,, W. C. T. Poole, M.B.... ...	Aldershot	,,
,, J. R. Yourdi, M.B.	Spike Island ...	,,
,, J. C. Culling...	Colchester ...	,,
,, E. J. E. Risk...	Golden Hill Fort ...	Sandown.
,, A. V. Lane	Colchester ...	Bahamas.
,, J. W. Beatty, M.D.	Redcar	Sunderland.
,, G. H. Younge	Templemore ...	Netley.
,, J. M'Laughlin, M.D.... ...	Dunfanaghy ...	,,
,, A. H. Morgan	—	Sierra Leone.
,, R. Fowler	Woolwich... ...	Netley.
,, F. J. Lambkin	Canterbury ...	,,
,, W. L. Reade	Devonport ...	Penally.
,, H. J. Peard	Portsmouth ...	Netley.
,, J. Carmichael	—	Curragh.
,, F. T. Wilkinson	Netley	Woolwich.
,, J. Semple	Warley	Netley.
,, S. F. Lougheed, M.D. ...	Netley	Aldershot.
,, F. W. Reid, M.B.	,, ...	Bengal.
,, C. Birt	York	Chester.
,, M. W. Russell	Devonport ...	Bengal.
,, J. S. Green, M.B.	Wexford	Fermoy.
,, H. E. Cree	St. Anne's-on-Sea...	Ashton-u.-Lyne
,, H. L. G Chevers	Edinburgh ...	Aldershot.
,, C. J. MacDonald, M.D. ...	Cork	Bengal.
,, T. H. F. Clarkson	Portsmouth ...	Bermuda.
,, H. W. Austin	Cirencester ...	Brecon.
,, R. W. Wright	Woolwich... ...	Bengal.
,, E. Eckersley, M.B.	Strensall Camp ...	,,
,, J. Keatly	Curragh	,,
,, M. J. Whitty, M.D.	Clonmel	C.of Good Hope.
,, C. H. Hale	N. British Dist. ...	Glasgow.
,, J. W. Cockerill	Dover	Madras.
,, H. St. G. S. Hore	Stirling	Aldershot.
,, E. W. Gray, M.B.	Curragh	Dublin.
,, J. Minniece, M.D.	Perth	Aldershot.
,, C. R. Elliot, M.D.	Colchester ...	Warley.
,, B. J. Inniss	Alnwick Camp. ...	Madras.
,, W. N. Murphy, M.D.... ...	Queenstown ...	Bengal.
,, E. M. Hassard	Dover	,,
,, H. E. H. Smith	StraitsSettlemnts...	Singapore.
,, E. M'N. Woods, M.B.... ...	Sandown	Marchwood.
,, C. W. Reilly	Carnarvon ...	Salford.
,, J. Paterson, M.B.	Portsmouth ...	Hilsea.
,, A. Wright	Chatham	C. of Good Hope.
,, H. S. Peeke	Southport ...	Hulme.
Quartermaster W. Joseph	Aldershot	Gosport.
,, H. S. Webb	,, ...	Home District.
,, J. Buckley	,, ...	Malta.
Apothecary J. Davies	Egypt	Woolwich.

COMMITTEE ON SOLDIERS' RATIONS.

WE hear that Surgeon-General Massy, C.B., and Surgeon-General Irvine, both distinguished officers on the Retired List, have been nominated as the medical members on this Committee; perhaps younger officers more recently in touch with the soldier might have been selected, but the officers named will bring long experience and entire independence to bear on this important subject.

COMPLIMENTARY DINNER.

PREVIOUS to Surgeon-Major Grose's departure for India he was entertained at a farewell dinner by the officers of the medical staff of the Belfast garrison. The following officers were present: Deputy Surgeon-General Sinclair; Surgeons Macneece, Flood, Butt, and Browne, and Captain Marshall.

VOLUNTEER MEDICAL SERVICE.

A "BATTALION SURGEON" writes: I wish to draw the attention of volunteer surgeons to paragraphs 55 and 56 of *Volunteer Regulations*, 1887, by which acting surgeons always rank as lieutenants, irrespective of the length of their service; but acting chaplains rank for precedence as captains. Why should this be? he asks. Is the chaplain superior in social status or education to the surgeon? Are his duties more onerous? Not at all, his duties are practically *nil*. Has he to put his hand in his pocket like the surgeon? Not a bit. Does he go into camp with his battalion? Oh, no. Then, why this absurd difference in rank?

Now is the time, he says, for the volunteer medical officers to ventilate and find a remedy for these preposterous anomalies; not by holding themselves still cheaper, by joining a ridiculous "Reserve," but by asserting their right to fair treatment and proper status in the volunteer army before the Commission now sitting.

*** We would remind our correspondent that the church in this country is an old aristocratic institution, which long asserted and maintained its equality, if not superiority, over mediæval feudalism. As the last remains of that feudalism is now concentrated in the army and navy services, the old prestige of the clerical caste is still recognised by them as far superior to mere modern medicine or science. Military arrogance is sure to die hard, but in due time it must find its level before the advancing tide of civil democracy.

PUBLISHING PASS LISTS.

ONE WHO IS INTERESTED writes that in an official gazette of September 14th, a list of officers who had passed for promotion at home stations, including a surgeon-major, is published. He assumes that the latter had passed for promotion to brigade-surgeon; and naturally concludes that officers who pass for the said rank, hitherto kept in ignorance of the results of their examination will now be informed of their success through the medium of a gazette. This would be but common fairness, and place the medical on the same footing as other officers.

INDIAN MEDICAL SERVICE.

A SURGEON-MAJOR writes that he hopes the various committees now sitting will do justice to the medical staff. But the question of rank on the Indian Medical Service is also quite as serious; the regimental Indian medical officer's rank is a complete nullity, except in the privilege of paying donations and subscriptions of all kinds, where it is most duly recognised: it is impossible to respect a department so ignominiously treated.

VOLUNTEER MEDICAL RESERVE.

DR. W. BAINES (Surgeon-Major Army Reserve of Officers, and 1st Midd. Eng. Vol., R.E., retired) writes: As you seem to doubt whether I be entitled now to the style of "Surgeon-Major," I write to state that at the present time my resignation from the volunteer service not having been gazetted, I am, as I have been for some years, the Honorary Surgeon-Major of my regiment, and at the same time might inform you that, from my length of service, when I am actually retired from my corps I shall be "permitted to retain my rank and to wear my uniform" as heretofore.

I have nothing more to add to my remarks on the various points raised on the question of the Army Medical Reserve of officers, as it is clear that we both purpose to hold our own opinions on the subject. But I am willing to acknowledge that the Reserve is not perfect, and does not fulfil all our volunteer wants, and that it has unexpectedly allowed of some strange anomalies of rank, which minor points can readily be rectified, and probably will be when the committee, now sitting on the question, reports to the War Office. As the Reserve stands it is a step towards improving the volunteer medical service, and as such may be accepted and acted upon until a further development takes place which will settle the volunteer medical organisation for the future.

PASS LETTERS IN THE ARMY LIST.

JUNIOR SURGEON writes: With reference to the suggestion in the JOURNAL of October 13, that all officers who have obtained the Fellowship of their college should petition the Director-General that such might be noted after their names in the monthly *Army List*, I would beg to point out that the Government of India has just sanctioned such procedure as regards the Bengal *Army List*.

I feel sure that Sir Thomas Crawford (who is ever ready to recognise increased professional attainments) would accede to the request, but as a certain amount of diffidence naturally exists amongst the juniors in addressing him, I would suggest that a senior "Fellow," who is willing (and would notify his being so in the JOURNAL), be asked to approach him on the subject.

THE NAVY.

FLEET-SURGEON ST. LAWRENCE FERENCH-MULLEN, M.D., has been placed on the retired list on his rank at his own request. He was appointed Surgeon,

September 7th, 1868; Staff-Surgeon, December 24th, 1879; and Fleet-Surgeon on September 7th, 1888.

The following appointments have been made at the Admiralty: J. F. Donovan, Surgeon, to the *Humber*: H. W. A. Bourke, Surgeon, to the *Britomart*: E. R. Dimsey, Surgeon, to the *Impregnable*.

THE MEDICAL STAFF.

Brigade-Surgeon James Inkson, M.D., is promoted to be Deputy Surgeon-General, ranking as Colonel, *vice* R. A. Chapple, deceased. Entering the service as Assistant-Surgeon, October 19th, 1857, he became Surgeon, March 1st, 1873; Surgeon-Major, April 1st, 1873; and Brigade-Surgeon, May 1st, 1883. He served with the Baltic expedition of 1855, including the bombardment of Sweaborg (medal); in the Indian Mutiny campaign in 1858, including the capture of Jugdespore and actions of October 17th, 18th, and 20th (medal); and with the Bhootan expedition of 1865 (medal with clasp).

Brigade-Surgeon James Jameson, M.D., has also been promoted to be Deputy Surgeon-General, ranking as Colonel, *vice* E. H. Roberts, who has been placed on temporary half-pay. His previous commissions are dated: Assistant-Surgeon, November 8th, 1857; Surgeon, March 1st, 1873; Surgeon-Major, April 1st, 1873; Brigade-Surgeon, May 2nd, 1883. He was promoted Surgeon "in consideration of his highly meritorious services during an epidemic of yellow fever in Trinidad." He had charge of the D division of the English ambulance during the Franco-German war from October, 1870, till March, 1871, and was employed at the siege of Paris and in the campaign on the Loire.

Surgeon-Major J. R. Greenhill, F.R.C.S.Eng., is promoted to be Brigade-Surgeon, ranking as Lieutenant-Colonel, *vice* J. Inkson, M.D. His previous commission as Assistant-Surgeon dates from September 30th, 1863; as Surgeon, March 1st, 1873; and as Surgeon-Major, April 28th, 1876. He was engaged throughout the Abyssinian war, in 1867-68, with the Royal Artillery, and was at the capture of Magdala (medal).

Surgeon-Major C. A. Atkins is also promoted to be Brigade-Surgeon, ranking as Lieutenant-Colonel, *vice* L. Corban, M.D., gone on retired pay. His previous commissions are contemporaneous with those of Brigade-Surgeon Greenhill. He accompanied Sir Garnet Wolseley to the Gold Coast in September, 1873, and was at the attack and destruction of Essaman and Ampinee, and in medical charge of Russell's regiment throughout the Ashanti war of 1873-74, including the repulse of the Ashanti army at Abrakrampa during November 5th and 6th; capture and destruction of Adubiassie; battle of Amoaful; capture and destruction of Becquah; advanced guard engagement of Jarbinbah; skirmishes and ambuscade affairs between Adwanin and the river Ordah; battle of Ordahsu and capture of Coomassie (mentioned in despatches; medal with clasp). He served in the Afghan war in 1879-80, and was present at the night attack at Zaidabad, in the engagement at Charasiab on October 6th, 1879 (horse shot), and in the operations around Cabul in December, 1879, including the defence of Sherpore (mentioned in despatches). He accompanied Sir Frederick Roberts in the march to Candahar, and was present at the battle of Candahar (mentioned in despatches; medal with three clasps, and bronze decoration).

Surgeon-Major Francis Howard, M.D., is also promoted to be Brigade-Surgeon, ranking as Lieutenant-Colonel, *vice* J. Jameson. His previous commissions also are of the same dates as Brigade-Surgeon Greenhill's. Brigade-Surgeon Howard served in medical charge of the 25th King's Own Borderers in the Afghan war in 1879-80 (medal), and in medical charge of the 18th Company Royal Engineers in the Egyptian war of 1882 (medal, and Khedive's star).

Surgeon-Major W. P. Smith is granted retired pay. He entered the service as Assistant-Surgeon, September 30th, 1863; became Surgeon, March 1st, 1873; and Surgeon-Major, April 28th, 1876. He has no war record.

Surgeon-Major James Scanlan, M.B., is also granted retired pay. His commissions bear dates: Assistant-Surgeon, October 1st, 1868; Surgeon, March 1st, 1873; and Surgeon-Major, October 1st, 1880. He was engaged in the campaign in the Transvaal in 1881.

Surgeon-Major J. L. Notter, M.D., is gazetted to be Professor of Military Hygiene at the Army Medical School at Netley, which position was vacated in April last by the death of Dr. de Chaumont.

Deputy Inspector-General J. T. W. Bacot died at Seaton, Devon, on the 10th inst. His commissions were dated: Assistant-Surgeon, May 10th, 1844; Surgeon, December 3rd, 1852; and Surgeon Major, May 10th, 1864; he retired with the honorary rank of Deputy Inspector-General, May 18th, 1870. He served with the 39th and 89th Regiments, but had no war experience.

ARMY MEDICAL RESERVE.

Acting-Surgeon E. J. Hunter, of the 3rd Volunteer Battalion, Hampshire Regiment (late the 2nd Hampshire), is appointed Surgeon (ranking as Captain).

INDIAN MEDICAL SERVICE.

Surgeon A. T. L. Patch, Madras Establishment, serving in Burmah, is appointed to the civil medical charge of the Myingyan District, *vice* H. M. Hakim, transferred.

Surgeon-Major K. McLeod, M.D., Bengal Establishment, is promoted to be Brigade-Surgeon, *vice* G. S. Sutherland, M.D., retired. Entering the service as Assistant-Surgeon March 31st, 1865, he became Surgeon-Major March 31st, 1877. He is at present Professor of Surgery in the Calcutta Medical College and *ex officio* Surgeon to the College Hospital, but he has no war record.

Deputy Surgeon-General A. Etteson, M.D., Bengal Establishment, Sanitary Commissioner, Assam, has leave of absence on medical certificate for 182 days; and Surgeon C. B. Hunter, Bengal Establishment, of the 15th Native Infantry, has leave for one year on private affairs.

Surgeon A. R. P. Russell, Bengal Establishment, who is serving in Burmah, is appointed to the civil medical charge of the Taungdwingyi District and its police, *vice* Surgeon F. C. Chatterjie.

Surgeon J. Crimmin, Bombay Establishment, also serving in Burmah, is appointed to the civil medical charge of Fort Stedman, *vice* Surgeon E. Tully, deceased.

Surgeon-Major H. M. G. Archdall, of the Madras Establishment, and in medical charge of the 4th Native Infantry, died at Madras on September 21st. He entered the service as Assistant-Surgeon, April 1st, 1868, and became Surgeon-Major April 1st, 1880. He was engaged in the war in Afghanistan in 1878-80, and had the medal granted for that campaign.

THE VOLUNTEERS.

It is announced in the *London Gazette* that the retirement of Surgeon-Major P. Y. Gowlland, given in our last week's issue, is *into* (not *out of*) the Veteran Company.

Acting-Surgeon H. S. Baumgartner, M.B., of the 1st Northumberland Artillery, is promoted to be Surgeon in the same corps.

Mr. C. H. Wade is appointed Acting-Surgeon to the 5th (the Hay Tor) Volunteer Battalion Devonshire Regiment (late the 5th Devonshire), and Mr. Allan Macfadyen, M.D., is appointed Acting-Surgeon to the 3rd Volunteer Battalion West Kent Regiment (late the 4th Kent).

MEDICO-LEGAL AND MEDICO-ETHICAL.

A Member.—We think you had better allow the payment of fees to remain in abeyance for the present, and if proceedings are commenced against you place the matter in the hands of your solicitor.

Physician.—If the agreement is silent, the matter must be arranged by the parties themselves. The appointment as deputy is to some extent an introduction. The senior partner is apparently in a position to do as much, or as little, besides as he chooses.

MEDICAL ADVICE BY CORRESPONDENCE.

Griffiths.—We cannot take the responsibility of naming a solicitor. The matter is one which any competent solicitor would be able to deal with in the ordinary course of his business. In a large town there ought to be no difficulty in finding a man for the work.

ADVERTISEMENT OF BOOKS

A. E. W. F.—If our correspondent will refer to the *Ethical Code*, he will therein find it clearly laid down that, to advertise medical works in non-medical papers, is held incompatible with the dignity of the profession. If, therefore, the manual in question is distinctly professional in contra-distinction to non-medical, it would be "unprofessional to have it advertised in the papers."

TWOPENCE HALFPENNY A WEEK.

A medical man, whose committal for non-payment of a judgment debt was asked for, testified that he carried on practice in Camden Town, and that he had so much opposition that he could scarcely get a living. The competition was so keen that some of the medical men attended patients for 2½d. a week. He earned only £1 a week, and had a sick wife to support. The judge, under the circumstances, refused to make an order.

ADVERTISEMENT OF "SURGERY."

S. M. B.—We can only say that if the surgery is conducted by a duly-qualified man, the notice is very unprofessional, but not, so far as we are aware, illegal or one that could be stopped, at least in the absence of evidence that the surgery is conducted by an unqualified practitioner.

ALLEGED ADVERTISING PAMPHLET.

X. Y. Z.—An examination of the "Alleged Advertising Pamphlet," in relation to the "Therapeutics of Bathing," etc., on which we commented in the Journal of October 6th, simply tends to confirm our opinion that, if its gratuitous circulation among the hotels, etc., was sanctioned, tacitly or otherwise, by the author, it was an injudicious and regrettable proceeding on his part.

SHOOTING NO MURDER.

A member who practises is a wide country district is driving at night, when two men are met; one seizes the horse's head, the other demands money or threatens violence. Is the member justified in shooting both men with his revolver? Would it be safe, in the eyes of the law, to shoot them dead, or cripple them?

*** Shooting in self defence, in repelling an attempt to rob, is no felony. The person attacked would be justified in either killing or wounding his assailant; but the onus would rest on him of satisfying a court of justice that the circumstances of the attack were such as to render it necessary for him to use a deadly weapon for his own protection.

A NEW PROFESSIONAL RISK.

The *New York Medical Record* reports that an action for damages has been brought against Dr. S. C. Vander Poel, of New York, by the proprietor of a hotel in Rhode Island. Dr. Vander Poel was consulted about a child, staying with her parents in the hotel, and gave it as his opinion that she was suffering from scarlet fever; the hotel proprietor called in another physician, who disagreed with this opinion; but the visitors, staying in the house, hearing of Dr. Vander Poel's opinion, immediately left. Whereupon the hotel proprietor brought a suit against Dr. Vander Poel, laying the damages at twelve thousand dollars. Dr. Poel adheres to his diagnosis, and has the support of the local Board of Health. We shall be surprised if the hotel-keeper takes much by his action, for it would be, in the public interest, most disastrous that a physician should be rendered liable for the pecuniary consequences to a hotel-keeper of an honest opinion on the nature of the illness from which a person staying in the hotel is suffering.

A PERPLEXING CASE.

A. and B. make the following joint statement of a case, and ask for an opinion: A family arrives in a new neighbourhood, their boy falls out of a high window on to a grass plot. One (B.) is telephoned for; the carriage of another (A.) is seen standing in front of a house a short distance away, and A. is requested by a neighbour, probably unknown to the mother, to attend at once to the case. He does so, finds the patient suffering from shock; administers

a stimulant, orders him to be removed to bed with a hot-water bottle in it, and departs saying that he will shortly call again. Almost immediately afterwards B. appears upon the scene, is told of the facts, and is requested by the mother to make a further examination; so he strips the boy and puts him to bed, etc. After which he asks the mother to decide which doctor is to attend the case. (B.'s reason for asking was that he was not certain as to whom the case, by etiquette, belonged.) Thinking that it was only fair to the one that had been brought a mile by telephone, she says that he had better go on with the case. Soon after B.'s departure A. calls again, as he had promised, and is told by the mother of her decision. He remarks that he was unaware that B. had been sent for, upon which she assures him that so was she, as she was out when the accident occurred, and a neighbour had done so unknown to her. Has A. any cause to complain of B.'s conduct? B.'s telephone is next door but one to the patient's house.

*** The etiquette of the above case may be fairly regarded as somewhat perplexing, in consequence of the two practitioners represented by A. and B. having been summoned to attend by other than members of the family of the patient. Inasmuch as, however, the mother of the child simply exercised her right and elected that B. should attend, he should, under the circumstances, be held blameless in the matter. At the same time we are of opinion that if, on being informed of the facts, he (B.) had withdrawn from the case, and left the patient in the charge of A., who was the first in attendance, it would have been a graceful act and one of sound policy. It may be well to add that A. is entitled to charge for the two professional visits. Our correspondents may, we think, refer with advantage to the *Code of Medical Ethics*, second edition, chapter ii, section 5, pages 73 and 74, rule 16.

RIVAL OPERATORS.

T. E. L. L. writes: A. B. calls C. D., in consultation as to nature and treatment of a tumour. C. D. recommends operation. Who should be the operator?

*** In answer to the question at issue, we may quote the following rule (13) extracted from the *Code of Medical Ethics*, chapter i, section 5, page 72, the principle of which is alike applicable to the operation alluded to by "T. E. L. L."

"When a consultation is requested by a practitioner in attendance on a difficult or dangerous case of midwifery, and operative treatment—by turning or instrumental delivery, etc., as the case may be—has been decided on, it should be carried out by the accoucheur in charge, and not by the consultant—except in the incident of an unqualified assistant being the attendant; in the latter event, the consultant should at once assume the responsibility, and take entire charge of the case. It not infrequently happens, however, that the family attendant, as an act of courtesy, requests the consultant to officiate, and, in that case, he should do so, but not otherwise; or he may thereby unintentionally cast an unjust and injurious reflection on the professional ability of a brother practitioner.

SOCIETY RATES.

J. R., seeing "B. C.'s" communication *re* "Society Rates," in the JOURNAL of September 1st, wrote to the Royal Liver Friendly Society, and received the following reply.

"Royal Liver Friendly Society, Prescot Street, Liverpool,
"September 11th, 1888.

"DEAR SIR,—With reference to yours of the 1st inst., no petition respecting a readjustment of the medical fees has yet reached us. Should one come to hand it will receive our attention in due course. With respect to the other portion of your letter, if, before undertaking visits which are likely to cause (as you allege) the expenditure of the medical fee in travelling expenses, you will communicate with us first, stating what the probable expense will be, we will write our agents with a view to the same being defrayed either by him or the collector, if there be one in the case, or the parties interrested in the assurance. "By order of the Committee of Management,
"F. H. TAUNTON, Secretary."

J. R. says, moreover, he has seen one of the inspectors, and he believes they will, if urged, raise the fee for examination.

A COUNTRY OPERATORS FEES.

OUR attention has been directed to a full report in the *Hereford Times* of September 1st, of an action in the local county court, which excited considerable interest among members of the medical profession in the counties of Brecon and Radnor. Mr. Williams, of Talgarth, a gentleman in good position, and enjoying a large practice as a surgeon, found, after the successful performance of gastrostomy for malignant disease of the gullet, that the patient, a retired timber merchant of some position, disputed a fee of £53, and tendered the much smaller sum of 16 guineas. It seems that in this case the arrangement previously made between the operator and the patient's medical attendant was unfortunately of an uncertain and provisional character, but there can be no doubt that Mr. Williams's fee, which included the charges for long and frequent journeys, was a very moderate one, and that the tender of the sum of 16 guineas was, as expressed by his lawyer, the height of ingratitude and insult. The jury returned a verdict in accordance with the summing up of the judge, who held that Mr. Williams was entitled to a substantial reward for his services in preserving the defendant's life. We congratulate Mr. Williams on the result of the case, but regret to find that in the course of the action, which he felt bound to take up in the interest of his profession, he was made the object of much abuse from a local attorney, who endeavoured to make up for the weakness of his cause by indulging in very highly flavoured language against the plaintiff and medical men in general. This abuse has naturally excited much indignation amongst Mr. Williams's medical colleagues, but the speech of the defence as reported in the *Hereford Times*, needs no comment, we think, beyond an expression of relief that such exhibitions of grotesque ignorance are happily very rare in the practice of a learned and dignified profession.

THE GIVING OF TESTIMONIALS TO DRUGS.

TESTIMONIAL writes: Having only recently commenced to practise, and having received several samples of medicinal preparations, with requests for testimonials, I desire to know whether or not it is considered professional to grant this request, when on trial you find that you can honestly recommend the articles?

*** If all young medical practitioners on commencing private practice for themselves would, when in doubt, seek for advice as does our correspondent, it would not only tend to avert many unethical and unseemly proceedings, calculated to prejudice their own interests and that of the profession at large, but of the public als , who are not infrequently misled by the testimonials so inconsiderately given by medical men, either from a desire to see their names and opinions in print or from a lack of moral determination to refuse the sought for testimonial.

As a more authoritative expression of opinion than our personal views on the question submitted by "Testimonial," we quote the following extract from the *Code of Medical Ethics*, chapter ii, section 1, page 53, rule 4: "It is also extremely reprehensible for a practitioner to attest the efficacy of patent or secret medicines, or, in any way to promote their use; only less culpable is the practice of giving written testimony in favour of articles of commerce, and tacitly or otherwise sanctioning its publication."

HOSPITAL AND DISPENSARY MANAGEMENT.

ENLARGEMENT OF CARNARVONSHIRE AND ANGLESEA INFIRMARY.

THE memory of the late Lord Penrhyn has been commemorated by the erection of a memorial wing as an extension of the Carnarvonshire and Anglesea Infirmary at Bangor. The necessary funds were raised by public subscription. A public meeting was recently held, when the wing was formally opened by the Bishop of Bangor, and a marble medallion of the late Lord Penrhyn, executed by Count Gleichen, was unveiled; an inscription below commemorates Lord Penrhyn's connection with the hospital, and the high esteem in which his character was held.

ARGYLL AND BUTE DISTRICT LUNACY BOARD.

AT the meeting of this Board at Lochgilphead on October 12th, the twenty-fifth annual report was read. The number of patients under treatment on May 15th last was 405. The income to that date was £15,026, and the expenditure £14,837. The weekly charge to parishes has been 7s. 8d. for each patient for the year 1887-88, and continues the same for 1888-89. Dr. Cameron's annual report shows that for the year to December 31st last 446 patients were under his care and treatment, namely, 226 men and 220 women. The discharges, 35 in number, were in the proportion of 51.4 per cent. to the admissions, 68. The percentage of recoveries to the admissions was 33.6 There were 17 deaths, namely, 9 men and 8 women, being in the proportion of 4.3 to the average number resident. This rate is the lowest that has been recorded for the last twenty years. The average age at death was 58 years. Dr. Cameron further states that the number of suicidal patients, both male and female, has markedly increased during the last two years.

NATIONAL PENSION FUND FOR NURSES.

THE following resolution was unanimously passed at the ordinary meeting of the Committee of the Nottingham and Notts Nursing Association on October 1st, 1888:

The Committee of the Nottingham and Notts Nursing Association, as an expression of appreciation of the benefits likely to accrue to nurses from the success of the National Pension Fund, are willing to become annual subscribers of two guineas to the Bonus Fund of that Association, and undertake to bring its advantages before the notice of the nurses in their employment.

At a subsequent meeting of this Association, this resolution having been received from Dr. Handford, and entered upon the minutes, it was moved by Mr. W. H. Burns, (Chairman) and seconded by Mr. Henry Burdett (Deputy Chairman), and unanimously resolved:

That this Council cordially appreciates the spontaneous expression of sympathy and support on behalf of so important and representative an institution as the Nottingham and Notts Nursing Association. They feel that the co-operation of the managers of all the nursing associations throughout the country, as well as that of the committees of the various hospitals and asylums, cannot fail to be of great assistance to the National Pension Fund; and they trust that the example of Nottingham will be generally followed in the near future. The Council further tender their cordial thanks to Dr. Handford and his colleagues at Nottingham for the help they have already rendered, especially as such voluntary assistance must materially diminish the working expenses, and so increase the bonuses which nurses who join the fund will become entitled to.

UNIVERSITY INTELLIGENCE.

CAMBRIDGE.

DR. W. H. GASKELL, F.R.S., University Lecturer in Advanced Physiology, has been elected a member of the General Board of Studies, in place of Dr. Vines, now Sherardian Professor of Botany in Oxford.

A MEDICAL FELLOW.—Mr. William Stanley Melsome, B.A. (First Class Natural Sciences Tripos, 1886-87), student of medicine, and Assistant Demonstrator of Anatomy, has been elected to a Fellowship at Queens' College.

CHEMICAL LABORATORY.—The new Chemical Laboratory is fully occupied for the first time this term; and the old laboratory is in process of transformation for the purposes of the pathological department, under Professor Roy.

THE MEDICAL COURSES.—All the courses in medicine and natural science have now commenced, and there appears to be a larger number than usual of students attending them. The number of freshmen who have commenced residence at the several colleges is somewhat smaller than last year; but there seems to be little or no diminution in the number of medical students. We hope to have the actual numbers next week.

OBITUARY.

GEORGE HARRY BARFOOT, M.D.Lond., Birkenhead.

WE regret to record the death, at the early age of 37, of Dr. G. H. Barfoot, of Birkenhead. Dr. Barfoot was a native of Leicester, and was the eldest son of Mr. William Barfoot, at one time Mayor of that town. He took the degree of M.B.Lond. and the Membership of the Royal College of Surgeons of England in 1872, and became M.D. of his University in 1874. On the completion of his studies he spent a year in China, chiefly for the benefit of his health. On his return home he was appointed a house-surgeon at University College Hospital, and afterwards held a similar appointment in the Leeds General Infirmary, and, on resigning the latter, acted as assistant to a general practitioner in Shrewsbury.

About ten years ago Dr. Barfoot settled in Birkenhead, and entered into partnership with Dr. Walker, of Hamilton Square, and maintained the connection until shortly before his death. He became one of the most respected and popular medical men in the borough, and was highly successful in practice. He was one of the acting medical officers of the Wirral Children's Hospital, and took a lively interest in the welfare of that institution.

Naturally of a somewhat delicate constitution, the exigencies of hard professional work seem to have enfeebled him, and some time ago he consulted Dr. Glynn, of Liverpool, who found him to be suffering from pernicious anæmia. Acting on Dr. Glynn's advice, Dr. Barfoot took a prolonged holiday of three months, but returned without having received any benefit from the rest. Recently he was seized with symptoms pointing to cerebral thrombosis, and he died on October 9th, at his residence, Devonshire Road, Claughton. He leaves a widow and one child.

ROBERT DAVIS, M.R.C.S.Eng.

THE death is announced, at the age of 64, of Mr. Davis, of Wreckenton, Gateshead. He was surgeon to the Gateshead Dispensary; medical officer to the Southern District of the Gateshead Union. He was at one time surgeon to the Gateshead volunteers, and was formerly Deputy Coroner for North Durham. During the cholera epidemic of 1849 he rendered valuable service, and was himself twice attacked by the malady.

GLASGOW TRADES HOUSE.—At a meeting of the Trades House of Glasgow held on October 11th the following representatives were elected: Governor of Anderson's College Medical School, Mr. Alexander Waddel; Managers of Royal Infirmary, Mr. Tullis and Mr. John Glen; Directors of Western Infirmary, Messrs. A. M. Bayne and Angus Mitchell; Director of the Victoria Infirmary, Mr. William C. Coghill; Managers of Lunatic Asylum, Messrs. David Kinghorn and Adam Turnbull; Directors of Asylum for Blind, Mr. Tullis and Mr. W. R. Hunter; Director of Maternity Hospital, Mr. J. G. Munro; Manager of Lock Hospital, Mr. George Ogilvie; Director of Convalescent Home, Mr. John Phillips; Director of Home for Relief of Incurables, Mr. Tullis.

PUBLIC HEALTH AND POOR LAW MEDICAL SERVICES.

PREVALENCE OF FEVER IN FERMOY, CO. CORK.

DR. CLEMENTS, Local Government Board Inspector, has recently forwarded a report in reference to the sanitary condition of Fermoy Dispensary District, in which he states that the Fermoy Union Sanitary Authority do not appear to give the necessary attention to sanitary matters in that portion of the district which lies within the urban boundary. He observes that the nuisances existing at the rear of the premises in that part of the town where fever recently prevailed are still unabated, and adds that the connections with the main drains are bad, and the sewers obstructed in parts of the town. Fever, it seems, has prevailed almost continuously since June, principally of a typhus character, in others undefined. There have been about forty cases, with a mortality of five; and, although there have not been any fresh cases since September 24th, yet Dr. Dilworth, the medical officer, has shown febrile symptoms which possibly are of the same character. There are also twelve typhus cases at present under treatment in the workhouse hospital. The Local Government Board have forwarded Dr. Clements's report to the Fermoy guardians, and have requested that a special meeting of the sanitary authority may be at once convened to consider the matters referred to by their inspector.

HEALTH OF GREENOCK.

DR. WALLACE, medical officer, reports that for the four weeks ending September 29th, the deaths amounted to 78, equal to an annual death-rate of 13.1 per 1,000, as against 20.1 for the same period last year. There were 11 deaths from zymotic diseases and 110 cases reported; of these, there were 2 of chicken-pox, 9 of typhus, 7 of enteric fever, 1 undefined, 40 of scarlet fever, 37 of measles, 9 of whooping-cough, 1 of diphtheria, 1 of croup, 6 of diarrhœa, and 1 of puerperal disease. The cases of typhus came from Port Glasgow. The cases of measles spread from an unnotified case in a family, the other members of which had been allowed to attend school.

HEALTH OF GLASGOW.

THE Glasgow death-rate has increased from 19 per 1,000 three weeks ago to 22 last week, an increase due to scarlet fever throughout the city, which, however, is not nearly so prevalent as it was at the same season in the two previous years. The Chief Constable's report for September shows an increase of 260 in the number of persons apprehended during the month, as against the same period of the previous year, the increase being mainly made up of cases of drunkenness. It was indicated by the Lord Provost that this was one of the signs and accompaniments of improvement of trade (!)

AN UNHEALTHY WATER SUPPLY.

THE town of Darvel, in Ayrshire, is supplied with water from fifteen wells. The water has recently been submitted to chemical examination, with the result that thirteen have been condemned. The water from one was described as the most polluted water the analyst had ever examined, being a mixture of 1 part of sewage and $2\frac{1}{2}$ pure water. Four of the wells contained water varying between 1 of sewage to 7 of water and 1 to 8. The mixture in another was equal to 1 of sewage to 6 water, another 1 to $10\frac{1}{2}$, another 1 to 13, another 1 to $17\frac{1}{2}$. Three others gave results varying between 1 to 21 and 1 to 72. No wonder such a revelation has produced a commotion in the town.

HEALTH OF ENGLISH TOWNS.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 5,816 births and 3,777 deaths were registered during the week ending Saturday, October 13th. The annual rate of mortality, which had been 18.3 and 18.2 per 1,000 in the two preceding weeks, rose to 21.0 during the week under notice. The rates in the several towns ranged from 11.9 in Derby, 16.8 in Bristol, 17.2 in Birmingham, and 17.8 in Brighton to 27.3 in Preston, 28.0 in Bolton, 28.5 in Huddersfield, and 35.7 in Manchester. In the twenty-seven provincial towns, the mean death-rate was 22.9 per 1,000, and exceeded by as much as 4.2 the

rate recorded in London, which was only 18.7 per 1,000. The 3,777 deaths registered during the week under notice in the twenty-eight towns included 184 which were referred to diarrhœa, 76 to measles, 62 to whooping-cough, 53 to scarlet fever, 45 to diphtheria, 38 to "fever" (principally enteric), and one to small-pox; in all, 461 deaths resulted from these principal zymotic diseases, against 569 and 505 in the two preceding weeks. These 461 deaths were equal to an annual rate of 2.6 per 1,000; in London the zymotic death-rate was 2.2, while it averaged 2.9 per 1,000 in the twenty-seven provincial towns, and ranged from 0.0 in Plymouth and 0.5 in Birkenhead to 4.6 in Salford and in Huddersfield, 4.9 in Portsmouth, and 5.3 in Blackburn. Measles caused the highest proportional fatality in Huddersfield; scarlet fever in Blackburn; whooping-cough in Derby, Manchester, Cardiff, and Huddersfield; "fever" in Salford; and diarrhœa in Norwich, Wolverhampton, Portsmouth, and Preston. Of the 45 deaths from diphtheria recorded during the week under notice in the twenty-eight towns, 26 occurred in London, 5 in Manchester, and 3 in Newcastle-upon-Tyne. The only fatal case of small-pox in the twenty-eight towns occurred in Hull. No small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals on Saturday, October 13th. These hospitals contained 945 scarlet-fever patients on the same date, against numbers increasing from 716 to 886 in the seven preceding weeks; 110 cases were admitted during the week, against 127 and 85 in the two previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 3.8 per 1,000, and slightly exceeded the average.

HEALTH OF SCOTCH TOWNS.—During the week ending Saturday, October 13th, 859 births and 516 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had been 17.6 and 17.0 in the two preceding weeks, rose again to 20.4 during the week under notice, but was 0.6 per 1,000 below the mean rate during the same period in the twenty-eight large English towns. Among the Scotch towns, the lowest rates were recorded in Greenock and Perth, and the highest in Glasgow and Paisley. The 516 deaths in these towns during the week included 60 which were referred to the principal zymotic diseases, equal to an annual rate of 2.4 per 1,000, which was 0.2 per 1,000 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Glasgow and Paisley. The 220 deaths registered in Glasgow during the week included 9 from whooping-cough, 6 from diphtheria, 5 from diarrhœa, 3 from scarlet fever, 2 from "fever," and 1 from measles. Twelve fatal cases of measles occurred in Paisley. The death-rate from diseases of the respiratory organs in these towns was equal to 4.0 per 1,000, against 3.8 in London.

HEALTH OF IRISH TOWNS.—In the sixteen principal town districts of Ireland, the deaths registered during the week ending Saturday, October 13th, were equal to an annual rate of 20.0 per 1,000. The lowest rates were recorded in Lurgan and Kilkenny, and the highest in Wexford and Armagh. The death-rate from the principal zymotic diseases averaged 3.1 per 1,000. The 160 deaths registered in Dublin during the week under notice were equal to an annual rate of 23.6 per 1,000, against 24.4 and 23.3 in the two preceding weeks. These 160 deaths included 25 which resulted from the principal zymotic diseases (equal to an annual rate of 3.7 per 1,000), of which 13 were referred to diarrhœa, 7 to whooping-cough, 3 to "fever," and 2 to scarlet fever.

SPREAD OF SCARLET FEVER.

A HAIRDRESSER named Llowarch has been sentenced by the Wolverhampton magistrates to one month's imprisonment for permitting his daughter when suffering from scarlet fever to associate with other children. Defendant had refused to allow the child to be taken to the Borough Hospital.

MEDICAL OFFICERS OF HEALTH AND THE COUNTY GOVERNMENT ACT.

M.D. DUBLIN writes: It is distinctly laid down in the Local Government Act, that hereafter the medical officer of health must be legally qualified in medicine, surgery, and midwifery, unless the Local Government Board specially allow otherwise; in fact, have a triple qualification.

In a reply to a query on the subject, in the JOURNAL of September 15th, page 644, you say it seems sufficient, as under the old Public Health Act, to be "a legally qualified medical practitioner," that the Medical Act of 1886 defines the qualifications necessary to entitle a man to be on the *Register*, and any man having these qualifications, and being on the *Register* accordingly may be elected medical officer of health.

Men are on the *Register* now with only one qualification, being registered previously to 1886, do you hold that such are eligible for medical officer of health? And, to repeat a portion of the query, "what are the various qualifications in midwifery" that may be obtained to make a man with an ordinary medical and surgical degree eligible for medical officer of health?

*** It is impossible to discuss this question fully within the limits of an answer. The Medical Act, 1886, by section 6, provides that after the appointed day (that is after June 1st, 1887) "a registered medical practitioner shall be entitled to practise medicine, surgery, and midwifery." Section 24 declares that a "person who on the day preceding the appointed day is a registered medical practitioner shall be entitled on and after that day to practise, in pursuance of the qualification possessed by him before that day, in medicine, surgery, and midwifery, or any of them, or any branch of medicine or surgery, according as he was entitled to practise the same before the said appointed day." The Medical Act, 1858, by section 31, enabled registered practitioners to practise medicine or surgery, or medicine and surgery, according to their qualifications; but the Act of 1886 seems to require the triple qualifications for all fresh registration. As the Public Health Act in 1875 took the then recognised standard of qualification for a medical officer of health, so the Act of this year has adopted the standard which is now required. A practitioner, who is on the *Register* only in respect of an old qualification which would not entitle him to be registered now for the first time would not apparently be entitled now to be appointed medical officer of health by a county or district council, unless the Local Government Board see fit for special reasons to sanction his appointment. These reasons would probably be some special practical acquaintance with the duties which a medical officer of health has to discharge.

W. W. H. writes: Next April the new County Government Act comes into force. Under the provisions of that Act many medical officers of health who do not possess certificates in sanitary science or public health will lose their appointments. It is generally considered a simple act of justice that Acts of Parliament in this country should not have retrospective action. It is evident, however, that this particular Act is to be an exception to this just and fair rule, and that in consequence many medical men who have by constant practice and study made themselves competent to act under the Public Health Act, and have probably given up lucrative practices, are to be driven from their appointments, and treated by an act of their country's Legislature in an unjust and arbitrary manner. As no redress is to be got from Parliament, and in order to counteract this monstrous act of injustice, would it not be a gracious act on the part of the Colleges from which each medical officer of health obtained his diploma to present all holding office at the date of the passing of the obnoxious Act with the necessary "certificate?" Many of these men have arrived at ages when to pass an examination is not only a serious matter, but an ordeal both undignified and derogatory.

MODE OF PAYMENT.

R. T. writes: At present the relations between myself and the clerk to the board of guardians are rather strained. He declines to forward my quarterly cheques, and has given orders that they are to be left at the union until I call for them. The master of the workhouse is anxious to bring them, but the clerk has forbidden him to do so. I may state all my accounts have to be sent in to the chairman. In point of fact, the clerk is the board. May I ask if he is bound to send the cheques as he does to the others, or if I am bound to call at the workhouse, as he tells me?

*** In answer to our correspondent's query, unless the guardians have given instructions to their clerk not to pay the salaries by letter, the Clerk is bound to send the cheques for same within fourteen days. We should advise our correspondent to ascertain from the chairman of the board whether such order has been given; if not, we should advise our correspondent to send a stamped receipt by his agent, when we think the clerk would be bound to pay him.

NEW BOUNDARIES AND OLD SALARIES.

C.M. was appointed to his union district some sixteen or seventeen years ago, *ad vitam aut culpam*, at a certain salary. C.M. resides, of course, in his "district," and always has done so. Two of the parishes of his "district," which are in a different county to the rest of the union, will be transferred to another union on January 1st, 1889. Is C. M. entitled to his former salary, notwithstanding the loss of the two parishes? Can the guardians break the old contract on the plea of the boundary of the "district" having been altered, and the work consequently lessened?

*** In answer to "C.M.", we fear, under the circumstances, that the guardians will have power to interfere with the contract. If the reduction of salary does take place, "C.M." should make claim for compensation for loss of same.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

KENDAL (Population, 13,800).—*Usefulness of Hospital Demonstrated.*—Mr. C. E. Paget reckons the death-rate from all causes for the year 1887 as equal to 18.8 per 1,000 of population, a rate slightly lower than the mean for the last quinquennial period 1881-85. The total mortality from zymotic diseases was 11, giving a death-rate of 0.8 per 1,000. This is a favourable rate, and all the more satisfactory when taken into account with the circumstances of sickness prevalent during the year. There was an almost continuous isolation of one or more cases of scarlet fever in the borough sanatorium, and yet there is an entire absence of

deaths from this disease in the mortality table. Considerable care was taken in investigating the outbreaks of enteric fever and diphtheria, but there was no evidence of grave insanitary conditions. One case of small-pox was recorded, but fortunately the disease did not spread.

NORTHAMPTON (Population, 59,949).—*Severe Prevalence of Scarlet Fever: Carelessness as to the Spread of Infection.*—Although Dr. Lee F. Cogan has to report a death-rate for 1887 almost identical with that of the previous year, 17.0 per 1,000, there was an unusual amount of infectious sickness prevalent in the borough. The deaths ascribed to each disease of the zymotic class, excepting diphtheria, exceeded the number recorded in 1886, scarlet fever taking the lead. The mortality from this disease was larger than in any year since 1876, and, though no portion of the year was really free from the disease, October, November, and December were the months of exceptional prevalence. The chief characteristic was the mildness of the fever; but, as regards the distribution, the outbreak was one of the most severe from which the town has suffered for some years. Households, both of the well-to-do and the poor, suffered alike, but its fatal effects were manifested almost entirely amongst the children of the working classes. Dr. Cogan gives an instance of flagrant indiscretion which might lead to the spread of the infection. In the living room of a house he discovered a child suffering from typical scarlet fever lying on a couch surrounded by numerous bundles of linen, which had been brought to the house to be mangled, and had been prepared for return to their respective owners, who, of course, would be wholly unconscious of the dangerous condition of their goods, saturated as they must have have been with scarlatina infection. Such cases as the above will aid the solution of the mystery so often enveloping the origin of outbreaks of scarlet fever.

SPILSBY RURAL (Population, 25,816).—Taking it as a whole, the year 1887 was generally favourable to this district. Mr. F. Walker reports that the general death-rate remained the same as that of the previous year, but at a figure (14.8 per 1,000) much below that of England and Wales generally. The zymotic death-rate stood so low as to represent but one death in every 2,000 of population. Small-pox was once introduced into the district, but the precautions taken were sufficient to prevent the spread of the disease. Measles was the most prevalent of zymotic diseases, so that schools had to be closed in many villages. Scarlet fever also showed itself, but at no time did it assume active epidemic form. Only two outbreaks of diphtheria occurred and three of enteric fever, and these, with one exception, were confined to single cases. Some important sanitary improvements were effected during the year.

IPSWICH (Population, 55,645).—*Severe Epidemic of Measles: Reduced Death-rate in Town.*—Mr. George S. Elliston reports that a high standard of health was maintained in Ipswich during 1887, and that this was in a great measure due to the generally favourable weather. From January 1st to the middle of November, a very low death-rate prevailed, but during the last seven weeks of the year a severe epidemic of measles suddenly burst over the town, and caused a great increase in the number of deaths. In spite of this epidemic, however, the death-rate for the whole year, 17.3 per 1,000, was the lowest on record. Only one death was returned from scarlatina during 1887, making the only fatal case from this disease during a period of nearly three years. This is certainly a remarkable occurrence in so large a population, and well worth recording. At the close of the year the disease might almost be said to have died out in Ipswich. There was a marked reduction in the deaths from diarrhœa, but diphtheria showed an increase. Comparing the average death-rate of the past seven years, 1881-87, with that of the preceding ten, Mr. Elliston shows that a real saving in life has been effected, and a reduction of no less than 3.6 per 1,000 in the death-rate secured. Had the death-rate of these seven years been at the same average as that of 1871-80, 185 more persons would have died in each year, and there would have been a proportionately greater number of cases of sickness.

TOXTETH PARK (Population, 21,780).—*Scarlet Fever and Cow Disease: Diphtheria and Scarlet Fever occurring simultaneously.*—In his annual report for 1887, Dr. G. W. Steeves describes an outbreak of scarlatina, which he thinks may have had its origin in the milk-supply. The cases referred to were in houses for the most part widely separated, and in different portions of the district; the first symptoms in each became apparent during the period between April 5th and 16th, both of which facts lend weight to the presumption of a common centre of infection. Unfortunately it was not till the middle of May that attention was drawn to a certain dairy, and inquiries then elicited the fact that one of the cows had calved "about April 1st." The cow in question was carefully examined, but no traces of ulceration or scabs could be detected on the teats or udder. No infectious disease had existed on the premises, nor, as far as could be ascertained, had anyone dealing with cows or milk come in contact with any infectious disease. In the majority of houses attacked several members suffered at the same time, and these were mostly children. Dr. Steeves also reports a significant fact in connection with diphtheria, that the cases generally appear in the same localities and about the same time as scarlet fever. In two notable instances diphtheria attacked children who had only a very short time before recovered from scarlet fever in the same houses. The death-rate from zymotic diseases was 1.85 per 1,000, whilst the general death-rate was 12.5 per 1,000.

HEXHAM RURAL (Population 29,000).—*Deleterious Influence of Imported "Town Manure;" High Infant Mortality; "Soothing Syrups" Condemned.*—Among the many important and interesting matters treated of in Dr. McGrigor Maclagan's report for 1887, one in particular calls for notice, that is, the influence exerted by the importation of the Newcastle town manure into the district, a subject which has occupied the attention of the health officer for some years. As a result of his investigations and evidence obtained from other sources, he thinks there can be little doubt as to its deleterious effects upon the public health. It is contended that if the too close proximity to privies be a frequent cause of throat affections, etc., the presence of manure, containing as it frequently does an admixture of animal and vegetable matter in an advanced state of putrefaction, must, apart from its intolerable nuisance, be prejudicial. Cases of enteric fever were obviously connected with the carting of this manure, as also some diphtheritic sore throats. Measles was the only zymotic disease which assumed epidemic form, and the mortality from these diseases was comparatively small, the death-rate being only 0.6 per 1,000. In remarking upon the continued high mortality among infants, Dr. Maclagan strongly condemns the use of "soothing syrups," etc., and adverts to the careless exposure of children in perambulators, which he considers is a great factor in the production of infantile inflammatory diseases, both cerebral and pulmonary. The general death-rate was 16.1 per 1,000, the proportion of infant deaths being 2.1.

LINCOLN RURAL.—During the twelve months ended December 31st, 1887, 746 deaths were registered in this district. Of these, twenty-seven were from zymotic diseases, though apparently Dr. Harrison did not experience much difficulty on account of the increase of infectious diseases of this class. No case of small-pox was reported, and he had no knowledge of any case being under treatment in the district during the year. Scarlet fever in October was introduced in the village of Metheringham from London, and some cases occurred in Hykeham, but there was no death; the necessary precautions were taken, and the disease did not spread. Measles caused one death in the South district; it was introduced from Gainsborough district into the village of Ingham (North district) in November. Many children were attacked, the attendance in school being reduced to about sixty (the average attendance being ninety-five). The school was closed, and not reopened until January, 1888. The cases were generally of a mild type, and no death ensued. The death-rate amounted to 18.7 per 1,000.

WAVERTREE (Population 14,300).—*Epidemics of Measles and Diphtheria: High Mortality from Pneumonia and Bronchitis.*—There were registered in this district 272 deaths from all causes during 1887, as compared with 208 in 1886. Dr. H. Harvey shows in his report that the increased mortality was referable to three causes: 1, to measles, a severe and wide spread epidemic of which prevailed and proved fatal in no fewer than 26 cases; 2, to the increase in the number of deaths from bronchitis and pneumonia, the number under this head being 40, as compared with 23 in the preceding year; 3, to the increased number of deaths under the

head of debility from birth, these being 16, as compared with 8 in 1886. Dr. Harvey confesses that he is unable to account satisfactorily for the markedly increased mortality from bronchitis and pneumonia. He regards the increase of deaths under the head of debility from birth as a probable indication that the long-continued scarcity of work, with its attendant poverty, is telling more and more on the offspring of the poorer classes. After measles, diphtheria was the most fatal of the zymotic diseases. The cases were of a severe type, and the percentage of deaths consequently high. The general death-rate was 19 per 1,000.

INDIA AND THE COLONIES.

INDIA.

CHOLERA AT MURREE.—The outbreak of cholera this summer is a serious matter, which ought to engage the anxious attention of the sanitary authorities in India. Murree is supposed to be a sanitarium, yet cholera has prevailed there for three or four months, and the natives have been permitted to act with almost incredible recklessness; sources of water-supply have been contaminated by the washing of clothes, and the bodies of natives dead of cholera have been buried only a foot or two below the surface, so that the effluvia is described as horrible. The continued prevalence of cholera in the coast towns of India to so terrible an extent is a standing opprobrium to our rule and a serious hindrance to commerce. It may be hopeless to expect to see it extirpated, but it is possible to very materially reduce its present fearful frequency.

THE Maharani of Bulrampur has sent the Commissioner of Lucknow a subscription of 2,500 rupees towards the building fund of the Women's Hospital to be erected in Lucknow opposite the Bulrampur Hospital in connection with the Lady Lyall Medical School.

ABSTINENCE IN THE INDIAN ARMY.—Medical officers who have had experience with the army in India have spoken much of the harm resulting from intemperance among the soldiers. A great improvement has occurred of late years with regard to drinking, and further progress will be made by the help of the soldiers themselves. The well-being and personal comfort of the men in India is a matter of personal interest to the Commander-in-Chief, who takes much interest in the institutes or coffee clubs of the men. The regimental canteen is disappearing before the regimental coffee shop, where the man can spend his spare time, and where he can find such amusements, comforts, and congenial companions as are at hand. The various Indian temperance societies have wisely amalgamated, and now admit to "full membership" upon the lines of total abstinence, with a three months' probationary period before admission. It has, however, been agreed to include a grade of "honorary membership"—of temperance, as distinguished from total abstinence; this is a great advance in practical wisdom, and now the Society includes Sir Frederick Roberts as one of its supporters and active members, and the Government have sanctioned the establishment of an institute for every British regiment, with its coffee shop. Thus temperance has received official recognition, and the institute is to be "regimental," and exist on equal terms and fair competition with the canteen. According to the report recently issued, last year there were held 1,146 courts-martial in Bengal, and "392 of them were distinctly traceable to drunkeness." In the Madras Presidency, 96 out of 370 courts-martial were traceable to the same cause. The percentage of cases wherein temperance men were court-martialed was insignificant. Official statistics also prove the comparatively great immunity of temperance men from sickness and disease.

MEDICAL NEWS.

EXAMINING BOARD IN ENGLAND, BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the second examination in Anatomy and Physiology at a meeting of the Board of Examiners on October 11th, namely:—

G. L. Bell, student of Melbourne University; and F. S. Dávar, of Grant Medical College and Mr. Cooke's School of Anatomy and Physiology.

Passed in Anatomy only.

C. K. Crowther, of St. Bartholomew's Hospital; H. P. Job, of University College; R. James, S. A. Ord-Mackenzie, of University College and Mr. Cooke's School; J. Wells, E. S. Sanderson, H. Corby and H. W. West, of London Hospital; T. H. English, P. Q. Ambrose, and L. Wainwright, of London and Mr. Cooke's School; H. G. Biddle, G. Sichel, and G. W. B. Featherstone, of Guy's Hospital; L. D. Heather, of King's College; R. R. Hatherell, S. F. Wright, and P. W. Campbell, of St. Thomas's Hospital.

Passed in Physiology only.

H. H. Brind and A. A. Fennings, of St. Mary's Hospital; E. K. Goodwin, L. J. Minter, and G. F. Read, of King's College; R. Henry and E. C. Walter, of St. Thomas's Hospital; E. Cornish, E. H. Greaves, E. W. Sharman, and W. E. Sturges-Jones, of Guy's Hospital; A. H. Beardmore, of Sheffield Medical School; F. T. Morris, of University College; H. Sisson, of London Hospital; E. D. Madge, of Middlesex Hospital; J. Abrines, J. B. Anderson, J. Cooper, W. F. Cotton, E. A. R. Covey, and F. E. Withers, of St. Bartholomew's Hospital; W. Wright, of St. Bartholomew's Hospital and Mr. Cooke's School.

Passed in Physiology only on October 12th.

G. Kendrick, of Queen's College, Birmingham; W. R. Ashworth, T. C. Hughes, of Westminster Hospital; C. B. Braithwaite, of Guy's Hospital; T. H. Adams and R. C. Middlemist, of London Hospital; F. Turner, of University College; H. B. Williams, of St. Thomas's Hospital; W. K. Brewer and P. A. Longhurst, of Charing Cross Hospital.

SOCIETY OF APOTHECARIES OF LONDON.—Examination in Arts Pass-list, September, 1888. The following have passed in all the subjects required for registration:

First Class.—T. Sandells, A. R. Milton. *Second Class.*—W. W. Ashfield, J. H. Bettington, J. J. Blagden, T. L. Braidwood, H. S. Desprez, F. J. Fennings, R. B. Gillard, A. F. Goldsmith, E. P. Hewitt, T. V. Hodgson, L. W. Light, V. Low, J. J. L. Macfarlane, A. Mercer, H. M. O'Byrne, G. Parnell, W. A. Pinniger, R. A. Pitter, G. S. Pownall, H. N. Robson, E. J. Rowbotham, O. W. St. Cedd, W. C. P. Smith, M. F. Staniland, F. Swindells, H. B. Thurston, H. Whichello, C. S. Wilkinson.

The following have passed in the subjects specified by the numbers and letters placed opposite their names:

1 The English language. 2 The Latin language. 3 Arithmetic and Algebra. 4 Geometry. 5 Elementary Mechanics. Optional subjects: *a* Greek, *b* French, *c* German, *d* Logic, *e* Botany, *f* Elementary Chemistry.

L. L. Allen, 2, 3, 4, 5; H. F. W. Armstrong, 2; G. L. Bates, 2, 5; G. M. Bennett, 5; G. S. Berryman, 2; E. H. Betts, 5; W. Bradshaw, 5; M. Breton, 3, 4, 5; E. Brown, 5, *b*; L. L. Burton, 3; J. Butterworth, 2, 4; C. L. Chevallier, 1, 3, 4, 5; G. A. Child, 5, *f*; W. H. Chute, 3, 4; H. E. Cock, 1, 2; W. S. H. Coghlan, 1, 3, 4, 5, *b*; A. D. Cowburn, 2; H. G. Danolds, 5; G. L. Davidson, 5; R. N. Davis, 5; M. W. Day, *a*; E. N. Dodd, 1, 2, 3, 4; J. W. Eales, 4; H. D. Eccles, 5; C. P. T. Edwards, 5; A. P. Eldred, 4, 5, *f*; O. T. Elliott, *f*; H. S. Elworthy, 3, 4; A. E. Farndon, 4, 5; S. A. Francisco, 5; E. G. Frederick, 1, 5; C. D. Garrett, 3, 4, 5; S. Gill, *f*; C. R. Girardot, 2, 5; S. H. Grossmith, *b*; J. M. K. Grover, 4, 5; W. Grummitt, 5; J. W. Haigh, 4, 5; J. G. Halford, 2, 3; W. R. Hanbury, 2, 3, 4, 5; F. G. Haywood, 2; P. F. Heury, 1; G. M. Hetherington, 5; T. G. S. Hodson, 5; A. H. Hollingsworth, 4; A. H. Hosford, *b*; J. F. H. Iles, 1, 2, 3, 4, 5; H. W. Johnson, 5; W. H. Johnson, 5, *b*; J. E. Jones, 3, 4; J. I. Jones, 5; E. W. Joscelyne, 5; E. T. Lanyon, 5, *f*; T. H. Lawrie, 5; A. T. Morgan, 5; M. C. Murdoch, 2, 3, 4, 5; H. W. Newton, 5; A. J. Ortlepp, 5; O. Pardo, 1, 3, 4, 5; T. H. Parker, 4; C. C. Parsons, 5; H. M. Pentreath, 2, 3, 4, *a*; J. Plomley, 4; A. R. Rendle, 2, 3, 4, 5; F. T. Rickards, 3; R. P. Ridsdale, 3, 4, 5, *a*; M. R. Roberts, 3, 4; F. C. Robinson, 5; W. S. Scott, *b*; G. M. Seagrove, 5; E. Shepherd, 1; R. Sim, 5, *b*; A. A. S. Sparling, 5; R. D. Stacy, 5; W. B. Stevenson, 3, 4, 5; E. R. Thomas, 3, *b*; A. J. Tindall, 3, 5; C. H. St. M. W. Toke, 5; A. E. Tonks, *a*; E. C. L. Towne, 5; A. C. Underwood, 3, 4, 5; R. J. S. Verity, 3, 4, 5; A. M. Waite, 5; R. Waring, 4; A. Wells, 4; E. White, 4, 5; W. A. D. Whiteman, 1, 3, 4, 5, *b*; H. W. Whitley, *b*; A. E. Worfolk, 3, 4; H. J. M. Wyllys, 4; W. Wyllys, 5, *b*.

The following gentlemen having satisfied the Court of Examiners as to their knowledge of the Science and Practice of Medicine, Surgery, and Midwifery, received Certificates entitling them to practise as Licentiates of the Society, in September, 1888.

Foster, John Edward, Birmingham, Queen's College.
Alcock, Richard, Owens College, Manchester.
Slyman, William Betenson, St. Bartholomew's Hospital.
Beale, Peyton Todd Bowman, King's College.
Westwood, John, Birmingham, Queen's College.
Winn, Thomas Cromwell, The London Hospital.
Moles, Frederick Parker, Owens College, Manchester.

The following passed in Surgery.

J. D. Morton, St. Mary's Hospital; E. J. Neville, King's College.

The following passed in Medicine, Forensic Medicine and Midwifery.

H. H. Ellis, St. Thomas's Hospital; S. Fielder, Glasgow University and St. Thomas's Hospital.

The following passed in Medicine and Forensic Medicine.

W. Hurst, Owens College, Manchester.

The following passed in Medicine and Midwifery.

F. Hues, Birmingham, Queen's College.

MEDICAL VACANCIES.

The following Vacancies are announced:

BOOTLE BOROUGH HOSPITAL.—House-Surgeon. Salary, £80 per annum with board and residence. Applications by October 31st to the Honorary Secretary.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Pathologist. Applications by October 30th to the Secretary.

CHELTENHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £40 per annum, with board and apartments. Applications by October 20th to Lieutenant-Colonel Croker-King, Honorary Secretary.

DENTAL HOSPITAL OF LONDON AND SCHOOL OF DENTAL SURGERY, Leicester Square.—Lecturer on Mechanical Dentistry. Applications by November 12th to the Dean.

ENNIS DISTRICT LUNATIC ASYLUM.—Visiting Physician. Salary, £100 per annum. Candidates, who must be doubly qualified, should forward their applications to the Board of Governors.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Physician to Out-Patients. Applications by October 27th to the Secretary.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Surgeon to Out-Patients. Applications by October 27th to the Secretary.

KILBURN, MAIDA VALE, AND ST. JOHN'S WOOD GENERAL DISPENSARY.—Honorary Medical Officer. Applications by October 20th to the Honorary Secretary, 13, Kilburn Park Road, N.W.

NORTH-WEST LONDON HOSPITAL, Kentish Town Road.—Senior Resident Medical Officer. Applications by October 22nd to the Secretary.

OWENS COLLEGE, Manchester.—Junior Demonstrator of Anatomy. Salary, £100 per annum. Applications by October 29th to the Registrar.

PADDINGTON GREEN CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £50 per annum, with board and lodging. Applications by October 20th to the Secretary.

RUBERY HILL ASYLUM.—Assistant Medical Officer. Salary, £100 per annum, with apartments, board, etc. Applications to Dr. Lyle, Medical Superintendent.

ST. MARYLEBONE GENERAL DISPENSARY.—Resident Medical Officer. Salary, £105 per annum, with apartments, etc. Applications by October 20th to the Secretary.

SEAMEN'S HOSPITAL SOCIETY, Greenwich.—Resident House-Physician. Salary, £75 per annum, with board and lodging. Applications by October 22nd to P. Michelli, Esq., Secretary, Greenwich, S.E.

SEAMEN'S HOSPITAL SOCIETY, Well Street, London Docks.—Surgeon for the Dispensary. Salary, £63 per annum. Applications by October 22nd to P. Michelli, Esq., Secretary, Greenwich, S.E.

SEAMEN'S HOSPITAL SOCIETY, Well Street, London Docks.—Dispenser. Salary, £40 per annum. Applications by October 22nd to P. Michelli, Esq., Secretary, Greenwich, S.E.

WILTS COUNTY ASYLUM, Devizes.—Second Assistant Medical Officer. Salary, £100 per annum, with board and residence, etc. Applications by November 5th to the Medical Superintendent.

WREXHAM INFIRMARY AND DISPENSARY.—House-Surgeon. Salary, £100 per annum, with furnished rooms, etc. Applications by October 30th to J. O. Bury, Esq., Secretary, 9, Temple Row, Wrexham.

MEDICAL APPOINTMENTS.

ALLEN, W. B. L., M.B., C.M.Glas., appointed House-Surgeon to the North Lonsdale Hospital, Barrow-in-Furness.

BOYD, A. J., B.A., M.D. T.C.D., appointed Medical Officer to the No. 3 District, Ware Union, *vice* H. May, M.D., resigned.

BROMHEAD, F. H., L.R.C.P., M.R.C.S., appointed Junior Assistant Medical Officer to the Essex Lunatic Asylum, *vice* C. C. Smith, L.K.Q.C.P.I., deceased.

BROOKS, J. Harley, M.B., C.M.Aberd., appointed Assistant Medical Officer to the Mile End Infirmary, School, and Workhouse, Bancroft Road.

BUCHANAN, John, M.D., C.M.Glas., M.R.C.S.Eng., appointed Medical Officer, No. 2 District, Ladies Charity and Lying-in Hospital, Liverpool, *vice* Dr. Fisher, resigned.

DRAKE, J. H., L.R.C.S.E., L.R.C.P.E., appointed Medical Officer to the Halberton District of the Tiverton Union, *vice* R. Bryden, M.R.C.S., resigned.

DOWDALL, S. M.R.C.S., L.R.C.P.Lond., appointed Clinical Assistant to the Marylebone Infirmary, Notting Hill.

GARDNER, J., M.R.C.S., L.S.A., appointed House-Surgeon and Secretary to the Stourbridge Dispensary, *vice* C. Daly, M.D., M.Ch., resigned.

HARRIS, Thomas, M.D., M.R.C.P.Lond., M.R.C.S.Eng., appointed Honorary Assistant-Physician to the Manchester Royal Infirmary, Dispensary, and Lunatic Asylum, *vice* James Ross, M.D., F.R.C.P., promoted.

HOUSEGOOD, S. P., M.R.C.S., L.R.C.P.Lond., appointed Junior House-Surgeon to the Royal Infirmary, Hull.

KAY, Walter Smith, M.D.Edin., M.R.C.S., appointed Medical Superintendent to the South Yorkshire Asylum, Wadsley, near Sheffield, *vice* Samuel Mitchell, M.D., resigned.

KEITH, Arthur, M.B.Aberd., appointed Assistant Medical Officer, Murray's Royal Asylum, *vice* George Findlay, M.B., resigned.

KEMPE, Arthur, M.D.Brux., M.R.C.P., appointed Medical Officer of Health to the newly constituted Exeter Port Sanitary Authority.

ROSS, J., M.D., F.R.C.P., appointed Honorary Physician to the Manchester Royal Infirmary.

SAVERY, Frank, M.R.C.S., appointed House-Surgeon to the General Infirmary, Hull, *vice* E. Harrison, M.A., M.B., F.R.C.S., resigned.

SOMERSET, E., M.R.C.S., L.R.C.P.Lond., L.S.A., appointed Assistant House-Surgeon to the Salop Infirmary, Shrewsbury.

STANIFORTH, J. W., M.R.C.S., L.R.C.P., appointed Junior Assistant House-Surgeon to the Sheffield Public Hospital and Dispensary, *vice* J. D. Wynne, M.B., B.Ch., M.R.C.S., promoted.

TATHAM, Ernest J., M.B., B.C.Cantab., M.R.C.S., appointed House-Surgeon to the Cheltenham General Hospital, *vice* F. J. G. Mason, M.R.C.S., L.S.A., resigned.

THOMSON, H. A. M.B., B.Sc., M.R.C.S., appointed Tutor in Clinical Surgery to the Edinburgh School of Medicine, *vice* J. W. B. Hodsdon, resigned.

TREVELYAN, E. F., M.D.Lond., B.Sc., M.R.C.S., appointed Resident Medical Officer and Pathologist to the Leeds General Infirmary, *vice* C. W. Turner, resigned.

EMPYEMA IN INFANCY.—Purulent pleurisy is an exceedingly serious disease in infancy, and comparatively few infants recover after incision and drainage. Special interest, therefore, attaches to a case reported by Mr. Otto Wien Smith, M.B.Edin., of Clare, South Australia, in the *Australasian Medical Gazette*. No. 79. The purulent collection occupied the right side of the chest, and there was dulness from apex to base, both behind and in front, with slight bulging of the intercostal spaces and displacement of the heart. The child was taken ill on July 31st, 1887, and on August 23rd, chloroform having been administered, Mr. Smith made an incision in the right axillary line, and excised a portion of the fifth rib, in order to admit a metallic tube a quarter of an inch in diameter; a large amount of thick, curdy pus was evacuated. No antiseptics were used. The case did remarkably well; the tube was removed on September 30th, and on October 16th the wound was quite healed; there was no distortion of the chest, and the respiratory murmur could be heard all over the right side.

A BANQUET OF DEATH.—The annual banquet given on June 26th last by the alumni of the Marietta (Ohio) College was attended with such fatal consequences that it was literally a banquet of death. Between seventy-five and a hundred students, graduates, post-graduates, and professors sat down to the festivities. Of these at least seven are dead, while some thirty others suffered more or less acutely. It is believed that either some ice-cream or some lemonade was in a poisonous state.

SOCIETY OF APOTHECARIES OF LONDON.—The results of the examination in Arts qualifying for registration as medical student, held in the Hall of the Society on September 7th and 8th, have just been published. There were 155 candidates, and from the pass-list it appears that 2 were placed in the first class, and 28 in the second class, and 91 were certified as having passed in some subjects, but not in all. The next examination will be held on December 7th and 8th.

BURIAL REFORM.—We understand that the proposed memorial of the Church of England Burial Reform to the Home Secretary is now assuming definite shape, and will be supported by the Archbishop of York and many leading sanitarians. Meetings have been held in Liverpool and York, and similar meetings are to be held in Birmingham, where a good deal of support is anticipated.

PNEUMONIA AS A SEQUELA OF GERMAN MEASLES.—Not only is rötheln a mild disease in itself, but it is seldom followed by serious sequelæ, but Dr. W. H. Greenlee, of Waynesville, Ohio, has reported in the *Archives of Pediatrics* (vol. v, No. 58) an epidemic affecting about sixty persons, in which severe catarrhal pneumonia ensued in thirty cases after a period varying from five to sixteen days.

MRS. CAROLINE E. HUDSON, of Oxford, has forwarded £1,000 to the Guest Hospital, Dudley—a gift in memory of her father, the late Mr. Thomas Mills, of the Shrubbery, Kingswinford.

PRESENTATION.—Mr. Spencer Hurlbutt was presented on October 6th with a handsome marble timepiece by the officers and nurses of the Fulham Infirmary on the occasion of his resigning the post of Assistant Medical Superintendent to that institution.

PRESENTATION.—Miss Katherine Peter, the Lady Superintendent of the Jenny Lind Infirmary, Norwich, has been presented with an elegant clock on the occasion of her relinquishing her connection with that institution.

LORD DYSART, who offered £200 per annum to the Grantham Hospital, on condition of a homœopathic physician being appointed to the staff, and whose offer was declined, has withdrawn his subscription of £25 annually.

CREMATION IN FRANCE.—The French bishops have, it is stated, received a communication from the Congregation of the Holy Office strongly disapproving of cremation and ordering the clergy not to abandon the customary Christian burial. All the Protestant Consistories of France are said to agree with the Holy See in its condemnation of the practice of cremation.

STRAY DOGS.—One thousand and twenty-one stray dogs were seized by the police last month in the metropolis, and taken to the Dogs' Home at Battersea. Twenty-four were killed in the streets as "mad or ferocious." During the month 103 persons were bitten by dogs not suspected of being mad, and one individual by a dog certified to be rabid.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 8.30 P.M.—Dr. Fletcher Beach: On a Case of Recovery after Laceration of Brain. Mr. Marmaduke Sheild: On the Removal of an Aural Exostosis by the Chisel, after Incision of the Cartilaginous Meatus. Dr. Howard: On a New Method of Raising the Epiglottis.

TUESDAY.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 8.30 P.M.—Mr. W. A. Meredith: Remarks on some Points affecting the Mortality of Abdominal Section; with Tables of Cases. Mr. E. Owen: Arthrectomy; Erasion of Joints.

WEDNESDAY.

BRITISH GYNÆCOLOGICAL SOCIETY, 8.30 P.M.—Specimens and notes of cases by Dr. F. A. Purcell, Dr. Fancourt Barnes, Mr. Reeves, Mr. Lawson Tait, Dr. Richard Smith, and Dr. Granville Bantock. Council, 8 P.M.

HUNTERIAN SOCIETY, 8 P.M. Dr. Stowers: Notes on the Treatment of Diseases of the Skin.

FRIDAY.

BROWNING SOCIETY, 8 P.M.—Opening of Session. Mr. E. Berdoe: Paracelsus, the Luther of Medicine.

CLINICAL SOCIETY OF LONDON.—1. Dr. H. Handford: Case of Empyema; Loss of Vision, Cerebral Softening. 2. Dr. Beaufoy Green: Case of Dermoid Cyst of Tongue. 3. Mr. Hutchinson: Second report on Persistent "Aptyalism," or Dry Mouth, with an additional Case. 4. Mr. E. H. Fenwick: Case of Encysted Stone.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

MARRIAGES.

TIMS—FINDLAY.—On October 3rd, at the Cathedral Church of St. Mary, Edinburgh (service fully choral), by the Very Rev. the Dean of Edinburgh, assisted by the Rev. H. C. Percival, Senior Chaplain, H. W. Marett Tims, M.B.Edin., to Maud, daughter of the late Lieutenant-Colonel Alexander Findlay (3rd W. I. Regiment), of Millbank, Nairnshire, and J.P. for the county.

SYMPSON—KNIGHT.—On the 10th instant, at St. Paul's Church, Camden Square, by the Rev. F. Wallis, M.A., Fellow and Dean of Caius College, Cambridge, assisted by the Rev. R. H. Leamon, Edward Mansel Sympson, M.A., M.B.Cantab., M.R.C.S., James Street, Lincoln, son of Thomas Sympson, F.R.C.S., to Florence Mabel, younger daughter of Joseph Knight, Barrister-at-Law, of 27, Camden Square, N.W.

DEATH.

HOSKINS.—On October 12th, at York Place, Candie Road, Guernsey, Samuel Elliott Hoskins, M.D., F.R.S., aged 89 years and 8 months. It is requested that no flowers be sent.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.; **Guy's** (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.; Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's, St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.; London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.; King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's —1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.; Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.; West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; **Skin**, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, M. Th., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S. 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; **Eye**, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting editorial matters should be addressed to the **Editor**, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL, are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications, should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

TREATMENT OF OBESITY.

W. P. F. writes: A recent issue of the JOURNAL contains an interesting letter from Dr. Towers Smith, but to be of real value it requires supplement. Will he informs us what he took with the beefsteak; was it accompanied with bread, or did he live on steak, and steak alone? Further, how would either of such diets, that is, beef alone or beef and bread, affect the dyspeptic?

LECTURES TO NURSES.

C. H. S. has been asked, as house-surgeon at a country hospital where there is a training school for nurses, to lecture to the probationers. He asks for advice as to what such a course should best contain, and would be glad to know: 1. Where he could obtain the syllabus of such a course. 2. What would be the best book, if any, to prepare the lectures from.

ECZEMA RUBRUM.

AN OLD PHYSICIAN writes: I am a hard worked physician, in my 67th year. I never have a holiday, and cannot get one, as I have to earn my daily bread, and not only for myself but for others also. Within the past two years I have had three most severe attacks; the present one, under which I am labouring, being the most severe. I am a most temperate-living man, an early riser; know of no cause for the attacks, except a mental shock that I received two years ago from a most unjust lawsuit that was decided against me. I am taking full doses of Fowler's solution, with wine of colchicum in Murray's magnesia, using the Deela oil with oil of sweet almonds upon the ulcers and bandaging the legs. I am using a mixed dietary of meat and vegetables; and only drink whisky and water by the advice of several leading physicians. I am particularly anxious to know if there is any hope of escaping these attacks in the future; if there is any prophylactic treatment that I could adopt; if stimulants are injurious; if any particular code of dietary that I could adopt; if baths would be admissible. The disease in my case appears in all forms, the throat and neck discharging; the extremities ulcerated like pemphigus; other part dry, like psoriasis; the itching intolerable; no sleep except by chloral and hyoscyamine; bowels fairly regular, unless when I drink milk, which constipates me always; renal secretions normal. Any hint will be most kindly and gratefully received.

ANSWERS.

DR. MCKANE.—The first paragraph to which our correspondent refers was inserted; and with regard to the question as to practice in America, the conditions under which an Englishman can practise in America were the subject of considerable discussion in the JOURNAL during April and May last.

A SUBSCRIBER (Yorkshire).—Putney Heath and Wimbledon Common are continuous, and are relatively drier and more bracing than Putney proper, which is built on ground sloping to the Thames, and facing about north.

ALGIERS AND TENERIFFE.

A MEMBER asks for particulars of the climate of Algiers and also Teneriffe; and if the latter is not specially suited for patients suffering from pulmonary delicacy.

*** We have referred this question to Dr. Theodore Williams, who writes: Your correspondent will find in Dr. Bennet's *Winter and Spring on the Shores of the Mediterranean*, 4th edition, and in Dr. Marcet's *'Southern and Swiss Health Resorts*, full information about Algiers, and as regards Teneriffe, he may also be referred to Dr. Marcet's work, and to Mr. Ernest Hart's *A Trip to the Fortunate Islands*.

Both climates are suitable for patients suffering from pulmonary delicacy, if by that term is meant consumption; but Algiers, having a moister and colder climate, is less suited for the catarrhal variety of phthisis, and more for the ordinary chronic form, whereas Teneriffe benefits the catarrhal form, as well as other complaints such as bronchitis and asthma.

PRURITUS VULVÆ.

DR. G. PARKER MAY, (Maldon) recommend the following treatment. Vagina to be washed twice a day with carbolic acid lotion (1 part in 50). After each ablution nitrate of mercury ointment to be applied to the whole vaginal surface. If pustulous or very irritable, apply the ointment when melted, with a soft brush. In addition, solution of nitrate of silver to the morbid surface twice or three times a week.

TENAX writes: I should advise "C. R. C." to try cocaine to relieve the suffering of the pruritus. In two diabetics under my care, both suffered badly from eczema of the vulva, rendering their lives almost unbearable. I found nothing relieved them so much as a 10 per cent. solution of cocaine, to use themselves when necessary, especially at night, and keeping the parts well dusted over with equal parts of pulv. camph., zinci oxid., and pulv. amyli. The patients got their rest, and the parts, relieved of the continued scratching, soon got better. In one case the scratching produced the eczema; most likely in both.

PAINLESS DIAGNOSIS OF FRACTURE.

MR. CHARLES FOX (Cardiff) is right in advising the surgeon to press on a long bone at a distance from the seat of suspected fracture, for purposes of diagnosis. Pain will then be felt at the region of the fracture should that injury have taken place. The practice is by no means new; it certainly saves the patient from much pain, but it is not easily applied to all long bones, and there are other more evident signs of fracture than pain and crepitus. The more experienced the surgeon the less pain will he cause, and the more certain will be his diagnosis of a fracture. Of course "experience" here applies to fractures. Some elderly visiting hospital surgeons see few cases, whilst their house-surgeons see and put up broken limbs daily.

CYCLES OR CARRIAGES.

A JUNIOR PARTNER writes: Will you, as representative of our profession, express an opinion on the use of bicycles or tricycles for suburban practitioners to work their practices with, instead of the more generally employed horse and carriage? In these times, when there is a scarcity of money, owing to so much competition, etc., economy must be studied. Does it not seem, then, rather a pity that everyone—especially those not well off—should be bound to follow the fashion, well established though it be?

A carriage is a very desirable possession, and most pleasant for travelling, and doubtless adds to the dignity and position of the owner, but when one cannot afford the expense (and doctors have so many more items than the laity), and it becomes necessary to cover the ground quickly, the only alternative appears to be a cycle of some description or other, for hiring an equipage is certainly no saving to the pocket. Therefore, if you will kindly make a comment on the propriety of adopting this mode of conveyance, I think many, as well as myself, would be glad of the opinion.

*** We are aware of more than one excellent practice in the suburbs in which the partners use tricycles, and can see no possible objection to them. Many clergymen now use tricycles, and some ladies of fashion. We know of no reason why medical men, who frequently use them for purposes of health and pleasure, should not also put them to use in their professional journeys where they find it convenient to do so.

THE NEW SYDENHAM SOCIETY.

MR. J. A. WEST (London, N.W.).—We are informed that the Society has just concluded its twenty-ninth year, and has issued 122 volumes. This is an average of four a year. The Society makes it a rule that subscriptions should be paid beforehand, six months before the issue of the first book, and therefore eighteen months before the issue of the last volume of the year. This rule is a business-like one, and saves much trouble from the issue of books to deceased members or those who have removed or resigned; still more important, it saves the Society from bad debts. Obviously it does not matter to any continuous member to which year any individual book is counted. The members have received and will receive in the future an average of one book every three months. The Society does not promise to observe exact intervals, and sometimes saves expense and trouble by sending out two together. "If," says our informant, "Dr. West will either simply abstain from reading the labels which explain the year to which each book counts, or if he will exercise a little make-believe, and imagine that in his case the books labelled 1887 are 1888, he will be made happy in his mind, and his library will receive exactly the same works."

NOTES, LETTERS, ETC.

DISCONTENTED has omitted to forward his name and address.

AMYLOID DISEASE IN ANIMALS.

DR. JULIUS H. SHANNON (Bridgetown, Barbadoes) writes: My attention has been caught by the sentence—"Long suppurations are rare in animals, and amyloid disease is, I believe, unknown," which occurs in the report (on page 290 of the JOURNAL of August 11th, 1888) of the Address in Medicine, by T. Clifford Allbutt, M.A., M.D., F.R.C.P., F.R.S., Consulting Physician to the Leeds General Infirmary.

About four or five years ago I was called, by the Clerk of the market of Bridgetown, to examine and certify (condemning or releasing) the carcase of an ox, which he had seized, in the slaughter house, as unfit for food. I regret that I cannot now recall all the particulars, but I remember that there were large suppurating glands, and that the liver was pale and waxy, contrasting in a marked manner with the deep purple-coloured liver, which is, I believe, normal to the recently slaughtered ox. In the certificate which I gave, I stated that, in my opinion, there was amyloid degeneration of the liver.

HAY FEVER.

DR. T. L. WALFORD (Reading) writes: For some years I have frequently suffered from severe nasal colds, so much so that my sneezings came to be recognised by the inmates of the workhouse, whilst I was going my rounds. After reading the address delivered by Sir Andrew Clark, and reported in the JOURNAL for June 11th, 1887, I, being out of practice since June, 1882, and having some liq. hydrarg. bichlorid. in the house, determined on trying it. I put a drachm into a liqueur glass, and, with the fourth finger of either hand, having first used my handkerchief, went over the septum nasi on both sides two or three times every night on going to bed. This I did for several nights, and when I had an attack again, repeated the application. I can now say that I have been longer without these sneezing attacks for a long time. In addition, I may add, that I habitually use warm rain water in washing, and generally put into basin used to wash face and neck, a drachm or rather more of a solution of washing soda (3iss to 3j); I gargle with it twice, and lastly, with my nose under the water, wash away any mucus that may be there, with my fingers as before. I feel benefited by the idea of using the bichloride as suggested by Sir Andrew Clark.

AN APPEAL.

DRS. ROSS and MACRAE (Stornoway) beg to acknowledge with thanks the following subscriptions in response to their appeal in the JOURNAL of February 18th (and in addition to the sums formerly acknowledged), on behalf of the late Dr. James MacDonald's widow and orphans.

	£	s.	d.
Surgeon-Major C. W. MacRury, Bombay Army, Poonah ...	5	0	0
Frank Godfrey, Glendower House, Compton Terrace... ...	1	0	0
Charles W. Cathcart, 8, Randolph Crescent, Edinburgh ...	0	10	0
Sums formerly acknowledged in JOURNAL of March 31st, 1888 ...	11	12	0
	18	2	0

SMALL-POX AND VACCINATION.

DR. WM. FAULDS (Shawlands, near Glasgow) writes: I observe in the JOURNAL of October 18th notice of a communication from Mr. Harold Crichton Browne, in which he says: "Could a deputation of antivaccinationists be sent out here, and see the hideously bloated, scarred, and speckled faces which are to be met with every few paces in the streets and markets, they would, I think, believe and tremble." Those of your readers who have been in India must have been struck with the number of natives scarred with small-pox marks that one meets in the streets of the cities of that country. Being in Bombay and Kurrachee in 1886, I attempted to estimate the proportion of those pitted in the face with small-pox to those not pitted, in the streets and markets of these cities. I found the proportion to be about 1 in 10. In Liverpool in the same year the proportion was about 1 in 500. In New York, in 1885, it was about 1 in 100.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

(Third or Final Examination.)

THE following were the questions at the examinations in October, 1888:

Midwifery and Diseases of Women.—1. Describe the changes in the ovary which precede, accompany, and follow normal menstruation. 2. Give the signs, differential diagnosis, and treatment of hydramnios. 3. What are the causes of uterine inertia in the second stage of labour? How would you recognise the condition? On what principles would you treat the patient? 4. Describe the causes and treatment of pruritus vulvæ? 5. State the causes which may require the dilatation of the unimpregnated uterus, and describe how it should be done. 6. A woman, at the close of the eighth month of pregnancy, is taken in labour, and, after the pains have continued regularly some hours, the membranes rupture. On being sent for, you find the pelvis blocked by a large hard mass, and, on introducing the finger with difficulty up to the brim, you feel the head of the child, which is unable to enter the pelvis. Write a commentary of this case, especially referring to the probable nature of the mass felt, and the treatment of the case.

Principles and Practice of Medicine.—1. Give the anatomical relations of the abdominal aorta in its whole extent. How would you differentiate an aneurysm of this vessel from other abdominal tumours? 2. What is the pathology of pulmonary apoplexy? On what diseases does it follow, and what are its most usual consequences? 3. What are the symptoms of ulcerative endocarditis, and the morbid appearances found after death? For what other diseases is it liable to be mistaken? 4. Discuss briefly the diagnosis of a case of ordinary phthisis in its earliest stage. What are the physical signs most commonly met with at this period of the disease? 5. Describe the characters of a case of facial erysipelas. What local and constitutional treatment would you adopt? 6. Describe the symptoms and treatment of paralysis agitans. Give the differential diagnosis between the symptoms of this disease and disseminated sclerosis.

(First Examination.)

PART I.—*Chemistry, including Chemical Physics.*

Section I.—1. Describe a hydrometer. Explain its use, and the principles of its action. 2. What is meant by heat of combustion? How is it determined, and how expressed?

Section II.—3. Strong sulphuric acid is heated with the following bodies: copper, nitrate of sodium, oxalic acid, chloride of sodium, charcoal. Explain and give the formulæ for the changes, if any, which occur. 4. How would you prepare the carbonate and oxide of magnesium from the sulphate? Describe the properties of these bodies, and state in what respects they differ from the corresponding calcium compounds. 5. How is pure iodide of potassium prepared? What are its properties? Calculate the weight of iodine contained in ten pounds of this salt. (K=39; I=127.)

Section III.—6. Give the formula of urea and the percentage amount of nitrogen which it contains. What takes place when an alkaline solution of hypobromite of sodium is added to a solution of urea, and how may the method be employed in estimating the amount of urea in the urine? 7. In what respects do the vegetable alkaloids bear a resemblance to ammonia? How can quinine be extracted from cinchona-bark, and morphine from opium? 8. How can you obtain (*a*) ethylene (olefiant gas) and (*b*) ether by the action of sulphuric acid on alcohol? Give the formula and properties of each of these bodies.

PART II.—*Materia Medica and Pharmacy.*—1. What is an anæsthetic? Distinguish between local and general anæsthetics, and give examples of each. By what methods and in what forms are these agents employed? 2. Describe the physical properties of permanganate of potassium. State the strength of its official solution, and give an account of its actions. 3. Enumerate and classify the purgatives with which you are acquainted, and state in what form and dose you would administer calomel, sulphur, colocynth, senna, and jalap. 4. In what forms and in what doses is sulphate of iron employed medicinally? Describe its action when administered internally. 5. What is an emulsion, and how does it differ from a solution? Give examples of drugs which may be administered in the form of an emulsion, with the method of preparation required in each case. 6. Give an account of the origin of opium, and enumerate its more important active principles. Give the composition and strength of the official compound powders containing opium.

(First Examination.)

PART III.—*Elementary Physiology.*—1. *Vivâ voce* on microscopical sections. 2. What do you understand by the terms (1) crassamentum, (2) buffy coat, (3) liquor sanguinis, (4) serum of blood? 3. Describe the mechanism of quiet and forced inspiration. 4. Contrast the phenomena of contraction in voluntary and in involuntary muscle-fibres. 5. Mention the chief constituents of bread, and describe how each of them is acted upon by the various digestive juices. 6. Explain the effects of stimulating (*a*) a motor nerve, (*b*) a sensory nerve, (*c*) a nerve of special sense.

(Second Examination.)

Physiology.—1. What is understood by the expression "blood pressure?" Explain the conditions which lead to variations in the normal blood pressure in arteries and veins. 2. Describe the changes which the proteid constituents of food undergo in the various parts of the alimentary canal. 3. How do the lymphatics commence? Whence is the lymph derived? Mention the circumstances which influence its flow. 4. Describe a lobule of the liver, and an individual liver cell. 5. Describe the functions of the vagus as a cardiac nerve. 6. State the evidence in favour of the localisation of motor centres in the cerebral cortex. Where are the centres connected with the movements of the right arm supposed to be situated?

(Second Examination.)

Anatomy.—1. Describe the upper end of the femur (head, neck, and trochanters), giving muscular and ligamentous attachments. 2. Give the nerve supply and actions of the following muscles: (*a*) buccinator, (*b*) teres major, (*c*) first dorsal interosseous of hand; (*d*) tensor fasciæ femoris, (*e*) adductor longus, (*f*) gastrocnemius. 3. Describe the fornix. 4. Give the course and relations of the brachial artery, and enumerate its branches. 5. Describe the position and relations of the right kidney. 6. Give the relations of the internal and external popliteal nerves, and enumerate their branches.

Surgical Anatomy and the Principles and Practice of Surgery.—1. Mention the situation of the various groups of lymphatic glands found in the pelvis and lower extremity; and state the sources from which they receive lymphatic vessels. 2. Mention the relative positions of the several structures in immediate relation with the shoulder-joint; and describe the operation of excision of the head of the humerus. 3. Describe the symptoms and the structural changes of carbuncle in the different stages of the disease. Give the treatment, local and general, which you would adopt. 4. Describe the after-treatment of a case of tracheotomy. Mention the complications which may arise, and how you would meet them. 5. Describe the constitutional and local effects which may follow severe burns, and give their appropriate treatment. 6. What fluid swellings may present themselves in the popliteal space? Give their differental diagnosis and state briefly the treatment appropriate to each.

ROYAL COLLEGE OF PHYSICIANS OF LONDON. EXAMINATION FOR THE LICENCE.

(Third Part or Final).

THE following were the questions at the examinations in October, 1888:

Principles and Practice of Surgery.—1. What kind of cancer is usually found affecting the rectum? What symptoms may be produced by it? How should the disease be treated? 2. Describe a case of glaucoma, giving the pathology, the symptoms, and the treatment. 3. Give the symptoms by which you would distinguish the following tumours of the breast:—(*a*) Simple cyst; (*b*) adenoma; (*c*) serocystic sarcoma; (*d*) scirrhous cancer. How would you treat these tumours? 4. Describe in detail the treatment which it may be necessary to adopt in case of empyema. 5. Describe a case of Colles's fracture. Give in detail the treatment which may be required. 6. How would you treat the following cases?—(*a*) Punctured wound of the femoral artery; (*b*) punctured wound of the femoral vein; (*c*) punctured wound of both artery and vein.

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Mr. J. Bellamy, London; Mr. G. Hutchinson, Chipping Norton; Our Swiss Correspondent; J. R. Purdy, M.B., Leeds; Dr. J. Buchanan, Liverpool; Sir H. Perrott, London; E. M. Sympson, M.B., London; Mr. T. H. Bickerton, Liverpool; Mr. T. J. Verrall, Brighton; Mr. M. Purcell, Leeds; Messrs. G. Van Abbott and Son, London; Mr. C. Morton, London; Mr. E. H. Roe, Eccles; Mr. A. Nicols, London; Messrs. R. Hovenden and Sons, London; Dr. Waller, London; Mr. J. H. B. May, Lansdown; Mr. Jonathan Hutchinson, London; Mr. Fisher, Manchester; Dr. A. Hess, London; Mr. W. B. Wall, Pembroke; Dr. J. T. Cash, Aberdeen; Dr. A. J. Boyd, Ware; Mr. J. H. Shannon, Bridgetown, Barbadoes; Mr. G. Dalziel, London; Dr. R. Maguire, London; Dr. J. A. Ross, London; Dr. G. Hewitt, London; Dr. W. W. Hardwicke, Dovercourt; Surgeon J. Hickman, Sheerness; Mr. H. A. Fotherby, London; Mr. J. Holmes, Redcliffe; Dr. Rentoul, Liverpool; Dr. Teevan, Ballarat, Victoria; Messrs. Street and Co., London; Dr. Gubb, London; Mr. S. M. Copeman, London; Mr. Clark Bell, New York; R. J. Ryle, M.B., London; Dr. Norman Kerr, London; Mr. H. Taylor, Norwich; Dr. A. M. Edge, Manchester; Dr. A. Nickson, Birkenhead; Mr. J. M. Daye, Dublin; Mr. W. Adrian, Drogheda; Dr. A. Macdonald, Carlow; Dr. H. Page, Redditch; Dr. J. B. James, London; Dr. Belfield, Bristol; Our Berlin Correspondent; Mr. Johnson Smith, London; Mr. H. Sewill, London; Mr. G. B. Browne, London; Mr. C. M. Jessop, London; Dr. S. Martin, London; Dr. R. P. Smith, London; Dr. Neil, Oxford; Dr. McDougal Ellis, Bath; Our Newcastle Correspondent; Dr. G. B. Mouatt, Belgannon; Surgeon-Major; The Honorary Secretary of the Manchester Medical Society, Manchester; The Secretary of the Devonshire Hospital; Our Liverpool Correspondent; Mr. R. Barwell, London; Messrs. J. Bennett, Brothers, London; Mr. C. Siewers, London; Dr. Petch, Micklegate, York; Mr. Walery, London; Mr. W. E. L. Allen, Barrow; Dr. Lush, Weymouth; Well-Wisher; Mr. G. P. Atkinson, Pontefract; Our Manchester Correspondent; Mr. E. Hurry Fenwick, London; Mr. E. T. Collins, Edinburgh; Surgeon-General Fox, London; Mr. W. K. Nears, Durham; Mr. Lennox Browne, London; Mr. W. G. Nash, Welford; Mr. S. Craddock, Bath; Mr. W. J. N. Bell, London; Dr. Tatham, Salford; Messrs. Allen and Hanbury, London; Dr. H. A. Thomson, Edinburgh; Mr. J. Ringwood, Kells; Sir W. Mac Cormac, London; Dr. W. Faulds, Shawlands; Dr. Duncan, Croydon; Dr. Bulner, London; Mr. A. Jackson, Sheffield; Mr. P. S. Hutchinson, London; Dr. M. Baines, London; Mr. W. A. Gostling, West Worthing; Dr. Sclater, Perth; Mr. F. Hitch, London; Dr. J. P. A. Gabb, Guildford; W. H. Allen, M.B., Stanmore; Colonel Sillery, Bath; Mr. H. J. Lorraine, Stapleton; Dr. Mosse, London; Dr. Handford, Nottingham; Dr. W. S. Kay, Sheffield; Mr. G. Staples, London; Mr. R. Megginson, Scarborough; Dr. W. G. Walford, London; Surgeon S. J. Flood, Belfast; The Secretary of the Medical Society, London; Dr. Abercrombie, London; Mr. J. Lunn, London; Mr. E. G. Dutton, Plymstock; Miss G. Wright, Edinburgh; Messrs. Quilter and Wheelhouse, London; J. H. Brooks, M.B., London; Dr. H. R. Hutton, Manchester; Alpha; Mr. H. Hutchinson, Shawbury, near Shrewsbury; Dr. E. F. Trevelyan, Leeds; Dr. A. G. Barrs, Leeds; Mr. J. Williams, Derby; The Chairman of the Institute of Electricity, London; J. Hinshelwood, M.B., Middlesbrough; Mrs. J. Onslow, Hull; H. W. M. Tims, M.B., London; Mr. C. Taylor, London; Mr. G. H. Higgens, London; Messrs. Cassell and Co., London; Surgeon E. C. Freeman, Woolwich; Mr. R. Fletcher, Worcester; The Secretary of the University of London; J. N. Burns, M.B., London; Dr. A. Kempe, Exeter; Mr. J. J. de Zouche Marshall, Hastings; Dr. J. Aikman, Birnam, Guernsey; Mr. F. A. Southam, Manchester; W. S. Black, M.B., Donaghadee; Mr. D. Curme, Blandford; etc.

BOOKS, ETC., RECEIVED.

The Illustrated Optical Manual. By Surgeon-General Sir T. Longmore, C.B., F.R.C.S. Fourth Edition. London: Longmans, Green, and Co.

Chats at St. Ampelio. By John A. Goodchild. London: Kegan Paul, Trench, and Co.

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CLINICAL LECTURE
ON
RETENTION OF URINE.

Delivered in University College Hospital.

By CHRISTOPHER HEATH, F.R.C.S.,
Holme Professor of Clinical Surgery in University College, London.

I PROPOSE to-day to speak of retention of urine, and it will be convenient to consider it at different ages. In the case of a newborn child there is sometimes a difficulty in passing water, which always depends upon a contracted orifice of the prepuce. When the child tries to make water it "balloons" its foreskin, swells it out, that is, into something like a child's balloon. Of course, the treatment in such a case is obvious and simple. You have only to dilate the orifice of the prepuce with a pair of forceps, or if it is at all a severe case, when the child is a little older, you had perhaps better circumcise it, and there is an end of the matter. But you sometimes meet with retention in the case of children who are a little older, and I believe that retention in children, not dependent upon a tight foreskin, is almost always the result of calculus in the urethra. A child may have a small calculus in the kidney without any obvious symptoms; he has never made any complaint, until one day you are sent for because he does not pass his water; perhaps for some hours the bladder has been distended, and there is obvious retention of urine. Now in a case of that kind always suspect a stone and look for it; usually it is easily found just within the meatus urinarius. You take a silver probe and pass it down the urethra, and you feel it click against the stone, and if the calculus is just within the meatus it is an exceedingly simple matter. You have only to get it out with a little scoop, or if you have not one, the loop of a hairpin is a convenient thing. If the orifice of the urethra is at all tight you had better nick it in order to get the stone out; but remember when you are doing this that you should always cut downwards and not upwards into the glans penis. But sometimes the stone is not at the anterior part of the urethra, but behind; and these are more difficult cases, and are apt to be overlooked. The stone does not produce complete retention perhaps, although it makes a difficulty, and then ulceration is sometimes set up, with abscess, and possibly extravasation of urine; but where there is real retention of course you can make it out by passing a probe or catheter down and touching the stone, and you may be able to feel it through the perineum. In that case it is best, if you can, to extract the stone, but it is not easy to do it. You will have to put the patient under chloroform, and with a very fine slender urethral forceps you may be able to extract the stone. More frequently the stone has become fixed, and you cannot get it out. Then the best thing is to cut upon it at once, for it is not a serious thing in children to open the urethra. You have the stone to guide you, and it is much better that you should at once cut upon it and take the stone out than leave it there to set up, as it certainly will do, irritation, and possibly, as I have said, abscess and extravasation of urine. Besides, if it is a case of *bonâ fide* retention, the child cannot be left many hours without being relieved.

Then there is one other thing in the case of children that should always be borne in mind; that the child may have tied a string or thread round the penis. Such cases are met with every now and then. Two or three years ago a child was brought one morning to my consulting room with the glans penis hanging merely by a thread of cellular tissue. It was as nearly cut off as it could be, but not absolutely. I simply took a pair of scissors, cut the remaining thread, and took it off. Round the glans penis just where it had been divided there was a long hair; and whether that hair had cut it through, I cannot tell. The child utterly denied ever having had a thread tied round it, but it is just conceivable that a long hair might have been twisted round accidentally, and have cut its way through.

Whenever a child has a swollen penis which is not clearly a case of paraphimosis, you should ascertain whether there is a thread deeply embedded in the groove, which is formed by the swollen tissues all round.

Now let me pass on to a much more important matter, the retention of urine in adult age. With young adults, I suppose the most common cause of retention is some mischief supervening upon gonorrhœa. People who have perfectly healthy urethras do not get retention of urine. It is only after they have had gonorrhœa or some mischief about the urethra that they are liable to attacks of this sort. Sometimes you find a patient with retention of urine during gonorrhœa, or at all events in the later stage of it; and if that is the case, it is more usually due to some inflammation travelling to the prostate. The prostate becomes swollen and tender; if you put your finger into the rectum, you will feel it there; and it is because of that swelling of the prostate that the man cannot pass water. The obvious thing in such a case is to pass a catheter for him very gently through the prostate, and draw the water off. You proceed to treat the prostatic inflammation by a leech or two to the perineum, and then the swelling generally subsides, but it may, of course, run on to an abscess. And remember that these cases of acute prostatitis in young men are more apt to run on into abscess than any other form of prostatic disease. Then the later stage, after the gonorrhœa, is perhaps the more critical time for the urethra as regards retention. What happens is this. The man during the gonorrhœa has been debarred from all liquor, and then, assuming that he is well, he perhaps takes more than he should do. In hospital practice and amongst the lower classes you will meet with that kind of case much more frequently than in private practice. The better class of people do not, as a rule, drink more than is good for them; they do not indulge in that sort of debauch, but a labouring man is apt to take more liquor than is good for him after abstaining for a few weeks, and then he gets retention of urine.

Now that form of retention is by some surgeons thought to be purely spasmodic, others call it inflammatory. I believe it is really a little of both. If it is not inflammatory, it is congestive certainly, and there is a certain amount of spasm mixed with it. Therefore, whether we call it congestive retention or spasmodic retention, we mean the same thing. At all events, clinically, you find a patient who has had gonorrhœa, and apparently recovered from it, who is unable to pass his urine. Sometimes such patients go on for many hours before they knock up the house-surgeon, so that at one or two o'clock in the morning you are called upon to relieve such a patient, and, of course, it is important that relief should be given at once. Now it is quite true that these cases will mostly get well of themselves, if you can have time. I mean, if you give a patient of that class a good dose of opium, put him into a warm bed, and put fomentations about his perineum, in the majority of cases the retention will pass off, and the patient will make water. But you must bear in mind the circumstances of the case. If it is a hospital patient, the house-surgeon is called up in the night, and naturally he wants to get to bed again. There are no great conveniences for putting the patient into a hot bed, or even into a hot bath, in the middle of the night, and you have to pass a catheter for him; and, as Sir Henry Thompson says, in one of his lectures, no doubt the patient much more appreciates your skill, if you pass a catheter without hurting him, and draw his urine off, than if you merely gave him a dose of medicine, put him into a warm bath, and let Nature do the rest. It is better, then, on the whole, to draw off the urine at once. The great thing is to use a good-sized catheter. These patients have no stricture, and you want a good-sized catheter; and of all catheters, commend me to the old-fashioned English gum-elastic catheter. If you take a catheter of the size I hold in my hand (No. 9), with a good blunt end to it, and if you warm it and oil it well, and pass it, with a stilette if you like or without, until you get to the obstruction point, you will find it generally somewhere about the bulb of the urethra; and then, if with a little gentle pressure you push against it, you will be conscious of a sort of yielding; and so, as you steadily push on, the catheter goes into the bladder, and you draw the water off. That, of course, is an extremely satisfactory thing for all parties; but the affair does not always come off so smoothly as that. You may find a difficulty in the way. Possibly there may be more congestion than you think, more spasm perhaps, and the obstruction does not yield quite so readily. Now the greatest mistake that you can make, I believe, is to use very small catheters. No. 7 is a very good average size, and, if you cannot get that in, the patient having no history of previous stricture, you had better put the patient under chloroform, and you will be able to pass the catheter with the greatest ease. It is much better for the patient that you should stick to that catheter or thereabouts than that you should poke holes in his urethra

with a small instrument; and, if you give the patient chloroform, you overcome the difficulty at once. I am aware that, when you get into practice in the country, you may have to modify your proceeding. When a medical man is on his rounds and is stopped somewhere because a patient has retention of urine, he may not have chloroform with him, and perhaps not a catheter. Those are the cases in which you may fall back upon opium, with warm fomentations. If you give a patient of that kind a good dose of opium, and have fomentations put about the perineum, the probability is that in a couple of hours he will be able to make water. If he does not, then of course he will send for you, and you must be prepared to pass a catheter and draw the water off. I want you to understand that the case may be treated in two ways, and that it is really a matter of convenience which method you should adopt.

These are cases of spasmodic or congestive retention; it is a much more serious matter when you have a patient who has a tight organic stricture. The patient has perhaps had a stricture for years past, and he has been treated two or three times by different surgeons. People get very callous and careless about their urethras, and neglect themselves, and in that way the stricture gets tighter and tighter until at last some day, or more probably some night, the patient finds that he cannot make water at all, and he then sends for you to give him relief. These are confessedly very difficult cases to treat. You do not know anything previously about the man, you do not know the condition of the urethra, you have merely his story to guide you; do not therefore be deceived by what he tells you; do not begin at once with very small catheters, but always with a fair average size. For that purpose I do not know that you can do better than use the French instruments, the olivary catheters, beginning with a medium-sized catheter just to find out how the land lies. You pass that steadily down the urethra until it is stopped; then you carefully make a little pressure and try and get it through. If you find that it is of no use you abandon the attempt, and you steadily try one instrument after another until you get to the very smallest. I quite allow that with care and skill—it requires a very considerable amount of skill—you may insinuate through the stricture such a very small catheter as this which I hold in my hand, a catheter equal to about No. 0 on the English scale (it is No. 1 on the French scale), the smallest catheter I think in use. You may not succeed, and then you must have recourse to silver instruments. I know that silver instruments are not in fashion at the present time. Some surgeons hardly ever use them, but I think you ought to be able to use silver instruments, and that you may use them quite as safely as the soft ones. I presume, therefore, that having failed with these soft instruments, you try a silver one, Nos. 3, 2, or 1, or No. 0 if you have it, and do your very best to get it in. And let me say, without wishing to urge any violence whatever, that you must bear in mind that in these hard strictures you must use a little steady pressure, but no force, and you must be careful that the catheter does not suddenly slip from your fingers, and make a long false passage.

Then having tried all you know in the way of catheters, you put the patient under chloroform, and that for this reason: in all these cases of retention there is a certain amount of spasm; and if you overcome that spasm by chloroform, you get the catheter in more easily than you can do without it. Of course there is the mechanical obstruction, but there is a certain amount of spasm with it. When the patient is under chloroform he is necessarily recumbent, and then you have the advantage of putting your finger into the rectum, and seeing that your catheter is not in a false passage; you can feel it going in the proper direction, and perhaps assist it a little in passing in. Now if you have a case of that kind, and everything has been done in the way of catheterising that is possible, and yet the patient is not relieved, the bladder is nearly or half way up to the umbilicus, and the patient is in considerable distress. It is clear that the patient cannot be left, because, if he is, there will be a risk of the urethra giving way at some point, and possibly of the bladder giving way, but that is, of course, an extremely rare occurrence. Therefore it resolves itself into what is the safest thing to be done in the case of retention of urine with an impassable stricture. I have no hesitation in saying that the safest thing is to aspirate the bladder above the pubes, and you cannot well go wrong if the aspirator is in proper order, with a clean needle, which you take every precaution to make aseptic, carefully carbolising the whole machinery, and washing the skin of the abdomen with carbolic acid, then puncturing a little way above the pubes. That operation seems to be attended with as little risk as possible. Yet, a year or two ago, there was a paper read at one of the medical societies by an eminent surgeon, in which he endeavoured to show that this operation was not free from risk. The point was this: that if you let out putrid urine in that way, it was possible that you might get some of the urine into the cellular tissue about the pelvis, and mischief might occur. I think he was quite right; it is quite conceivable; but fortunately in these cases of retention, the urine is not putrid; it is usually a case in which the urine is fairly healthy, and, therefore, you may hope that, in the majority of cases, you will not run much risk in aspirating the bladder above the pubes. At all events, I recommend you to do that rather than any serious operation.

But, naturally, aspiration is only a temporary arrangement. You would not think of keeping the aspirator needle in. You merely draw off the urine, and then hope that the difficulty may be overcome in other ways. When you have aspirated once or twice, it might be better to puncture above the pubes with an ordinary trocar and cannula somewhat curved, leaving the cannula in (there is a cannula made on purpose). Patients may no doubt go on for years making water in that way through a permanent opening above the pubes. On the other hand, if you do not choose to adopt that method, there is the much older plan of puncturing through the rectum. There are disadvantages in that, and I think that surgeons generally have given it up. It is still used at Guy's Hospital, I believe; because Mr. Cock, formerly surgeon there, specially advocated it, but I do not think that that method is often adopted elsewhere. The objection to puncturing by the rectum is this. In the first place, it is inconvenient to keep a tube in the rectum, and in the next place there is a risk of wounding the peritoneum. The peritoneum is not always so high as it ought to be. Sometimes it comes lower down to the prostate than you would expect, and, under those circumstances, if you puncture it, you are sure to get peritonitis. Then, again, it is possible that a little urine may get out, and then you may get cellulitis about the pelvis. So that there are several drawbacks, and altogether the operation is, I think, practically superseded by the other proceeding.

If a man has a tight stricture in the perineum which is impassable, and if he has also retention of urine, of course it becomes a question whether you would not be wise, under some circumstances, to operate in the perineum and divide the stricture, and, at the same time, relieve the retention. I quite allow that, under favourable circumstances, that is, perhaps, the best proceeding. I mean, of course, where you have plenty of assistance, plenty of good light, and every convenience for an operation such as we have in hospital practice. In such a case an operation in the perineum is perfectly justifiable, and is sometimes better than anything else. But under the circumstances that many of you will have to deal with, where the patient is entirely isolated, and where you have no conveniences and no assistance, I should strongly advise you not to attempt any perineal operation. It is always a difficult proceeding, and sometimes it is an extremely arduous operation to perform.

Now, if you elect to do any perineal operation in case of retention of the urine, I should strongly recommend you to do Wheelhouse's perineal section, which is, in fact, the only operation that would be performed at the present day. Let me point out shortly what the operation is before I go on to other matters. You take a staff, like that which I hold in my hand, with a little knob at the end, and you pass it down to the obstruction, which is, of course, usually about the bulb. The patient is then tied up in the lithotomy position, and the surgeon opens the urethra quite in front of the stricture, presumably a healthy portion of the urethra. Having opened it upon the groove, the assistant turns the instrument round, and hooks it up so as to draw up the urethra a little, and with two pairs of forceps the urethra is held open on each side. Having exposed the interior of the urethra the operator has to find the orifice, which is, of course, exceedingly small. He takes a probe-pointed director, and, having pased the probe through the stricture, he pushes the director portion a little on into it, and with a bistoury he divides it. Then, still keeping the groove there, he passes a gorget into the stricture and along the urethra, and so guides the catheter through the whole length of the urethra, and in that way into the bladder.

And now I come to the last type of retention, at the other extremity of life—in old age; and let me say that this is a class of case that you are likely to meet with in private practice. Old people get retention of urine, not because they have

enlarged prostates merely, for many men have enlarged prostates after sixty, and plenty of them go through life afterwards without having retention of urine. The reason why they have retention is because they get congestion of a large prostate, arising generally from exposure to cold. What happens is this: an elderly gentleman, who has been wearing thick clothes all the day, dresses in the evening to go out to dinner, and puts on a very much thinner pair of trousers. Without the slightest reflection upon his appetite in any sense whatever, he is exposed to cold and gets congestion of the prostate. It is very uncharitable to say that all these elderly people have taken more wine than is good for them, or anything of the kind; it is not the fact. Perfectly reasonable and sober persons get retention simply from exposure to cold. They find, when they go to bed, that they are not able to make water; they go on trying, perhaps, to make water at intervals during the night, and late at night or early in the morning you are sent for, to find an elderly gentleman in considerable distress because he cannot relieve his bladder. Such a case as that of course requires a little careful management; but, after all, it is not a very desperate case to treat, unless, unfortunately, the old gentleman has been trying to pass a catheter for himself. The cases that give trouble are where you find that the patient has been making false passages with his own catheter. Some time or other, probably, he has been provided with a catheter, and then, getting retention of urine, he tries to use it, and he makes himself bleed. In such a case you may have a good deal of trouble; but, fortunately, in the great majority of cases no catheter has been used when you are first called in. In going to a case of that kind, of course you provide yourself with suitable instruments. You want an ordinary English catheter of good size, No. 9 or 10. A soft india-rubber catheter is also a very useful thing; and then there are the elbowed or *coudé* French catheters, such as the one you see here. Usually, with one or other of those instruments you can overcome the difficulty if you only go to work quietly and steadily, giving your catheter a good curve, and slipping it down until you come to some obstruction, then gently pressing against it till the catheter goes in. I think that the old-fashioned English catheter without a wire is the best instrument, but the fashion rather runs on these *coudés*.

Occasionally there are great difficulties. The third lobe of the prostate rises up in the floor of the urethra, and makes it exceedingly difficult to get into the bladder, and in these cases you may sometimes advantageously push the catheter in as far as it will go with the wire in it, and then withdraw the wire and push the catheter on a little further, and softened as it is by the heat of the urethra, it finds its way in. Of course you must bear in mind that the projection of the prostate may be on one side, and that is one great reason why you cannot put the catheter straight in; but you must let it fit itself as it were to the urethra, and gradually find its way into the bladder. However, with care I believe that all these cases are to be successfully treated. You may be obliged to have recourse to a silver instrument; it is better not to do so if you can help it, but anything is better than leaving the patient unrelieved; and the large, well-curved silver catheter is a very useful instrument in such cases. The size I prefer is about No. 10, and you want a good long curved catheter in these cases. Sometimes where the other catheters have been tried and failed you can pass a catheter like that without any difficulty, if you will only keep along the roof of the urethra.

Now in such a case of retention, supposing that you have drawn the water, what kind of urine will you expect to see coming through the catheter? It is always more or less bloody from the congestion of the prostate. Patients are apt to be alarmed by this, but you need not be, for it is just one of the ways by which Nature relieves the congestion of the parts, and the urine will be bloody for some few days, and then gradually will clear off, and the patient will recover his usual habits. It is also well to bear in mind that these patients do not at once recover the use of the bladder, they cannot micturate for some days. The time varies in different cases, but it is not at all uncommon to find a patient who has had a bout of prostatic retention, going on for a fortnight or three weeks before he can thoroughly make water for himself. It is always well to know that, so as to be able to warn the patient's friends that you will have to come and draw the water for him for a few days until he recovers entirely the power over the bladder.

I have now given you all the varieties of retention in the male, from the baby to the old man. Let me say a word about retention in the female, which does occur from time to time as the result of some displacement of the uterus—the tilting backwards of the unimpregnated uterus, or possibly of the impregnated uterus, or may result from the natural changes of pregnancy. In the later weeks or days of pregnancy, when the uterus is pressing considerably upon the neck of the bladder, one can easily understand how it produces retention of urine. I simply mention it here because it is just one of those things that are apt to be overlooked. A woman makes a certain amount of water, but the bladder is more or less distended, and therefore, when you are called in to attend a labour, always ascertain whether the bladder is empty or not. I suppose there are no more unfortunate cases than those where a child's head has been allowed to press upon a full bladder, for those are the miserable cases where you have ulceration and consequent vesico-vaginal fistula. If you always pass a catheter or see that the bladder is empty in every case of labour, you will hardly ever have such a thing as vesico-vaginal fistula.

There is another class of cases of female retention which should not be treated with the catheter: that is the hysterical. Young women sometimes cannot or will not micturate, and it is a mistake to use the catheter if you can avoid it. Every now and then you are obliged to use the catheter, but it should not be used if it can be avoided, because you can really treat those cases more satisfactorily without it. The great thing is to put the treatment in the hands of a judicious matron. Let her put the patient into a bath of warm water, and then, without giving her notice, throw a bucket of cold water over her back and shoulders. The sudden shock from the cold water over the trunk will produce a violent expiratory effort, which will overcome the already relaxed muscular fibres of the sphincter vesicæ, so that the urine passes, and there is an end of the difficulty.

A DISCUSSION
ON
THE OPERATIVE TREATMENT OF CLUB-FOOT.

In the Section of Surgery at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

I.—Mr. E. LUND, F.R.C.S.

Consulting Surgeon, Manchester Royal Infirmary.

At the request of the President of the Section, Mr. E. Lund (Manchester), opened the discussion on the subject. He thought that in guiding the discussion it would be desirable to limit it to those methods of treating talipes in its more confirmed and aggravated forms other than by merely dividing the tendons and then resorting to mechanical appliances, but rather to discuss the merits of certain recent methods of making sections of the tarsus, or by removing some of the separate tarsal bones. By way of illustrating one of these methods, Mr. Lund said it was a pleasure to him to call to mind that, just sixteen years ago, in 1872, at the Birmingham meeting of the Association, Sir William Ferguson, Bart., being President of the Section of Surgery, he (Mr. Lund) related a case in which he had then recently removed both astragali from a patient who recovered perfectly, and to-day he was able to show the same patient, now grown up to manhood, and able to walk fairly well without any perceptible deformity. Mr. Lund attached great interest to the exhibition of this case so many years after the operation, for when he was President of the Section of Surgery at the Manchester meeting he had taken for the subject of his address "The After-History of Surgical Cases," and it was by this way alone that we were able to form a right judgment of the advances made by such new modes of procedure.

II.—Mr. ROBERT WILLIAM PARKER,

Surgeon to the East London Hospital for Children.

1. *Introductory.*—I consider myself honoured in being invited by the officers of this Section to take part in so important a discussion as this, and very fortunate in having a surgeon, so able as Professor Buchanan, to direct the discussion in the first place, and then to

gather up the threads and point out the material results which follow out of it. I have always regarded Professor Buchanan's paper, written a good many years ago, as one of the pioneers of the more rational treatment of club-foot by free incision of the offending structures, *en masse*, in place of the simple tenotomies then more usually practised. I shall look forward with interest to his remarks and criticisms, and to the expression of his matured views on this very difficult and very interesting question.

2. *Limitation of Subject.*—I must at once say that my remarks refer to congenital club-foot, and not to the acquired or paralytic forms; for, however much the two varieties may resemble each other in their outward form, there is an essential difference between them; the former is a developmental creation, in which every individual structure of the foot partakes without, nevertheless, being diseased; the latter is an accidental adaptation of the foot to circumstances, there being destruction or incurable disease of the ganglion cells of the spinal cord through which certain muscles of the lower limb are innervated, leading thus to a loss of balance between the groups of muscles which control the movements of the foot. Paralytic talipes is therefore a secondary, and altogether accidental, position of the foot, and the anatomy, the pathology, and the prognosis of the condition differ considerably from those in congenital talipes.

3. *Definition of Club-Foot.*—For the purposes of this discussion, I shall limit the term "club-foot," to that variety of club-foot which is called "equino-varus," or "varus," simply. This form represents about 90 to 95 per cent. of all the congenital cases; it is by far the most difficult one to treat successfully, and the only one about which there is much diversity of opinion.

4. *Probable Causation.*—If we reflect on the most probable causation of congenital club-foot, there is nothing very remarkable in the fact that all the component structures of the foot should participate in the deformity. I have examined most of the club-foot specimens in the London museums, and have found conclusive evidence that the deformity commences in a great many cases very early in intra-uterine life, and that the cause is due to environment *in utero*. The fœtal foot should change its position gradually as the limb develops, and as pregnancy advances; the object of this change of position, it is only natural to assume, is to assist in the proper conformation of the joint surfaces, and to determine the relative lengths of the muscles and ligaments, so that those movements of the foot, which are to be natural after the child's birth, may be normally accomplished. When the assumption of these varying positions is interfered with, that is to say, when the foot is fixed in one single position, a talipes results. When the cause begins to act very early in, and continues throughout, intra-uterine life, the deformity will be a very fundamental one; whereas, if the cause begin to act at a later period, or if it be continued for a short time only, the resulting deformity will be less severe. I have discussed these points at greater length in my little monograph on club-foot recently published, and illustrated the more common modes in which intra-uterine environment produces deformity. It is desirable to remember these points in order to explain the varying severity of different cases, apparently brought about in the same manner.

5. *Prognosis.*—In further support of this contention, I would advance what is well known, that the severity of a deformity is not always to be gauged by its outward form. In some cases of severe-looking equino-varus, the foot can be redressed with comparative ease. In other cases again, a deformity appears less severe than it really is: on taking hold and on trying to straighten a foot, it will be found to be rigidly held in its deformed position by some structures not very apparent. Again, a foot which is not very much inverted, and which can be placed in a normal position without the use of force, will, nevertheless, resist treatment for a long time; the patient walks with the feet much inverted. Such conditions depend on inversion of the whole limb, and have a special anatomy of their own. In prognosing and deciding on the treatment to be adopted in any given case, it is very essential to take all these points into consideration. With these preliminary and general remarks I now pass on to the subject proper, the surgical treatment of club-foot.

6. *Surgical Anatomy of Club-Foot.*—It will, I think, be conceded that in order to establish the surgical treatment of a deformity on a thoroughly scientific basis, this treatment must rest on an accurate anatomical knowledge of the deformity in question. I shall, therefore, devote a few minutes to a consideration of the anatomical structures fundamentally concerned in a club-foot. Many erroneous notions have arisen from studying the anatomy of old and relapsed cases in which secondary deformities and conditions were present. The true anatomy of club-foot can only be studied in young infants or in children who have never walked. Some years ago, when dissecting a well-marked equino-varus, I confess to have been more than surprised, after all the skin and muscles had been entirely cut away, to find that the talipes remained just as marked, just as characteristic, and just as irreducible as when the skin and muscles remained *in situ*. Further examination of this foot convinced me that the obstacle to rectification of the deformity lay in the ligamentous structures around and associated with the astragalo-scaphoid articulation. As I verified this anatomical detail in many subsequent dissections, I was gradually led to doubt the value of tenotomy as an adequate remedy for club-foot. Relapses and failures also seem to be easily explained on this hypothesis. Before such an audience it will be unnecessary to enter into a detailed anatomical description of the bones, muscles, or ligaments of the foot. Let me say only that every individual structure partakes in the deformity. Naturally, therefore, the bony framework of the foot suffers with the rest; the bones, nevertheless, participate less on account of a change of their conformation than because they are displaced, and the relative aspects of their articular surfaces altered. Of all the tarsal bones the astragalus is the one most frequently and most appreciably altered in form.

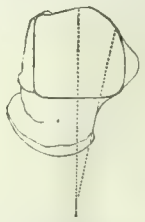


Fig. 1.—Normal Adult Astragalus (reduced). Obliquity of Neck = 12°.

Fig. 1 represents the outline of a normal adult astragalus. It will be observed that a straight line drawn through the centre of its trochlear surface passes through the navicular facet, and that a line following the direction of the neck of the bone has to be considerably prolonged before falling upon this sagittal line. In the talipedic astragalus these conditions are quite otherwise.

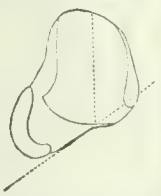


Fig. 2.—Talipedic Astragalus. Obliquity of Neck = 53°.



Fig. 3.—Normal Fœtal Astragalus. Obliquity of Neck = 35°.

In Fig. 2 we have the outline of a talipedic astragalus. A line drawn through the centre of its trochlear surface, if prolonged, would fall at some distance outside the navicular facet; while the line, following the direction of the neck of the bone, owing to its greater obliquity, impinges on the sagittal line as soon as it passes beyond the trochlear surface.

Fig. 3 represents the normal infantile astragalus, the sagittal line falling just outside but close to the navicular facet. Thus the talipedic astragalus differs from the normal in that its neck is elongated and directed with an increased obliquity inwards and forwards; in fact, the infantile talipedic astragalus approximates closely in shape to the normal simian type. This change in conformation, however, is not constant, and therefore it is not an essential part of the deformity. The tarsal bones suffer chiefly by being displaced and huddled together, while, as a consequence, their normal ligaments overlap and blend together, and so become extra-strong and extra-resisting. Indeed, the only constant anatomical condition, as dissections show, is the ligamentous hindrance to rectification, more or less pronounced according to the severity of the deformity. I have called the chief of these ligamentous combinations "the astragalo-scaphoid capsule," be-

cause it is thickest, most resisting, and most accessible over this articulation. It consists of the normal astragalo-scaphoid ligament, with which become blended, more or less, the anterior portion of the internal lateral ligament of the ankle-joint, as well as the capsular ligament connecting the scaphoid with the internal cuneiform. These joints are all much approximated; the tendons of the anterior and posterior tibial muscles also blend with the ligaments as fibrous expansions at their insertions. If I have spoken at greater length on the ligaments than upon the other structures, it is because they are less generally recognised as being in fault in cases of club-foot.

A very essential part of the anatomy of club-foot, and one which exercises great influence on the subsequent progress of the case, should be referred to here. In proportion as the tissues are short along the inner (concave) border of the foot and require lengthening, in the same proportion will they be lengthened on the outer (convex) border, and require to shorten, before anything like a cure can be effected. When the inversion of an equino-varus is rectified after these shortened structures have been divided, all the structures on the outer (convex) border of the foot become relaxed, and this relaxation is in direct ratio to the severity of the deformity. The redundancy of the structures thus produced at first leaves the foot without any support after rectification, and hence the reassumption of the old position directly we let go of the foot, and until suitable instruments are applied. It is for this reason also that instruments must be worn for long periods, until, in fact, the tissues have shortened, and are again in a position to act for themselves. In some cases the skin over the outer ankle will be found quite loose, so that it can be raised into folds. When speaking of operations further on, I shall refer to this redundant skin, and to a method of dealing with it in suitable cases.

In the order of importance in early life I place the resisting structures as follows: 1, the tarsal ligaments between the tip of the internal malleolus, the astragalus, scaphoid, and the internal cuneiform bones; 2, the tendo Achillis; 3, the skin of the inner border of the foot; 4, the bony framework of the foot; 5, the other ligaments and muscles.

7. *At what Age should Treatment be undertaken?*—I feel hopeful of a unanimous verdict in favour of commencing treatment at the earliest possible moment. The longer the foot retains its abnormal position, the more pronounced in all its details will the deformity become. First, do all cases of club-foot require surgical treatment? I unhesitatingly reply, No. Dieffenbach used to say that all children were born with some degree of club-foot; and it is quite true that the feet of young infants—as in their prototypes, the quadrumana—possess a very considerable power of supination. Between this normal and deformity there is, however, a great gulf; yet the conditions pass imperceptibly into each other. The surgeon must decide in any given case of doubt. In gauging the severity of a club-foot at the moment of birth, it must be remembered that the framework is cartilaginous and very yielding, and that considerable deformity may be rectified by the hand; but the deformity quickly reasserts itself when the foot is left to itself. However, it may be stated that in all cases manipulation of the foot should be practised from the birth onwards, even if other treatment is not thought necessary. A flexible metal splint can be adjusted to the leg, and the inverted foot bandaged to it, a little more pressure being applied as time goes on. As regards purely surgical measures, even in severe cases I rarely commence before the child is between three and four months old.

8. *Mode of Operating.*—Personally, I always give an anæsthetic. Not only does it save pain, but, by abolishing voluntary muscular resistance, it allows the surgeon to thoroughly gauge the amount of resistance he has to overcome, as well as accurately to locate it. Mr. Adams, on the contrary, prefers to operate without an anæsthetic, for the patient then puts the muscles in action, and so makes the exact position of their tendons more obvious. I usually apply an Esmarch's bandage. A bloodless operation is thus secured. I do not remove this bandage until pads of cotton-wool or lint have been firmly bandaged over the punctures. In this manner little or no blood is subsequently effused into and among the divided structures. I think this is rather an important matter.

In the pamphlet already alluded to, Professor Buchanan recommends that all the cutting be done at once, rather than in stages. In this I quite agree. It appears to me that we never quite know what structures will need division until after division of the tendo Achillis. Many surgeons recommend that tenotomies should be done in stages. I shall be glad to learn the views of surgeons present on these important points.

In deciding whether and what surgical treatment is desirable, I am guided chiefly by the amount of rigidity present. When deformity is due to shortened muscles, the foot is always less rigid than when the ligaments are chiefly implicated. The physiological fact that the muscles are made to lengthen and shorten, while the ligaments are intended to be unyielding and to resist pressure, sufficiently explains the absence or presence of rigidity. Seeing what a harmless operation subcutaneous section of these structures is, I confess myself entirely in favour of cutting them, rather than of wasting time in trying to stretch them.

9. *Section of Ligaments and of Tendons.*—From what I have said concerning the anatomy of club-foot, the important part played by the ligaments in maintaining the deformity, their well-known physiological properties, their unyielding nature and great strength, it will be understood why I attach so much greater importance to the section of ligaments (including also the plantar fascia), than to the section of tendons.[1] In fact, with the exception of the tendo Achillis, I think tenotomy in club-foot might be almost abandoned as a separate or independent operation. The two other tendons most frequently cut are the tibials, anterior and posterior. I believe, if it is necessary to divide them, that it should be done simultaneously with the ligaments with which they are closely associated, and that this is most advantageously done at or near their insertions, where they spread out as fibrous expansions closely blended with the capsular ligaments connecting the head of the astragalus with the scaphoid, the scaphoid with the internal cuneiform, and this latter with the base of the first metatarsal bone, all these joints being much approximated by the incurvation of the inner border of the foot.

Section of these structures should be practised at, or as near as possible to, the junctions of these several bones to each other, beginning at the astragalo-scaphoid articulation, and cutting so long as any obstruction-bands can be detected, traction being made until the foot is quite straight. Fig. 4 represents, in outline, a talipedic foot, and the transverse markings near the heel show approximately the position of the plantar ligaments which may need division. In all severe cases the anterior portion of the internal lateral ligament of the ankle is blended with the astragalo-scaphoid capsule, and helps in the formation of a most formidable barrier to reposition of the foot. Until this structure has been adequately divided, I am quite sure that a good and permanent result is not to be hoped for.

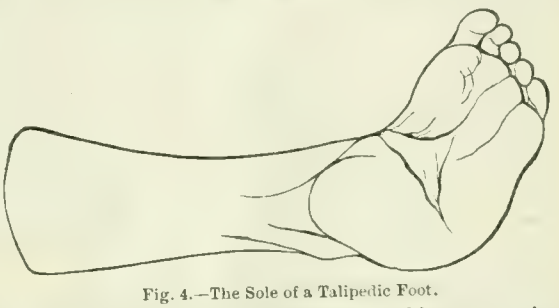


Fig. 4.—The Sole of a Talipedic Foot.

10. *To what Extent should Deformity be Rectified after Operation; and the most appropriate Dressing to apply?*—These are questions of great importance, and are specially adapted for such a discussion as the present one. My own practice is to rectify the deformity immediately as much as possible. In cases of equinus, there is seldom any difficulty in completely overcoming the deformity. In equino-varus—the cases we are more especially concerned with at the present moment—immediate rectification is not always possible, or it is not possible without exerting more pressure than the living foot could sustain for any length of time together. The amount of rectification will depend upon how far we are able or willing to cut the obstructing bands, ligamentous or otherwise, which hold the foot in its abnormal position. Our President recommends that we should do all the cutting at once. In this view I entirely concur. Unless we do so, complete rectification of the deformity will obviously be impossible. Nor is

[1] For fuller details, the reader may consult the author's *Congenital Club-foot its Nature and Treatment*, 1887.

there any valid objection to such a course. I have verified experimentally that there is no reason to fear that tendons, etc., will not reunite, even if their ends are widely separated, as was formerly taught. The question of rectification is of minor moment by side of the still more important one—the division of all retaining bands. For the new embryonic tissue which is poured out in the process of repair will stretch without any difficulty, even if it be left quite alone for two or three weeks, if there are no other structures to hinder it.

Next, as to the most appropriate dressing to apply after operation. I almost invariably apply a stocking of plaster-of-Paris. This exercises an equal pressure all over the foot, which ensures rest and quiet for the incised as well as for the other structures. The foot is manipulated into the very best position that it is capable of, and held firmly until the plaster is hard. As a rule, this dressing is not removed for about ten days, by which time the external wounds are quite healed. When the plaster is removed, the foot is well manipulated, and then a new dressing is applied, the foot, as before, being held in the best attainable position until the plaster is hard. At the end of a further ten days, more or less according to circumstances, a suitable instrument can be applied. Just as the plaster stocking, which secures the rest so useful immediately after operation, is the best first dressing, so a mechanical shoe of some kind, which can be easily removed two or three times a day, becomes necessary in the later stages, when frictions, manipulations, and passive movement are the essential requirements of successful after-treatment.

Complete cure can only be brought about with time and plenty of common-sense management. There is no surgical operation, however carefully performed or planned, by means of which a club-foot can be at once converted into a normal one; for the foot must assume its normal position, and grow into it as gradually as it assumed and grew into the abnormal position. Even in very severe relapsed and neglected cases of talipes, it is quite remarkable what may be done by time after all resisting bands have been divided.

11. *Tarsotomy.*—The question of time, however, is naturally a very important element in many cases. With a view to annihilate this element, and to meet the requirements of certain very severe cases, surgeons have proposed to resect some of the tarsal bones. Dr. Little was the first to make this suggestion, and conceived the idea of removing the cuboid bone in an operation which the late Mr. Solly actually carried out for him in 1857. The ultimate result of this operation was not very encouraging, and orthopædic surgeons almost universally condemned so severe a proceeding, so that nothing more was done in this direction for upwards of twenty years. Mr. Lund removed the astragalus. Mr. Davies-Colley proposed the removal of a wedge-shaped mass of bone from the tarsus. From this time onwards, both in this country, in Europe, and in America, a number of operations have been practised by various surgeons, so numerous and so diverse that it is impossible to mention them all.

Dr. Lorenz, of Vienna, in an admirable essay entitled, "Ueber die operative Orthopädie des Klumpfusses," one of the series of the *Wiener Klinik*, edited by Schnitzler,[2] has tabulated all the cases published up to that time. He divides the operations into:

1. Osteotomies.
2. Enucleations: (*a*) of one bone; (*b*) of two or more bones.
3. Resections of portions of several bones.

The tables include 147 cases operated upon by fourteen distinct methods. We shall probably agree with him in thinking that such a variety of operations for the cure of a deformity more or less identical in its fundamental anatomy is suggestive either of insufficiency or of inappropriateness. Among the cases quoted by Lorenz, the operation was performed:

53 times during the first decennium of life
39 „ „ second „ „
12 „ „ third „ „

In the remaining cases the age is not given. In other words, by very far the largest proportion of the operated cases were children under 10 years of age. One of the cases was an infant 16 months old, at which age the bones are still unossified. Since the publication of this essay several other new operations have been practised, and, if necessary, could be added to the foregoing list.

For the purposes of this discussion, and with a view to challenge the opinion of surgeons present, I will say that I entirely disapprove of tarsectomy in any form in infants and young children, on the ground that it is altogether unnecessary. In subjects over about 15 years of age, as an exceptional measure, it may occasionally be entertained. All operators are careful to state that every other method has been tried and failed before these radical measures were resorted to. This is as it should be. But my dissections have taught me to require that free division of the ligaments shall have been practised before I could accept and endorse the statements "all other methods have failed." I think even open syndesmotomy should be resorted to in severe cases before any part of the bony framework is removed. Mr. Keetley has, I believe, tried this plan, and with gratifying success.

I do not happen to have seen any of the children treated by tarsectomy some three or four years subsequent to their operation. On *a priori* and physiological grounds it seems almost certain that great interference with the subsequent growth and development of the foot and limb must result from so serious a disturbance as tarsotomy undoubtedly is. In some few adult cases, much neglected and in which secondary deformity is considerable, I can conceive that tarsectomy may prove advantageous. The cases severe enough to require this treatment, however, are generally found among the poor. When we bear this fact in mind, and think what an amount of work and of walking can be accomplished on even an exaggerated club-foot, I ask what is gained by tarsotomy? If we have to deal with a patient to whom the bettered appearance of his (or her) foot is worth more than any other consideration, tarsotomy may be invoked to our aid. I am sanguine enough to hope and believe that in years to come there will be fewer cases to require so severe an operation as tarsotomy. A re-study of the anatomy of club-foot, a consideration of the dominant part played by the tarsal ligaments in maintaining the deformity, and an adequate application of this knowledge in treating cases will save the surgeon as well as the patient both time and trouble. There are surgeons who think tarsotomy is indicated on anatomical grounds. I rather think, among these is the distinguished Glasgow surgeon, Dr. Macewen. He considers the operation indicated because the bones are deformed, and regards the club-foot as consequent, dependent upon this. I can only say that among the feet I dissected, specimens of bones were found in which no primary alteration of conformation existed. On this question, however, I shall be glad to learn the views of some among the eminent surgeons present.

12. *Are there any Cases of Club-Foot in which Osteotomy of the Femur may prove Useful?*—An element of difficulty is present in some cases, to which Lücke, of Strasburg first, I think, drew attention, namely, inversion of the entire limb. Such cases should be described as "club-leg," rather than "club-foot." The deformity of the foot can be overcome, and a boot fitted, so that while sitting, the limbs appear quite normal; but the patient still walks with an almost unconquerable tendency of the foot and limb to turn inwards; in a severe case the toes will even turn so much that they point directly backwards. For such cases I would propose Macewen's osteotomy of the femur. I shall be glad to learn the views of surgeons on this point; also how they treat such cases when met with in the severer forms. It seems to me that an osteotomy through the shaft of the femur and an appropriate disposition of the limb below the seat of section would best meet the requirements of such cases.

13. *Will the Removal of Redundant Skin Assist at all?*—When a foot affected with congenital equino-varus deformity has been put straight, there is always a quantity of redundant skin over and about the outer ankle, which forms itself into loose folds. In proportion as the skin is redundant over the outer ankle, is it probably deficient over the inner ankle, and the difficulty of stretching, and permanently elongating this skin is not the least of the impediments we have to overcome. I have often regretted my inability to transplant this redundant skin. Failing this, however, I have removed the redundant portions in the shape of elliptical flaps, and then carefully closed the opening so made. My object has been thus to secure an additional aid in maintaining the foot in its new position, pending the time that the other structures are shortening and accommodating themselves to their new surroundings and requirements.

I think I have now touched on all the points necessary to open up and secure a full discussion on congenital club-foot. My remarks, though in the aggregate somewhat long, on most of the points have necessarily been rather brief; there are other surgeons to follow who will doubtless fill up the gaps I have left. I will conclude by saying that not only as regards tenotomy,

[2] *Wiener Klinik*, tenth year, 1884, Heft v and vi, pp. 117-180.

syndesmotomy, tarsotomy, and osteotomy in this connection, but as concerns all other operative procedures, our improved methods of after-treatment, and our more accurate knowledge of surgical dangers and how to avoid them, justify measures of treatment in individual cases, which a few years ago would have been considered not merely hazardous, but criminal. To us assembled here in this city, and in the University of Glasgow, it must be eminently satisfactory to reflect that to a former citizen and professor, Sir Joseph Lister, we are entirely indebted for these inestimable advantages.

III.—ALEXANDER OGSTON, M.D., C.M.,

Regius Professor of Surgery in the University of Aberdeen, and Surgeon to the Aberdeen Royal Infirmary.

Notwithstanding the many methods proposed for the treatment of club-foot, it must be admitted, I think, that we possess none that is satisfactory in every case, and certainly none capable in other than slight cases of rendering the foot and limb as perfect in shape as a normal foot and limb.

This is, perhaps, not astonishing when we consider that most of the plans of treatment are based on conceptions of the deformity which are entirely at variance with the truth. It is still generally taught and believed, at least in our own country, that club-foot is due to defect in the tendons, some groups being weakened or paralysed, and others opposing them gaining a consequent preponderance. Nothing could be more misleading, and for fifteen or twenty years back this has been universally admitted wherever German literature and investigations are known. No one ever saw a club-foot caused by paralysis; every muscle can be felt and even seen to be acting perfectly. A pes paralyticus is a deformity that can be recognised from club-foot at a glance, and not once in a hundred times can there be a moment's hesitation in diagnosing them. Yet the student of English literature alone would hardly think so, and, as a rule, he still believes that the adjectives, varus, equino-varus, valgus, and equinus, represent separate diseases to be remedied by the division of appropriate tendons. Many a surgeon, trained to these beliefs, has confessed to me that misled by them, he has expected and given as his prognosis that the appropriate tenotomy would result in immediate cure, and has been overwhelmed with shame and confusion in the presence of his patients when the operation has been followed by no benefit. Of course it could not, and we cannot wonder that the treatment of club-foot should be a reproach to us so long as our younger surgeons are not clearly taught the truth, namely, that, club-foot is an arrest of the fœtal unwinding of the limb, and affects all the structures of the foot, leg, knee, and even thigh. In this place it is superfluous, I hope, to explain, or even defend this view, enunciated by Eschricht and proved by so many subsequent writers.

Of all the structures in a distorted limb, the bones, being the hardest, are the most resistant to rectification. The others, including smaller tendons, are comparatively easily stretched without the use of the knife; and only the largest and strongest ligamentous and tendinous structures, such as the tendo Achillis, should be divided by the modern surgeon. Anything more unscientific than the division of the tendon within its synovial sheath cannot well be conceived, for no union betwwen its divided ends is possible: and anything more useless in treating ordinary club-foot could scarcely be named. It is true that such a destroyed tendon is not missed much; the foot gets along without it well enough, but that is a poor excuse for such surgery.

The bones and tendo Achillis, with occasionally the plantar fascia, are the structures that oppose our rectification, and the older they are the harder it is to overcome them. In the first year of life they can be overcome, though not easily, it is true. With every succeeding year the difficulty of finding a force to overcome them with safety increases, and when early childhood is past we can obviate their deformed shape only by something of the nature of surgical carpenters' work.

Promiscuous tenotomy is both unscientific and unnecessary; but we can in the first year of life, beginning a few weeks after birth, gradually guide the shape of the limb by applying to it external and suitable force that, acting on it by long periods, will guide its growth into a better shape, curtailing its morbid convexities, and favouring comparative overgrowth along its abnormally concave sides. The form of the limb, by the slow processes of growth of all its constituents, will gradually adapt itself to such external forces. Of these, splints, elastic traction, and apparatus are all inferior, in my opinion, to the method introduced by Hüter, of rectification by repeated applications of rigid bandages. I do not mean that they are always inferior under such exceptional conditions as those existing in an orthopædic hospital, or in patients where unlimited outlay can be had. Under the immediate eye of a skilled surgeon, directing skilled nurses and attendants, the method is of little consequence, as he can do almost anything with any of these means. But in provincial hospitals, where club-foot must be treated chiefly in the out-patient department, and can be seen often only at long intervals, and still more in general towns or country practice, where a cheap and easy method is the only possible one, they are not only inferior, they are out of the question.

Hüter rectified the foot a little, fixed it in plaster-of-Paris, removing this and increasing the rectification every few days. The number of cases of club-foot I have treated is 173, and I have found it better to modify Hüter's method in some respects. I prefer beginning at six weeks of age, and then, under chloroform, rectifying the deformities by prolonged and considerable force, applied manually, to such an extent that a great deal is gained, and the foot does not spring back to the old position, the elasticity of its structures being exhausted. Then plaster-of-Paris bandages, made of Cafferatas best plaster (the quality is of the greatest importance), rubbed into narrow, fine, book-muslin bandages, are applied next the skin without intervening flannel or padding, and the foot, retained in position during their application by sticking plaster loops, is held in the nearest approach to normal position obtainable by the hands outside the bandage until it is well set. Bandages next the skin can hardly be kicked off by the child. Each bandage lies, not a day or two, but six weeks, and during that time the patient is not seen, but at the end of that time the mother detaches the bandage with a knife, and brings it back for a renewal of the process. If the bandage be not pulled tight during its application, but laid loosely around, no constriction results, but merely accurate adaptation. I never had to remove but one, and that was, as it turned out, unnecessary. It was in a child, aged 7 years, with a nervous mother. The incurved (adducted or varus position) should be completely removed before the plantar (equinus) flexion is meddled with, but once the foot is straight or the anterior part even somewhat abducted, then it should be remedied, and the tendo Achillis always divided. It is useless to try to avoid this; in the early days of my practice I have produced a convex sole by trying to do so, for the plantar fascia and structures arching the instep and fixing the medio-tarsal joint will yield rather than the tendo Achillis. The plantar flexion is overcome by dividing the tendon and by manipulating the foot so as to exhaust the elasticity of the structures resisting, and the limb is then fixed in the improved position by plaster-of-Paris similarly applied, and extending high enough to keep the knee-joint quite extended, to prevent approximation of the divided tendon ends, that is, up to above the middle of the thigh. I may be allowed to say that the discussion lately carried on in our medical papers as to the safety of separating the ends of the tendo Achillis is uncalled for, and that in Germany, and I believe in nearly all Scotland, it has long been known that in tenotomy separation of the divided ends of a non-synovial tendon such as the tendo Achillis never prevents reunion, provided the distance between them does not exceed two inches.

The foot requires three to eight sittings for rectification of its adducted position, and one to three for that of its plantar flexion, depending on the age of the patient; and when it is begun at six weeks of age it is finished by a year, that is, before the child begins to walk. A slight remaining incurvation of the toes is unavoidable in bad cases, and this method, like all others, fails to remedy the knock-knee and other deformities above the level of the foot, which are part of the arrest of development. This method is the best in very young children, but even in those 3 to 5 years old the bones are in some few instances so firm that it is insufficient, even when great force is applied, and in these occasionally, and habitually in older cases, we must have recourse to the carpentry, but it may always be relied on as safe. No harm can possibly be done to the foot, even by great force.

In older cases we have the choice between cuneiform exsection of the tarsus (Davies-Colley), linear osteotomy of the tarsus, Lund's excision of the astragalus, or other methods of less importance. Linear osteotomy of the tarsus by subcutaneous puncture and Adams's saw I have done five times, and have abandoned it. Even after the tarsus is divided, an additional large open wound on the inner side of the foot would be required to allow of any ade-

quate rectification in a really bad case, and such alone requires division of the bones. There is no reason why such a wound should not be made, and allowed to heal by granulation; but we have better methods. Cuneiform exsection of the tarsus I have done three times, and have seen a fourth case in the hands of a colleague The result in all looked pretty to the eye, but when it was examined with the hand it was proved that fibrous union had occurred, and when the patient walked the heel alone was used, the anterior part of the foot being of no assistance, so that, save for the look of the foot, the patient would have been about as well off with a Pirogoff's amputation.[1]

Lund's excision of the astragalus is one that is naturally shrunk from. It is a serious undertaking, and not devoid of risk; and, until it is tried, it does not seem very likely to succeed at the time or give a good result afterwards. I long shrank from it on these grounds, but eventually tried it in a series of really bad cases, where the patients had been through the hands of many other surgeons, two of them even through those of the surgeons to the London Orthopædic Hospital. I have used it in all in five such cases, and found that the prejudice I formed against it (not unnaturally, I think) was entirely unjustified. In a club-foot it is a remarkably easy and rapid operation, so accessible from the outer side is the bone in this deformity. When accompanied with tenotomy of the tendo Achillis, the rectification obtainable by it as regards all the directions of the deformity seen in the worst cases is incomparably superior to that following any other method. The wounds heal easily, even if second intention occurs (two cases) under a fenestrated gypsum bandage, the children walk soon, and the final result is for such desperate cases almost perfect.

Before I ventured to use Lund's operation I obtained results as good, although the deformities were not quite so severe, by osteotomies of the tibia and fibula carried out on the following lines. In six cases I divided by the osteotome, after preliminary tenotomy of the tendo Achillis, the tibia from the inner and the fibula from the outer side, just above the ankle-joint, the operations being on the usual lines of a Macewen's osteotomy, the foot being rectified immediately, and treated by plaster-of-Paris fixation. All healed by first intention, and gave good results. In the earlier ones I dreaded that the bayonet shape of the leg and ankle, produced by the rotation outwards or abduction of the foot, would be a serious deformity. But this was not the case; it existed to a degree invisible under the trousers, and of course gave a more rapid cure than Lund's, with unimpaired movement of the ankle-joint.

In four other cases, all likewise less severely deformed than those in which I performed Lund's operation, the division of the tibia and fibula above the ankle was done as follows. A vertical incision over the fibula just above the ankle-joint permitted subperiosteal denudation and removal of half an inch of the fibula. From this gap the soft parts in front of the interosseous membrane and lower end of the tibia were carefully separated by a subperiosteal elevator, and then the tibia was sawn obliquely through by Adams's saw in a plane antero-posterior to the bone, but extending obliquely outwards and upwards from the outer side of the base of the inner malleolus to a point one inch or thereby above the lower end of the tibia on its outer side, well clear of the lower tibio-fibular articulation. Tenotomy of the tendo Achillis had been done as a preliminary, and it was easy now to rotate the foot, outer malleolus, and detached part of the tibia (which was not removed) into such a position that the sole of the foot would come to the ground throughout. These four cases also healed by first intention, and the cure was quite satisfactory. Three of them were in children, and I have heard of no harm to the subsequent growth of the leg from interference with the lower epiphysial cartilage of the tibia. One was in an adult, a farm servant, who could not work for corns on the outer edge of the foot, but in whom the result of the operation could not have been more satisfactory.

IV.—JAMES WHITSON, M.D., F.F.P.S.G., F.R.M.S.,

Assistant-Surgeon, Glasgow Royal Infirmary.

In approaching the operative treatment of club-foot, we shall gain most information as to the best methods of procedure by a careful study of the pathology of that deformity. In talipes varus, the form now under consideration, we have an inversion of the sole of the foot, together with a contraction of certain muscles and ligaments, and we have also a change in the shape of the tarsal bones, more or less pronounced according to the age of the patient, as well as a corresponding alteration in their articulating surfaces. The astragalus—the keystone of the arch of the foot—differs considerably from that in the normal subject, and by doing so affects other bones in its immediate neighbourhood. The trochlear surface, instead of being evenly balanced, slopes gradually downwards from the outer to the inner side, and consequently is much deeper at the one side than at the other. The neck, which normally projects straight forwards to articulate with the scaphoid bone, is bent to the side. Not only do these malformations on the part of the astragalus form marked impediments to the restoration of the foot to its proper position, but they necessitate the mal-articulation of other tarsal bones, and by so doing throw increased obstacles in the way of treatment. As the patient grows, the bony deformity becomes more pronounced, and as a natural consequence the difficulty of effecting a cure advances in an equal ratio. In the infantile stages the foot ought first to be stretched and then maintained in the proper position till the cure is complete, and until the astragalus approaches its normal shape the foot will always exhibit a marked tendency to resume its old habit. After the second or third year the foot cannot be successfully brought round to its normal site by mechanical means. The soft structures might be stretched were they alone at fault, but the resistance which the osseous deformity offers is much too formidable to be overcome in this way, and some other means of coping with it must be resorted to. The only method which holds out any hope of permanent benefit is the extraction of a portion of the tarsus, and the gap which is thereby created facilitates the turning of the sole towards the ground. It is well to bear in mind, however, that this alone will not effect a cure. It is merely the first step—the foundation-stone, as it were, of the cure—and careful after-treatment for eighteen months or even longer is necessary if we are to gain our object.

Case of C. McL.



Fig. 1.—Patient prior to operation in February, 1883.

[1] Buchanan's tenotomy of the plantar fascia is only occasionally required. I have had but thirteen cases where I considered it desirable, and even in these it effected little improvement. I have never seen a case that seemed to me to require Davies-Colley's excision of the cuboid.

In the operative treatment of club-foot there are three operations which have been advocated and performed for the cure of this deformity. These are as follows:

1. The removal of the cuboid bone.
2. The removal of a wedge from the tarsus, which may be said to be almost the same as the preceding, seeing that the cuboid composes the major portion of the wedge.
3. The removal of the astragalus.

The first two may be placed together, for the object aimed at in both is almost identical—the making of a gap on the outer aspect of the tarsus sufficient to permit of the foot being turned round to its proper position. When the cuboid is removed a gap of some size is created, and the empty space thus made assists materially in the turning of the sole towards the ground. The operation is best performed antiseptically, and the speedy closure of the wound is a point to be aimed at, because the sooner healing takes place the sooner can we begin the subsequent treatment,

Case of C. M'C.

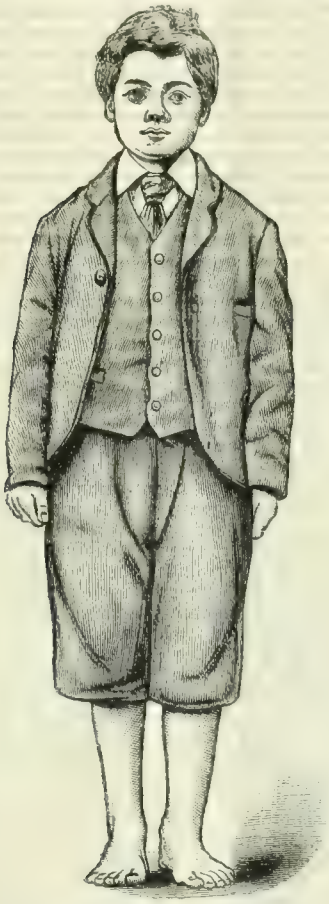


Fig 2.—Patient at present time.

without which the primary operation will be useless. A metal splint shaped to the foot and leg favours healing by fixing the parts, and it also aids in keeping the foot in good position. In the carrying out of the secondary treatment, we must bear in mind that we have still contraction of the soft parts as well as great osseous deformity to contend with, and that until we succeed in overcoming these we cannot hope for a satisfactory cure. The astragalus, for example, on whose symmetry so much of the attitude of the foot depends, as yet remains unaffected, and if we are to proceed on a satisfactory basis we ought at once to direct our energies to its improvement. In such a case as that now under consideration what is the best course to follow?

After the wound heals, the foot must be forced into the proper position, and maintained there for a number of months consecutively. In this way the soft parts are kept continu-

Case of J. McD.



Fig. 3.—Patient prior to operation in August, 1883.



Fig. 4.—Patient at present time.

ously stretched, and the bones are placed in favourable circumstances for attaining their normal growth. No plan answers this better than the stretching of the parts and the subsequent incasing of the foot and ankle in paraffin boots. Paraffin as a remedial agent in club-foot presents many advantages. Its initial cost is trifling, and, if proper precautions be taken in its application, no future trouble is given. It is kept on continuously, so that the foot has no chance of resiling to its original position; the patient can occupy any posture without discomfort, and it remains unaffected by water at ordinary temperatures. The pressure which it exercises is so well diffused that abrasions seldom occur, and those can be almost entirely prevented by bathing the parts well with methylated spirit for several days prior to its application.[1] In stretching and moulding the foot before putting on the paraffin boot it is best to have the patient anæsthetised; for under the influence of chloroform the parts can be manipulated with a freedom not otherwise possible. In most cases of talipes varus there is a little of the equinus element generally added, necessitating at one time or another the division of the tendo Achillis. It is advisable, however, not to cut this tendon till the later stages of cure have been reached, for the resistance which its contracted condition offers forms a valuable fulcrum in stretching the foot to the desired position. The treatment after operation must be diligently pursued for a year or eighteen months. When the paraffin boot is dispensed with, great pains must be taken to see that the patient walks properly with the sole on the ground; and if this be not enforced, there is a strong probability that the foot will lapse back to its old habit. In many cases there is a tendency to atrophy of the muscles of the leg, which may be assisted by a regular and well-conducted course of massage.

In cases of talipes varus from four years old and upwards, nothing short of the excision of the astragalus will suffice. The deformity is so great that a cure cannot be effected in any other way. Here, too, the same after-treatment must be gone on with, and persistently adhered to till a good result is obtained.

I now propose to bring before you two cases of congenital talipes varus, in both of which extraction of the cuboid bone was practised under antiseptic precautions in 1883, and, as five years have elapsed since then, you will have an excellent opportunity of judging from the photographs taken at that time of the success of this particular method of procedure.

The first case is that of C. McL., aged 3 years and 7 months. He was operated on during February, 1883. As soon as the wound healed, the parts were stretched under chloroform, and a boot of paraffin applied. This treatment was continued for more than twelve months. In January, 1884, the tendo Achillis was divided, as there was still a little of the equinus element present. When the patient began to move about, great pains were taken to see that the sole was placed properly on the ground—an important element in the ultimate success of such cases, and to which too much attention cannot be paid.

The second case is that of J. McD., aged 2 years and 3 months. Here the cuboid bone was removed in August, 1883. The same line of treatment was adopted as in the foregoing, and it is, therefore, needless to add further particulars. Woodcuts showing the condition of the parts prior to operation and at the present time are appended.

A careful examination of the cuboid was made in each case after removal.

In that of C. McL. the plantar surface looks inwards, and the internal surface points almost directly upwards. The surface which looks naturally upwards has a considerable obliquity outwards. The outer border is converted into a mere linear margin, and there is an increase in size in the facet, which articulates with the fifth metatarsal bone.

In the case of J. McD. the direction of the calcaneal articular, instead of looking directly backwards, has a distinct inclination outwards. There is also considerable shortening of the outer border.

As a result of the malformation just described, the antero-posterior diameter is necessarily greater than usual, and in proportion to the increase in this diameter the bone acts as a wedge, adding to the normal distance between the os calcis and the fourth and fifth metatarsals. In doing so it materially assists in preventing the foot assuming its proper position.

[1] Paraffin wax suitable for this purpose can be obtained from Young's Paraffin Oil Company, 30, George Square, Glasgow. The price is 10d. per lb., and, in ordering it, care should be taken to see that the material supplied has a melting point of 128° F. Paraffin boots, as a general rule, require renewing once a month.

V.—GEORGE BUCHANAN M.D.,

Professor of Clinical Surgery, University of Glasgow; Surgeon, Western Infirmary, Glasgow.

Professor George Buchanan, the President of the Section having left the chair, said:—Although each case differs somewhat from another, yet for practical purposes talipes varus may be divided into three classes. First, those of minor degree to be seen in very young children, and even occasionally in boys and girls of some age, in which the deformity depends on shortening and rigidity of the tendons, fasciæ, and ligaments. In such examples, by continuous force applied by the hand, the deformity can be gradually overcome till the foot assumes a fairly normal position, and can be kept in it by some kind of retaining appliance as explained by Professor Ogston, this manipulation and fixation to be repeated at intervals till the abnormal condition is finally remedied. Secondly, cases in which the abnormal position of the bones is maintained by such a degree of tension and rigidity of the soft parts as renders reduction by hand practically impossible without the division of the offending structures. The sections I find it usually necessary to make are first, always, the tendo Achillis to relieve the equinus part. I never divide the tibialis posticus behind the ankle, being satisfied that such a muscle, as well as all the other muscles arising in the leg and inserted into the foot, can be stretched by sufficient manipulation; but, secondly, the structures which do maintain the incurved form of the foot, the plantar fascia and the muscular substance attached to it—namely, the abductor pollicis and the adjoining half of the flexor brevis digitorum; probably also the part of the deep plantar ligament which binds the astragalus to the scaphoid and other bones distal to it. In order to divide these, which I consider the most resisting tissues, I enter a tenotomy knife at the inner edge of the foot opposite the tuberosity of the scaphoid bone, pass it flatly superficial to the plantar fascia, till the point reaches the middle of the sole of the foot; I now turn the edge of the knife vertical, elevate the handle to depress the point, and cut through and through the plantar fascia and the muscles underneath it till the point is over the articulation between the head of the astragalus and cup of the scaphoid bone. Here the point is made to cut through the tendon of the tibialis posticus proximal to its insertion into the scaphoid tuberosity, and by the same cut the deep ligamentous fibres are divided, thus completely freeing the astragalo-scaphoid ball and socket joint, which is really the one on which the incurvation of the foot hinges. In doing this the external plantar nerve is wounded, but in my experience it always unites, at least never loses its function. So also the internal plantar artery is divided; but it is a small vessel, and never gives trouble, the foot being nourished by the deep plantar arch from the external plantar artery. In my own experience, involving a large number of operations, and in the practice of others who adopt my operation, including most of those who have been educated in this university and others who have read my papers, not an accident has ever occurred from this somewhat heroic incision; but it has been attended with most fortunate results. There is a third class of cases in which, owing to long-continued pressure from walking on the distorted foot, the bones have been so altered in their shape and relations that something more is required. Some part of the tarsus has to be excised to allow of reduction of the deformity. I would never encourage or consent to such an operation in children of tender years. It is unjustifiable. Manipulation and subcutaneous section are quite sufficient for them. And if we could always get our patients before they are allowed to crush in the foot by walking, then tarsotomy would soon become as rare as it was ten years ago. But unfortunately we do get cases of this pronounced kind, and it will be so in future, and for them this bone removal is required. Excision of the cuboid, excision of a wedge of the tarsus, excision of the astragalus, have all been proposed, and performed, and lauded by their respective advocates. I adopt whichever seems suited best to the individual case. I shall not pursue this subject, but shall ask your attention to a mode of operation for excision of the astragalus more simple than most I have seen recommended, and which has been attended with most marked success in a case now in ward viii of the Western Infirmary, and which was examined by Mr. Lund yesterday, to whom I refer for corroboration of the perfection of the restored form of the foot. The operation was devised and practised by my father forty years ago for excision of the astragalus for disease. A semilunar incision is made below the external malleolus, beginning at the edge of the tendo Achillis and extending to the tendon of the peroneus tertius. The

tendons of the peroneus longus and brevis are divided. The fasciculi of the external lateral ligament are cut, when the foot can easily be twisted inwards, the upper articular surface of the astragalus now looking outwards. The interosseous ligaments between the astragalus and os calcis are divided with the point of the knife, and the astragalus grasped with a lion forceps. It can now be wrenched from its place, any ligamentous fibres which attach it to neighbouring bones being cut. Little hæmorrhage takes place, and the foot can now be replaced and will be found readily to assume a position at right angles to the leg, with the sole in a normal state. In this position it is secured by a suitable splint, and the wound treated antiseptically. What happens to the divided peronei I am not curious to know, as the new ankle-joint performs all its usual movements. But if anyone should be anxious to secure the union, the divided ends should be brought end to end, the two cut extremities can be tied together with catgut sutures.

VI.—Mr. NOBLE SMITH, F.R.C.S.Ed.,
Surgeon, All Saints Children's Hospital.

Mr. Noble Smith considered that osteotomy was rarely if ever required in children under 10 or 12 years of age. That after seeing a large number of cases operated on by osteotomy he had no reason to alter this opinion. Plaster-of-Paris was of the greatest use in the early stages, and all operative treatment should be deferred until the resistance of a structure seemed to demand it. Until the foot can be placed in a perfect position the bandage should not be left on for longer than a week or ten days, when it should be reapplied, the foot being forcibly held in as good a position as possible. Complicated apparatus are never necessary, but careful adaptation of light and simple splints is effective.

VII.—Mr. H. P. SYMONDS, F.R.C.S.Ed.,
Surgeon, Radcliffe Infirmary, Oxford.

Mr. Symonds said he had practised the operation of dividing the tarsus with the chain saw for four years with very satisfactory results. It was applicable to cases of varus and valgus, whether simple, or combined with talipes equinus or calcaneous; in the latter, tenotomy must be used to complete the cure. He preferred this operation to any other, such as the removal of the cuboid, head of astragalus, scaphoid, etc., for the following reasons:—1. It was more simple and more easily executed. 2. There was practically no deformity left. 3. It was almost a subcutaneous operation. The situation of the section was at the greatest convexity of the tarsus. A small incision was made on the outer border of the foot below the convexity already mentioned, a knife to which a chain-saw was attached was passed through the sole, from without inwards on the right side, keeping as near to the bones as possible, appearing on the inner side at a point exactly opposite to where it entered; the knife, followed by the saw, was withdrawn, and reinserted at the inner opening, only this time it was carried above the tarsus beneath the tendons on the dorsum of the foot, passing out at the original opening on the outer side. The knife was detached, leaving the saw encircling the tarsus at its greatest convexity. Handles were attached to the end of the chain-saw, and with a few to-and-fro movements the section was completed. The operation was done under the carbolic spray with all antiseptic precautions, great care being taken to see that the chain-saw was thoroughly clean. The foot was dressed at the end of twenty-four hours, and again at the end of a week, when it was put up in plaster-of-Paris for a month or six weeks.

Reward for Bravery.—Dr. Thelwall, of Farndon, was presented at Chester Police Court, on Saturday last, by the Chairman of the Bench, with the Royal Humane Society's medal, for conspicuous courage in saving life. On August 28th, a man named Youde flung himself into the Dee, when it was in flood. Dr. Thelwall was passing, and at once jumped into the river, and brought the man ashore in an unconscious condition. He then set to work to restore animation, and eventually succeeded.

Ambulance and the Police.—The inspector, one sergeant, and six constables, stationed at Fleetwood, have been examined in ambulance work by Dr. Trimble, of Preston, and received commendation.

The Medical Entrance Exhibitions at University College have been awarded to F. W. Wesley (£100); C. G. Spencer (£60); and B. L. Abrahams (£40).

SCOLIOSIOMETRY[1]; OR AN ACCURATE AND PRACTICAL METHOD OF RECORDING CASES OF LATERAL CURVATURE OF THE SPINE.

Read in the Section of Surgery, at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

By BERNARD ROTH, F.R.C.S., London.

I have read many works on lateral curvature of the spine, but I do not remember ever having finished the perusal of any author with a clear and definite idea of the cases of scoliosis described. Every surgeon who has attempted to understand the proper treatment of lateral curvature, and has lost his way in the labyrinth of innumerable methods of treatment which he has entered, will support me in the statement that up to the present time no accurate and practical method of recording these cases has been presented to the profession. Before proceeding further, let us agree on some simple method of classification of the various stages of this most terrible, in its severe forms, of all deformities which come under the care of orthopædic surgeons.

Dr. Oscar Witzel, in Gerhardt's *Handbuch der Kinderkrankheiten*, 1887, very ably shows that every pathological form—that is, osseous deformity of the spinal column—is preceded by a pathological posture, in just the same way that the normal osseous form of the spine in the adult is the result of the various postures of the individual during years of growth from infancy. I agree with those who maintain that in lateral curvature of the spine osseous deformity is always preceded by so-called "postural deformity." Some surgeons, however, deny that lateral curvature exists unless associated with osseous deformity of the vertebræ, and, like Mr. W. Adams, speak of "weak spines," which "frequently pass into and become cases of confirmed lateral curvature." However, when once osseous deformity has set in, to that extent, the case is now acknowledged to be incurable by leading surgeons; cases with osseous deformity only differ from one another according to the degree of this deformation.

The best classification is, therefore, to divide all cases of lateral curvature into two large groups, quite irrespective of their causation, namely: (1) those without any osseous deformity of the ribs or vertebræ, shortly "postural stage;" and (2) those with osseous deformity, "osseous stage," which may be conveniently subdivided into (*a*) slight, (*b*) moderate, and (*c*) severe or extreme, according to the degree of the osseous deformity present. After this explanation, we can appreciate the confusion that reigns everywhere in the literature connected with the treatment of scoliosis. In a lecture given by Professor Lewis A. Sayre, of New York, December 24th, 1879, he mentions the case of a young lady, aged 25, with "well-marked double lateral curvature of the spine," whose treatment by plaster-of-Paris jackets was commenced on April 16th, 1879, and ended on December 3rd of the same year, when "she is perfectly cured." In the same lecture Professor Sayre declares "that many cases become perfectly cured in a year, and are not compelled to use any jacket at all afterwards." I maintain that these were cases of lateral curvature of the first or "postural" stage, without any osseous deformity, although some surgeons would deny their having been cases of lateral curvature at all.

Mr. W. Adams, in his *Lectures on Curvature of the Spine*, 2nd edition, 1882, p. 265, says, "In all the slighter cases in youth, a judicious combination of mechanical support.....according to the situation, form, and severity of the curvature is the only scientific treatment to be relied upon in practice for curing such forms of curvature as are capable of being cured." Again, at page

[1] The German writers use the term "Scoliosometry," and the first notice of my paper was given in the Journal under the title of "Scoliometry," so I applied to my friend, Mr. John Tweedy, who is an able medical etymologist, in addition to being one of our leading ophthalmic surgeons. He wrote: "Scoliometry would mean the art of measuring with a curved or crooked measure, whereas I understand you mean the art of measuring the curvature. This would be "Scoliosiometry," from σκολιωσις and μετρον. In compound words derived from nouns of the third declension, the rule is to drop the final σ and add ο, as in φυσι-ο-λογος, from φυσις and λογος=*physiology*; so σκολιωσις would drop the final ς and add ο, making the compound word given above.

268, he says, "If these cases be submitted to treatment before any very obvious external deformity has occurred, they are generally curable within one or two years." I am sure no surgeon could tell me, after studying Mr. W. Adams's book, to which stage of lateral curvature he refers, whether with or without osseous deformity, and what he means by the word "cure" when employed by him. I could go on for hours quoting from various writers, with the same confusing and confounding results.

Several attempts have been made to record and measure accurately cases of lateral curvature. Mr. Barwell and others have recorded the number of degrees of deviation of the distorted spine from a plumb-line dropped from the seventh cervical vertebra. Others, again, have taken accurate drawings and measurements of the patient's figure, not only posteriorly, but also laterally. Dr. Mikulicz employs a special apparatus, which is attached by a pelvic band to the patient, and requires, even in the hands of the inventor, from five to ten minutes to give a record of one position. A much more complicated measuring and drawing instrument (skoliosometer. Germ.) is that of Dr. Schulthess, which consists of an iron stage on which the patient stands, and in which he is fixed; innumerable screws and rods surround him, and, according to the author, from fifteen to twenty minutes are required to obtain a record; this is given by a pointer, which is made to follow the contour of the patient's back, and to the other end of which a pencil is attached, which reproduces the contour on a sheet of drawing-paper. A third method is to place a roughened sheet of glass in front of the patient's back, and to trace his outline in the same way as is done in the toy slates intended to teach children drawing.

Unfortunately for these methods, every case of lateral curvature, with the exception of those with extreme osseous deformity, causing complete ankylosis of the vertebræ, presents at least two erect postures, one when the patient is in his habitual position, and the other when placed in the best possible position by the surgeon. Now it appears to me absurd to take careful measurements of the degree of curvature of a patient at the first examination, whilst he is in a comfortable, that is, the habitual posture; and then a few weeks or months later to take measurements again, while the patient may be in the best possible posture temporarily assumed, as appears to be done by most authors. Undoubtedly a series of instantaneous photographs, taken according to my suggestion in the habitual and then in the best possible posture, are as good a record as can be obtained for cases of scoliosis of the first class (postural or non-osseous deformity cases), and for subdivision *c*, or severe cases of the second class (osseous deformity cases). But for cases in subdivisions *a* and *b* of the second class, where the osseous deformity is only slight or moderate, photography is less useful, as it gives no sufficiently accurate record of the amount of this bony deformity. Besides the taking of a series of photographs entails far too much time to be frequently employed in active professional practice.

Now the method I wish to bring before you to-day is so simple, and yet so efficient, that it applies equally to all cases of scoliosis. It scarcely requires a minute to obtain a record, and can be relied upon for reference for any number of years afterwards.

A very short description of the method was given in my article, Lateral Curvature of the Spine, in *Heath's Dictionary of Practical Surgery*, 1886, so short, indeed, that, having been several times requested to amplify it, I decided to prepare this paper for to-day.

The patient is placed in front of the surgeon, standing without shoes, with knees extended and feet together, all clothing having been removed to well below the iliac crests, so that the gluteal cleft is just visible. We will suppose that the legs are of equal lengths, or have been made so by a block placed under the shorter limb. Here I may say that surgeons who can draw ever so little will find a rough outline sketch of the patient's back and spine, while in the habitual position, useful before proceeding further; and that the curve of the spine is more readily recognised if marked with a soft copying-ink pencil (see Figs. 1 and 4). After inspecting the patient laterally and in front, the trunk should be flexed as far as possible, the knees being kept extended, and the arms allowed to hang down loosely, so that the scapular muscles are thoroughly relaxed. Now the level of the ribs posteriorly, uncovered by the scapulæ, should be carefully examined for any inequality. In the most common form of scoliosis with dorsal (upper) convexity to the right, if there be any osseous deformity present, the right ribs will be more or less unduly prominent, sometimes so slight that a good light and a well-trained *tactus eruditus* are necessary to make out a difference on the two sides. I now take a tracing of the ribs posteriorly as follows. I feel for the lower angle of the left scapula, and, fixing one end of a pliable metal tape with my left hand at that point, I carefully mould the tape close to the ribs across the spine, to the lower angle of the right scapula, which is likewise to be carefully felt for. With the copying pencil, I mark the metal opposite the dorsal spine, and then carefully remove the tape, upper edge downwards, on to a sheet of quarto-size paper, and draw a tracing inside the tape, marking on the paper the point where the tape crossed the spine. The pencil line is afterwards inked, and the tracing cut out and folded thus down the middle (see Figs. 2 and 5), opposite the point marking the spine, and we have now an accurate record of the ribs posteriorly (see Figs. 1 and 4).



Fig. 1.—Rough sketch of back of girl, aged 16, with severe scoliosis (habitual posture).

Similarly, a record is taken of the erectores spinæ muscles, usually midway on each side between the last ribs and the iliac crests—that is, opposite the third lumbar vertebra, marking the tape as before where it crosses the spine. (See Figs. 3 and 6.)

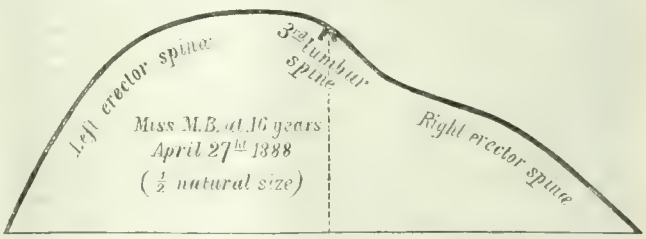


Fig. 3.—Tracing of loins midway from ribs to iliac crests in flexed position of trunk in same patient as Figs. 1 and 2 (half natural size).

A little more dexterity is required if the patient is stout or the erectores spinæ are bulky, as, if too much pressure is employed in moulding the tape to the contour of the loins, the muscles and soft tissues will cause the tape to spring up when the pressure is removed, and this will vitiate the record. This second outline is then transferred to the paper with the tracing of the ribs posteriorly.

In cases of extreme osseous deformity I have found it advisable to take the tracing of the ribs posteriorly at a higher level—that is, from the top of the left axilla to the corresponding place on the right, including thus a portion of each scapula, the patient having the trunk thoroughly flexed as before. In this case I also mark on the metal tape where it touches the inner border of each scapula, as in this tracing of a girl aged 17 years. (See Fig. 5.)

Unless this modification is adopted—that is, taking the tracing from between the axillæ instead of from between the lower angles of the scapulæ—tracings of the ribs posteriorly in extreme cases are unsatisfactory, too little of the ribs posteriorly being given when the tracing simply extends from the lower angle of one scapula to that of the other, from more or less increased immovability and displacement of the scapula, as can be seen in Fig. 5, where very little of the right ribs posteriorly would be shown if I had stopped the tracing on reaching the right scapula.

Although this method has taken rather long to describe, it enables a surgeon to obtain a correct and reliable record of a case of scoliosis in less than a minute after a little practice.

The metal tape I employ is made of pure tin, and is 20 inches long, five-eighths of an inch wide, and about one-twenty-fifth of an inch thick (50 centimètres long, 1.5 centimètre wide, and 1 millimètre thick), and can be obtained from Messrs. Mayer and Meltzer, of London, in a small case to go in the waistcoat pocket.

Several writers on scoliosis have employed a metal tape, but their records are of but little use because the tracings were taken when the patient was erect, when the real amount of osseous deformity is more or less masked by the scapula, as far as the ribs posteriorly are concerned, and by the contraction of the loin muscles with reference to the lumbar vertebræ.

When there is osseous deformity of the ribs anteriorly, especially in cases of pigeon breast, a tracing can be easily taken from one axilla to the other, either on a level with the nipples or, where the mammæ are undeveloped, just below or above them, marking on the tape the position of the nipples and the mid-sternum. In taking this anterior tracing the patient should be placed in the best possible position, with the thorax well thrown forwards, and he should endeavour to press against the tape whilst it is being moulded to his outline.

I have employed this method of recording cases of lateral curvature for several years past, and have found it more useful with each year's further experience of it. By its means I have been able to show gradually increasing osseous deformity in cases of scoliosis due to infantile paralysis of the spinal muscles, than which there are no worse cases to treat, and also in bad cases of scoliosis after empyema. I have also demonstrated further increase of the osseous deformity where my advice has not been followed, and the patient has come back to me after an interval of months or years.

I am convinced that if this method of recording cases of lateral curvature were adopted generally, it would be the death-blow of the treatment of such cases by steel, poroplastic, and other supports, except in a few rare cases with more or less complete paralysis of the spinal muscles. These tracings enable surgeons to recognise how the osseous deformity of the ribs and vertebræ gradually progress from bad to worse in spite of the most complicated and expensive spinal supports. Faith being lost in spinal supports of all kinds, it will be found that the only rational and really successful treatment of lateral curvature, and one which is

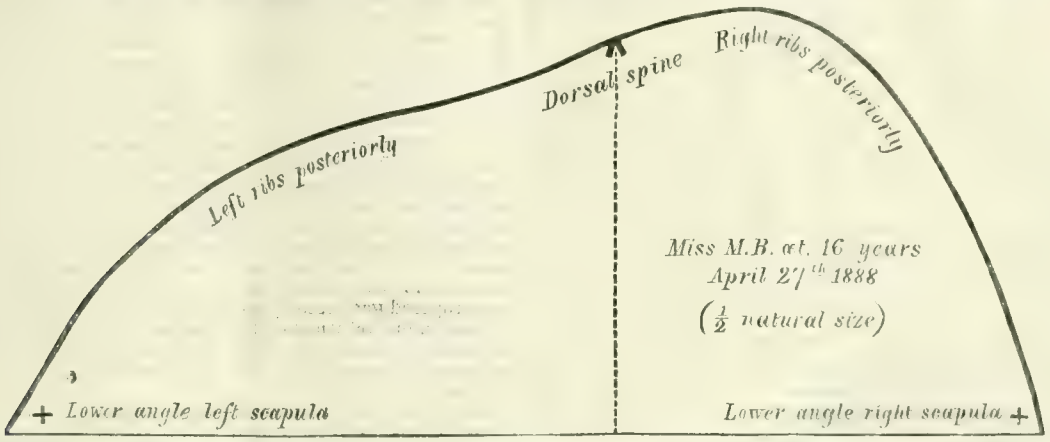


Fig. 2.—Tracing of ribs posteriorly taken from lower angle of one scapula to that of the other, in flexed position of trunk, in the same patient as Fig. 1 (half natural size).

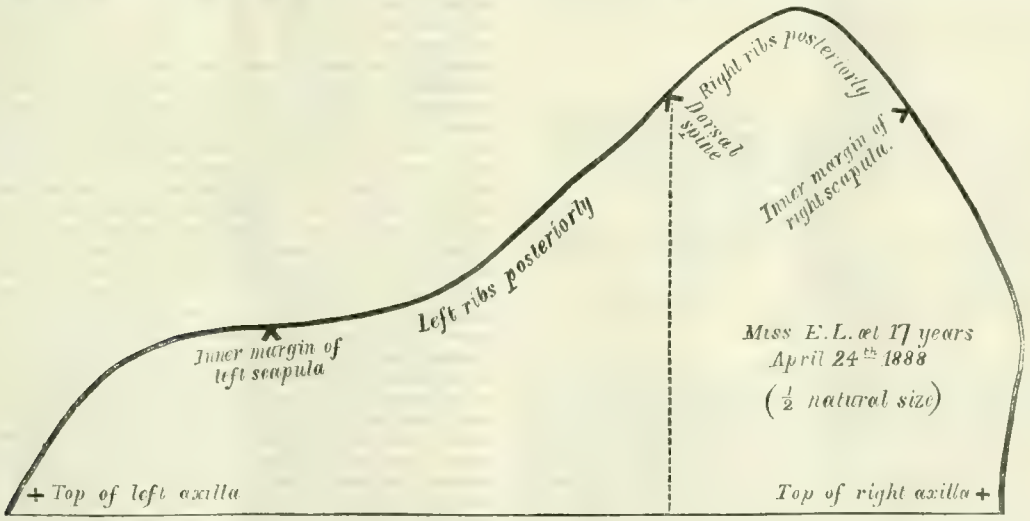


Fig. 5.—Tracing of ribs posteriorly, taken from one axilla to the other, in flexed position of trunk, in same patient as Fig. 4 (half natural size).

far more rapid than any other yet offered to the profession, is that which I have the honour to advocate, that is, re-education of the muscular sense of the best possible position, and methodical



Fig. 4.—Rough sketch of back of girl aged 17 years, with extreme scoliosis (habitual posture).

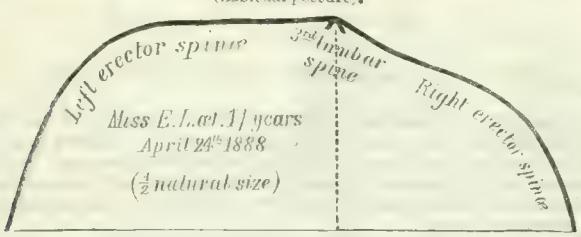


Fig. 6.—Tracing of loins midway from ribs to iliac crests in flexed position of [illegible] trunk, in same patient as Figs. 4 and 5 (half natural size).

exercises of the muscles to enable the patient to maintain this improved position without effort; or, to put it more shortly, "treatment by posture and exercise."

A CASE OF GASTROSTOMY, WITH EXHIBITION OF THE PATIENT ELEVEN MONTHS AFTER THE OPERATION: SUBSEQUENT HISTORY, DEATH ON 403RD DAY.

Read in the Section of Surgery at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

By JAMES MURPHY, M.A., M.D.,

Surgeon to the Sunderland Infirmary; President of the Northumberland and Durham Medical Society.

The patient that I have the pleasure of bringing before the Section, is a man, J. L., aged 47, on whom I performed gastrostomy on September 9th, 1887, and nothing whatever has passed through his œsophagus since three days before then, that is since September 6th, although he has gained considerably over twenty pounds in weight. His history is as follows. He is a rivetter by trade. His father died, aged 42, of some brain disease, from which he suffered for only a few days. His mother died, aged 37, of phthisis. There are 6 brothers living, and 2 sisters; one sister died, aged 25, of phthisis. The patient has always enjoyed excellent health, never had any form of venereal disease, lived a sober life, and has been nearly always in constant work, till January 1887, when he was off work for five weeks, from a blow of a hammer, that fell on his right side while at work.

In April, 1887, when in what he considered excellent health, he found one day, at dinner, that a piece of meat stopped in his œsophagus, and that he was unable to swallow it, and in a few seconds he vomited; he found that he could finish his dinner only by chopping up his food very fine, and from this date till August, when I first saw him, his difficulty in swallowing had gradually increased, so that eventually he could only swallow liquids, and even those in very small quantities and very slowly. In August he consulted my friend Dr. Coatsworth Watson, who, recognising it as a stricture of the œsophagus, kindly sent him to the Sunderland Infirmary, under my care, with a view to having gastrostomy performed.

On admission he presented the appearance of a man in a state of great exhaustion and very much emaciated, with a well-marked malignant cachexia; he could with difficulty swallow a few drops of milk, and if he took as much as a teaspoonful at a time, he almost immediately vomited it. A full-sized bougie passed with ease as far as the lower third of the œsophagus, where its course was abruptly stopped; beyond this it was impossible to pass the smallest size. In the attempt to do so a little blood was found on the end of the tube. He has never vomited blood, nor felt any pain where the obstruction occurs, which he can point to, and on carefully listening with a stethoscope, the fluids seem to stop at the point indicated. He has a double inguinal hernia; there are no scars in his groins. From the absence of all causes which might give rise to traumatic stricture, the denial of syphilis, the history of his symptoms, and, above all, the cachectic appearance, I regarded it as a case of malignant stricture of the œsophagus, and proposed gastrostomy to him; this he refused, and left the infirmary, but returned on September 8th, not having been able to swallow a single drop since September 6th. On the next day I performed gastrostomy, adopting practically the method of Howse.

Taking as a guide the triangle of Tillaux[1]—which has for sides the left costal cartilages; and the liver, and for base a line drawn transversely from the tip of the tenth rib, recognisable by the break in continuity and the fremitus that can be obtained owing to its ligamentous attachment to the ninth rib—I made a vertical incision down to the sheath of the rectus, about two inches long, having for its centre the centre of this triangle. I then incised the sheath of the rectus, and, dividing its fibres with the handle of a scalpel, opened the peritoneum, the hæmorrhage, which had been very trifling, having been arrested. On passing in two fingers, I at once seized the transverse colon, which was easily recognisable by its thin feel; this I gently pulled downwards, and, passing my fingers underneath the left lobe of the liver, swept it well over the vertebræ and readily found the stomach, which I easily brought through the wound, and passed a strong and moderately thick silk ligature for about half an inch through its serous and muscular coats, to hold it by while passing the sutures. By gently pulling the stomach as far as possible in the opposite direction to that in which I was passing a suture, I passed eight silk sutures in a circle through the serous and muscular coats of the stomach, and then through the whole thickness of the abdominal walls about an inch from the incision. The method I found most convenient for passing the sutures was using a silk suture eighteen inches long, with a rather thin, slightly curved needle about two inches long on each end. The suture was then passed through the coats of the stomach, and each needle was passed from within through the whole thickness of the abdominal wall. The sutures, on being passed, were secured with Kœberlé's forceps, and finally, when all the eight were passed, each was drawn tight and knotted, no bougie or other substance intervening. After this six others were passed, first through the coats of the stomach, and then through the peritoneum and skin, and then secured. The suture which was used to manipulate the stomach was knotted at the distance of a couple of inches and left on. The patient was supported by enemata for five days, when a narrow tenotome was passed through all the coats of the stomach, the patient not feeling the puncture, and through the small opening thus made a No. 7 gum-elastic catheter was passed, and on this the funnel of a binaural stethoscope was attached, and a couple of ounces of warm milk allowed to flow gently into the stomach, and next day all the sutures were removed, the wound having healed. He was fed in this manner with a small quantity of either milk or beef-tea every few hours, and in a few days a flexible india-rubber tube was introduced; and he wears this constantly, and changes it himself every six or seven weeks. There never was any rise of temperature; indeed, for the first few weeks he had a subnormal temperature. He soon began to

[1] *Vide Traité d' Anatomie Topographique avec Applications à la Chirurgie.* Par P. Tillaux. Page 719. Quatrième édition. Paris: Asselin et Houzeau. 1884.

put on flesh, and his appearance gradually improved in a marked degree. Unfortunately, he was not weighed till about a month after the operation, when he had put on a considerable amount of flesh, his weight then being 7 st. 8 lbs., and in a few months it reached 9 st., at which it has continued ever since with but slight variation. He now takes for breakfast a pint of milk and an egg; for luncheon, a pint of beef-tea; for dinner, one pint of milk and an egg; and for supper, a pint of beef-tea; and a couple of pints of milk during the night. He generally feeds himself sitting in a chair. The wound is always quite dry, but a little time ago he had an attack of bronchitis, and the coughing would sometimes force a little moisture round the tube shortly after a meal, but this has passed off. He does not complain of any dyspepsia or intestinal trouble. His bowels are regular. He cannot distinguish any taste of what passes into the stomach, but can readily detect its temperature, and experiences a pleasant sensation of warmth after taking alcohol, which he takes in a small quantity in his milk. After he has fed himself there is a copious flow of saliva, which passes into his œsophagus; and after a little time he has to vomit this, when he sometimes detects the taste of egg, beef-tea or milk so strongly that he fancies he has vomited some from his stomach, although he feels positive he has, after innumerable trials, never succeeded in swallowing a single drop since three days before the operation. No attempt to dilate the stricture has since been made.

As personally I derive considerable satisfaction from an excellent palate that Nature endowed me with, and which a fairly good education has further developed, I was anxious to restore to my patient similar pleasures, and tried to get him to take his food with his mouth first, and then force it through a tube passed through the opening, but at each attempt some of the food escaped into the œsophagus, which caused him so much distress that he did not care for the use of this artificial gullet. As he has lived so long and improved so much, and as his aspect has completely changed, I may be wrong in my original diagnosis, but, taking all things into consideration, I fear my original diagnosis is correct.

It is quite unnecessary to take up the time of the Section in discussing the various modifications of the operation adopted by different surgeons, or to enumerate the indications for gastrostomy when all this has been done so well by Bryant, Howse, Greig Smith, Gross,[2] Zesas,[3] and many others; but I venture to hope, as the operation is still regarded with distrust by many, that it may be worth while exhibiting the patient at this large meeting to demonstrate how life can be prolonged in considerable comfort by an operation which is exceedingly simple and easy if performed by any surgeon accustomed to abdominal work, and the mortality of which, if done before the vital powers are too far taxed, with proper care and strict antiseptic precautions, should be very trifling. I may state that this patient was operated on with the strictest antiseptic precautions, including the use of carbolic spray, which I use in all my abdominal sections.

And as I have had the honour of reading the first of the several papers in the Surgical Section, I am anxious to repeat in this University of the city of Glasgow what has been said over and over again in every quarter of the civilised globe, that much as we undoubtedly owe to Scotch surgeons for the invention and development of some of the most brilliant and successful operations of modern surgery, when, if I but say *circumspice*, the names of Buchanan, of Macewen, and of a host of others, will at once occur to you; it is to two Scotchmen pre-eminently that modern operative surgery owes its great development, to Simpson, whose introduction of chloroform renders it possible to get patients to submit to the immense number of operations that are now undertaken; and to Lister, whose introduction of antiseptic methods renders it possible to undertake, with an easy conscience, operations which formerly would have been little, if at all, short of criminal acts. That a few great surgeons, whose ability and intelligence I freely admit, do not agree with the latter statement modern surgical literature still attests; with these, I fear, it is useless to argue; I can only regret the fact as I regret the fact that the services of a homœopath were sought for by Lord Beaconsfield, a great statesman, whose ability and whose intelligence were never seriously questioned.

Dr. Murphy then demonstrated on a model the method he regarded as the best for passing the sutures, while the patient fed himself.

P.S.—I am now (October, 1888) in a position to complete the history of this case. The patient continued well and free from pain till the beginning of October, when he became much troubled with a cough and lost flesh. He was confined to bed about a week, when, on October 15th, during a fit of coughing, he vomited about a quart of bright red blood and suddenly died, having lived 402 days after the operation.

On *post-mortem* examination, the opening to the stomach was perfectly healthy, and would admit a No. 16 English catheter; round this, for about an inch all round, the stomach and abdominal wall were firmly adherent. The œsophagus was completely obliterated. At the portion where the obstruction was detected its place was taken by a ragged mass for the distance of an inch and a half; engaging in it all the surrounding tissues, and adherent to the aorta, through which at its uppermost portion it had ulcerated, forming an opening that would admit a No. 8 catheter, and through which the fatal hæmorrhage had occurred. The mass was somewhat longer and not so wide as a large walnut. The lung in the vicinity was deeply congested and slightly infiltrated; above and below the œsophagus was perfectly healthy, as was the aorta, which was in no way dilated. All the other organs, including the stomach, were healthy. A portion of the growth was submitted to my friend Dr. Squance for microscopical examination, and he has kindly reported as follows:

Microscopical Appearances.—The growth is a simple carcinoma, resembling in places scirrhus. In parts the alveoli vary considerably in size and contain masses of epithelial cells, in some instances undergoing fatty degeneration. In another portion the stroma was firm and fibrous, with very few cells in the alveoli, traces of which were surely left in places. On the extreme border of the piece of tissue examined, the stroma was richly celled, and consisted of rapidly growing fibrous tissue, the cancer cells being arranged in "nests," as in ordinary epithelioma; some of the cells being cornified.

[2] *Trans. Amer. Surg. Association*, vol. ii, p. 363.

[3] Die Gastrostomie und ihre Resultate. *Archiv f. Klin. Chir.*, 1885, Band xxxii, Heft i.

WINTER SEA-BATHS AT CANNES AS A CURE FOR SCROFULOUS DISEASES.

Read in the Section of Surgery at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By TH. DE VALCOURT, M.D.Paris, M.R.C.P.Lond.,
Physician at Cannes.

The reputation of the Riviera, between Cannes and San Remo, as a winter residence is of ancient date, since the Romans had founded important towns at Nice, Antibes, Vence, and Frejus, and had made them their favourite places of residence. Notwithstanding the high favour Alpine regions have lately gained, the stations along this coast continue more than ever to be visited by a numerous foreign colony in search of sunshine. It has, however, until now, been too much neglected to send to the shores of the Mediterranean a numerous valetudinarian class, who should find on the coast exceptionally favourable conditions for the recovery of their health, or, rather, for gaining the same, which they had never yet possessed; I mean, children suffering from scrofula. In fact, these poor frail creatures require sunshine, light, and pure air; winds are not injurious, and sea-baths are the salutary boon to them.

A great philanthropist, M. Jean Dollfus, well known for the charitable institutions he had founded in Mulhouse, his native town, and who had chosen Cannes, the last years of his life, as a winter residence, was so much struck with the salutary influence which its climate and sea-air had on the children of rich families, that he founded there, in 1881, a hospital for poor scrofulous children, of which he entrusted the medical direction to my excellent friend, Dr. Bourcart, and to myself.

Notwithstanding a very modest beginning, such satisfactory results were obtained that the establishment was much enlarged by its generous founder, who bought a hotel on the seashore for this purpose. Last year we had 35 children, and we hope very soon to have 45. They come especially from Mulhouse, Geneva, and Paris; they are scrofulous or anæmics, and the patients affected by hip-joint disease or Pott's disease are the most numerous; consumptive patients are not received.

The treatment generally adopted consists in prescribing salted

milk, cod-liver oil, phosphate of lime, and an infusion of hops given as a cold beverage at meals. The children remain as much as possible out of doors, and, as they are accustomed to the open air, they bear very well to have the windows wide open all day in winter.

Since the opening of this hospitable institution we have ordered sea-baths to all the children, but we discontinued them at the end of November, not beginning again before the month of March. Gradually we have shortened this interval, experience having taught us that, not only is there no disadvantage, but rather a very good effect, in continuing these baths in the open sea all through the winter. Thus, the baths were kept up last season to December 27th and began again on January 11th; even this short interruption would not have been necessary.

The temperature of the water does not fall below 12° C., or 54° F. As the children arrive in October, they get gradually accustomed to the cold saline hydrotherapic treatment. It is hardly necessary to add, that the baths are only of short duration, namely, from five to ten minutes, according to the temperature, and that they are not taken on rainy or exceptionally cold days, nor on Sundays, which leaves an average of twenty sea-baths a month. We are convinced that these short cold baths taken in winter have a particular tonic effect, and are preferable—at all events, in the Mediterranean—to baths of longer duration in summer, when the sea-water is nearly tepid.

Our children bear this treatment remarkably well; they get strengthened in a short time, and never have contracted any affection of the respiratory organs. As yet we have not had a single case of pneumonia or pleurisy, nor even of simple bronchitis. One child, even, who had not complained of any ailment, took its bath in the same way as the others, and had that same evening a confluent attack of measles. This disease took its normal course, and the cough was much less strong than is usually observed in similar cases.

We make the children affected by scoliosis or Pott's disease wear a Dr. Sayre's corset, which is taken off during the time they bathe. We do not receive coxalgic children at the stage of painful muscular contracture; we are of opinion that at this period only immobility and extension are indispensable; the baths would then be too exciting; but at every other stage of coxalgy we experienced the most salutary effect from the saline hydrotherapic treatment. Even very abundant suppuration is by no means an indication against this treatment, but just the reverse. We do not only order sea-baths, but in many cases we apply bandages of cold sea-water, without neglecting those of boracic, salicylic, carbolic acid, or iodoform. Most children, and especially those suffering from scoliosis, are made to perform gymnastic exercises, and some are subjected to the cure of massage.

The results obtained last season were the following:—

	Cases.	
Scoliosis	1	Great improvement.
Pott's disease	3	„ „
Tumour of knee	2	Perfect cure.
„ „	2	In progress of recovery.
Anæmia	7	Perfect cure.
Simple scrofula	1	Sudden death.
Blepharitis	1	Improvement.
Hereditary syphilis	1	„
Tuberculous disorder of foot ...	3	Perfect cure.
„ „ „ ...	2	In progress of recovery.
„ „ elbow ...	1	Perfect cure.
„ „ tibia ...	1	„ „
Scrofulide	1	Improvement.
Bronchial adenopathy ...	1	Perfect cure.
Infant paralysis	1	Great improvement.
Coxalgy	5	Perfect cure.
„	2	Great improvement.

Thus, all children have either been cured or are on the way to recovery, excepting one, which died suddenly during the night, probably from a clot in the heart. One of our coxalgic patients had a deep abscess in the hip-joint region; the baths were stopped for a few days during the formation of the pus, which was opened and drained. Three days after the operation the child resumed the usual routine of sea-baths. The boy suffering from tuberculosis of the elbow had his arm in such a deplorable state of tumefaction, profuse suppuration, disorder in the bone, etc., that the question had arisen of an extensive resection or even of an amputation. Notwithstanding this, an absolute cure was obtained without any further operation than the extirpation of a few pieces of bone.

These experiences justify the conclusion that the proper treatment of scrofula consists in keeping the children, climate permitting, in the open air, in sunshine, and in prescribing sea-baths to them, especially in winter.

REMARKS ON A CASE OF GASTROSTOMY.

Read in the Section of Surgery at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By ARCHIBALD CARMICHAEL, M.A., M.D.Aberd.,
Honorary Surgeon, North Lonsdale Hospital.

M. A. consulted me on January 3rd, 1888. She said she was 38 years of age, married, and had four children. The youngest, aged 14 months, she was then nursing at the breast.

There was no history of cancer or other hereditary disease in her family, except that her father died of phthisis, said to have been caused by his occupation of a stonemason.

She said she enjoyed good health up to three months before consulting me. She then began to lose flesh and strength, and to have difficulty in swallowing; and these symptoms were becoming more and more marked. She presented the appearance of a woman suffering from over-nursing. She pointed to the thyroid gland and said it was there she felt the difficulty of swallowing. She said she had no pain there, but only a feeling of fulness. The thyroid was considerably enlarged, and she said it had increased in size lately, but there was no undue hardness or tenderness about it.

Nursing was stopped without much difficulty, and she took fluid food well, such as eggs beaten up in milk, beef-tea, etc. Her general health soon improved, but the difficulty in swallowing increased, and on January 19th I for the first time explored the gullet. I found an obstruction at the level of the lower edge of the thyroid gland, which allowed the passage only of a No. 11 gum-elastic catheter. No blood was seen on the instruments used, nor was any sign of blood afterwards seen in the evacuations.

On every third or fourth day from January 19th to February 25th I passed a No. 11 catheter. The instrument was more tightly grasped on being withdrawn than during insertion. On two occasions only was a little blood seen, though I found it impossible to pass a larger instrument. She said she swallowed more easily after the instrument had been passed, and she urged me to use it more frequently.

On February 25th I failed to pass the usual size, and next day with considerable difficulty I passed only No. 6, and there was some bleeding. Up to this time she could swallow sufficient fluid food.

On March 6th rectal alimentation was commenced.

On March 18th there was more swelling in the region of the thyroid, and some tenderness, but there was no rise of temperature, which was usually subnormal. I, however, made exploratory punctures, but blood only came away.

The condition of the patient was now such that it was very evident that unless she were fed by the stomach she must very soon die, and on March 22nd I performed gastrostomy in the Barrow Hospital with the assistance of the surgical staff. The patient was extremely emaciated, and her body exhaled a marked cadaverous odour. The operation was that described by Dr. Greig Smith in his work on *Abdominal Surgery;* the incision parallel to the edge of the ribs. Carbolic spray was used, and other antiseptic precautions taken. The anæsthetic was chloroform, of which a very small quantity was found sufficient, and no vomiting took place either during or after the operation.

On the following day, twenty-three hours afterwards, I completed the operation by opening the stomach. I found the parts firmly glued together with lymph. She was then fed with ten ounces of milk, and afterwards every four hours with beef-tea and milk alternately. She was able to swallow a little tea and milk. The improvement in her appearance two days after the operation was very marked. She slept well, and said she felt well.

On the fifth, sixth, and seventh days there was great difficulty in preventing the half digested matters from escaping by the fistula. The gastric juice had dissolved the lymph that bound the parts together, and as the stitches were becoming loose all seemed very insecure. The patient, from loss of food and of rest, was becoming very weak. Several methods to prevent leakage were tried and found wanting, till I devised and used an inflating

tampon. It is hour-glass shaped, each half being inflated separately. When in use one-half is in the stomach, the other half outside. This was perfectly efficient in closing the fistula, and was quite comfortable to the patient.

Dr. Caddy, house-surgeon, afterwards fitted the feeding tube with the inflating tampon, and thus the nurses were able with ease to feed the patient without any loss of food.

After three weeks the parts were firmly united, and the fistula had assumed a valvular form, so that slight pressure with a small compress was found sufficient to retain the contents of the stomach.

Throughout, the temperature never rose above 100° F., except on the ninth day after the operation, when pus formed in the neck and was discharged from one of the exploratory punctures I made on March 18th. Pus continued afterwards more or less to be discharged from this part.

On April 18th she left the hospital.

On June 9th she went to Morecambe to visit some friends, and she remained there till June 30th, when she returned to Barrow feeling very ill. Pneumonia developed, and she died on July 2nd, 102 days after gastrostomy had been performed.

I made a *post-mortem* examination of the body twenty-four hours after death. I found a cancerous mass in the gullet below the level of the thyroid, and the sinus in the neck was connected with it.

The stomach was adherent to the anterior abdominal wall and to the under surface of the liver. The fistula was near the centre of the anterior or upper surface of the stomach.

The absence of pain, and the almost entire absence of bleeding when instruments were passed, on the one hand, and on the other the narrowness of the stricture and its recent and rapid development, made the nature of the obstruction difficult to determine.

CASE OF DOUBLE PYOSALPINX CURED BY ASPIRATION.

Read in the Section of Surgery at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By R. H. BOURCHIER NICHOLSON, M.R.C.S.Eng.,
Surgeon to the Hull Royal Infirmary.

A. P., aged 23, servant, unmarried, was admitted to the Hull Royal Infirmary on April 25th, 1888, under my colleague Dr. E. Daly. She had pain in the left inguinal region three years ago. During the present attack she had had pain for a month in the same situation. Menstruation was regular, but the pain was much worse at that time, and there was much headache. There was no leucorrhœa. The urine was normal. The temperature was 101° in the evening, and on the third day rose to 103°. She was treated for acute ovaritis with dysmenorrhœa by leeching, pot. brom., etc., for four weeks. I was then asked to see her. I found the abdomen so tender in both iliac regions that she could not bear the slightest pressure. We had her put under ether, and made a careful examination in consultation with my colleagues. We found that there was a swelling in each broad ligament, on the right side the size of my fist, and on the left as large as a tangerine orange. By the bimanual method these could be distinctly made out; and as there had evidently been considerable inflammation in the region, shown by the fixed position of the uterus, I decided in the first instance to try aspiration through the vagina. Up to this time the evening temperature had ranged from 101° to 103°, the girl losing flesh and evidently going rapidly wrong.

On May 17th I aspirated the right pyosalpinx, and evacuated four ounces of pus, after which I passed the aspirator into the left swelling, but nothing escaped except a little blood. Next morning the temperature was normal, where it remained for two days. It then gradually crept up to 101° for five nights, when I again examined, and found the left swelling much enlarged; therefore I again aspirated it, when I removed three ounces of pus. Her temperature went down to normal, and only once again rose above 101°; this was on the second day after the second aspiration, when for some unexplained reason the temperature went up to 104°. She then made a steady convalescence, and was discharged on July 19th, cured.

Now this is a case in which I was advised to open the abdomen and remove the growths, etc., which would have been a decidedly more brilliant operation; but I think, as the result has proved, the less heroic treatment was the better, and certainly the less dangerous.

TALIPES EQUINO-VARUS IN THE ADULT: TWO SUCCESSFUL CASES OF DOUBLE OPERATION BY EXCISION OF A PORTION OF THE TARSUS: DAVIES-COLLEY'S OPERATION.

By F. R. FAIRBANK, M.D., F.S.A.,
Surgeon to the General Infirmary, Doncaster.

During the year 1887 two extreme cases of talipes equino-varus in the adult were operated upon by me, according to Mr. Davies-Colley's method, successfully. I beg to offer brief notes of them as a contribution to the discussion on "The Operative Treatment of Club-foot." Both my patients were over 40 years of age. In neither of them was the deformity congenital.

The first, J. D., reported that he was all right until about 13 years of age, when he was maltreated by his father and left, he believes, for dead. His feet became gradually so much distorted that when I saw him first he could place only the outer side of the little toe of each foot on the ground, and he could only move about on crutches. He begged of me to amputate both feet, as he thought he would be better off with stumps. I admitted him to the Doncaster Infirmary, and on February 15th, 1887, I operated on the left foot. I first divided the tendo Achillis and the tendon of the tibialis posticus, and then proceeded as directed in Erichsen's *Surgery* (eighth edition), making an incision on the outer side of the foot only. The foot was put up in plaster-of-Paris on March 26th, a window being left to dress the wound. By April 27th the wound was entirely healed, and he could easily walk about with a little assistance. On May 3rd he was discharged to go to Southport Convalescent Home.

He was readmitted on June 7th, 1887, for operation on the right foot, which was performed on June 9th. I followed the same line of operation, except that I made a free incision on the inside of the foot as well as on the outside. I found this rendered the operation easier, and gave freer vent to the subsequent discharge. The wounds were kept aseptic, the temperature rising once—the day after operation—to 100° F., but not again. On July 12th plaster-of-Paris was applied, and he was discharged soon after to again go to Southport Convalescent Home. On January 24th, 1888, the feet were both straight, and he could walk alone well, up and down stairs and out of doors. There was, however, a projection on the outer side of the right foot over the tarsus, which caused him pain when he had been walking some distance. I therefore removed a further slice of bone. Recovery was rapid, the wound being kept aseptic. His feet are of the natural form, but shorter than is usual. He can now walk well.

My second case, John F., a heavy, broad-built man, aged 41, was admitted to the infirmary and operated upon on April 15th, 1887. He reported that he was not born lame, but that the deformity began to come on after an illness, acute rheumatism (?) when he was about 9 years old. Latterly the deformity had increased so much, that for the last five or six years he had been unable to follow his work at the pit's mouth. Walking about caused severe pain, and life was a burden to him, as he could only sit all his time in a chair, and was dependent on his relations. The deformity was extreme, as in the first case, the feet being drawn back and the toes inwards, so that he could only put the outer side of the little toes to the ground.

On April 15th, 1887, I operated on the left foot in the same manner as on the left foot of the first patient, dividing the tendons first, and making an incision only on the outer side of the foot. The after-treatment was long and tedious, the man being much out of health, with some chronic bronchial trouble, and the wound became septic. In August he was sent to the Scarborough Sea Bathing Infirmary with the foot put up in plaster-of-Paris.

He was re-admitted to the Doncaster Infirmary in November, 1887, for operation on the right foot. At this operation, as in the second of the former case, I made an incision on the inner as well as the outer side of the foot, and divided the tendons first. The case did very well; only on the day after the operation did the temperature rise to 100°. The wound was kept aseptic, but

healed slowly. On January 14th, 1888, plaster-of-Paris was applied with a small window over the wound. He was discharged on February 6th, and has since then been again to the Scarborough Infirmary. He can now walk easily without support, and the feet are straight but shorter than usual.

REMARKS.—It is probably in adults that this operation will prove of the greatest service when the bones are deformed. Division of the tendo Achillis and of the tendon of the tibialis posticus before the more serious part of the operation renders it easier to perform, and a better idea can be formed then as to how much of the tarsus should be excised. An incision on the inner side of the foot as well as on the outer renders the operation easier, and gives freer vent to subsequent discharge; besides, if it be not made, there is a risk of sloughing of the skin there from injury from the point of the saw. There is considerable sanguineous discharge after the operation for two or three days, and this should be remembered, or the wounds may become septic. It is well for an assistant to hold firmly by the toes and allow the foot to hang during the dressings; in this way there is less pain, and a good position is maintained. The foot should be at once put into the normal position, and placed on a back splint with a foot piece. Union of the divided tendons takes place very satisfactorily in this way, and is strong and firm. It was necessary in each foot to divide the plantar fascia very freely, as it was much contracted.

ABSTRACT OF A PAPER ON EARLY WELSH MEDICINE.

By P. RHYS GRIFFITHS, B.S., M.B.LOND.,
Medical Officer to Out-Patients, the Infirmary, Cardiff.

HITHERTO, little or no attention has been given to one of the most interesting features of Welsh history, namely, the history of Welsh medicine. Tradition ascribes to it an existence long years before the beginning of the Christian era, but historical references upon which any reliance can be placed are scanty until the period of the tenth century, when Howell the Good was the reigning monarch of Wales. The material supplied in his remarkable codes of law is not sufficient, however, to base any definite opinion upon the nature and extent of medical culture in these early days. It is not till the beginning of the thirteenth century that we meet with any work which gives us an insight into the condition of early Welsh medicine and its allied branches. Rhiwallon, the household physician to Rhys Grug, the son of Rhys ab Gruffydd, Prince of South Wales, in conjunction with his three sons, Kadwgan, Griffith, and Einion, "caused a record of their skill to be committed to writing, lest no one should be found after them so endowed with the requisite knowledge as they were."

The record referred to consists of 188 sections or paragraphs, from which some interesting information may be obtained on the subjects of anatomy, physiology, medicine, surgery, pathology, materia medica, and therapeutics. These old physicians were evidently well acquainted with macroscopic anatomy. We find frequent references to the pericranium, dura mater, pia mater, brain, special senses, lungs and pleural cavities, heart and vessels, the organs of the digestive and alimentary system, all the abdominal organs except the spleen and the pancreas, the genito-urinary organs. The individual bones of the skeleton were apparently familiar to them, and so, also, were the joints.

Their knowledge of physiology was certainly crude in the light of the present day, though at the time it was up to the standard of that possessed by their neighbours in England. We find evidences of the old Galenian Theory of Constitutions, and of the earlier Hippocratic Humoral Theories. "Man," they said, "was formed of four elements, each being antagonistic to the others, and each consequently requiring continual aliment, which if it do not obtain, it will succumb." These four elements, no doubt, refer to the four humours—the phlegm, bile, blood, and black bile. So long as there was a right proportion and due combination of these several constituents, so long was the health of the body maintained. When this combination was disturbed, disease resulted. When a disease was progressing satisfactorily, these humours passed through certain changes in quality or coction preparatory to being expelled at the crisis. The spirit or anima was an important factor in the various physiological theories which then prevailed. In one section it is described as the medium by which the body is nourished.

In the department of medicine proper, to which the greater portion of the work is devoted, we find a very exhaustive list of diseases. In the accompanying table will be found enumerated those diseases to which special reference is made.

Nervous System.—Delirium, insanity or loss of reason, irritability of mind, loss of speech, paralysis, epilepsy or falling fits, inflammation of dura mater, intoxication.

Respiratory System.—Pneumonia, bronchitis, phthisis, pulmonary abscess, emphysema, epistaxis, quinsy, hoarseness.

Digestive System.—Flatulence, dyspepsia, hæmatemesis, vomiting, reptiles in the stomach.

Abdominal.—Adhesions of the liver, diseased liver, ascites, peritonitis, tympanites, abdominal tumour.

Intestinal.—Constipation, hæmorrhoids.

Genito-Urinary.—Pain in the kidneys, retention of urine, strangury, gravel, calculus in the bladder, impotence, profuse menstruation, prolapsus uteri, difficult parturition.

Skin.—Eczema, impetigo capitis, ringworm, nettle-rash, erysipelas, boils, carbuncles.

Bone.—Exfoliation of skull, fractures of long bones, patella, os frontis, non-union of fractures, disease of knee-joints, ribs, etc.

Fevers.—Latent fever, intermittent fever, ephemeral fever, small-pox, whooping-cough.

Eye.—Corneal opacities, catarrhal ophthalmia, blindness, pain in the eye, tinea ciliaris.

Ear.—Deafness, deafness after fever.

The surgery of this early period was of a somewhat advanced character. The general practice seems to have been to attempt the removal of any tumour or diseased condition by means of drugs taken internally or applied externally, and when these failed to resort to the knife or the cautery. The operations of lithotomy and trephining the skull are specially mentioned. From one section we are led to infer that they occasionally let out the pus from the pleural cavity by incision of the chest wall. It was the practice to ligature hæmorrhoids. Three aphorisms are interesting:—

"There are three bones in a man's body which, when fractured, will never unite again, and neither of these exists when a man is born—namely, a tooth, the knee-pan, and the os frontis."

"Three complaints which occasion long confinement—disease of the knee-joint, of the substance of a rib, and of a lung; for when matter has formed in either, a surgeon does not know when he (the patient) may be cured till he sees him well."

"A wounded lung is the physician's third difficulty, for he cannot control it, but must wait for the will of God."

Remedies were employed to promote the union of broken bones, to repress too actively growing granulation-tissue, to relieve retention of urine, and various other surgical ailments. For the removal of tumours extraordinary measures were occasionally resorted to, such, for instance, as the application of the "rump of a fowl" to the tumour until it disappeared.

The materia medica consisted of about 175 plants, flowers, roots, etc., the list including foxglove, poppies, valerian, peppermint, broom, etc. The preparations were simple infusions, decoctions, pills, ointments, etc. The measure employed was a cupful or some multiple of it.

No attempt was made to arrange in a systematic manner the virtues of the various drugs. The therapeutics of these early days was purely empirical. In the later work of Howell, the physician, there is a great advance in this direction.

In the treatment of disease drugs were regarded as all-powerful. Some of the prescriptions are remarkable for the large number of plants which are combined together. Dietetics received a large share of attention. A most elaborate table is given, which contains careful, though often quaint, directions for the regulation of diet in health and disease, and the preservation in other ways of the health. Emetics, purgatives, suppositories, cordials are frequently recommended. Baths of various kinds were employed. Bleeding was recommended occasionally. Local applications of various kinds—for example, poultices, counter-irritants, etc.—were frequently resorted to.

In this work there is a remarkable absence of superstitions and of charms. With one or two exceptions the superstitions are comprised in the sections devoted to the hygienic precautions for the various months of the year. The later work of Howell is much more rife with superstitions and charms, so that it would seem

the Welsh in the days of independence were much freer in this respect than they became some centuries later.

The work of Howell, the physician, the exact date of which is not accurately known, but probably about the close of the fifteenth century, is arranged on much the same plan as that of Rhiwallon. It would appear that the mediciner of this period, before entering upon the practice of his profession, was expected to submit himself to a very careful preliminary training and final examination, "so that he (the physician) may be skilled in the judgment and science of the wise and skilful physicians who have preceded him." Most admirable advice to the budding physician is supplied in a section of the work devoted to the "Essentials of a Physician." This section is worthy of the careful consideration of every medical man. I fear there are few of us who do not fall short of the noble ideal depicted.

The work is divided into 815 sections or paragraphs. No advance had apparently been made in the study of anatomy and physiology. Pathology, although very crude, had evidently made distinct progress. We find ingenious attempts to explain the pathology of fever and disease. The exciting causes of disease were four in number:

1. Fever excited by an excess of heat and cold.
2. Eruptive poison in the blood or humours produced by irregularities in eating and drinking.
3. Obstructions in the stomach, veins, or other hollow vessels of the body, so that the food, drink, blood, or humours cannot pass on as usual.
4. A boil, or carbuncle, or plague, and they are occasioned by the entrance of poison into the system. From these four proceed all fevers and diseases incident to the human body, and by the aid of active remedies are they cured.

Scrofula and all eruptions of the skin came in consequence of eruptive poison in the blood; also boils, cancer, rheumatism, "pocks of the skin and flesh," white swellings of the joints, etc.

Gout was the result of a "dessication of the humours into a calcareous earth."

Paralysis was due to "the blood becoming sluggish or viscid in the veins."

Brain fever, or frantic delirium, was occasioned by "water under the fontanelle, pressing upon the brain and membranes."

On comparison, we find that in the diagnosis of diseases of the nervous system but little advance had taken place in the later period.

A large number of diseases was attributed to the eye, but no reference is made to squints, irregularities of the pupil, or cataract, unless this last condition is included under dimness of sight. The diseases of the ear not alluded to in the earlier work are tinnitus and ulceration.

The cardiac system was evidently little understood, faintings of the heart alone being referred to.

The number and nature of the diseases of the respiratory system remain practically the same. Phthisis was regarded as due to an eruptive poison in the blood.

Dysentery is the only important addition to the diseases of the digestive and alimentary systems. An attempt is made to differentiate the diseases dependent upon the liver.

The genito-urinary system remains *in statu quo*, and the same may be said of the diseases of the skin.

We find the following fevers mentioned: Measles, diphtheria, typhus fever, whooping-cough, small-pox, sweating sickness, ague, and plague. The varieties of ague are specially referred to, but the most interesting feature is the presence of "sweating sickness."

The work is singularly barren of references to surgical operations, and I am, therefore, not in a position to express any opinion upon the surgical skill of the Welsh of this period.

In the departments of materia medica and therapeutics there are some striking changes. In the place of the 175 plants, etc., and some half-a-dozen inorganic substances, we find a list of about 800 plants, flowers, etc., many of them of great value in the present day. The number of inorganic substances is also much larger; thus, we have sulphate of copper, alum, mercury, sulphur, antimony, lead, etc. These various organic and inorganic substances were employed in the manufacture of pills, infusions, decoctions, pottages, confections, potions, electuaries, baths, fomentations, plasters, and poultices.

The fluid measures were as follows:—

4 podfuls	make one	spoonful
4 spoonfuls	„	„	eggshellful
4 eggshellfuls	make one	cupful
4 cupfuls	„	„	quart
4 quarts	„	„	gallon
4 gallons	„	„	pailful.

The solid weight in use was the well-known troy weight.

A very elaborate treatise on therapeutics is supplied. Seeds are divided into hot, cold, moist, with their degrees of first, second, and third. Careful attention was given to the medicinal virtues of the various herbs in making up a preparation for any diseased condition; and it is evident that an attempt was made to analyse the symptoms of disease before prescribing—a precaution frequently overlooked in the present day.

CLINICAL MEMORANDA.

ACCIDENTAL SELF-VACCINATION.

On September 22nd, I visited a child in an artizan's family in this town. I noticed another of the children, E. P., sitting by the fireside with her face much swollen, and bound up with a handkerchief. On inquiring the cause, her mother replied, "She has erysipelas, or an abscess in the face." On examination, I found a first-class vaccination vesicle near the centre of the left cheek, with an abortive one close to it. The whole of that side of the face was much swollen and inflamed, and the eye nearly obscured by œdema of the eyelids. I elicited the following history.

E. P., now aged 11 years 8 months, belongs to a tuberculous family, was born in Birmingham, and had delicate health from birth. She was attempted to be vaccinated when three months old, but unsuccessfully. The child became more delicate, and continued more or less so until she was 2 years old. No subsequent



attempt at vaccination can be remembered to have been made The family removed to Redditch when the girl was $3\frac{1}{2}$ years old Mrs. P.'s eleventh infant was vaccinated (two places on the left arm). On the eighth day after the operation, being September 13th, the vesicles were noticed to have been ruptured; E. P. nursed the baby more or less during the vaccinal period, and up to the date I saw her, and remembers one day carrying the infant face downwards over her left shoulder, and its arm coming in contact with her face. I take it that E. P. had some abrasion of the skin of her left cheek (although she does not know of so having), and that she unconsciously and accidentally vaccinated herself through it from the baby's arm on the above-named occasion.

At the date I saw E. P.'s self-vaccination the vesicles had

ruptured; the larger one indicated, I took it, inoculation eight days previously. There were no traces of vaccinal cicatrices in the girl's arms. I took the accompanying photograph two days after I saw the case, when (under poulticing) the effusion and inflammation had nearly subsided, and the vesicle had somewhat contracted. The larger vesicle measured 12 millimètres in diameter, the smaller 5 millimètres in diameter.

Redditch. H. PAGE, M.D.

MENINGOCELE.

I ATTENDED a woman in confinement, and the child was born in the occipito-posterior position. About a month after, my opinion was asked about a small swelling, fluctuating, the size of a large marble, and situated at the upper angle of the anterior fontanelle. It had been noticed by the mother at birth, and had increased somewhat in size. The question occurred to me whether the presentation was not the cause of the hernial protrusion of some of the contents of the skull; whether the forces driving the head through the bony pelvis, in this unfavourable position, had not expelled some of the contents of skull, at that point where there was little or no resistance, and which in this case was situated at the apex of the head. I was lately consulted about a tumour, solid, at the root of the nose, in a child. The skin over the swelling was of natural colour, and the swelling itself lobed, and about an inch in diameter. It had existed from birth. My diagnosis was nasal encephalocele. The woman told me she had a very difficult and protracted labour, and I can easily imagine that in a face presentation, when the chin does not rotate forwards under the pubes, and the head is born with the vertex in front and the chin at the perineum, that the cerebral contents might be extruded, either at the root of the nose or at the nape of the neck, producing the nasal or occipital form of encephalocele.

H. T. BATCHELOR, L.R.C.P., M.R.C.S., L.S.A.

Queenstown, Cape Colony.

OBSTETRIC MEMORANDA.

CASE OF TRIPLE BIRTH.

CASES of triple birth, though by no means rare, are sufficiently uncommon (about 1 in 7,000) to be worth recording. In the following case there are several points of special interest—namely: The sex was the same in all three; all presented by the head; each was contained in a separate sac; and the placenta was single, or rather the three placentæ were fused together, the only line of demarcation being the attachment of the sacs to the placenta.

I was called to the village of Hutton-Cranswick on the morning of July 2nd, 1888, to attend Mrs. M., aged 41, in her third confinement. Her first confinement occurred fourteen years ago, and her second seven years ago, both children being male.

On arrival, at 8 A.M., I found that a male child had been born about 6 A.M. I was informed that Mrs. M. had begun to have pains at 4 A.M., and, finding it impossible to remain in bed, had got up and walked about the floor. Several times she tried to pass water unsuccessfully. At the last attempt, while seated on the pot, a sudden gush of blood (probably amniotic fluid mixed with blood) occurred, followed immediately by the birth of the first child into the pot. The poor woman then stood up and held the child until a neighbour arrived, who took charge of the child and assisted the mother into bed. The nurse arriving soon after, divided the umbilical cord, which was very long and wound round the child's neck twice.

On examining the woman, I found the abdomen very pendulous and very large. *Per vaginam*, I found the cord of the first child and a head presenting, covered by a bag of membranes. I administered half an ounce of liquid extract of ergot, and applied a binder. Then I ruptured the membranes, which were very tough (with the stilette of a flexible catheter, which I have always found to be the best and most convenient, not to speak of its being the cheapest, instrument for the purpose), applied the forceps, and delivered a second male child. After division of the cord, finding the abdomen still very large, I suspected a third fœtus. Again examining, I found another head presenting, covered by a bag of membranes. I again ruptured the membranes, which were very tough as in the first case, and, applying the forceps, delivered a third child, also a male. In a few minutes an enormous single placenta, with the three cords attached, was removed by expression, and the womb at once contracted and remained so.

All the babies cried lustily and seemed at full term. Regarding size, I have delivered many a woman at term of a child no larger than any of the three.

I examined the huge placenta carefully, and found that all three placentæ were firmly fused together. There were three distinct thick-walled sacs. In two of the sacs the cord arose from the centre of the placenta; but in the third the cord sprang from the extreme margin, and was long and thin. One of the centrally placed cords was very thick, while the other was of the usual thickness. That part of the placenta to which the thickest cord was attached had several patches of fatty degeneration here and there in it.

The child attached to the thinner of the two centrally placed cords was born first, and is the largest of the three. The child attached to the marginal cord is the smallest, and was born last.

I saw the mother and children to-day. They are all well, and the babies look like living. The mother divides her breast milk among the three, supplementing it with bottle feeding. Each child was sucking strongly at its respective bottle when I left.

ALEX. THEODORE BRAND, M.D.

Driffield, East Yorkshire.

THERAPEUTIC MEMORANDA.

THE BATH WATERS.

THE following point in connection with the Bath waters may be of interest to some of your readers having patients afflicted with chronic gout. I have personally made the following experiments with them, and I consider them a great guide as to the principle upon which the waters act. I do not imagine for a moment the results are invariable, but I think they clearly prove the value of the Bath waters in chronic gout. 1. Immersion of twenty minutes in the baths in a temperature varying from 97° F. to 100° F., caused a loss of weight from 3 ounces to 10 ounces, increasing with the temperature, whilst during the packing process a further loss of from 6 ounces to 10 ounces took place. The effect on the quantity of urine passed in the twenty-four hours following the immersion, as compared with the twenty-four hours preceding it, was practically in direct ratio to the amount lost during the immersion and the packing.

The effect on the urine on the days following the use of the bath, as compared with that taken the day previous to it, as regards uric acid, urea, and chlorides was as follows: As deduced from twelve days' observation, uric acid increased 3.2 grains, urea decreased from 1.013 ounce to 0.80 ounce, chlorides increased from 0.3 ounce to 0.36 ounce.

Experiments after drinking the waters (one pint per day), showed that the amount of uric acid was increased 3.2 grains, whilst the urea was diminished 0.113 ounce, and the chlorides showed a slight diminution, namely, 0.017 ounce.

The analysis of the urine was carried out by Mr. Gatehouse, public analyst, and due regard was paid both to the amount of exercise and food being as nearly as possible equal before and after the bath, as well as before and after drinking the waters.

Bath. SAMUEL CRADDOCK.

THE SUN SPURGE: A CURE FOR WARTS.

THE euphorbia helioscopia, a member of the euphorbia family as its first name implies, is a common plant on waste places and in kitchen gardens. It varies in height from two inches to two feet, and bears, in July and August, comparatively large heads of greenish-yellow flowers having the characteristics of the British euphorbias.

When any portion of the plant is injured, it exudes from the wound a thick milky juice, which hardens and turns black on exposure to the air. It has been variously termed the wart weed, or wart wort, and, though occasionally used by the peasantry for the removal of warts, is not generally recognised as a useful remedy. I have, however, successfully and painlessly removed verrucæ from the hands and face by the external application of its juice, the *modus operandi* being extremely simple, and is as follows:

Having pared away with a sharp knife, or removed with a scissors, the upper strata of the growth, I nip a stem off the wart weed (preferably near the top of the plant, as that portion contains stronger juice and more of it than any other portion), and apply it to the part; as it dries more is applied, and so on at

least three or four times daily. When a scum forms, consisting of inspissated juice and disintegrated epithelium, it must be removed before again using the remedy. If the growth is recent or small, paring is unnecessary, in fact I merely use the knife when the patient desires a more rapid cure, as the process is otherwise rather slow (but sure). This treatment has the advantage of being painless, and further leaves no mark; which must be my excuse for drawing attention to the therapeutics of this insignificant but disfiguring affection.

G. E. J. GREENE.

Ferns, Co. Wexford.

COFFEE AS A VEHICLE FOR ANTIPYRIN.

IT may not be generally known that coffee almost entirely disguises the somewhat disagreeable taste of antipyrin. If a tabloid of antipyrin, or its aqueous solution, be added to a cup of coffee, made with milk and sugar in the ordinary way, the mixture may be drunk without tasting the drug.

Berkhamsted, Herts. R. L. BATTERBURY, M.D.Lond.

REPORTS

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

ST. MARY'S HOSPITAL.

CLINICAL NOTES OF VARIOUS CASES.[1]

(Under the care of Mr. H. W. PAGE.)

CASE VII. *Simultaneous Amputation of Both Breasts.*—There arose in this case of scirrhus in both breasts the interesting question whether it were wiser to remove both breasts at the same time, or to subject the patient to two separate operations. Careful consideration having been given to the arguments for and against either plan, it was resolved to operate on both simultaneously, and nothing arose in the after history of the case, either soon or late, to show that the patient had been exposed to greater risk than had one breast only been removed. She had the advantage at any rate of being rid at once from all prospect of another operation to be undergone, a prospect which might have weighed heavily against her recovery from a first amputation. Furthermore the case, like that which follows, is of interest on account of the age of the patient. Professor Humphry has recently established on a scientific basis the common knowledge that old people may recover perfectly from injuries and severe illnesses. There seems, therefore, to be no reason why number of years alone should be a bar to the infliction of surgical injuries, or to recovery from operations which are either necessary for the removal of disease, or which a patient anxiously desires, provided that every precaution be taken to meet the peculiar conditions of advanced life. Given a healthy state of the excretory organs, the surgeon need not hesitate, because of age alone, to perform even severe operations, if it be borne in mind what things are essential for success. The anæsthetic must be in the hands of an experienced and trustworthy administrator. The operation must be performed with all expedition, and with no needless loss of blood. There must be little or no chilling of the patient by exposure at the time of operation or by a cold bed after it; the wound must be so treated that it shall heal at once; nutrient enemata must be given from the first, not at the last moment only, when they may fail to be of use; and when possible the patient must be helped to sit up soon, whereby hope of recovery is inspired, and risk of slowly progressive pulmonary œdema is avoided. These principles were followed with success in the two cases here recorded, the one of double amputation of the breasts and the clearance of the axillæ at the age of 68, the other of removal of a large breast and a large axillary gland at the age of 74.

J. R., a spare, wizened woman, aged 68, looking several years older, was admitted on May 7th, 1887, with well-marked scirrhus in both breasts. She had first noticed a small lump in the right breast two years before, but she had had next to no pains, and had not sought advice until a month ago, when it was discovered for her that her left breast also was diseased, she herself having no idea when this began. On admission there were very distinct hard lumps in both withered breasts; the lump in the right being somewhat larger than that in the left, the size of a large walnut. There was no adhesion to parts beneath. In both axillæ there were several small, hard glands, those in the right being larger and more numerous than those in the left. In herself she was well, and the malignancy of the growths was obviously not of a pronounced type. She had weighed all the facts of her case, it appeared, before she came in, and was fully resolved to have both breasts removed. We did not urge her to it, rather the other way, but it was decided to follow her wish, lessening, as we believed, the risk to her life by the removal of both breasts at once, rather than by subjecting her to two separate operations at different times. Accordingly, on May 11th, Mr. Silcock operated on the left breast and axilla, while Mr. Page operated on the right. The whole procedure lasted forty-five minutes, when the patient was again in bed. Accurate apposition of the wounds was obtained only with much difficulty, on account of the great tension, but they nevertheless healed by first intention, with the exception of one small part on the right side, which gaped for a length of two inches the moment the deep sutures were removed on the following day, as was imperatively necessary. She was regularly fed by enemata from the first, and sat up in bed on the day after the operation. Thereafter the temperature was normal, and there was nothing to interfere with her steady progress to recovery, although some passing trouble arose from suppuration near the part which gaped, and from mental enfeeblement making her somewhat difficult to manage, when on the twelfth day she was up and about the ward. She was discharged well on June 26th, and when last seen in November, was still in good health.

CASE VIII. *Amputation of Breast.*—In this case also the breast, a huge fatty gland, was removed successfully from a woman aged 74. A. W., placed under Mr. Page's care by Dr. Goddard, had always had the best of health, but yet looked her age. She first detected a lump in her right breast a year ago, but not until three months ago had it begun to grow or to give her pain. On admission to hospital on June 7th, 1887, the lump was the size of a hen's egg in the lower part of the gland, and there was also a hard enlarged gland of similar size in the axilla. She was very anxious to have it removed, and accordingly amputation of the breast and clearance of the axilla was performed on June 9th. The wound, some nine inches long, healed immediately; she was given nutrient enemata during the first twenty-four hours; she sat up in bed on the second day, and on the third she had her clothes on, and was allowed to get up. The operation thus made as little interference in the even routine of her life as can well be conceived. She left the hospital on June 24th, the only trouble in her case, as in the last, having been her mental condition; after the lapse of a few days she wandered in her talk, and was somewhat difficult to control, and this continued for a few weeks after she left the hospital, but when heard of in October, she was in all respects well. She died in April, 1888, it is believed of secondary growths in the liver.

These two cases are thought worthy of record, not with the view of suggesting that any less regard than usual should be paid to the various considerations which arise in cases of carcinoma mammæ, but as showing how much may be done with success in aged people. It must often have fallen to the lot of surgeons to forbid, or hesitate to undertake, an operation in itself quite feasible, solely on account of the patient's age. But our methods of wound treatment nowadays, and the practical certainty with which immediate healing can be obtained, surely place operations on old people on a somewhat different footing than in the pre-aseptic days. It must never be forgotten however, that while every regard is being paid to the wound, the condition of the patient calls for unfailing supervision and forethought, and the "tendency to death" must be anticipated and met by every means at our command.

METROPOLITAN HOSPITAL, KINGSLAND ROAD.

A CASE OF ALCOHOLIC PARALYSIS.

(Under the care of Dr. C. R. DRYSDALE.)

[From notes by Dr. THOMPSON, House-Surgeon.]

A. N., aged 49, residing near the Kingsland Road, was admitted September 30th, 1888. He was a "general dealer," or street salesman, and had been a very heavy drinker, chiefly of gin and beer, very frequently intoxicated, in consequence of which his left arm had been broken thrice, and his right leg had been fractured fourteen years before. He had had ulcers on his left leg for

[1] Continued from p. 883, Vol. ii, 1887.

fourteen years, which came after an injury sustained by the step of a cart. The patient had been able to follow his occupation until the beginning of September, 1888, when he first noticed a growing weakness of the legs, which increased so much that he became unable to walk. He looked well nourished and fleshy. There was well-marked arcus senilis of eyes. Pupils were equal, and reacted well to light. His speech and hearing were natural. No abnormal sounds in chest. Liver dulness began at lower border of sixth rib, but its edge could not be felt on palpation. The patient could flex and extend his arms well at shoulder and elbow joints. The muscles were rather flabby. He could not, however, completely flex the wrists on the forearm, nor extend them beyond the straight. The fingers he could flex well, except the index fingers. His grasp was very weak, about ten pounds, the right hand being the weaker. Sensation slightly impaired in the index fingers. Had great difficulty in picking up small bodies. The muscles of the calves were flabby. Patient could flex and extend the leg on the thigh well. Patellar tendon reflexes absent. There was no anæsthesia. The patient could not extend the feet beyond a right angle, and found great difficulty in walking. No ankle clonus. Urine, specific gravity, 1015, no albumen. No difficulty in defæcation or micturition.

Diagnosis.—Alcoholic paralysis or peripheral neuritis.

Prognosis.—Doubtful.

REMARKS.—It has been stated by Dr. Lancereaux that one-twentieth of the deaths in Parisian hospitals are due to diseases produced by alcoholic poisoning. No such calculation has been made in London, as no central organisation exists to which reports can be sent; but Dr. Drysdale believes that the same statistics would be found to hold good for London, and that, next to phthisis pulmonalis, alcoholic poisoning is the commonest special cause of death in the hospitals of London.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, OCTOBER 23RD, 1888.

Sir EDWARD SIEVEKING, President, in the Chair.

On some Points Affecting the Mortality of Abdominal Section, with Tables of Cases.—Mr. W. A. MEREDITH made some remarks on this subject. The purpose of the paper was to draw attention to certain points affecting the present death-rate after abdominal section; and with this view operations for ovarian growths were chosen as being to some extent representative of the entire subject under consideration. As a basis for the inquiry, the results of the author's own work in this connection, amounting to 126 operations, were examined with regard to the chief causes influencing the mortality, special reference being made to the ten deaths which occurred in the series of 104 completed ovariotomies. Twelve successful operations for the removal of diseased uterine appendages were next reviewed, and the question of the medical treatment of such cases was considered. Brief allusion was made to two incomplete ovariotomies contained in a series of ten exploratory operations. In conclusion, it was shown that the increased success of abdominal section for ovarian disease during the past ten years was chiefly attributable to the diminution in the number of deaths from septicæmia; and the main factors which, in the author's opinion, had contributed to this result were briefly enumerated, namely, the intra-abdominal treatment of the pedicle, the general abandonment of the practice of tapping, the better systems of drainage, and the free washing out of the peritoneum. As examples of the gradual improvement in the matter of septicæmia, the author quoted a series of ovariotomies by Sir Spencer Wells in 1875 and 1876, a second series by Mr. Thornton between 1877 and 1880, and this third series of his own. In the first the deaths from septicæmia had been 1 in 10, in the second 1 in 30, and in the third 1 in 52. He thought this pointed to even better results in the future.—Mr. A. DORAN said he warmly congratulated Mr. Meredith, both as surgeon to the Samaritan Free Hospital and as his own colleague, in being able to bring forward such excellent tables as he had shown them, and such appropriate criticism. For his own part, he felt himself identified in many ways with the Samaritan Free Hospital; and in the matter of antiseptics in these cases, which had been incidentally raised, he held a neutral position, for the advantages of using them and the advantages of doing without them were both plain to him. He felt the general advance in the success of abdominal sections depended in part on experience gained from others, in part on a greater skill in the operators, and in part on the earlier performance of the operation. Good results were very materially helped by the good condition of the hospitals and the excellent nursing, in which there was emulation of the best sort. As to antiseptics, he could say that without doubt they were useful, for, whatever might be their other properties, their careful use was a kind of drill for nurses and surgeons. Every beginner should use them most carefully, though it might be that his most brilliant results would come later when he had given them up. A beginner would find a hospital nailbrush in common use very dangerous, for it conveyed more infection than it swept away. The flushing out of the peritoneum was a very important matter, combined with drainage properly understood. By its use clots and all irritable substances were quickly disposed of, and it would be very important in keeping the peritoneum warm, and hence avoiding the shock which arose from a very slight deviation either towards hot or cold.—Mr. J. K. THORNTON had only a few remarks to make on Mr. Meredith's very interesting tables and paper. He noticed that Mr. Meredith had met with fewer cases in which enucleation could be adopted than he had himself, and had treated them by sewing the edges of the peritoneal capsule together, as Sir Spencer Wells had been in the habit of doing some years back. He still regarded that method as he had always regarded it, as certainly not the best, for the reason that it was impossible to prevent some effusion into the sac, some tension of the sac, and some consequent nervous depression and unfavourable symptoms. He ventured to give a decided opinion that such cases did better when the capsule was left open. He was sorry to see that tapping was still advocated in some parovarian cysts. That, he thought, was dangerous, for these cysts sometimes contained most pernicious substances, which, if they had any chance of getting out into the peritoneum, were quite capable of setting up malignant disease. The ineffectual results of tapping were often not plain to the operator, for it was a very common thing that a patient who had not been materially relieved by tapping should consult a second surgeon, and the first surgeon, hearing no more of her, might imagine her cured. He had known of many instances of that kind. As to ruptured cysts, he had had many such to deal with, and he had found that without draining, except in rare cases, the peritoneum had done very well after careful sponging. He disliked the use of the drainage-tube much less than he had done, but he could not consider it as safe as Mr. Meredith did. The death-rate certainly had diminished in an encouraging way, but he doubted whether it could ever be reduced to as little as 5 or 6 per cent. for any long series of cases, though good fortune might now and then give an operator as many as 100 cases without a fatal case, as he believed had occurred in his own practice. As to the practice of flushing out the peritoneum, he always employed it now in cases where there was any septic material in the peritoneum, for he thought it not only washed out the peritoneum, but also broke up any little collections of septic matter, so as to make them unable to stand against the healing power of the peritoneum. It was interesting to him to find that Mr. Meredith held the view that where both ovaries were entirely removed no recurrence of menstruation could occur. That had always been his own experience, though he admitted that what seemed an extremely trifling remnant of ovary, if left behind, might lead to serious results. As to the incomplete exploratory operations, of which Mr. Meredith had reported 4 in 120 cases, his own experience had been about the same, namely, 20 in 300 cases, and he considered that it was never likely that we should attain to anything like the certainty in difficult abdominal cases which was being attained in cerebral cases, for in the brain functions and localisation diagnosis was becoming so much more accurate than it was possible it should become in the abdominal organs. With antiseptic methods he was of opinion that they should all begin. He regarded it as a most important training, for it made careful forethought absolutely necessary. The advantages of the nail-brush to the surgeon were very clear to him, and anyone who felt its disadvantages as clearly as Mr. Doran should always have a private brush in his waistcoat pocket.—Mr. W. A. MEREDITH, in reply, thanked his critics for the kind and complimentary tone of their comments. The use of the drainage-tube seemed to him of great advantage, and in cases of antiseptic treatment he did not find it desirable to change it more than once in every twelve hours. He agreed with Mr. Thornton in the great advantage of the training necessitated by practice with antiseptics. The treatment of cases occurring

about the menopause he thought especially important, as he regarded that as the time of development of many chronic disorders in women. After that period drainage was not so often wanted. The practice of flushing out the peritoneal cavity with warm water he agreed in thinking important, not only because it removed the septic matters most completely, but also because it prevented the irritation of too much sponging, which occasionally rubbed off the peritoneal endothelium.

MEDICAL SOCIETY OF LONDON.

MONDAY, OCTOBER 22nd, 1888.

J. KNOWSLEY THORNTON, M.B., C.M., Vice-President, in the Chair.

Lacerated Wound of Brain.—Dr. FLETCHER BEACH read the notes of a case in which a boy was injured on July 20th by a window pole being pushed into the cranium 2¼ inches above and 1 inch to the left of the occipital protuberance, penetrating to the depth of an inch. There was some rise of temperature, with bad temper, and even delirium. The pulse too remained high, and on August 16th a cerebral abscess broke through the wound, and a quantity of greenish pus escaped. The patient was enabled to leave the hospital well on September 5th. The treatment, apart from local antiseptics, was confined to tincture of opium, chloral, and bromides of sodium.—Mr. KNOWSLEY THORNTON quoted a case related to him by Dr. Image, of Bury St. Edmunds. A boy, aged 7, was struck by a sort of pitchfork, the prong of which entered the cranial cavity, carrying with it a quantity of filth. No treatment was adopted beyond the application of some carbolic lotion, but the lad made a perfect recovery. He suggested that children recovered from such injuries more easily than adults.—Dr. SYMES THOMPSON agreed with the remark as to the recovery of children, and mentioned that a month ago he saw a case brought before a medical society at Capetown in which Dr. Beck had trephined for suspected abscess of the brain. He, however, only alighted on the abscess after plunging the trocar three times for two inches into the brain substance. A good recovery resulted.—Dr. BEEVOR asked whether the sight had been affected in Dr. Fletcher's case. He recollected the case of a boy, who had been kicked by a horse on the head, followed by recovery.—Dr. FORBES WINSLOW suggested that symptoms would very probably manifest themselves when the patients arrived at adult life.—Dr. MONEY asked whether any relationship had been found to exist between the hernia cerebri and the frequency of the pulse.—Dr. FLETCHER BEACH, in reply, said that he did not know of any symptoms having occurred subsequently. There were no visual troubles.

Removal of Exostosis from Ear.—Mr. SHEILD narrated the particulars of a case where he had removed an exostosis from the auditory canal by means of the chisel, after section and displacement of the cartilaginous portion of the canal. The patient was a woman, aged 27, who had been under the care of Dr. Bunn, of Norwood. She had long suffered from uncomfortable sensations in the ear, and, three weeks before admission to Charing Cross Hospital, had become quite deaf on the affected side, with attacks of agonising pain and giddiness. She was first seen on September 10th. On examination a large exostosis was discovered nearly blocking the bony canal. The symptoms were so urgent that its speedy and complete removal was indicated. The operation was performed on September 17th, and its details were described. The essential points in its performance were the section of the auricle posteriorly where the pinna joins the cranium, the exposure of the cartilage of the canal, and the section and displacement of the latter from the bone. The chisel was applied to the bone at the base of the exostosis, which was thus easily removed. The auricle was replaced, sutured with catgut, and readily united in its former position. All pain disappeared on the following day, and the hearing was most satisfactorily restored. The adaptability of the operation to cases of exostosis and the removal of foreign bodies was considered. Where drilling was necessary, this proceeding would enable the operator to obtain complete command over the growth, which was brought directly under eye and touch. A short drillhead might thus be used, greater power exerted, and the risk of slipping obviated. A question was raised as to the true frequency of ivory exostosis of the auditory canal. It was pointed out that it was singular that ivory exostosis should commonly occur from a portion of bone developed from cartilage, when elsewhere they were found upon bones formed by the process of intra-membranous ossification.—Sir WILLIAM DALBY congratulated Mr. Sheild on the success of the operation, and said that there were two conditions in which the *modus operandi* was indicated, namely, when, for any reason, the external canal was too small or was obstructed by swelling. He then discussed the pathology and symptomatology of the various forms of exostosis.—Mr. SHEILD, in reply to Mr. BLACK, admitted that the lining membrane of the canal was not, strictly speaking, mucous membrane, but said it was convenient to speak of it as such. He attributed the harder exostoses to chronic inflammatory changes caused by sea-bathing, gout, etc.

On a New Method of Raising the Epiglottis.—Dr. HOWARD gave a brief account of an elaborate paper prepared by him to show that, when the epiglottis fell back over the laryngeal aperture just as apnœa deepened into unconsciousness, traction on the tongue was altogether without any effect in raising the epiglottis. He showed, on the other hand, by the aid of diagrams, that extension of the neck and raising the chin produced direct traction on that organ, and thus facilitated a return of respiration. He had worked out the subject very carefully by means of frozen sections, and he pointed out the importance of recognising the fact in chloroform narcosis and other forms of impending death from apnœa. He recommended in such cases that the head of the patient should be allowed to hang over the edge of the table, forcible extension being applied if necessary.

As the hour for adjourning was already passed, it was resolved, seeing the importance of the subject, that it should be brought up for discussion on some future occasion.

BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, OCTOBER 10TH, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., President, in the Chair.

Vicarious Menstruation.—Dr. J. INGLIS PARSONS read notes of this case. The patient was 19 years of age. Epistaxis first commenced at the age of 16, and occurred periodically for two or three days every month, and then, after a profuse loss, ceased for several months. Subsequently the epistaxis was so profuse that she came to the hospital. The patient was a strong girl, with good colour, breasts well developed, and pelvic organs perfectly normal as far as could be ascertained. Every available means had been tried to excite the menstrual flow, but nothing had any effect. Although there had not been any regular periodicity in the onset of epistaxis, Dr. Parsons thought it fair to consider this a case of vicarious menstruation.

Foreign Body in the Vagina.—Dr. HEYWOOD SMITH exhibited a fir-cone, measuring some five inches in length and the same in circumference, which had been removed from the vagina of a girl aged 26. It had been introduced with the butt-end foremost.

Ruptured Tubal Pregnancy.—Dr. GRANVILLE BANTOCK exhibited specimens from the following case. The patient, aged 26, had one child five years previously. Menstruation had been regular and moderate in amount, often painful. The last period extended from March 10th to the 13th. A month or so after that she had some morning sickness. For the last six weeks she had complained of sharp pain in the left inguinal region and lower abdomen. On June 18th she was seized with a sharper pang than she had ever had before. He had been called to the case three days afterwards, when an ill-defined tumour of small size could be felt in the neighbourhood of the uterus, and there was a slight sanguineous discharge. The patient was removed to the hospital, and operative interference necessarily postponed until the following day. The abdomen was found to be full of blood. Gestation had taken place in the left Fallopian tube, which had ruptured, and the fœtus was lying in front of the uterus. Dr. Bantock at once secured the pedicle and cleared out the cavity. The ovary and tube on the opposite side were found to be intimately adherent, and were also removed. A drainage-tube was employed. The patient was able to leave the hospital on the twenty-fourth day.—The PRESIDENT remarked that these cases occurred much more frequently than was generally supposed. The difficulty lay in making the diagnosis.—Mr. LAWSON TAIT approved the removal of the ovary and tube on the opposite side, though the chance of impregnation when the tube was adherent to the ovary was in reality very small. He said there could be no doubt that a desquamative condition of the lining membrane deprived the tube of its cilia, and consequently, when the ovum came along, it was liable to get arrested and impregnated in the tube. A diagnosis could be made in eight out of ten cases; in the remainder it was best not to wait for a diagnosis, but to act at once.—Dr. DOLAN (Halifax) was convinced such cases were very

common. He had been enabled to arrive at a diagnosis in two instances.

Dermoid Tumours of the Ovary.—Dr. MANSELL-MOULLIN exhibited a small dermoid the size of an egg, which he had removed from a woman, aged 27.

Uterine Fibroid, with Abscess of the Ovary.—The PRESIDENT showed this specimen, removed *post mortem* from a patient aged 39. When seen for the first time in May she gave a history resembling that of cases of hæmatocele. The catamenia at the beginning of the year had been suppressed for two months, when flooding set in without any warning, and was with difficulty arrested. The general health was much impaired, and menstruation had been profuse since then. A soft and resilient tumour was felt through the posterior *cul de sac*. The patient took a chill, and symptoms of acute general peritonitis supervened, to which she succumbed. The *post-mortem* examination revealed general purulent peritonitis. Both Fallopian tubes were thickened and distended with fluid. Both ovaries contained small abscesses. The tumour in Douglas's pouch was a soft fibroid contained in a capsule, from which it could be easily separated. In it were several small cysts. The case bore a great resemblance to an extra-uterine pregnancy and consequent hæmatocele. On the whole, he was glad not to have operated under such unfavourable circumstances.—Dr. CHALMERS, Dr. FENTON, Dr. BEDFORD FENWICK, Mr. LAWSON TAIT, and others took part in the discussion.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THURSDAY, OCTOBER 18TH, 1888.

HENRY POWER, F.R.C.S., in the Chair.

Stereoscopy by Difference of Colours, for the Normal and the Colour-blind Eye.—Dr. GROSSMANN said that, when a boy, he had often noticed how strongly marked in some stained glass windows the red parts seemed to stand out from the surrounding surface. When a student he learned that this phenomenon was due to the difference of accommodation; the red rays, being less refrangible, required a greater accommodative effort than the blue rays, in order to be united on the retina. The eye, therefore, made the conclusion that the red was nearer than the blue. Lately, Dr. Einthoven had investigated this matter, and found the real reason to consist in the excentricity of the eye, and the symmetrical arrangement in the fellow eye, whereby the red rays were united on a more temporal spot of the retina than the blue rays. Also the position of the pupil was of such great influence, that shifting it artificially, for example, by partly covering its outer or inner half, would be sufficient to reverse the impression. Dr. Einthoven considered the phenomenon a purely stereoscopic one, with very little accessory help from the part of the accommodation; according to him, it disappeared completely when one eye was closed. Recently, Dr. Grossmann's attention was drawn to this point again, and he had come to a somewhat different result. In his own case the phenomenon was attributable principally (if not solely) to accommodation. He arranged the two colours in a simple way, so that they formed a perspective drawing, and the stereoscopic effect was hereby greatly facilitated. When this figure was shown to some colour-blind (red-green-blind) individuals, they also perceived the red nearer than the blue, both for binocular and monocular vision. This showed that with them, also, the act was principally one of accommodation. Dr. Grossmann now made figures with compound colours, using a bluish red and a green. In this figure the red appeared nearer than the green to the normal eye, while the reverse took place for the red-green-blind. Hereby another proof was given that the red-green-blind eye perceived the blue only in the bluish red, while the green was perceived as yellow, corroborating Hering's theory of four fundamental colours, and contradicting the theory of the three fundamental colours, red, green, and violet.—Mr. POWER had often observed that in a pattern with lighter and darker colours, the lighter after a time stood out more plainly, and this he was convinced was due simply to light and darkness, and not to difference of colour.—Mr. BRAILEY thought that to those present the squares gave results exactly opposite to the the theories of Dr. Grossmann.—Mr. DOYNE could see at will either colour, red or green, more prominent. Most eyes had some error of refraction, and it might be that such slight error of refraction in the opposite meridian would produce the difference.—In reply, Dr. GROSSMANN said that if Dr. Einthoven's explanation was the only one, with exclusion of accommodation, it was certain that the stereoscopic effect would only take for one meridian, ordinarily for the vertical lines. If the pupil was not quite centric, it would ordinarily be situated towards the nose. Just as we could not see well stereoscopically horizontal parallel lines, but could easily distinguish vertical ones, this would be the case for lines of different colours. However, Dr. Grossmann placed parallel lines on a disc, and turned them round, when the stereoscopic effect remained, though weaker.

Partial Hyperostosis of the Frontal Bone.—Mr. A. Q. SILCOCK showed a case of partial hyperostosis of the frontal bone. The patient, aged 20, was first seen at the Moorfields Hospital in May, 1883. She then presented a swelling over the left eyebrow, round in outline, with smooth surface, hard and bony to the touch. The left eyeball was displaced forwards, downwards, and outwards. The swelling had existed for two years, and was said to be increasing in size; there was a history of a blow on the eyebrow. Iodide of potassium was given for some weeks without effect, and she was lost sight of till May, 1888, when the swelling had become considerably larger. On May 10th, much of the frontal bone was removed with trephine and gouge-forceps, but it was found impossible to extirpate the growth; since then, no recurrence had taken place. He had shown the case on June 14th, and described it then as an ossifying sarcoma of the frontal bone; he brought it forward again because he desired to correct an error in diagnosis, as he now considered it a simple hyperostosis. Microscopically there was seen a richly cellular and ill-developed connective-tissue growth undergoing ossification. A description of two somewhat similar cases would be found in Virchow's work on tumours. Hyperostoses presented greater uniformity than did exostoses, and they did not show themselves in the form of a tumour, properly so called.

Living and Card Specimens.—Mr. SILCOCK: (1) Connective-tissue Tumour in each Orbit; (2) Sarcoma of both Orbits.—Dr. TEMPEST ANDERSON: Instruments: (1) Simple Eye Speculum; (2) Method of applying Ointments to the Eye; (3) a Bench for Operating on the Eyes of Children.—Mr. GUNN: Double Proptosis.—Dr. W. J COLLINS: Melanosis of Conjunctiva.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

FRIDAY, OCTOBER 19TH, 1888.

W. H. CORFIELD, M.A., M.D., President, in the Chair.

President's Address.—The PRESIDENT delivered an address on the history of sewage disposal inquiries. After briefly describing the way in which the question of the disposal of sewage had forced itself upon our attention in recent times, owing to the rapid increase of the population and its aggregation in large towns, and also to the general adoption of water-closets and the consequent more serious pollution of rivers, Dr. Corfield proceeded to summarise the conclusions arrived at by the various Royal Commissions and Committees which had been appointed to investigate the subject, commencing with the report made for the Poor-law Commission on the Sanitary Condition of the Labouring Population of Great Britain, by Mr. Edwin Chadwick, in the year 1842. He pointed out that in this report the advantages of the water-carriage system, as being the cheapest and most effectual method for the removal of excretal matters, was insisted on. The results obtained by the utilisation of the sewage of Edinburgh by irrigation were also described in the same report. The inquiries of the Health of Towns Commissioners in 1844 and 1845 confirmed the conclusions arrived at by Mr. Chadwick, which were amplified in the report of the General Board of Health in 1851, on the practical application of sewage water and town manures to agricultural production. The Royal Commission on the Sewage of Towns (1858-61) made a series of careful investigations into the various methods of sewage disposal, and came to the conclusion that "the right way to dispose of town sewage is to apply it continuously to land, and it is only by such application that the pollution of rivers can be avoided." The same result was arrived at by the Select Committee on the Sewage of Towns in 1862, who added that "solid manure cannot be manufactured from town sewage with commercially profitable results." The Royal Commission on the Pollution of Rivers, appointed in 1868, issued six important reports after a series of most elaborate investigations, and came to the conclusion that sewage could only be effectually purified by passing it through the soil. They also formulated a list of standards of purity for effluent waters discharging into rivers. The Birmingham Sewage Inquiry Committee, after examining the various systems in use at different places, arrived at the conclusion that "the best method of dealing

with the sewage of the borough is that of intermittent downward filtration on the smallest area of land at the greatest convenient distance from the outfall, so as to command as large an area as possible for the ultimate utilisation by farmers." In 1869 the British Association appointed a Committee to inquire into the subject; the labours of this Committee extended over eight years, and they issued as many reports. They devised a more accurate method of taking samples of sewage than had before been practised, and also made a series of most important quantitative experiments by which they determined the percentage of the manurial ingredients of the sewage actually recovered in the crops on the sewage farm. The results of all these investigations not only caused irrigation on land for the purification of sewage to be widely adopted in this country, but also induced some other countries, and notably Germany, to adopt the same plan. Owing to the serious nuisance caused by the pollution of the Thames by the sewage of London, the Royal Commission on Metropolitan Sewage Discharge was appointed, and issued two important reports in 1884. They came to the conclusion that the sewage of the metropolis must not be discharged in its crude state into any part of the Thames, that the solid matters should be precipitated and the liquid portion be allowed to escape into the river as a preliminary and temporary measure, but that ultimately the liquid must be purified by application to land. The Metropolitan Board of Works, instead of setting to work to see how the recommendations of the Royal Commissioners could be carried out, "felt themselves unable to concur in the conclusions at which the Commissioners had arrived," and had not only continued their plan of attempting to deodorise the sewage while discharging it into the river as before, but had apparently, in spite not only of the reports of the Royal Commission, but of all the Commissions and Committees which had investigated the subject, determined to adopt chemical precipitation as a permanent measure, for they were building huge tanks for the purpose, and had actually embarked on a scheme for carrying the precipitated matters out to sea in barges. They had also secured the services of Sir Henry Roscoe to advise them as to the methods of deodorisation, but that eminent chemist, in reporting on the results of his investigations, had given them the following significant warning: "I offer no opinion as to the processes of precipitation by chemical treatment, as this question was not submitted to me by the Board. Looking, however, at the broad question of the permanent disposal of the metropolitan sewage, and believing that the use of deodorants ought to be regarded only as a temporary expedient, I feel convinced that, sooner or later, the recommendations of Lord Bramwell's Commission will have to be adopted, and that the sewage, whether previously clarified or not, must either be filtered through land or discharged into the estuary at a point not higher than Sea Reach. The growth of the metropolis during the quarter of a century which has elapsed since the adoption of the present main-drainage and outfall system has been so enormous that arrangements which worked satisfactorily up to some few years ago are now found to be inadequate, and will, of course, become more so as time goes on." The President continued: "Can anything be more conclusive or more condemnatory of the action of the Metropolitan Board of Works? A Royal Commission is appointed especially to investigate the matter; the Board, whose duty it is to provide for the disposal of the sewage of London in the best possible manner, calmly ignores the conclusions arrived at by that Commission, and pursues a course condemned by it, while their chosen adviser informs them that, sooner or later, the recommendations of the Commission will have to be carried out. I protest, in the name of the Society of Medical Officers of Health of the country, against such a state of things, and against the further carrying out of a scheme which, while being enormously costly, will not only not settle the question, but will rather increase the difficulties of settling it effectually, and will be pointed out by succeeding generations as a disgrace to the sanitary work of the nineteenth century."

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

THURSDAY, OCTOBER 11TH, 1888.

T. W. THURSFIELD, M.D., President, in the Chair.

Recovery from Cancrum Oris.—Dr. SUCKLING showed a girl who had recovered from cancrum oris, supervening on an attack of purpuric typhoid fever. The cheek was perforated, but the disease was arrested by the free application of strong nitric acid, the surface having been previously swabbed with 20 per cent. solution of cocaine, which prevented any pain. The general treatment adopted was highly stimulating.

Apostoli's Treatment for Bleeding Myoma.—Mr. J. W. TAYLOR submitted a patient who had undergone successful treatment for bleeding myoma uteri by Apostoli's method.

Acromegaly.—Dr. SAUNDBY showed a man suffering from acromegaly. The disease had existed for twenty-one weeks only. There was hypertrophy of the upper extremities below the elbow joints, and of the lower extremities below the knees; there was also some enlargement of the clavicles, ribs, and iliac bones, with thickening of the fibro-cartilages of the ears and nose. The thyroid gland was atrophied. There was enlargement of the lower jaw. Pain was a good deal complained of in the elbows, hands, knees, and ankles. Thirst had been an early symptom, but was no longer present. The disease began in the backs of the hands.—Dr. SIMON showed another case of acromegaly, a man, aged 44, who had hypertrophy of the upper extremities below the elbow.

Congenital Gumma.—Mr. JORDAN LLOYD showed a girl, aged 15, who had suffered for several years from swellings in the course of the right sterno-mastoid muscle, which were diagnosed to be ordinary strumous glands. When an operation was commenced for their removal by scraping, the whole sterno-mastoid muscle was found to be converted into gummatous tissus, and no glands at all were discovered. There was a history of hereditary syphilitic disorders in brothers and sisters.

Sinuses in the Neighbourhood of, but Unconnected with, Joints.—Mr. T. H. BARTLEET read a paper on this subject.

A Second Series of One Thousand Cases of Abdominal Section.—Mr. LAWSON TAIT read a paper with this title, which will be published shortly.

BRIGHTON MEDICO-CHIRUGICAL SOCIETY.

THURSDAY, OCTOBER 4TH, 1888.

W. H. NICHOLLS, M.R.C.S., President, in the Chair.

Cleft Palate.—Dr. WHITTLE showed a case of complete fissure of the soft palate treated by operation. Union was perfect, the uvula being partly restored and the line of union indistinguishable. The voice was good.—Mr. CRESSWELL BABER showed a girl, aged 18, with extensive fissure of the soft palate who had been fitted with a vulcanite palate and soft rubber velum by Mr. W. Harrison. There was some benefit to the nasal catarrh and slight improvement of voice. Mr. Baber demonstrated the pharyngeal tonsil in this case.

Spasmodic Infantile Paralysis.—Dr. RICHARDSON, of West Brighton, read a paper on this disease, and showed a case.—Dr. MACKEY discussed the clinical features and pathology of the disease, distinguishing varieties dependent on the nerve lesion being one of brain or cord.

SUNDERLAND AND NORTH DURHAM MEDICAL SOCIETY

THURSDAY, OCTOBER 18TH, 1888.

G. S. BRADY, M.D., F.R.S., President, in the Chair.

Officers for the Session.—President: G. S. Brady, M.D., F.R.S. *Vice-Presidents:* T. F. Hopgood, M.R.C.S.; G. B. Morgan, L.R.C.S.I., J.P. *Committee:* P. Blumer, F.R.C.S.Ed.; A. E. Legat, M.R.C.S.; A. B. Low, M.D., F.R.C.P.Ed.; E. L. Prowde, M.D.Durh.; J. Whitehouse, F.R.C.S.Eng. *Secretaries:* W. H. Maling, M.R.C.S.; H. S. Robinson, M.R.C.S. *Treasurer:* T. F. Hopgood, M.R.C.S. *Pathological Committee:* C. F. Seville, M.R.C.S.; T. C. Squance, M.D. Durh., F.R.M.S.; J. Whitehouse, F.R.C.S.Eng.

New Members.—Drs. Brewis and Strachan (Sunderland), Berwick (South Shields), Smellie and Weir (Jarrow), and Sutherland (West Rainton) were elected members of the Society.

President's Address.—Dr. BRADY, the newly-elected president, delivered an instructive address on the present terrible mortality amongst young children. He considered that, setting aside illegitimacy, the most potent causes of this high death-rate were the insanitary condition of the working classes, marriage without the means or prospects of maintaining offspring, and the benefits arising from insurances. With regard to the last-named, he was of opinion that infantile insurance should be inadmissible, or, if permitted, some stringent provision as to age should be adopted, all insurances under the age of 5 years being made illegal.

Sarcoma of Femur.—Mr. MORGAN showed a boy on whom amputation through the hip-joint had been performed for this

disease, and Dr. SQUANCE exhibited Microscopical Sections of the Growth, showing that it had originated in the periosteum.

Rupture of Internal Lateral Ligament of Knee-joint.—Mr. ROBINSON showed a patient who had sustained this injury by a fall of stone in a pit, which, striking the leg on the outer side just below the knee, had also fractured the upper end of the fibula. There was a good deal of lateral mobility of the joint, but by the aid of steel supports the man was able to walk about.

Congenital Deformity.—Dr. BREWIS showed (for Mr. BLUMER) a child with the following congenital defects: complete absence of right foot, second toe of left foot represented by a stump, index finger of right hand, though perfect, much smaller than that of the left hand.—The PRESIDENT, Mr. MORGAN, Dr. DRINKWATER, and Messrs. ROBINSON and MALING spoke on this case.

Instruments.—Dr. SQUANCE exhibited (1) a new Cocaine Spray, (2) a Pocket Midwifery Case, and (3) a new Urinometer.

Extra-uterine Fœtation.—Mr. HOPGOOD read notes of a case successfully operated upon.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, OCTOBER 12TH, 1888.

J. SPOTTISWOODE CAMERON, M.D., President, in the Chair.

President's Address.—The PRESIDENT, in his opening remarks, reminded the members that the greatest medical discovery of the age was made by a surgeon in a Gloucestershire village, and remarked that country practitioners, though not living in the fierce light which beats round a medical school, were yet working face to face with disease in its many forms. He thought there was danger of a kind of mental hypermetropia by which one might overlook obvious and important lesser phenomena, while striving after broad generalisations. Of this kind were the observations that laws of Nature had their limitation, so that physiological hypertrophy was not always perfect compensation; that it might be their duty to check the success of youthful energy, instead of signing the certificate of health which condemned the young aspirant to the excessive drudgery of early life, and the blight of an exhausted middle age; that rest and oatmeal porridge in early life were often of more use than iron and hypophosphites afterwards, and that men might be compared to galvanic batteries, with perhaps similar electromotive force, but capabilities of work varying as to the size of the cell. How small was our knowledge of many common things, such as for instance the causation of a common cold. So long as attention was mainly directed to the problems of the cause of death in the *post-mortem* room, little advance could be made, but the investigation of the causes of disease opened boundless possibilities of treatment and prophylaxis. The solution of these questions lay in the careful examination of the apparently minute circumstances of the disease they saw around them.

The Use of Antiseptics in Labour and the Puerperal State.—Mr. WILLIAM HALL, referring to Dr. Cullingworth's recent lecture on the subject, dwelt on the reduction of mortality after childbirth which had everywhere followed the use of antiseptics in midwifery. He had attended numbers of confinements with cases of infectious disease contiguous, but none of these suffered from puerperal septicæmia. He instanced the case of a medical man who, while daily dressing a sloughing sore, lost seven patients from this cause, while another, adopting strict precautions, dressed a similar sore daily for a year without losing a single case. He used mercuric chloride to cleanse his hands and those of the nurse, which he thought was the most important precaution of all, but as an injection he thought it had certain dangers. He preferred "salufer" (silicofluoride of soda), which was non-poisonous, non-irritating, and cheap. He used a solution of 40 grains to the ounce to bathe his hands on every occasion before making a vaginal examination, and to wash instruments, no lubricant being used. Syringing was not used unless there was fœtor of discharge or pyrexia. He had known severe uterine colic from too vigorous syringing by nurses.—Mr. C. J. WRIGHT described some portable forms of antiseptics suited for faccoucheurs. He used injections as hot as could be borne, and kept up pressure on the uterus during the operation. The most convenient materials were: (1) mercuric chloride in 2-grain powders; (2) the same in pellets, with tartaric acid. This to a great extent prevented the coagulation of albumen by the mercurial salt. The same with glycerine—1 grain to 1 ounce—for lubricating the hands; also in the form of small linen tampons with which a solution could easily be made. He also strongly recommended "soluble phenyl" as an injection to be used by nurses when the discharge was offensive, and showed Calvert's granulated phenol and flexible "pencils" of chloral.

Septic Infection by Nasal and Aural Discharges.—Mr. H. BENDELACK HEWETSON referred to cases already published where a suppurating molar tooth and an offensive nasal discharge in the operator had been shown to be the cause of surgical failure, and described two cases of similar character. 1. A practitioner, complaining of deafness only, was found to have a slight but offensive discharge from the ear. Inquiry elicited that he had been very unfortunate in his midwifery practice recently. Since the condition had been treated no further disaster had occurred. 2. A recently engaged assistant attended a midwifery case, which resulted in violent septic symptoms on the third day after delivery. Examination showed that he was suffering from a syphilitic affection of the septum nasi, with an offensive discharge. He thought that by these channels infection was probably frequently conveyed by nurses.—Dr. BRAITHWAITE preferred carbolic acid as an injection on account of its producing, to a certain extent, anæsthesia of the vulva. In cases of instrumental delivery he syringed with mercuric chloride, lifting the patient slightly so as to facilitate complete drainage.—Mr. CROFT said that while he had been obstetric resident at the Leeds Infirmary 930 cases had been attended with one death only from puerperal septicæmia. Carbolic acid was the antiseptic generally used. He had seen danger from the use of mercuric chloride in the hands of students.—Dr. JOHNSTONE related a case of puerperal septicæmia occurring some years ago. For nine years after that he had no similar case. He then attended three cases in forty-eight hours; one of these died, but he adopted very strict antiseptic precautions, and the disease had not spread. He asked the questions: 1. Is routine syringing advisable? 2. Is a medical man, who has a case of puerperal septicæmia, justified in continuing his midwifery practice?—Dr. PURDY disapproved of routine syringing. He thought the opinions as to the best antiseptics very conflicting, and believed that strict cleanliness could be insured without their use.—Mr. GODFREY CARTER believed that antiseptic precautions would render it possible for a medical man to attend midwifery cases safely though he might have a case of septicæmia under treatment. He related a case where puerperal septicæmia was caused by sanitary defects in the house,—Dr. HELLIER thought more frequent temperature observation should be taken. He praised tinct. iodini as a convenient antiseptic.—Dr. BELL thought a greater mortality occurred in the midwifery practice of hospital surgeons than of general practitioners.—Mr. A. ROBERTS suggested that the Society should draw up a set of rules for obstetric practice.—Mr. HALL, in reply, said he thought that with our present knowledge of the causes of septicæmia, and the good effect of antiseptics, a medical man was justified in continuing his midwifery practice, even though he might meet with a case of puerperal fever.

Nerve-Grafting.—Mr. MAYO ROBSON showed a successful case of nerve-grafting.

Pathological Specimens.—Dr. CHURTON: Gliomatous Growth of Pons.—Dr. ALLAN: 1. Bladder with Three Ureters; 2, Hair from Dermoid Cyst; 3, Uterus with Myomatous Growths.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

MONDAY, OCTOBER 8TH, 1888.

Professor W. T. GAIRDNER, M.D., President, in the Chair.

President's Address.—Professor GAIRDNER, in taking the chair as President of the Society for a second term of office, delivered a short address in which, after thanking the members for the honour they had again done him, he alluded to the changes which had taken place in the membership of the Society since its foundation about fifteen years ago, when he for the first time filled the President's chair. It was a remarkable fact that in fifteen years only four members of the Society had been removed by death (two of these having been original members); and in a few sentences remarkable alike for the beauty of their style and the vivid portraits which they delineated, Dr. Gairdner recalled the well-known names of those who had gone from us—John Wilson, David Foulis, Scott Orr, and Robert Smart. Referring to the memorandum recording the origin of the Society, Dr. Gairdner then spoke of the objects for which it was founded, and showed that these had been well maintained. The Society wished to

avoid all acrimonious and fruitless discussion, and therefore it was a condition attaching to every communication made to it that a specimen of some kind (be it a pathological product, a drawing, a patient, etc.), which could always be referred to and recorded as a fact, whatever the opinions and theories raised with reference to it might be, should accompany the contribution. Dr. Gairdner then referred to the formal discussions which had been held by the Society, and showed that although they were departures to some extent from the original plan, they were naturally evolved from it, and had done much to increase the power and utility of the organisation. He particularly referred to the Society's discussion on tuberculosis which preceded Koch's discovery by a few months, and which was to be regarded as having given expression to the most advanced views on that subject up to the date of the discovery of the bacillus. In thinking over the best plans for maintaining the interest and enthusiasm of the members, it struck him that there were two proposals—one specially of clinical, the other of pathological interest—which might be kept in view during the present session. He thought (1) that a fair share of skin diseases had not been demonstrated at the meetings, and that it would be a good thing if, say, one meeting every month could be set aside for demonstration and discussion of this class of diseases. In this connection Dr. Gairdner mentioned the pleasure and profit with which he had attended a meeting of the Dermatological Society of London some two years ago. In the second place he recommended that every opportunity should be taken of placing before the Society specimens illustrative of the healing of pathological lesions, and thus endeavour to gain some reliable idea as to what took place in patients who recovered as well as in those who died. He left these two proposals with the Council for consideration.—Dr. JOSEPH COATS proposed, and Dr. THOMAS REID seconded, a vote of thanks to Professor Gairdner for his address.

Cases, etc.—Dr. GEORGE T. BEATSON presented and gave a clinical account of the following specimens and cases: 1. A large Cystic Sarcoma of the Mamma of about ten years' duration in all, which he had recently removed. 2. A case of Spina Bifida in the Cervical Region which had been cured by the injection of Morton's fluid. 3. A specimen of an unusual case of Spina Bifida accompanied by other deficiencies of development.—Dr. DAVID NEWMAN presented a case of Laryngeal Stenosis which had for a lengthened period been under treatment by tupelo-wood dilators.

SOUTH-EAST HANTS DISTRICT MEDICAL SOCIETY.

THURSDAY, OCTOBER 11TH, 1888.

H. B. NORMAN, F.R.C.S., President, in the Chair.

Loss of Penis by Sloughing after Injury.—Dr. LLOYD OWEN exhibited a patient who had completely lost his penis for twenty-seven years. The testes were normal. The injury occurred in China, during an engagement at the Taku Fort, by falling on an iron spike. The organ was severely lacerated and contused, and was afterwards destroyed by sloughing. For the last few years he had suffered from stricture of the urethra. Seven months ago he was admitted into the Royal Portsmouth Hospital with extravasation of urine, and was at once treated with free incisions and carbolised baths. The urethral orifice appeared as a small depression on the surface.

Partial Loss of Penis and Loss of one Testicle.—Dr. WARD COUSINS exhibited a patient who had lost half his penis in China twenty years ago by a crushing accident. The left testicle had been torn out by a machine injury ten years since at the Royal Naval Yard, Portsmouth. The patient had been recently under treatment for traumatic stricture and extravasation of urine.

Loss of Penis by Sloughing.—Mr. RUNDLE exhibited a patient the whole of whose penis had sloughed off. A man, aged 68, had suffered from stricture for thirty years. Unsuccessful attempts to pass a catheter had been made a week before admission to the hospital, and the penis and scrotum were in a gangrenous condition from extravasation. Free incisions were made, and frequent warm antiseptic baths ordered. A fortnight afterwards the whole penis separated. Subsequently a catheter was introduced from the perineum. The wound over the pubes had now healed, and the urethral orifice was obliterated.

Popliteal Aneurysm.—Mr. RUNDLE exhibited an engine-driver, aged 47, who was admitted into the Royal Portsmouth Hospital in May, 1887, with a large tumour of three months' duration in the left popliteal space, presenting all the physical signs of aneurysm. On June 8th the superficial femoral was ligatured with carbolised kangaroo tendon. He went on interruptedly well, and had followed his employment since September, 1887, without any inconvenience. The temperature and cutaneous sensibility of the limb were natural. A small and firm tumour in the ham could still be detected.

Spina Bifida followed by Hydrocephalus.—Mr. RUNDLE also exhibited a girl, aged 2 years, who had been treated, when five weeks old, by Morton's method, for spina bifida in the lumbo-sacral region, attended with paralysis of legs. The tumour, which was originally the size of a fist, had been tapped and injected with the iodo-glycerine solution four times, at an interval of a fortnight. It gradually contracted, but symptoms of hydrocephalus appeared, which were now very marked.

Fracture of Neck of Femur.—A specimen of intracapsular fracture was shown by Mr. RUNDLE, from a woman aged 68. The symptoms were eversion and inability to raise the limb. There was no shortening.

Melanotic Sarcoma of Eyeball.—Dr. WARD COUSINS exhibited this specimen. The sclerotic had given way, and the new growth had invaded the tissues of the orbit. The tension of the globe was not increased, and the tumour bulged only a very little into the vitreous cavity. The sight of the eye had failed only a few weeks before the operation.

Antipyrin Rashes.—Dr. C. C. CLAREMONT read a paper on antipyrin rashes, in which he described two cases which had occurred in his practice during the course of enteric fever. In the first ten doses of 15 grains had been given in the course of ten days when the eruption appeared. It came out simultaneously on the abdomen, thorax, back, and limbs in the form of papules, darker, larger, and more solid than the spots of enteric fever. There was a considerable resemblance to measles. The eruption developed into enormous erythematous blotches, with much infiltration, their vivid red colour being removed by pressure, leaving faint yellow pigmentary discoloration. The rash began to subside on the sixth day, and on the tenth day was only represented by faint coppery maculæ, resembling an old syphilitic eruption. Antipyrin was omitted on the appearance of the eruption. In the second case the drug had been given in 15-grain doses, generally twice a day, and omitted altogether for four days. The enteric exanthem had been unusually copious. On the twentieth day of the exhibition of the drug there was a papular erythematous rash on the extensor surfaces of the arms; this spread to the flexor surfaces, and also affected the calves. The antipyrin was omitted. On the fourth day the rash had almost gone, leaving only slight redness and desquamation. The patient had a relapse of fever, and was again treated with antipyrin without suffering from a return of the eruption. Dr. Claremont stated that antipyrin rash generally was of the papulo-erythematous type, and began on the extensor surfaces of the elbows and knees. It had been described in one case as commencing on the face, and in another as extending to the mucous membranes. Once vesicles had been present. Its most constant characters were its bilateral symmetry and its duration of about five days, irrespective of the continuance or withdrawal of the drug. The entire absence of subjective symptoms was exceptional. A scarlatiniform rash had been mentioned, but Dr. Claremont had been unable to ascertain that it was more than a transient flushing, such as is produced by belladonna.

Inoculation of Syphilis by Tattooing.—Surgeon F. R. BARKER read a paper on syphilis communicated by tattooing. The patients, three of whom were exhibited, were all soldiers of a regiment stationed at Portsmouth, and they were all tattooed by the same man, a discharged soldier. They were tattooed at various dates during the present year, and the periods of incubation varied from eighty-seven to thirteen days. The first case admitted appeared like a poisoned wound; but, two days after, two more men of the same regiment appeared with similar ulcers with hardened bases, caused by tattooing. The next day another patient was admitted with three inflamed patches on the arm, presenting well-marked rupial crusts. The fifth case was admitted a few days after the others, and from this patient a clue was obtained to the man who had performed the tattooing. This man was asked to come to the hospital, where he stated that he had tattooed about fifteen men of the regiment since its arrival at Portsmouth in April last. He at first denied but afterwards admitted that he mixed his paints with his saliva, and wetted his finger and applied it to the part tattooed; he had also put the needles in his mouth. He used four ordinary needles on a piece of stick,

quite as close together as he could get them. He used vermillion and Indian ink. He had never had a sore on his penis, but had had gonorrhœa. Whilst talking to him Dr. Barker noticed a slight sore at the left angle of his mouth, and, on looking into it, the greater part of the buccal mucous membrane and soft palate was found studded with mucous tubercles. There was a coppery rash on his chest. On the glans penis there was a dark-coloured scar the size of a shilling. This the man said had come a year before; he had had no treatment for it, and it went away of its own accord. He had also condylomata about the anus, and suffered from alopecia. The inguinal and cervical glands were enlarged. Of the fifteen men he had tattooed, eleven contracted the disease.—Dr. WARD COUSINS remarked upon the very unusual appearance of well-marked rupial crusts at the points of inoculation. He had never seen rupia prominences before, except during the secondary or tertiary stages of the disease. There was no previous history of syphilis in this case. All the patients were most certainly inoculated from the same source, and yet they presented very different forms of local inflammation and widely different skin disease.—The PRESIDENT observed on the rarity of a well-marked rupial eruption as a primary manifestation of syphilis. He requested Dr. Barker to favour the Society with another report at the next meeting.

Treatment of Rectal Disease.—Dr. WARD COUSINS read a paper on the local treatment of disorders of the anus and rectum, and exhibited a new ointment injector. The instrument consisted of a smooth anal tube, a cylindrical receptacle for the ointment, and an elastic handball. The ointment could be projected through the perforations in the anal tube by compressing the handball. The injector was very readily charged, and was especially adapted for self-application.

Specimens.—Dr. J. O'CONOR showed (1) a specimen of transverse fracture of the vault of the cranium without any depression. The patient had fallen twenty feet upon his head. After death, extensive extravasation of blood was found over the surface of the brain, and some laceration of brain substance. (2) The bladder removed from a patient who had died seven days after lithotrity. The vesical walls were greatly thickened, and chronic ulceration existed on the anterior surface behind the symphysis. The left kidney contained an old abscess-cavity, and both organs were small and contracted.—Dr. WARD COUSINS remarked that, at the time of the operation, full-sized instruments passed easily into the bladder, and the urine contained only a little muco-pus. The stone was extremely soft, and contained several bundles of broken fibres, which probably constituted the original nucleus of the concretion. The patient admitted that he had been frequently using a gum-elastic catheter on himself for many years. He feared that the base of the ulcer must have been injured by his manipulations, and that leakage of urine had subsequently taken place into the cellular surroundings of the bladder. The peritoneal cavity was normal.

Exhibit.—Dr. W. HARMAN (Winchester) exhibited Dr. Maxwell's Chloride of Ammonium Inhaler.

President-Elect.—Mr. F. BROOK, of Fareham, was unanimously elected President for the ensuing year.

REVIEWS AND NOTICES.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE RECTUM. By WM. ALLINGHAM, F.R.C.S., and Ex-Member of the Council, Senior Surgeon to St. Mark's Hospital. Edited and revised by HERBERT WM. ALLINGHAM, F.R.C.S., Surgeon to the Great Northern Central Hospital, etc. Fifth Edition. London: J. and A. Churchill.

A WORK on rectal disease by so experienced a specialist as Mr. ALLINGHAM is certain to interest the profession. So many improvements or professed improvements have been introduced during the six years which have elapsed since the appearance of the fourth edition, that this new issue will be read by all who are anxious to hear the author's opinion on various innovations. Not less important is the record of Mr. Allingham's increased experience of the commonest forms of disease of the rectum and anus.

A brief notice of the more important passages in the new edition is all that need be attempted in our columns. In many respects that which the author still maintains is at least as important as that which he now publishes for the first time; hence it is not only the original passages in the fifth edition that deserve consideration. Mr. Allingham finds that the ligature is most valuable in many cases of fistula, and frequently invaluable as an auxiliary to the knife, yet he confesses that the method has disappointed his expectations. He persists in his opinion that the ligature is the safest and quickest operation to employ in all cases of well-formed hæmorrhoidal tumours. When performed in the manner which he practises there is hardly any danger of bleeding, and hence it is especially advantageous when primary, recurrent, or secondary hæmorrhage would be particularly dangerous, as, for example, in anæmic patients and in those for whom it might be difficult to obtain instant surgical aid. For simple strictures of the rectum Mr. Allingham advocates gradual dilatation with bougies; if it be very resilient, slight incisions may be made through the stricture. When complicated by ulceration the stricture should at first be treated by bougies, but when that treatment fails linear rectotomy affords the best hope of relief. In extremely severe cases of stricture and ulceration combined with fistula, in which linear rectotomy has been of no avail, colotomy should be performed.

The word "colotomy" suggests the subject of malignant disease and its treatment. Mr. Allingham is not an enthusiastic advocate of excision of the rectum, which "is stated by some surgeons to effect a positive cure of the disease in some cases." The tone of this sentence is essentially sceptical. Excision of the rectum can only be performed, he maintains, with any safety to the patient when the growth is situated at the lower part of the rectum, and when at the same time the finger can feel healthy bowel above the uppermost limit of the growth. Excision, he continues, is only suitable to those cases in which the growth is movable, that is to say, when it does not infiltrate or involve tissues outside the rectal tube, as the sacrum and bladder. The more Mr. Allingham watches the results of lumbar colotomy, the more confident does he feel that inguinal colotomy is the better operation in the majority of cases, if strict attention be paid to his method of preventing fæces from passing below the artificial anus. By the operation to which he gives the name of his son, Mr. Herbert Allingham, a good spur is obtained by fastening the gut well outside the wound. "If the spur fails, in my opinion the operation is itself a failure, and the patient, although relieved from distension, is still constantly troubled with motion passing below the artificial opening, irritating the growth and causing pain." The abdominal incision should never be more than two inches long, and when the intestine is opened, its walls should be cut away to the skin level. Mr. Allingham maintains that the fear of operating below the diseased part is illusory if the surgeon knows the pathology of cancer of the lower part of the bowel, and possesses a fair amount of dexterity. After inguinal colotomy the patient can easily keep the opening from contracting by the occasional passage of his finger. For facility in reaching the gut and in securing it during the operation, and for rapid cure without constitutional disturbance or extensive suppuration, inguinal is more satisfactory than lumbar colotomy. Again, the author declares that inguinal colotomy is specially advantageous when cancer of the rectum is attended with persistent diarrhœa, or great irritation from passage of fæces, and in incurable cases of recto-vaginal or recto-vesical fistulæ.

Several chapters, as the author informs the reader in the preface, have been written by Mr. Herbert Allingham. These include the sixth on "Incontinence of Fæces, its Causes and Treatment," illustrated by five instructive diagrams, and also the chapters on excision of the rectum and both forms of colotomy.

Mr. Allingham criticises minutely and unsparingly every method to which he objects or which he considers not entirely objectionable, but inferior to some other practice which his own experience has led him to prefer. The tenth chapter, on the "Treatment of Internal Hæmorrhoids," is a good example of the author's style. The clamp and cautery treatment "has little to recommend it." The author's researches have led him to the conclusion that it is quite six times as fatal as the ligature properly and dexterously applied. He declares, moreover, that the burning causes very great pain after the operation, especially if the skin be involved; that hæmorrhage is more likely to occur than after the best modes of operating; and that healing is slow and a serious amount of contraction of the scar frequent. The crushing of hæmorrhoids is allowed by the author to be admissible or even beneficial in some cases, but the paragraphs on the subject conclude with the following sentence: "It is not wise to crush piles when the

patient is at a distance from skilled assistance, for fear of hæmorrhage coming on"—an important qualification. Mr. Whitehead's method of excision is good, according to Mr. Allingham, only in cases where the whole area of the lower part of the bowel is affected with a vascular condition; the modification of Whitehead's operation devised by Mr. Herbert Allingham is described. To the injection of carbolic acid or other fluids into the substance of the pile Mr. Allingham expresses the strongest objection, just as he did in the previous edition. He agrees with Dr. Matthews, of Louisville, Kentucky, that the method is neither sure nor safe. Mr. Swinford Edwards, in a contribution on the subject published in the JOURNAL, October 13th, 1888, observed that Dr. Kelsey, the originator of carbolic injections, is no longer enthusiastic about the method in question. Nevertheless, Mr. Edwards, it will be remembered, spoke in its favour.

The new edition of Mr. Allingham's *Diseases of the Rectum* is a valuable record of experience by a surgeon of repute and an important summary of special methods of treatment impartially discussed by a competent critic.

THE SURGEON'S HANDBOOK ON THE TREATMENT OF WOUNDED IN WAR. By Dr. FREDERICH VON ESMARCH. New Edition.

ON the occasion of the Exposition at Vienna Her Majesty the Empress of Germany, in order to forward the interests of humanity under the symbol of the Red Cross in time of peace as well as in war, offered two large prizes, one of which was to be awarded for the best handbook of military surgery. The first prize was awarded to the author of the handbook by the appointed jury, consisting of three members, Professor B. von Langenbeck, of Berlin, Professor Billroth, of Vienna, and Professor Socin, of Bâle.

The author, thinking that his object would be better "accomplished by pictures than by an abundance of words," illustrated his work most profusely with excellent coloured plates of the most graphic description. It had, besides, a clear, bold letterpress, and ran through two editions. Now a third is presented to the public, which is described as an entirely new edition. In this one all coloured plates have been discarded, and well-shaded, excellent woodcuts have been substituted in their place; and in a note by the translator it is stated that the anatomical nomenclature employed by him has been that of Gray's *Anatomy*.

The book is divided into two parts; the first gives general rules for the treatment of wounds and injuries, and the second is devoted to operative surgery.

In Part I the most minute directions are given as to how cleanliness (asepsis) may be best maintained both with reference to the person of the operator and his assistants, and also with reference to the cleanliness of the instruments and appliances generally; and full instruction is given as to the best methods of cleaning sponges. The author prefers what he terms "wipers" (tupfer) for removing blood, etc., during operation, or in dressing wounds; they are, in fact, the artificial sponge of Gamgee. He describes how they are best made, and suggests that "in time of war the preparation of wipers under strict medical supervision would be a thankworthy employment for ladies, instead of the customary preparation of lint"—a suggestion we should thoroughly endorse. After giving minute particulars for wound treatment, our author objects to the use of rubber drainage-tubes in fresh and aseptic wounds, because they irritate the wound, acting as foreign bodies, and because they permit the entrance of the agents of decomposition into its interior, etc. He prefers the use of decalcified bone tubes, which dissolve in the wound. Great importance is attached to keeping a wound as dry as possible, and therefore the use of absorbent coverings is insisted upon. The various modes of applying bandages, dressings, and apparatus in general are minutely described and beautifully illustrated.

Part II deals with the treatment of septic wounds. Professor ESMARCH goes into much detail about gunshot wounds, and at page 159 expresses himself strongly against any interference with the wound on the field of battle, or at the dressing station, unless it be to check hæmorrhage, but counsels delay until the patient reaches the field hospital. He also insists that all military surgeons should be familiar with the antiseptic treatment, and experienced in applying it, and that its fundamental principles should be taught to all nurses, orderlies, and bearers. All forms of tourniquets are described and illustrated. At page 213, the author writes: "According to our present opinions, every form of transfusion of blood is to be rejected, because by heating the blood to extract the fibrin, fibrin ferment is set free, which causes coagulation of the circulating blood, and dissolves the corpuscles (ferment poisoning, Köhler); but an injection of a solution of common salt, 7 parts to 1,000, into the veins suffices to raise the blood-pressure within the vessels, so that the heart can again set the column of blood in motion." The elaborate drawings to show the steps in various amputations and resections will prove of the greatest help to those who are not in constant practice of operating.

At page 289, in giving directions for resections, Professor von Esmarch writes: "Since the regeneration of a joint is generally most complete when only one articular end is removed, it is advisable, if the injury to one articular end is very extensive, only to resect this, and to leave the other intact. This is particularly true of the upper extremity," a hint we shall do well to remember.

There is a short chapter on the treatment of wounds of the intestine, but this is not dealt with at any very great length.

This edition is essentially a book of to-day, and, whilst giving in the text the most modern thought upon surgical proceedings, it yet appeals more strongly to the mind of its readers by means of the variety and minuteness of its illustrations. It is a handsome and useful book, and will, no doubt, be one that will be eagerly welcomed by all young operators.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

A METHOD OF GENERATING NEUTRAL FUMES OF AMMONIUM CHLORIDE FOR INHALATION.

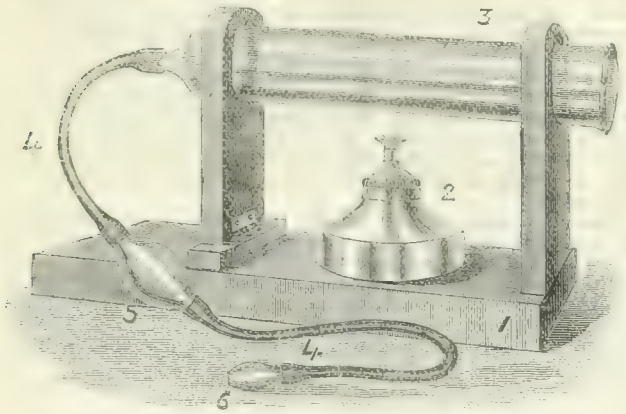
Read in the Section of Otology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By PATRICK W. MAXWELL, M.D.,
Assistant Surgeon, National Eye and Ear Infirmary, Dublin.

CHLORIDE of ammonium has long been recognised as a local means of treatment in some forms of nasal and pharyngeal catarrh. Of late years it has been the practice to prescribe its inhalation in the form of fumes, in preference to using a solution applied as a wash or spray. Various forms of apparatus have been devised for generating these fumes, but, so far as I know, the principle in all has been the same, namely, to obtain the vapour of hydrochloric acid and ammonia, by drawing air through a solution of each, and then allowing them to mix. Minute particles of chloride of ammonium are now formed, and remain suspended in the air.

When these so-called fumes are inhaled, particles are deposited on the surfaces with which they come in contact, or become dissolved in the secretions of the air passages. Nothing could be better than this method, provided the vapours of acid and ammonia could be supplied in the proper proportions. In practice, however, this is seldom obtained. The ammonia, being the more volatile, is apt to be in excess at the beginning of the process, and for the same reason tends to become more quickly exhausted. There is, therefore, a tendency towards the end of the process to have an excess of acid. By passing the combined fumes through a wash-bottle, this tendency is to some extent corrected, for the preliminary excess of ammonia is partly retained by the water, and the solution of ammonia so formed will absorb a good deal of the free acid which finally comes over. That this is not completely effected is proved by the changes in colour in litmus solutions produced by the washed fumes. A proper mixing of acid and ammonia is still further interfered with by the fumes passing back into the tubes leading from the separate solutions, and causing a deposit of the solid salt upon their walls. One of the tubes may thus become obstructed, and the fumes from the other bottle are then inhaled alone. An excess of acid is very irritating, and is liable to aggravate the conditions which the ammonium

chloride is intended to relieve. An excess of ammonia does not so much matter, and in some cases is even an advantage. Still when this happens it cannot be said that pure ammonium chloride is being inhaled, nor can one be certain whether the free ammonia, even if desired, is in excess, or not, of what is intended.



1. Wooden stand with hinged uprights, which can fold down for convenience in packing. 2. Spirit lamp. 3. Glass cylinder for generating fumes. 4. India-rubber tube. 5. Bulb filled with spun glass. 6. Mouthpiece.

At my suggestion, Messrs. Anderson and Adams, 68, Grafton Street, Dublin, have produced a very simple means whereby solid ammonium chloride is volatilised by heat, and after mixing with cold air can be directly inhaled without the necessity of a wash bottle. The apparatus consists of a wide piece of glass tube, like the cylinder of an ordinary glass syringe, placed horizontally on a wooden stand. About ten to fifteen grains of ammon. chlorid. are introduced by a spoon through the wide end of this tube, and are placed in a little heap in the centre. The base is then lightly stopped with cotton wool. A lighted spirit lamp placed below the tube volatises the salt. A piece of india-rubber tubing, with a glass mouth-piece, is attached to the narrow end of the tube by means of which the fumes are inhaled. A current of cold air rushing in by the other end of the horizontal tube mixes with the fumes and reduces their temperature so that they are not more than slightly warm. These fumes are perfectly neutral from first to last. This can be easily demonstrated by dividing the india-rubber tube and connecting the two ends with a wash-bottle filled alternately with red and blue litmus solution. The colour in either case remains unchanged.

A more concentrated volume of fumes is obtained by a slower inhalation, whereas, if they seem to be generated too quickly, the lamp may be removed occasionally for a few seconds during the inhalation. The spirit-flame should be small.

Although a wash-bottle is in this apparatus unnecessary for the absorption of an excess of acid or alkali, still I have found it better to use something of the kind. The larger particles are in this way removed from the fumes, and they are deprived of an excessive dryness, which is irritating in some cases. The function of wash-bottle is performed by a glass bulb filled with moistened spun glass. The advantage of this substance over sponge, wool, etc., is that it cannot decompose or become musty. If it be desired to inhale any other volatile snbstance along with the ammonium chloride, this can be dropped upon the spun glass instead of water.

Chronic nasal catarrh, characterised by an uncomfortable dryness of the nose, is specially benefited by neutral fumes of ammonium chloride, the mucous membrane remaining pleasantly moist for hours after its use. An excess of ammonia will produce a greater immediate moisture, but is apt later to increase the dryness.

Should it be desired to make the fumes slightly ammoniacal, carbonate of soda or potash may be added to the ammonium chloride in the proportion of five or ten grains to an ounce.

The glass parts of this instrument should be washed after every third or fourth inhalation. The india-rubber tubes are best cleaned by rubbing them between the hands and then blowing the dust out. The simplicity of this apparatus is a great advantage, and its low price (3s. 6d. complete) places it within the reach of even hospital patients.

SACCHARIN.

MESSRS. BURROUGHS, WELLCOME AND CO. write us that they are now, owing to increased facilities and a slight decline in the cost price of saccharin, enabled to supply 200 tabloids instead of 100 in the oval 2s. 6d. bottles at 24s per per dozen, 60 instead of 25 in the 1s. tubes at 8s. per dozen, and 24 instead of 12 in the 6d. tubes at 4s. per dozen. The soluble saccharin ½-ounce oval bottles are reduced from 2s. 6d. to 1s. 6d. per bottle at 14s. per dozen. The ½-grain tabloid, or a small quantity of soluble saccharin, is sufficient to sweeten a cup of tea or coffee.

ARTIFICIAL SUCKLING.

OUR Paris correspondent recently (October 13th, p. 844), described some simple apparatus designed by MM. Auvard, Smester, and Budin, for facilitating the suckling of infants incapacitated by weakness or deformity from taking the breast. Figs. 1 and 2

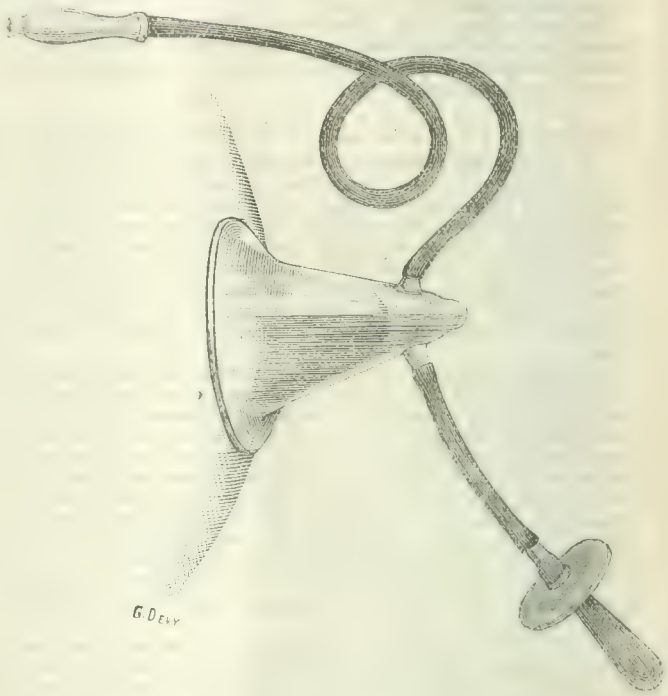


Fig. 1.

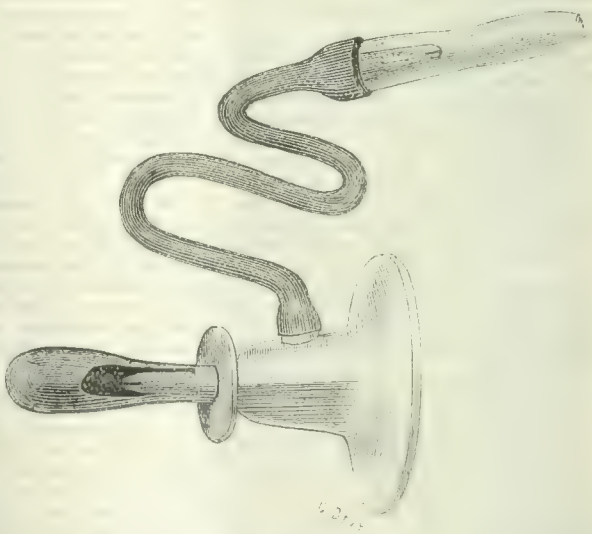


Fig. 2.

represent the early forms upon which M. Budin has improved: the upper mouthpiece in each is that used by the mother. Fig. 3

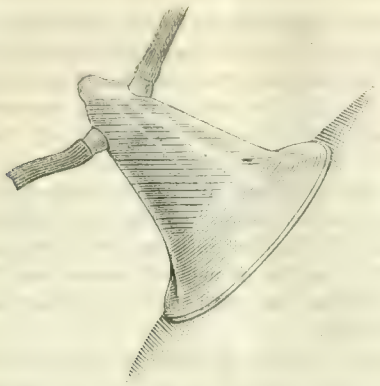


Fig. 3.

shows one of the main objections to this former, namely, that when the mother is lying down the milk accumulates at the base of the cone, so that the latter must be completely filled before any milk can be obtained by the child; Fig. 4 demonstrates another objection, namely, that if the mother is sitting up and leaning forward the milk gravitates towards the apex of the cone, and is apt to be sucked up by her. Fig. 5 represents M. Budin's apparatus; it will be seen that by its use these difficulties are entirely obviated, the opening to which the tube carring the teat (B) for the infant is attached being at the lowest point of the reservoir.

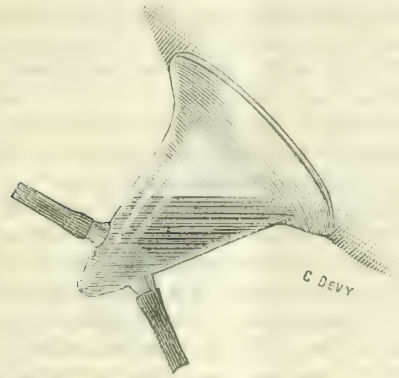


Fig. 4.

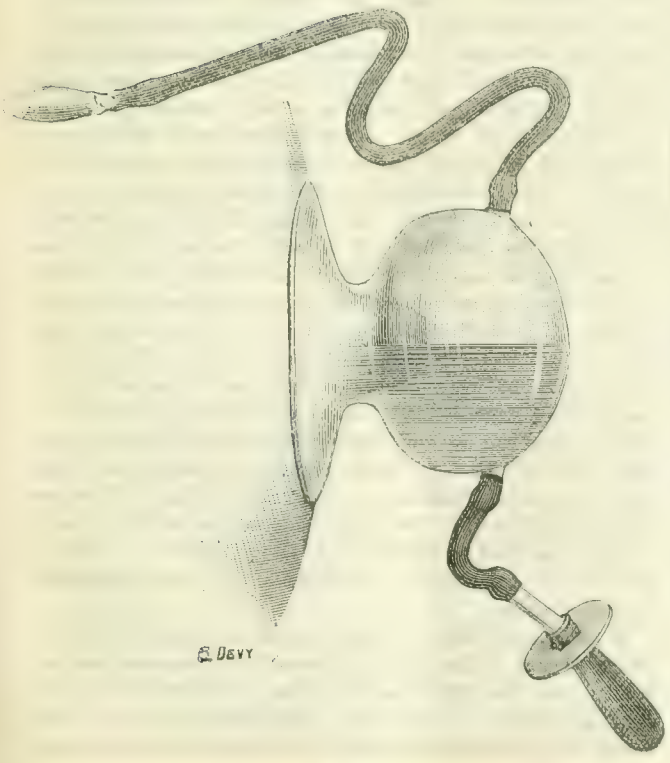


Fig. 5.

B

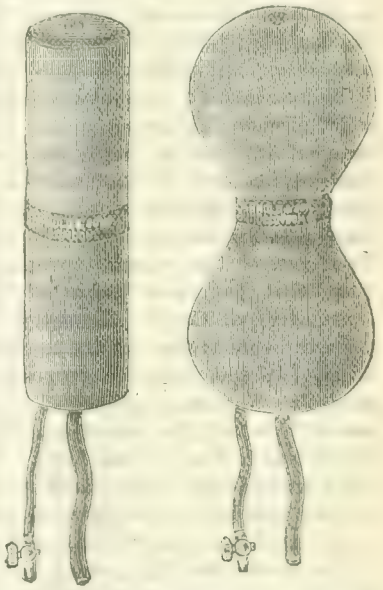
OPEN BACK CYCLE SADDLE.

JERSEY writes: Relative to a division in the cycle saddle referred to in the JOURNAL of October 20th as a recent German invention, I would like to point out that a saddle with a similar division has been in use for some years in this country. In connection with it a Dublin firm made a curious mistake in spelling, advertising it in their shop window "for avoiding *perennial* pressure." The advertisement was in the window for several years, and for all I know may be there still.

NEW INFLATABLE DILATOR, USEFUL AFTER COLOTOMY AND OTHER OPERATIONS.[1]

BY JOHN WARD COUSINS, M.D.LOND., F.R.C.S.,
Senior Surgeon to the Royal Portsmouth Hospital, and the Portsmouth and South Hants Eye and Ear Infirmary.

THE dilator consists of a central tube enclosed in an elongated and inflatable bag. An india-rubber band surrounds it in the middle, and regulates its shape when distended with air. It should always be inflated after introduction, and this can be done very conveniently by using a small metal pump. The patient can be readily taught to put it in and remove it without assistance.



The dilator is extremely useful after colotomy, as the central tube allows the escape of flatus. I have employed it with success after both inguinal and lumbar operations. It forms a capital plug for the artificial anus, and some of my patients have worn it constantly with comfort. In other cases it has been retained in position for several hours daily.

Dilators of smaller size are very serviceable in cases of empyema after the operation of incision. They can be introduced daily and then inflated, and in this way a free opening for drainage may be maintained. I am convinced that in many chronic cases the persistent use of the ordinary tube tends to keep up irritation, and sometimes actually prevents the contraction of small cavities. Under these circumstances I have found great improvement follow simple dilatation of the wound by pneumatic pressure.

The instrument is made for me by Messrs. Arnold and Sons, West Smithfield, in various shapes and sizes.

[1] Exhibited at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The following officers have been elected for the thirty-third session, 1888-89. *President:* Peter Horrocks, M.D. *Vice-Presidents:* Thomas Moore, F.R.C.S.; J. Poland, F.R.C.S. *Council:* G. H. Cable, M.R.C.S.; Ernest Clarke, M.D.; Peter Cooper, M.R.C.S.; Alexander Forsyth, M.D.; J. McGavin, L.R.C.P.Edin.; J. Brindley James, M.R.C.S.; Frederick Moon, M.B. *Treasurer:* Prior Purvis, M.D. *Secretary:* H. W. Roberts, M.R.C.S. *Librarian:* Ernest Clarke, M.D.

MOTHERWELL HEALTH LECTURES.—Dr. Andrew Wilson, F.R.S.E., has begun a second series of health lectures in Motherwell in connection with the Combe Trust. The lectures are delivered in the Town Hall, and are largely attended.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, OCTOBER 27TH, 1888.

FEMALE MEDICAL AID FOR THE WOMEN OF INDIA.

No one who has read the account which Lady Dufferin published before leaving India of the work done during the last three years, and of the present position of the National Association for Supplying Female Medical Aid to the Women of India, can fail to be struck with amazement that this movement, originated, planned, and so successfully carried out for the amelioration of the lot of Indian women, should in so short a space of time have attained such considerable proportions. In the original prospectus, issued in 1885, which bore the names of the Queen-Empress as patron, the Governors and Lieutenant-Governors of the various provinces as vice-patrons, it was stated that the general affairs of the Association were to be arranged "by a Central Committee, and that efforts would be made throughout the country to establish branches which, for all financial and executive purposes, should be entirely independent. The money subscribed to the National Association was to be called the 'Countess of Dufferin's Fund,' and each branch was to have its own fund bearing the same name. It was explained that each branch would be expected to adhere to the principles of the National Association, and to contribute a small percentage of its receipts to the Central Fund."

The system thus inaugurated has at the end of three years been found to work admirably and without friction. Early in the year, the Association was placed on a substantial financial footing; a sum of five and a half lakhs being invested and settled as an endowment fund. The India Office gave its assistance and official recognition. It was soon found necessary, with the view of placing the new female medical service on a satisfactory basis, to arrange a simple system of grades, and to decide upon the minimum and maximum salaries which should be attached to each. They were accordingly grouped under three heads: (1) registered lady doctors; (2) female assistant-surgeons; (3) female hospital assistants, corresponding with the titles given in the Government Medical Service. It was deemed advisable, as a rule, to give women rather higher salaries than men of the same grades receive. It was felt that women have no pension to look forward to, nor is a regularly increasing salary promised to them. There are fewer of them in the profession, and they require greater inducements.

Lady doctors in the first grade are required to produce a certificate of sound health and fitness for service in India, signed by a member of the India Office Medical Board; to serve for a period of five years, and submit to the supervision of the duly recognised medical authorities. The Central Committee of the Association undertakes to pay the lady's passage, to give her an outfit allowance, and to pay her 300 rupees a month, or 350 rupees without lodging. She may undertake private practice so far as it does not interfere with her special duties. At present the registered medical women are drawn from Europe or America, but it is hoped in time that native Indian women will qualify.

Lady Dufferin points out that it would have been more easy and much more striking to have built a fine new Medical College, or to have started a number of female hospitals or dispensaries in all directions. Instead of this, the Association is now able to point to five old-established medical schools, all enlarging their female classes, and giving their female students the best possible instruction. The buildings might have been erected, but there would have been no doctors to put into them. "Even," adds the report, "at our present cautious rate of progression we are at the end of our supply of ready-trained medical women, and we could not at this moment officer one more hospital than already exists."

Lady Dufferin states, for the information of those who like to give for definite objects, that the sum of 600 rupees (or 150 rupees a year for four years) covers the cost of educating one female student; that one bed in a female hospital can be maintained for 100 rupees a year, or can be endowed for 2,500 rupees. The English fund has never been large, amounting to £3,560, out of which £2,295 has been paid into the Indian account, and has provided the passages and outfits of five doctors and a nurse, and given two scholarships at the London School of Medicine for Women for students intended eventually for India.

Medical tuition is regarded "as the very foundation of the work, for it is only by preparing a large number of female practitioners born in the country, versed in its customs and belonging to its people, that we can ever hope to supply to the mass of Indian women that medical relief which it is our object to provide for them." Two hundred girls are now being educated in the medical schools of India, the majority of whom become hospital assistants (a class which among men has been found very useful in India), the remainder becoming assistant-surgeons. At the beginning of the year there were twenty-four medical students attending the Medical College at Calcutta, three of whom were matriculated students. A vernacular class, started this year at the Campbell Medical School, Calcutta, has had an encouraging beginning; thirteen pupils have been admitted, of whom eight are Hindus, two Brahmins, two native Christians, and one East Indian. In answer to the objections that have been made to the multiplication of "inferior medical practitioners," Lady Dufferin points out that hospital assistants are not intended to take independent medical charges.

At the Grant Medical College there are seven students in the matriculated class and twenty-two in the non-matriculated. Madras was the first place in India where female students were admitted to a university; the Council has now sanctioned the gratuitous education of all female students recom-

mended by the National Association. Six lady doctors have already been supplied from Madras. At the Medical School at Agra during the last three years a large additional piece of ground has been taken in adjacent to the Thomason Hospital, upon which a female dispensary, lecture hall, hospital, lady doctors' house, and students' boarding house have been erected, and upon which a lying-in hospital is now to be built. Two lady doctors have been appointed to take charge of the dispensary and hospital; they also give instruction to the pupils. There are now fifty-six students in this school.

At Lahore, Dr. Broun has two classes and about sixteen pupils. Eight native women of good caste joined the female medical class at Indore, and Dr. Keegan feels sure this class will eventually prove a success. At Hyderabad, Deccan, a class is instructed by Dr. Lawrie, who says, "two of the lady students beat the whole of the male students, and secured first places." These are being sent to England by the Nizam's Government to complete their medical education.

At the universities many of the pupils support themselves, and the work of medical tuition throughout the country has been greatly facilitated by the creation of scholarships. In addition to scholarships at Agra and eleven scholarships given by Sir Walter de Souza at Calcutta, the High Priest of the Hindoo Temple at Baidyanath has offered one of 150 rupees a year to a Hindu student of high caste, and Sir Dinshaw Manockjee Petit has also given a valuable scholarship to a female student at this university. At Madras, twenty scholarships have been founded by municipalities in connection with the Madras branch of the Countess of Dufferin's Fund, and the Mahant (or High Priest) of Tripaute has made a most munificent donation with the same object.

Medical relief, or the establishment of female hospitals and dispensaries, and the placing of lady doctors in different towns or districts, are the most expensive parts of the scheme. There are now, we are informed, more or less connected with the Association, twelve female hospitals and fifteen dispensaries, most of which are officered by women. Eleven lady doctors are employed, five of whom have been brought out to India by the Central Committee, and six of whom were residents of the country. Three more have for some years been working in hospitals at Lahore, Oodeypore, and Hyderabad, and one who came from England last winter, has found employment at Hyderabad, Sind.

To the Cama Hospital has been added a training school for nurses. The Victoria Caste Hospital, at Madras, is affiliated to the Association. The Lady Aitchison Hospital is also entirely officered by women. New hospitals are projected at Calcutta and elsewhere. At the Lady Dufferin Zenana Hospital Dispensary, Calcutta, 3,224 cases were attended during the first six months. At the small hospital with twelve beds, at Rangoon, 142 patients were admitted during the first seven months. 7,000 new cases attended the dispensary at Agra last year. In ten months, at Lahore, 7,691 attended the dispensary. In 1887, 9,125 women attended the zenana wards of the Afzul Guny Hospital in Hyderabad. The hospitals at Oodeypore, Ulwar, and Darbungha are equally well attended.

Such a record of noble work as that in which the Countess of Dufferin has been engaged on behalf of a populous race it has seldom been our agreeable duty to review; and the success of this scheme must be largely attributed to the great care and judgment exercised in its organisation and management.

ON INTESTINAL FERMENTATION IN CHILDREN.

Bednar was one of the earliest writers who put forward the theory that primary abnormal decomposition of food was a cause of diarrhœa in children; his views were accepted by Henoch. In 1881 Uffelmann made examinations of the various bacteria found in the fæces, and Escherich pursued this subject by the aid of Koch's method of cultivations. He found that the bacterium lactis aërogenes determines strong fermentative action in carbo-hydrates, and especially in milk-sugar, that this process is a typical lactic acid fermentation with formation of lactic and carbonic acids, hydrogen being set free, and is possible without the presence of oxygen. Albumen is not split up by this bacterium. Another form, the bacterium coli, has but slight fermentative properties. Dr. Adolf Baginsky, in a paper recently read before the Berlin Medical Society,[1] in the main confirms Escherich as to the presence and properties of these two bacterial forms, but with some important differences. The following are conclusions already published by Dr. Baginsky in the *Zeitschr. f. Physiolog. Chemie*: 1. Escherich's bacterium lactis ferments milk-sugar, very small quantities of lactic acid being formed, and acetone being set free. 2. Most of the acid formed can be shown to be acetic acid. 3. This formation occurs with or without access of air. 4. Bile-constituents do not prevent this acetic acid fermentation; therefore this process may go on in the intestine. 5. The bacterium changes neutral lactates into butyrates. 6. It does not change starch into sugar. 7. Acetic acid is produced by its action on starch only when oxygen is present. 8. It does not decompose casein. 9. The gases accompanying the formation of acetic acid are CO_2, methan, and H_4. This process is, therefore, not a lactic acid fermentation, but a methan-fermentation of acetic acid (Hoppe-Seyler). 10. The bacterium slowly decolorises methylene blue, and, therefore, forms reducing material in moderate quantity, which may act by diffusion at a distance.[2] From these conclusions follows the result that the name of this bacterium should not be bacterium lactis aërogenes, but bacterium aceticum.

Now as to the practical consideration of this subject, which will be found to be of the highest clinical interest. Cultivation experiments show that the formation of acetic acid destroys this bacterium, a very small quantity being sufficient. Further, when cultivations are made from the fæces of children suffering from acid diarrhœa, two bacterial forms are isolated; one of these separates a greenish colouring matter, is common in water, and appears to be identical with the bacillus which the French observers, Hayem and Lesage, have recently rather rashly made answerable for the green diarrhœa of children. It fluidifies gelatine. The other form also fluidifies gelatine, but more slowly and superficially, a white cuticle forming, and a whitish mass sinking to the bottom. This form is constantly found in infantile diarrhœa, and probably plays an important part in that disease; it is quickly fatal in animals. If we try to cultivate this form and the

[1] *Deutsch. Med. Wochenschr.*, 1888, Nos. 20 and 21.
[2] *Verhandl. der Physiolog. Gesellsch. in Berlin*, 1887.

bacterium together, the former is prevented from developing if milk-sugar be present. Thus the modern anti-bacterial treatment contains an element of failure. Supposing it to be successful in destroying germs, which is not usually the case, it interferes with the independent destructive power of the bacilli upon each other. The above facts by no means explain all the phenomena of infantile diarrhœa. The origin and action of the various phenomena are not well known as yet, and, besides this, the relations are different from those existing in other organs. Workers have hitherto restricted their field of labour detrimentally, and, besides, there is great disagreement.

Some impute all the symptoms of infantile diarrhœa to undigested casein: some make very light of this, and assume the action of bacteria as the sole cause. The fact that cow's milk usually agrees very well in winter, but in hot weather often causes summer diarrhœa, favours the latter view. Some, again, assert that acid, others that alkaline, fermentation, is the cause of the trouble. All sorts of poisonous ptomaines (tyrotoxine, etc.) are accused by other observers. The conditions surrounding milk digestion are extremely complicated, and we cannot imitate them in a laboratory. Each secretion pouring into the intestine has its own specific properties. All surrounding organs, and the intestinal wall itself, will be influenced by derangement of the normal process of digestion. "It is a great error to say, with Legendre, that pathological alterations are merely the consequences of abnormal decomposition, though I once leaned to this view myself; and this error underlies most recent teaching on dyspepsia in general. There is an unbroken chain of sequence from simple catarrh to complete atrophy of the mucous membrane. There is no doubt that in every dyspepsia there is anatomical lesion of the gastro-intestinal wall in more or less degree, and though fermentation-processes may act as the primary cause, they do not account for the subsequent phenomena."

To return to these processes: we have seen in the acetic acid fermentation caused by the bacterium aceticum a means by which the infantile organism can ward off pathogenic bacteria from the intestinal wall. But if this fermentation exceed a certain limit, not only is the bacterium aceticum itself destroyed, but a number of abnormal results follow. The alkaline pancreatic secretion cannot act properly; peptonisation of albuminoids, emulsification of fats, and amylolytic action are all hindered. The acetic acid is itself an irritant, and if it go on to methan formation by continued fermentation, the gases which are formed cause colic. A catarrhal condition of the mucosa is induced, absorption is hindered, then ensues destruction of the epithelium, and other changes follow. The primary (acid) fermentation is followed by a second (alkaline), as Escherich has rightly observed, and this author founds a dietetic system thereon. He proposes to give only albuminoids, and no carbo-hydrates during the first (or acid) kind, but during the second mainly carbo-hydrates, the albumen supply being much restricted. But peptones are badly borne by the intestine in early life. Again, the so much vaunted dextrines are not free from starch, and hold a good deal of nitrogen. They pass the upper part of the gastro-intestinal tube as "undigested ballast," and in the lower part set up fermentation of the worst kind. It is not easy, moreover, to say which kind of fermentation is originally present, though the urine reaction may assist us.

It has long been known that sugar agrees well in certain diarrhœas.[3] Raspe has lately advocated milk-sugar, and Hirschler has shown that carbo-hydrates restrain albumen decomposition. Now dextrine cannot be considered equivalent to milk-sugar, still less can the complicated "infants' food."

In all this dietetic treatment the intestinal tract is too exclusively considered, the mucous membrane itself too little. Our object should be not so much to avert a wrong fermentation, as to fight against and cure a dyspeptic derangement (starting from the mucosa). Escherich's diet may be suitable for one part of the intestine, not for another. Every therapeutic is partly empirical, many are altogether so. It is known that calomel in small doses will often stop diarrhœa, and it is said that this is from its anti-fermentative (or anti-bacterial) action. Experimentally, a trace of calomel in the gelatine prevents almost entirely the growth of bacterium aceticum, and this may explain the undoubted usefulness of calomel in sudden diarrhœa in children, due apparently to fermentation of milk-sugar in the milk-supply. Morax has recently brought fresh support to this theory.

It is known that certain materials (phenol, scatol, indol, etc.) are formed in the decomposition of albumen (Baumann, Brieger, Salkowski), and appear in the urine as ether-sulphuric acids. They can be quantitatively estimated, and form a measure of the albumen decomposition going on within the intestine. Now Morax finds that on this latter process calomel exerts no influence—that is, in the doses that can be given. We may presume, then, that calomel acts exclusively on the fermentative properties of bacterium aceticum and similar forms.

It is desirable that we should have a clearer knowledge of the values of different substances as anti-fermentatives. Macfadyen[4] places the organic acids first. This may explain the value of lactic acid, recently recommended by French authors; also of kefir, koumiss, and acid milk. "I have examined some substances myself," says Dr. Baginsky, "and I find that naphthalin does not affect the growth of the bacterium aceticum; benzoic acid, boric acid, and resorcin hinder it completely; iodoform restrains it." Again, we require to know what kind of fermentation is going on. The reaction of the fæces tells us nothing as to this. Müller, Baumann, and others assert that this knowledge can be obtained from the urinary examination, by quantitative examination of the ether-sulphuric acids and indoxyl, and the general acidity—a complicated process.

The best way of considering the treatment of infantile diarrhœa is to endeavour to form some opinion as to the part affected and the pathological changes going on therein. The suitable medicines can then be used, without much regard being paid to the nature of the fermentations. The indications are manifold, and the materia medica affords a good selection of remedies.[5] Upon these indications depends also the kind of nourishment to be adopted—often a difficult problem. No part of medicine requires more observation and

[3] Behrend and Silber, 1857.

[4] *Journal of Anat. and Physiol.*, vol. xxi, 1887.

[5] *Verdauungs-Krankheiten der Kinder*, Baginsky; also Nothnagel and Müller, in the *Zeitschrift für Klin. Med.*, Bd. vii, Bd. xii.

acute reasoning than the dyspeptic diseases of children, but no part more repays the trouble bestowed upon it by the physician.

SOLDIERS' RATIONS.

In a previous article we offered some remarks on the quality of the free ration, which, as generally admitted, needs improvement. We showed that a better quality could only be secured by, first, paying a fair market price for the bread and meat; and, secondly, by constant, skilful, and honest inspection of the same when received from contractors.

As regards the question of quantity, we expressed concurrence with a generally received opinion that the ration of meat should be increased to one pound a day. But we learn that there is no unanimity about this proposed increase among soldiers themselves; if put to the vote probably the younger soldiers would support, and the older ones go against, it, the latter preferring a money equivalent to be spent according to taste, not, we fear, always on eatables. But the proposed increase would unquestionably be of much advantage to young and still growing recruits. It is often overlooked that the first year of service, especially in mounted corps, is really the most trying of all in a soldier's career. During that period he is subjected to no little physical strain in the constant parades and drills which are necessary to give him a knowledge of his duties; he then requires a full supply of food, which must be found almost wholly in his free ration, for, on account of many necessary stoppages for kit, he is, during his early career, generally in debt, or has a very poor balance of pay wherewith to purchase extra food.

In discussing the bread ration, we affirmed that it was usually good. We are informed, however, from a trustworthy source, that ration bread, especially if baked by the Commissariat itself, may be good to the look and taste on issue, when newly baked, but is apt to become sour with surprising and suspicious rapidity; in fact, unlike ordinary baker's bread, it becomes sour before it is stale; and so, often finds its way into the swill tub or ashpit. We commend this matter to the due attention of the mixed Committee—partly medical—now about to inquire into the rations question.

Assuming that quality and quantity are duly assured by every means at the disposal of Government, through the Commissariat, further security in the interest of the soldier must rest with regiments and corps themselves. Regimental vigilance must begin by making certain that no bread and meat shall enter or leave the quartermaster's store unless its quality is up to the mark; that by no manœuvring shall the good meat displayed on the top be quietly removed, and the inferior hid below left for issue; that contractors have not the keys of the meat stores. The detail of cutting up and issue is the next point of much importance, but it is one of some difficulty. The mode of issuing rations varies in different corps, but broadly, under the officer of the day, the orderly corporal in infantry, and the troop orderly in cavalry, are the daily officials who draw the rations of each mess. A mess usually varies in number from ten to twenty men, according to the size of the barrack rooms, and other accidental and indeterminate causes. The orderly knows the number of men in each mess, and the quantity of bread and meat he must receive in bulk for the members thereof. The meat is usually put into a net with a tally showing the mess to which it belongs, and in this shape and way reaches the cook's hands in the kitchen. It is clear that the issue of the meat should be especially watched by an officer, to see that no undue proportion of bone falls to any mess, and the prime cuts are not unfairly manipulated. Even after it enters the kitchen vigilance is necessary to insure that the allowance reaches the soldier, for there are such things as "collops," and "tit bits," and other unnamed but not unknown perquisites of the cook.

Outsiders have often complained of the monotonous issue of beef and bread, but we do not think soldiers themselves make any such complaint; mutton, indeed, can be, and is, occasionally issued, but the soldier prefers beef. Then tinned meat, and in our foreign fortresses salt pork, is occasionally issued, as it is necessary to consume these warlike supplies before they get too old.

Having traced the meat into the kitchen, it remains to inquire what use the cook makes of it. In a most interesting letter from General Lysons in the *Morning Post*, that distinguished officer shows the vast improvement in the condition of the soldier during the past fifty years, and pointedly remarks that the principal ameliorations have been "in his barracks, and in his food, not so much in respect to the quantity as to cooking." Before the Crimean war the soldiers' kitchens were fitted with the most primitive appliances, which permitted only of the preparation of soup and boiled meat in one eternal round. Improved stoves and ranges since then have worked wonders in civil as well as in military kitchens; the soldier's messes can now change their *menu* day by day according to the capacities of their cooks; the meat can be boiled, stewed, baked, or made into pies as voted.

General Lysons points out that the most is frequently not made of the meat ration; and instances that the 42nd Highlanders, at Aldershot, always had a basin of soup every day for each man made from the bones without any perceptible diminution of the edible meat. Some allowance must be made, however, for national tastes; the Scotchman always, and the Irishman often, is fond of vegetable soup, to which the Englishman is notoriously indifferent, preferring solid to fluid food. We know of a typical English regiment where, we are informed, the ration in the form of boiled soup is generally voted down; this may be a pity, but it is a fact to be reckoned with.

On the whole, we agree with General Lysons that the "soldier is not badly off;" but we think there is still much room for improvement without undue expense to the State. We hope the Committee about to sit will profit by the discussion which has lately taken place and the hints thrown out in the press.

In a future article we propose to discuss the question of meal hours and the distribution of food over the twenty-four hours; and in connection will submit to our readers and the public a system by which supper money could be worked to the advantage of the soldier.

A GOLD medal was awarded at the Ostend Health Exhibition to the Sanitas Company, Limited, for its disinfectants exhibited there.

TRAINED AND UNTRAINED.

As the division of labour in civilised life becomes greater, there is an ever-increasing pressure upon individual men and women, and a growing necessity that everyone should be trained for the special duties and responsibilities that he will have to undertake in the business of life. The objects of training are not only to prepare the man to do his work well, and with profit to himself, but also to prepare his body and brain for the strains that will be made upon it by the pressure of active life, rendering it apt for the work, full of power and resource, strong, and not easily broken down by temporary trials, adverse circumstances, or over-pressure. These remarks apply equally to students in our own profession, to teachers, and to men of business; the man fitted for his work, and well trained to perform it, does not commonly become so easily exhausted by fatigue in his particular line of employment as another who has not been trained. The difference between the trained and the untrained is not or should not be a mere difference in technical learning, but a real difference in the man, producing a physiological change in him, strengthening the faculties he will be called upon to exercise hereafter. Such training is not always given by education, it is not always aimed at; but the principle we put forward has been tried by experience in the practical affairs of life, and it would be well if it were clearly understood by those who as guardians and teachers have to prepare the young for a career. We recently had our attention called to the case of a female teacher in a Board school, whose health had broken down at her work, so that she was admitted to the hospital in a semicataleptic condition, from which she recovered completely after a few weeks' rest. There were no signs of disease, but the girl had undertaken duties in school for which she had neither natural aptness nor special training. The same thing is often seen with the young man in business; he leaves school, where he has worked indifferently at his lessons, and on entering the office is obliged to work hard at duties that are strange to him, so that in a few weeks he becomes fatigued and then exhausted by an amount of work which those accustomed to the office routine are trained to bear without difficulty. For such reasons it is a true line of policy to train, during their educational career, those who are delicate in structure or balance of brain, or suffer from neuroses, in order that in after life their strength may be adequate to bear the labours and the strains which would break down the nerve system of an untrained man. It is a great aid to a training for special work when the man is able to acquire a command of some source of recreation such as music, some branch of literature, carpentry, or athletics, something that will give the brain a different set of impressions from those received in the routine life. Training properly conducted so as to develop all the faculties, and specially those that will be most called upon in the business of life, is the best means of guarding against failure of mental and physical power.

The next Bowman lecture will be delivered before the Ophthalmological Society at 11, Chandos Street, Cavendish Square, on Friday, November 9th, at 9 P.M., by Henry R. Swanzy, M.B., F.R.C.S.I., of Dublin. His subject will be "The Value of Eye Symptoms in the Localisation of Cerebral Disease."

Mr. Jonathan Hutchinson, F.R.S., and Mr. John Marshall, F.R.S., have become vice-presidents of the Bethnal Green Free Library E.

A bust of Dr. Wilson Fox, F.R.S., late Physician to Her Majesty the Queen, was unveiled at the Shire Hall, Taunton, on Thursday, October 25th, by the Hon. W. H. B. Portman.

The autumn general meeting of the Irish Medical Schools' and Graduates' Association will take place at 30, Sackville Street London, on Wednesday, October 31st, at 5 P.M. The members and their friends will afterwards dine at the Hotel Victoria, Northumberland Avenue: Professor Macalister, F.R.S., President, will take the chair. Tickets are obtainable from Dr. Abraham (Honorary Metropolitan Secretary), 11, Nottingham Place, London, W.

LECTURES AT THE ROYAL COLLEGE OF PHYSICIANS.

The announcement which we made last week that Dr. Lauder Brunton, F.R.S., had found it possible to undertake the important duties which devolve upon the Croonian Lecturer at the Royal College of Physicians under the new regulations, will have been read with satisfaction. He has chosen for his subject "The Connection between Chemical Constitution and Physiological Action in Relation to the Prevention, Control, and Cure of Diseases." The Milroy Lectures on Hygiene, by Dr. Arlidge, will be on "Occupations and Diseases in Relation to Public Health." The subject of Dr. Howard Tooth's Goulstonian Lectures will be "Secondary Degenerations of the Spinal Cord."

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

We take this opportunity of reminding our readers that the meeting of Fellows and Members will be held on Thursday next, November 1st, at three o'clock in the afternoon. The usual report from the Council, comprising a record of their transactions from July, 1887, to July, 1888, has been issued. The Associations of Fellows and Members are taking steps to enable all concerned to be able to meet the President and Council in the proper spirit. Our own opinion on the questions at stake are well known to our readers.

RESORCIN IN THE TREATMENT OF KELOID.

Audeer has recently published a note in which the application of resorcin was of great service in the treatment of keloid. The patient was a woman, whose right foot was curved over two-thirds of the dorsum, with an irregular star-shaped mass of scarry tissue raised in demi-relief. It was very tender, so that progression was impeded. At night, when in bed, or a hot summer's day and at the changes of weather, the pain of the keloid was almost unbearable, so that at times the patient could not do her housework. A 1 per cent. ointment of resorcin was applied, and the foot bandaged. The patient was soon relieved, and the continued application of the treatment brought about a permanent cure of the pain. Von Nussbaum has also experienced a good result from the use of resorcin in keloid.

ACCOMMODATION FOR PAUPER LUNATICS AND IDIOTS.

In the Section of Psychology, at the recent Glasgow meeting, a long discussion was raised on a paper by Dr. Turnbull, on Boarding-out as a provision for Pauper Lunatics. The question has been raised again in the Poor-law Conference of Chester, in a paper by Dr. Rhodes. The success of the system of boarding-out varies much in different localities, and much depends upon the social condition of the cottagers. In itself, the system appears good, and well worthy of further trial where the demand among cottagers is

sufficient to afford ample selection among applicants. Boarding-out has been tried with success in Australia; the report of the Secretary for the Department of Industrial and Reformatory Schools in Victoria is in favour of such system for foundling and other neglected children; the system is also applied to jenile offenders when the surroundings at home appear to have much to do with defects of character. If the boarding-out system were extensively adopted as a provision for lunatics, there would have to be a large increase in the number of commissioners. The report of the commissioners for this year shows that 74,171 persons of unsound mind are now being supported at the public expense which is an increase of 29,468 lunatics in the last twenty years; the rise is doubtless in part due to the greater number of declarations of insanity by the friends, and in part to the lessened mortality among the insane. It is probable that provision for idiots and imbeciles is more defective in amount than that for the insane; here is a large work to be undertaken by the new County Councils.

GAUDY DAY IN PALL MALL.

"St. Luke's Day," on which the Harveian Oration was delivered last week by Dr. P. W. Latham, Downing Professor of Medicine in the University of Cambridge, was a "full dress" occasion. By previous resolution of the College, not only did the office-bearers appear as usual in the robes of their respective offices, but also the Fellows generally—by way of revival of a custom lately fallen into desuetude—were habited in their Doctors' gowns. Scarlet was the predominant colour of the robes; the hats were quaint, and of the pattern of those worn by physicians in the time of Henry VIII—more ornate than, but somewhat suggestive of, the hats that visitors to the Tower of London may still see in daily use there. The effect was that the appearance of the Library in which the meeting took place was almost gay. It would have been, however, more effective had the practice in question been more uniformly followed. The bust of Harvey stood to the right of the orator's desk, adorned with a circlet of laurel leaves. The bust of Sir George Burrows, sculptured by Wagmüller, of Munich, 1873, and bequeathed to the College by Sir George's will, also stood near, recalling the well-known face of that popular president. Another departure marking this first commemoration during the tenure of office of the new president, Sir Andrew Clark, was the circumstance that some eighty Fellows—as many as the College could accommodate—dined together in the evening in the reading-room, the proceedings throughout being of a very cordial character. The President, of course, occupied the chair.

ISOLATION OF DIPHTHERIA IN THE METROPOLIS.

The Local Government Board has, under the pressure of public opinion, found a solution of the difficulty created by its decision that diphtheria was not to be accounted among the infectious diseases, for the isolation of which the Metropolitan Asylums Board is authorised to provide. The Local Government Board adheres to its opinion that the Metropolitan Asylums Board cannot legally admit diphtheria into the infectious hospitals, but it has formally undertaken to sanction any expenditure which that Board may incur by admitting cases of that disease to the infectious hospitals. The solution is not logical, but practically it is complete, and the Local Government Board expresses its intention to introduce into Parliament a Bill to give the managers legal power of isolating diphtheria. At the fortnightly meeting of the Metropolitan Asylums Board, held on Saturday last, a letter to this effect was read from the Local Government Board and a resolution was passed by the managers that the several hospital and ambulance committees be instructed to make the necessary arrangements. The managers have at once taken action, and the arrangements for the admission of cases of diphtheria are already so far advanced that three cases are at the present time under treatment. The action of the managers upon this and similar occasions has led the public and the medical profession to feel that the Metropolitan Asylums Board efficiently discharges one of the most important duties of a sanitary authority—the prevention by isolation of the spread of epidemic diseases. Though there is some obscurity as to the origin of diphtheria, there can be no doubt that in this disease the separation of the diseased from the healthy is essential to prevent its spread. Adequate separation is impossible in the homes of the poor, and difficult in those of the well-to-do; consequently, several cases are frequently aggregated in rooms where the cubic space available for each of the sick persons is terribly insufficient, and the general surroundings are in the highest degree unfavourable, not only to the successful treatment of the disease, but for the prevention of its spread. In providing proper hospital accommodation for such cases the Metropolitan Asylums Board has done the metropolis a great service.

THE WINTER DRESS OF MEN.

When any question is raised as to the wisdom or otherwise of certain modes or habits in regard to dress, it is commonly supposed that it is only foolish women or helpless children who require advice. There are perhaps at least as many men as women who suffer from the effects of cold through injudicious neglect of the clothing suitable for winter use, and thus contract sciatica, rheumatism, or pneumonia. Men acquire lumbago from the open coat and the waistcoat with a cotton back, but which ought to be lined with flannel. Not only do men frequently neglect to use an overcoat with the commencement of the cold season, but often they will leave the frock-coat unbuttoned, so that it becomes almost useless in a cold wind as a means of protecting the loins. Tight kid gloves and tight thin boots are frequent causes of cold hands and chilled feet, especially when accompanied by the persistent use of thin socks. When there is a known tendency to catarrh, or delicacy of lungs, the garments should be made well-fitting round the neck, and the collar not too loose and open, the waistcoat buttoning high, while continuous flannel undergarments are used uniformly over the body. The dress clothes being so much thinner than those worn during the day, it is well that in winter a high-fitting waistcoat be used under the shirt to protect the trunk. These and many other common-sense points as to winter dress are frequently neglected till mischief has occurred, or a warning has taught wisdom. The wiser man is he who changes his clothing according to the weather in such a variable climate as ours.

THE PSYCHOLOGY OF DOLL WORSHIP.

During the next six weeks many kind hands will be busily engaged in dressing dolls for the thousands of poor children who are being treated in our hospitals. These dolls will brighten the lives of small people who have but little variety or amusement of an elevating kind. Dolls do in truth exercise on such children, perhaps on all children, a psychological influence for good. A little girl out-patient, nearly blind from advancing corneitis, who had never enjoyed the society of dolls, was presented with a finely dressed member of that fraternity; she flushed and showed all the signs of childish joy. At her next visit to the hospital visual perception was gone, but on this and subsequent visits it was evident that her motionless companion, from whom she was never parted, remained as a part of her mental life. In the management of imbeciles it is well known that it is most important to discover under what circumstances they will work best; we have seen in an asylum a man who worked daily at a mangle if his favourite doll were placed within his sight, but could not be induced to work under any other conditions. A doll

is a piece of still life, and as such may produce a distinct and permanent impression upon its little mistress. So instinctive is the attraction of a well-dressed doll for childish eyes that some physicians will use it as a test of the potentiality of a child's brain for the manifestation of mental phenomena, and consider that a child of eighteen months or two years of age is defective if the eyes and head be not turned towards a gaily-dressed doll within its field of vision. How do dolls affect children? The doll is one of the oldest of toys, and there is no civilised nation without dolls; the psychological phenomenon of doll-worship is well worthy of study. The doll impresses the child by sight and by touch only, yet it draws out much expression from the child; the mental action resulting in the child appears to be mainly for good. We say, let the children have dolls. There are, however, cases where doll-worship needs not only to be watched, but also corrected. When a child frequently takes her doll quietly into a corner, and broods over it, spending it may be hours in contemplating her still companion in silence, it is well to observe the child and talk to her, for this habit may be found to cover a growing habit of mental introspection, the small mind tiring itself with thinking out its own infantile thoughts instead of receiving impressions from all the things around, as a child at play should do.

OLD FAMILIES.

Some interesting facts in respect to population were noted in a "Demographic Study of the Diminution or Increase of Families," recently read by Dr. Gustave Lagneau, before the Académie de Médecine. He quoted Littré, who had demonstrated that history proved a remarkable phenomenon. Free populations, the citizens of ancient commonwealths, could never maintain themselves by reproduction. All aristocracies and close bodies of men have gradually lost in number, and would have become extremely reduced without occasional mixture with new blood. Between 1583 and 1654, the Sovereign Council of the City of Berne admitted 487 families to citizenship. In 1783, only 108 of these families had escaped extinction. Out of 133 families composing the Council of Geneva in 1789, only 92 could be traced, at home or abroad, in 1873. Out of 458 baronets created by James I and Charles I, between 1611 and 1648, only 107 of their titled representatives remained in 1731. In 1840, only 8 out of 80 noble familes existing in 1400 had escaped extinction. M. Benoiston de Châteauneuf, after scrutinising the pedigrees of 380 noble French families, found that their average duration was three hundred years. The great burgher families of the Hanseatic towns of Holland and Venice disappeared rapidly; not one of the original patrician families of Zealand is now in existence. Lainé, carefully examining thirty-one charters of cities in Languedoc, Burgundy, Lorraine, and Brittany, granted at the end of the twelfth century, authenticated 314 noble families only represented in 1840 by 12 survivors. Turning to the poor, the extinction of small tenant families, easily traced by legal documents, appears almost as rapid. Out of 127 families existing in the Commune of Marigny-en-Orxois, now in the Department of the Aisne, in 1555, only 14 appeared to be in existence in 1886. Englishmen must not lay too much stress on the depopulating effects of great wars in Continental countries. War losses are rapidly repaired; Frederick the Great said, after one bloody engagement in the Seven Years' War: "Une nuit de Berlin réparera tous ces ravages." The struggle for existence in Anglo-Saxon communities must dislocate families in any given district very rapidly. Herodotus, in his Egyptian chronology, remarked that three generations of men represented a century. Calculating on the Father of History's principles, a generation lasts about as long in France, although careful calculation, from 1788 to 1888, brings the average duration of a generation, from male to male in a family, down to thirty-one years. M. Lagneau ends his important monograph with a gloomy sentence. The population of the Kingdom of Prussia is increasing at the rate of 4.14 children to each marriage. Twenty-five years ago, the French nation increased at the rate of 3.08, but now at only at 2.97, per marriage. Strange it must ever seem that civilised countries are all complaining that their population is either too great or too stationary; but the subject is too complex for discussion here.

THE FATAL ILLNESS OF FREDERICK THE GREAT.

The public discussions which have arisen concerning the last illness of Frederick III recall certain not altogether dissimilar incidents associated with the life and death of that illustrious Hohenzollern, his predecessor, Frederick the Great. All who have read Carlyle's exhaustive history of that monarch will remember that his father, Frederick William I, was a man of stern character and irascible temper, fond of the plainest diet, but a heavy beer-drinker. By forty, he was already of full habit of body and very gouty, and he died under fifty years of age, in 1740, when his son, Frederick the Great, succeeded him. Frederick was then only twenty-eight years old. Though hardy and frugal in household expenses, he had already indulged in good living. Before the end of the year of his accession, he had been laid up with his first attack of gout, and commenced his first Silesian campaign. After five years of war came ten years' peace (1746-1756); in the course of the latter, he suffered frequently from gout and from some of the most unpleasant effects of portal congestion. The terrible Seven Years' War (1756-1763) was a severe strain on Frederick's constitution. In October, 1759, two months after his disastrous defeat at Kunersdorf by the Austrians and Russians, he was laid up for three weeks with gout at Sophienthal, in the north of Silesia; but recovered, and held his own against heavy odds in three more campaigns. At the time of the peace of Hubertsburg in 1763, he looked prematurely aged, though only fifty-one. Yet but half his reign was then spent, for he occupied the throne till 1786, living in peace, save during the battleless Bavarian war in 1778-9. In August, 1785, he was drenched to the skin at a Silesian review, and felt feverish a few hours later. On September 18th, he had a severe attack of dyspnœa, followed next day by gout. In January, 1786, he was very weak; asthma, or rather emphysema and dropsy, developed, and Dr. Selle, the chief physician in Berlin, saw that the King's condition was desperate. The mild winter and early spring apparently prolonged Frederick's life; at that time he looked very aged, with bent form, sharp features, yet bright blue eyes full of expression. On July 4th, he rode on horseback for the last time. The difficulty in breathing and the dropsy had increased, and were now complicated by erysipelas and sleeplessness. The King could no longer lie down in bed. He took to distrusting Dr. Selle, and sent for an old acquaintance, Dr. Zimmermann, the Bernese, now remembered only for his work on *Solitude*; this philosophical doctor had undergone a surgical operation at the hands of the elder Meckel in 1771. Dr. Zimmermann attended the King from June 23rd to July 10th; but his treatment appeared to be very empirical, and his chief anxiety seemed rather to collect the sayings of the dying monarch than to cure him. Frederick was a perverse patient, and ate highly-seasoned dishes almost to the last. On August 16th, the King began to be comatose, and for the first time was unable to transact business. Dr. Selle was called in once more, and saw that the end was near. Frederick gradually sank, and died on Thursday morning, August 17th, attended by his faithful Kammerhussar, Strützky, who relieved the agony of the last two hours of his life by taking the King on his knee and supporting the body, so as to favour respiration as much as possible. Frederick died at the age of seventy-four years, after a youth of ill-usage and sorrow, and a reign of forty-six years, glorious, no doubt, but full of anxiety. Dr. Zimmermann, a man of peculiar mental constitution, wrote a

work, entitled *Ueber Friedrich den Grossen und meiner Unterredungen mit Ihm kurz vor seinem Tode.* A satirist termed it *Dialogues of Zimmermann I. and Frederick II.* More dialogues and memoirs followed from his pen, and domestic troubles finally made him an incurable hypochondriac, after a good deal of worry from adverse criticisms on his medical and philosophical essays.

ELECTRICITY IN GRAVES'S DISEASE.

Dr. H. Pelzer reports (*Therap. Monats.*, ii, 10) a case of Graves's disease in which the symptoms all disappeared under the use of electricity. The patient was a widow, aged 42, who had suffered from palpitation for about a year. Exophthalmos existed to a slight degree when she came under observation in October, 1887. She grew worse under treatment by iron, digitalis, ergot, and cold to the præcordia. In December all drugs were stopped, and the constant current was administered daily for ten minutes, one pole being applied above the suprasternal notch, the other over the præcordia; after six weeks this was alternated with a current passed through from the spine. Improvement began five weeks after the commencement of the electrical treatment, and in six months the patient was perfectly well.

REFUSAL TO ADMIT LADY STUDENTS TO INFIRMARY LYING-IN WARDS.

The Lambeth Board of Guardians have been considering the suggested readmission of lady students to the lying-in wards of the infirmary. A memorial was presented at its last meeting from Miss Ritchie urging the guardians to admit Dr. McCall's pupils to the infirmary. A report from Dr. Lloyd, medical superintendent of the infirmary, endorsed the opinion previously expressed by him that the attendance of outside medical pupils was, and always had been, fraught with danger to the patients. During the time they did attend, the cases did not progress in a satisfactory manner, and a death from puerperal fever also took place. He could not undertake the responsibility of advising the Board to grant the request. It was moved: "That the resolution prohibiting the attendance of lady students at the lying-in ward of the infirmary be rescinded, and that the students of Miss McCall, M.D., be again admitted." This motion was seconded, but vigorously opposed, it being argued that they ought to accept the report of their medical officer; that the infirmary was not a training school for medical students; and it was threatened that, if the resolution were passed, the matter would be brought before the Local Government Board. The resolution was rejected by 6 votes to 4.

SCOTLAND.

At the recent professional examinations held in the Glasgow University, of 166 candidates for the first, only 70 passed; of 143 candidates for the second, 84 passed; and of 113 for the third, 65 passed.

At a meeting of the Scottish Society of Literature and Art, held in Glasgow on October 22nd, Dr. J. W. Williams, M.A., D.Sc., author of *The Field Naturalist*, and Professor Sir William Aitken, F.R.S., were elected Fellows, and Sir Morell Mackenzie was nominated an honorary member.

At the monthly meeting of the Microscopical Society, Glasgow, held in Anderson's Medical College on October 16th, Dr. C. Fred. Pollock gave a comprehensive set of demonstrations of the structure of the skin and its appendages in their normal state, and when affected with erysipelas and ringworm.

PARLIAMENTARY REPRESENTATION OF THE UNIVERSITIES OF EDINBURGH AND ST. ANDREWS.

It is announced that Mr. Moir T. Stormonth Darling, the recently appointed Solicitor-General for Scotland, will be the Unionist candidate for the representation of Edinburgh and St. Andrews Universities. Mr. Stormonth Darling was called to the bar in 1867, and, during the last few years, has held a leading place in the Edinburgh Parliament House. He is not a novice in the art of Parliamentary fighting, having already, in 1885, unsuccessfully contested the county of Banff in the Conservative interest. The accepted candidate of the more advanced Liberal party is not yet named.

TYPHUS FEVER IN EDINBURGH.

The attention of the Public Health Committee of the Edinburgh Town Council has been directed to the occurrence of several cases of typhus fever in the High Street District. Typhus has become marvellously rare in Edinburgh, and, as it is known to be present in some other centres, strict injunctions have been given for the cleansing and disinfection of the houses where the cases have occurred. The incident illustrates once more the advantage of the system of compulsory returns of infectious diseases.

NEW DENTAL HOSPITAL FOR EDINBURGH.

For some time back, it has been felt that the accommodation afforded in the present building, known as the Edinburgh Dental Hospital, was inadequate to meet the wants of the city. Considerable difficulty has been experienced in the selection of another building. At last, it appears that this has been overcome. The directors of the Dental Hospital have come to terms with the Managers of the Royal Infirmary, whereby the premises, 5, Lauriston Lane, belonging to the latter, and immediately adjoining the infirmary buildings, are to be leased to the directors of the Dental Hospital. The house seems well adapted to meet the requirements of the dentists. With the addition of a large annexe behind, the house will afford space for several good operating rooms, mechanical laboratory, and museum. Its proximity to the Royal Infirmary will prove of much advantage to both institutions. Arrangements will be come to, in accordance with which (1) the dental surgeon, during hospital hours, shall be at the call of the infirmary managers for operations in the wards; (2) one of the staff of the Dental Hospital shall attend at the infirmary at the ordinary visiting hours, for the purpose of attending cases requiring treatment, and these shall be open to medical students; and (3) the students shall be entitled to a further course at the hospital, on payment of a fee. There is little doubt that the arrangement will prove to the advantage of both institutions. It certainly adds further completeness to the singularly compact facilities for clinical study afforded by the Edinburgh Medical School.

UNIVERSITY REFORM.

An admirable contribution to the discussion of university reform was made by Mr. David Forsyth, of the Established Church Training College, the President of the Glasgow Branch of the Educational Institute of Scotland, at its first general meeting on October 20th. Mr. Forsyth interpreted university reform to mean the extension of usefulness of our universities. He expressed the opinion that the university was not to be improved merely by a process of aggregation, by the addition of an indefinite number of subjects and classes, nor yet by the establishment of rival institutions competing for students. Among the steps necessary to bring the universities in line with modern requirements were the foundation of a chair of the theory and principles of education, due recognition of the work of other institutions as qualifying for a part of a university course, a remodelling of university courses

so as to include all sides of culture. and a multiplication of degrees, each characteristic in title for a particular line of study; the institution of higher degrees than the M.A. for special excellence in particular lines of study, and a high standard of qualification for all degrees; an entrance examination for all students the standard rising gradually with the general standard of education in the country; and the limitation of the number of students attending any class. He was prepared to admit that the Glasgow University authorities had shown an anxiety to meet the demands of modern times by the local examination scheme, by the newly-launched university extension scheme, and by the recognition of a preliminary examination as qualifying instead of Arts classes for graduation in science. But he had often thought there was a larger university extension scheme lying ready to their hands, at their very doors. Why should the university be shrouded in darkness after six o'clock? Why should not university classes be held in the evenings? Why should not ardent students throng its halls in the evenings as well as during the day? And, if such students in arts and science proved themselves by conduct and study worthy, why should not the university grant them the *imprimatur* of culture—a degree—or allow such classes to qualify for a degree?

GLASGOW BOTANIC GARDENS.

THE Glasgow Botanic Gardens yet remain closed to the public, no arrangement having yet been arrived at between the proprietors and the Town Council, who are bondholders to the extent of £50,000. In the meantime, a unique idea has been suggested in a question, of which notice has been given, at the last meeting of the Town Council. The question is whether, in the event of the boundaries of the city not being extended as recommended by the Royal Commission, the corporation could arrange to secure part of the gardens for the Police Board for the erection of a hospital for infectious diseases, or whether the Police Board could buy the ground for such a purpose were it exposed for sale. The idea of planting a hospital for infectious diseases in the heart of the best residential portion of the west end of the city is too ridiculous even as a scare to induce the Hillhead people, within whose bounds the gardens are, to seek admission within the city boundaries.

ANTI-SWEATING DEMONSTRATION IN GLASGOW.

A LARGE public meeting was held in the City Hall, Glasgow, on October 18th, to protest against the sweating system. Dr. Cameron, M.P., presided. The chairman said the public generally were directly interested in the matter from the danger of infection which arose on all sides. He traced the growth of the agitation against sweating since the state of matters had been pointed out, and urged that further official inquiry was necessary with a view to legislative action on the subject. A resolution calling for legislative action was then passed, and also a resolution advocating the extension of the principle of municipal industrial production.

PREVENTION OF PLEURO-PNEUMONIA.

PROFESSOR HAMILTON, at the opening of his practical pathology class in the University of Aberdeen, took for the subject of his introductory address the question of pleuro-pneumonia. He said this disease or poison, judging from their knowledge of other infectious diseases, might be supposed to be of the nature of a vegetable micro-organism, whose natural habitat was in the system of the cow; but here, as in the majority of other cattle-diseases, little care had been expended in the search for results. Compulsory slaughter was the most bland confession of ignorance and helplessness, and savoured more of the work of a nation of savages than of rational and enlightened individuals. There were several practical points about which more information was required, such as the exact period of incubation, and what circumstances influence it, as well as how long an animal remains dangerous as a source of infection, and, lastly, what was the value of inoculation as a preventive, a matter regarding which they were working entirely in the dark. To obtain information on these important points, Professor Hamilton urged that it was absolutely necessary to have a small cattle hospital, with a laboratory and all necessary appliances attached, and into which animals could be brought for the purpose of observation.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

THE pathological section of this society met on October 19th, Dr. Alexander Robertson presiding. The chairman showed a very interesting case of polyuria, associated with other symptoms pointing to the floor of the fourth ventricle as the seat of disturbance. Thus there was some affection of speech; the seventh nerve was slightly affected, and there was suspicion of the sympathetic and vagus being subject to irritation. A specimen of necrosis of the lower third of the femur following fracture, was shown by Dr. Whitson, while Dr. C. F. Pollock showed microscopic specimens of rupture of the sclerotic involving the ciliary region, and Drs. Clark, Knox, and Campbell, showed microscopic sections of sarcomata of the tibia. Dr. John Macintyre showed a large nasal polypus he had removed with the snare.

SCARLET FEVER IN GLASGOW AND GREENOCK.

SCARLET FEVER, traceable to milk infection, has assumed in the west end of Glasgow something of the dimensions of an epidemic. The majority of cases at present is about the terraces and crescents of the well-to-do, the families of two medical men being among those attacked. It appears that it is undoubtedly from a dairy that the fever has issued, though no culpability attaches to the dairy-keeper, who has quite innocently sent out the infected milk, and is unreservedly following the advice of the sanitary department in endeavouring to limit further extension. In Greenock scarlet fever continues to spread, 55 cases being in hospital at the date of the medical officer's last report, October 16th. At a meeting of the Greenock Police Board on that day, a discussion arose in reference to this subject. It was stated that the extension of the disease was due to several parents and guardians failing to report the disease in their families, and permitting convalescent children to mix with the healthy. One member urged that parents could not be expected to report cases when the first thing that followed was the forcible removal of the child to hospital, and that this forcible removal was being carried too far. The convener of the Health Committee replied that the medical officer had very large powers in the removal of children, and endeavoured to exercise them with discretion, that while, on the one hand, they had parents refusing to allow their children to be taken to hospital, they had, on the other, persons living in a tenement where fever existed, coming to the sanitary inspector and demanding protection by the removal of those affected. In the majority of cases the parents were willing that the children should be removed.

OPENING OF MEDICAL SCHOOLS, GLASGOW.

THE winter session of the medical school of Glasgow University, opened on October 23rd with an address by Professor G. Buchanan. Dr. Buchanan discoursed "colloquially" upon the value of preliminary examinations, on the success of women in the study of medicine, on the question of registration, and changes in the curriculum. He thought mechanics should be taken out of the preliminary subjects, and along with botany and zoology made the subject of study for the first summer session, and of examination before the beginning of the first winter session. That mechanics

was not properly taught in schools was evident from the fact that out of 204 candidates only 101 passed at the recent examination. The practice of medicine for women preparing for work in zenanas was, according to Dr. Buchanan, quite a desirable pursuit, but he did not approve of women adopting the profession of medicine in regular competition with men. From an economic point of view he thought it a mistake, since a certain percentage would marry, even before they obtained their degrees, and their money might as well have been thrown into the sea, unless in the case of a strong-minded woman, who, though married, might assert herself, and do, as one he knew of did, pursue the practice and let the husband stay at home and take care of the baby. In dealing with the curriculum, Dr. Buchanan spoke strongly of the impossibility of cramming all the subjects into a four years' course, and urged the lightening of the curriculum by placing zoology and botany on a different footing from the other subjects, and leaving more time for anatomy and physiology. Towards the conclusion of the address he devoted some time to the overthrow of the criticisms recently passed on the clinical teaching at the Western Infirmary because of the large number of students in each class, holding that the teaching there would bear comparison with that of any medical school in the country. Principal Caird presided, and there was a large attendance of professors and students. On the same day Professor Dunlop delivered the introductory address at Anderson's Medical College. Sir John Neilson Cuthbertson presided, and spoke of the healthy rivalry of the extra-mural schools and its influence in promoting the development of medical science. He had no doubt the funds would soon be forthcoming for the erection of the new buildings of the school at the site obtained near the Western Infirmary. Dr. Dunlop, after expressing the opinion that the new Universities Bill would greatly improve the position of Anderson's College and its students, especially in their relation to the University and the granting of degrees, proceeded to the subject of his lecture, the lives of Abernethy, Cooper, and Dupuytren. The Royal Infirmary Medical School opened on October 25th with an address by Dr. Milne. The Western Medical School has dispensed with a formal introductory address, but the classes begin to-day (Friday).

ROYAL COMMISSION ON THE BLIND, DEAF, AND DUMB.

THIS Royal Commission, which has been sitting in Oldham, Sheffield, Lanark, etc., has just completed a sitting at Glasgow, under the chairmanship of Sir Tindal Robertson, M.D., M.P. Evidence was given on behalf of the Glasgow School Board by Sir Michael Connal and Mr. Mitchell, and the arrangements made for the education of blind children by the Glasgow and Govan School Boards, and at Miss Griffith's Oral School for the Deaf, Kelvinside, Glasgow, were brought under review. Evidence was also laid before the Commission by some blind workmen from Aberdeen, and by the Superintendent of the West of Scotland Mission for the Blind.

IRELAND.

THE VICE-PRESIDENCY OF THE COLLEGE OF SURGEONS.

MR. ROBERT H. MOORE has consented to become a candidate for the Vice-Presidency of the Royal College of Surgeons in Ireland in June next. He is a well-known dental surgeon, and his *confrères* are anxious to make more prominent the position of this specialism. They are already working energetically to secure Mr. Moore's return. Mr. H. G. Croly announced his candidature some months ago, so that there is likely to be a contest.

ATTACK ON DR. MACDOWELL BY A LUNATIC IN CARLOW ASYLUM.

DR. MACDOWELL, visiting physician to the Carlow and Kildare Asylum, while visiting one of the wards of the male portion of the establishment on October 1st was violently attacked by a refractory patient of powerful build. Dr. Macdowell managed to keep him at bay for a minute or so, and finally closed with and overpowered his assailant, bringing him to the ground and holding him down until assistance arrived. Meantime the lunatic struggled, and bit and almost succeeded in removing a portion of the ear. This patient had previously attempted the life of a nun by aiming a brickbat at her head in a workhouse.

THE POISONING CASE AT THE HARDWICKE HOSPITAL, DUBLIN.

A LETTER from Dr. O'Carroll, explaining the circumstances under which the unfortunate accident which was commented on in the above case in the JOURNAL of October 20th occurred, will be found in another column; we have also received a copy of a letter addressed by Mr. Nicholas C. Whyte, the Coroner for the City of Dublin, to the Lord Mayor of Dublin. In this letter a satisfactory explanation or answer is afforded on almost all the points to which we referred. Thus it is clearly shown that there was nothing unusual in the mode of ordering the inquest, that it was not unduly brief, and that no attempt whatever was made by the authorities to hush the matter up, and the usual facilities were offered to the press reporter. The bottles containing the bromide solution and the morphine were produced and submitted to the jury, who were afforded full information as to the manner in which drugs were kept and dispensed at the hospital, and the measures which were adopted to prevent accidents. It is most satisfactory to us to find that the inquiry was so much more thorough than the meagre reports of it which we had seen led us to believe. But there is still one matter on which we are not entirely satisfied. The primary object of an inquest is no doubt to ascertain the cause of death of a certain individual or individuals; but as a rule in cases of death by misadventure or accident, the opportunity is afforded to the coroner and jury of pointing out some method by which such an accident may be avoided in the future, and in England at any rate it is usual for a jury to append a rider to their verdict with that object in view. Mr. Whyte, however, thinks that the jury "were not called upon, nor were they competent to decide whether the precautions so long prevailing in the hospital under the sanction of skilled, eminent, and experienced medical men were the best, or whether they could be improved upon." That is certainly not the view taken in England, and we do not think it ought to be held or taught anywhere. Such an unfortunate occurrence as that under consideration should be absolutely impossible, and it behoves the hospital authorities to carefully consider how they can prevent the possibility of it happening again.

PRESENTATION.—At the distribution of certificates to the successful students connected with the Farnworth Branch of the St. John Ambulance Association, Dr. J. A. Mackenzie, by whom the class was conducted, was presented with a writing-case by the male class.

AN evening concert in aid of the funds of the East London Hospital for Children at Shadwell, a most useful institution, well placed in the midst of one of the poorest districts of London, will be given at the Marlborough Rooms on November 9th. Mr. John Thomas, Mr. Carrodus, and other distinguished artistes have promised their assistance. Tickets may be had of Messrs. Chappell.

YELLOW FEVER IN FLORIDA.—A telegram from Jacksonville, under date of October 24th, says that during the twenty hours ending Tuesday evening, thirty-three fresh cases of yellow fever and one death occurred there.

THE LATE EMPEROR FREDERICK: THE ALLEGED FALSE PASSAGE.

WITH regard to the charge made by Sir Morell Mackenzie in *The Fatal Illness of Frederick the Noble* against Professor von Bergmann, that he inflicted a serious and indirectly fatal injury on the illustrious patient on April 12th by pushing the cannula into the tissues in front of the trachea, the following statement has been published by Professors Virchow and Waldeyer, who made the *post-mortem* examination.

"The undersigned declare:

"1. That in the protocol of the necropsy drawn up at the Friedrichskron Palace on June 16th, 1888, there is no mention whatever of an abscess-cavity.

"2. That the large surface, nine centimètres in length, covered with gangrenous shreds, belongs to the only cavity found, of which mention is also made at the beginning of the protocol—namely, the cavity formed by the ulcerative destruction of the larynx and upper segment of the trachea, which was distended by the cotton-wool introduced at the time of embalming.

"3. That the protocol of the necropsy gives no ground for the inference that an abscess-cavity had ever existed.

"4. That the tissues in which, according to Sir Morell Mackenzie's report and the illustration at p. 80 of his pamphlet [German edition], the cannula must have made a false passage and the abscess in question must have existed, were at the necropsy found normal and showing no signs of cicatrisation. (See p. 102, line 3, of the report of the German physicians.)

"5. That the windpipe was opened in its whole extent down to the bronchi. (See p. 102, line 9, of the German report.)

"(Signed) RUDOLPH VIRCHOW.
"Berlin, October 17th, 1888. WILHELM WALDEYER."

To this statement Sir Morell Mackenzie and Mr. Mark Hovell have published the following reply:

"Professors Virchow and Waldeyer having published a declaration in the *National Zeitung* that there was not at the *post-mortem* any abscess at the front of the trachea, it is necessary to explain that an abscess may be either circumscribed or diffuse, and that the effect of ramming an unguarded cannula several times into the soft tissues in front of the trachea would be calculated to cause, as it did in this instance, a diffuse abscess.

"In a young and healthy subject it is possible that a circumscribed abscess might be formed, but, in the case of an invalid, it is extremely unlikely that such an injury would be followed by the establishment of a limiting wall, which, in point of fact, is Nature's effort to effect a cure.

"In the case of the Emperor there was not sufficient constitutional vigour to limit the morbid process. Hence the abscess became diffused, and I saw with my own eyes at the *post-mortem* examination, that the whole areolar tissue at the front and sides of the trachea was destroyed, leaving a large cavity, especially pronounced in the lowest part of the trachea. These cavities in the neck were in uninterrupted communication across the front of the trachea. Seen in profile, the collection of matter would produce a pyriform cavity on each side, though, of course, in my illustrative diagram (fig. 21 in my book) the abscess is only shown on one side. When Professor Virchow spoke of a 'cavity' five centimètres deep, nearly as long, the opening of which, after removing the suture, gaped to the extent of 2½ centimètres at the *post-mortem* examination, I felt uncertain as to whether his description applied to the diffuse abscess or not; but the description itself is extremely obscure, as will be seen from the German report (page 100) and the translation in the BRITISH MEDICAL JOURNAL. The front of the neck had been plugged with bismuth and cotton wool, and as the secretion of pus had been entirely arrested during the last few days of the Emperor's life (as such secretions often cease in dying persons) the subcutaneous tissue did not contain any pus, as I have stated in my book (page 184). I am not surprised that the diffuse abscess was not recognised by Virchow at the *post-mortem* examination. Had there been a hard limiting wall, of course, it would have been seen.

"There are two other points contained in the document in the *National Zeitung*—viz., 1. That there was no evidence of any process of cicatrisation; 2. That the tissues in front of the trachea were healthy. It is quite true that there was no cicatrisation. No cicatrisation is ever present after death, where a diffuse abscess has remained in a state of activity up to a few days of the patient's death. As regards the statement that the tissues in front of the trachea were normal, it may be remarked that as a quantity of bismuth and cotton-wool had remained in contact with these parts (see German pamphlet, page 100) for more than twenty-four hours, it was quite impossible for any person to judge of the condition of the tissues.—(Signed) MORELL MACKENZIE.

"Having been informed that Professors Virchow and Waldeyer have published a statement to the effect that at the *post-mortem* on the Emperor Frederick there was no evidence of an abscess having existed in front of the trachea, I consider it necessary to mention what I know of the matter.

"Subsequently to April 12th, I have on many occasions caused pus to flow out by the side of the cannula by placing my fingers over the sides of the trachea, at the lowest part of the neck, and then drawing them upwards, making pressure at the same time. At the *post-mortem* examination, I saw that most of the subcutaneous tissue over the trachea had disappeared, and that there were deep cavities at the side of the windpipe at the lowest part of the neck, corresponding to the position from which I used to expel matter, as above stated.

"The larynx, with a portion of the trachea, was removed from the body, and the lungs were also removed, but the heart and lowest part of the trachea were left intact, and were not examined.—(Signed) T. MARK HOVELL, October 18th, 1888."

SUCCESSFUL PROGRESS IN MEDICAL PROVIDENCE.

THE report for the quarter ending September 30th, 1888, of the Medical Sickness, Annuity, and Life Assurance Friendly Society was presented at the quarterly general committee meeting held at 38, Wimpole Street on October 17th, and showed highly favourable results. Present: Mr. ERNEST HART (in the chair), Mr. E. Noble Smith and Mr. S. W. Sibley (Treasurers), Dr. Major Greenwood, jun., Mr. E. Bartlett, Mr. J. Brindley James, Mr. A. R. Graham (Weybridge), Dr. R. Lord, Dr. J. Pickett, and Mr. W. J. Stephens (Brighton). Letters of regret at inability to attend were read from Dr. W. Bruce (Dingwall), and Mr. L. M. Griffiths (Bristol).

A previous meeting of the executive was held, at which nineteen new members were admitted after due verification of the certificates, forms of application, and reports thereon, and payments ordered to members on the sick list. Some points of importance were discussed, especially in relation to a tendency to an undue increase in the sick claims during the vacation months of August and September, an experience contrary to the ordinary sickness experience of similar societies, and indicating the necessity for carefully checking the nature of the claims made during these months. The following report on the quarter's operations was presented, indicating a continuance of the most prosperous growth and usefulness of the Society, and steps were taken for the investment of a further sum of £2,000 which was available for the reserve:

So far as mere numbers is a test the progress of the Society during the past quarter has been fully up to the average, the number of proposals received being 35, as compared with 34 in the corresponding period of last year. Two of these, however, the Committee were unable to accept, and 6 members have lapsed by non-payment during the term. Deducting this total (8) from the number of new members, there is an available increase in numbers of 27, which, added to the total at the commencement of the quarter (881), gives a present effective membership of 908.

The following is a summary of the operations of the various funds during the quarter:

Sickness Fund. — The income to this Fund has been £1,270 11s. 8d., as compared with £1,126 14s. 10d., this being in each case from premiums alone, and exclusive of interest received, which will be divided to the various funds at the time of the audit —the close of the year. The expenditure for sickness pay has been £390 12s., against £510 9s. in the corresponding period of last year. This favourable result will be a little modified in reality by the payment of two or three claims accrued before the end of the quarter, but awaiting verification and the production of particulars; but, after making all allowances, the result is a satisfactory one, more especially when the augmented number of members and their increased age is taken into account. The balance and the credit of this Fund is now £12,220, against £8,407 at the same

period of last year, and shows a total increase of £3,813 for the year.

Annuity Fund.—The premium income to this Fund has been £610 16s. 5d. during the quarter, as compared with £553 0s. 10d. in the corresponding quarter of last year. There has been no expenditure, and, except in the case of returned premiums to the representatives of members who may die, and who have availed themselves of the rule providing for such return, the disbursements from this Fund will, of course, be deferred for some years. There is now a total reserve under this head of £9,895, giving an increase on the year of £2,720.

Life Insurance Fund.—There has been a revenue to this Fund from premiums alone of £222 7s. 3d., against £211 0s. 10d. in the corresponding quarter of last year. There have been no disbursements for deaths, and the total balance to the credit of this Fund is now £2,294, an increase on the year of £560.

Management Fund.—The income to this Fund during the quarter has been £253 4s., as compared with £229 8s. 6d. in the corresponding quarter of the previous year. The expenditure has amounted to £126 10s. 9d., against £116 0s. 5d., and it will thus be seen that the favourable proportion of expenditure to income is maintained.

Interest, etc.—During the quarter, £241 6s. 9d. has been received as interest on investments, against £215 6s. 4d. in the corresponding quarter of last year, while £138 3s. 6d. has been received on account of repayments of investments.

Total Value.—The total assets of the Society are now as follows:—

	£	s.	d.
Sickness Fund Balance	12,220	9	9
Annuity „ „	9,895	19	9
Life Assurance „	2,294	16	1
Management „	2,123	8	9
Interest (unappropriated)	241	6	9
	26,776	1	1
Increase on the quarter	2,081	3	4

The increase is the largest yet obtained in any one quarter. The funds are disposed of as follows:—

		£	s.	d.
Investments		25,795	2	10
In bank...	£1,080 19 3			
Less outstanding cheques...	100 1 0			
		980	18	3
		26,776	1	1

With reference to the amount invested, it should be explained that £2,000 of this is with the bankers on deposit. This at present yields a good rate of interest (3½ per cent.); but such rate is liable to fluctuate, according to the current bank-rate, and can scarcely be long maintained. Steps are therefore being taken to suitably invest this sum at a remunerative rate of interest.

Forms of proposal, documents, and all particulars can be obtained of the Secretary, Mr. C. J. Radley, 26, Wynne Road, S.W.

AMALGAMATION OF DUBLIN MEDICAL SCHOOLS.

A SPECIAL meeting of the Fellows was held in the College of Surgeons on Tuesday, October 23rd, to consider the draft scheme for the amalgamation of the Carmichael and Ledwich Schools of Medicine with the College School. The resolution approving of the amalgamation was adopted at a meeting in May last, and the scheme to be submitted was drawn up by a committee of the Council. There was a very large attendance. Dr. HENRY FITZGIBBON presided.

Mr. WILLIAM THOMSON, in a lengthened statement, submitted the scheme to the approval of the Fellows. He said probably no subject of greater, or as great, importance had come before the College within living memory. It was a subject which involved very radical changes in regard to certain institutions, and which he believed would have a very important effect on the school of the College with which they were all connected, and an important and beneficial effect on medical education in this city. On a previous occasion he brought forward a resolution embodying the principle of amalgamation, and he was defeated. Last May, having enlarged the scope of the resolution, it was carried by a considerable majority. It was then sent to the Council, and, the Council having appointed a committee, that committee invited the representatives of the other schools to come in and consult with them. They had the result before them in a pamphlet called "The Scheme." He referred to the fact that the Carmichael and Ledwich Schools had accepted the scheme, but it was dissented from by seven out of thirteen professors. They objected to the co-option of lecturers as professors, as being contrary to the charter; but that had been given up, and the lecturers in those schools were ready to come forward in the ordinary way for election. The scheme provided for the handing over of the Carmichael buildings to the College, which would use them for school purposes; the Carmichael prize fund of £2,000, and all equipments. Any charges would be paid out of a general fund, which was to be formed by deductions from the school fees. The dissentient professors, whose average income in all was £498, would receive £851 on the estimated income of the conjoined schools. It was objected, also, that £2,000 was to be divided between Dr. Mapother and Dr. Thornley Stoker. But that was a retiring allowance, based on four years' purchase, and any professor could take the same terms if he thought fit. By this proceeding, £300 a year would be saved, and would go into the pockets of the general body of professors. He hoped the professors would rise superior to the objection that the prestige of their position would be damaged, and would accept a scheme which was calculated to do so much for the advantage of medical education. He proposed the following motion:

That the scheme now submitted by the Council to this special meeting of the Fellows, providing for the amalgamation of the Carmichael College and the Ledwich School of Medicine with the Royal College of Surgeons in Ireland, be and is hereby approved of, subject to such alterations as may be required to bring it into accord with the charter and by-laws of the College; and subject also to such title being shown by the Carmichael College and the Ledwich School of Medicine as will be satisfactory to the legal advisers of the College.

Dr. KIDD seconded the resolution, and said that the scheme had been drawn up in accordance with the resolution of May 21st. He called attention to the main principles of the scheme, and said they made no demand for the working of the scheme on the College fees. He pointed out the importance of getting the Carmichael School, which had cost between £6,000 and £7,000, and the proprietors of which would now transfer it to the College for £2,000. That property was absolutely necessary for the working of the School. He had great faith in their professors, who, he was sure, would work for the benefit of the Dublin School, and for the advancement of the College of Surgeons and of science, and no personal sentiment would be allowed to stand in the way.

Dr. MACNAMARA said he objected to the scheme because the terms put before them and advised by Mr. Walker had not been carried out. It was an open secret that if certain names did not come out as professors in the School, those gentlemen, if the deed were not signed, sealed, and delivered, would run their respective schools. They would then have competition. Dr. Macnamara then referred to the document signed by Dr. Kidd and other gentlemen, and to the retirement of Dr. Mapother, who was going to reside in London. He asked that Mr. Walker's recommendation should be carried out, so that opposition schools could not be run.

Sir WM. STOKES said he was glad to find that there was another side to the roseate picture drawn by Mr. Thomson. He was in favour of amalgamation between the Carmichael School and this College, because he believed it would be productive of good and promote the best interests of medical and surgical education, but he objected to having the Ledwich School brought into it. He did not see why Dr. Stoker should be allowed to retire. He was a skilful anatomist, he was a young man and energetic, and was a most excellent lecturer. They objected to losing his services, and they objected to pay him while they lost those services. He asked them whether it was an efficient arrangement now to crowd the chair of surgery with four professors? Their opinions and teaching might differ in many respects. As to the value of a professorship in the school, it was not to be estimated by pounds, shillings, and pence. Some of the highest offices in the State were held without emolument. He understood that an artificial and unhealthy stimulus was given to it by night lectures. In conclusion, he called on the Fellows of the College to reject the scheme as unjust to their professors, injurious to their school, and disastrous to the best interests of surgical education in Dublin.

Dr. ROBERT M'DONNELL said he always thought that the school of the College should be free from the College itself, and that the College shouldbe, like the Universities of Oxford and Cambridge, presiding over many schools, but not having a special *liaison* with

any. He sympathised with the observations made by Sir W. Stokes, but they had to prepare their scheme out of exceedingly bad materials. While keenly alive to the many objections made, the scheme they had framed was the best they could lay before them. It was desirable to consolidate the schools, but that could not be done without injury to some persons.

Dr. LENTAIGNE moved that, in the opinion of the meeting, it was both inexpedient and unbecoming that the gentlemen whose names appeared in the public scheme as the selected candidates for the new chairs should actively assist themselves to positions of dignity and profit by voting themselves at that meeting.

The PRESIDENT said he was afraid that that was not an amendment.

Dr. MYLES moved that before proceeding to consider his scheme a guarantee be asked from the proprietors of the Ledwich and Carmichael Schools that they were prepared to accept the scheme in the event of any or all of their nominated candidates being defeated in the election for the new chairs.

Surgeon HAMILTON seconded the amendment, and said that the scheme had been hatched in jobbery, and that it was a job from beginning to end. He believed it should be referred back until the contracting parties had shown their *bona fides* and their power to make the contract. He had been elected to the chair of surgery with certain prescriptive rights and emoluments, and now he was to be told that large reductions were to be made on those fees, and then he was to get a quarter. Was that equitable? It was simply an act of confiscation.

Dr. CORLEY spoke in favour of the scheme.

On a division, the amendment was lost by 55 against 34.

Dr. MYLES proposed that, having regard to the fact that the control of this Council over their own schools had been a lamentable failure in the past, the meeting refused to hand over the new school to a system of control which experience had proved to be wholly insufficient.

Dr. LENTAIGNE seconded the amendment.

Sir GEORGE PORTER said it would be always right that the College should have control of the school.

The PRESIDENT said that this amendment would reflect discredit on the school and on the College.

Dr. MYLES: That, sir, being your opinion, I beg to withdraw it.

After some discussion, the original resolution in favour of the scheme was declared carried by a considerable majority.

The by-laws submitted on the previous day were adopted.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

THE report of the General Council to be submitted to the sixth annual meeting of the Fellows, summoned for Friday, October 26th, shows that the financial position is satisfactory. The Council suggest that a distinguished member of the profession should be invited each year to address the Fellows, and that he should receive twenty-five guineas as remuneration. They also refer to the circumstances which led the President (Dr. Robert McDonnell) to tender his resignation.

At a special meeting of the Council on June 26th, 1888, the following resolution was agreed to:

> That this Council are of opinion that it is desirable that the Fellows of the Academy should be called together, without delay, to express an opinion as to the expediency of recognising the principle that the Presidential Chair should be offered alternately to a distinguished physician and to a distinguished surgeon, and that it should be the duty of the Council to nominate a Fellow for the Presidency at the end of every three years.

A requisition, signed by ten Fellows, in conformity with Rule 52, was forwarded to the President, who thereupon sent in a letter resigning his office, and the general meeting was not summoned. At a subsequent meeting, the Council declared by resolution that in their opinion the President could resign only to the Fellows at large at a general meeting. As the President did not call a meeting for the purpose of tendering his resignation, and as the General Council had no power to do so, they call the attention of the Fellows to certain recommendations appended in the shape of new rules or additions to rules, which they believe will prevent any difficulty of a like nature which might otherwise arise in future.

The new rules to be proposed by the Council provide that if a vacancy in the office of President should occur, the General Council should summon a special meeting of the Academy to fill such vacancy; that the Sectional Councils (except in medicine and surgery) shall nominate their presidents; and in the event of the President failing, from any cause, to summon a special general meeting of the Academy, within fourteen days of his receiving a requisition, the special general meeting of the Academy shall be summoned by the General Council.

The candidates for the presidency are Dr. Samuel Gordon, ex-President of the College of Physicians, and Dr. G. H. Kidd, ex-President of the College of Surgeons. In the Obstetrical Section, Drs. Purefoy and W. J. Smyly are candidates for the presidency.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.

AT the Annual Stated Meeting of the College, held on St. Luke's Day, October 18th, 1888, the following officers were elected for the ensuing year:—

President—Lombe Atthill, M.D., F.K.Q.C.P.I. *Vice-President*—Arthur Wynne Foot, M.D. *Censors*—Arthur W. Foot, M.D.; Christopher J. Nixon, M.D.; Joseph M. Redmond, F.K.Q.C.P.I.; Andrew J. Horne, F.K.Q.C.P.I. *Additional Examiners*—George F. Duffey, M.D.; E. M'D. Cosgrave, M.D.; S. M. MacSwiney, M.D. *Examiners for the Licence to Practise Midwifery*—J. R. Kirkpatrick, M.D.; W. J. Smyly, M.D. *College of Physicians Examiners under the Conjoint Examination Scheme with the Royal College of Surgeons in Ireland*—Chemistry and Physics: Isaac Ashe, M.D.; Walter G. Smith, M.D. Materia Medica and Pharmacy: George Frederick Duffey, M.D.; Francis J. B. Quinlan, M.D. Physiology: John Mallett Purser, M.D. Medicine: Arthur W. Foot, M.P., V.P.; Christopher J. Nixon, M.D.; John Magee Finny, M.D.; J. Hawtrey Benson, M.D. Midwifery: Andrew J. Horne. Hygiene and Forensic Medicine: Stephen M. MacSwiney, M.D.; Joseph M. Redmond. *Examiners for the Membership*—S. M. MacSwiney, M.D.; F. J. B. Quinlan, M.D.; J. M. Purser, M.D.; George F. Duffey, M.D.; A. W. Foot, M.D.; C. J. Nixon, M.D. *Extern Examiners for the Diploma in State Medicine*—Engineering and Architecture: Albert E. Murray, C.E. Law: George Roberts Price, B.L. *Intern Examiners for the Diploma in State Medicine*—Chemistry: Walter George Smith, M.D. Climatology, Meteorology, and the Geographical Distribution of Disease: John William Moore, M.D. Vital Statistics: Stephen Myles MacSwiney, M.D. Hygiene: Christopher John Nixon, M.D. Medical Jurisprudence and Pathological Anatomy in relation thereto: George Frederick Duffey, M.D. *Treasurer*—Aquilla Smith, M.D. *Registrar*—John William Moore, M.D. *Representative on the General Medical Council*—Aquilla Smith, M.D. *Representatives of the College on the Committee of Manayement under the Conjoint Examination Scheme*—Samuel Gordon, M.D.; Thomas Wrigley Grimshaw, M.D.; John Wm. Moore, M.D. *Librarian on Sir P. Dun's Foundation*—Samuel Wesley Wilson.

The following were elected to the Fellowship: Henry Theodore Bewley, M.D. John Molony, M.K.Q.C.P.I.

THE MEDICAL EDUCATION OF WOMEN.

Universities.—In reply to several correspondents who have recently made inquiries as to the education of women for medical degrees and diplomas in the United Kingdom, we may state that the universities which admit persons of either sex to the examination for medical degrees are: the London University, fee £20; the Royal University of Ireland, fee £6; the Victoria University. A lady who determines to obtain a university degree must be prepared to devote at least five years (after matriculation) to the course, and must be assured not only that she is willing, but physically capable, of working hard for these years. The Victoria University is at present practically closed to women, owing to difficulty with regard to qualification in an affiliated college.

Corporations.—The corporations which grant their diplomas to women are: the Apothecaries' Society of London, fee 10 guineas; the Conjoint Board in Scotland, formed by the Royal Colleges of Physicians and Surgeons in Edinburgh and the Faculty of Physicians and Surgeons of Glasgow, fee 25 guineas; the Conjoint Board of the King and Queen's College of Physicians and the Royal College of Surgeons in Ireland, fee 40 guineas. It should be remembered that only the two last named (the King and Queen's College of Physicians and the College of Surgeons in Ireland) grant the diploma of Fellow to women.

Foreign and Colonial Universities.—Medical degrees can be obtained by women in many colonial and foreign universities: at

Kingston, in Canada; at Adelaide University, and at Melbourne University; in India, at the Universities of Madras, Calcutta, and the Punjaub; the Universities of Berne, of Zurich, of Brussels, and of Bologna, and all the French universities admit women to medical degrees. None of these degrees are registrable qualifications in the United Kingdom at the present time, though it is possible that in the future the General Medical Council may be empowered to register some of them when possessed by persons educated, and at the time resident, abroad *bonâ fide*.

Medical Schools.—The London School of Medicine for Women is well organised, and is in connection with the Royal Free Hospital. The composition fee for the full curriculum, with the exception of pharmacy, vaccination, and practical midwifery, is 100 guineas. To the Honorary Secretary, Mrs. Thorne (30, Handel Street, Brunswick Square, W.C.) we are indebted for much of the information contained in this article. The prospectus of this school contains an article headed "Advice to Students," which will be found exceedingly useful.—The Edinburgh Classes for Women are in connection with the Extra-Mural School. The Organising Secretary is Dr. Sophia Jex Blake, Bruntsfield Lodge, Edinburgh. The composition fee is £80.—Women are admitted to the School of the Royal College of Surgeons, Ireland. The teaching is in mixed classes, except as regards parts of some of the courses. The composition fee is 95 guineas.

Medical Missionaries.—Women who desire to combine medical practice with ordinary "missionary" work in foreign countries are strongly advised to go through the complete course of training and study, and to take a registrable diploma. We are informed by Mrs. Thorne that, as might be expected, anything short of this invariably leads to disappointment, and that at the present time there are several missionary ladies attending the full course at the School in London who have attempted to practise after an imperfect training, but found their position unsatisfactory. The Society for Promoting Christian Knowledge gives assistance at a rate not exceeding £75 a year for four years, under conditions to be obtained from the Secretary, Northumberland Avenue, London, to ladies desirous of becoming medical missionaries. The Zenana Medical Mission Society, 2, Adelphi Terrace, W.C., assists ladies who wish to go to India as missionaries.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS FOR 1889. ELECTION OF MEMBERS.

MEETINGS of the Council will be held on January 16th, April 17th, July 10th, and October 16th, 1889. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 27th, 1888, March 28th, June 20th, and September 26th, 1889.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary*.

BRANCH MEETINGS TO BE HELD.

SOUTH-EASTERN BRANCH: WEST SUSSEX DISTRICT.—A meeting will be held at the Marine Hotel, Worthing, on Tuesday, October 30th, at 3.45 P.M. W. J. Harris, Esq., of Worthing, in the chair. Dinner at 5.30 P.M. Communications by Dr. A. E. Buckell, of Chichester; and Dr. Gostling, of Worthing. Members desirous of reading papers or showing specimens are requested to write at once to the Honorary Secretary, W. AYTON GOSTLING, West Worthing.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—A meeting of the above District will be held at the Queen's Hotel, Eastbourne, on Friday, November 23rd. Dr. Roberts in the chair. Those desirous of reading papers or showing cases should communicate with the Honorary Secretary, T. JENNER VERRALL, 97, Montpellier Road, Brighton.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The next meeting will be held at the Wyndham Arms Hotel on Thursday, November 15th. Members wishing to read papers, etc., are desired to communicate titles forthwith to Dr. Sheen, Cardiff.—A. SHEEN, M.D., Cardiff; D. ARTHUR DAVIES, M.B., Swansea, Honorary Secretaries.

YORKSHIRE BRANCH.—A conjoined meeting of the East York and North Lincoln, and Yorkshire Branches will be held in the Museum of the Yorkshire Philosophical Society, at York, on Wednesday, October 31st, at 2.30 P.M., when the following papers will be read:—1. Mr. Dix: A Case of Punctured Wound of the Chest. 2. Mr. E. Atkinson: A Case of Ichthyosis Linguæ. 3. Dr. Elliott: A Case of Landey's, or Acute Ascending Paralysis. 4. Dr. Tempest Anderson will exhibit: (*a*) A Simple Eye Speculum; (*b*) A Bench for Operating on the Eyes of Children; (*c*) A Method of Applying Eye Ointment. 5. Mr. Dix and Dr. Pigeon: A Case of Carotid Aneurysm. 6. Mr. Snell. 7. Mr. Hagyard: Notes on Static Electricity, Lewandowski's Improved Machine for the administration of Statical Electricity will be exhibited. 8. Mr. Arthur Roberts will briefly relate a case of Tetanus with a view to a discussion of its Pathology and Treatment. 9. Dr. F. Nicholson: Pseudo-hypertrophic Paralysis occurring in Four Brothers. 10. Mr. H. Bendelack Hewetson: Further Investigations into the Relationship between Optical Defects and Occasional Epileptiform Attacks. 11. Dr. Myrtle: Neurasthenia; True and False Diagnosis and Management. 12. Dr. C. F. Hutchinson: The Treatment of Phthisis. 13. Mr. A. W. Mayo Robson: Two Cases of Operation for Menstrual Retention due to Imperforate Hymen, and Atresia Vaginæ. 14. Dr. Adolph Bronner: On Asthma of Nasal Origin; Cases. 15. Dr. Churton: Two Cases of Perityphlitis followed by Abscess of the Liver. 16. Dr. Cuff: A Case of Infection from Syphilis of very old standing. The members will dine together at the Station Hotel, York, at 5.30 P.M. Dinner (exclusive of wine) 6s. per head.—ARTHUR JACKSON, Secretary.

METROPOLITAN COUNTIES BRANCH: HERTFORDSHIRE DISTRICT.—A meeting of the above District will be held at the Clarendon Hotel, Watford, on Friday, November 2nd. The chair will be taken at 5.30 by Dr. Brodie Sewell. Mr. Noble Smith will give a demonstration of Some Practical Methods in the Treatment of Orthopædic Deformities. The District Committee (consisting of a vice-president, a representative of the District on the Council, and six members) will be formed. There will be dinner provided after the business of the meeting is over. Gentlemen who intend staying for the dinner are requested to intimate the same to the District Secretary before Tuesday, the 30th.—H. LESLIE BATES, Honorary Secretary, St. Albans.

THAMES VALLEY BRANCH.—The next meeting of the Branch will be held at the Greyhound Hotel, Richmond, on Wednesday, November 14th, at 6 P.M. Members willing to read papers or exhibit cases are requested to communicate with the Honorary Secretary. *Office-bearers for 1888-89.—President:* Dr. Fenn. *Vice-Presidents:* Dr. Langdon Down, Dr. Wyman. *Council:* G. Farr White, Esq., Dr. Atkinson, Dr. Crichton, Dr. Günther, Dr. Wadd, Dr. Graham.—CHARLES C. SCOTT, M.B., Honorary Secretary, St. Margarets, Twickenham.

WEST SOMERSET BRANCH.

THE autumnal meeting of this Branch was held at the Railway Hotel, Taunton, on Thursday, October 18th, at 5 o'clock. There were thirteen members present. Dr. ABRAHAM COLLES, President, occupied the chair.

Hæmorrhage and Bad Hygiene.—After routine business and dinner had been disposed of, the subject for discussion, as previously settled, namely, what connection, if any, exists between hæmorrhage and mal-hygiene, was introduced by Dr. MEREDITH. He narrated a number of groups of cases of hæmorrhage—especially menorrhagia and epistaxis—which had occurred under bad sanitary conditions; and having argued that a connection as cause and effect did exist between mal-hygiene and hæmorrhage, he invited the opinion of the meeting upon the point, and hoped that members might be induced to direct their attention to the subject in the future.—A good discussion followed, and a vote of thanks was passed to Dr. Meredith for his paper.

Communication.—Mr. RIGDEN read notes of a case of Neuroma of the Musculo-Spiral Nerve after Amputation, and showed a preparation of the growth.

New Member.—Mr. Thomas Lowe Laxton, of Bridgwater, already a member of the Association, was elected a member of the Branch.

NORTH OF IRELAND BRANCH.

A GENERAL meeting of this Branch was held in the Belfast Royal Hospital on Wednesday, October 17th. The new President, Professor Dill, M.D., occupied the chair, and there was a very large attendance of members.

Communications.—The following communications were brought before the meeting: Dr. J. CAMPBELL HALL (Monaghan) read a paper on The Treatment of Diphtheria.—Dr. H. GEORGE (Lisburn) showed a boy, aged 4 years, on whom he had successfully performed suprapubic lithotomy. He exhibited the calculus removed.—Dr. O'NEILL read notes of a case of Dupuytren's Contraction, and showed casts taken before and after operation.—Dr. LINDSAY read a short paper on The Most Recent Views upon the Utility of Inhalations in Phthisis.—Dr. DEMPSEY read notes of a successful ovariotomy, and showed the cyst.—Dr. W. A. MCKEOWN exhibited a new apparatus for Intra-ocular Irrigation in Cataract Extraction.—Professor SINCLAIR exhibited a Suppurating Ovarian Tumour removed successfully by him, and gave a short account of the case.

New Members.—At a meeting of the Council held previous to the general meeting, the following were elected members of the Branch: Dr. N. J. McDonnell, Dr. J. C. Ferguson, and Dr. R. C. McCullagh (all of Belfast).

SPECIAL CORRESPONDENCE.

BERLIN.

[FROM OUR OWN CORRESPONDENT.]

New Suggestions for the Treatment of Phthisis.

Dr. HALTER, first assistant in the hospital at Lengerich, recently published in the *Klinische Wochenschrift* a paper on the immunity of workmen employed in limekilns from pulmonary consumption, in which he makes some suggestions for the treatment of that disease. Dr. Halter says that he has been struck by the fact that in a country district which otherwise showed a large number of deaths from consumption, the workers in limekilns had without exception been exempt from phthisis during fifteen years. The fine chalk dust which they inhale is, according to him, of as little importance as the dry soil on which they live. The essential thing is the hot, dry air which they constantly breathe. The temperature in which they work is from 50° to 70° C. (122° to 156° F.). The relative moisture of the air never exceeds more than 50 per cent., so that the air there is similar to that of places most famous for their climate, such as Davos, Denver, San Remo, Cairo. A study of the geographical distribution of disease clearly shows that a region in which the air is dry is, other things being equal, less liable to breed consumption than one where the air is damp. It is at least impossible to explain in any other way why phthisis occurs more frequently in the Alps, high up in the cloudy region (1,100 to 1,500 mètres) than either above or below that level. The physiological explanation of this fact is found in the fact that processes of decay are little favoured by dry air: the excessive secretion in the air-passages is dried up, putrid secretion thickened, calcification of tubercles promoted, tendency to pyæmia and miliary tuberculosis diminished. Of equal importance is the heating of the air. This is the case, first, because it is free from organisms, which are destroyed by the heat of the kiln: secondly, if air is heated it becomes more rarefied: one must therefore breathe more deeply and more quickly in order to get a sufficient quantity of oxygen, thus promoting a more perfect aëration of the lungs. The most favourable temperature for tubercle bacilli is between 37° and 38° C. (98.6° to 100.4°); they die at 41°. C. (105.8° F.). Halter therefore thinks that a high temperature of the inspired air might warm the air in the lungs sufficiently to prevent the growth of bacilli in them. He found by calculation and experiment that inhalation of hot, dry air of 120° to 180° C. (248° to 356° F.) raised the temperature of expired air to about 43° C. (109.4° F.), that is, to a degree of temperature in which tubercle bacilli perish. The air which workmen in limekilns inhale is not so warm, but before they have got acclimatised to the atmosphere in which they work, the temperature of their expired breath rises considerably above the normal, and after acclimatisation has taken place, pulse, respiration, perspiration, and metabolism are greatly increased. Thus an imitation of what occurs in hectic fever takes place—heat, perspiration, etc.: and Halter thinks fever the most efficacious means of destroying pathogenic organisms and their products within the body. He recommends therefore as preventives of tuberculosis of the air-passages and the lungs the Roman hot-air bath and inhalations of dry air of from 50° to 100° C. (122° to 212° F.) by means of an apparatus which he has devised.

Dr. Weigert, of Berlin, is disputing with Dr. Halter the priority of this suggestion. The dispute is still further complicated by a publication in which Dr. E. Krull, of Güstrow, states that for more than two years he has made similar experiments, although he made them with damp air. The temperature of the inhaled air was in Krull's experiments not higher than 50° C. (122° F.), and yet the temperature of the expired air was not less than 107.6° F., a degree of heat which is fatal to the tubercle bacillus. His results were satisfactory, principally in cases of incipient phthisis.

BEQUESTS.—The executors of the late Miss Louisa McKellar has made grants out of her residuary estate of £150 to the Throat Hospital in Golden Square, £1,000 (to the funds of the Great Northern Central Hospital, as well as sums to other charities.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

Unglazed Tissue Paper as a Surgical Dressing.—Thallin in Gonorrhœa.—Early Isolation in Measles.

THE *Union Médicale* of August 18th publishes a communication from M. Bedoin on surgical dressings of unglazed tissue paper, such as is used in making cigarettes. It is employed in the form of compresses composed of one or several double sheets, as bandages, or in very fine shavings in the form of lint. Applied in this manner hydrophile paper has the same effect as gauze, and is much less expensive. It may be used with all the antiseptic precautions enjoined by Lister, either in a dry or moist state. In the latter case the paper is dipped into the original solution or merely into pure water when the spray is not employed. In ordinary dressings this paper is an excellent medium for most antiseptic remedies which were formerly applied by means of compresses or lint in the form of ointments or solutions. Thus dressings of this paper may be prepared beforehand with morphine, belladonna, cocaine, iodine, etc., with the greatest facility. The application of these dressings has been attended with excellent results in the most varied affections (wounds, burns, blisters, diseases of the skin, eyes, etc.). Comparative experiments have shown that the hydrophile property possessed by paper lint is one-third greater than that of thread lint. It is absolutely necessary to cover the dressing with an impermeable outer covering (Lister's mackintosh, laminated gutta percha, oilskin, etc.) to prevent the edges of the paper beyond the borders of the wound from stiffening. In small hospitals, free dispensaries, and country districts where the more costly dressings are not easily obtained, Dr. Bedoin's dressings of hydrophile paper are likely to be of special service.

Dr. Gillebert d'Hercoutt has obtained the following results in about forty cases of gonorrhœa with tartrate of thallin. He employed this substance in a solution of naphthol in proportions of 1 in 50 and 1 in 100. It was administered in three injections daily, the syringe being one-half or even one-third full for each injection. Pain during micturition disappeared on the second day after the treatment was begun, in some cases even after the second injection. The discharge diminished rapidly, and disappeared between the fourth and sixth days. The treatment should be continued three or four days after the cessation of the discharge. This method is especially useful at the very beginning of the disease; in old-standing cases it is of no particular advantage.

M. Ollivier states that it is a mistake not to isolate children affected with measles before the eruption appears. The disease is contagious from the moment of onset, which is usually four or five days before the appearance of the eruption, and may be recognised by certain symptoms. If the little patients were isolated as soon as these symptoms are observed the chances of contagion would be considerably diminished. In doubtful cases M. Ollivier advises isolation for a few days.

LIVERPOOL.

[FROM OUR OWN CORRESPONDENT.]

Medical Institution: President's Address.—University College Medical Faculty.—Burial Reform.—Royal Southern Hospital Extension.—St. Helen's Providence Free Hospital.—Medical Officer of Health's Report.

THE Liverpool Medical Institution entered upon its fiftieth session on October 11th, when the President, Dr. William Carter, delivered an inaugural address on "The Principle of Disinfection in Medicine." Dr. Carter began by protesting against the modern spirit of specialism on the ground that it obscures the view of great general principles, which must form the basis of all useful practice. Two chief circumstances, he said, foster this spirit: first, the time necessary for the acquisition of expertness in the use of instruments applicable to the investigation of particular organs; and, secondly, the overcrowding of every department of the students' curriculum with minute technical details; both of which repress the wholesome mental habit of recognising the general in the special. General biology and embryology show how organs seemingly diverse and independent are really mutually related; for instance, the affinity of the syphilitic poison for the skin and the central nervous system is explained by the common origin of these structures from the epiblast. Facts of far-reaching importance lend support to the simpler and more comprehensive views

of disease held by the more enlightened among the physicians of the past, especially as regards the recognition of an altered chemistry in the body. Dr. Carter then drew attention to the experiments of Dr. Cash demonstrating the protective power of corrosive sublimate against anthrax in rabbits; to the success of Roux and Chamberland in obtaining protection against septicæmia by purely chemical inoculation; to the alleged protective influence of a purely chemical substance obtained from a very virulent culture of the cholera bacillus, by Dr. Gamaleia; and to analogous experiments by Bouchard and others; all pointing to the great principle of protection against such diseases as those named by chemical methods rather than by the introduction of a living organism capable of indefinite multiplication. On these grounds he confidently indulged in the hope that not only would a similar protection be soon discovered against tuberculosis, but also that specific diseases, such as typhus, might, in the strict sense of the word, be cured. In connection with the use of antiseptic medicines in disease Dr. Carter laid special stress on calomel as a purgative, and demonstrated its power in preventing the decomposition of bile. He also drew attention to the relation of chronic ulcer of the stomach to uterine and bowel lesions, and insisted on the use of antiseptics, either internally or externally, in these complaints. With regard to the altered chemical relations in disease, Dr. Carter attached great importance to the fact that one-fifth of our tissues live their life, like some microbes, anaërobically, and that the products of tissue change resulting from free oxydation are harmless in comparison with those that are formed without oxygen. Up to the present attention has been wholly directed to the former, yet the amounts of urea, water, and carbonic anhydride are of little importance except as showing the extent to which oxydation goes; while the products of the non-oxydative cell life, which are increased in fevers and inflammation *pari passu* with the former, are of the utmost importance because of their poisonous character. Ollivier has discovered that certain vegetable cells have the power of uniting sulphur and hydrogen to form H_2S without the intervention of oxygen, and a principle having the same power has been found widely diffused in animal tissues. Dr. Carter concluded his able and exhaustive paper by saying that what we wanted was a disinfectant medicine that would repress the injurious activity of non-oxydative cell life, while not interfering with the harmless oxydative changes. When that desideratum was obtained fewer of those cases would be seen where, in the course of a chronic disorder of no great severity, a patient suddenly sinks overwhelmed by the action of a self-generated and non-eliminated poison.

The Senate and Medical Faculty of University College held a reception in the College buildings on the evening of October 20th, when the Mayor distributed the prizes to the students of Medicine, and Mr. Edgar Browne delivered an introductory address. Mr. Browne made a powerful appeal in favour of a higher education regarded as a means, not of worldly advancement, but of mental culture; and he urged the students not to take facts on trust, but to submit the statements of their books and lectures to experiment and proof. The entry of students for the present session is said to be the largest on record.

A meeting of the Church of England Burial Reform Association was recently held here, Dr. W. Carter being in the chair. The Chairman and some of the leading medical men and clergymen spoke in strong condemnation of the present mode of burial in durable coffins and brick graves, and resolutions were unanimously carried in favour of simplicity in funerals, and the use of a perishable coffin laid in the earth, and in favour of petitioning the Home Secretary to institute an inquiry into the condition of cemeteries and the mode of burial adopted, with a view to legislation.

The Committee of the Royal Southern Hospital contemplate erecting a home for the staff of hospital and private nurses, and also a new *post-mortem* room at a suitable distance from the wards. The cost of the land and buildings will be £7,000, of which £2,527 has already been subscribed.

A new wing has been added to the St. Helen's Providence Free Hospital. It contains two wards with thirty beds in each, and an operating and waiting rooms. It is the gift of the late Mr. Peter Middlehurst, of Rainford, and his wife.

The report of the medical officer of health states that the number of deaths for the past year was 12,005, and the average death-rate was 20.0 per 1,000. The deaths for the previous year amounted to 14,379, being at an average rate of 24.3 per 1,000. The deaths (12,005) for the past year were 2,544 below the average for the past ten years, notwithstanding the increase of population, and the death-rate was 6.2 below the average of the same period, and 9.3 less than in the decade 1867-77. The deaths from zymotic diseases amounted to 1,521, the lowest number ever recorded, being 1,398 less than in the previous twelve months, and 1,338 below the average. The deaths from infectious diseases amounted to 842, against 2,038 during the preceding year, and the cases of infectious diseases reported numbered 3,230, of which 913 were removed to hospital. Last year the cases numbered 8,518, of which 1,192 were removed to hospital. These figures present the sanitary state of the city in a very satisfactory light.

SHEFFIELD.

[FROM OUR OWN CORRESPONDENT.]

The Medical School.—The Medico-Chirurgical Society.—Death of Mr. Thomas Fentem, F.R.C.S.—An Appeal against Reasonable Damages.—Ambulance Classes for the Police.

THE greatly improved new buildings have brought a most gratifying increase of students to the medical school.

The Medico-Chirurgical Society commenced its meetings on October 11th. It met for the first time in its new abode at the new medical school. The room, which is used for the Society's library, and as a reading room, as well as for the fortnightly meetings, is very handsomely furnished, and few societies meet under more favourable circumstances. The opening meeting was attended by over fifty. The President, Dr. Martin, took as the subject of his address "Our Work and some of its Difficulties," dealing with the relation of medical men to each other, and various points in diagnosis and the use of drugs.

The profession is distinctly the loser by the recent death of Mr. Thomas Fentem, F.R.C.S., of Eyam, in the neighbourhood of Sheffield. He died at the ripe age of 76. He maintained to the last in a most remarkable degree his interest in the profession. With the current literature and the altering phases of many medical questions he was familiar in a manner not often met with in those many years his junior, and all this in spite of the cares and worries of a country practice.

A jury a few days since in the Under-Sheriff's Court awarded the relatively moderate sum of £4,500 damages to one of the injured in the Hexthorpe railway accident. The plaintiff was a prosperous cork merchant, with net profits varying from £800 to £900 a year: 40 years of age, married, with three children; physically of great energy and activity. The left leg had required amputation, and the right had sustained compound fracture, and further the medical witnesses deposed to considerable general physical weakness as a result of the accident. The Manchester and Sheffield Railway Company have signified their intention to appeal against the verdict on the ground that the damages are excessive.

The annual meeting of the Sheffield centre of the St. John Ambulance Association was held on October 19th. The report showed satisfactory progress. The movement has been well taken up by the police, and has received every encouragement from the Chief Constable, Mr. J. Jackson, who has set his men the example of attending the classes, and was the recipient at this meeting of a medallion. Mr. Favell, senior surgeon to the Infirmary, bore witness to the value of ambulance teaching in such a community as that of Sheffield.

CORRESPONDENCE.

PROFESSOR GERHARDT AND SIR MORELL MACKENZIE.

SIR,—Allow me to draw your attention to a linguistic error, found at first in Sir Morell Mackenzie's *Frederick the Noble*, and repeated in "The Case of the late Emperor Frederick" (BRITISH MEDICAL JOURNAL, October 20th). This error is the English translation of a passage of Professor Gerhardt's report. If Professor Gerhardt has written: "Es dürfte dies der erste, sicher konstatirte Fall sein, in dem ein Kehlkopfsarzt dem Kranken aus Versehen ein Stück aus dem gesunden Stimmbande wegzureissen versuchte," no German physician, reading the whole account, will and can understand this otherwise than "trying to remove a piece, he injured by mistake the healthy vocal cord;" this mistake being explained by the account that the light of the reflector fell at that very moment, not into the illustrious patient's mouth, but at his cheek. The common, and I may add mean, sense, that Pro-

fessor Gerhardt wanted to imputate on Sir Morell Mackenzie the intention of removing a piece of the healthy vocal cord, and accused him of the "basest motives and blackest treachery," is in no way tested by the German text.

I am convinced that you'll feel happy of correcting this error in the next number of the JOURNAL, to withdraw from Professor Gerhardt an affront, which is as unjust as it is unfounded.—I am, etc., OSWALD ZIEMSSEN, M.D.

Wiesbaden, October 21st.

*** Dr. Ziemssen has correctly transcribed above the words of the original report. In the official translation into English, published by the Imperial printer in Berlin and transmitted to us for review, the phrase is rendered thus; "This is the first case in which it is proved without doubt that a throat specialist actually tried to remove from a patient by mistake a piece of the healthy vocal cord" (page 11). The word "actually," it will be noticed, has no equivalent in the original. This official rendering appears to justify the interpretation which we reluctantly placed upon the passage.

THE POISONING CASE AT THE HARDWICKE HOSPITAL, DUBLIN.

SIR,—In your last issue (October 20th) among your "Notes of the Week," occurs one entitled "Poisoned by Mistake." I fully agree with you that the accident to which it refers is a most distressing occurrence; and as the physician in whose ward in the Hardwicke Hospital, Dublin, the event happened, it has been to me a peculiarly painful one. I shall, therefore, not be understood to apologise for or excuse such a misadventure, if, on the part of the Medical Board, I take exception to the mode of your reference to it. Your note practically reproduces the terms in which one, especially, of the Dublin newspapers has written of the death and the subsequent coroner's inquest. The charges against the hospital and the coroner which you are inclined to adopt are shortly these: first, that Dr. Panter was killed through some maladministration of the Hardwicke Hospital; and, second, that the inquest was a purposely hurried one, in which a number of material facts were not investigated, and in which an attempt was made to hush up the unfortunate affair.

I shall deal with the latter of these charges first. Within half an hour after Dr. Panter's death the house-surgeon was ordered to communicate with the coroner. Within two hours the coroner, who lives outside the city, was informed of the accident. For the hour at which the inquest was held, namely, 11.30 A.M., exactly twenty-four hours after Dr. Panter's death, the coroner alone was responsible; but he has written a letter to the Lord Mayor of Dublin, published in the newspapers of October 18th, and of which I enclose a copy, in which he states that he frequently holds inquests at a much earlier hour. That no representatives of the press were present did not arise from ignorance on the part of the police, for they were informed at 6 P.M. on the day of Dr. Panter's death, or nearly eighteen hours before the inquest. No pressure was brought to bear on them by anyone connected with the hospital to be reticent about it. That the press were not quite in ignorance is evidenced by the fact that the inquiry was hardly over when a reporter arrived; and from the coroner's letter to the Lord Mayor I gather that it is a common thing for the reporters not merely to be late for inquests, but to take their reports from the coroner's notes.

On the part of the hospital authorities there was given in evidence the fullest and frankest statement of the whole case from Dr. Panter's admission till his death. The facts bearing on the actual poisoning were so few and so personal to the resident pupil concerned in it, that the inquiry, if I may so speak, lagged for want of any secret or doubtful point about which evidence could be taken. The resident who gave the poison gave his evidence without the smallest reserve, and extenuating nothing. I gave evidence as to my knowledge of the case both before and after the accident. The house-surgeon did the same. The apothecary answered all questions put to him as to the dispensing of medicines. Dr. Panter's brother, before the verdict was given, expressed himself as perfectly satisfied with the thoroughness of the inquiry, and as to the purely personal character of the mistake. The jury were asked by the coroner, and in no hurried or ambiguous terms, whether they desired to add to their verdict any rider on the subject of the dispensing or administration of dangerous drugs in the hospital. With the terms of the verdict I have nothing to do, but I quite agree that the word should have been "given," not "taken by misadventure." The case stands thus then: the facts being few, and the whole responsibility for the accident resting upon one man, the inquest took a comparatively short time. A reporter arrived immediately after it had concluded. To him were repeated all the facts of the case; every question he chose to ask was answered; the coroner placed the written depositions before him to copy, and afterwards helped him by dictating them to him. The reporter expressed himself as quite satisfied with the fulness of the information given him. From this it is evident that on the part of the hospital authorities there was no attempt at concealment whatsoever. Whether the relatives of Dr. Panter made any attempt to prevent publicity I am not aware.

Turning now to the first charge, I think that it is easy to show that the misadventure did not occur through any administrative defect. It is necessary to understand that the Hardwicke block is about eighty yards distant from the Whitworth, where the resident pupils live. It was, therefore, not unnatural for the resident in question to carry the hypodermic solution for one patient and the emergency draught for another at the same visit. These were all he had to administer, or see administered, that night. He was not late in going his round—he was not, I believe, in any hurry to get away—but he was, I believe, unduly anxious about Dr. Panter, who had been admitted that morning in delirium tremens, and in a most exhausted condition. He had visited him several times during the day. He found him on his last visit in a most excited state, and calling out "for God's sake" for a sleeping draught. I believe that, in his anxiety to gratify the patient, the resident became confused. He had to choose between two bottles. In one of them, having previously carefully washed it, he had a few minutes before made up a bromide draught from a stock solution kept for emergencies in the residents' room; the other contained hypodermic solution of morphine. The former was twice the size of the latter. The bromide draught must have been about four times the bulk of the morphine solution. He had carefully coloured the draught with some compound tincture of cardamoms. The morphine solution was almost colourless. With all these distinguishing marks, he chose the wrong bottle. All these facts were given in evidence at the inquest, and the bottles were produced before the jury.

Let me add that the man who made this mistake had assisted his father for several years in the compounding department of one of the largest hospitals in Ireland, that he is preparing for his final M.B. Examination, that he is, I believe, a total abstainer, and that he was certainly perfectly sober when he summoned me at my house about fifteen minutes after the accident. In a report on the matter, which I have submitted to the Board of Governors of the hospital, while confessing my inability to account for his mistake, I have thought it only just to say, "His action can only be described as an extraordinary instance of confusion occurring in a mind ordinarily clear, competent, and vigilant."

I have thought it right to go so fully into details, even at the risk of taking up too much of your valuable space, because the criticism of such a journal as the BRITISH MEDICAL would, if quoted in the lay papers, have special weight with the public. I trust that I have shown that the accident in the Hardwicke Hospital was due to a purely personal mistake on the part of a resident pupil, and that, so far as the hospital authorities are concerned, the charge of attempting to "cushion" or conceal the facts of the case is utterly without foundation.—I am, etc.,

JOSEPH O'CARROLL, one of the Physicians to the Richmond, Whitworth, and Hardwicke Hospitals.

Dublin, October 23rd.

REFORM AT THE COLLEGE OF SURGEONS.

SIR,—May we, through your columns, remind Members of the Royal College of Surgeons of England that the annual meeting of the Members and Fellows of the College will be held in Lincoln's Inn Fields on Thursday next, November 1st, at 3 P.M.? Though the College Council has gained the point of obtaining a supplemental charter, in order to empower it to hold land, etc., of greater annual value than hitherto, still the Privy Council most markedly alluded to the fact that it was avoiding the disputed point. We may, therefore, hope that, at no far distant date, a further charter may be obtained from the Crown, granting the equitable and moderate demands of the Members. Let Members, therefore, assemble on Thursday in numbers as large as on former occasions, and assist us in passing resolutions emphasising the

determination of the great body of the Corporation to make its voice heard in the management of the affairs of its own College.—We are, etc.,

WARWICK C. STEELE, 1, Florence Terrace, Ealing, W.,
WILLIAM ASHTON ELLIS, 14, Grosvenor Road, S. W.,
Honorary Secretaries, Assoc. M.R.C.S.

PARLIAMENTARY REPRESENTATIVES OF SCOTCH UNIVERSITIES.

SIR,—I venture to ask you to give space to the following suggestions in regard to the election of a representative in Parliament of the united constituencies of Edinburgh and St. Andrews Universities.

The elevation of Sir J. H. Macdonald having necessitated the re-election of a member for these Universities, it behoves the electoral bodies to be stirring themselves in the selection of a suitable candidate to represent them. A meeting has already been held, under the presidency of Sir Douglas Maclagan, at which apparently three motions were put forward, but without any unanimity prevailing, and the result was an adjournment, with the object of approaching candidates who might be willing to offer their services to the Universities in the House of Commons.

Without indicating anyone especially, I would submit the following considerations to my fellow-graduates: As Sir J. H. Macdonald was one of the ablest men who could have been chosen to represent the constituencies, and well repaid the confidence bestowed upon him, it will be no easy matter to find another who shall have the same amount of goodwill shown towards him by all parties which the Lord Advocate had; but, whoever is ultimately chosen, I think it should be insisted that the primary qualification is that the intending candidate shall have passed through the curriculum of the University, whereby he will have gained a thorough knowledge of the position and requirements of the undergraduates as such, and be able to recognise and appreciate their needs then, and subsequently as graduates.

Secondly, that the candidate shall be a graduate of the University himself, that he may be qualified to impersonate the electors, and have the greatest possible personal interest in the advancement and well-being of the University and her alumni, and the upholding of their interests in the Imperial Senate. The important consideration also of previous parliamentary experience should be kept in view.

And, finally, I would appeal to the whole body of the electorate whether it is only fair that the claim of the large majority of the constituents who belong to the medical section should be recognised, and that a graduate in medicine possessing the foregoing qualifications should be chosen, and which would to a great extent do away with any party political feeling, which is altogether to be deprecated in the election of a University member, whose primary function is to represent, not a political party in the State, but the best interests of Alma Mater.

I have already stated that it was not my intention to indicate any particular gentleman who might be approached as a likely candidate, which will preferably be left to the consideration of the whole body of electors, but rather to raise some interest in the forthcoming election among the medical graduates of the University, which I am afraid has been somewhat lacking in previous contests, and to refer to the principal qualifications which a candidate might be expected to submit for their suffrages.—I am, etc., J. ANDERSON, M.D., B.Sc.Edin.

Ulverston, October 18th.

ANCOATS HOSPITAL.

SIR,—Your Manchester Correpondent called attention in the JOURNAL of July 7th to an attempt which was being made to raise funds for enlarging the Ancoats Hospital. He would but have done justice to the zeal and energy of the Committee of that hospital had he—when speaking in the JOURNAL of October 13th of the need for more hospital accommodation for the "suffering poor of Manchester"—told your readers that on Saturday next will be laid the memorial stone of the new wing, which, already well advanced, will in a few months afford accommodation for an additional forty patients in the very heart of the poorest of the industrial districts of this city.—I am, etc.,

HENRY R. HUTTON, M.A., M.B.

8A, St. John Street, Manchester, October 17th.

NAVAL AND MILITARY MEDICAL SERVICES.

REFORM IN THE MEDICAL STAFF.

"REFORM" draws our attention to a letter in a contemporary, dated from Lucknow, which he considers exhibits at once a true and sad picture of medical affairs in India. Compared with all other officers—even with veterinary surgeons—the younger medical officers are underpaid; the surgeon ranking as captain draws Rs. 317, the veterinary as lieutenant Rs. 400 as a minimum *per mensem*. Evidently horses and cattle are of more value than human lives. The juniors have no regimental connection—no society, no messes—and are left to "pig it in their bungalows as best they can." The men of twenty years' service are leaving as fast as they can; their seniors hang on in disgust, hoping against hope for promotion to the administrative grades; of the latter it is well known that "several are unfit for active work;" "not two-thirds" probably fit for active service, broken down through climate. Why are men physically unfit allowed to serve on indefinitely?

Our correspondent hails with joy the probable "partial return to the regimental system in the regular army," casually mentioned in a note on page 851 of this JOURNAL. It would go far to repair the breach. The unification system, pure and simple, has done much to cause the present lamentable estrangement between the combatant and medical ranks. The two sets of officers are no longer in healthy touch. He hopes that, with a clear and definite solution of the rank question, the introduction of a modified regimental system, worked in unison with station hospitals, will be adopted. This, more than anything else, would probably restore mutual harmony and good fellowship between the Medical Staff and the army at large.

*** We hear that a partial return to the regimental system is now engaging the attention of the authorities, and we sincerely hope it will meet with unbiassed deliberation.

THE ALEXANDER PRIZE.

BONÂ FIDE writes: Referring to your notice regarding the "Alexander Medical Prize," could you manage to ask the committee to publish a short explanation in the JOURNAL as to what they mean by the title of the essay? As it reads at present, it is very hard indeed for intending competitors to clearly understand the subject and its scope.

FOREIGN MEDICAL REGULATIONS.

MR. E. TENISON COLLINS (Edinburgh) writes: In answer to inquiry of "M.S.," *Traité de Chirurgie de Guerre, L'Histoire de la Chirurgie Militaire Française*, par E. Delorme, Médecin-Major, Professeur de Clinique Chirurgicale au Val de Grace, published by Félix Alcan, Paris. Vol. i only out at present.

THE VOLUNTEER MEDICAL SERVICE.

MR. EDWARD L. FREER (Acting-Surgeon 1st. Volunteer Battalion Royal Warwick Regiment, Honorary Secretary Midland Volunteer Medical Association) writes: I was very pleased to read your leader in the JOURNAL of October 6th, and the letters of "A Volunteer Surgeon-Major" and others on the subject of Army Medical Reserve. I subjoin a copy of the answers given by the medical officers of the 1st Volunteer Battalion Royal Warwick Regiment to the circular letter sent out from the War Office, and sincerely hope that the inquiry may have the effect of placing volunteer medical officers on a harmonious footing with their *confrères* of the Medical Staff, and at the same time of improving the military status of both services.

"1. The regimental organisation for volunteer corps, so far as it affects the rank and position of medical officers in such corps?—Most unsatisfactory. Relative rank acknowledged to be a dead letter. Volunteer Surgeons are in the same anomalous position as officers of the Medical Staff, without any rank at all (that is, military rank, the only one recognised in the army). Acting-Surgeons, irrespective of strength of battalions, age, position in civil practice, and length of service (which, it rendered properly, involves as much, or even more, work than that of a company officer) have no commission at all, and continue to rank junior to newly gazetted subalterns, often boys fresh from school.

"2. The Army Medical Reserve, so far as commissions in it affect the status and position of volunteer medical officers?—The status and position of volunteer medical officers do not appear to be one whit improved by commissions in the Army Medical Reserve. The only effect it may have will be to cause possibly invidious distinctions among officers of the Volunteer Medical Service. The 'step of rank' (which is no rank, as before stated) should be too transparent a bait to be greedily swallowed.

"3. The condition under which all classes of volunteer medical officers are, or should be made, liable to be called upon for service with volunteers or with troops generally?—All volunteer medical officers are, and should be, called upon for service only in accordance with the Volunteer Act, 1863, section 17, and not be liable to be called away from their civil practices whenever a Government might think fit to create a 'national emergency,' which would be possible under the Royal Warrant for Army Medical Reserve. At the same time it is competent for such officers as could arrange to do so to be enrolled in a reserve which would not be used as a lever to weaken the status and position of officers of the Medical Staff, or keep them on continuous foreign service. In the absence of officers of the Medical Staff, volunteer officers, irrespective of reserve, should have priority over civil surgeons in examinations of recruits, etc."

As an instance of the unsatisfactory state of the present regimental

system I may cite my own position, which, doubtless, is similar to that of many of my brother officers. I was gazetted in December, 1879, and immediately afterwards our ambulance department was instituted. We have continued to hold ambulance drills and lectures every week during the volunteer season, and fortnightly during the winter months, also having three drills a day during camp, as well as hospital duties. In addition to this we have for the last four years medically examined all recruits before enrolment to the battalion, with the effect that the physique of the rank and file has been greatly enhanced. We have given prizes yearly for attendance, manual field hospital work, etc., the expense of which has been chiefly borne by ourselves; and now, at the end of nine years' service, my military status is below that of the junior subaltern, aged 18, and my only chance of the commission of surgeon, "ranking as" captain, is by the resignation of my senior, which I should much regret, or by joining the Reserve, which I am certainly at present not inclined to do for the reasons stated in the resolution of the Midland Volunteer Medical Association. In the meantime one of my late colleagues, who was junior to me by about four years, now holds a captain's commission; and another, gazetted acting-surgeon three years ago, is now creeping up the roster of lieutenants.

Instead of "rising" to the bait of "bogus rank" in the Reserve, if volunteer medical officers will only show their *esprit de corps* by working in harmony with the Medical Staff, I feel sure it will not only be more beneficial to themselves, but eventually, also, to the medical administration of the army and reserve forces generally.

THE NAVY.

FLEET-SURGEON T. G. WILSON has been placed on the retired list at his own request with the rank of Deputy Inspector-General. He entered the service as Surgeon August 4th, 1857; became Staff-Surgeon October 4th, 1864; and Fleet-Surgeon October 6th, 1878. He was Fleet-Surgeon of the *Inconstant* during the Egyptian war in 1882, and received the medal and Khedive's bronze star granted for the campaign.

The following appointments have been made at the Admiralty:—W. BELL, Surgeon, to the *Alecto*; J. A. ROBERTSON, Staff-Surgeon, to the *Penelope*.

THE MEDICAL STAFF.

DEPUTY SURGEON-GENERAL RANDOLPH WEBB has been granted retired pay. His commissions bear date: Assistant-Surgeon, December 15th, 1854; Surgeon, October 23rd, 1867; Surgeon-Major, March 1, 1873; Brigade-Surgeon, April 4th, 1880; and Deputy Surgeon-General, July 16th, 1884. He served in the Crimea in 1854-55, and was at the bombardment of Sebastopol and the battle of the Tchernaya (medal with clasp and Turkish medal). During the Indian Mutiny in 1857-58 he was at the battle of Banda and at the capture of Kirwee; he was mentioned in despatches, and received the medal with clasp. He also served in the war in Abyssinia in 1867-68 (medal).

Surgeon G. J. A. TUKE, who is serving in Bengal, and Surgeon W. H. BEAN, serving in the Madras Command, have leave of absence for six months on medical certificate.

Surgeon-Major R. M. CRAIG, serving in the Bombay Command, is appointed to the medical charge of the station hospital at Kurrachee, *vice* Brigade-Surgeon C. H. Giraud, transferred.

ARMY MEDICAL RESERVE.

SURGEON AND HONORARY SURGEON-MAJOR W. W. COLEMAN, 3rd Kent (Royal Arsenal) Artillery Volunteers, to be Surgeon-Major, ranking as Lieutenant-Colonel.

Acting Surgeon T. F. DEWAR, M.B., 1st Volunteer Brigade Western Division Royal Artillery (late the 1st Devonshire Artillery), to be Surgeon, ranking as Captain.

INDIAN MEDICAL SERVICE.

SURGEON C. W. OWEN, C.M.G., C.I.E., Bengal Establishment, officiating Agency Surgeon in Beloochistan, is appointed Honorary Surgeon in the Beloochistan Volunteer Rifles.

Surgeon-Major K. M'LEOD, M.D., Bengal Establishment, who entered the service as Assistant-Surgeon, March 31st, 1865, and became Surgeon-Major twelve years after, is now promoted to be Brigade-Surgeon.

Surgeon C. E. SUNDER, Bengal Establishment, is appointed to the officiating medical charge of the 4th Punjab Infantry, *vice* Surgeon A. R. Jolliffe, deceased.

Surgeon E. HUDSON, Bengal Establishment, is transferred from the officiating medical charge of the 11th Native Infantry to the officiating medical charge of the 10th Cavalry, *vice* Surgeon C. H. Beatson, appointed Acting-Secretary to the Surgeon-General of Her Majesty's Forces.

Surgeon L. A. WADDELL, M.B., Bengal Establishment, officiating Deputy Sanitary Commissioner, Darjeeling Circles, is confirmed in that appointment.

Surgeon-Major A. E. R. STEPHENS and Surgeon W. L. PRICE, M.B., both of the Bengal Establishment, are posted to Seonee and Chinwara respectively as Civil Surgeons and Superintendents of Gaols.

The services of Surgeons J. W. T. ANDERSON and G. H. BULL, M.D., Bombay Establishment, are placed at the disposal of the Government for temporary employment in the Civil Department.

Surgeon G. C. W. LOWDELL, Bombay Establishment, is permitted to return to duty from furlough granted him November 18th, 1887.

THE VOLUNTEERS.

MR. ALFRED REES is appointed Acting Surgeon to the Severn Division of Royal Engineers, Submarine Miners.

Honorary Assistant-Surgeon H. LAVER has resigned his commission, which was dated May 12th, 1864; he is permitted to retain his rank and uniform.

Surgeon and Honorary Surgeon-Major J. TRAILL has resigned his commission, which dates from April 29th, 1864; he retains his rank and uniform.

Acting Surgeon J. B. GREWCOCK, 2nd Volunteer Battalion, Worcester Regiment (late the 2nd Worcester) retires on account of ill-health; his commission is dated November 27th, 1872.

EPIDEMIC OF RÖTHELN. — A serious epidemic of German measles is just now raging in the Potteries; nearly a thousand cases and over fifty deaths are reported to have occurred in one district.

MEDICO-LEGAL AND MEDICO-ETHICAL.

A DOUBTFUL CERTIFICATE.

A., who attends a case *in extremis*, is surprised after the death that no certificate is sent for. A few days later the relatives inform him that the assistant of B. saw the patient once, and he finds on inquiry that a certificate signed by B. has been duly registered. B. did not see the patient himself. Has A. any active duty to perform?

*** We would suggest that A. should either call upon or write a note to B., and courteously point out that he (A.) was in actual attendance on the case at the time of the decease, and, therefore, that the certificate of death should have been given by him. It is not improbable that the fact of A.'s attendance was, for some reason or other, withheld from B. by the relatives of the deceased. If B., in consequence of the assistant being unqualified, signed the death certificate without having seen the patient, his action was illegal and reprehensible.

CLUB PRACTICE.

A MEMBER asks for advice on the following points of club practice.

1. I am medical officer to several friendly societies, and am paid annually. For reasons best known to themselves they are about to change their surgeon. To what length of notice am I entitled? Their rules state that the surgeon "holds office during the pleasure of the court."

2. In the absence of a written dismissal, am I to consider myself still their surgeon although I may know they have made arrangements with another medical man?

*** 1. If the appointments have been held under the rules of the society, and with a knowledge of their provisions, the arrangement can be terminated by the society giving notice that it will cease from any given date, such notice being accompanied by an equitable payment up to the date of cessation.

2. Any knowledge of the society's intentions would not interfere with existing arrangements until you receive a written official notice of any change. Where a surgeon to a society is an honorary member, and the society has a rule for settling disputes by arbitration, either he or the society can claim to have any doubtful point referred to the decision of the arbitrators, which is final.

COVERING.

"A MEMBER OF THE B.M.A." is bound to attend all cases after receiving the usual order from the relieving officer; but, if he considers the cases do not come under the pauper class, he ought to bring them forward before the guardians at their next board day. Meeting in consultation an unqualified man and signing death certificates for him constitutes covering. The proper course is to bring the matter to the notice of the General Medical Council, which has shown its readiness to investigate such cases if sufficient evidence is laid before it.

"THE RIGHTS OF PATIENTS."

J. A. R.—If our correspondent has been an observant reader of the medico-ethical column, he can scarcely have failed to notice that the several points mooted in his communication have been repeatedly commented on in the JOURNAL; therefore, and inasmuch as we cannot see that any practical benefit is likely to accrue to the profession or to the public from a further special discussion thereof, we would simply refer him to the rules relative to "the right of a patient (or family) to change his medical adviser" as often as he pleases ("the doctrine of proprietary rights in patients" referred to by "J. A. R."), and "the duties of substitutes," which will be found carefully laid down in the *Code of Medical Ethics*, pages 49, 69, 70.

If, moreover, as he "always assumes that men do to each other as they would be done by" were really the case, we need scarcely add that the medico-ethical column would happily become a thing of the past.

ALLEGED ADVERTISING PAMPHLET.

DR. C. R. W.—The anonymous imputer, be who he may, has altogether misled our correspondent. The comments in the JOURNAL of October 6th had no reference whatever to his pamphlet, of which fact he may readily assure himself by noting the title of that referred to in the JOURNAL of October 20th.

MEDICAL ADVERTISING.

M.R.C.S. writes: A serious epidemic of this disease has broken out in an important town. As yet only one victim has been seized by it, but it is a very infectious complaint, and there is no knowing how far it may spread if it be not stamped out. Junior men look to their seniors, especially if on the staff of large hospitals, to vindicate the dignity of the profession; and when this is injured or lowered, we appeal to the JOURNAL for redress. The symptoms presented by the sufferer in the present case are briefly these.

1. He writes part of a tolerably big book for establishing the claims of a mineral water as a medicine, and placards thereof are strewed everywhere—on counters, on booksellers' shutters and windows, and even a wooden shed (called a reception room) erected for the use of a non-medical association.

2. The so-called society paper for the district seems to hold a brief for the author, whom it pats and praises in those sweet paragraphs peculiar to society papers.

3. In a historical notice of the town which lately appeared in the *Illustrated London News*, the renown of the distinguished author was glorified in a manner supposed to be peculiar to quack advertisements.

Such is an outline of the case after a careful clinical examination. And now, Sir, will you kindly give us a prognosis and the best treatment?

UNIVERSITY INTELLIGENCE.

CAMBRIDGE.

ENTRIES FOR THE MEDICAL CLASSES.—Of the freshmen who have entered this term, 124 have already announced their intention of studying medicine in the University. They are more evenly distributed than heretofore among the several colleges and hostels, some being found at each of these, with scarcely an exception. A very considerable proportion have passed the Previous Examination held in October, and are therefore at once free to pursue their studies for tripos and medical examinations. This course is strongly to be recommended to intending students at Cambridge. Without a sufficient preliminary education to enable him to pass the Previous Examination in Classics and Mathematics, the freshman is certain to lose some of the benefits of his residence in Cambridge. He spends part or the whole of his first year in getting up subjects which he should have mastered before entering, and falls behind the other men of his year in the proper subjects of university study.

MR. POTTER, Teacher in Botany under the Medical Regulations, and Assistant-Curator of the University Herbarium, is recommended for a grant of £80 from the Worts Travelling Scholars Fund, for the purpose of enabling him to pursue botanical study in Ceylon during the coming winter.

MR. NEWALL, of Trinity, is nominated a Teacher of Physics; Mr. Carnegie, of Gonville and Caius, a Teacher of Chemistry; and Mr. Vaizey, of Peterhouse, a Teacher of Botany, in the Medical School.

REPORT ON THE TEACHING OF ANATOMY.—The General Board of Studies has presented to the Vice-Chancellor the following report: "The Board have had under their consideration a communication from the Professor of Anatomy, pointing out that the resignation by Dr. Hill, Master of Downing College, of the Demonstratorship in Anatomy affords an opportunity for rearranging the work of the department to meet the altered conditions of the school. Inasmuch as Professor Macalister has undertaken the personal superintendence of the practical instruction in the dissecting room and of the anatomical collections in the Museum, a single highly-paid demonstrator to perform the same duties appears no longer to be necessary. In view of the very greatly increased numbers receiving anatomical instruction, an increase in the number of subordinate teachers capable of aiding the junior men in their practical work is urgently necessary. At the same time there is a considerable and growing number of students of the higher branches of anatomy, and for them it is highly desirable that the necessarily more general lectures of the professor should be supplemented by special courses on advanced parts of the science. During the past few years this work has been done by Dr. Hill, who has annually delivered such courses on branches of anatomy in which he has made original researches. This work was no part of his duty as demonstrator, and it entailed upon him a great additional amount of labour. The Professor has suggested that these needs may be met without entailing any new charge on the University (1) by reallotting the sum of £250 hitherto paid to the demonstrator, and (2) by supplementing this sum by payments out of the students' fees. In accordance, therefore, with the proposals of Professor Macalister, which have received the approval of the Special Board for Medicine, the Board recommend: I. That no new appointment be made to the Demonstratorship of Anatomy created by grace February 8th, 1866. II. (1) That one senior demonstrator and two junior demonstrators in Anatomy be appointed to assist the Professor in giving practical instruction and in superintending the work of students in the dissecting room. (2) That the senior demonstrator receive a stipend of £100 a year, and each of the junior demonstrators a stipend of £50 a year, out of the University chest. (3) That these demonstrators be appointed by the Professor of Anatomy with the consent of the Vice-Chancellor, and be removable in like manner. III. (1) That the General Board of Studies be authorised to appoint a University Lecturer in Advanced Human Anatomy in accordance with the provisions of Stat. B, ch. viii. (2) That the Lecturer receive a stipend of £50 a year out of the University chest. (3) That the Lecturer be connected with the Special Board for Medicine."

AT a congregation held on Thursday, October 25th, graces were passed by the Senate confirming the new scheme for the appointment of an additional examiner in the Medical and Natural Science examinations.

THE following gentlemen were admitted to the degree of Doctor of Medicine: John Phillips, M.B., B.A., St. John's College and King's College, London; Robert Lawford Knaggs, M.B., M.A., Caius College and Guy's Hospital; Hector William Gavin Mackenzie, M.B., M.A., Emmanuel College and St. Thomas's Hospital.

OXFORD.

ENTRIES FOR THE MEDICAL CLASSES.—The number of medical students this year is somewhat in excess of last year, but it is difficult at present to ascertain the exact number. About twenty have entered their names for anatomy, whilst in the Physiological Department between twenty and thirty students are attending lectures, exclusive of six who are working for the Honour School of Physiology.

GLASGOW.

THE following gentlemen have passed the First Professional Examination for the degrees of M.B. and C.M.

J. Aitken, W. H. M. Alexander, W. C. Allardice, W. Anderson, E. Beck, J. Begg, R. Bishop, P. O. W. Browne, G. B. Buchanan, A. G. Burrell, A. Cameron, D. B. Campbell, N. Campbell, W. Clark, K. Datta, T. Divine, J. Don, M.A., W. Doyle, W. Duncan, J. G. Duncanson, A. E. Evans, T. J. Freeman, H. Galt, E. A. Gibson, W. S. Harrison, R. H. Henderson, W. M. Holmes, W. Jackson, O. G. Jones, P. A. Laird, D. Lamb, P. L. Lawrence, J. W. Logie, R. A. E. Lowry, S. T. M'C. Lowrie, R. M. Malcolm, R. J. Marshall, J. Miller, R. Moir, J. K. Muir, W. Murray, S. Macbirnie, D. M'Callum, R. M'Ghie, J. M'Gregor, C. H. M'Ilraith, M.A., A. J. M'Kechnie, W. J. M'Kendrick, A. L. M'Leod, M.A., P. G. M'Reddie, R. W. Nairn, J. H. Naismith, C. O'Neill, W. A. Paterson, H. J. Rankin, R. C. Robertson, M.A., W. D. Rose, A. G. Sanders, M. T. Stack, W. Steel, G. C. Stewart, G. M. Sydenham, D. M. Taylor, M.A., W. R. Thomson, M.A., J. Todd, E. Turner, W. Watson, A. White, T. B. Whitelaw, W. Young.

The following gentlemen have passed the Second Professional Examination.

J. Adam, J. W. Adam, A. P. Agnew, J. Alexander, J. Anderson, A. Andrew, J. G. Bain, J. Barr, T. Berry, R. Bell, J. A. Boyd, A. H. Browne, J. S. Buchanan, R. Burns, J. Calderwood, J. D. Campbell, J. M. Campbell, H. Cane, A. Chalmers, J. Chalmers, W. Clark, S. Cockburn, J. Cordiner, D. Coutts, R. Davis, G. H. Edington, D. H. Fotheringham, M.A., J. F. Frew, J. Frew, J. Gilmour, A. A. Gray, C. H. Hall, C. A. Henderson, J. Hill, A. Inglis, G. S. Jackson, G. P. Johnson, D. Kerr, J. M. M. Kerr, J. Kirkwood, G. Lamb, S. R. Lane, H. Lang, P. L. Lawrence, J. Lithgow, D. Lloyd, M. Lochhead, J. R. Logan, J. P. Low, G. A. Main, E. L. Marsh, J. W. Mathie, J. N. Matthews, R. A. Morton, A. G. Mowatt, M.A., J. Muir, D. Murray, A. M. G. Macdonald, D. M'Donald, W. D. Macfarlane, D. O. M'Gregor, H. Macintyre, D. M'Kenzie, J. P. MacLaren, M.A., J. N. MacLeod, M.A., J. G. M'Naught, M.A., P. M'Ritchie, W. A. Neish, R. J. Nevin, R. Nichol, J. Niven, W. Park (Beith), W. Park (Kilmarnock), P. Paterson, E. L. Paton, M.A., J. Pollock, C. F. Scott, R. Sharp, A. Shaw, W. Shearer, A. Shiels, J. P. Small, A. Smyth, W. C. Steele, R. Stevenson, J. Stirling, R. T. Sutherland, L. D. Temple, S. D. Thomson, W. T. M. Wallace, J. Watt, A. D. Wilson, R. Wilson, H. C. T. Young, J. J. T. Young.

The following gentlemen have passed the Third Professional Examination including, in the cases marked with asterisks, the subject of pathology.

*R. H. Adam, M.A., *J. G. Andrew, C. Bannatyne, T. D. Bertram, *J. Boag, J. C. Bowie, *R. Broom, B.Sc., *J Brown, J. R. Bryce, *W. Bryce, *L. Buchanan, W. Cairns, J. A. Cameron, J. Clarke, *T. C. Craig, *J. Crawford, D. Davie, *A. Fairlie, M.A., *A. C. Farquharson, I. Fletcher, T. Forrest, *J. A. Gentle, J. Gilchrist, W. Groome, T. A. Haig, F. Hare, *A. B. Houstoun, *J. Hudson, *W. Hutchinson, A. J. Hutchison, M.A., C. F. Laing, J. T. B. Laverick, T. B. Law, J. Lloyd, *J. L. Loudon, T. D. Moffat, A. Moyes, *W. R. Muir, *W. Murray, *A. M'Call, *R. C. Macdiarmid, *G. G. Macdonald, J. Macdonald, D. Macdougall, P. F. Macgregor, *J. M'Kie, *R. M'Lay, *R. A. M'Lay, J. A. Macpherson, C. N. Macquarie, R. A. Paton, A. A. Pratt, *A. Prentice, *F. Rees, *O. Rees, A. Robertson, W. J. Robertson, M.A., *D. W. Russell, *R. Steel, M.A., P. Stewart, *J. C. Syson, *A. S. Tindal, *A. Watt, *A. C. White, *J. Wotherspoon.

TESTIMONIAL TO MR. BARWELL.—An interesting ceremony took place at Charing Cross Hospital on Tuesday, October 16th, in the presence of a large number of former and present students, who attended to show their esteem and respect for Mr. Barwell, F.R.C.S., who for over thirty years has been connected with the hospital. Lord Kinnaird, in the name of a large number of friends, colleagues, and former pupils, presented a handsome bookcase to Mr. Barwell, who briefly and touchingly acknowledged the gift.

A NEW LUNATIC ASYLUM FOR MIDDLESEX.—At a recent meeting of the magistrates of Middlesex at the Sessions House, Clerkenwell Green, Colonel Sir F. B. Morley, K.C.B., presiding, the Committee of Accounts recommended that the sum of £22,000 be raised by mortgage of the county rates for the purposes of the new lunatic asylum, which makes the fourth in the county. The recommendation of the committee was approved and adopted.

PUBLIC HEALTH
AND
POOR LAW MEDICAL SERVICES.

ENGLISH URBAN MORTALITY IN THE THIRD QUARTER OF 1888.

THE vital and mortal statistics of the twenty-eight great English towns dealt with by the Registrar-General in his weekly return are summarised in the accompanying table. During the three months ending September last, 71,121 births were registered in the twenty-eight large towns, equal to an annual rate of 30.4 per 1,000 of their aggregate population, estimated at nearly nine and a half millions of persons. In the corresponding periods of the three preceding years the birth-rate in these towns was 32.5, 32.8, and 31.9 per 1,000, respectively. The birth-rate in London last quarter was equal to 29.7 per 1,000, while it averaged 30.9 in the twenty-seven provincial towns, and ranged from 22.3 in Huddersfield, 23.8 in Brighton, and 26.7 in Bradford to 37.1 in Preston, 37.3 in Newcastle-upon-Tyne, and 40.7 in Cardiff.

The 39,619 deaths registered in the twenty-eight towns during the third quarter of this year were equal to an annual rate of 16.9 per 1,000, against 18.2, 18.7, and 19.6 in the corresponding periods of the three years 1885-86-87. In London the rate of mortality was only 16.2 per 1,000, while in the twenty-seven provincial towns it averaged 17.8. The lowest rates in these provincial towns were 12.7 in Bristol, 13.7 in Nottingham, 13.9 in Brighton, and 14.3 in Hull; the highest were 20.2 in Bolton, 20.3 in Leeds, 22.4 in Preston, and 23.5 in Manchester. During the quarter under notice, 6,346 deaths were referred to the principal zymotic diseases in the twenty-eight towns, equal to an annual rate of 2.71 per 1,000. In the third quarter of the five preceding years the zymotic death-rate in these towns averaged 4.71 per 1,000. The lowest zymotic rates in the twenty-eight towns last quarter were 0.99 in Oldham, and 1.13 in Bristol, while they ranged upwards in the other towns to 4.00 in Sheffield, 4.32 in Leicester, 4.43 in Leeds, and 5.29 in Preston. The 6,346 deaths referred to the principal zymotic diseases included 3,510 which resulted from diarrhœa, 812 from whooping-cough, 675 from measles, 517 from scarlet fever, 394 from diphtheria, 392 from "fever" (principally enteric), and 46 from small-pox. The 3,510 fatal cases of diarrhœa registered in the twenty-eight towns during the quarter under notice were equal to an annual rate of 1.49 per 1,000, which was only half the average rate in the corresponding periods of the five preceding years. In London the death-rate from diarrhœa was equal to 1.34 per 1,000, while in the twenty-seven provincial towns it averaged 1.64, and was equal to 2.74 in Sheffield, 2.86 in Leeds, 3.31 in Leicester, and 3.89 in Preston. The 812 deaths referred to whooping-cough were equal to an annual rate of 0.35 per 1,000, which was below the average rate in the corresponding quarter of recent years. The rate of mortality from this disease in London last quarter was equal to 0.33 per 1,000, and in the twenty-seven provincial towns it averaged 0.36, and was highest in Manchester, Norwich, and Halifax. The 675 fatal cases of measles were equal to a rate of 0.29 per 1,000, which, though considerably below the average rate in the corresponding periods of the five preceding years, showed a marked increase upon the exceptionally low rate in the previous quarter. The rate of mortality from this disease in London last quarter was 0.40 per 1,000, while it did not average more than 0.19 in the twenty-seven provincial towns, among which this disease showed the highest proportional fatality in Leeds, Leicester, and Bradford. The 517 deaths referred to scarlet fever were equal to an annual rate of 0.22 per 1,000, which corresponded with the very low rate in the preceding quarter, but was considerably below the average rate in the third quarter of recent years. In London the scarlet fever death-rate was 0.22 per 1,000, and corresponded with the average rate in the twenty-seven provincial towns, among which this disease was proportionally most fatal in Bolton and Blackburn. The number of scarlet fever patients in the Metropolitan Asylums Hospitals, which had been 844 at the beginning of July, declined to 716 by the middle of August, but rose again to 880 at the end of September; the admissions, which had been 1,416 and 1,028 in the first two quarters of this year, were 1,095 during the three months ending September last. The 394 fatal cases of diphtheria were equal to an annual rate of 0.17 per 1,000, which, although identical with the rate recorded in the preceding quarter, considerably exceeded the average rate in the corresponding periods of the five preceding years. The rate of mortality from this disease in London last quarter was equal to 0.26 per 1,000, while it did not average more than 0.09 in the twenty-seven provincial towns

Public Health Statistics relating to Twenty-eight Large English Towns, for the Third Quarter of 1888.

Towns.	Estimated Population middle of 1888.	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Zymotic Diseases.	Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Fever.	Diarrhœa.	Rate per cent. of Uncertified Deaths.	Deaths of Children under one year of age to 1,000 Births.
28 Towns	9,398,273	71,121	39,619	30.4	16.9	2.7	6,346	46	675	517	394	812	392	3,510	1.9	174
27 Provincial Towns	5,115,352	39,423	22,362	30.9	17.5	2.7	3,487	44	247	279	121	464	258	2,071	2.8	178
London	4,282,921	31,698	17,257	29.7	16.2	2.7	2,862	2	428	238	273	348	134	1,439	0.9	169
Brighton	119,983	710	416	23.8	13.9	2.2	65	—	2	3	7	8	3	42	2.6	170
Portsmouth	139,575	1,246	581	35.8	16.7	2.3	79	—	5	2	7	1	11	53	1.0	147
Norwich	93,675	753	431	32.3	18.5	3.5	81	—	—	4	5	19	3	50	0.5	220
Plymouth	77,674	584	331	30.2	17.1	1.2	24	—	—	1	3	—	3	17	0.6	146
Bristol	226,510	1,571	718	27.8	12.7	1.1	64	1	10	9	6	5	6	27	1.9	101
Wolverhampton	81,691	625	348	30.7	17.1	2.7	54	—	5	4	2	11	2	30	2.3	181
Birmingham	447,912	3,492	1,757	31.3	15.7	2.3	257	—	24	8	4	41	12	168	2.0	160
Leicester	146,790	1,104	652	30.2	17.8	4.3	158	—	18	2	1	8	8	121	1.1	289
Nottingham	230,921	1,647	786	28.6	13.7	1.7	98	2	5	4	6	12	12	57	1.9	150
Derby	96,241	678	361	28.3	15.1	1.5	37	—	—	5	2	8	3	19	1.1	153
Birkenhead	100,093	761	400	30.5	16.0	1.8	46	—	4	3	—	2	13	24	1.3	171
Liverpool	599,738	4,295	2,797	28.7	18.7	3.1	467	—	25	26	9	52	46	309	4.6	211
Bolton	113,506	934	572	33.0	20.2	3.3	92	1	—	16	1	8	4	62	2.6	184
Manchester	378,164	3,290	2,216	34.9	23.5	3.5	333	3	23	28	29	73	31	146	2.5	191
Salford	226,336	1,732	1,085	30.7	19.2	3.5	196	—	12	19	9	27	19	110	2.0	225
Oldham	138,220	1,013	542	29.4	15.7	1.0	34	3	—	6	3	10	3	9	4.4	134
Blackburn	119,039	987	493	33.3	16.6	3.1	93	—	7	44	—	10	6	26	3.0	140
Preston	103,234	953	575	37.1	22.4	5.3	136	23	—	6	3	1	3	100	1.6	229
Huddersfield	91,419	509	341	22.3	15.0	1.2	28	—	1	4	2	8	4	9	4.1	138
Halifax	80,138	570	357	28.6	17.9	2.0	40	—	5	3	—	20	3	9	7.8	153
Bradford	229,721	1,527	894	26.7	15.6	2.3	129	1	47	3	—	6	3	69	2.1	161
Leeds	351,210	2,826	1,776	32.3	20.3	4.4	388	1	41	25	—	54	16	251	2.1	231
Sheffield	321,711	2,389	1,520	29.8	19.0	4.0	321	5	4	28	7	41	13	220	4.7	216
Hull	202,359	1,628	720	32.3	14.3	1.4	70	4	1	8	3	7	6	41	4.0	139
Sunderland	131,919	1,020	527	31.0	16.0	2.0	66	—	—	7	3	10	8	38	2.8	125
Newcastle-on Tyne	159,003	1,479	714	37.3	18.0	1.6	63	—	3	10	8	9	8	25	2.5	116
Cardiff	108,570	1,100	452	40.7	16.7	2.4	65	—	5	1	1	10	9	39	1.3	133

among which, however, diphtheria was somewhat prevalent in Norwich, Brighton, and Manchester. The 392 deaths referred to different forms of fever (including typhus, enteric, and simple and ill-defined forms of continued fever) were equal to an annual rate of 0.17 per 1,000, against 0.31, 0.23, and 0.16 in the three preceding quarters; this rate was below that recorded in the corresponding period of any previous year. In London the fever death-rate was only 0.13 per 1,000, while in the twenty-seven provincial towns it averaged 0.20, and was highest in Cardiff, Manchester, Salford, and Birkenhead. During the three months ending September last 46 fatal cases of small-pox were recorded in the twenty-eight towns; of these, 23 occurred in Preston, 5 in Sheffield, 4 in Hull, 3 in Manchester, and 3 in Oldham. Only 6 small-pox patients were admitted into the Metropolitan Asylums Hospitals during the quarter under notice, and no patients remained under treatment at the end of September.

The rate of infant mortality in the twenty-eight towns, measured by the proportion of deaths of children under one year of age to registered births, was equal to 174 per 1,000 during last quarter, against an average rate of 215 in the five preceding corresponding quarters. In London the rate of infant mortality was 169 per 1,000, while it averaged 178 in the twenty-seven provincial towns, among which it ranged from 101 in Bristol, 116 in Newcastle-upon-Tyne, and 125 in Sunderland to 225 in Salford, 229 in Preston, 231 in Leeds, and 289 in Leicester.

The causes of 766, or 1.9 per cent., of the deaths registered in the twenty-eight towns during last quarter were not certified, either by registered medical practitioners or by coroners. The proportion of uncertified deaths in London did not exceed 0.9 per cent., while it averaged 2.8 in the twenty-seven provincial towns, and ranged from 0.5 and 0.6 in Norwich and Plymouth, to 4.4 in Oldham, 4.6 in Liverpool, 4.7 in Sheffield, and 7.8 in Halifax.

HEALTH OF ENGLISH TOWNS.—During the week ending Saturday, October 20th, 5,582 births and 3,780 deaths were registered in the twenty-eight largest English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had been 18.2 and 21.0 in the two preceding weeks, was again 21.0 during the week under notice. The rates in the several towns ranged from 16.0 in Leicester, 16.1 in Brighton, 16.4 in Bradford, and 16.5 in Hull to 26.7 in Bolton, 28.2 in Plymouth, 29.3 in Sunderland, and 29.8 in Blackburn. The mean death-rate in the twenty-seven provincial towns was 21.8 per 1,000, and exceeded by 1.8 the rate recorded in London, which was 20.0 per 1,000. The 3,780 deaths registered during the week under notice in the twenty-eight towns included 465 which were referred to the principal zymotic diseases, against 569, 505, and 461 in the three preceding weeks; of these, 129 resulted from diarrhœa, 122 from measles, 63 from scarlet fever, 58 from "fever" (principally enteric), 53 from diphtheria, 40 from whooping-cough, and not one from small-pox. These 465 deaths were equal to an annual rate of 2.6 per 1,000; in London the zymotic death-rate was 2.7, while in the twenty-seven provincial towns it averaged 2.5 per 1,000, and ranged from 0.0 and 0.5 in Halifax and Hull to 4.1 in Salford, 5.7 in Blackburn, and 6.0 in Bolton. Measles caused the highest proportional fatality in Blackburn, Wolverhampton, and Leeds; scarlet fever in Sunderland, Derby, and Blackburn; whooping-cough in Cardiff; "fever" in Preston, Salford, Bolton, and Birkenhead; and diarrhœa in Portsmouth. The 53 deaths from diphtheria in the twenty-eight towns included 36 in London and 6 in Manchester. No fatal case of small-pox was registered in London or in any of the twenty-seven provincial towns. The Metropolitan Asylums Hospitals contained no small-pox patients on Saturday, October 20th. These hospitals contained, however, 951 scarlet-fever patients on the same date, against numbers increasing from 716 to 945 in the eight preceding weeks; 85 cases were admitted during the week, against 85 and 110 in the two previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 4.4 per 1,000, and slightly exceeded the average.

HEALTH OF SCOTCH TOWNS.—In the eight principal Scotch towns, 854 births and 517 deaths were registered during the week ending Saturday, October 20th. The annual rate of mortality in these towns, which had been 17.0 and 20.4 per 1,000 in the two preceding weeks, was again 20.4 per 1,000 during the week under notice, and was 0.6 per 1,000 below the mean death-rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Leith and Edinburgh, and the highest in Glasgow and Paisley. The 517 deaths in these towns during the week included 82 which were referred to the principal zymotic diseases, equal to an annual rate of 3.2 per 1,000, which was 0.6 above the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Greenock and Paisley. The 215 deaths registered in Glasgow during the week included 10 which were referred to diarrhœa, 6 to scarlet fever, 5 to "fever," 4 to whooping-cough, 3 to diphtheria, and 1 to measles. No fewer than 22 fatal cases of measles were registered in Paisley, against 5, 7, and 12 in the three preceding weeks. The death-rate from diseases of the respiratory organs in these towns was equal to 4.3 per 1,000, against 4.4 in London.

HOW SCARLET FEVER IS SPREAD.

Two cases, in which goods and bedding had been removed from a dwelling where there had been a case of infectious disease without disinfection, came before the Liverpool magistrates last week. One was that of a man who removed his goods and chattels from one house to another without taking the trouble to have them disinfected, although one of his children suffered from scarlet fever. He was fined 5s. and costs. The other offender, a woman, had, while her son was lying ill of typhoid fever, taken the quilt off his bed and pledged it. She was fined 2s. 6d.

DR. PARKINSON (Wimborne).—The answer to both questions is in the affirmative.

A. S. S.—It would be well for our correspondent to wait for the answer to his last letter to the Local Government Board, and, if that is unsatisfactory, to have a question asked in the House on its reassembling.

OBITUARY.

SAMUEL ELLIOTT HOSKINS, F.R.S., F.R.C.P.

WE have to announce the death of this veteran member of the profession, who, had he lived a few months longer, would have completed his 90th year. His career was in some respects a remarkable one. After home education he was sent early to a school near Exeter. First destined for the Guernsey bar, he was placed under Advocate Charles de Jersey, afterwards Her Majesty's Procureur. After a year's probation the law was discarded for medicine, and Mr. Hoskins entered upon a pupilage with Drs. Monk and Brock. In the year 1818 he was enrolled as a student of the united hospitals of Guy's and St. Thomas's.

A student's honours in those days were not represented by parchment or money prizes, but Hoskins won for himself the esteem and life-long friendship of such men as Astley Cooper, George Henry Green, Bransby Cooper, Charles Ashton Key, and, in the literary world, of Coleridge, Charles Lamb, De Quincey, and Thomas Noon Talfourd.

He became a Licentiate of the Apothecaries' Society and a Member of the Royal College of Surgeons. He declined the offer of an assistant surgeoncy in the Foot Guards, and returned to Guernsey to become partner with Dr. Brock. In 1827 he spent three months in Paris, which gave a powerful bias to his future. Magendie, Dupuytren, Laennec, Civiale were then in full activity, and welcomed the matured student, who brought them letters of introduction.

On his return to Guernsey Hoskins elaborated a chart of stethoscopic signs, and entered on an investigation into the solubility of calculi within the body. The former work rapidly passed into a second edition. The latter subject was one which occupied many years of his life, and was associated with his translation of Scharling's work on calculi, published in 1841. His results, presented to the Royal Society in 1843, gained him his election to the Fellowship. He had qualified by examination as Licentiate and Member of the Royal College of Physicians, and in 1859 received the Fellowship of that College. With the exception of a research into the causes of the failure of the percussion caps of the 46th Regiment, the results of which were confirmed by Faraday and approved by the great Duke of Wellington, all Dr. Hoskins's further work was associated with Guernsey, and chiefly concerned the climatology of the island. He wrote, at the request of the Epidemiological Society, a paper on the "Origin and Progress of Cholera and Small-pox" in 1849. His work entitled *Charles the Second in the Channel Islands* is well known.

About 1859 he retired from active professional life, leaving his practice in the hands of his partner, Dr. de Lisle. His later years were devoted to completing his historical writings and utilising his meteorological observations. He died much honoured and respected.

JOSEPH EARLE, M.R.C.S., of Brentwood.

It is with great regret that we record the death of Mr. Joseph Earle, surgeon, of the Priory, Brentwood, Essex, which took place after a few days' illness on the morning of Thursday, October 4th. Mr. Earle was born at Richmond, in Yorkshire, and was 69 years of age. He settled in Brentwood thirty-six years ago, and for the last twenty years had been in partnership with Mr. J. C. Quennell.

Mr. Earle was in his usual robust health up to the time of his fatal illness. On the Friday before his death he conducted a *post-mortem* examination on the body of a young woman who had died of peritonitis. On the following Monday he was attacked with symptoms of blood poisoning, and in spite of the attentions of his partner and other medical friends, succumbed to the disease at an early hour on the following Thursday.

The sudden and unexpected termination of his illness has caused a very painful sensation in the neighbourhood where he had lived and laboured so long. He was so respected for his abilities and practical skill, so loved for the ready sympathy he brought to all who suffered, whatever their degree, that his sudden death was felt as a severe personal grief both by high and low. Mr. Earle was, indeed, a typical example of the best class of country practitioner. His address had something of old-fashioned courtesy and at the same time a geniality which was very winning, and the true kindliness of his nature was evident in all he said and did. We are not aware that he was ever a contributor to medical literature, for he had little time and perhaps less inclination for literary labour. But the debt a professional man owes to his calling may be paid in various ways; and he who by earnest, unselfish work and wide-spreading benevolence has earned for himself and his profession the esteem and grateful regard of a whole district is perhaps not less worthy of honour than the author of even many pages.

THOMAS W. CRASTER, M.D., M.R.C.S.E.

A general feeling of regret is felt in Middlesbrough and its neighbourhood at the death of Dr. Craster, one of the oldest medical practitioners of the town, which occurred on the morning of October 16th from pneumonia. His illness, which commenced six days previously, soon showed alarming symptoms, and Dr. Longbotham and Dr. Embleton, of Newcastle, were in attendance on the deceased up to the time of his death. Dr. Craster, who belonged to an old Northumberland family, studied for the medical profession at Newcastle, and was for a time Lecturer on Materia Medica at the Durham School of Medicine, Newcastle. He removed to Middlesbrough thirty-two years ago, where he held the appointment of public vaccinator, and was for fifteen years one of the visiting surgeons of the North Road Infirmary. The deceased gentleman, who was fifty-nine years of age, leaves a widow and six children.

HOSPITAL AND DISPENSARY MANAGEMENT.

ARGYLL AND BUTE ASYLUM.

The report of this Asylum for the year ending May, 1888, to which we briefly referred in the Journal of October 20th, is also worthy of notice, because the District Lunacy Board appear anxious to do what is right, both for the present and future (and what in England has been advised as an improvement, and was provided for in a proposed Lunacy Bill), even though it would be the most expensive course; and yet the Commissioners in Lunacy, who would be expected to know better, adopt a short-sighted policy and oppose the action. The following quotation from the Report of the District Board gives a clear statement of the matter:—

"The General Board of Lunacy, having called attention to the crowded condition of the hospital accommodation, recommended the removal of all but county patients (both pauper and private), and also harmless district patients; but, as the District Board derived considerable profit from private patients, it resolved to erect an additional building to afford the necessary hospital accommodation. The General Board declined to sanction such building, and in consequence a number of the patients have been removed. The District Board is decidedly of opinion that the proper course would be to build a hospital specially designed for that purpose rather than convert some of the ordinary wards into hospital wards, the estimated difference in the cost of the two schemes being only £1,000, and the matter is still under discussion."

The local *on dit* is that the Commissioners wish all the private patients sent to an asylum whose superintendent is more thought of by them than the public, and who finds a difficulty in keeping his asylum full. The report of the medical superintendent is too short, and absolutely devoid of any interest. The general results are fair, the cost moderate. The statement of accounts could be easily improved; we wonder the District Board are satisfied with its form. The salary of the clerk and treasurer seems very high when compared with the salaries of the other officials.

EAST PARK HOME FOR INFIRM CHILDREN, GLASGOW.

The annual meeting of subscribers was held on October 22nd, and the report shows that at the beginning of the year 52 children were in the Home, and 30 had been admitted during the year. Of these, 16 had been dismissed much benefited, 11 had been removed by their parents or to other institutions, and 1 had died, leaving 54 in the Home at present. The list of applicants waiting for admission was very large, but a new addition to the Home, in course of erection, would shortly enable the directors to add about 30 beds.

FLEMING MEMORIAL HOSPITAL, NEWCASTLE-UPON-TYNE.

Messrs. John S. Quilter and George Wheelhouse (the architects to this hospital) write: Will you allow us to correct a misapprehension which may arise from the statement made in the Journal of October 13th, that the entire cost of the above cannot have been much short of £30,000? The building, including boundary wall, lodge, etc., was built for about £15,000, and provides accommodation for 63 patients, so that the average cost per bed is under £240.

MEDICAL NEWS.

Royal Colleges of Physicians and Surgeons of Edinburgh, and Faculty of Physicians and Surgeons of Glasgow.—The quarterly examinations in Edinburgh for the Triple Qualification took place in October, with the following results:

First Examination. Of 65 candidates, the following 35 passed.

H. F. W. de Montmorency, County Carlow; G. E. Deamer, Lincolnshire; H. Blackburn, Manchester; E. H. Hackett, Cork; D. J. Murphy, Youghal; W. H. Richardson, Manchester; H. R. G. Haynes, Cork; E. W. Allsom, Liverpool; J. Philp, Glasgow; J. F. Campbell, Athlone; G. W. Johnstone, Edinburgh; F. E. Williams, Cheshire; J. F. Mitchell, County Down; L. M. A. E. de La R. Souvestre, Mauritius; T. S. Keys, County Donegal; C. A. C. Jones, London; A. B. Francis, Donegal; R. Reid, Antrim; M. Donovan, County Cork; H. A. L. Howell, Chatham; P. F. Evans, Cork; T. W. Waddell, Demerara; T. L. Wilson, Glasgow; R. Acton, County Cork; C. F. Britto, Goa; J. A. Campbell, Inverness; A. G. Vernor, Musselburgh; R. J. Black, County Derry; T. E. Magner, County Cork; H. E. Fellowes, Birmingham; J. D. Evelyn, Eynsford; A. E. Taylor, Cardiff; T. C. Hunter, Pontypridd; P. Larkin, Lurgan; and W. Fisher, Victoria.

Second Examination. Of 77 candidates, the following 41 passed.

J. C. Fenwick, Bishopwearmouth; R. E. Brown, Durham; R. H. Barber, Worcester; G. E. Deamer, Lincolnshire; C. F. Sixsmith, Cavan; W. P. Lonergan, Glasgow; G. W. W. de C. Baldwin, Tipperary; J. P. Walsh, Cork; H. F. Knyvett, Windsor; J. J. Foley, Killeagh; H. F. W. de Montmorency, County Carlow; J. R. M'Ferran, County Limerick; F. W. Toms, London; R. J. Collier, Belfast; G. B. Proctor, Birkenhead; J. W. Corns, Manchester; T. Finney, Buxton; J. H. Martin, Ballynahinch; A. W. Crooks, Victoria; A. J. D. Reid, Glasgow; W. W. Robinson, Chesterfield; F. J. Woods, Banbridge; W. Smith, Jamaica; W. R. Main, Lasswade; S. H. Davies, Staffordshire; R. S. Jaques, Scarborough; J. O'Brien, County Tyrone; R. T. Fallon, Westminster; G. G. Sinclair, Hamilton; J. Orr, County Antrim; J. E. J. Pegg, Birmingham; H. Shaw, Enniscorthy; W. Fingland, Wavertree, Liverpool; W. J. Anderson, Toronto; A. H. Cheales, Boston, Lincolnshire; F. H. Noott, Dudley; J. H. Boland, Dundee; J. F. Curry, Limerick; P. A. Conran, Cork; G. Astin, Burnley; and A. L. Paliologus, Calcutta.

Final Examination. Of 84 candidates, the following 64 passed, and were admitted L.R.C.P.E., L.R.C.S.E., and L.F.P. and S.G.

Mrs. Caroline Keith, Waldhof; Miss Florence Sorby, Sheffield; G. E. Deamer, Lincolnshire; F. F. Armytage, Huddersfield; Miss Mary Susanna Ackworth, London; R. Boyle, Glasgow; R. E. Walker, Canada; W. H. Merritt, Canada; T. Warren, Armagh; H. Soltau, Exmouth; J. J. Cursetji, Bombay; W. Mussen, County Down; R. H. Barber, Worcester; E. W. St. V. Ryan, Cork; J. Adams, Melbourne; H. W. Bailie, County Down; R. G. Reid, Victoria; G. O. Moore, Australia; R. M. Simpson, Ontario; C. E. Salmon, Edinburgh; C. M'Leod, Canada; F. T. Anderson, India; A. S. Thompson, South Shields; F. N. Stewart, Newport, Fife; J. S. Ledgerwood, County Down; J. S. Merrillees, Melbourne; R. P.

Byrne, Cork; J. S. Boyd, Renfrewshire; W. H. Webster, York; D. M'Lachlan, Tobermory; R. B. Burke, Cork; J. A. Greig, Edinburgh; J. Ferris, Devonshire; W. Williams, Anglesea; F. M. Bovill, London; E. A. C. Hindmarsh, Calcutta; G. S. Pope, Madras; A. Moxon, Rugby; Miss Elizabeth Simpson Mitchell, Canada; Miss Nettie Ogilvie, Glasgow; W. Armstrong, Manchester; C. J. Milligan, Belfast; E. G. R. Whitcombe, India; P. W. Thompson, Toronto; R. Rudland, Coventry; E. L. Chalke, Madras; J. H. Brice, Warwickshire; H. W. Kingcombe-Read, Devonshire; W. A. Passe, Ceylon; J. H. Wilson, County Cork; R. D. Prichard, Carnarvonshire; E. O. Harrison, Forfarshire; J. M. O'Dwyer, Cork; C. L. Howe, Lancaster; L. Watson, Huddersfield; G. Evans, South Wales; J. H. Carson, County Down; J. W. Harbinson, Belfast; J. R. Mason, Lancashire; W. T. Blackledge, Lancashire; C. W. O'Connor, County Limerick; F. Murphy, Cork; J. H. Gordon, Birmingham; G. Cormick, Tabriz, Persia.

ROYAL COLLEGE OF SURGEONS, EDINBURGH.—During the October sittings of the Examiners, the following gentlemen passed the First Professional Examination for the Licence in Dental Surgery:

J. T. Craig, Warwickshire; F. Jones, Lancashire; E. E. Johnson, Lincolnshire; H. Mallett, Devonshire; J. C. Macnamara, Cumberland; J. Stewart, Edinburgh; and S. A. Westerton, London.

The following gentlemen passed the Final Examination, and were admitted L.D.S.Edinburgh.

W. Gray, Edinburgh; E. J. M. Hodgkinson, London; and A. Turner, Aylesbury.

MEDICAL VACANCIES.

The following Vacancies are announced:

BOOTLE BOROUGH HOSPITAL.—House-Surgeon. Salary, £80 per annum with board and residence. Applications by October 31st to the Honorary Secretary.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road.—Three Clinical Assistants. Fee, 5 guineas for three months. Applications by November 3rd to the Acting Secretary.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Pathologist. Applications by October 30th to the Secretary.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Assistant Physician. Applications by November 16th to the Secretary, 24, Finsbury Circus, E.C.

DENTAL HOSPITAL OF LONDON AND SCHOOL OF DENTAL SURGERY, Leicester Square.—Lecturer on Mechanical Dentistry. Applications by November 12th to the Dean.

FEMALE LOCK HOSPITAL, Harrow Road. — Assistant House-Surgeon. Board and lodging. Applications by November 3rd to the Secretary.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Physician to Out-Patients. Applications by October 27th to the Secretary.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Surgeon to Out-Patients. Applications by October 27th to the Secretary.

LAMBETH PARISH.—Two District Medical Officers. Salary, £100 per annum, with fees. Applications by October 30th to W. B Wilmot, Esq., Guardians' Offices, Brook Street, Kennington, S.E.

LEEDS FRIENDLY SOCIETIES' MEDICAL ASSOCIATION, Bischoff House Surgery.—Surgeon. Salary, £200 per annum, with extras and travelling allowances. Applications by November 13th to C. H. Wilson, Esq., 8, South Parade, Leeds.

NATIONAL LYING-IN HOSPITAL, Holles Street, Dublin.—Assistant Master. Applications to Dr. Roe, 13, Lower Fitzwilliam Street, Dublin, or at the hospital.

OWENS COLLEGE, Manchester.—Junior Demonstrator of Anatomy. Salary, £100 per annum. Applications by October 29th to the Registrar.

ST. MARK'S HOSPITAL FOR FISTULA, City Road, E.C.—Honorary Assistant Surgeon. Applications by November 5th to the Secretary.

WILTS COUNTY ASYLUM, Devizes.—Second Assistant Medical Officer. Salary, £100 per annum, with board and residence, etc. Applications by November 5th to the Medical Superintendent.

WIRRAL HOSPITAL FOR SICK CHILDREN, Liverpool.—Honorary Medical Officer. Applications by November 2nd to T. F. Squarey, Esq., 25, Lord Street, Liverpool.

WREXHAM INFIRMARY AND DISPENSARY.—House-Surgeon. Salary, £100 per annum, with furnished rooms, etc. Applications by October 30th to J. O. Bury, Esq., Secretary, 9, Temple Row, Wrexham.

MEDICAL APPOINTMENTS.

ADAMS, John, M.B., C.M., appointed Resident Physician to the Western Infirmary, Glasgow.

ANDERSON, Robert, M.B., C.M., appointed Resident Surgeon to the Western Infirmary, Glasgow.

BIRD, M. Mitchell, M.B., B.S., appointed Medical Superintendent to St. Mary's Hospital, W., *vice* E. P. Cockey, M.D.Lond., resigned.

BLACK, George, M.R.C.S., L.S.A., appointed House-Surgeon for November to Guy's Hospital.

BOOTH, R. D., M.B., C.M., appointed Assistant Medical Officer to the County Asylum near Dorchester, *vice* A. Turner, M.B., resigned.

BOWMAN, R. O., M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant Medical Officer to the Monsall Fever Hospital, *vice* P. Edwards, M.R.C.S., L.R.C.P., resigned.

CARTER, Robert J., M.R.C.S., L.S.A., appointed Resident Medical Officer to the Royal Hospital for Children and Women, Waterloo Road, S.W.

COLMAN, Walter Stacy, M.B.Lond., M.R.C.S., appointed Senior House-Physician to the National Hospital for the Paralysed and Epileptic, Queen Square, Bloomsbury, *vice* Walter Hull, M.B., L.R.C.P., M.R.C.S., resigned.

CULLINAN, William, L.R.C.S.I., L.M., L.K.Q.C.P.I., appointed Visiting Physician to the Ennis District Lunatic Asylum, *vice* P. M. Cullinan, M.B., F.R.C.S.I., resigned.

CULROSS, James, M.B., C.M., appointed Resident Physician to the Western Infirmary, Glasgow.

DAVEY, —, M.R.C.S., L.R.C.P., appointed Junior House-Surgeon to the Royal Southern Hospital, Liverpool, *vice* F. H. Wigmore, M.B., M.R.C.S., resigned.

DUNN, E. L., M.B., B.Ch.Dub., appointed Assistant House-Surgeon to the Liverpool Infirmary for Children.

FRYER, G. E., M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant Medical Officer to the Workhouses at Crumpsall and New Bridge Street, Manchester, *vice* J. D. Howe, M.R.C.S., L.S.A., resigned.

GARDNER, Frank Gower, M.R.C.S., L.S.A., appointed House-Surgeon to the Stourbridge Dispensary, *vice* C. Daly, M.D., resigned.

GARDNER, Ernest Frederick, M.R.C.S., L.R.C.P., appointed House-Surgeon for January to Guy's Hospital.

GRIFFITH, T. Wardrop, M.D.Aberd., appointed Honorary Physician to the Leeds General Infirmary.

HARRISON, Edward, M.A., M.B., F.R.C.S., appointed Medical Officer to the Humber Industrial Schoolship, *Southampton*.

HARRISON, James, M.B. and C.M.Edin., appointed House-Surgeon to the Tynemouth Dispensary.

HIGHET, Hugh, M.B., C.M., appointed Resident Physician to the Western Infirmary, Glasgow.

JONES, Hugh, M.B., C.M., appointed Resident Surgeon to the Western Infirmary, Glasgow.

JOWERS, R. F., F.R.C.S., appointed Clinical Assistant to the East London Hospital for Children, *vice* W. G. Brett, M.R.C.S., resigned.

LAPRAIK, George, M.B., C.M., appointed Resident Surgeon to the Western Infirmary, Glasgow.

LEDWARD, M. P., M.R.C.S., L.S.A., appointed Junior Assistant Medical Officer to the County Asylum, Shrewsbury, *vice* A. Rigden, L.R.C.P.Lond. promoted.

LLOYD, James H., M.R.C.S.Eng., L.R.C.P. and L.M.Edin., appointed Medical Officer to the Kentisbeare District of the Tiverton Union, *vice* R. Byden, M.R.C.S., resigned.

MCGREGOR, A. N., M.B., C.M., appointed Resident Surgeon to the Western Infirmary, Glasgow.

MCWHANNELL, L., M.B., C.M.Glas., appointed Junior House-Surgeon to the Birkenhead Borough Hospital, *vice* P. P. Manning, M.B., M.R.C.S., resigned.

MADDISON, W. J., M.D.Lond., M.R.C.S.Eng., appointed Medical Officer to the Bristol Dispensary, *vice* H. E. Hetling, L.R.C.P. and S.Edin., resigned.

NEALE, George, L.R.C.P.Edin., appointed Medical Officer of Health to the Barry and Cadoxton Local Board District.

OSWALD, Landel R., M.B., C.M., appointed Resident Physician to the Western Infirmary, Glasgow.

PENNELL, George Herbert, M.R.C.S., L.R.C.P., appointed House-Physician for November to Guy's Hospital.

RIGDEN, Alan, L.R.C.P.Lond., appointed Senior Assistant Medical Officer to the County Asylum, Shrewsbury, *vice* C. E. Denning, L.K.Q.C.P.I. and L.M., resigned.

ROBERTS, John Lloyd, M.R.C.S., L.R.C.P., appointed House-Physician for January to Guy's Hospital.

RUSSELL, J. S. Risien, M.B., M.S.Edin., appointed Junior House-Physician to the National Hospital for the Paralysed and Epileptic, Queen Square, Bloomsbury, *vice* R. T. Williamson, M.B., M.R.C.S., resigned.

SAVERY, Frank, M.R.C.S., L.R.C.P.London, appointed Surgeon to the Royal Infirmary, Hull.

SPOKES, Sidney, M.R.C.S., L.D.S., appointed Medical Tutor to the National Dental College, Great Portland Street, W.

VINRACE, J. H., M.B.Lond., M.R.C.P.Lond., M.R.C.S., appointed Assistant Physician to St. John's Hospital for Diseases of the Skin, *vice* Morgan Dockrell, M.A., M.D., B.Ch., promoted.

WATSON, John, M.B.Durh., L.R.C.P.Lond., etc., appointed Senior Assistant House-Surgeon to the Royal Infirmary, Hull, *vice* F. Savery, M.R.C.S., promoted.

WICKHAM, Onslow Arthur, M.R.C.S., L.R.C.P.Lond., L.S.A., appointed Surgeon to the Holloway and North Islington Dispensary, Highbury Vale Branch, *vice* Dr. Merces, resigned.

WILSON, R. A., M.B., C.M.Edin., appointed Assistant Medical Officer to the Rubery Hill Asylum, *vice* J. Cuthbert, L.R.C.S., resigned.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The directors of the Society held their quarterly court on Wednesday, October 10th, the President, Sir James Paget, Bart., in the chair. One member was elected, and the death of one reported. Applications for grants were received from 63 widows and 13 orphans, and a sum of £1,377 was recommended to be distributed among them at the next meeting. A fresh application was read from a widow for herself and three children, and a grant at the rate of £60 per annum was made. It was resolved to celebrate the centenary of the Society by a present of £5 to each widow on the funds and £3 to each orphan. These sums, amounting altogether to £346, will be paid on October 29th, the anniversary of the first meeting of the Society.

FIRES AND LIFE SAVING APPARATUS.—At the last meeting of the Metropolitan Board of Works, the Fire Brigade Committee reported "That the Committee, having considered the suggestion of the Vestry of St. Marylebone that telescopic ladders should be supplied to the police stations and police courts in the parish for use at fires, is of opinion that, if an arrangement can be made with the Commissioner of Police for the purpose, it would be for the advantage of the public if telescopic ladders were placed at all the police stations in the metropolis, and recommending that the chief officer of the Fire Brigade be instructed to communicate with the Commissioner of Police, with a view to seeing whether, as a temporary measure, an arrangement can be made for this purpose, and to report the result to the committee." The report was adopted.

GLASGOW SOUTHERN MEDICAL SOCIETY.—The following are the office-bearers of this society for the ensuing session:—*President:* John Glaister, M.D. *Vice-Presidents:* Robert Pollock, M.B. *Treasurer:* Thomas F. Gilmour, L.R.C.P.Ed. *Secretary:* James Erskine, M.A., M.B. *Editorial Secretary:* B. A. D. Robb, M.B. *Seal Keeper:* John Dayall, M.D. *Court Medical:* Drs. Macmillan, Knox, Morton, Dunlop, and H. E. Clark. *Councillors:* Alexander Rankin, M.D.; Alexander Miller, L.R.C.P.Ed.; and Maxwell Adams, M.B.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 8.30 P.M.—Clinical Evening. Mr. J. H. Morgan: Case of Large Hairy Mole on the Back; Frontal Meningocele. Dr. J. D. Savill: 1, Case of Tetanus Cured by Chloral Hydrate; 2, Section of Median Nerve followed by Lesions of Muscle and Skin. Mr. W. J. Walsham: Peculiar Abnormalities of the Clavicles in a Boy, the subject of Rickets and Lateral Curvature of the Spine. Mr. Bernard Pitts: Some Cases of Partial Arthrectomy of the Elbow Joint. Mr. Colcott Fox: Congenital Rupture of the Sterno-Mastoid. Cases by Dr. Beevor, Mr. Marmaduke Sheild, and others.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, 8.30 P.M.—Mr. Page: Arthrectomy *versus* Excision of the Knee. The following gentlemen will also show cases, and take part in the discussion: John H. Morgan, E., Owen, C. B. Keetley, Walter Pye, A. M. Sheild, Arthur Barker B. Wainewright, and Mr. Clutton.

FRIDAY.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, 8 P.M.—*a.* Specimens: Dr. Drewitt: A Thoracic Aneurysm. Mr. Lloyd: A Uterine Tumour. Dr. Crombie: An Abdominal Aneurysm. Mr. Dunn: Some Pathological Specimens. Dr. Abraham: Microscopic Sections, Neoplasms of Skin.—*b.* Clinical Cases: Mr. Keetley: 1. Case of Ligature of Femoral for Popliteal Aneurysm; 2. Ligature of Common Femoral for Femoral Aneurysm.—*c.* Papers: Mr. Keetley: Cases of Abdominal Section for Suppurative Peritonitis. Mr. Ballance: The Treatment of Popliteal Aneurysm.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTH.

CALEB.—At Abbotsford, Lahore, Punjaub, on October 2nd, the wife of C. C. Caleb, Esq., M.B., M.S., Professor of Physiology in the Medical College, Lahore, of a daughter.

MARRIAGES.

ACKLAND—KENSINGTON.—On October 18th, at the Church of All Saints, East Budleigh, Devon, by the Rev. William Frederick Green, M.A., Vicar of the Parish, assisted by the Rev. Charles Rees Price, M.A., of Budleigh Salterton, John McKno Ackland, M.R.C.S.Eng., etc., of 24, Southernhay, Exeter, to Ida, younger daughter of Edward Thomas Kensington, Esq., of Westbourne, Budleigh Salterton, Devon.

HUGHES—D'OYLY-WATKINS.—On October 25th, at Bangor Cathedral, by the Rev. D. Evans, M.A., Samuel Hughes, M.B., M.R.C.S., of Liverpool, to Kizzie, only daughter of John D'Oyly-Watkins, Esq., Bangor, and niece of the late Sir Christopher D'Oyly, Bart., Oxfordshire.

MACLAREN—LOWE.—At Isla Mount, Coupar Angus, on October 18th, by the Rev. F. R. MacDonald, Parish Minister, Surgeon-Major George Gilbert MacLaren, M.D., Indian Medical Service, to Cecilia Anne, fourth daughter of John Lowe, Solicitor.

MACLEOD—BARNITT.—On October 17th, at St. Martin's, Worcester, by the Rev. G. Carrol, Rector, and the Rev. H. Seddon, Vicar of Painswick, Stroud, cousin of the bride, Herbert W. G. Macleod, M.B. and C.M.Edin., Surgeon H.M.'s Bengal Army, to Clara Isabel, second daughter of F. Barnitt, Esq., of Woodside, Worcester.

DEATH.

WILLIAMS.—October 19th, at the Elms, Wheatley, Oxon., Leonard Williams, B.A., M.B. Cambridge, aged 42.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).;

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's —1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY .....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th., F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

What is Tajola?

Dr. John M. Miller (Largs, N.B.) writes; I received a sample of a medicine called "doces de tajola" from a lady who had it sent her from Brazil, where it is said to be specific in the treatment of dysentery and diarrhœa. I have used it in several cases of diarrhœa during the summer and autumn with wonderful results; in no case did it fail, either when given to children or adults. It is sweet and pleasant to taste. About 3j of the confection, chewed slowly and swallowed after every loose motion, I found command the discharge in some cases after the first dose, in most after the second or third. I shall be glad if any member can tell me what tajola is, or what is known about it.

ANSWERS.

Africa.—The address of the Imperial British East Africa Company is 13, Austin Friars, London, E.C.

The Medico-Chirurgical Tariffs.

H. H.—Messrs. H. K. Lewis, 136, Gower Street, London, W.C., are the publishers of *The Medico-Chirurgical Tariffs*.

Medical Bookkeeping.

Junior Partner.—The most convenient method of "medical bookkeeping" was discussed by several correspondents as recently as May 12th (p. 1043), and June 9th (p. 1255).

Cottage Hospitals.

D. C. will be much obliged to any member who will give him some information about cottage hospitals. The cost of furnishing and of maintenance per patient, and any other particulars which may be useful, and the name of any book on the subject.

*** Our correspondent will probably find all the information he requires in Burdett's *Cottage Hospital*, published by Churchill and Co., New Burlington Street.

Marazion.

Dr. Alfred J. Carver.—Dr. G. F. Helm, M.A.Cantab., to whom we have applied for information, informs us that Marazion is an overgrown village, of an improving description, three miles (under) from Penzance, eastwards. It faces south-west, and, from the lie of the land, there is a local proverb which says "the sun always shines on Marazion." It is well sheltered from the east and north by high ground. There is an excellent water-supply and a good system of drainage. The main peculiarity of the climate consists in its equality, and a real cold night is seldom experienced, that is, the range (diurnal) of temperature is trifling. "The first year I was here," adds Dr. Helm, "the thermometer outside a north wall did not go beyond 40°. Of course, the winter here is dull as regards amusement, which will concern the invalid's family." Dr. Helm says he has known all the invalids who have come there during his seventeen years' residence at Marazion, and the verdict which he can give is that "in no case has the invalid failed to obtain all the benefit which he had any right to expect"; adding, "of course, it has to be remembered we are a part of England, and as such we have a portion of England's climate." An invalid from Hull, so far north, would, he thinks, find this a nice change. The great difficulty is house accommodation, but a building is said to be just now available. Our correspondent is recommended to put himself into communication with our informant, Dr. George F. Helm, The Greenfield, Marazion, Cornwall.

Eczema Rubrum.

B. writes: If "An Old Physician" will try vinolia, I am sure it will relieve the intolerable itching of which he complains as soon as applied, and it may entirely cure him. It was recommended to me by the late Dr. Milner Fothergill. It is a French preparation, but can be obtained from Roberts, chemists, 76, New Bond Street, London. I was for years a sufferer from eczema, but it has quite cured me, and I have recommended it to a large number of eczematous patients, every one of whom speaks of it in the most grateful praise. Vinolia will alleviate the worst forms of eczema. For pruritus there is nothing like it; it stops the itching at once.

Young Physician recommends the following treatment:—Take three sulphuretted hydrogen warm baths a week; dry the body carefully with soft towels. Anoint the parts with the following twice daily in old thin linen—℞ Acid boracic, 3iss; morph. acetat, gr. iv; liq. plumbi subacet. fort, 3ss; ung. petrolei, 3iij; M. Ft. ungt. He should take 5-grain doses of iodide of potassium with 15-drop doses of sal volatile three times a day. Abstain decidedly from alcohol. Take a very nourishing diet, with a good portion of cabbage. Refrain from pastry and eggs. Take Indian hemp as sedative up to 30 m doses three times a day.

NOTES, LETTERS, ETC.

A Touching Appeal.

Dr. Wm. Vincent, Secretary S.P.M.D. (Bellevue Rise, Norwich) writes: I will avail myself of your kind permission to bring before your readers a case of distress. I must not only apologise for doing so, but explain how it is the duty devolves on me. As acting honorary secretary to an old political club in this city, I was called upon by the chairman to aid him in helping a fellow member, a medical man, who stands greatly in need of assistance. Personally I have known him for more than a quarter of a century. He is now 72 years of age, and was formerly and for twenty-seven years an army surgeon, of whom a brother officer writes: "I might be able to speak more strongly than others, who, although knowing him just as well, perhaps do not know under what hard circumstances the doctor was shelved." Since then, now seven years ago, he has had a hard struggle in the battle of life, at times wanting bread, and in the depth of winter without a fire; this becoming known, the club at once rendered temporary help, and provided the necessaries of life. The only source of income is a local appointment, worth £85 gross, and this is subject to deductions for rent, rates, taxes, medicines, etc., leaving only £40 per annum for four persons to live on and clothe themselves with. There is a daughter and son, and it is hoped to get a clerkship for the latter. In July last, had it not been for my colleague, the family would have been homeless, and the workhouse their only refuge. Action was immediately taken to prevent this, and urgent claims met. To recoup my colleague, who made himself responsible, £43 10s. has been collected, and we now want from £80 to £100 to meet other liabilities, and to provide the necessities of life till Christmas. After meeting rent, etc., at last quarter day, not a sixpence was left for current expenses. In the foregoing amount no calculation is made for clothing, which is sadly needed and will be gladly received.

I do not wish to make this a lengthy letter, and will conclude by saying that as references I am permitted to name Lieutenant-Colonel Bignold, Harford Lodge, Norwich; Charles Williams, Esq., F.R.C.S., Prince of Wales Road, Norwich; and Mr. Councillor Shorten, Oxford Hill, Norwich, by whom subscriptions will be received, or they can be sent to me, by whom all inquiries will be answered and other information given.

A Case of Distress.

Drs. George C. Jonson and John M. Bright write: Will you kindly permit us to acknowledge the following donations towards the relief of the case of distress which have been received since July 1st, per Dr. G. C. Jonson?

	£	s.	d.
An Anonymous Donor...	100	0	0
J. T.	2	2	0
Dr. Cumberbatch	1	1	0
A Friend	1	0	0
A Thankoffering	1	0	0

A Parcel of Clothes from One Far Away

It will be remembered that the case for which we asked help was that of a poor medical man, with a wife and seven children, who was struck down with paralysis, and thus rendered destitute. By the great generosity of the profession and the kindness of friends the home has been maintained, the family fed and clothed, and three of the children (girls) admitted into good schools, where they will be educated, clothed, and boarded free of all cost. Two of these girls (twins, aged 8), by the extreme kindness of anonymous donors in the profession (one of £100 and another of £90), have been enabled to obtain presentations by purchase of £180 each to St. Anne's Schools. The two eldest boys, aged 14, are both earning small wages, and only two children remain to be educated. We have to express our most grateful and sincere thanks to the profession and to the anonymous donors for all the kindness and sympathy shown in the case, and to yourself for so kindly allowing the appeal and the list of donations to appear in your columns.

Gibson and Wife *v.* Jeffries and Hills.

Mr. C. B. Keetley informs us that the following additional sums have been received since the last list:—

	£	s.	d.		£	s.	d.
C. G. Woodd	0	15	0	G. Granville Bantock	2	2	0
L. A. B.	0	5	0	George Rae	1	1	0
Ed. Knight	0	5	0	E. Sheffield	0	10	0
Ed. Henry Cardwell ...	5	0	0	Edward O'Ryan	0	10	0
Arthur Roberts	1	0	0	Alfred C. E. Harris	0	10	0
Henry Stear	0	10	0				

There is still a balance of about £60 to collect.

Cycles or Carriages.

Dr. J. Farrar (Gainsborough) writes: Your correspondent, "A Junior Partner," need not have the least hesitation in visiting his patients on a tricycle, but let it be a tricycle, not a bicycle. I have used such a machine for the past ten years, and though at first I much dreaded what the comments and feelings of my patients might be, and more particularly the better class, and the sticklers for propriety, I have long since felt quite at home on my tricycle, and would not be without one even if I could afford to keep a dozen horses. I believe the same testimony in their favour could easily be obtained from hundreds of my professional brethren who have used them for years. I would, therefore, say to a "Junior Partner" by all means get a tricycle, and let his patients see that he is not only not ashamed of his iron steed, but proud of it. I should, however, hope that the roads in his neighbourhood are in pretty decent order, for no one presents a very dignified appearance when toiling and sweating in miry, rutty roads.

A Country Practitioner writes: The above subject broached by a "Junior Partner" is one of great interest to many a hard-worked practitioner. It seems monstrous that a practice of, say £1,000 per annum, should cost £200 a year in horseflesh, and probably more in cases of having the misfortune to change horses, etc. Surely such a sum would be very useful if put away for a "rainy day." But how is it to be avoided? There are two great objections to walking; for one thing it is not expeditious enough, and for another, after hurrying from one house to another, even if the distance is short, one is sure to arrive more or less fatigued, and certainly not in a fit state to throw all one's energies into the case in hand. Will the cycle supply the want? If some of your cyclist readers would kindly favour their professional brethren through your columns with their experience of the subject, and suggest the best kind of machine for wet and fine weather, many of us would be very glad. I am told that the "dwarf" or "safety" bicycle is better than the tricycle, on account of only making one track.

Chloroform Administration.

Mr. Arthur W. Loveridge (Honorary Surgeon, Out-patients, Newport and County (Mon.) Infirmary) writes: From the experience of five years' house-surgeon's work, during which time it has been my lot to administer both chloroform and ether to some hundreds of people of all ages, happily I have only witnessed one fatal mishap, but on half a dozen or more occasions cases of extreme urgency where extraordinary measures should be observed. Where practicable the patient should be recumbent, with the head quite on a level if not below that of the body; there should be no barrier between the administrator and the patient, preventing the head being pulled to the edge of the table or bed to hang well over in case of necessity; in operations in bed, the patient should lie across and not in the usual position (this to avoid the head and foot of bed). It is advisable to get the patient narcotised as speedily as possible, with a minimum quantity of the anæsthetic employed; no incision, puncture, etc., should be made until the subject is thoroughly under; too much reliance should not be placed upon the insensibility of the cornea, for this

is the case frequently when the limbs are still rigid; flaccidity of muscles and passive breathing are far better guides. I have always found it a great help to free breathing to compress the lower jaw against the upper by the tips of the fingers placed on either side; this, by supporting the tongue, prevents it falling back or doubling upon itself as it were—one of the chief dangers to be avoided during administration. Moreover, one of the fingers resting quietly upon the facial artery as it crosses the lower jaw to the angle of the mouth at the anterior border of the masseter, will at the same time give the state of the pulse; this plan can be easily adopted with the ordinary chloroform inhaler or Clover's apparatus for ether, the pressure of the thumb being quite sufficient to keep the mouthpiece in position. The latter, after the first few inhalations, should be kept evenly and closely applied, but particularly in the case of Clover's apparatus it should be removed from the face about every fifth inspiration; by this means anæsthesia may be kept up for a lengthened period, in most cases with little or no embarrassment to breathing. I have particularly noticed, in cases where difficulty has arisen, that when chloroform is the agent intense pallor of countenance with blueness of lips is an early symptom; and with ether congestion and turgidity, especially about the neck and lobes of the ears. The state of the pupil is also a guide; in extreme dilatation the anæsthetic should be withheld, particularly chloroform. Tongue-forceps should always be quite handy. In the second place, when alarming symptoms do arise, the first thing should be to draw the patient's head well over the table so that it quite hangs down, the tongue seized and drawn well forward to one corner of the mouth while artificial respiration is employed. Quite as good as injections of ether is an enema of hot brandy-and-water, about ʒiv. If these measures do not quickly restore, the chest should be vigorously flapped with the corner of a towel dipped in cold water; this is far better than hot flannels; it must be used with some force. I call to mind two striking cases, where the subjects were given up for dead, when this means acted in the most marvellous manner, causing a long spasmodic inspiration, and the patients to start up from the table.

Another plan from which I have seen excellent results is the inversion of the body head downwards on the table. I must not omit to mention, also, the great good I have experienced from the inhalation of nitrite of amyl capsules.

Above all each measure should be adopted with decision and promptitude, for at such times many are apt to lose their heads, and sometimes the patient also.

ERRATA.—In the report of the proceedings of the Pathological Society in the JOURNAL of October 20th, page 878, column 1, line 20, for "eburnation" read "*no* eburnation." In line 62, for "soluble" read "*in*soluble;" and in column 2, 9 lines from end, for "32" read "3.2."

COMMUNICATIONS, LETTERS, etc., have been received from:

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BOOKS, ETC., RECEIVED.

The Goulstonian Lectures on Insanity in Relation to Cardiac and Aortic Disease and Phthisis. By W. Julius Mickle, M.D., F.R.C.P.Lond. London: H. K. Lewis. 1888.

Select Methods in the Administration of Nitrous Oxide and Ether. By Frederick Hewitt, M.A., M.D. London: Baillière, Tindall and Cox.

Antiseptics. A Handbook for Nurses. By Anne M. Hewer. London: Crosby, Lockwood, and Son.

On the Surgery of the Knee-joint. By C. B. Keetley, F.R.C.S. London Baillière, Tindall and Cox. 1888.

The Tongue as an Indication in Disease, being the Lumleian Lectures for 1888 By W. Howship Dickinson, M.D., F.R.C.P. London: Longmans, Green and Co. 1888.

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INTRODUCTION TO A DISCUSSION ON CARBOLIC ACID AND ITS ALLIES, INCLUDING ANTIPYRIN AND ANTIFEBRIN.

Read (in part) in the Section of Pharmacology and Therapeutics at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

By J. THEODORE CASH, M.D., F.R.S.,
Regius Professor of Materia Medica in Aberdeen University; One of the Vice-Presidents of the Section.

The discussion in which we have to engage this morning, and which I have the honour of commencing, is devoted to a group of bodies, some of which are already of established reputation and universal employment, whilst others are only as yet developing in importance as therapeutical agencies.

Apart from their value in the hands of the physician, they have perhaps the largest application of any group of drugs for the purposes of surgical and general disinfection; and, therefore, the interest which attaches to them is very wide, and renders them highly suitable for consideration at such a time as the present.

It is difficult to decide with which aspect of the very extensive subject before us to commence.

I trust the debate this morning may cover the whole sphere of action of phenol and its allies, whether as acting on the nervous system, producing anæsthesia; upon febrile temperature, causing defervescence; or upon micro-organisms, and perhaps upon their products, as antiseptics and disinfectants. Further, it may fall within the legitimate bounds of the subject, to inquire whether those bodies do or do not possess a prophylactic action, which may safeguard against infection under certain conditions.

It is, I conceive, rather my duty to touch lightly upon many points which seem essential to the consideration before us; to recall facts which have been proved experimentally; and as far as possible to avoid theoretical considerations, which, however interesting they are, would not at present contribute so directly to the practical value of the discussion which is to follow.

I propose, then, to confine my remarks to the action of carbolic acid, and certain of its allies, as antipyretics; as disinfectants; as prophylactics; and, in a few words, as analgesics.

It is open to us, within certain limits, to select from a number of bodies which rank as allies of carbolic acid (for it would be impossible to include all of them in my remarks), and it may be thought that I have chosen some not so evidently related to phenol as others, which, from lack of time, I have omitted.

The interesting chemical series which certain of these bodies form, and the fact that others about which I shall speak are but little known, prompted me in making my selection. Whilst phenol is a monatomic body, one atom of hydrogen in benzene being replaced by hydroxl, there is a diatomic body, closely related to the monatomic, in which two atoms of H are replaced; and there is a triatomic body in which three atoms of H are replaced by hydroxyl. These three bodies, phenol, dihydroxyl-benzene, and tri-hydroxyl-benzene, or pyrogallic acid, make such an interesting series when we consider their chemical constitution, that it seems well to contrast them in several particulars of their action. The carbolates and sulpho-carbolates will not occupy much of our time, while some acid combinations, as phenyl-propionic, and phenyl-acetic acids, and the soda salt of the former, I shall but touch on very briefly; as the last-named bodies have lately been from one point of view very laboriously investigated in this country, I should do wrong did I not lay a few facts regarding their action as disinfectants before you.

Two important new substances, antipyrin and antifebrin, I shall consider more in detail. I will deal first with the antipyretic action which some of these bodies possess.

It was from the consideration that the action of a body as an antifermentative or antizymotic agency is of necessity frequently associated with a fall of temperature in the recipient, that Brieger was led to investigate the actions of one of the dihydroxyl-benzols, Lichtheim having already shown that another of these—resorcin—has a decided antipyretic effect.

Brenzcatechin, Resorcin, and Hydroquinone.

Here I must digress for a moment, in order to indicate the chemical connection of the three isomeric bodies which conjointly bear the name of dihydroxy-benzol.

1. First of these is the ortho-dihydroxy-benzol, or brenzcatechin (pyrocatechin), in which the hydroxyl substitutes hydrogen in the benzene chain at the points 1 and 2.
2. Metadihydroxy-benzol, or resorcin, at 1 and 3,
3. Paradihydroxy-benzol, or hydroquinone, at 1 and 4.

As Lichtheim had shown for resorcin, so Brieger showed for hydroquinone, that it exercises a powerful reducing action upon the temperature. With the investigations of brenzcatechin, which has a stronger reaction as an antipyretic, he did not proceed, on account of its highly poisonous properties, which rendered it dangerous in large doses, and almost precluded its use as a therapeutic agent. But when contrasting the action of hydroquinone with resorcin, he saw his way to point out certain advantages which the former possesses to a greater extent than the latter. Both these drugs reduce the temperature. It is found that after thirty grains (two grammes) of resorcin have been administered in a case of pyrexia, there is produced flushings of face and diaphoresis, accompanied by dizziness and noise in the ears. The temperature falls, as both Lichtheim and Brieger proved clinically; but the nature of the fall is not of the ideal type which we should regard as most advantageous in febrile conditions. After the half-drachm dose has been given, we find frequently a reduction of 2° C., or even more, within the hour; and this reduction is, therefore, both extensive and rapid; but, unfortunately, it is not maintained, the mercury soon shows that the temperature is rising again rapidly, and that, far from any permanent reduction resulting, the fever soon exceeds its previous level.

There is another drawback, or rather lack of advantage, which has been experienced by many using resorcin; and this is, that instead of the general condition of the patient improving during the defervescence which the drug occasions, the symptoms which antipyretics usually control concomitantly with the development of their chief action, still remain dominant. The pneumonic patient—as Brieger himself says—remains restless, the typhoid somnolent. We are also by no means free from the danger of collapse, which may lend a very serious aspect to a case in which repeated or even single doses of the drug have been given.

It is possible that in certain cases in which a rapid and powerful effect is desired, which it may not be necessary to keep up for any considerable time, that resorcin may give satisfaction, or it may have, as a powerful antizymotic, a peculiar value in the pyresis of septic conditions; but as a general antipyretic it has only very qualified recommendations, and comes far after such bodies as antipyrin and antifebrin. Whether in doses of a few grains it may not aid the action of other antipyretics, whose effect is less rapid but more prolonged than its own, is a question which will probably find an affirmative answer.

Two of the three dihydroxy-benzols are less poisonous than carbolic acid, yet their own toxicity is by no means uniform. Resorcin is the less toxic than hydroquinone, whilst brenzcatechin is the most so. This relationship is represented by the figures 1, 3, 4, resorcin being taken as the unit. It is evident, therefore, that if either of the isomers is to be of superior utility to resorcin as an antipyretic, it must exert its action in a proportionately smaller dose than this relationship would represent.

Hydroquinone, according to Brieger, has this advantage. Doses of three grains (0.2 gramme) cause a fall of half a degree C., whilst doses up to 0.6 gramme cause a much more marked reduction. The pulse is slowed, and diaphoresis makes its appearance; but these recommendations are not enough to satisfy us as to the advantages of its action as an antipyretic. The same sound in the ears, dizziness, etc., which are drawbacks to the employment of resorcin, are not infrequently caused by hydroquinone also, whilst the check which the drug exerts upon the pyrexia is perhaps no more enduring than when resorcin is employed. Notwithstanding these facts, the action of this body is probably more certain than that of resorcin, and it is better adapted for repeated administration. The unpleasant effects of the drug, which have been already described, are due to excessive doses in many instances, and it will usually be found that very small quantities,

even as little as half a grain, repeated at intervals, will hold the temperature down satisfactorily without their occurrence.

In typhoid fever Seifert states that hydroquinone not merely subdues the temperature, but reduces the splenic enlargement and modifies the course of the disease in a favourable manner. Steffen treated nineteen cases of typhoid with the drug; eighteen of these were successful; the nineteenth case was that of a child, admitted in an already moribund condition, past all hope of improvement.

One advantage claimed for hydroquinone is its rapid and powerful action produced when injected subcutaneously. It causes no irritation; it pulls down the pulse by one-third. Brieger gives two Pravaz syringes full of 10 per cent. solution, and has never seen any untoward result follow, but the temperature is not longer controlled than when given by the mouth.

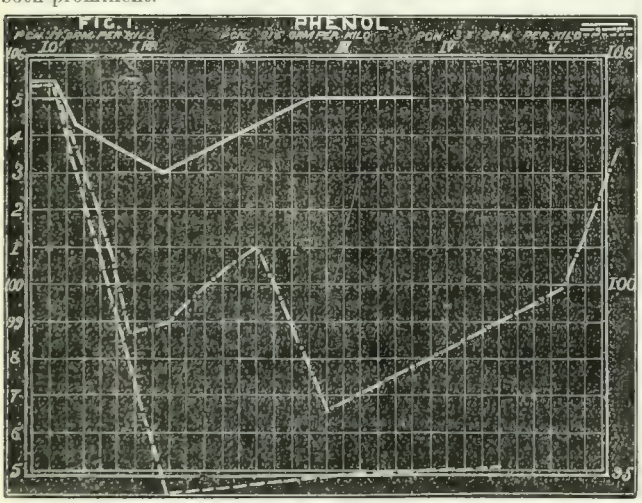
Carbolic Acid.

Carbolic acid also reduces the temperature. We should scarcely venture to use it freely, in spite of the experience and recommendation of Desplats, who gave in high temperature of phthisis doses of 1.5 gramme (22 grs.), at which most of us now would hesitate. Lynch, who gave about 7 grains for a dose, found the drug seldom to fail as an antipyretic. It answered when quinine had failed. In typhoid it reduced the temperature and checked diarrhœa, whilst in hectic fever it proved of signal service.

No doubt in these large doses and in cases in which the temperature is preternaturally high, the drug has a considerable action; but the former qualification, coupled with the dangerous character of the body, makes its employment inexpedient. Though a fall of temperature usually succeeds the administration of carbolic acid, this is not invariable; the reduction produced upon a feverish temperature may be considerable, or only very slight, or may even be replaced by a rise if administration takes place gradually instead of rapidly.

In many recorded cases of poisoning by phenol, the fall of temperature is considerable, but this is not confined to man, for we find that in animals which have received a moderately large dose, a distinct fall below the normal is induced.

When making a number of observations some years ago with Dr. Lauder Brunton on the antipyretic action of morphine, aconite, and other bodies, we directed our attention to carbolic acid also, and I will briefly mention the results of two or three experiments performed at that time which seem to show the influence the drug exerts upon a normal temperature. In one case, Fig. 1 (broken line), 0.054 gramme of carbolic acid was administered to a pigeon of 180 grammes, or to express it better, in the proportion of 0.35 per kilogramme weight of animal. In 70 minutes the temperature had fallen to the extent of 10.5° F., and for the ensuing three hours only a very slight rise took place. The next morning the temperature was normal. In this case there was very little clonic spasm induced, but the narcotic and anæsthetic action of the drug were both prominent.



In a second experiment (dot and dash line), in which 0.216 gramme was given, clonus was well-marked and continued during both the initial fall and subsequent rise, but ceased almost simultaneously with the commencement of the second fall occurring in the second hour. This is an interesting correspondence, which may suggest perhaps, not merely an impediment to heat-reduction caused by the incessant muscular activity, but further a hindrance to the action of the drug upon the heat-regulating centres, possibly as a result of stimulation of some part of the brain, which not merely limits the activity of these centres, but lies in connection with the mechanism presiding over spasmodic movement.

The third curve (continuous line) shows the reduction by a smaller dose of phenol, namely, by 0.17 gramme per kilogramme. In this instance no clonus was induced and no marked narcosis. The maximal action is attained in somewhat over one hour, and amounts to a reduction of 2.5° C.; the rise thereafter is rapid, though for some hours the temperature remains subnormal. Excepting in the latter respect this curve is very similar to that produced by resorcin or hydroquinone.

It is evident, therefore, that in these animals a very large reduction of temperature is induced by carbolic acid, and, what is more, that the effect may last for several hours, but only when the dose is a very large one, such a one as we could not employ in practice.

I am tempted to enter into questions of the manner in which it exerts its antipyretic action, but must withhold, as time will not permit me to travel beyond the ascertained facts connected with the substances we are considering.

Pyrogallic Acid.

Triatomic phenol or pyrogallic acid $C_6H_3(OH)_3$ three atoms of H equal benzene replaced by OH (hydroxyl).

The action of trihydroxyl-benzol or pyrogallic acid in considerable doses is to lower the body temperature. This fall is associated with tremor and spasmodic twitchings. The action of this drug is probably in part very different in nature from that of resorcin or hydroquinone, the chief seat of its activity being the coloured blood corpuscles, which are dissolved by its action. It is evident that a process of this destructive nature must interfere with oxidation in a very fundamental and dangerous manner, and that the fall of temperature it occasions would scarcely justify the use of this drug in practice as an antithermogenetic agent. With small doses the danger ceases, as the blood is but slightly affected, but the effect upon the temperature is likewise reduced. Doses of 0.05 gramme, or rather less than one grain, prescribed by Vesey for the purpose of controlling gastric and pulmonary hæmorrhage, did not induce any untoward symptoms, but we have no warrant for largely exceeding such a dose.

Having now glanced at the mono-, di-, and triatomic phenols, and shown that whilst they are all antipyretic in action, only two are available in practice for this purpose—that is, resorcin and hydroquinone, of which the latter is probably the better, I will pass on to the consideration of antipyrin and antifebrin.

Within the last four years these two bodies, of primary importance as antipyretics, have been placed in our hands. The complexity of their chemical composition made it difficult to introduce them by their respective scientific names of dimethyl-oxychinicine or quinicine and phenylacetamide, and they are therefore known more usually by the popular synonyms of antipyrin and antifebrin.

Antipyrin

Antipyrin, $C_{11}H_{12}N_2O$, which is a methyl compound of a hypothetical basis, chinicin, is the longer known to us, but I shall endeavour to show that the second is worthy to take precedence of it as an antipyretic.

The pharmacological record of antipyrin may be well considered in the first place. Antipyrin was believed by Bettelheim to cause loss of heat by its action upon the cutaneous circulation. The general blood-pressure he described as falling at first, but subsequently rising to a point somewhat above the normal. When the sphygmomanometer was applied by Van Noorden above the arteries of subjects who had received a large dose of antipyrin, it was found by him that though the arterial pressure was not markedly influenced, the tension or tonus of the vessels was increased. He also observed the sweating produced by the drug and the fall of temperature, but he did not altogether unite with Bettelheim as to the manner in which this fall was occasioned; for after he had cut out the action of secretory cutaneous nerves by atropine, he found that the fall of temperature was not arrested by suspension of diaphoresis. He pronounced therefore, in favour of an action upon the seat of heat production, rather than upon an increased loss of caloric from the surface of the body.

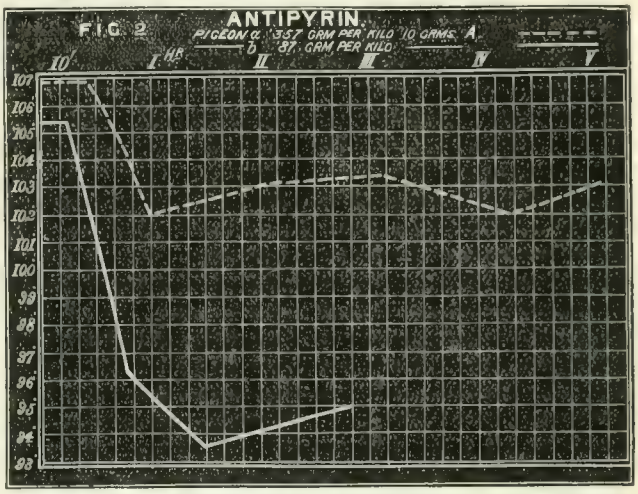
Recent experiments of Sawdoski, performed under the direction of Botkin in St. Petersburg, show that the theory which supports a central action of the drug is in part, at any rate, a correct one. Sawdoski recognised a rise of blood-pressure equalling one-twentieth of the total when antipyrin was administered to dogs in the proportion of 0.3 gramme (4½ grs.) per kilogramme weight of the animals. He found that the excised heart both of mammals and amphibians contracted more powefully when small doses of the drug were added to a circulating nutrient fluid. On the other hand, perfusion of a similarly-medicated fluid through the vessels of the limb caused in them a positive dilatation. On the vascular system the action of the drug appeared to be chiefly upon the heart, probably upon the excito-motor ganglia. His thermometric observations showed him that, whilst the peripheral or cutaneous temperature rose at first after antipyrin as a result of vascular dilatation, the internal temperature fell greatly. This fall occurred even when the animal experimented on was kept in a warm chamber or enveloped in cotton-wool. In order to localise the central effect of the drug, Sawdoski divided the cord above the atlas, and then injected antipyrin. After such a section he found that no fall of temperature was produced by antipyrin, though respiration and circulation were actively continued. Sections of the brain posterior to the corpus striatum had the same effect, but when anterior to the corpus the drug was found to preserve its action. Now the heat-regulating area described by Aronzohn, Sachs, Richet, and Ott is to a large extent located in the corpora; and, assuming the correctness of the thermometric record, the conclusion seems justified that it is to a large extent upon this area or centre that the drug exerts its influence, and that its action is that of an antithermogenetic. That the drug is greatly reduced in its activity by section of the cord at the atlas may probably be admitted, but I venture to doubt whether its activity is altogether abolished by such a proceeding, as surface-cooling has been shown by the employment of Masje and Eichhorst's radiometer to take place as a result of the action of antipyrin. This radiation would still occur even after the section, and therefore a thermolytic effect would be superadded. If Sawdoski's observation is correct—that the same section at the atlas which hinders the action of antipyrin also prevented the fever usually caused by injection of septic material into the veins—we should have one clear indication for the treatment of fevers of such origin, though their cause might be left untouched by the drug.

The action of antipyrin upon urinary excretion is marked. The nitrogenous elimination is greatly reduced; and this is not merely in conditions of disease, but it has been recorded by Jacubovitsch in the case of healthy as well as of feverish children to whom antipyrin had been given. The inorganic salts, sulphates, phosphates, etc., are markedly diminished. After discontinuance of the drug, however, all these constituents appear to be increased even relatively to the time anterior to the administration of the drug. Metabolism seems to be held in check by antipyrin, sometimes to a remarkable extent.

In cases of typhoid fever, also, Riess showed by a series of very careful observations that excretion of urea is greatly diminished. Not only are the solid constituents of the urine decreased, the water is also diminished. This diminution is even greater than we should anticipate from the diaphoretic effect of the drug. In the therapeutical employment of antipyrin it is well to bear in mind that contra-indications of its use may arise when renal disease coexists with the affection, whether painful or pyretic, for which the drug is given even when the kidneys are healthy, but if it is of primary importance that their freedom of action should proceed unrestrained, the drug must be given with some hesitation. It seems not improbable that a case of death occurring after the eighth administration of a one-gramme dose, recorded by M. Hardy, may have been owing to a coexistence of extensive renal disease. Diabetes appears in nowise to contra-indicate. The drug has even been employed in the treatment of this affection, and apparently with satisfactory result. In one case recorded by Gönner a daily administration of three grammes for nine consecutive days altogether abolished the sugar from the urine.

To return to the action of the drug upon the temperature. No doubt the normal temperature is lowered by antipyrin to some extent, though the dose required is greatly in excess of that which would be necessary to effect a similar reduction in a case of pyrexia. Experiments performed by Dr. Brunton and myself furnished, amongst others, the two temperature curves which I have represented graphically in this diagram (Fig. 2).

These experiments were performed upon pigeons. In one instance (continuous line) the bird received 0.87 grammes per kilogramme body-weight. The fall produced by this relatively very large dose is striking. It amounts to 9° within 30 minutes, and to 11.5° in 70 minutes. After this time the temperature remains depressed, with only a slight indication of a rise. Another bird (broken line) received antipyrin in the proportion of 0.357 gramme per kilogramme. Within an hour the temperature had fallen 4.5° F., and thereafter, for a period of five hours, remained considerably depressed, never reaching to within 3° F. of the normal, although a bi-hourly fluctuation occurred.



In pyretic conditions the reduction of temperature is even more certain, and this reduction is of a character which makes it, in this sphere of action, of special utility. Antipyrin acts rapidly, and its action is maintained for several hours. After administration a rosiness of the surface, accompanied by some degree of sweating, occurs. The temperature is found to fall more rapidly in the rectum than upon the surface. Within an hour the fall of temperature has commenced. The apyrexia persists for five or six hours.

Now, gentlemen, we cannot conclude that, because antipyrin reduces most febrile temperatures, it is applicable in all cases of fever; far from it. Clinical experience, which is very ample in its records with regard to this drug, shows that its sphere of action, when considered as a fever-reducing agency, is limited, and that in cases which otherwise indicate its administration it has certain drawbacks which must be kept in mind. Derangement of the stomach is not one of these, or only exceptionally so. Other physicians besides Daremberg have given antipyrin in quantities of 4 to 6 grammes in the twenty-four hours for weeks together without witnessing vomiting or marked disorder of the stomach.

The chief and most serious drawback to the drug is its tendency to cause collapse, owing to its ultimate action upon the heart. This collapse may develop itself after moderate doses in adults, apparently as the result of no very uncommon idiosyncrasy. Strauss saw collapse after 5 grammes, in divided doses of 2, 2, and 1 gramme. Children are peculiarly liable to develop this condition even after as small a dose as 5 grains. Antipyrin is, therefore, a drug to be administered with caution at all times, and should seldom, if ever, be left in the hands of the patient to use at discretion when full doses have been ordered. Continued doses, and even the administration of a single small dose in some instances, may cause the development of an exanthematous rash; but, though this may be annoying to the patient, it is no serious drawback; it seems frequently to indicate, however, a temporary discontinuance of the drug.

As a means of reducing the temperature, we find antipyrin of least value in fevers occurring as concomitants of suppuration. The record in scarlet fever and in diphtheria is against it, and none the less so that its tendency to cause collapse is increased in these diseases. In the infectious diseases, as a class, Bungeroth warns against its methodic use. In measles, it has been found, however, more reliable.

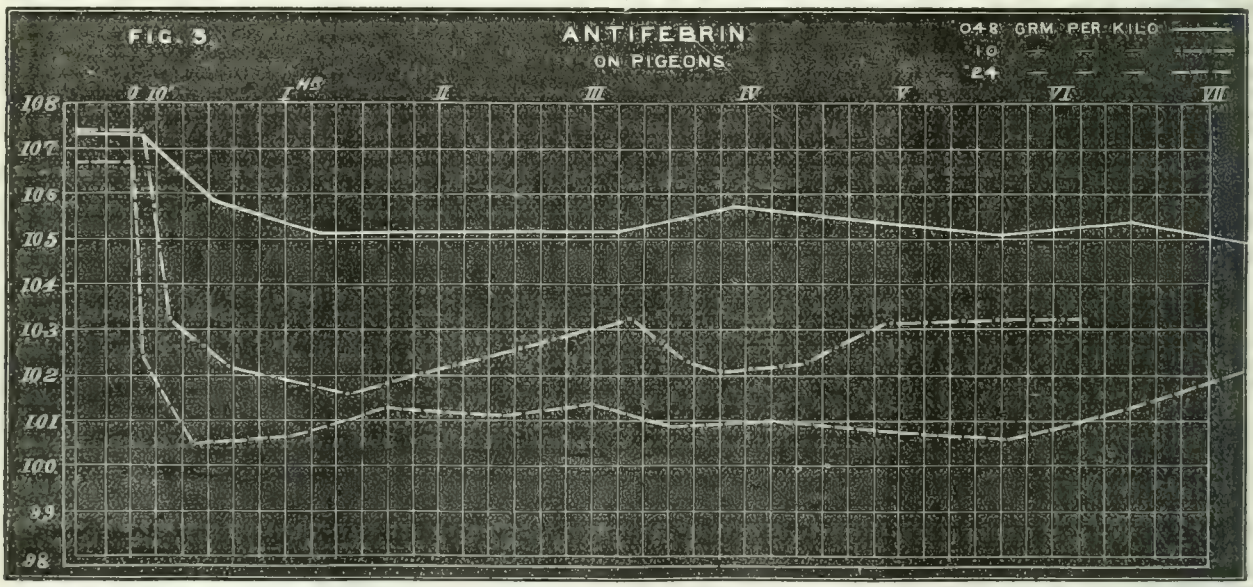
Its action in acute rheumatism has been carefully watched, and

contrasted with that of salicylate of sodium. No doubt antipyrin reduces the temperature, but it does not materially alter the course of the disease, nor hinder its recurrence; and it does not avert the danger of intercurrent cardiac complications.

In spite of the opinion of Frankel, then, we cannot accept this drug as a specific in acute rheumatism. Lenhartz admits that it shows no greater power in hindering the occurrence of inflammatory cardiac complications than the salicylic preparations. Neumann concludes that its action is very comparable to salicylate of sodium in acute rheumatism, but it has no special advantage over the latter; it is, however, worth trying as an alternative when the salicylate of sodium has failed, inasmuch as the one may benefit when the other has not done so; but we know of no indication which will enable one beforehand to say whether the salicylate of sodium or the antipyrin will act better.

In typhoid fever, the record of the drug is distinctly good, and though, as Demme expressly states, it is no specific, it not only controls the temperature, but it is of additional service as a styptic.

It is probable that one grain, thrice daily, produces as favourable a defervescence as much larger doses, if we give it at the right time—that is to say, at the time of tendency to recurrence of pyrexia or at its remission. In the pyrexia of phthisis, its antipyretic action is perhaps as reliable as it is in the treatment of any disease. In the hands of many physicians, it has even done more than quinine, but probably here also much depends on its manner of administration. Daremberg gives fifteen grains, and repeats the dose if the temperature rises 0.3° C. in the succeeding hour; but Ardun finds that three to five grains is a sufficiently large dose for most cases. This should reduce from 1° to 1.5° C., and a second dose 0.5° to 1° C., the temperature remaining down from eight to nine hours. In the pyrexia of malarial fever, Dr. Barr found it greatly inferior to antifebrin. When antipyrin was given, in cases in which the temperature was 105° F., he found that a fall commenced in about one hour; that the minimal reduction caused was 3° F., and this was reached in two hours. After which a rapid rise took place. The diaphoresis caused was great, and he experienced considerable *malaise* subsequently. With antifebrin the temperature also fell, but the action, if slower in commencing, was much more prolonged. No *malaise* was induced; diuresis took the place of diaphoresis. The pulse was strengthened, and a feeling of well-being, altogether foreign to the action of antipyrin, was occasioned.



ANTIFEBRIN.

Antifebrin, $C_6H_5NHC_2H_3O$, or phenylacetamid is an anilin derivative obtained in the first instance by Cahn and Hepp, who did medicine the service not merely of preparing, but of pointing out, the antipyretic action of the substance. Weill showed that in doses of 0.04 gramme per kilogramme body weight antifebrin was free of all dangerous action; in doses of ten times that amount it was toxic, causing a very extensive fall of temperature, twitchings of the muscles, and death. This proportion of dose to body weight I have found to be exactly correct for pigeons, recovery occurring in all cases in which less than 0.4 gramme per kilogramme had been administered.

The three lines of the temperature chart (Fig. 3) show fairly the effect of antifebrin in the case of pigeons. The amount administered varied from 0.048 gramme per kilogramme body weight (continuous line) to 0.24 gramme (broken line). The fall is in each instance more or less proportionate to the dose, the effect produced by one decigramme per kilogramme (dot and dash line) is relatively more satisfactory than that by 0.24 gramme. In all cases it will be observed that the reduction of the normal temperature persisted for several hours.

The rapidity of the initial action is sufficiently apparent, though the time of greatest reduction of temperature is curiously enough somewhat later in the case of the medium than in that of the small dose. The lowest temperature was recorded in the case of the large dose 35 minutes after administration. The uppermost curve shows no tendency to return to the original level at the expiration of the observation, whilst the lowest showed a slight tendency in this direction, which may probably be explained by the extensive initial fall.

The action of antifebrin upon the cord is pronounced, its reflex irritability being greatly impaired. Ultimately anæsthesia is produced. The irritability of motor nerves is greatly reduced or even suspended by the action of antifebrin; muscular irritability, and contractility are markedly diminished. Weill considers that the contraction of the vessels is also of central origin. By large doses a marked change takes place in the blood, methæmoglobin becoming abundant, whilst oxyhæmoglobin is greatly reduced. It is questionable, however, in how far the presence of an impurity may lead to this result and to the accompanying cyanosis which was observed by Sée and others. Antifebrin certainly diminishes the number of the coloured corpuscles, but it requires a long administration of large doses to produce a condition of anæmia. Even if this should occur it proves very amenable to treatment. The action of antifebrin which chiefly interests us at the present moment is that of an antipyretic of the first order. As I have already stated with reference to antipyrin, a normal temperature may be rendered subnormal by its action, but it has been estimated that one-eighth part of the dose only, which is requisite to produce a similar fall in absence of fever, is needed to effect reduction in cases of pyrexia. In the twenty-four cases upon which its discoverers Cahn and Hepp tested its action there was a reduction of temperature in every instance. It was found to be equally active with four times the dose of antipyrin, and a total dose of thirty grains daily was found sufficient to control high temperatures. The action of the drug is rapid, usually beginning to manifest itself within an hour, and not infrequently within twenty minutes; its maximal effect is reached in four hours, and in eight

to ten hours the temperature tends to regain the original level; it may even pass beyond it, but in this respect it agrees with most other antipyretics. The pulse and respiration are slowed, arterial tension rises, diuresis and occasionally diaphoresis occurs, pain is subdued, and quiet sleep frequently ensues. The sweating which occurs is very moderate in amount; the urine, distinctly increased in volume, contains the original body in part unchanged, in part split up, and variously combined. Collapse is almost unknown as a sequela to the action of this drug, which, however, sometimes causes an exanthematous rash.

The action of antifebrin in carefully selected cases is highly satisfactory. Faust, in describing the result of its employment in seventy-two cases of pyrexia, says that it never left him in the lurch. The higher the fever, the greater the fall it induces. Widowitz points out its peculiarly steady and safe action in children up to 4 years of age, or of twice or thrice the amount in those older. The temperature begins to fall in the rectum in from ten to twenty minutes. These small doses appear to be amply sufficient, and it is worth bearing in mind that in ill-nourished children a small dose produces a much greater effect than in the well-nourished.

The various pyretic affections which would appear to indicate the administration of antifebrin, but which derive the least benefit from it, are scarlet fever and erysipelas. The pyrexia of measles, on the other hand, is benefited by it, and in cases of intercurrent pneumonia the drug may be given with marked advantage.

In pyrexia of phthisis its record is satisfactory, the more so as it can be administered for many weeks together without losing its action, and without inducing any disorder of the digestion. Small doses are frequently sufficient for the purpose of reducing the temperature in phthisis.

Stachiewitz, who has used it extensively, especially advocates small doses in the emaciated and weak. He finds that in such cases 1 or 2 grains will effect a marked defervescence lasting six to eight hours, whilst larger doses are apt to cause diaphoresis and rigors. In patients in whom the disease is recent and progressive, and the general condition good, he gives 3 to 7 grains without hesitation. His experience of the drug leads him to the conclusion that antipyrin is far above all other antipyretics, and that if carefully administered it has no drawback. The exhaustion which may follow a large dose, especially in very febrile cases, is clearly an indication for the reduction of the amount, but the favourable effect on the temperature will still be obtained.

In typhoid it cuts down the evening exacerbations of temperature promptly, and appears to act favourably upon the course of the case. In acute rheumatism it is effectual as an antipyretic, but in combating the progress of the disease it can scarcely be placed on an equality with salicylic acid.

I have said already that as an antipyretic, antifebrin has marked advantages over antipyrin. These advantages are: (1) the smaller dose in which it is operative; (2) the steadier and more continued action; (3) its comparative freedom from the danger of causing collapse; (4) it is much cheaper, as it is purchasable in the open market, whilst antipyrin is not so. Against it we have merely its insolubility. This is readily overcome by prescribing it together with some pleasant tincture, as the tinct. aurantii.

Disinfectants.

Bodies which have a marked action, as antizymotics, frequently possess the properties of antipyretics, but whilst carbolic acid and its immediate allies are to be regarded with some amount of suspicion, and used with reservation in the latter capacity, in the former, as antiseptics and disinfectants, they occupy a prominent position.

For convenience I shall consider the action of these bodies as antiseptics and disinfectants together; there is nothing unusual or objectionable in such an arrangement, for as far as our appreciation of destructive processes brought about by therapeutical agencies extends at present, a drug which acts in one capacity will act also in the other. Professor Burdon Sanderson, to whom we owe so much for his masterly exposition of matters related to sepsis, pathogenesis, and counteracting therapeusis, speaks thus in one of his admirable reports to the Medical Officer of the Local Government Board.

"It is found that the same contrasts exist between the specifically disinfecting action of these drugs"—he is speaking of allies of carbolic acid—"on the virus of tubercle as between their antiseptic actions, and consequently, although it cannot for a moment be admitted that the infective process of tubercle is identical with that which is induced in the living animal or human body by non-specific septic ferments, their relation to each other is so close that they can both be arrested or controlled by the same agents."

We are fortunate in having a group of bodies before us which has been worked out thoroughly in the pharmacological laboratory and in the hospital ward. Carbolic acid as a disinfectant has obtained the confidence of the public, and there is within the sphere of its odour a feeling of security which, if rather overstrained, is, to say the least of it, a blissful sentiment. And carbolic acid has a right to very considerable confidence. The scientific and applied truths of its activity are so well known to you, that I shall not expose myself to the reproach of retrying a body upon which the verdict has been pronounced, further than to indicate a very few points concerning it.

We must free ourselves, however, from what I may call a romantic attachment to this or any other antiseptic which is not fully justified by experimental proof. Herein lies the index to the effective use of such a body, for if we exceed the commission which experiment gives us, we fail in our purpose and discredit the means we employ.

Whilst Lemaire stated many years ago that a solution of carbolic acid of the strength of 1 to 1,000 was capable of destroying putrefactive bacteria, Rothe showed that 5 per cent. may fail entirely to rectify putrid pus. As regards its action upon pathogens, a 2 per cent. solution was found capable of destroying the inoculability of vaccine lymph and a 1 per cent. solution to disinfect an equal bulk of anthrax blood. Now, in the latter case we have before us the example of a micro-organism (namely, the anthrax bacillus) possessing only a feeble power of resistance, which makes it susceptible to a relatively dilute solution. But to fulfil its purpose the disinfectant must be strong enough not merely to destroy the bacillus, but also the resting form or spore which we know to exist in the case of anthrax and other pathogenes.

The spore is far more enduring and resistant than the bacillus, and the strength of the disinfectant must be sufficient when spore formations may have taken place as to cover the highly resistant form of the microbe as well as the feebly resistant.

The bacillus of anthrax in spilt blood, in excretions, and so forth rapidly perishes; many natural processes are against it, drying destroys it; the harmless bacteria and bacilli which abound in all vegetable infusions rapidly annihilate it; but if the formation of spores takes place, then the pathogenetic influence remains potential for almost an indefinite period. In his epoch-marking experiments on disinfection, Koch showed that threads laden with anthrax spores were practically unaffected by a 1 per cent. solution of carbolic acid, and that a 5 per cent. solution took a day in order to destroy them.

Gartner and Plagge believed they had proved, by carefully conducted cultivation experiments, that anthrax bacilli were reduced in their pathogenetic activity by exposure for 8 seconds to a 1 per cent. carbolic acid solution, and that if a 3 per cent. solution was substituted for the weaker one, death of the bacilli took place in the same time. It is not, however, clear to my mind that the bacilli were really killed, though they refused to grow on transplantation.

In the report of the American Public Health Association, it is stated that whilst a 1 per cent. solution of carbolic acid ultimately disinfects fluids containing the tubercle bacillus and the organism of fowl cholera, it requires the action to be prolonged for some hours before the disinfection is certainly accomplished. A 5 per cent. solution applied to the spores of anthrax for twenty-four hours did not destroy them, and even solutions up to 10 per cent. did not incapacitate putrefactive micro-organisms from reproduction.

We still lack much information on the resistance offered by various forms of micro-organisms, which are pathogenic in character, to disinfectants; but the few experimental facts which I have just quoted serve to establish the point that high as carbolic acid stands as an antiseptic and disinfectant, for it to effect its purpose we must have (1) the intimate mixture of the disinfectant in strong solution with the body to be disinfected for a short time; (2) the intimate mixture of the disinfectant in weaker solution with the body to be disinfected for a very considerable time. That we may increase the action of dilute solutions of the disinfectant by permitting them to act at a higher temperature is well established. This complex mode of disinfection would, however, be both cumbersome and superfluous in practice.

Against the spores of anthrax we can only act by exposure for over 24 hours to a 5 per cent. solution of phenol, a fact which would lead us to choose in preference the much more powerfully disinfecting body, sublimate.

The serious danger of absorption of phenol must always be borne in mind when the irrigation of a large and absorbing surface of the body is contemplated. A 1 per cent. solution is probably nearly at the limit of strength to which we ought to proceed for such a purpose.

Disinfection by the Dihydroxybenzols.

I have passed very rapidly over the disinfectant action of phenol, as I venture to predict that its action of this character will form an important feature of the debate which is to follow, and therefore it seems inadvisable to devote more attention to it in view of the other bodies of which I have still to speak.

The dihydroxybenzols remain true to their relationship to phenol as antiseptics and disinfectants, as they do as antipyretics and as neurotic poisons. They are powerful disinfectants, and their action in this capacity is becoming better recognised every day. Resorcin was found by Dujardin-Beaumetz to check alcoholic fermentation in strength of 2 per cent., and a solution of $\frac{1}{2}$ per cent. he found sufficiently strong to arrest putrefactive processes. Brieger pointed out that whilst putrefaction of pancreatic infusion was checked completely by a 1 per cent. solution of brenzcatechin and hydrochinone, that a solution of this strength of resorcin did not prevent though it hindered the formation of indol.

In addition to this powerful effect we have the advantage that carbolic acid possesses, that the drug is locally anæsthetic, and a further action, which makes it very preferable to carbolic acid in many cases, that to mucous membranes it only evinces a feebly irritant action. Thus, in ophthalmic surgery, a 1 per cent. solution is admissible for application to the conjunctiva, and it has been shown experimentally that even a 2½ per cent. solution may be thus applied without causing a caustic effect.

In catarrhal conditions of the bladder, attended by putridity of the urine, even 5 per cent. solutions of resorcin have been used, though not in all cases, without disadvantage.

Resorcin has attracted considerable attention as a disinfectant in many disorders; its record in diphtheria is highly encouraging. Audeer, who treated 222 patients successfully with it, says that in lighter cases the local treatment with resorcin crystals or by means of a concentrated resorcin vaseline ointment is sufficient to check the disease, whilst in more severe cases he advocates the simultaneous internal administration. He believes the body to be reduced to a condition of phenol in the body, and proved experimentally that whilst carbolic acid is present in the secreting milk glands of cows, which take a large amount of aromatic substances in their food, no resorcin is present, but that the latter is to be found in the fat surrounding the udder.

It is indeed a matter of great interest that in this series, of which carbolic acid, excepting perhaps brenzcatechin.....is the strongest member, the same relationship holds amongst the isomeric dihydroxybenzols in all particulars of their actions, which have been investigated. Thus in order of activity as nervine poisons, as antipyretics, as antiseptics, as disinfectants, and probably as anæsthetics, we have:

1. Brenzcatechin; 2, hydroquinone; 3, resorcin.

Hydroquinone appears worthy to be placed distinctly above resorcin as an application to the urethra and bladder in cases of gonorrhœa; not only does a 1 to 2 per cent. solution of the former check the discharge and disinfect, but it causes less discomfort itself, and abolishes the pain of the affection much more surely than the latter.

Of the ability of the stomach to tolerate large doses—namely, 1 to 5 grains—of resorcin, Audeer speaks confidently. His experience was gained from the employment of the drug in sea-sickness, for which affection it has obtained in his and other hands a notable record. He speaks of it in its capacity of subduing pain and vomiting, causing sleep and promoting the appetite, as almost unique in the aromatic series, almost all the members of which disorder digestion.

Let us now turn a moment to the next body in the phenol series, namely, trihydroxyphenol or pyrogallic acid. This is a powerful antiseptic and disinfectant, but at the same time a dangerous poison. It has been brought into considerable use as a remedy in cases of psoriasis which have resisted chrysophanic acid, and has the high sanction of Hebra and Jarisch. Professor Kocher has found it of service in place of phenol in following Sir J. Lister's treatment. Two per cent. solution is an excellent wash, according to Bovet, in foul-smelling discharges of ozæna or cancer. A putrid bouillon is reclaimed by a 2 per cent. solution, whilst a 1 per cent. solution prevents decomposition of pancreatic infusion. We must bear in mind that this drug is readily absorbed, and if it is so in considerable quantity, the solution it effects of the blood corpuscles, and its powerful action on the nervous system render it a source of great danger. The treatment of psoriasis has been attended with at least one fatal case, that recorded in Breslau.

Acid Combinations with Phenol: Phenol-Propionic and Phenyl-Acetic Acids.

The reports of the Medical Officer to the Local Government Board for the last few years contain information of a very exact character as to the disinfectant action on phenyl propionic and phenyl acetic acids. This information is in the form of recorded experiments performed by Klein and Lingard, and by Mr. Laws.

(Phenyl-propionic $C_9H_{10}O_2 = CH_2(C_6H_5)CH_2COOH$. Phenyl-acetic $C_8H_8O_2 = C_6H_5CH_2COOH$, or toluic acid.)

From the publications of these observers we learn that they were handling in these bodies very potent disinfectants, which had already obtained some reputation on the Continent.

Klein found that both phenyl-propionic and acetic acids of the strength of 1 in 400 inevitably destroy the anthrax bacilli in blood "however short the time of exposure," provided always that the bacilli are well mixed with the acids. When, however, a solution of 1 in 850 was employed, a differentiation between the action of the two was observable, for whilst the phenyl propionic acid destroyed the bacilli in 10 minutes, so that inoculation of the blood thereafter yielded purely negative results, the same strength of phenyl acetic acid did not destroy the virus, though it weakened it so that the fatal issue of inoculation, though not prevented, was retarded. A strength of solution of 1 in 1,600 of the former is fatal to the bacilli of anthrax blood in 15 minutes, but for the latter 20 minutes at least are required. These results are in themselves cheering, as they show that we have it in our power to destroy such a virus immediately with strong solutions, or more slowly, but still long before a danger of spore formation could occur, with very dilute solutions. But, as has been already remarked, we dare not permit ourselves to derive too much confidence from the destruction of a but feebly resisting bacillus. With caseous pulmonary material a very much longer exposure to the action of the acids is necessary in order that complete disinfection should take place, as evidenced by a negative result upon inoculation. Thus a 5 per cent. solution of the stronger acid (phenyl propionic) requires two days in order to disinfect such material containing bacilli of tuberculosis; all weaker solutions are useless. It is noteworthy that many non-pathogenic micro-organisms, as bacterium termo and bacillus subtilis, resisted the 5 per cent. solution of the phenylic acids for 25 minutes. I shall refer to these bodies again in the next section.

Carbolates and Sulpho-carbolates of Sodium, etc.

As antiseptics and disinfectants these bodies are far weaker than those I have just considered. The carbolate, though unstable—as even such a weak body as the carbonic acid of the air decomposes it—has been recommended by Bobœuf on this account as a room disinfectant. It also has the property of reducing suppuration and allaying pain. It has no corrosive action when used internally, and is only poisonous in large doses. Sulpho-carbolate of sodium has been largely used in this country, and has obtained some employment as a remedy in scarlet fever and septic conditions. In 60-grain doses it is perfectly harmless. As a disinfectant this body is far from powerful, as may be judged from the fact that a 10 per cent. solution does not in three days disinfect caseous material from the tubercular lungs of cattle. With a 15 per cent. solution Lingard found, however, that disinfection occurred in sixteen hours. A 5 per cent. solution requires 30 minutes in order to disinfect anthrax blood.

The sulpho-carbolate of zinc has been largely used by Bardeleben, amongst others, as an antiseptic in place of phenol, and in his hands it appears to have proved very valuable, acting efficiently without the production of symptoms of carbolic acid poisoning.

Both antipyrin and antifebrin are antiseptic and disinfectant in their action. A 5 per cent. solution of the former acts as a

powerful check to fermentation and putrefaction. By Krieger antifebrin has been used both in the form of powder, collodion solution, and unguent; wounds treated by it healed by first intention, no irritation nor suppuration being caused by it.

Prophylactic Medication.

I desire to say a few words on the use of the drugs we have been considering as prophylactics. It stands to reason that if we can, without injury to the organism, introduce into it a sufficient quantity of a drug antagonistic to the life and reproduction of a disease-causing (or pathogenetic) microbe, that we may either prevent the development of the diseased condition associated with that microbe; or, short of this, we may possibly limit the severity of the pathological process it occasions to such an extent that the disease ceases to be fatal, and serves to protect from a recurrence of the original disease.

In my report to the Local Government Board (1884) "On Certain Chemical Disinfectants," I summarised the conditions necessary to the favourable action of prophylactics as follows:—

1. Their absorption in sufficient quantity.

2. Their presence in the organism in such quantity not being in itself prejudicial to the organism.

3. Their entering into an intimate relationship with the tissues. According to their rapidity of elimination and capacity for forming more or less stable combinations, their relationship with the tissues may be only temporary or of longer duration.

4. Their power of resisting in the condition in which they occur within the animal body the multiplication of the active principle of the virus against which they are directed, to such an extent that the virus is destroyed, or only reproduces itself so feebly as to cause a modified or abortive attack of the disease in the animal experimented upon.

I described in the report a long series of experiments which I had made with some of the substances which we have just considered in order to demonstrate whether by previous administration of doses of these bodies, in such quantity as was compatible with health, any resistance to the action of pathogenic micro-organisms could be established. In a second series of experiments I inoculated with the virus before administering the disinfectant. Thus in the case of sulpho-carbolate of sodium, in one experiment a guinea-pig received 0.25 gramme in successive daily doses till 4 grammes had been given, and was then inoculated with tuberculosis. In the second series an animal was inoculated with tubercular material, and then the drug to the extent of 4 grammes was administered. Although administration of the drug was carried up to a total of 4 to 5 grammes for guinea-gigs and up to 8 or 10 or even 21 grammes for rabbits, it was found that there was no marked postponement of the fatal issue after inoculation of human or bovine tuberculosis, and no delay in the appearance of enlarged inguinal glands was observed. It mattered not whether the administration succeeded or preceded inoculation, the result remained the same. No retardation in putrefactive changes of the bodies of animals so treated was apparent; but here I must remark parenthetically that the rapid excretion of the unchanged drug would account for this, and would further indicate that the sulpho-carbolate of sodium is not a body upon which as a prophylactic we can base much hope.

I experimented further with a specimen of perfectly neutral phenol-sulphonate with the same result, namely, that the prepared animal died as rapidly as the control which had been inoculated with the same virus, but without having received any previous treatment. In my report on these experiments I stated that "in the first development of the infection as evidenced by glandular swelling, the prepared animal in no way distinguishes itself from the control animal. As the time of occurrence of well-marked glandular enlargement after inoculation furnishes a very sure indication of the probable after-course of the case, there is little reason to hope" (no alteration from the usual course of development having been occasioned by the phenol-sulphonate) "that any favourable modification in the disease will be produced therefrom."

My observations were extended to the phenyl-propionates of potassium and sodium. Of the latter I gave from one quarter to one decigramme daily; of the former, which is a strongly alkaline and somewhat irritant body, apt to interfere with the health of the animal, still less; phenyl-propionic acid itself is better borne than the potassium salt, and it was therefore introduced into the series. Although preceding the inoculation of anthrax bacilli, I gave to guinea-pigs an equivalent per kilogramme body-weight of 9.3 grammes of the sodium salt, 2.2 grammes of the potassium, and 4 grammes of the acid, in no case was the fatal issue of the inoculated disease prevented, nor even obviously retarded.

If we could consider the animal upon which the experiment was made as so much cultivating material, we should have actually the large proportion of the acid towards the body weight of 1 in 250—a strength which, the researches of Klein and Lingard show, would exercise a strongly antagonistic action to the growth, and even to the life, of the anthrax virus; but we can only suppose that a very small fraction of the whole is present in the body at one time; and, whatever this fraction may be, it is evidently insufficient to achieve its purpose. Of the decomposition of these substances within the organism, and of their excretion, it is true we know but little; of the sodium salt of phenyl-sulphonic acid; however, the elimination has been carefully studied. According to some observers, the salt is rapidly decomposed after absorption, phenol being excreted by the breath, and sulphuric acid, in combination with sodium, appearing in the urine. Mr. Laws examined the urine, which had been carefully collected, of many of the animals to which I was administering this salt, and he was able to recover the whole of it unaltered within a very short time—two to three days—of the cessation of administration.

It seems impossible to conclude otherwise than that these bodies are themselves too active towards the animal organism to be introduced into it, compatible with health, in such quantity that the existence of the pathogene shall have terminated, or its power of reproduction modified by them. The experiments I made presented but little ground for hope that a successful prophylaxis against anthrax, such as I subsequently demonstrated may be certainly established with corrosive sublimate, can be produced by their agency.

The essentials to successful prophylactic medication, which I have endeavoured to indicate, are obviously well fulfilled by corrosive sublimate; and insufficiently, on the other hand, by the carbolic compounds which I have considered.

There is much in this interesting group of bodies upon which I cannot enter. Time precludes me from saying more on their anæsthetic action than that they furnish us with bodies which promise to become of primary importance as analgesics. Carbolic acid is a local anæsthetic. Bill showed years ago that the radial artery could be exposed painlessly under its action, and Sir J. Lister considered its anæsthetic effect as a valuable adjunct to its antiseptic action.

Of the diatomic phenols, hydroquinone is also active as an analgesic, having in this respect a decided superiority over its isomer, resorcin. But the most valuable of the substances which I have spoken of to-day is undoubtedly antipyrin, which bids fair to take the place even of morphine to a certain extent. Neudorfer states that two Pravaz syringes full of a 5 per cent. solution relieves all painful affections. Its action is both general and local. When Sée injected fifteen grains into the leg of a rabbit he found that a condition of analgesia was induced in the limb, and that the irritability of motor nerves was lost. Clinically, it is widely employed now as a safe and rapid agent against painful affections generally. Whether in the pains of gout, rheumatism, migraine, or tabes dorsalis, it has proved its efficacy. La Guardia has seen it useful in persistent neuralgias following herpes zoster, and three grains daily were sufficient to subdue the pain of syphilitic nodes. Surgeon-General J. Ogilvie pointed out its great value in nerve-storms; he advocated eight-grain doses repeated hourly until three or four have been taken, but two such doses generally cure.

The drug is well administered in seven or eight grain doses hypodermically, in order that any local action it exerts may be superadded to its more important general effect upon the nervous system.

Professor Leech (Manchester) considered that the injurious influence occasionally produced by the dihydroxyl compounds would prevent their coming into general use as antipyretics, the more newly introduced substances—antipyrin and antifebrin—being more safe, and at the same time more powerful. He considered that, whilst undoubtedly some evils might result from the use of these latter drugs in excessive doses, owing to sudden fall of temperature producing collapse, the direct toxic effects of these drugs had been overstated. Yet undoubtedly antifebrin as well as antipyrin had caused in some cases collapse. With regard to the comparative effects of antifebrin and antipyrin, the former had the advantage of less frequently producing rash; indeed, a rash after the use of antifebrin was extremely rare. It was worthy of note

that antipyrin would produce rise in temperature as well as fall. Antipyrin had very little action on the heart's muscle itself, and probably the action of this drug as well as antifebrin influenced the circulation rather through the nervous system than through a direct action on the heart-walls or vessel-walls.—Dr. ILLINGWORTH (Accrington) thought that antipyretics such as antipyrin acted by preventing the formation of fibrin. This was proved by the cyanosis induced by the drugs and by the reduction of oxyhæmoglobin. These drugs ought, therefore, never to be used in diseases associated with diminution of fibrin; for example, typhoid and all germ diseases. It was only safe to give them in cases of pyrexia due to catarrhal causes. Dr. MacAlister, one of the chief authorities on pyrexia, thought that "the muscles were the chief furnaces of fever in health and disease." Dr. Illingworth thought he was not warranted in coming to such a conclusion, because there were not control experiments of such a nature as to indicate the effects of capillary circulation on rise of temperature. Corpuscular friction in health and blood-stasis in disease were, however, reasonable causes of thermogenesis. Again, Dr. MacAlister's experiments were purely physiological. Blood-stasis took no part in the conclusion, whilst all inflammatory processes were essentially associated with that process. Stasis caused tension (and in many cases pain): tension excited the vasomotor nerves both peripherally and centrally, and the result of both combined was increased resistance and increased *vis à tergo*. On the principle of "conservation of energy," increased friction in the circulatory cycle increased thermogenesis. The results of treatment were corroborative of such a view. In a case of pneumonia, salicylate of soda, alone or combined with carbonate of ammonia, liquefied the blood; and aconite or digitalis in five-minim doses depressed the action of the heart. By the double effect of liquefaction of blood and depressant effect on the heart there was rapid resolution of the pneumonia and a fall of temperature, frequently in twelve or sixteen hours, to the normal. His own experience with these drugs confirmed the observations in reference to their occasional production of collapse and dangerous symptoms. —Dr. WILBERFORCE SMITH said that the action of disinfectants in diseases caused, or probably caused, by micro-organisms was of great interest. He deprecated the use of carbolic acid or other powerful substances, which, to destroy micro-organisms in the blood or deep tissues, must go near to destroying the blood and tissues themselves. A more hopeful prospect was afforded by specific disinfectants for specific infectious diseases. The well-established use of mercury in syphilis and of quinine in malarious fever furnished the best instances. Mercury and syphilis in like manner naturally acted on corresponding tissues, skin, mucous membrane, bone.—Dr. KIRK (Glasgow) could not agree with Professor Leech in regarding carbolic acid as an antipyretic which was dangerous in doses sufficiently large to be effectual. He had found that in cases of pneumonia, typhoid fever, and general febrile conditions, with a temperature of 103° or 104°, it might be given with absolute safety in doses of 4 grains every two hours, until the temperature fell to 100° or 101°. In these cases, when the temperature was reduced below 102° by the drug, he invariably found that the general *bien-être* and comfort of the patient were much improved, and, as he believed, his chances of recovery much enhanced. He did not consider it necessary to reduce the temperature further, and perhaps the same doses would not then be safe, as there was probably a tolerance of antipyretic remedies in pyrexia. He believed that an exaggerated idea of the poisonous power of carbolic acid prevailed amongst the profession.—Dr. SIDNEY MARTIN was interested in the observation of Professor Leech that antipyrin in some cases produced fever instead of reducing it, because he had found, in some experiments on the action of the active principle (a globulin) of the jequirity, that in pigeons a large dose caused simply a great depression of temperature, while with a small dose the temperature sometimes rose one or two degrees before falling. With regard to the analgesic action of antipyrin, Dr. Martin had found the drug of great service in relieving the pain of aneurysm; but, owing to the large amount of liquid required to be given hypodermically locally, ecchymosis, abscess, or scarring might result, unless the liquid were gently rubbed away after injection.—Dr. ARCHIBALD MACDONALD (Liverpool) said that, on first learning anything of the germ theory in 1879, he had caught at the principle of antiseptic treatment of the zymotic diseases, and, after administering carbolic acid internally in 1880 for scarlet fever and whooping-cough, he had indicated his views in a short article in the *Edinburgh Medical Journal* of September, 1881. Then, and now, he held (1) that antisepsis was the rational principle of treating all germ diseases; (2) that it was our duty to discover the antiseptic substance which was most antagonistic to the micro-organism of each disease; (3) that though the human organism could not be sterilised, appropriate antisepsis might lower the vitality of the disease germ, and prevent poisoning of the organism by the germs' excrement. Prevention by sterilisation of the body in the incubation stage of infection was difficult, but antiseptics given previous to the reception of cocci might be made prophylactic. Dr. Macdonald was experimenting as to measles in the case of his two children, doing an evening fumigation of their bedrooms with sulphurous acid, administering benzoate of ammonia, and causing them to wear when indoors a small bag containing absorbent cotton wool, on which terebene was dropped at intervals. He thought that the truth could be arrived at regarding antiseptics given internally if it were resolved to give a drug—say carbolic acid or benzoate of ammonia in scarlet fever—and all the members of the Association agreed to administer the drug for one year, and carefully tabulate their results, from which general deductions could be obtained. We wanted to be able to say: "This antiseptic will (prevent or) cure this disease." Dr. Macdonald referred to other antiseptics—eucalyptus, iodine, and menthol. He had given antipyrin in scarlet fever, typhoid, migraine, facial neuralgia, acute gastric catarrh, membranous dysmenorrhœa, and in a case of septicæmia, after a successful operation for ruptured intra-ligamentous gestation, the chart of which he exhibited; and he thought antipyrin to be one of the most valuable drugs in the materia medica.

CASE OF PERNICIOUS ANÆMIA SUCCESSFULLY TREATED WITH ARSENIC.[1]

By JOHN STRACHAN, M.D.,
Dollar, N.B.

J. C., aged 64, height 5 feet 11 inches, normal weight 13 stone. His parents had always been healthy, and came of a long-lived stock. His mother died at the age of 54 from the effects of severe carbuncle, and his father lived to the age of 71. His family consisted of one boy and two girls, but the boy died at the age of 13; both girls are alive and healthy. During the summer months he resides at his country seat in Perthshire, spends the winter in Edinburgh, and frequently travels on the Continent in spring. He is very regular in his habits, and has always been a temperate man, and with a tendency to too close application to business matters. He is of a rather phlegmatic temperament. With the exception of hay fever, to which he has been subject for about thirty years, and which sometimes took the form of bowel irritation with loose stools, he has enjoyed very good health up to the year 1877. In the summer of that year he had a rather severe attack of bowel irritation with loose stools.

This state of things continued, more or less, for the period of about two years, and reduced him very much, his weight at the end of that time being only 11 stone 7 pounds. For this he was treated chiefly with astringents. In 1879 he had apparently quite recovered.

For the next six years he enjoyed capital health, and increased in weight from 11 stone 7 pounds up to 14 stone 6 pounds. He expresses himself as never having felt better than during the summer of 1885. This was a particularly cold summer, and owing to that or to some other reason he had none of his usual hay fever. In the month of October, however, he was the subject of a severe attack of diarrhœa. Since then he has always had more or less looseness of the bowels.

In May, 1886, he went to Tunbridge Wells, and remained there until the end of June. He was there treated with iron, given, as he understood, as a tonic for the bowels, there being no mention made of anæmia. He received no benefit from this treatment, which rather tended to increase the bowel irritation. He, while in London, consulted Sir Andrew Clark, who ascribed his condition to irritation of the mucous membrane of the alimentary canal, and put him on a rigid diet with a tonic containing strychnine. He continued under this treatment during the summer, but with little or no benefit.

[1] Read in the Section of Medicine at the Annual Meeting of the British Medical Association held at Glasgow, August, 1888.

During the winter he was in Edinburgh, and was treated with various drugs—stringents, opiates, bismuth, and pepsine, and, latterly, with Bland's pills and other preparations of iron. His bowels, notwithstanding, remained loose, and gradually he became weaker, appearing markedly pale and anæmic. He had difficulty now in walking about, and was troubled with palpitation on the slightest exertion.

On June 3rd, 1887, I saw him in Edinburgh in consultation with Dr. Peddie and Dr. P. H. Watson, preparatory to his coming under my care at his country residence. His appearance was greatly changed since I saw him last, being much thinner, very pale, and evidently suffering from great bodily langour. We together made a careful examination of the various organs, but could detect no distinct variation from the normal. The face, lips, and gums were abnormally pale, tongue slightly coated with fur and flabby, and there was some œdema of the feet and ankles. The fæces passed that morning were light-coloured and of a porridgy consistence, containing a good deal of gas, which gave them a frothy appearance. Urine merely darker than usual but not bilious. He complained of no pain, but only of great weakness. He was taking a mixed diet, with a fair proportion of animal food. For some time after his coming to the country I continued with the same line of treatment, but instead of improving he became daily weaker and more anæmic.

At first his pulse when at rest kept steadily at 84, but rising at once to over 100 on his assuming the upright position. It afterwards went up to 90 to 100 when at rest, and increased above this on the least exertion. He could not lift his arms without a painful effort, and when sitting up supported his head on his hands. He had also great weakness in the loins and thighs. The temperature was normal. The evacuations continued frequent and loose, and, as a rule, more or less pale and frothy. He was out of doors part of every day, the weather being fine, but was quite unable to walk about, on one occasion almost fainting on coming in.

At the request of his friends I now called in Professor Gairdner, and we saw him together on July 14th of last year. Like the rest of us, Dr. Gairdner could detect no organic disease, but diagnosed the case as one of pernicious anæmia. By his advice I now put Mr. C. on arsenic. I at first gave him arsenious acid parvules, but afterwards liq. arsenicalis in two-minim doses three times a day. I also sent some of his blood to Professor McKendrick for examination, and received from him the following report:

"The specimen of blood in the capillary tube presents several features of curious interest: 1. There are several forms of corpuscles: *a*, red corpuscles of the usual form and size; *b*, blood corpuscles globular in shape and slightly larger than normal; *c*, numerous red corpuscles of irregular form (change of form probably due to drying); *d*, a considerable number of small bright refractive bodies like oil globules and similar in appearance to those figured by Eichhorst as occurring in pernicious anæmia; *e*, not a single colourless corpuscle can be found. 2. The number of corpuscles is decidedly less than in normal blood."

I myself examined the blood, and was much struck with the remarkable condition of the red corpuscles.

A few days after the commencement of this treatment Mr. C. had a slight attack of congestion of the right lung, with rusty-coloured sputa, and temperature of 102°. As showing the extremely weak condition to which the patient had been reduced, it is noteworthy that this comparatively slight illness, lasting only a few days, was sufficient to bring him to the very point of death. The affection itself ran a very short, favourable course, but vitality was so low that this slight additional drain on it caused a state of coma lasting for about twenty hours, with Cheyne-Stokes breathing and almost imperceptible pulse, during which we all thought he was about to breathe his last.

This seemed the turning point in the case. The coma gradually passed off, but it was another twenty-four hours before he fully recovered consciousness. For a long time after this his weakness was extreme. He was troubled with a hacking cough and with frequent fits of dyspnœa, which distressed him greatly. The œdema of the feet and legs increased, extending above the knees, and the scrotum became considerably distended with fluid: but almost from the time of commencing the arsenic the state of the bowels and stomach improved; the evacuations were reduced to five in twenty-four hours and assumed a firm consistence, although still more pale than natural; the tongue cleaned and the appetite improved.

On August 15th I have the following note of the case: "Decided improvement during the last fortnight. Digestion and appetite greatly improved, having only one motion in twenty-four hours, of good form and consistence, such as he has not had for many months. Takes a good deal of nourishment with some relish, and is distinctly putting on flesh. The œdema of feet and legs was greatly less for a time, but has increased within the last day or two. The pulse, however, has been greatly increasing in rapidity, till it is now never under 100, sometimes as high as 120, and weak. Distressing attacks of dyspnœa. Examined the blood, and find some improvement; corpuscles more numerous; a greater proportion well formed, and a more distinct attempt to form rouleaux; there are still many misshapen and fragmentary in appearance. Stopped arsenic for a time, owing to toxic symptoms."

From this time improvement set in and went on steadily. In addition to the arsenic, of which he took Fowler's solution, ♏ii three times a day, I gave him, as required, digitalin parvules, euonymin, a diuretic with iron and nitrous ether along with gin, and for a time small doses of strychnine, and kept him on a light diet of milk and farinaceous food.

On August 27th the pulse was down to 95, and he was able to sit up for some time every day.

On September 5th he was able to go down stairs and spend a little time in the conservatory. His pulse was then 84 when sitting up, but only 72 when lying quietly in bed. The heart increased in power every day.

On September 13th the pulse was only 78 immediately after he had finished dressing, and on the 15th 76 five minutes after he had walked upstairs. The œdema, however, rather increased than diminished, extending up the legs to the back of the thighs and across the loins. The scrotum was considerably distended.

On September 29th I was able to write the following to Professor Gairdner: "You will be gratified to learn that the improvement in Mr. C.'s health still continues. He is now looking like his former self; he walks with a firm step and erect head, and his pulse is scarcely accelerated even on walking up stairs (it keeps steadily at 75). The blood is wonderfully improved, indeed I can scarcely distinguish it now from healthy blood, unless that the individual corpuscles are rather fewer in number. The individual discs seem quite healthy; I enclose some for examination by Dr. McKendrick."

The following is Dr. McKendrick's report on the state of the blood on October 3rd, 1887: "As compared with normal human blood: *a*. The red corpuscles vary more in size, many being smaller than normal. *b*. The biconcavity is not so distinctly marked. *c*. The small highly refractive globules formerly mentioned are still present. *d*. Colourless corpuscles are now apparently present in larger quantity than in normal blood. Many of the colourless corpuscles are very large, as much as one-thousandth of an inch in diameter."

On October 1st there was a slight return of the bowel irritation with loose frothy stools and some vomiting; this however passed off next day, and he was then able to be down stairs.

On October 3rd he walked for an hour in the garden.

On November 8th I wrote the following letter to Professor Gairdner:

"You will be pleased to learn that Mr. C. is progressing steadily and most satisfactorily; his strength is greatly increased, he can walk up and down stairs with ease, and outside for an hour at a time. He gets out every day that the weather is at all fit, and walks in the garden and grounds; his appetite and digestion are very good, and the bowels act almost quite regularly once a day. The œdema of the leg is almost gone, only a little swelling round the ankles remaining. The pulse keeps very steadily at about 70. He has had no attacks of dyspnœa for a long time; he sleeps well and is very cheerful. He is taking nothing in the way of medicine except three drops of liq. arsenicalis three times a day with occasional intervals of a week, and sometimes a little euonymin. I send you some of the blood, which I hope will show as marked an improvement. So far as I can judge it does not now greatly differ microscopically from healthy blood. I shall be glad to learn Dr. McKendrick's opinion."

The following is Dr. Snodgrass's report on the blood (November 11th, 1887:

"It has nearly a normal appearance, allowing for some changes due to partial coagulation. The coloured corpuscles do not vary much in size as before, the number of the smaller cells being diminished. The highly refractile globules previously mentioned are scarcely to be seen in any part of the field, and so far as can be judged the number of colourless corpuscles and their size seem to be about normal."

After this Mr. C. gained steadily in strength, and before he left the country, about the end of December, was able to walk two or three miles at a stretch, his pulse being generally about 70.

He spent the winter in Edinburgh, and about a month of spring in North Wales. He is now at his residence in Perthshire, and pretty well out of the doctor's hands. He has lately spent the greater part of three days in the Glasgow exhibition, which I take to be a pretty severe trial of strength. He still continues to take the liq. arsenicalis for every alternate month.

Dr. AFFLECK thought there was now sufficient clinical evidence to justify an alteration in the nomenclature of this disease. Many of the cases, having all the characteristics of pernicious anæmia, recovering completely under treatment by arsenic, in conjunction with a suitable diet. Dr. Affleck had repeatedly had cases of this disease under treatment in the Royal Infirmary, Edinburgh, where hæmacytometric observation has shown corpuscles reduced considerably below 1,000,000 per cubic millimètre completely recover under treatment by arsenic and iron.—Dr. M. A. BOYD said that, in a great many cases of chronic dilatation of the stomach, supervening on chronic gastric catarrh and without organic disease, a condition of anæmia and exhaustion supervenes, which was often mistaken for pernicious anæmia. The history of this case would closely correspond. The persistence of chronic gastro-enteric derangement for so many years would produce all the symptoms enumerated, more especially as the patient improved ultimately with arsenic.

ON THE VALUE OF ELECTROLYSIS IN ANGIOMA AND GOITRE.[1]

BY JOHN DUNCAN, LL.D., M.A., F.R.C.S.E., etc.,
Surgeon and Lecturer on Clinical Surgery, Royal Infirmary, Edinburgh.

I THINK it may be interesting to put on record a few of the outstanding cases of angioma which have come under my observation during the last year or two, with the view of illustrating and defining the varieties in which electrolysis is the best treatment at our command. I shall select the cases because they present individual peculiarities which fit them for this purpose, and because they are in themselves unusual. Nævi, or the congenital forms of capillary angioma, of course present themselves in large numbers. I choose three.

CASE I.—A remarkable example of the cutaneous variety was brought under my notice by my colleague, Mr. Miller, not because it was possible to treat it, but because he knew I was interested in the subject; and I cite it simply as typical of a class for which as yet we have no reliable means of cure. In this child the whole of one thigh as high as the buttocks and other extensive areas of the body were of a most delicate pink tint, which, indeed, it would have been difficult to recognise as abnormal but for the sharpish edge where it met the normal skin, and the possibility of demonstrating the dilated vessels by gently stretching the skin. Besides this, there were dotted irregularly over the body a multitude of black specks about the size of a pin's head, more and less, which looked like minute extravasations or pigmentations, but which careful examination showed to consist of closely-packed vessels. I have never seen the cutaneous nævus or port-wine stains at once so delicate in colour and so extensive, nor have I seen so extraordinary a number and blackness of these tiny vascular dots.

CASE II.—A case of nævus interesting for its size in a puny child three months old was brought to the infirmary in May, 1887. The tumour, gigantic when compared with the patient, was the size and shape of a medium-sized Jaffa orange. It was situated behind the ear. The whole surface was of a bluish pink colour not uncommon. It was exceedingly soft, and by pressure the blood could be so entirely forced out of it that it became completely wrinkled and flaccid. It was also remarkably slow in refilling. An absolute cure in every respect, not a mark or trace being left, was attained by three electrolytic operations, one of them performed in my absence by Dr. Hodsdon.

CASE III.—On Dr. Taylor's recommendation a nævus was put under my care, which presented this striking peculiarity, that a portion of it occurred in bone. It occupied the anterior and chiefly the outer part of the foot in a child about eight months old. It did not involve the skin in the slightest degree, but reached completely through and through the foot from dorsum to sole. By pressure four metatarsal bones could be distinguished, of normal size and shape, although all except the first were imbedded in the growth. But the fourth metacarpal bone was very greatly enlarged, and, on introducing the needles into it, they plainly entered first the vascular tissue, then passed through a thin osseous and cartilaginous shell, next the nævoid medullary cavity of large size, and lastly the opposite circumference of the bone. As the child has advanced in age this toe has not developed with the same rapidity as the others, and is now somewhat recessed.

There was at first considerable difficulty in diagnosis. The total absence of any affection of the skin, except as to one or two dilated veins which any tumour might cause, and the expansion of the metatarsal bone, were the sources of this difficulty. But the compressibility, extent, and uniform consistence of the portion external to the bone formed the grounds for believing the tumour to be a nævus and not a sarcoma, an opinion which has been confirmed by the lapse of two years, and the behaviour under treatment.

It is plain that such a nævus was amenable to no other method of treatment than amputation or electrolysis. To leave it alone while it was rapidly growing would have been unjustifiable, if there were any possibility of safely arresting its progress. The whole anterior part of the foot was so involved as to make excision impossible. The injection of coagulants is to be looked upon as acting in a somewhat similar manner to electrolysis, but is always less manageable, more dangerous, and not so effective. Amputation was not to be thought of in a condition not dangerous to life, and in which a cure natural or artificial was still possible. In short, the case was one of those in which the advantages of electrolysis stand out in the clearest manner, because it was really the only available method, was free from danger, and with time and perseverance was absolutely certain of success.

The applications were somewhat difficult and uncertain because the child lived two hundred miles away, but six operations have had this effect: that the tumour has become greatly consolidated, is shrivelled, and is steadily diminishing in size.

CASE IV.—From several examples of extensive cavernous angioma I select one which was sent to me by Mr. Lawson Tait. As I have elsewhere pointed out, these forms are generally adult varieties, a few commencing late but most being extensions and alterations of congenital examples. In this young lady the tumour occupied the bend of the elbow and extended over a large part of the anterior and inner aspect of the upper arm. It had been treated in various ways, and injection of perchloride of iron had caused much sloughing and great danger from septic poisoning. It showed extremely well the large caverns which exist in these cases. Some could be felt with the needles to be as large as walnuts, and one or two had a covering including skin and venous wall not thicker than a piece of parchment. The operations were performed at intervals varying from six weeks to three months. The difficulty consisted in producing sufficient effect on the walls of the angiomatous caverns without involving the skin in destruction. Now, however, after working at it for more than a year and a half I have the satisfaction, thanks to the indomitable perseverance of the patient, of knowing that it is at length cured. Here again no other method of treatment was possible. The question of amputation had indeed been seriously entertained in despair of success by other remedies.

The other cases which I wish to record are examples of pulsatile angiomata.

CASE V.—The first is the case of a medical student, sent to me by Dr. Frew, of Kilmarnock. It belongs to a common class, the ordinary pulsatile nævus. A considerable portion of the side of the neck and face was occupied by a lightly tinted port-wine stain, but of late an extraordinarily rapid development of a pulsating swelling had occurred in the ear, so that the auricle resembled a huge pear, and the pulsations could be seen at any distance. One operation sufficed to cure the disease.

CASE VI.—Cirsoid aneurysm is comparatively a rare disease. I had the satisfaction of seeing a short time ago a girl, aged 19, in whom an exceedingly severe form had been entirely cured by electrolysis in 1886. She was sent to me by Dr. John Moir, of St. Andrews. The tumour chiefly affected the left temporal artery, but extended to the occipital on the same side and the temporal on the other, forming an irregularly rounded tumour more than three inches in diameter. Two operations consolidated the greater

[1] Read in the Section of Surgery at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

portion of the mass, but four subsequent sittings were required before I succeeded in obliterating some tortuous branches of the anterior temporal which curved backwards into the tumour, a long and very twisted portion of the occipital, and the neck of the tumour in front of the ear. In the end the success was most gratifying, for not a trace of the disease remains except in a slight flattening of that side of the skull.

Case VII.—About the same time a woman, aged 48, was sent to me by Dr. Robert Moir, also suffering from cirsoid aneurysm. This case was peculiar in that it consisted of one central branch of the temporal, which was dilated to the thickness of the little finger, and was folded and refolded on itself in its course from the ear nearly to the vertex. I have never seen a case in which the dilatation was so perfectly confined to a single vascular tube. This condition made it more amenable to treatment. One operation sufficed for the cure.

Coincidences of occurrence such as presented themselves in these two cases are curiously frequent, but this was rendered still more striking by the fact that at the same time, in June, 1886, I had under treatment two cases of traumatic arterio-venous aneurysm of the orbit, concerning which I was consulted by my colleague, Dr. Argyll Robertson.

Case VIII.—J. M., aged 11. Five months before I saw her she wounded her right lower eyelid with the broken rib of an umbrella, which caused free bleeding and extravasation. After a few weeks the eye began to protrude, and diplopia occurred. On admission to the infirmary thrilling pulsation could be felt over the eye, most markedly towards the inner side. At each pulse the eyeball was protruded, and pulsating veins could be seen in the upper lid. A purring murmur could be heard all over the head from forehead to occiput.

Operation, June 25th, 1886.—The needles were inserted and the current passed for about fifteen minutes. Considerable ecchymosis followed their withdrawal, and on its subsidence great improvement was manifest. A second operation of seventeen minutes' duration was performed on July 15th, and on July 28th the patient went home with the exophthalmos nearly gone and the pulsation imperceptible. She was to return if any recurrence of the disease manifested itself, but has not done so, and has unfortunately been lost sight of. Practically the disease was cured when she left, and I have no doubt continues so.

Case IX.—A. F., aged 3. Two years before admission to the infirmary, she ran against a knitting needle, which punctured the lower eyelid near the inner angle. There was no hæmorrhage, but quickly much swelling and extravasation ensued. On its subsidence, a divergent squint became manifest, and the eyeball began to protrude. On June 10th, 1886, I saw her, with Dr. Argyll Robertson and Dr. Joseph Bell. Considerable exophthalmos was found, with strong pulsation and thrill of the orbital contents, especially towards the inner angle. A murmur was heard over a wide area of the usual rough to-and-fro character. The symptoms were decidedly on the increase. It was determined to electrolyse the growth, which was accordingly done next day, the operation lasting about half an hour. This was followed by considerable swelling and ecchymosis. As this subsided, the child's complaints of the eye trouble quickly ceased. The *bruit* and pulsation steadily diminished, and, with the exophthalmos, had almost disappeared when the patient left a fortnight afterwards. On January 17th, 1887, the patient was brought back for examination. There were a few slightly dilated subconjunctival veins, and, on careful comparison, it was thought that the left eye protruded somewhat more than the right; but there was no *bruit* or pulsation, and, ophthalmoscopically, the eye was found to be quite healthy and the sight good.

These cases may serve to illustrate the value of electrolysis as a means of treatment for vascular tumours. In looking over the records of angiomata which have come under my observation of late years, I have been struck by the fact that I operate by electrolysis in more than two-thirds. This, however, is doubtless chiefly due to the fact that the medical friends who are good enough to send me cases choose those which are either unusual and serious, or specially fitted for cure by electricity; and it is therefore important to define accurately the precise position of electrolysis in relation to other modes of treatment.

I have already pointed out, but I think it well to reiterate, that electrolysis is the best treatment we possess, and, in some cases, the only one for nævi, in which the three following conditions are coincident—namely: 1, that the growth is extending: 2, that it is important to avoid a scar; 3, that the subcutaneous bears a considerable proportion to the cutaneous part of the tumour. If the growth be not extending, it is unnecessary to interfere, because more than half the total number of nævi of the mixed and subcutaneous type spontaneously disappear. If it be not of importance to avoid a scar, there are other methods of treatment, such as excision and ligature, which are equally certain and more speedy. If the nævus be a pure port-wine stain, it will not spontaneously disappear; but, on the other hand, neither electrolysis nor any other method can be relied on to cure it without also destroying the skin in which it lies. Certain exceptions, however, must be made to these general propositions. When a mixed nævus has prolonged its existence into adolescent life, it ought to be treated, because there is no further hope of its disappearance. When a mixed nævus extends over a wide area, even although it be of little importance to avoid a scar, the perfect certainty and safety of electrolysis gives it the preference over every other method. In the pure port-wine stain success may sometimes be attained by the long maintenance of an artificial dermatitis.

The first case I have related is a good illustration of the class which is beyond the reach of treatment of any kind. The second is a typical example of the nævi in which electrolysis is our best treatment, because it is safer and more certain than any of the methods which avoid a scar. The third is a case in which the only possible alternative to electrolysis was amputation. The fourth, as occurring in an adult, is an example of the nævus in which it is no longer possible to hope for spontaneous cure, and in which the only treatment short of amputation is electrolysis. The fifth case is one of those which, continuing into adult life, sometimes then become truly dangerous from rapid pulsatile spread, and the possibility of hæmorrhage from injury or ulceration. Indeed, in this case ulceration had actually begun to manifest itself. The more dangerous and less effective method by the injection of coagulants was the only possible alternative.

The two cases of cirsoid aneurysm illustrate the value of electrolysis in this form of disease. I have now operated in eleven cases without failure or accident. There is, indeed, no alternative but expectancy. I find, however, that this statement is not yet generally accepted by surgeons. In a case sent to me by Dr. Beatson of Glasgow, and cured three weeks ago by one operation, the patient had received many varieties of advice, of which the most reasonable was to leave it alone, the most dangerous was to ligature all the affluents and excise. The most reasonable plan, I say, is to leave it alone if the surgeon is not acquainted with the effects of electrolysis, because the disease is slow in its progress, and, except from traumatism, little dangerous, while all other methods of treatment are either very formidable, very ineffective, or both.

I have no hesitation in saying that the only justifiable method of treatment for cirsoid aneurysm is electrolysis. Its perfect safety and reliability ought to determine its use, even though the tumour be not enlarging.

I would here distinguish true cirsoid aneurysm from what may be called aneurysm by anastomosis, or that form of angioma which consists of large cavernous tissue, communicating on the one side with enlarged arteries, on the other with dilated veins. A considerable number of them may likewise be cured by electrolysis, but I confess to having failed in one or two large and exceptional cases which I have elsewhere recorded.

The eighth and ninth cases are examples of traumatic arterio-venous aneurysm, and the only two which I have had an opportunity of treating by electrolysis. The situation prevented the application of any other remedy, and the success was gratifying, although not more than was to be expected.

A word only remains to be said as to the *modus operandi*. I find that I habitually work with a current of between 40 and 80 milliampères; but that is really a matter of small importance. A galvanometer is of no value in operations where the duration is determined by the palpable and visible effect produced. It is very different in cases where you cannot see and feel the gradually increasing swelling, tension, and hardness. There a means of measuring the current in operation is essential.

Four to eight cells of large size and good electro-motor force are most convenient to work with. It is not necessary to use a large number of cells if both poles be introduced as they ought to be. The body is as good a conductor as acidulated water if the resistance of the skin be avoided.

I introduce both electrodes (insulated, of course, so that the operation may be truly subcutaneous), but I work chiefly with the negative pole. It is to be remembered that the effect is pro-

duced mainly by shrivelling up and destroying the vascular walls' and that coagulation of the blood is a matter of very secondary importance; therefore, I keep moving the negative pole about and penetrating as many vessels with it as I can, because its destructive effect is more powerful and diffuse than that of the positive. I maintain it in one place just long enough to bring about a decided effect, and then change to another.

In these operations the process is essentially distinct from that by which Apostoli and others have produced their effects upon uterine tumours. However his results may be brought about, it is not by electrolysis proper, it is not by the decomposition of fluids and solids at the poles of the battery. It may be neurotic or vascular or trophic or osmotic, it is not electrolytic, and to call it so is no doubt a misnomer. I have for several years, however, been applying electrolysis in the way I describe to various forms of goitre with very striking results, and I have been impressed by the fact that on several occasions the desired effect has been produced by one operation. This was the case, for example, in two out of three cases sent to me by Dr. Watson Campbell, of Duns. There has just left my wards a woman, aged 25, on whom I operated two years ago for a goitre of considerable size, chiefly on the right side. It shrivelled up very quickly after one operation, leaving only a tiny knot low down on the left side. She came back recently on Dr. McBride's recommendation, because this lump was giving her some uneasiness, and she was anxious to get rid of it entirely. I have thus had a rare opportunity of noting the result. Having ascertained by puncture that the swelling was partially cystic, I cut down upon and shelled out a beautiful little cysto-adenoid growth about an inch and a quarter in diameter. I found the gland itself normal in size. I took away a small portion of the left lobe, to which the tumour was attached. I could detect nothing unusual in its structure, but it must be remembered that the needles had been chiefly worked in the right lobe.

I do not think that this rapid atrophy after one operation is likely to be the rule. In the larger number I have found more are required. Moreover, this speedy cure is not without its parallel among the angiomata, in which such success certainly depends on the thoroughness of the operation in reaching all parts of the tumour. It may be, then, that they were simply further examples of absorption of destroyed parts and cicatricial contraction of the rest. Still, however, these thyroid operations were largely tentative, and fell far short of what I should have considered necessary in angioma; and since Apostoli has described his method by the passage of strong currents for short times, without appreciable electrolysis at the poles, I have sometimes thought that, perhaps, there might be something analogous in those thyroid operations.

I have not yet had sufficient experience to be able to define with precision the value of electrolysis in goitre. I can only give the results so far as they have gone.

Fourteen cases have been operated upon. Three are at present under treatment, having been recently operated upon, and already showing beneficial results. One is a fibro-cystic, another a strongly marked exophthalmic, the third a vascular goitre, with considerable dyspnœa. Eleven remain, two or three having slight vascular and exophthalmic symptoms, others with slight dysphagia or dyspnœa, all of the vascular variety. Four of them I have found it impossible to trace. These cases are in the infirmary only for a day or two, and the records of their addresses have been imperfectly kept. In two cases, however, they returned for a second operation, having been benefited by the first. Of the others, six have been absolutely cured, and the seventh, I hear, has the tumour still in no way changed by one operation. I think the results are very encouraging, and that, with greater experience, one will be able to operate with more confidence. The chief difficulties have hitherto lain in the manipulation of the needles, and our want of knowledge of the effects which might be produced on surrounding structures in so important a locality.

SUCCESSFUL VACCINATION.—Mr. T. Pickthorn Thomson, M.B., of Half-Way House, Shrewsbury, has been awarded, for the second time, the Local Government grant for efficient vaccination.

PRESENTATION.—Mr. A. R. Anderson, F.R.C.S.Eng., was presented on Monday, October 29th, at the General Hospital, Nottingham, by the president, staff, and numerous other friends, with a walnut library table and chair, a dining-room clock, and a brass newspaper stand, on his resigning the post of Senior Resident Medical Officer.

INTRODUCTORY ADDRESS
ON THE
REFORM OF MEDICAL EDUCATION.

Delivered at Glasgow University at the Opening of the Session 1888-89.

BY GEORGE BUCHANAN, M.D.,[1]
Professor of Clinical Surgery, University of Glasgow.

PROFESSOR BUCHANAN said he was going to speak a few minutes, not in dictating to his audience, but in suggesting certain topics for their consideration and certain topics upon which he thought they might take some action, because they were, perhaps, aware that probably before the end of this session, for the first time, the students would be recognised by the State as a corporate body in the University. He was going to take up two topics of importance. The first was free trade as against protection; and, secondly, some considerations with regard to the curriculum and examination. What had free trade and protection or monopoly to do with the University, as applied to the study, the teaching, and the practice of medicine? Should the study of medicine be regulated or influenced simply by the principles of free trade; and the same with teaching, and the same with practice? He had not the least doubt that all young, generous minds who heard this stated for the first time would say, "Down with monopoly! Free trade for all connected with medicine." When he was a student, the principles of free trade regulated the entrance into the profession. All that a student had to do was to pay his fee, get his name enrolled, and sit on the benches. No questions were asked. He continued to do so till the end of four years, and then he was examined in one day from botany to medicine. He either came out a doctor or not a doctor. In 1860 free trade was abolished, and now they were under protection; and the protection consisted in demanding that the student should pass a preliminary examination before he began his studies. Was this preliminary examination serving the purposes intended? The original idea of a preliminary examination was to secure that a young man should be engaged in some studies preparing him for the special study of medicine up to the very time he enrolled as a student. But now they passed the preliminary subjects piecemeal, and in many cases left off the really educative subjects as soon as they could pass them—perhaps two or three years before registering as students of medicine. In the preliminary examination there was a great slaughter in mechanics; 204 entries for mechanics, with 101 passes. Why was that? It was easily explained. There was no means in country schools for a young man learning mechanics, and he had to get it up by cramming out of a class book. He thought that with regard to entrance to professional study, mechanics ought to be taken out of the registration subjects. What he held was that a student ought to pass in everything else required for registration; and every student should be compelled to begin his studies in May, not October, and during the first summer he could devote himself to elementary mechanics and physics, and to botany and zoology, and pass in these before the first winter session. In the first winter the student should devote his time solely to anatomy and chemistry, which he could do if the ordeal of the examination in botany and zoology were removed out of the way; while at present during the first winter the examination in botany and zoology was weighing on his mind, which should be free for chemistry and anatomy, especially the latter. Or if the student could afford the time, one whole year might be most usefully spent in mechanics and demonstrations in physics—as well as botany, zoology, and chemistry—as the first medical academic year in Cambridge was arranged. Unquestionably the time had arrived when the curriculum must be extended to five years—and in the case of those who had had no opportunity to study mechanics and physics, probably to six years—but in order to utilise their first year for either botany, zoology, or chemistry, or all, the subject of mechanics might well be included in the first professional examination of a six years' course, instead of regis-

[1] The address was delivered without the use of MS. It appears here in an abridged form, in a report by a shorthand writer. Hence the colloquial and sometimes fragmentary style.

tration. The whole subject of the relation of mechanics and physics to medical study required most careful reconsideration.

Was there any other kind of restriction? What about sex? What about women? The ladies had settled that for themselves in a way that would astonish the audience. Those who had begun already had proved not only their capacity for the study of medicine, but their capacity for excelling the men. He had a note from Mrs. Garrett-Anderson, Secretary of the School of Medicine for Women, and in it he found that at the August examination at the University of London in anatomy, physiology, and materia medica, there were only 19 passes with honours among candidates from all schools, and of these 10 were women. In anatomy there were 6 who took honours, and of these 3 were women; in physiology 6 took honours, and 4 of these were women; and in materia medica 7 took honours, and of these 3 were women. More than half of the honours of the University of London in anatomy, physiology, and materia medica were taken by women, as against all comers from all schools. That proved what women could do. These must, however, be regarded as exceptional cases. They were women who had braved public opinion, and who had satisfied themselves by their previous study that they were qualified for what they undertook, and, consequently, when they were determined to take high honours they did so. He thought it right that women should be encouraged in the profession for the sake of going to India and practising in places to which men were not admitted. In the zenanas of India was the proper sphere for women.

Professor Buchanan next proceeded to state the question: Whether the teaching of medicine should be regulated upon the principle of free trade or upon that of protection? He would say protection for the student rather than protection for the teacher. In the meantime there was restriction for the teacher, and that restriction was founded upon two totally different principles. The one was that a teacher must belong to a guild, the members of which held the monopoly of educating for its own licence, or rather members of one of three guilds, which gave a conjoint licence; university professors being also necessarily recognised, as they were the teachers of the great majority of the medical students in Scotland. The other was that the teacher must defer to a tribunal—an impartial tribunal, the University Court—which was entitled to grant the right of teaching to any person who applied, if he satisfied the Court that he was qualified to teach. That was the present state of matters.[2]

The next question was a much more difficult one. In connection with the giving of a degree, should the teaching be confined to that given within the university, or should it be open to all? At present the teaching for a degree was, in the main, given in the university, but the students had the right to take a portion of it outside. With reference to that, he was of opinion that the permission should be made more liberal than it was. But the very essence of a Scotch degree was that a part of the teaching must be within the university. Many were crying out against this, and demanding that all degrees should be given by examination alone, without reference to any part of it being taken within the university. It was a very curious fact that the university reformers in London—seeing the non-success of the University of London, so far as the wants of the medical profession were concerned—were crying out for the foundation of another university in London on the principle of the Scotch universities, in order, if possible, to share in the success of these universities, of which they were now so jealous; while reformers in Scotland, even with the example of the University of London before their eyes, were crying out that the Scotch universities should grant degrees to all comers, with the certain result that these universities would share the fate of the University of London.[3] The degrees of London University being given by examination alone, to any who chose to present themselves, the test, especially with regard to the science subjects, was made so severe that few, except those specially educated for the kind of examination given, could pass the ordeal. Hence the degree of M.B.Lond. was the mark of exceptional merit and talent, or, at least, of a very special course of study, beyond what was required for the diplomas of the Colleges of Physicians and Surgeons. Now, if the same power of granting degrees by examination alone were extended to the Scotch universities, it would be accompanied by a condition that the test should be made analogous to that of London; with the result that the Scotch M.B. would be out of the reach of those who now obtained it; and so the universities would necessarily become schools and graduating centres for a comparatively small number of the medical profession, who could afford the time and cost of preparing for the very special tests to be applied, and would lose touch with the present class of students, who, as graduates, had done such honour to the Scotch universities. "By all means," said Professor Buchanan, "liberalise the conditions, but retain, in part at least, the principle which has made our universities what they are."

With regard to the question of free trade as against protection in private practice, he would say almost nothing. In 1860, the Government declared that every practitioner who wished to have his name upon the *Register* should pay five guineas for registration. What had they got for that? Had they got any protection? No. There had been no suppression of quackery, as it was called. It was a very delicate and difficult thing to interfere with the freedom of the citizen. If a man preferred to go to a bone-setter or herbalist who did not assume the title of physician or surgeon, and chose to give him a guinea for his help, not as a fee, but as a gift, no one could interfere with that. Every year or two some unfortunate wretch who had made a mistake was hauled up before the General Council, and his name was taken off the *Register*, but there was no suppression of irregular practice by those not on the *Register*, and it was hardly possible to be done. They had done their best, and they had not very well succeeded. It was for those who were beginning the profession to see if they could do better, and give themselves the protection which had not yet been obtained.

In the next place, Professor Buchanan suggested some alterations in the plan of study. Among the most important was the securing a larger share of a student's time for the most important subject, anatomy. This was the foundation on which rested all the practical branches—and the knowledge of its details must be acquired during student life. As a general statement, it might be said that an increased knowledge of medicine and surgery was gained the longer a man was in practice; but opportunities for the study of anatomy were few and far between after the battle of life had begun—so that, from the time a man got his degree, his knowledge of the particulars of anatomy began to get less vivid. In the multiplicity of other studies, it was difficult for a student to find time enough for practical anatomy, but in any rearrangement of the curriculum some more time must be procured for it—even at the expense of some of the other lectures. Some more time for anatomy would be gained when the duration of the curriculum was lengthened.

Professor Buchanan next maintained that it was a great mistake to postpone the practical observation of injury and disease in the hospital to a late period of the curriculum. This was a very difficult point, but he had no hesitation in saying that, for those who were to get all their medical education in four years, the hospital practice should be taken at the beginning of the second winter, and for those who proposed to make a five years' course, it should not be delayed beyond the end of the second winter. Even that time was little enough to be occupied in observing the phases of disease in patients, which was to be the business of their life. Professor Buchanan elaborated this suggestion by some illustrations and arguments, and then concluded as follows:—

"There is one topic of public interest for which I must crave a few minutes' attention. The subject of affiliation of colleges to the University will be fully considered by the Executive Commission under the Universities Act, and I do not propose to discuss it here; but in Glasgow it has been mixed up with another subject to which I must shortly allude. It has been publicly asserted in the Merchants' House, in the Trades' House, and elsewhere, by men who have no personal knowledge of medical teaching, that the clinical teaching in the Western Infirmary is defective, owing to the large number of students who frequent that hospital. I unhesitatingly assert the contrary. I do not deny the general statement that a large hospital is likely to have greater facilities for clinical teaching than a smaller one; but that statement must be taken with some reservation. A hospital with 400 beds and eight clinical teachers is practically eight hospitals with 50 beds each, and each is essentially a repetition of the other. A hospital with 200 beds and four teachers is in like manner four hospitals with 50 beds; and so on. Now, as our students are not allowed to wander aimlessly about, or 'walk the hospital,' as used to be said, but attach themselves at the beginning of each session to one teacher and one set of wards, so far as each individual student

[2] These remarks apply to Scotland.

[3] See notice of an amendment to that effect on the second reading of the Universities Bill.

s concerned, and so far as variety of cases is concerned, it does not matter whether the hospital contains 100 or 800 beds. Each group of 50 is practically identical with the other. When anything unusual in interest occurs in one ward, means are taken to bring it before the students of other wards; but, as a rule, the occupants of each group of 50 beds, medical or surgical, are suffering from nearly allied diseases. University College Hospital, London, has 200 beds; King's College, 220; Charing Cross, 180; Westminster, 215; St. Mary's, 281—all duly recognised as efficient clinical hospitals—while the Western Infirmary, Glasgow, has 400 beds.

"But it is asserted that the classes in the Western Infirmary are too large, and those in the Royal Infirmary too small—indeed, according to the statement of the managers, are dwindling down to nothing. Now, I have every sympathy with the Royal Infirmary, and regret that its students are falling off; but, if it can be shown that the clinical teaching in the Western Infirmary is as good as that at any other hospital in the kingdom, there is no valid reason why it should be interfered with. So long as the interests of the patients are not injured, the managers of these institutions are mainly concerned with finance. If any legislative enactment could induce students to go to the Royal Infirmary instead of the Western, the result would be to enrich the old-established charity, with its large accumulated capital, at the expense of the newer and poorer.

"But it is said the classes of the Western Infirmary are so large that clinical teaching cannot be efficiently conducted. This has been so often reiterated that I here protest against it; and I demand that if anyone chooses to discuss the subject, he will make himself personally conversant with facts and figures before he makes an assertion Some two years ago this was first mooted, and since then some of the managers of the Western Infirmary have made it their business to visit the hospital at the teaching hours, and even to be present at some of the clinical classes, with the view of ascertaining on what grounds such insinuations were made; and I have the authority of the Chairman of the House Committee for stating that the interests of the patients were in no way unfavourably affected, and, so far as he could judge, the clinical teaching was just such as he should think useful. I go further, and assert that it will bear comparison with that in any university or school, and I challenge denial. Some time ago Mr. Caldwell, M.P. for the St. Rollox Division of Glasgow, asked me if there was any way he could become personally acquainted with the mode of clinical teaching, about which so much had appeared in the newspapers. I asked him to come to the Western Infirmary any day he chose at 9 A.M. Accordingly one day he came, and I asked him to follow me with the students and take his seat at a *clinique*. I can with confidence appeal to his experience on that occasion; but on leaving he said to me, 'If the students are not well acquainted with the subject of this morning's practical lesson, I don't think they are capable of being taught,' or words to that effect. I declare that before anyone ventures to make a statement on this subject in public, it is his duty to do what the Chairman of the Western Infirmary has done. No one is entitled to make any statement till he has for himself visited and compared the teaching in the Royal Infirmary, and in Edinburgh, in Aberdeen, and in some of the hospitals in London, with that in the Western Infirmary; and as for me and my colleagues, we would abide the result of a *bonâ-fide* investigation and report, with great equanimity. It is true that in some sessions, some of the eight classes in the Western Infirmary contain more students than even the teacher himself would choose if he had the selection, while others contain fewer than the teacher would desire. But it is difficult to see how this could be avoided so long as the students have the free choice of their teachers. This, however, is in the hands of the students themselves; and, as a matter of fact, if a student is a member of a very large class one session, he is sure to be a member of a smaller class in one or more of the six courses of clinical teaching he attends. I do not say that our clinical system is perfect, and I would hail, and would be one of the first to acquiesce in, any well-devised scheme for its improvement. And in this the senior students, or, better still, the young graduates, who are emancipated from the dread of the final examination, might give valuable hints. But, comparing the present system with that in other schools which I have visited, according to my experience it is as good as any and better than many. I maintain again that if anyone will dispassionately compare the clinical teaching in the Western Infirmary with that in the Royal Infirmary or any other clinical hospital in Scotland, he will unhesitatingly declare that the charge of defective clinical study in the Western Infirmary is unjustifiable and wholly without foundation. In corroboration of the above, reference may be made to the official report in 1886 by Drs. Bristowe, Barnes, and Macnamara, on the visitation of Glasgow University, for the General Medical Council. In these remarks no reference is made to the teachers or their clinical assistants and tutors, but some consideration is due to them in estimating the value of clinical instruction.

"Gentlemen, I have attempted no eloquence in this address; but I may tell you in confidence that I have prepared a most eloquent peroration or epilogue, which I have purposely left at home. They say that 'good wine needs no bush;' and bad wine deserves no bush; so, whether the wine has been good or bad, you shall have no bush. I conclude by commending you to your studies and wishing you a prosperous session."

TOPICAL REMEDIES FOR DISORDERS OF THE ANUS AND RECTUM, AND IMPROVED INSTRUMENTS FOR THEIR APPLICATION.

By JOHN WARD COUSINS, M.D.Lond., F.R.C.S.,
Senior Surgeon to the Royal Portsmouth Hospital and to the Portsmouth and South Hants Eye and Ear Infirmary,

THE common disorders of the anus and rectum exhibit very varying degrees of severity. Sometimes local distress, pain, and frequent bleeding necessitate surgical interference without delay; at other times any operation appears undesirable in consequence of age or extensive visceral disease. The judicious surgeon will always select those cases which are favourable for radical cure, and in this way avoid the complications and disastrous results of bygone practice.

Now every day we meet with mild forms of these diseases, for which our patients refuse altogether to undergo surgical treatment, but they are very anxious to adopt palliative measures. Fortunately, in a large number of cases, the assiduous application of topical remedies is followed by great temporary relief, and sometimes even by permanent cure.

Of course anal and rectal affections are not always mere local disorders. In many cases they are excited by general diseases and visceral obstructions, and the removal of the primary cause always demands the first attention. Respecting general treatment, great relief can often be obtained by regulating the secretions, by attention to the diet, and especially by avoiding all excesses in eating, drinking, and tobacco. Aperient and laxative remedies are frequently serviceable, but they must always be mild and unirritating in their action.

With these few remarks I shall pass to my special topic—the local treatment—and I shall briefly narrate my experience as to the best applications and the right method of applying them.

During the act of defæcation in the healthy condition of the bowel the blood-vessels around the orifice are distended, and slight protrusion of the mucous membrane takes place; and whenever the muscular tension and vascular turgescence of the part are habitually prolonged and severe, the very conditions are present which promote the development of hæmorrhoidal troubles. In cases of ordinary constipation, and prior to the expulsion of hardened accummulations, some softening or lubricating agent may with great advantage be introduced into the rectum, and for this purpose I strongly recommend a smooth and creamy mixture of boracic ointment, glycerine, and lanolin.

In relaxed conditions of the anus and rectum with a tendency to prolapse, prolonged efforts during evacuation distend the dilated vessels, aggravate the varicose state of the anus, and increase the local distress. Straining at stool must at all times be carefully avoided. It is a good plan to get a regular action of the bowels just before going to bed, instead of early in the morning, for then, during the repose of the night, the intumescence of the organs has time to subside. Immediately after an evacuation the anus should always be washed, and the well-soaped hand is the best instrument for the purpose. Habitual cleanliness is one of the most effectual ways of preventing hæmorrhoidal disorders. The irritating secretions and mucus from the orifice of the gut are removed, and the friction tends to brace up the part and empty the distended vessels. There is no region of the body which really requires so much sanitary attention, but, even in these days of hygienic enthusiasm, it is too often the last part to be cleansed.

The affection commonly styled "piles" is, in many cases, nothing more than soreness and irritation of the anus produced by daily neglect and local impurity. When the surrounding skin is healthy, any ordinary soap may be selected for washing purposes. Sometimes the folds of skin around the orifice are swollen and irritable, and often external hæmorrhoids cause a great deal of irritation. In persons of a full habit, a local erythema is very common, extending over the nates. The skin is red and moist, and by friction, it becomes tender and excoriated. The disorder is generally easily cured by careful attention to the part after every evacuation. I have used with great success well-washed soft soap, made into a smooth compound with the alcoholic solution of coal tar, or the oil of eucalyptus globulus. After the lavement, the part must be carefully dried with a soft towel, and dusted with a fine powder composed of carboniate of bismuth, oxide of zinc, and starch.

In cases of chronic gout, and in other constitutional derangements, an obstinate form of eczema attacks the anus and genital organs, and the tormenting itching which attends the disease causes persistent scratching and excoriation. Sometimes the skin becomes infiltrated and fissured in the direction of the normal radiating folds. This disorder cannot, of course, be treated apart from the constitutional condition with which it is associated; but the daily use of the soap I have mentioned is often followed by remarkable benefit. The drying powder may then be applied over the part, or a little of the boracic ointment gently rubbed in.

The local treatment of prolapsus ani and hæmorrhoidal disorders is a matter of daily importance. In acute inflammatory affections of the anus, rest in bed should be maintained, and the patient will be much relieved by sitting two or three times a day in a hot carbolised bath.

In all cases requiring washing and irrigation, I recommend the use of a very convenient contrivance. It consists of a metal pan with a deep well in the bottom, and it is supported on short legs. The patient sits on the side of this well, so that the anus and genital organs can be completely bathed. It is especially serviceable in inflammatory disorders of the bowel, and after operations for hæmorrhoids and fistula. It is fitted with inlet and outlet pipes for continuous irrigation—a mode of treatment I adopt after all rectal and perineal operations at the Royal Portsmouth Hospital, and I hope to describe its utility in these cases on a future occasion. Whenever internal piles come down during defæcation, they must always be carefully washed and returned.

In prolapsus ani the protrusion should also be carefully pushed back directly the stool has escaped. Many of my patients, labouring under aggravated troubles of this sort, have experienced much relief by using for a few weeks a bed-pan in the horizontal position. At all times the inconveniences attending the act of defæcation may be alleviated by introducing into the bowel a lubricating agent to prevent undue straining and to facilitate the escape of the motion, and for this purpose the antiseptic compound I have mentioned is admirably adapted. The anus should then be carefully washed, and a little stimulating ointment put into the bowel, to check excessive secretion, and to rouse the mucous follicles to more healthy activity. I often employ a remedy containing a little oxide or subchloride of mercury and a few grains of iodoform. If pruritus ani is troublesome, cocaine may also be added to it with much advantage.

It is necessary here to refer to a matter which generally receives too little attention. Patients should always be instructed as to the right way of applying local applications. It is of great importance that these are distributed upon the mucous surface of the bowel well within the sphincter, and the only way of obtaining this result is by the use of an ointment-introducer. The simple instrument I have designed for this purpose is represented in the engraving (Fig. 1). It consists of a very smooth anal tube, a

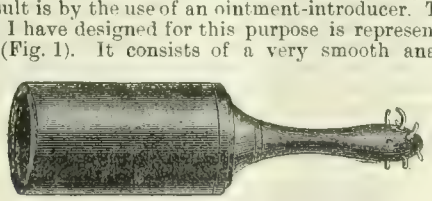


Fig. 1.

cylindrical receptacle for the ointment, and a vulcanite piston. The ointment is projected through the perforations in the anal tube by simply compressing the piston with the finger. The injector is very readily charged, and is especially adapted for self-application. The rectal injector (Fig. 2) is intended for the use of

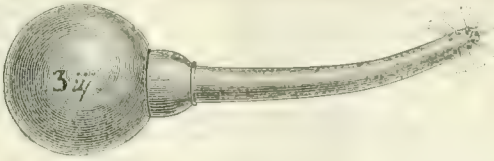


Fig. 2.

fluid remedies, and is capable of holding three drachms. For the introduction of larger doses, the anal tube can be used with a second hand-ball.

Hæmorrhage is often a very prominent symptom in many of the common disorders of the rectum. The quantity of the discharge varies a great deal in different cases. At all times the amount of blood lost at each evacuation must be carefully ascertained. Sometimes the fæces are only smeared with spots and streaks of blood, while at other times the loss is very considerable and alarming. Whenever free bleeding has suddenly occurred, or the drain has continued for a long period unchecked, the case is not one for mere palliative treatment, but ought to pass without delay into the hands of the surgeon.

In many cases, however, of moderate severity, the daily use of local remedies will be followed by great benefit. The same diligent attention to cleanliness after an evacuation must be practised, and then an ointment containing the persulphate of iron should be applied to the diseased surface. The fluid extract of witch hazel is also a very efficacious remedy. When a very powerful hæmostatic is required, the persulphate may be added to the hazeline with great advantage. I generally order two drachms of this solution, diluted with a little water, to be used regularly for two or three weeks. For all cases of hæmorrhage, rest in the horizontal position after defæcation is extremely desirable, as it tends to relieve the local congestion, and to promote the astringent action of the remedy.

One word respecting the value of anodyne applications. The distressing pain which attends the evacuation of the bowels in some diseases, and continues for hours after, often demands local palliative treatment. Many cases of pain and spasm of the orifice are greatly relieved by the topical use of cocaine; but, after many trials, I found a combination of morphine and cocaine more generally useful. The application of this compound sedative often acts like a charm, and quickly gives relief. The suffering caused by fissure of the anus and ulceration within the sphincter is rendered bearable by this remedy, and, in recent cases, I have sometimes found its use, combined with digital dilatation, rapidly followed by permanent cure, without any other surgical interference. It is invaluable in the treatment of stricture of the rectum, and it should be introduced into the bowel ten minutes before the use of the dilator. In chronic ulceration and malignant disease, it can be freely employed as a palliative remedy, and, in fact, in all cases in which pain and hyperæsthesia are prominent symptoms.

In conclusion, I desire to mention that the remedies and instruments referred to in this communication have been manufactured for me by Messrs. Burroughs and Wellcome, and I am much indebted to that firm for the care and skill with which they have carried out my suggestions.

ON A BETTER METHOD OF APPLYING INGUINAL TRUSSES IN FEMALES.

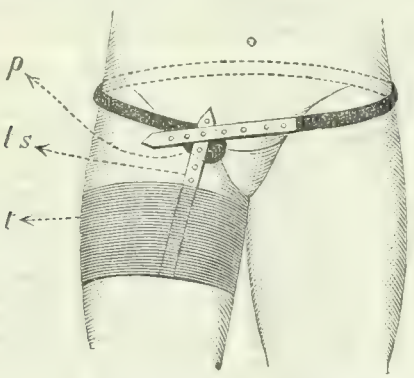
By W. LEONARD BRADDON, B.S.Lond., F.R.C.S.

Trusses that are not comfortable are apt either to be dispensed with by women at times when their use is most necessary, or, what is worse, to be worn so loosely applied as to be really no safeguard against the descent of rupture, while they are yet relied upon as a security. Trusses so used are worse than useless, as often, as in a case of inguinal hernia, strangulated under the pad of a loosely worn truss, which I lately attended, the cause of this negligence is the irritation of the perineal bend, which, to be efficient, must at least be tight, being tight must chafe, chafing is slackened or removed.

At first sight the passage across the perineum seems the best and most obvious position in which to place a band designed to prevent a pad from travelling upwards; but the advantages of this site, setting aside its discomfort, are excessively dubious.

In the first place, the amount of pressure or drag exerted on the pad is a fixed quantity, not accommodating itself to changes of posture; it does not become tighter when the strain at the seat of rupture happens to become greater as in locomotion, and in bending forward, when the truss wants securest fixation, it naturally becomes quite lax. Considering the question mechanically it is decidedly disadvantageous. The direction in which the resultant pressure of the pad should be sought to be applied is backwards, upwards, and outwards, and the spring is constructed to press this way. Eliminating for the present the traction of the horizontal counterstrap, which is said by the instrument makers to be really unnecessary, the action of the perineal band must be to diminish the pressure of the pad in its proper direction, since its direction of traction is determined by the point at which it leaves the surface of the body to join the pad, and this point is below, in front, and to the inner side of the inguinal canal. Yet the trusses sold without this, or any substitute for it, hardly seem reliable, and are certainly not generally approved of or recommended.

In the case referred to, where, owing to great irritation of the skin, no perineal band (even of caoutchouc or elastic tubing) could be tolerated, and where, owing to obesity, it was extremely difficult by any regular truss to keep up pressure on the canal in the proper direction, the following device was adopted. A broad chamois-leather collar, wider in circumference above than below, was slipped over the thigh so that it fitted firmly round it as high up as was comfortable. To this a strap was sewn firmly by one end, the other end being fastened on to a stud placed on the middle of the lower margin of the pad of the ordinary spring truss, the ordinary opposite cross band being firmly fastened also to the pad. The direction of the strap passing up from the thigh-band was slightly inwards, as in the diagram, the whole being



t Thigh-band or collar of chamois leather. *t s* Thigh-strap fastened at other end on to pad. *p* Pad of truss to which cross-strap and thigh-strap are attached by studs.

adjusted accurately by rotating the thigh-band as much as needed.

With this arrangement the patient expressed herself very pleased, as it was perfectly easy and comfortable. It proved also absolutely efficient. Whereas the truss had formerly frequently slipped and the rupture unexpectedly descended, this one has never done (so during six months) since, and she feels while wearing it perfectly secure. Mechanically considered, the line of action of the strap connecting the thigh-band and pad helps the action of the latter instead of partially opposing it: and, during movements of extension of the thigh, as in walking, when the strain on the seat of rupture is greater, the restraining backward pressure on the pad is also increased. Thus it is doubly advantageous. The patient, no longer subject to the chafing of a perineal strap, is not induced to sacrifice security to comfort, and increased pressure is gained upon the ring during those active movements when it is most needed. Substituting an elastic band for the strap connecting the pad and thigh-collar, the additional advantage would be gained of preserving the accurate fixation of the pad even during flexion of the limbs, so that the apparatus is completely adaptable to all postures.

The truss made according to this pattern can be obtained from Messrs. Millikin and Down, St. Thomas's Street, S.E., and I am convinced that practitioners have only to try it to be persuaded of its complete efficiency.

THERAPEUTIC MEMORANDA.

IDIOSYNCRASY TO ATROPINE.

Miss M. was suffering from iritis, and on September 28th I placed in the eye some drops of liq. atropin. sulphat. *(B.P.)*. I saw her again on the day but one following, and was surprised to hear the account she gave. In about an hour after the drops had been put in she became very giddy and uncomfortable, finding difficulty in walking to any object at the other side of room, etc. Afterwards she became intensely drowsy, and the tongue very dry and burnt up. These symptoms continued. She retired to bed earlier than usual, and fell into a kind of stupor, but awaking at intervals shrieking. Her sister, who slept near, roused her several times during the night, as the breathing was so heavy and laboured she feared her smothering. There were no bad results next day, and the eye felt better. The pupil remained large for a week. There was no eruption, nor was there any special effect produced upon the circulatory or other systems.

This lady's sister informed me she had some years previously experienced similar results caused by the application of an ointment containing belladonna.

I think the above is interesting as showing some of the possible effects which may be produced by placing atropine in the eyes of those who are specially sensitive to it. I should perhaps add that neither of these ladies is in the least imaginative.

Donaghadee, Co. Down. W. S. Elliott, M.B., B.Ch.T.C.D.

SURGICAL MEMORANDA.

DOUBLE TESTICULAR ABSCESS CONSEQUENT ON URETHRAL AND PROSTATIC IRRITATION.

As abscess of testicle, save in connection with tubercular or scrofulous disease, seems to be rare, the following abbreviated notes of abscess of both testicles may be of interest.

Not until a week previously to my having seen him had the patient, a hale old gentleman of 72, suffered from any disorder of the genito-urinary apparatus. During that week he had frequency of micturition, and when called in I found him with bladder distended above the umbilicus. Examination *per rectum* revealed an enlarged and tender prostate. A prostatic catheter was passed with difficulty, and the bladder emptied of over two quarts of smoky urine, mixed towards the end with bright blood and mucus. Catheterisation was continued for several days. When the prostatic region got less tender and swollen, and it became possible to pass the ordinary rubber catheter, this was regularly used night and morning by the patient himself. All vesical irritation ceased after washings out with antiseptics, and the patient soon regained health and strength, though he still continued the use of the rubber catheter.

About a month after my first attendance on the case I received an urgent call, and found him in great agony, with his left testicle very much swollen, hot, and tender in the region of the epididymis. At first the enlarged testicle could be distinctly felt at the bottom of the scrotum, but it gradually became indistinguishable from the surrounding infiltrated tissues. The exudation into the skin and tissues overlying the testicle rapidly increased, and in about twenty-four hours the testicle measured twenty inches in circumference.

The usual treatment soon alleviated his distress, and in a few days the measurement was reduced to sixteen and then to twelve inches. Signs of abscess having developed, a free incision was made, and about four drachms of pus and black blood were evacuated. The cavity was then irrigated with water containing a few drops of liniment of iodine, and healed in about ten days. Six weeks later I treated by the same means a similar affection of his right testicle, which, as in the former instance, got well. Both testicles returned to their normal size.

Hornsey, London. J. Newton Burns, M.B.Edin.

OBSTETRIC MEMORANDA.

LABOUR COMPLETED AT FULL TIME WITHOUT A RUPTURE OF THE HYMEN.

I think the following case worthy of being put on record. Some time ago I was sent for in a great hurry, to a woman in her confinement. She had been in labour for a considerable time,

and the midwife told me that there was something which prevented the head of the infant from passing out of the vagina. I examined her carefully, and found a large semilunar-shaped, tough membrane, stretching quite across the lower two-thirds of the vaginal outlet, against which the head was being very strongly pushed by strong uterine action. With some considerable difficulty I was enabled to slip the membrane clear of the child's head, and the labour was then soon completed. The case seems to me of great interest in a medico-legal point of view, as showing that it is quite possible for a child to be born without a rupture of the hymen taking place, and that therefore non-rupture of this membrane is not a trustworthy sign of penetration having taken place in cases of rape, etc.

HUGH TAYLOR.

Coltishall, Norwich.

CLINICAL MEMORANDA.

CANCRUM ORIS FOLLOWING ACUTE DYSENTERY.

THE following case appears to me interesting, inasmuch as it is one of cancrum oris, occurring in an adult, and being followed by but little deformity.

The patient was a sepoy, a Punjabi Mussulman; aged 26 years, and of six years' service in one of the Belooch regiments; during his service he had suffered frequently from intermittent fever, once from remittent fever, and once also from a severe attack of pneumonia, two years ago.

He was admitted into hospital suffering from an acute attack of dysentery; having a temperature of 104° F., and frequent liquid motions, consisting chiefly of blood, and having an extremely fœtid odour. A week after his admission he complained of slight pain inside the right cheek near the corner of the mouth; on inspection, some slight localised ulceration was noticed, of a grey colour surrounded by a pink zone; the following day the ulceration looked worse, and in a few days had extended so deeply as to perforate the cheek, causing the lower lip to hang down, and leaving a black irregular slough. There was very little pain complained of, but the patient was very weak and low, and the fœtor from the mouth was intense.

A fresh ulcer now appeared on the right fauces, and in every way corresponded with the first-named: extending inwards deeply and rapidly, and leaving a black, badly-smelling slough. The patient was now so weak, low, listless, and apathetic, that but slight hopes were entertained of his recovery. However (and I believe it due to the active treatment adopted), a change took place, the sloughing stopped, and the deep, raw-looking ulcers which were left cicatrised and healed rapidly.

The treatment adopted was as follows: Strong nitric acid was applied freely and frequently to the parts affected; the sloughs were removed with forceps and scissors; the parts were frequently washed and syringed with perchloride of mercury solution (1 in 1,000), and charcoal poultices were applied to the external sloughed parts. Nourishing food was given, in the form of beef-tea, broth, and milk, with brandy as a stimulant. Chlorate of potash, at first alone, and subsequently in combination with the perchloride of iron, was administered.

REMARKS.—Paget, in his article on Cancrum Oris, in Heath's *Dictionary of Surgery*, says: "These three points then, mark it off from ulcerative stomatitis: (i) Its destruction of the whole thickness of the cheek. (ii) Its almost certain fatality. (iii) Its advance quite unchecked by chlorate of potash." Bryant, in his *Surgery*, says: "Ulcerative stomatitis, or noma, begins as a skin or mucous membrane ulceration; sloughing following upon it."

In this case the ulceration began in the mucous membrane, and the sloughing followed it; but the rapidity, the severity and the intense depression accompanying the ulceration make me term it a case of cancrum oris.

JOHN LLOYD THOMAS JONES,

Malegaon. Surgeon, Indian Medical Service.

A CASE OF LANDRY'S PARALYSIS.

A CASE of that mysterious affection, "Landry's paralysis," recently occurred in my practice. The subject was a labouring man, aged 37, married, with three children. His wife informed me, beyond some trembling of the hands, he had been at work in good health. When I first saw him, with the exception of a feeling of weariness, there was an entire absence of symptoms: on my next visit, two days later, he was sweating profusely, and the hyperidrosis continued until he died. In a few days paralysis of the muscles of the lower extremities was complete, soon those of the trunk and upper extremities were involved; the breathing became difficult, and he died on the tenth day. The symptoms followed the course described in standard works except the sweating, of which I find no mention. The temperature remained normal, or nearly so, throughout, and the muscles flaccid.

Pershore. MARTIN WOODWARD.

TOXICOLOGICAL MEMORANDA.

POISONING FROM AN EXCESSIVE DOSE OF SULPHUR.

J. S., mechanic, had suffered for some time from external piles. He applied to a chemist, who sold him a pennyworth (1 ounce) of sublimed sulphur, with directions to take it overnight. This was on Monday; he took the dose, and repeated it on Tuesday. On Wednesday I was called in hurriedly, as the man was supposed to be dying. I found him lying on his back in bed, utterly prostrate and partially insensible. He had had repeated rigors during the day, and in lucid intervals complained of intense frontal and vertical headache, with aching griping pains in the bowels. His symptoms on examination were briefly: Temperature 104°; pulse hard and quick (120 per minute), tongue dry and deeply furred; breath fœtid, and smelling strongly of sulphurretted hydrogen; pupils strongly contracted and insensible to light; skin bathed in a profuse clammy perspiration; abdomen tympanitic and very tender on slight pressure. He retched and vomited almost continuously, and was several times purged during my stay—both vomit and dejecta being composed mainly of slightly bloody mucus mixed with fine particles of sulphur. The urine he had passed (in driblets) also contained blood. Having ascertained the cause of his illness, I had hot fomentations applied to the abdomen, and administered a moderately large dose of castor oil. The next day he was still purged, but most of the irritant sulphur appeared to have been eliminated, so I considered it safe to treat the case as one of acute enteritis, and put him under a course of opiates. He remained in bed for about a week, but otherwise has made an uninterrupted recovery. The case appears interesting since sulphur is not usually counted as a poison, and to the best of my belief is not recorded as such. The dose taken (two ounces) was very large, and the symptoms produced were certainly those of a strongly irritant poison.

Crewe. ALFRED E. VAUGHAN, L.R.C.S.E., L.R.C.P.E.

REPORTS

ON

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

GREAT NORTHERN CENTRAL HOSPITAL.

EPITHELIOMA OF TONGUE: COMPRESSION OF LINGUAL ARTERY: REMOVAL: RECOVERY.

(Under the care of Mr. LOCKWOOD.)

[From notes by Mr. COWIE.]

J. W., aged 50, a strong and healthy man, with a good family history, came to the hospital on May 31st with an ulcer the size of a florin on the right edge of the tongue, opposite the first and second molar teeth. He said that this had begun a month previously with a small pimple, which had broken and left an ulcer, which had continually grown bigger. The pain in it was sufficient to keep him awake at night. He denied ever having had syphilis. When the patient first came under observation the ulcer was indurated at its base, its centre was occupied by a large white slough; it bled readily when touched with the finger or an instrument. In its proximity, and upon the dorsum of the tongue, were patches of leucoplacia. There was no enlargement of lymphatic glands. Although it was thought that this ulcer was most probably epitheliomatous, in consideration of the shortness of the history, and of the presence of the slough, which gave it the appearance of a gumma, it was determined to try the effect of mercury and iodide of potassium. After these had been given for a fortnight, the ulcer cleared considerably and the slough separated, but as the induration at its base increased, it was decided to remove it. The operation was performed on June 13th, in the following manner. After chloroform had been administered by Dr. Silk, and a gag introduced, the right lingual

artery was compressed opposite the greater cornu of the hyoid bone, by means of the compression forceps shown last winter at the Medical Society and described in their *Proceedings*. A pair of silk ligatures were passed, the tongue split down the middle, and its right half removed with scissors; the lingual artery being tied when met with. There was singularly little bleeding, but when the compressor was removed there was a faint spurt from the arteria dorsalis linguæ; this was easily secured, and the wound dusted with iodoform. As far as could be ascertained, the bleeding did not exceed an ounce, and practically none went down the air-passages. The after-history hardly calls for mention. During reaction the temperature went up to 100.1° F., and afterwards became normal. The mouth was washed out with a copious douche, and the stump of the tongue, which was clean and free from sloughs, dusted with iodoform. The patient was out of bed on the fifth day, and the tongue soundly healed on July 14th.

REMARKS BY MR. LOCKWOOD.—The interest of this case centres in the operation rather than in the disease, or in the after-treatment. Compression of the lingual artery as an adjunct to removal of the tongue is unfamiliar to surgeons, and still awaits a more extensive trial than it has yet received. In this case the forceps effectually controlled the bleeding, and the operation was performed with rapidity and ease. Hæmorrhage is to be apprehended during the removal of the tongue, amongst other reasons, because the blood enters the air-passages, decomposes there, and excites septic pneumonia. This was rendered impossible in this case, and the abundant douche and iodoform used in the after-treatment added a further element of safety. As in my other cases of removal of the tongue, the knife and scissors were preferred, because a clean and rapidly healing wound is left. Nothing remains to be said, but that before the patient left the hospital a fulness in the neck was explored, and what was supposed to be an enlarged gland removed.

NORTH RIDING INFIRMARY, MIDDLESBROUGH.

CASE OF FRACTURE.

(By JAMES HINSHELWOOD, M.A., M.B., C.M., Resident Surgeon).

A CASE of fracture has recently come under my notice, which is sufficiently rare to be worthy of special record. The patient, a corpulent woman, aged 43, had fallen down a flight of stairs, when intoxicated. She had an ordinary Colles's fracture of the right forearm. The deformity presented by the left forearm suggested at first sight a dislocation forwards of the carpus, but on examination I found it was a fracture of the lower end of the radius, with displacement of the lower fragment forwards. The deformity was exactly the opposite to that of Colles's fracture, the relative positions of hollow and prominence on both dorsal and palmar aspects being reversed. On the dorsal aspect, instead of the prominence just above the carpus, there was a hollow, and above this hollow a marked rounded projection. On the palmar aspect opposite the annular ligament there was a slight prominence, and above this a marked hollow. Fracture of the lower end of the radius, with displacement of the lower fragment forwards, has been described by R. W. Smith, and ascribed by him to falling on the back of the hand. A double Colles's fracture is a common occurence, but I have not been able to find a case recorded where in one arm there is fracture of the lower end of the radius with the usual displacement of the lower fragment backwards, and in the other arm a similar fracture, but with the lower fragment displaced forwards. It is easily conceivable that in falling downstairs she may have fallen on the back of her left hand and the palm of her right, and thus produced the fractures.

BIRMINGHAM MEDICAL MISSION.—At the annual meeting of the Birmingham Medical Mission, held last week, under the presidency of Dr. Savage, Dr. Crabbe, surgeon to the Mission, gave an interesting account of the work done, stating that during the past year 3,877 cases had been dealt with at the Mission House, to which were given 15,733 consultations. In addition, a large number of patients were attended at their homes. The influence of the Mission, he said, raised the people both socially and spiritually, and placed them in a position of independence. The Chairman said they were considering the question of establishing branch missions in other parts of the town.

THE Earl of Dartmouth opened last week a new Eye Infirmary at Wolverhampton, which has been built at a cost of about £10,000.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

FRIDAY, OCTOBER 26TH, 1888.

W. H. BROADBENT, M.D., F.R.C.P., President, in the Chair.

Empyema: Loss of Vision in the Right Eye, afterwards in Both: Hemiplegia: Death: Cerebral Softening, Involving especially the Angular Gyri and Occipital Lobes.—Dr. H. HANDFORD (Nottingham) read notes of this case. A young woman, aged 18, married two years, developed symptoms of left pleurisy, and in March, 1887, she was tapped, and about two pints of pus were evacuated. No drainage-tube was inserted, and the wound soon closed. She was delivered of a stillborn seven months' child, and six weeks later was admitted under Dr. Handford's care into the Nottingham General Hospital. On June 11th, an incision was made in the left fifth interspace and the posterior axillary line by Mr. Wright, and a large quantity of pus removed. A tube was inserted, and antiseptic absorbent dressings were applied, but the pleural cavity was not washed out. The patient improved considerably, the discharge lessened, and the tube was left out, but somewhat later had to be reinserted. The discharge remained sweet. On July 29th the patient had an imperfect rigor with some rise of temperature. On August 13th, she complained of pain and aching in the right eye without apparent cause. August 14th, there was marked loss of vision in the right eye; she could trace the movements of a hand but not count the fingers. August 16th, the fundus was pale, and there were signs of slight neuro-retinitis. On September 5th, there was total blindness of the right eye, not even perception of light remaining. The pupil was dilated and insensible to light, but moved in sympathy with the left eye. The margins of the disc were not sharply defined, the retinal arteries rather below the average size; the veins were not distended; there was very slight effusion of lymph along the lines of the vessels and radiating from the disc; the yellow spot was visible and normal in appearance; the rest of the retina was pale and bluish, and without hæmorrhages. The left eye presented similar changes, but to a slighter degree. Vision of the left eye was fairly good. The loss of vision was attributed to a cerebral cause, which it was hoped might be functional, as the patient developed about the same time a remarkable emotional condition. On September 8th some dimness of vision was complained of in the left eye. September 19th the left eye soon began to improve. Slight perception of light also returned to the right eye (?). She complained of loss of power on the right side, but when requested could move the right arm and leg freely, although with less power than the left. There was also some difficulty in speaking. A few days later she was taken home, and very shortly hemiplegia became complete, and there was absolute loss of sight in both eyes. She only answered "yes" and "no," and that at random; there was some excitement and very great loss of mental power. She died about the end of September. At the inspection *post mortem* very extensive white (ischæmia) softening was found on both sides, affecting chiefly, but not confined to, the white matter. That portion of the grey matter which derives its nutrition from the vessels of the pia mater was not much altered. The softening affected chiefly the occipital lobes and the angular temporo-sphenoidal, and part of the ascending parietal convolutions on the right side; on the left the occipital lobe, the angular, supramarginal, and first temporo-sphenoidal convolutions, and much of the frontal lobe. The corpora quadrigemina, basal ganglia, and optic tracts presented no naked-eye departure from the normal. There were no distinct abscesses in the brain or in any of the other organs; nor was there any heart disease, valvular or other. The loss of sight was the first symptom of brain affection, preceding the earliest symptoms of aphasia and hemiplegia by about five weeks. Further, there was nothing of the nature of hemiopia. The microscopic appearances showed degeneration and disappearance of the nervous elements, copious infiltration with leucocytes, and proliferation of the neuroglia, forming a dense network.—The PRESIDENT said that this very interesting case would assist in the unresolved question of the localisation of the senses of vision and hearing, which had lately been somewhat again unsettled by the investigations of Prof. Schäfer. He thought that the character of the loss of vision, at first unilateral and subsequently complete in both eyes, was enough to settle the point that the affection was not of a hysterical nature.—Dr. MONEY

remarked that many cases of paralysis occurring during empyema had now been recorded in which at first the symptoms were thought to be of functional nature. He especially recollected one case of actual paralysis of one arm, which was fugitive, and passed away in a few days; whilst in one case the paralytic symptoms were also mixed up with others of a choreic character. In such cases it was impossible, in the absence of a *post-mortem* examination, to say whether these symptoms were functional or organic. Transient paralysis sometimes accompanied cases of organic lesion, as, for example, ptosis in cases of apoplexy.—Dr. HADDEN inquired what was the cause of cerebral abscess occurring in cases of empyema. He could not assign a satisfactory cause for it. He had made three *post-mortem* inspections in cases of the kind. The first was a man with left empyema, which had opened into the lung; the pleural cavity being opened, pus and air escaped therefrom; excision of the rib was then performed, as the pus did not run away easily; fourteen days subsequently the man had an epileptiform seizure, and died. The second case was also that of a man with empyema of the right side. Excision of a portion of rib was performed; again epilepsy occurred fourteen days subsequently, and the patient died. In both these cases cerebral abscess was found. A few months ago he had seen a child who had had empyema after scarlatina; a tube was inserted into the thorax, but as the drainage was not satisfactory, excision of the rib was here also carried out; seven months later symptoms of paralysis ensued, with drowsiness, pain in the head, vomiting, and aphasia for several days. At the inspection, after death, abscess of the white substance, near Broca's convolution, was discovered. He would suggest that possibly in the first two cases the excision of the rib had to do with the onset of the cerebral symptoms. One surgeon had suggested that possibly the syringing out of the pleural cavity was the efficient cause of the paralysis. In two of the cases the cerebral abscess was on the same side as the empyema: in one case it was on the opposite side. If there was an infecting material which went through the left side of the heart, why did not other parts besides the brain, such as the liver and kidneys, also suffer?—Dr. F. DE HAVILLAND HALL had brought a case of the kind to the Society some years ago, and had failed to find a satisfactory explanation of the relationship between empyema and cerebral disease. Sir W. W. Gull had said that when the rib was injured it was not difficult to see the connection. In his case empyema had existed over two years before abscess of the brain occurred. When there was injury of the bone, he thought, the cerebral complication was much more common than where no such injury existed.—Dr. D. FINLAY mentioned the case of a man who had a portion of a rib excised for empyema, and died with an abscess of the white matter of the right cerebral hemisphere.—Mr. MAKINS pointed out that in one of Dr. Hadden's three cases the bone had been once removed some months before the second operation.—Dr. BARLOW observed that occasionally in bronchiectasis, in which of course there was no injury of the bone, abscess of the brain was known to occur. Dr. Moxon, he said, had thought that in such cases there was some injury of a branch of the pulmonary vein, whence the necrotic material was conveyed through the left ventricle to the brain. In Dr. Handford's case the disease was of an embolic character; there was softening, but apparently the embolic material was not of a septic nature. There was probably a thrombus, which was slowly breaking up when a portion of it became conveyed to the brain and there set up the lesion which proved fatal. Most of the puerperal cases were of this variety. He had made an inspection of a child which had had noma vulvæ, and had found thrombi in the left side of the heart, which were softening, some of them being also found in the brain and other parts of the body. He had found the same condition in two or three children after scarlatina, without there being any actual disease of the heart.—Dr HANDFORD, in reply, said that at neither operation was the rib injured in his case. There was certainly free hæmorrhage, probably from the wound of an intercostal artery. That he thought might have been the cause of the cerebral trouble. There was not a trace of clotting found in the heart after death. He thought that the quantity of blood lost might have produced the softening of the brain, which was not like the disease that followed ordinary embolism. He thought the view which attributed the disease to hysteria could no longer be maintained, seeing that the necropsy had shown that there was organic disease of the brain.

Persistent Aptyalism—"Dry Mouth."—Mr. JONATHAN HUTCHINSON read a paper on this subject. It consisted chiefly in the narrative of another case of what has been named dry mouth. Its subject was a lady aged 50, a widow in good general health, but who had passed through much trouble. The condition of aptyalism came on without any definite cause, and not very suddenly. In the course of a few months her tongue, cheek, lips, and palate became absolutely dry. They had remained in this condition without any alleviation for now about four years. The tongue was clean, red, and much sulcated. Its dryness was such that the lady had difficulty in making herself understood in talking. The pharynx also was dry, but there was no defect of secretion in the nose, and no difficulty of the flow of tears or of moisture in the conjunctivæ. She perspired freely, and indeed on her face and forehead was liable to perspire on any slight emotional excitement. Mr. Hutchinson gave a brief summary of the cases previously recorded, five in number, and remarked upon the very close similarity which they bore to each other. The first case to which the name had been applied was one brought forward by himself at the Clinical Society two years ago. The subject had been ably investigated by Dr. Hadden last year, who then brought forward a second case at this Society, and narrated the particulars of two others. One of the latter was recorded by an anonymous writer, under the name of suppression of the saliva, in the *Medical Times and Gazette*, as far back as November, 1868. In all these five cases the patients were women past middle age, and in all the condition having once begun had proved to be persistent, whilst in none had it been the precursor of any other disorder of the nervous system. Although the condition had persisted for three or four years, up to the present date there had been no material depreciation of the patient's health, a fact of some interest when it was remembered that the insalivation of the food was completely arrested. Dr. Hadden had recorded in his case some benefit from the persistent use of jaborandi. This remedy had been tried for short periods in the author's first case, but without obvious benefit. In his second case he had only seen the patient once, but she had previously been under much treatment, and had probably tried that drug without definite benefit. The disease was, he remarked, evidently a very definite one, and probably no doubt a number of cases of it would soon be placed on record. Its essence consisted in a complete and seemingly permanent arrest of all salivary and buccal secretion. He had originally used the term of "dry mouth" for it; but would now propose as a more accurately descriptive term the name of "persistent aptyalism."—Dr. HADDEN had found that one of his patients improved much with jaborandi, given at first in doses of 30 minims thrice daily, and increased to 40 minims three times daily. The drug had little effect on her skin. Pilocarpin he had found act more slowly and less satisfactorily than jaborandi. He disapproved of the term "aptyalism," since ptyalism meant excess of saliva, and aptyalism an absence of such excess, which was quite a different thing from no saliva at all.—Dr. HUGHLINGS JACKSON had tried the starch test in Mr. Hutchinson's former case, and he had found that after patiently waiting he obtained the reaction of sugar in a slight degree. He considered that at present the pathology of the disease was quite guesswork.—Mr. BUTLIN had seen two cases which might be added to these cases of Mr. Hutchinson; both were cases of women, one being only 23 years old, and consequently the youngest on record. The other woman was about 43 or 44 years old, and came to him from Braintree, Essex. She had also another rare disease, as she had for some ten or more years been passing quantities of substance of a vegetable nature. The younger woman was in the worse condition. They were both tolerably well, and neither had had any great nervous shock. In both cases it was easy to see small quantities of saliva issuing from the openings of Steno's ducts. In both patients jaborandi had failed to produce any benefit, though it gave a great increase of ordinary perspiration. He had also used electricity, but thought he had obtained the greatest benefit from the hydrochlorate of pilocarpin, given in doses of $\frac{1}{12}$ of a grain.—Dr. CROCKER had last spring seen a lady with great dryness of the mouth. At some parts, on particular occasions, her mouth was possibly a little sticky, but it was never more moist. She had lost all her teeth. Many things had been tried for her, but without relief. The external parts had been relieved. The patient had taken food for a time through a tube, and had kept her lips moist with boracic acid ointment, and had applied a weak chromic acid gargle (gr. v to ℥j) to the mouth. Mr. Butlin explained that in one of his cases he had tried mercury, but without benefit.—The PRESIDENT had also seen one case, that of a lady, aged between 50 and 60. The mucous membrane of her mouth was not

absolutely dry, but very nearly so. She was otherwise in good health. No fluid could be seen issuing from Steno's duct. Jaborandi was tried, and was ineffectual for good—added, in fact, to her discomfort. She had been somewhat relieved by iodide of potassium.—Dr. MONEY asked if the mouths of these patients had easily become dry under the influence of nervous excitement before their present malady had commenced.—Mr. HUTCHINSON said that in none of his cases had that effect been noticeable. But now, when the mouth seemed to be quite dry, emotional excitement would make it still further so. In answer to Mr. Wilberforce Smith, he replied that in none of the five cases was there any apparent interference with the process of digestion, and that probably the saliva was not so necessary as it was formerly considered in the process of digestion, and that it acted simply as a diluent. In the lower animals the effect of saliva on digestion was very various. In his former case the onset was quite sudden; in the second case it had taken about a month to be produced. He defended the use of the term "aptyalism," contending that physiologists employed "ptyalism" to mean the ordinary flow of saliva, and not an excess. "Dry mouth" did for English-speaking people, but they wanted a word that they could send abroad. As regarded treatment, he might say that mercury and every other drug calculated to be of any service had been tried, but with very little success from any one.

Dermoid Cyst of the Tongue.—Dr. BEAUFOY GREEN (Kendal) forwarded notes of this case. The patient was a man, aged 31. He had suffered from the condition all his life, the tumour growing slowly larger, until at last speech, as well as respiration, was materially interfered with. There was some trouble with the breathing during anæsthesia, owing to the falling back of the tongue; this was not overcome until a thread had been passed through the tongue with which it could be held forward. The cyst was ruptured during its removal, a circumstance which somewhat interfered with rapid healing. Nevertheless, careful washing out of the cavity left after removing the cyst secured complete recovery within a short time of the operation. The man resumed his work as a platelayer, and seemed quite relieved of his trouble.—Mr. BARKER remarked that the particulars of a case of the kind, together with photographic portraits of the patient, had been sent to him by an Indian practitioner. He had also collected notes of eighteen other cases in a paper he had formerly brought before the Society. He did not think the cases were extremely rare. The cysts were not always in the middle line. They usually shelled out without rupture quite easily, and should be dissected out entire, if possible, otherwise cellulitis in the neck was apt to ensue.

MEDICAL SOCIETY OF LONDON.

MONDAY, OCTOBER 29TH, 1888.

Sir WILLIAM MAC CORMAC, President, in the Chair.

CLINICAL EVENING.

Case of Frontal Meningocele.—Mr. J. H. MORGAN showed a child, aged sixteen months, with a meningocele at the base of the nose. She was the mother's first child, and was quite healthy in every other respect. The tumour was congenital in origin, but grew at first out of proportion to the growth of the child. Soon after birth the child was taken to the Evelina Hospital, where Mr. Makins on several occasions evacuated cerebro-spinal fluid, and injected small quantities of Morton's solution. No untoward effects followed, but neither did any diminution in the size of the tumour. At the upper part of the tumour was a long prominence terminating at the base of the nose in a sharp uneven edge which could be traced along the lateral margin. The soft part of the swelling which protruded was reducible, and pulsated synchronously with the brain. No subsequent treatment had been attempted.—Mr. EDMUND OWEN mentioned that he had seen cases of nævus much resembling that one, but he agreed that it was best left alone.—Mr. MORGAN, in reply to Dr. Routh, said that Mr. Makins had stated that the fluid drawn off was cerebro-spinal fluid, but he was not aware whether any examination had been made of the fluid. The possibility of the tumour being a nævus had not escaped him, but the pushing forward of the bones pointed rather to meningocele.

Case of Tetanus Cured by Chloral Hydrate.—Dr. J. D. SAVILL showed a man, aged 27, who had developed symptoms of tetanus, consequent on a wound of the hand inflicted by a piece of dirty china. When he was admitted to the infirmary, there was marked stiffness of the muscles of the neck, which subsequently extended to the entire body, although the arms were the least affected. He was placed under the influence of chloral hydrate, and the paroxysms diminished both in frequency and severity. On two occasions when the drug was left off, the attacks returned worse than before, and the patient narrowly escaped dying of asphyxia. The treatment was then persisted in and the man gradually recovered. On the twelfth day after admission, the median nerve on the side of the original wound was resected, an inch of the nerve being removed. Subsequently the operation was repeated and a fusiform swelling removed. Some wasting of the muscles followed, which had not altogether gone away.—The PRESIDENT said he did not gather with what object the nerve was resected, and alluded to the microbian origin of the disease.—Dr. SAVILL, in reply, said the nerve was operated upon rather on the off chance of its relieving the symptoms. He thought that in this case he had removed rather too much.

Peculiar Abnormalities of the Clavicles in a Boy.—Mr. W. J. WALSHAM showed a boy, the subject of rickets and lateral curvature of the spine, in whom there was no sign of a clavicle, or at at any rate, no acromial end. The boy could, however, raise a weight above his head, showing that the importance of ununited fractures of the clavicle had been somewhat exaggerated.—Mr. EDMUND OWEN said that he could make out the acromial end on one, if not on both, sides. He thought that the condition was one of fracture in very early life, which had remained ununited.

Some Cases of Partial Arthrectomy of the Elbow-joint.—Mr. BERNARD PITTS showed two lads on whom he had performed partial arthrectomy for disease of the elbow-joint, and gave the history of a third case in a child two years of age. In the first case he had been obliged to remove the head of the radius as well, otherwise the results as to movement, etc., were very satisfactory. He pointed out that the operation was much less severe, and avoided that shortening of the arm which often rendered it an appendage rather than a limb, after ordinary excision.

Case of Recovery from Fracture of the Spine.—Dr. BEEVOR showed a man who had fallen forty feet from a tree on to his feet and then on to his back. He at once became unable to walk, and remained in that condition for ten weeks. The accident occurred about a year ago, and the patient had been able to get about with assistance for seven weeks past. The vertebræ implicated were from the tenth dorsal to the second lumbar, the twelfth dorsal being the most prominent. The sphincters were at first affected, but this soon passed off.

Case of Congenital Deformity of the Arm.—Mr. JAMES BLACK showed a woman, aged 42, with peculiar arrangement of tumours on the arm resembling hygroma. They had been rapidly increasing in size. They felt like diffuse fatty tissue, and he suggested that, though of cystic origin, fat had been deposited.—Mr. MORGAN agreed that the condition resembled the case he had shown of hygroma, though that was rare in such a site.

Case of Congenital Papilloma of the Axilla.—Mr. MARMADUKE SHEILD sent a case of congenital papillomata in the axilla of a lad.—Dr. COLCOTT FOX observed that this condition was found in lines following the course of the nerves and on the trunk, like herpes zoster. He had such a case under his treatment at present. He said it might sometimes be acquired.

Case of Chronic Rheumatic Arthritis of the Knee-Joint.—Mr. SHEILD also sent a case of chronic rheumatic arthritis of the knee-joint in a man, of two years' standing. His object in sending it was to show the effect of treatment. He had given sulphur and guaiacum internally, with sulphur ointment locally, with the result of arresting the progress of the disease.—Mr. LUNN questioned the accuracy of the diagnosis.

Cases.—Dr. COLCOTT FOX showed a child, the subject of congenital rupture of the sterno-mastoid muscle, and Mr. MORGAN showed a case of extensive mole on the back of an infant.

PRESENTATION.—On October 12th, Mr. E. Percival Cockey was presented with a very handsome writing table by the past and present resident medical officers of St. Mary's Hospital, as a token of their esteem and friendship, on his retirement from the post of medical superintendent of that institution.

ST. JOHN AMBULANCE ASSOCIATION.—On Monday, October 29th, the certificates and medallions of the St. John Ambulance Association, gained during the year by members of the City of London Police Force and officers and non-commissioned officers of the City Militia, were presented to the winners at the Mansion House by the Lord Mayor.

REVIEWS AND NOTICES.

MEMORY: ITS LOGICAL RELATIONS AND CULTIVATIONS. By F. W. EDRIDGE-GREEN, M.B., B.S.Durham. London: Baillière, Tindall and Cox. 1888.

MEMORY, we are told, is the innate power to have an impression recalled if a proper stimulus be applied. The author's object in writing this treatise on so recondite a subject is presumedly to prove that memory is a definite faculty occupying a limited portion of the brain, in opposition to the school of psychologists who hold that memory is the attribute of every tissue and organ. The author believes it to be located in the basal ganglion of the brain, separate from but associated with all the other faculties of the mind.

Memory is nothing else than the aggregate of sensorial impressions with the combinations and ideas to which they give rise; in other words, memory is experience, though experience, alas! is not always memory. The scope of memory is strikingly influenced by the possession or development of particular faculties, so much so indeed that very often faculty and memory would appear to be interchangeable terms. Thus a person not possessed of the faculty for colours is unable to observe and therefore unable to remember them, though, of course, the faculty, though comparatively small, is rarely if ever completely absent. The inability to perceive colours has no necessary connection with the inability to distinguish colours and so on. It is correspondingly difficult to follow the author in his distinction between special and general memory, since the latter is merely the sum of the former. The fact that accident or disease may be followed by temporary or permanent obliteration of certain portions (as regards date) of the memory is not an altogether conclusive proof that the anatomical seat of each set of impressions received at any one time is the same portion of brain or portions closely adjacent. So far, therefore, the numerous anecdotes of sudden loss of memory fail to enforce the author's views, though they materially contribute to making the chapter interesting and even sensational reading. We cannot stay to pass in review the alternatives to this method of explaining the phenomena alluded to.

The author's next step is to prove that the brain, assuming it to be the seat of the mind, is a multiple and not a single organ. He avails himself of the opportunity to demonstrate the fallacy of the phrenological distribution of faculties, and explains that, although certain shapes of the head do undoubtedly denote the predominance of certain faculties or combination of faculties, yet this is due largely to the fact that a head of a certain shape belongs to a body of a certain build—in fact, that the difference extends to the whole being, and not to this or that circumscribed area of the cranium. The fact is that, notwithstanding considerable advances in our knowledge of the brain structure, we know very little with respect to the performance of the higher functions of our being, and it is premature to base any scientific conclusions in psychology thereon.

The concluding chapter is devoted to the discussion of methods of improving the memory by cultivating association of ideas. This has the same practical bearing on purely psychological considerations that treatment has to prognosis. The author lays down very clearly the conditions under which the memory can be made to work to the best advantage, both in retention and in reproduction. The time spent in mastering this chapter would certainly not be wasted. Thanks to a light, chatty style, and the interlineation of numerous anecdotes in support of the author's views, the work is eminently readable, and may even serve as a stepping stone to more abstruse works on the subject.

THE "HIGH LICENCE."—The *Medical Reporter* gives an interesting summary of the results of the first year of high licence in Minnesota, and finds that the results of the system has proved to be all its friends asserted of it. It seems that there are in Minnesota only 1,597 saloons, as against 2,806 when the law went into effect. A decrease in the consumption of alcoholic drinks is shown in nearly every county. Low groggeries have been closed up, and the liquor business is under better police supervision. Under the old system the average cost of a licence was about 300 dollars, and the total approximate income was about 850,000 dollars. Under the high licence the average cost of permission to sell is about 650 dollars, and the total approximate income is about 1,100,000 dollars.

ROYAL COLLEGE OF SURGEONS.

ANNUAL MEETING.

THE annual meeting of the Royal College of Surgeons of England was held on Thursday afternoon, under the presidency of Mr. W. S. SAVORY.

The annual report of the Council having been taken as read,

The following resolution was moved by Mr. JOHN TWEEDY, F.R.C.S.:—

"That while welcoming some of the changes introduced by the Supplemental Charter, such as the extended eligibility of Fellows to sit in the Council, this meeting hereby expresses its regret that no provision has been made for giving effect to the recommendations contained in certain resolutions passed at a general meeting of Fellows and Members, convened by the President, for the purpose of receiving suggestions or recommendations respecting alterations to be made in the Charters, and held in the College on March 24th, 1888; namely, that Fellows and Members should be invested with a larger share in the management of the College; that no alteration should be effected in the constitution or in the relations of the College, without the consent of Fellows and Members specially convened to discuss such alteration; and that the President of the College should be elected annually by the Fellows."

He said he proposed the resolution as a formal but emphatic protest against the disregard of the expressed wishes of the Members and Fellows of the College, in a meeting at which they were specifically invited to make recommendations and suggestions. He must say it seemed to him that, having invited them to make such suggestions, to disregard them entirely, and not give them a single reason why they should not be adopted, nor any explanation of the reasons which induced the Council not to introduce them into the Supplemental Charter, was wanting in deference to the wishes of the Members of the College. He cordially recognised the great value and importance of the two alterations which had been introduced, although perhaps it was not generally yet appreciated what a great influence the alteration in the eligibility of the Fellows would have upon the constitution of the Council.

Mr. WICKHAM BARNES seconded the motion.

Surgeon-Major INCE greatly regretted that the Council did not see its way to meet the wishes of the Fellows and Members of the College. He believed, however, that there was a strong desire on the part of the Council to do so.

Dr. G. DANFORD THOMAS moved the following resolution:—

"That this meeting of the Royal College of Surgeons of England is of opinion that it is necessary for the interests of the College that immediate steps be taken to proceed with the consideration of all the matters relating to the constitution and charters of the College, and to the rights and claims of the Members thereof, which have been under discussion in the course of the recent proceedings before the Privy Council referred to in the report, and to submit to the Privy Council, for embodiment in a further Supplemental Charter, proposals for the settlement of the said matters according to the general sense of the College; and that the Council of the College be invited to appoint a committee to consider with representatives of the Association of Members of the College the matters to be included in the petition for such further Supplemental Charter."

He approached the Council with amicable feelings, and desired that, if possible, the present struggle should terminate. For many years the Members had been, as they thought, unjustly excluded from taking part in the management of their own affairs. They had at present no voice in the expenditure of their funds or in the election of the Council. The resolution was pacifically worded, and they intended to exhaust every pacific means before venturing to make the matter more public, or to take any special parliamentary action. He called upon the Council to consider the resolution favourably. It was in the interests of the College that steps should be taken without delay in the direction which the Members had previously indicated. The Members were of course aware of the proceedings they had taken before the Privy Council to get a Supplemental Charter, and of the remarks of Mr. W. H. Smith on a recent occasion in the House of Commons with reference to that subject. The Members considered that they were backed up by Mr. Smith's observation in again appealing to the Council to consider the matter.

With regard to the representatives proposed to consult with a committee of the Council, he would suggest that they should be representatives of the Association of Fellows as well as of Members, and he would propose that addition to the resolution. He hoped that the Council would take the sense of the College on the subject, and be guided by it. An endeavour had been made to ascertain the feelings of the Members generally, and it was believed that 5,000 signatures would be at once obtained to a petition expressing the views of the Association of Members. The situation had changed somewhat since the last meeting. A new Supplemental Charter had been granted, but there was no reason why a further Supplemental Charter should not be applied for. If the Council would again consider the matter in an unbiassed spirit, and meet the Members without passing any such resolutions as they did on previous occasions, the present dispute, which had been going on for so many years, might be satisfactorily settled. He urged it the more strongly because there was a feeling amongst the Members that if the difficulties could not be thus amicably arranged, they might be driven to take some further action in the way of parliamentary legislation. The demands of the Members had been considerably modified to meet the views of the Fellows, and those demands might be even still further reduced.

Dr. J. P. MACDONALD, F.R.S., seconded the motion. He hoped that the matter would be settled in an amicable spirit. Irresponsibility in any governing body was always the parent of error and maladministration, and an example of it was afforded in the history of the College of Surgeons. He hoped that that irresponsibility would be removed by a Supplemental Charter, and that the desires of the Members would be accomplished.

Mr. NELSON HARDY inquired whether persons like himself, not belonging to either of the Associations of Fellows or Members, would be excluded from the proposed conference.

Surgeon-Major INCE said that anyone who desired to be included could join one of the Associations.

The resolution was then put and agreed to, one or two hands only being held up against it.

Sir GUYER HUNTER, M.P., moved the following resolution:

"That this meeting of the Royal College of Surgeons of England disapproves the manner in which the funds of the College are at present administered, as appears by the report now presented, and in particular declares that the pulling down of the College property at No. 38, Lincoln's Inn Fields, now producing a rental of £299 per annum, and the consequential proposals for building on that site at large cost a house for the Conservator, are contrary to the interests of the College; and resolves that the Members and Fellows of the College ought to be consulted as to all extraordinary expenditure."

The resolution, he said, formed a corollary to the statements that had been made by previous speakers. Everything resolved itself into a question of finance. He had long been absent from the College, and on his return he was amazed to find how little voice its Members had in the administration of its affairs. He protested against the fact that a sum of £3,600 should have been expended on a matter on which no Member had been consulted, and he also objected to the arrangement that had been made with regard to the income of £299 received from the rental of the building belonging to the College. Those who paid so largely to the funds of the institution should be consulted as to the manner in which the funds were disposed of. The relation between certain Fellows and the bulk of the Members of the Institution were becoming more and more strained every day. Dissatisfaction was extending wider and wider, and the matter before long would be brought to the attention of the Houses of Parliament. Lord Randolph Churchill had made up his mind to do it, and he would have a very strong backing. He urged upon the Council, however, not to allow the matter to go beyond the walls of the College, and to be dragged into the House of Commons.

Mr. JOSEPH SMITH seconded the resolution, and called attention to the fact that the College last year had the enormous income of £40,654; £20,933 consisting of fees paid by the candidates for diplomas; and the interest of the Erasmus Wilson bequest amounted to £11,899. He hoped that the resolution would be carried, and that the Council would take the sense of the College before expending any further sums.

Mr. W. G. DICKINSON moved the addition to the resolution of the words "and hereby appoint Messrs. G. P. Pollock, T. Holmes, Jabez Hogg, R. Goodinge, E. Hartley, and C. M. Jessop to be a Committee to advise in that behalf to the Council and the Finance Committee thereof, and to report to the next meeting of the College."

The mover and seconder of the resolution accepted the proposed addition, which accordingly stood part of it.

The PRESIDENT thought it could not be accepted in the proposed form. It would not be in order to direct the proposed Committee to report to the next meeting of the College.

After some discussion it was decided to omit the last words with regard to reporting to the next meeting of the College.

Surgeon-Major INCE appealed to the mover and seconder of the resolution to withdraw it, and protested against aspersions being cast upon the management of the College.

Mr. SPENCER WATSON also objected to reflections being cast upon the management of the College. Some Members appeared to think that because they had paid certain fees for their examinations they ought to have a voice in the government of the College; but he contended that that was a most monstrous proposal. Those who had diplomas had certain rights and privileges flowing therefrom, and he believed that they had no just cause of complaint. He would move as an amendment:

"That in the opinion of the meeting the wording of the resolution is entirely contrary to the spirit of all the Members and Fellows present, and detrimental to the interests of the profession."

The PRESIDENT said that Mr. Watson would do better to move the previous question, which would amount to the same thing as the proposal he had just made, which could hardly be taken as an amendment.

Mr. WATSON assented to the proposal and moved the previous question.

Surgeon-Major INCE seconded.

The PRESIDENT said the result of that motion was that he would have to take the sense of the meeting as to whether the original motion should be put or not.

This was accordingly put to the meeting, and carried in the affirmative.

Mr. A. DORAN said he greatly regretted to find the discussion mixed up with College politics. He sympathised with his brother Members with regard to their efforts to obtain power, but the question introduced by the last resolution was a very different one. The Council had done a great deal of good to the College in regard to the enlargement of the museum and in other ways, and as to the Curator, it was obvious that if they wanted a good man he ought to be well paid. He profoundly regretted the tone of the resolution.

Mr. ASHTON ELLIS said that the introduction of financial questions was perfectly justifiable. The present meeting was a meeting of the Corporation, and whenever a company met in London and a balance sheet was presented, the shareholders had a right to express their opinions upon it as to whether the money had been wisely spent or not. With regard to the Curator, it was absurd that, having a salary of £600 a year, he should have a house of the value of £500 a year; the proportion was ridiculous. It would be much better to give him a salary of £800 a year and let him live elsewhere.

Mr. CHRISTOPHER HEATH said he felt it to be his duty to say a few words on the present occasion. He desired to give some account to the Fellows, who were the elective body, of what he had done on the Council. He hoped that he should be heard quietly, because, if for no other reason, it was on his motion in March, 1884, that it was decided to hold an annual meeting of Fellows and Members. He regretted, however, that he had carried his motion, for nothing had come of the annual meetings but—he would not say quarrelling, but there had been a certain amount of abuse hurled at the Council, which he was very sorry to have heard. It would be remembered that in 1870 he himself carried in the meeting a resolution that the Corporation consisted of Fellows and Members. He had always said so. They had a right, he believed, if they chose to exercise it, of electing a representative on the Medical Council, but they never had exercised it. He had tried to found a fund some years ago to try the question in a Court of Law, and had asked for subscriptions to it, but only one guinea had been sent. The Corporation, however, was one thing and the body of Fellows was another. The Charter made the Corporation of Fellows, but it gave the Fellows certain rights, and those rights had been confirmed by the last Charter. He did not think it likely that another Charter would be obtained within the next ten or twenty years. It was not probable that the Privy Council, having heard the pro-

tests of the Associations and granted the Charter notwithstanding, would soon proceed to issue a new Charter. With regard to the question under discussion, there appeared to be a feeling amongst many Members that there was a certain amount of plunder—he would call it a certain amount of income—which had come into the hands of the Council, and which they had distributed amongst their own members. That was not the fact. It had also been said that the examiners were highly-paid officials selected by the Council. Neither statement was true. They were not selected solely from the Council. He considered that, as an examiner, he was not in the least overpaid. He did not think that, after spending five hours of hard work in the Examination Hall—the hardest work he did in the course of the week—he was overpaid when he received £10 10s. As to the question of finance, when a balance-sheet was submitted at a meeting of a company, it was submitted in the same sense as in the present case. The action of the directors had to be taken as it was; the money had been spent and they could not help it. They might turn out the directors, just as the Council of the College might be turned out; but the Members could not go back upon the money already spent. With regard to the Curator, Mr. Stewart was a most able officer, and it was a part of the bargain made with him that he was to have his house, and Sir James Paget had strongly urged that he should be resident on the spot, so that he might be able to show distinguished strangers over the museum, and be always at hand to superintend any work that was going on. An immense improvement had been effected in the Library, and there was an additional room for the journals, besides a store-room for old books, and other accommodation. It had been suggested that the house pulled down and rebuilt might be let for other purposes, but it would be absurd to do that when they wanted it for themselves. It would be remembered that, when the Act of 1858 was passed, there was a great deal of talk in the journals about the advantages to flow from it. It was considered that it would bring grist to the medical mill, that quacks would be abolished, and that the genuine practitioner would make his income comfortably. The Act had done nothing of the kind. But the same sort of agitation was going on now, and there appeared to be an idea that if the Corporation of the College of Surgeons was sufficiently agitated the Members would be in some way benefited. He wished to say, as a member of the Council for eight years, that he had not gained a farthing by occupying the position, but that he had rather lost money by it. Each member received a guinea for three hours' attendance at the Council meetings, but for the Committee meetings he received nothing. He was speaking in his own private capacity, not having communicated with any other member of the Council. He had recently tried to get the Council to vote that the President should receive some little honorarium, but such was the delicate feeling of the members of the Council that he did not carry the resolution. Perhaps they had the present meeting in their eye, and felt that some of the Members would say: "The President has £300 a year—happy man!—and does nothing for it." The President in reality did a great deal for it, and he might say the same of all the members of the Council, to whom he believed the Members owed a vote of confidence.

Mr. G. BROWN expressed an opinion that the resolution as it stood was *ultra vires*.

Mr. EDWARD HORTON thought the resolution premature, and hoped that, after the satisfactory explanation given by Mr. Heath, the Members would wait for more information before criticising the conduct of the Council in the management of the College.

After some remarks by Mr. JABEZ HOGG,

Mr. WALTER RIVINGTON moved the omission of a large portion of the resolution, and proposed that it should read, "That this meeting of the Royal College of Surgeons of England resolves that the Members and Fellows of the College ought to be consulted as to all extraordinary expenditure," with the addendum proposed by Mr. Dickinson as to the appointment of a Committee.

Mr. E. BERDOE seconded the amendment, but said he objected to the proposed addendum.

Mr. WALTER RIVINGTON said he had no desire to have the proposed conference, but he thought it had been accepted by the Council.

The PRESIDENT said he had not refused to put the motion, desiring to allow every latitude; but it must not be considered discourteous on the part of the Council if they declined to receive the proposed deputation.

The proposed addendum was then withdrawn, and the amendment was put without it, and carried by a large majority.

The PRESIDENT said, with regard to the motion of which notice had been given by Mr. Jabez Hogg, that the solicitor considered it could not be put to the meeting.

The resolution was as follows:—

"That, in view of the contentions put forward by the Council in the course of the recent negotiations for a Supplemental Charter, this meeting of the Royal College of Surgeons of England hereby reaffirms the ancient rights of all the Members of the College, declares that all powers and property vested in the Council are held by them in the nature of a trust for all the said Members, asserts the constitutional right of the Members to meet together for the discussion and furtherance of the interests of the College, and resolves that the claims recently made by the Council to prevent and to restrict such meeting and discussion, and in particular the restrictive provisions and penalties for that purpose introduced in Section XVII of the by-laws, are against common right, and are illegal and void."

Mr. DICKINSON proposed in substitution:—

"That this meeting, having taken note of the privileges at present enjoyed by the Members of the College enumerated in the reply of the Council to the Privy Council (pages 26-7 of the report), respectfully request the Council to add thereto the right of meeting at convenient times within the College walls, for the purpose of discussing any question relating to their position as Members in which they may be interested; and with this view the Council is hereby requested to enact a by-law, instructing the Secretary, upon receipt of a requisition signed by twenty Members, or Fellows and Members, to arrange with the Members forwarding such requisition a convenient day and hour, within one calendar month, on which such meeting may be held upon the College premises."

The motion having been seconded, was agreed to by a large majority.

Mr. E. BERDOE moved a vote of confidence in the Council.

Mr. HARTLEY seconded the motion.

Mr. ELLIS considered that such a motion would be disrespectful to the Council, and hoped that it would not be pressed.

Mr. BERDOE said he would substitute a vote of thanks to the President and Council.

This was put and unanimously adopted.

The PRESIDENT, in acknowledging the compliment, said that it was always a privilege to him to work on behalf of the College. He rejoiced in its honour, prosperity, and renown, and was never happier than when working for it.

BRITISH MEDICAL ORATORS AT WASHINGTON.—The papers and discussions on cerebral and spinal surgery at the Congress of American Physicians and Surgeons in September have attracted much attention in America. A correspondent of one of the American medical papers writes, by way of comment: "A new era in surgery can fairly be said to be inaugurated, yet the warning which was distinctly stated by more than one of the speakers may well be borne in mind, and was best expressed by Dr. Keen's *bon mot* at the breakfast table, 'Fools rush in where Horsley fears to tread.' It will be fortunate if the sorrowful experiences in connection with Battey's operation are not repeated in connection with cerebral surgery." Later on in the same communication, in commenting on the oratorical performances of the English visitors, he notices their defective elocution—a defect which is unfortunately very general among Englishmen, and by no means confined to medical speakers. On this subject he amusingly writes: "While it has been a pleasure to hear our transatlantic brethren, one is forcibly reminded, in listening to their frequent audible and unconscious vocal expirations, which create innumerable divorces between all the parts of speech, of the reply—er—which—er—a—er—gentleman is—er—said to—er—have made when somebody—er—called his attention to the habit, he said: 'To "er" is human, to forgive divine.'"

THE 106th anniversary of the Nottingham General Hospital was celebrated on Thursday, October 25th. Dr. H. O. Taylor was elected to the surgeoncy, vacant by the death of his brother.

SUCCESSFUL VACCINATION.—Dr. Hutchison, of the Chipping Norton Union, has, for the seventh time, received a first-class award for successful vaccination from the Local Government Board.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st; and notice is hereby given, in accordance with by-law 5, that Branch Secretaries' subscription-accounts close on October 31st, and all unpaid subscriptions must be forwarded, after that date, to the General Secretary, 429, Strand, London. Post Office Orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, NOVEMBER 3RD, 1888.

THE EXAMINATION INCUBUS.

IT seems to be reasonable to hope that the publication in the *Nineteenth Century* for November of a "protest" and a series of short articles by Professors Max Müller, Freeman, and Frederic Harrison will render a real service to the cause of true education in this country. The main contention, both of the protestants and of the professors, is very pithily expressed in the title which has been given to this collection: "The Sacrifice of Education to Examination," has frequently been discussed in these columns, and the great defects in our present system have been pointed out. To us, therefore, one of the most significant facts in this "signed protest" is that the physical mischief resulting is put forward as the first and not the least deadly evil in the system of education by examination. "One of the first duties," say the protestants, "of a child or young person is to grow well. In the rapid formation of new bone, muscle, and tissue of all kinds, Nature lays on a child a heavy tax, a tax that should absorb the larger part of its surplus energy. It is probable that in the course of every year some valuable young lives are lost, in cases where this energy has been drawn away by mental overstrain from the work which it has primarily to perform, and where there is in consequence a failure of strength to meet the sequelæ of scarlet fever or other serious illness. Even in the great number of cases where no strongly marked ill effect discloses itself during the years of youth, there are sufficient grounds for believing that what is unsparingly taken at this period of life is taken at the expense of future vigour and capability. It has, moreover, to be borne in mind that mental overpressure and brain irritation, on the one side, are likely, just as idleness and want of occupation on the other, to increase among boys peculiar physical (and moral) dangers of a most serious character." The intellectual and moral evils which have developed under the modern prize-system of education—the deadly uniformity, the study of subjects with a purely commercial motive and by purely mechanical methods, and the inefficiency of competitive examinations as tests of real knowledge—are also forcibly set forth in the protest. There is less danger that these injurious intellectual and moral effects may be underrated in the future, than that the physical evils may be forgotten. This protest ought to do something to impress the mind of those who fix curricula and concoct syllabuses. It is signed by such representative members of the medical profession as the Regius Professor of Medicine in the University of Dublin, the Master of Downing College, Sir Henry Thompson, Sir Spencer Wells, Sir J. Crichton Browne, Sir Walter Foster, M.P., Sir George Birdwood, Mr. Pridgin Teale, Dr. George Johnson, Mr. Ernest Hart, Dr. Clifford Allbutt, Dr. Gaskell, of Cambridge, Dr. Hack Tuke, Mr. C. G. Wheelhouse, and Dr. H. C. Bastian.

The list of names of distinguished men belonging to other professions is a valuable piece of evidence, going to prove how widely the views above quoted have permeated every department of intellectual activity. Among the long list of over 300 signatories, we find such well-known men as Lord Armstrong, Lord Bramwell, the President of Corpus Christi College, the Principal of Firth College, the Principal of the University College of North Wales, the Savilian Professor of Astronomy at Oxford, Canon Creighton, Professor Dewar, F.R.S., the Rev. James Martineau, LL.D.; Professors Henry Nettleship, Francis Newman, Frederick Pollock, Sayce, Stuart Blackie, and Tylor; the Regius Professor of Divinity at Cambridge, Mr. John Evans, Ex. Pres. R. S., Mr. J. A. Froude, Canon Gregory, Mr. Romanes, Sir Charles Hallé, Hon. Auberon Herbert, Judge Thomas Hughes, Mr. Burne Jones, A.R.A., Sir J. B. Lawes, Sir H. Austen Layard, Lt.-Gen. Pitt-Rivers, F.R.S., Sir Arthur Sullivan, Mr. G. F. Watts, R.A., and Mr. Grant Allen. Every one of these gentlemen—and the list might easily have been greatly extended—is entitled by training or profession to express an opinion on the question, and that is, that the system of competitive examination is physically, morally, and intellectually injurious.

The medical profession has happily not suffered within its own boundaries from the more acute form of the evil which is exemplified by such examinations as those for the Civil Service; but it has by no means escaped from the injurious influence of the system of testing teaching by examination, with the inevitable result that the examinations become mere tests of the crammer's ingenuity. As a result of this pernicious system the greatest injustice is constantly inflicted on candidates; thus we hear only too frequently that young men who have been carefully trained in practical medicine, surgery, and midwifery, who have held offices in hospitals or dispensaries, and who have conscientiously taken advantage of these opportunities of gaining a real acquaintance with the art of medicine, are rejected, while youths who, wiser in their own generation, have spent their time with an experienced crammer, succeed in satisfying the examiners. It is chiefly with regard to the examinations of the Conjoint Board in England that these complaints reach our ears, but the evil is not limited to that Board. The fault is partly with the examiners, and partly with the system which places too great a responsibility upon their often untrained and inexperienced shoulders. Mr. Frederic Harrison puts the matter forcibly enough with reference to Oxford and Cambridge, and we may apply his words to the London Board: "Knots of clever, eager, trained 'experts' in the examining art are.....marking, questioning, classing, and certifying right and left, on a technical, narrow, mechanical method. They would be far better employed in learning something useful themselves."

The evil being at length admitted, we are entitled to expect some suggestions for remedying it. Unfortunately, the

only remedy upon which the protestants can agree is that modern panacea for all social disorders and failures—a Commission, or rather a series of Commissions; a Royal Commission "to consider the whole subject of official appointments by examination, and to collect information bearing on the matter from other countries;" University Commissions "to inquire into the modes in which the different kinds of examination, employed at or in connection with the Universities, react upon education; to make suggestions as to any modification, if required, of existing systems; and to collect and publish statements of opinion from those who have taken part either in education or in examination;" other Commissions appointed by other examining bodies; a Committee nominated by the protestants, "to inquire into the methods of appointment by corporations, hospitals, other institutions, and large private firms engaged in trade, to collect opinions, make suggestions, and publish a report." Finally, it is suggested that the head master of each public school, of each endowed school, and the head masters of certain non-endowed schools, might "inquire into the various influences resulting from the different examinations to which boys are subjected, both at the commencement, and at the end of, and during the school period; to make suggestions as to what substitutes, if any, should be employed for certain of these examinations: and, at their discretion, to embody in their report statements of opinion from different persons."

THE SECTION OF PHARMACOLOGY AND THERAPEUTICS AT THE ANNUAL MEETING.

The work which is accomplished by the Section of Pharmacology and Therapeutics is becoming more important year by year. This is, no doubt, owing to the great interest excited in the minds of practitioners by the advance of the study of pharmacology and rational therapeutics.

Although, at the present time, the proportion of time in the Section occupied in the discussion of purely pharmacological questions was not great, yet it is to be hoped that at future meetings of the Association it will increase. This hope has, indeed, some ground for expression in the fact that many of the younger physiologists in the British Isles are now working at pharmacological subjects; such work will, no doubt, bear fruit in the future, and will, it is hoped, be furthered by the Therapeutic Committee of the Association, as they have embodied it in their scheme.

The subject chosen for discussion this year was one which demonstrated, if demonstration were needed, the advantage which the study of the physiological action of chemical substances has in the treatment of disease. It was entitled "Carbolic Acid, Antipyrin, Antifebrin, and their Allies; especially as regards their Antipyretic, Analgesic, and Antiseptic Actions." A very wide and interesting range was thus open to discussion by members of the Section. Professor Cash, of Aberdeen, introduced the subject in an able and lucid discourse, necessarily limited by the time at his disposal.

Beginning with an explanation of the chemical relations of carbolic acid, hydroquinone, and resorcin, Professor Cash proceeded to discuss their physiological action, dealing chiefly with the two last, the di-hydroxyl-benzene compounds, and bringing forward the facts already known about them in a very clear manner. He then went on to discuss the chemistry and the physiological actions of other bodies of the aromatic series, known familiarly under the names of antipyrin and antifebrin. Professor Cash detailed some experiments he had performed as to the action of these bodies and of carbolic acid in reducing the normal temperature of pigeons, which, as is well known, is over 105 deg. F. It was found that carbolic acid in comparatively large doses produced a rapid fall of several degrees of temperature, followed by an immediate gradual rise to the normal, so that there was practically no period at which the temperature remained uniformly low. With antipyrin, on the other hand, a comparatively small dose produced a sudden fall of temperature, which remained uniformly low for a long period of time before the temperature rose to the normal. These experiments demonstrate clearly what has been found clinically, that antipyrin is a better and surer antipyretic than carbolic acid. But they show more than this. Other antipyretic drugs are constantly being added to the armamentarium of the physician; some are soon discarded as useless, others remain permanently in use. Professor Cash's experiments seem to indicate a means of accurately determining the antipyretic value of a drug before it is utilised in therapeutics. With the numerous other important points in Professor Cash's address there is no space here to enter; for further details we must refer to his paper. In the discussion which followed, several instances of the antipyretic power of carbolic acid were brought forward, and the local anæsthetic action of the group of drugs was commented upon.

Among the communications made to the proceedings of the Section, several were of prime importance. A paper on "The Phenacetins" was read by Dr. Dujardin-Beaumetz, of Paris; and one on "Naphthol β" by Dr. Shoemaker, of America. Professor Thomas Fraser, of Edinburgh, made a most important communication on "The Action of Morphine, Codeine, and Atropine in Diabetes Mellitus." This paper will be published in the Journal. It detailed the careful record of two cases of diabetes mellitus in which the actions of the three alkaloids mentioned were contrasted in each individual case as regards their effect on the amount of urine excreted, on the amount of sugar, and on the general symptoms. Professor Fraser, quite independently, came to the same conclusion as Dr. Mitchell Bruce (whose publication in a contemporary appeared before his communication). The conclusion was that, in the treatment of diabetes, codeine acts only as a "weak" morphine, the latter drug being greatly the superior. This result accords, indeed, with what is known of the physiological and therapeutical properties of the two drugs; codeine, in all, acts as a "weak" morphine.

A short paper by the Rev. Dr. Masson, of Edinburgh, gave an interesting historical account of "An Old Highland Form of Massage, popularly practised for the Prevention of Consumption." The manipulation was usually practised by a powerful Highland woman, and was chiefly directed to "opening out the chest." The first part of the sitting was devoted to even pressure on both sides of the chest, the palms of the hands pressing from before back, and being gradually worked from below upwards to the clavicle; while the patient sat upright, stripped to the waist. The second part was directed mainly to "opening out the chest," and consisted in forcibly

bringing forward the xiphoid cartilage, and then bringing outwards the lower border of the thoracic cavity. The existence of such a prophylactic treatment fifty-five years ago is in itself interesting; it was evidently directed to strengthening the muscular walls of the chest, as well as to increasing the size of the cavity.

Dr. W. Allan Jamieson, of Edinburgh, showed two cases of Xeroderma Pigmentosum. Only about twenty cases of this rare skin disease, which is also called Kaposi's disease, from its original describer, are on record. Both the cases exhibited were in lads, and in an early stage, neither of them exhibiting any epitheliomatous change. In the interesting remarks made by the dermatologists present, some doubt was expressed as to whether the disease was sufficiently advanced in one of the cases to warrant a definite diagnosis.

Of the other communications made to the Section it will be sufficient here to mention Dr. Ralph Stockman's paper on the chemical constitution of the coca alkaloids, and the changes undergone by them under various treatment; a paper by Dr. Coldstream recommending Florence as a health resort for cases of anæmia; and one by Dr. Douglas Kerr on the thermal treatment after acute rheumatism, all of which led to interesting discussions.

In reviewing the work done in the Section of Pharmacology and Therapeutics, although there were many interesting and important communications, the comparative absence of papers on pharmacological subjects is to be noticed. This great defect will, it is hoped, be remedied at future annual meetings of the Association.

MEDICAL SCHOOLS AND SPECIAL HOSPITALS.

We have ever maintained that the influence of students upon the management of hospital patients is entirely misunderstood by the charitable public. Out-patient practice and the care of chronic cases in the wards are, from their very nature, essentially tedious to the medical officers who undertake these duties. Tediousness leads to hurry, hurry to neglect. The presence of students and the consequent necessity for teaching them the features of every case is an effectual antidote to the weariness of many departments of hospital practice. Each patient is properly attended to, and at the same time a body of young men who intend to live by curing the sick receive practical instruction. The sooner that the public can be induced to accept this truth through sound and sober demonstration from some popular and respected medical authority, the better will it be for patients. Tirades against students and the routine habits of hospital teachers can only have one result—damage to patients through the falling off of subscriptions. When kings raged against each other, it was once said, the Greeks had to weep. When misinformed humanitarians rage against medical schools, patients may have to go without beds. Many obscure special establishments are maintained because benevolent persons subscribe to them in preference to general hospitals where, they believe, patients are experimented upon by medical students. The truth is that the presence of students is the only sure incentive to careful supervision of patients on the part of the staff.

On the other hand, certain special hospitals, established for the pursuit of new methods of investigating disease, have proved invaluable to the sick and to science. We have heard it argued that such an institution might at first do good by starting a new system, but that the ultimate diffusion of that system must at length make the hospital useless. How this may apply it is difficult to understand; no doubt many a special hospital for some very limited speciality starts or establishes little or nothing; no good comes of it beyond the personal education of the staff. Nothing being established, nothing can be diffused; the hospital begins aimlessly and ends aimlessly. On the other hand, there are certain special hospitals for particular branches of surgery or medicine where the good work can be carried on indefinitely under favourable conditions not predominant at medical schools. Thus the Samaritan Free Hospital and its homologues in Birmingham, Edinburgh, and elsewhere, have for years been centres whence improvements in abdominal surgery are issued to the world. They cannot efface themselves through the diffusion of their work, and they are true educational centres, although their students are qualified medical men.

There is, besides, another aspect of the special hospital question in the British Isles which must not be overlooked. In Continental nations, which have more or less directly inherited Roman civilisation with its centralising tendencies, there is no abuse of hospitals of the kind prevalent in this country. The State does everything; hence it superintends hospitals, and in consequence there are seldom too many, but often too few. With us it is otherwise. Private action is ever popular, but every movement requires leaders and managers, and our countrymen like to be leaders and managers. To Anglo-Norman ideas of freedom, specialisation, like secession, dissent, and unofficial opposition, is held to be a sign of healthy public spirit. Hence British citizens set up and endow big, useful hospitals, and thence it naturally follows that other British citizens go to work and set up smaller and possibly useless hospitals. This state of things is part of our national instinct, and cannot be altered. Any attempt at change would soon prove to be apparent, not real. But the evil of a multiplicity of small hospitals must be controlled, and to the work of control all who are interested in hospital management must turn their attention.

Dr. Arthur W. Edis has been elected an Honorary Fellow of the American Gynæcological Society.

A paper on the Permanence of the Radical Cure of Hernia will be read by Mr. Mitchell Banks, of Liverpool, at the meeting of the Harveian Society to be held on November 15th.

The centenary of the Society for the Relief of the Widows and Orphans of Medical Men was celebrated on Monday last, October 29th, when the President, Sir James Paget, entertained the Council and other officers of the Society at dinner.

The question of the registration of midwives is again coming to the fore. A meeting of persons interested in the subject was held at Oxford on October 25th. The question is one of great importance, but one which presents some practical difficulties for solution.

On Thursday morning, at the Middlesex Hospital, Dr. William Duncan performed Porro's operation on a rachitic patient, 36 inches in height, with extreme pelvic deformity. At the time of going to press both mother and child were doing well.

A discussion on Early Surgical Intervention in Cases of Typhlitis and Perityphlitis will be introduced at the meeting of the Medical Society on Monday next, November 5th, at 8.30 P.M., by Dr. Bull, of New York. The subject is one of much practical interest both to physicians and surgeons, and a full attendance and good discussion may be anticipated.

We regret to announce that, owing to the continued indisposition of Mr. H. N. Moseley, F.R.S., it has become necessary to arrange for the appointment of a deputy to discharge the duties of the office of Linacre Professor of Human and Comparative Anatomy; the appointment will be made for one year from January 1st, 1889.

TREATMENT OF ERYSIPELAS.

Nussbaum recommends the application of a pomade of equal parts of lanolin and icthyol as a very speedy and simple method of cure in erysipelas. He covers the parts with salicylated cotton, and obtains a painless cure usually in two or three days.

DIPHTHERIA FROM CATS.

A report has been made to the Central Board of Health of Melbourne describing an outbreak of diphtheria, the cases occurring almost simultaneously in the neighbourhood of Daylesford. One child died, but the others are progressing favourably. The local health-officer has furnished a report pointing out the strong *primâ-facie* evidence that the children contracted the disease from cats, numbers of which are dying in the neighbourhood.

THE SPECIAL HOSPITAL NUISANCE.

"The Queen's Jubilee Hospital" for fistula, skin diseases, genito-urinary diseases, throat diseases, etc., has been ousted from its first chosen quarters, but will, it is announced, find a home somewhere "close at hand." All we need say is that we are sorry to hear it. It belongs to a most objectionable class of enterprise, and will only add to a series of so-called "charities," which are often found to serve quite other than useful public purposes, and whose histories are apt to be fertile in scandals. It is, we believe, the general opinion of the profession that, if half the throat, skin, ear, and rectum hospitals and dispensaries in the kingdom were to be closed to-morrow, the public would not be the losers; the general hospitals, which greatly need support, would largely gain; and the cause of legitimate medical education and medical treatment would be advanced, while a good many serious sources of offence to professional sentiment would be removed.

WOMEN AND INEBRIETY.

We gladly endorse the appeal made from Fulham Palace by Mrs. Temple in behalf of an Inebriate Home for Women, under the auspices of the Women's Union of the Church of England Temperance Society. The home opened in 99, Southam Street, Westbourne Park, in June last, has its ten beds constantly full, and experience of the usefulness of this home and of the excessive pressure on its space makes the need of a supplementary home quite apparent. The necessity is so urgent and the usefulness so obvious that no argument is needed beyond that deducible from the fact that only police-court cases can now be attended to, so that other applications, whether from town or country, have to be refused. It is a pity, in so good a case, to bring forward allegations of more than doubtful accuracy, or to support the plea by statements which are hypothetical and probably contrary to fact. Mrs. Temple is careful to state the mere facts, which are more than adequate to prove her case. Some injudicious advocates base their plea upon the assertion that inebriety among women, especially that form of it known as "secret drinking," is on the increase. That statement we believe to be not only wholly unsupported by adequate evidence, but directly contrary to the truth. There are still, unhappily, too many—far too many—drunkards of all classes and of both sexes; but, if statistics and personal observation go for anything, we should say that it is happily quite clear that drinking habits are much less common and much less readily tolerated among all classes in this country now than heretofore; that total abstinence as well as strict moderation and general temperance are making steady progress; and that this progress is very marked among the educated classes, and is deepening and widening in its extension to the poorer and less educated people. Inebriate homes are none the less but rather the more a social necessity and a true charity. The more generally it is understood that drinking habits are partly a disease and partly a crime, that they call for either punishment and repression or medical treatment and moral control—or both—the easier it will be for all classes to appreciate the horror and disgrace of drunkenness, and a wise public opinion will scorn and shun the drunkard or the wine and spirit bibber, of whatever class.

FINGER-NAILS AND NAIL-BRUSHES.

A painstaking German physician, Dr. Mittmann, of Würzburg, has published in Virchow's *Archiv* a remarkable paper bearing the remarkable scientifico-naturalistic title "Untersuchungen von Fingernägelschmutz auf Mikroorganismen." Although this contribution cannot be said to be based on painful experiments on live animals, a certain section of society will hold that there can be little poetry in those who make researches for micro-organisms in finger-nail dirt. Yet nails can scratch, and scratches may undergo troublesome pathological changes; moreover, as some authorities have insisted, the nails may seriously affect operation mortality, for they can convey bacteria in particles of dirt unremoved by the nail-brush. Dr. Mittmann has found that germs abound under the nails of persons pursuing dirty occupations and of careless schoolboys. He cultivated the adventitious matter from the nails of twenty-five subjects, in agar-agar, gelatine, and blood-serum. Micrococci were almost invariably present, next in frequency came diplococci; in only eighteen cultivations were bacilli found, and sarcinæ appeared in three. Moulds abounded and grew freely on cultivation. The subjects were grouped as follows: 6 ragsorters, 4 female cooks, 3 waitresses, 7 schoolboys, 2 barbers, and 3 undertakers' assistants. The degree of septic virus must vary greatly in groups which represent such different conditions. The use of the nail-brush in private life needs no advocate in this country; on the other hand, it is questionable whether that toilet article may not be a source of danger in hospitals and medical schools. A dissecting-room or ward nail-brush is as likely to convey as to remove septic matter. Possibly it is better to rub the nails on the surface of a piece of antiseptic soap during ablution, subsequently employing a penknife, if necessary, than to use a nail-brush under these circumstances.

SIR MORELL MACKENZIE AND PROFESSOR VIRCHOW.

The *Freisinnige Zeitung* of Berlin, one of the few really independent journals in Germany, recently stated that Professor Virchow has received numerous requests from various quarters to give a judicial summing-up of the case of the late Emperor Frederick, embodying his opinion on the whole subject, as presented both by the German physicians and surgeons and by Sir Morell Mackenzie. It is to be hoped, for the sake of scientific truth, that Professor Virchow may see his way to do this. No one else could do it with the same authority and impartiality, as his attitude throughout the controversy has been one of absolute independ-

ence. He has quite recently shown his impartiality in the matter by declaring certain of Sir M. Mackenzie's statements to be incorrect, and also some of Professors Gerhardt and Bergmann to be either incorrect or not proven. Herr Eugen Richter, the editor of the *Freisinnige Zeitung*, remarks that Professor Virchow's observations to the representative of a journal who recently "interviewed" him were made entirely on the basis of extracts published by that journal. These extracts, adds Herr Richter, were, however, recognised by Professor Virchow to be misleading when he saw Sir Morell Mackenzie's book. According to the *Vossische Zeitung*, Professor Virchow has made a further statement, regretting that more care and time had not been given to the drawing-up of the protocol of the *post-mortem* examination, and saying that he and Dr. Waldeyer had afterwards wished to give it a more perfect form, but could not get permission to do so from the Royal Haus-Ministerium.

DRUNK OR DYING.

THE difficulty of making a diagnosis between the state of unconsciousness produced by alcohol and by intracranial extravasation has been again exemplified by an unfortunate case which was the subject of an inquest held on October 30th by Dr. Danford Thomas. The man, a French-polisher aged 46, fell down the dangerous stairs at Edgware Road Station, and was picked up unconscious. He was removed to the police station and visited by the divisional surgeon, who expressed the opinion that he was intoxicated; on the following morning the divisional surgeon again saw him, and considered that he was recovering from the effects of intoxication. After being kept for thirty-eight hours at the police station, he was removed to the Marylebone Workhouse, where he died ten days afterwards, the cause of death being fracture of the skull and intracranial extravasation. As we have said, it is extremely difficult to make a diagnosis on first seeing patients suffering from symptoms of this class, but the observation of the coroner that the divisional surgeon had committed an error of judgment in not having the patient removed on the following morning to a place where he could have had the advantage of proper medical supervision appears to have been fully justified.

INTERCOLONIAL MEDICAL CONGRESS, MELBOURNE, 1889.

WE understand that Dr. McKellar has resigned the Presidency of the Section of Medicine, and the Hon. Dr. Taylor, of Brisbane, Queensland, has been elected in his stead. As already stated, arrangements have been made by which visitors to the Congress will be able to travel at greatly reduced rates. The Secretary, Dr. H. B. Allen, informs us that the Compagnie des Messageries Maritimes will allow members to travel from Marseilles to Melbourne at 30 per cent. below the usual rates, and will provide tickets from London to Marseilles for £5. The agents of the Norddeutscher Lloyd have recommended their head office to grant tickets at 20 per cent. below the usual rates. For those who desire to travel *viâ* America, the San Francisco mail steamers will carry members from San Francisco to Sydney at 20 per cent. below ordinary rates. The steamship companies, for their own protection, desire members to furnish themselves with some documents showing that they are medical men travelling to the Congress. On arrival at Melbourne, visitors will receive a free pass over the railways. The Centennial Exhibition will be in progress, and no better opportunity for visiting Australia could be found.

ANTISEPTIC ACTION OF α-CARBO-NAPHTHOLIC ACID.

THIS acid is obtained by the simultaneous action of sodium and carbonic acid on naphthol. It is one of the aromatic group of organic compounds, being related to salicylic acid. Its antiseptic action has recently been investigated. It is almost insoluble in water, but is soluble in alcohol and ether, and partly in borax and sodium phosphatic solutions, in both of which media it may be used. Its greatest antiseptic action is produced by applying the acid itself. It was found by Ellenberger and Hofmeister to delay the growth of putrefactive bacilli when used in the dilution of 1 to 20,000, to kill the organisms in the dilution of 1 to 1,200. Advanced decomposition is stopped by using the acid in 1 to 300; it is thus more powerfully antiseptic than carbolic or salicylic acid. The acid is a poison to animals (dogs, rabbits, sheep), but only in large doses. It is excreted as a salt unaltered in the urine, and when diluted does not hinder digestion. These experiments add another to the long list of antiseptics already known, though, owing to its toxic properties, its use in practical medicine cannot be an extended one. It possesses decidedly less advantages than creolin, the action of which has also been recently investigated.

THE DOMINION OF CANADA.

THE *Canada Lancet* concludes a congratulatory summary of the excellent work achieved at the recent meeting of the British Medical Association at Glasgow, by observing: "The British Medical Association is a body of which the profession may well be proud; and while our Ontario Medical Association is perhaps too large to become a mere *branch* of the great British organisation, it might serve a good purpose if some kind of affiliation could be brought about, so as to unify to a greater extent than at present the profession in Britain and in our large and progressive Province of Ontario." The possibility of achieving some closer professional union between the brethren of the great Canadian part of the Empire and the British profession has been more than once referred to by eminent Canadian physicians visiting Europe. Any such measure would be cordially welcomed here. Its chief 'grace would arise from its spontaneity' and its strength should be primarily evolved from its native elements.

NOVEL SUGGESTION FOR THE CORRECTION OF IRREGULAR ASTIGMATISM.

THE methods of estimating and correcting regular astigmatism are comparatively simple, and become more widely known every year, but so far little progress has been made in the correction of irregular astigmatism. This is not to be wondered at, for in some of these cases the corneal surface is so irregular that it defies accurate measurement, and even if a glass could be constructed to counteract its irregularities it would be of service only so long as the relation between it and the cornea remained the same. For this reason the lenses which have been found to improve the vision in cases of conical cornea have not proved of much practical value. In the June number of Knapp's *Archives of Ophthalmology*, is a suggestion by Dr. Fick, which possesses at any rate the value of striking originality, although we fear it is quite impracticable. He advocates the employment of what he calls a "contact lens," which is nothing but a shell or glass, forming part of a sphere, which is laid upon the eye, the space between it and the cornea being filled with fluid of the same refractive index as the aqueous. It is obvious that, under these conditions, the glass becomes the anterior refracting surface of the eye, and that the action of the natural cornea upon the rays of light is abolished, provided that its surfaces are parallel. We may note in passing that Dr. Fick appears to have overlooked this latter proviso. It is certain that in many, and probably in most, cases of irregular astigmatism the cornea is of very unequal thickness in different parts. Apart, however, from this objection it seems to us that Dr. Fick's suggestion is utterly inapplicable to actual practice. It is said that rabbits bore the contact lenses patiently for a considerable time, and that Dr. Fick himself wore them for over two hours with but little discomfort, but the rabbit is well known to be one of the most patient of animals, and it is not improbable that Dr. Fick's sensi-

bility was somewhat blunted by the intense interest he must have felt in the success of his experiment. Whatever fluid is used it would require renewal from time to time owing to the admixture of epithelial *débris* from the cornea, and it would be almost impossible for the wearer to effect this himself. It is conceivable that the "contact-lens" might prove of some diagnostic value, but as to its practical use we are entirely sceptical.

SACCHARIN AS A SUBSTITUTE FOR SUGAR.

A REPORT by a Medical Commission appointed by the Minister of Commerce to examine into the properties and effects of saccharin as a food expresses the opinion that materials which are antiseptic or capable of fermentation should not be introduced into food. It should be borne in mind, the report continues, that a substance is only a food on condition of its being able to undergo in the economy all the series of changes which render it assimilable. Not only is saccharin not a food, but by its antiseptic properties it renders entirely unalterable the substances with which it may be mixed. To substitute saccharin for sugar, therefore, is to suppress an article of food in order to replace it by an inert body; it is to check or retard the physiological actions which produce the change into sugar of the amylaceous materials; it is, in short, to expose the organism to a double deficit. The delay effected in the change of the fibrin of the albumen is not clearly shown. Hence the Commission concludes that saccharin should not be introduced into food; that it is not a food and cannot replace sugar; that its use, or that of its preparations, seriously disturbs the digestive functions and increases the affections known under the name of dyspepsia, and that it should be prohibited as an article of food. It is said that the Portuguese Government has prohibited the introduction of saccharin into that country.

FATTY ACIDS IN DECOMPOSED URINE.

THOUGH the main facts of the ammoniacal decomposition of urine are well known, yet the complete chemical changes that occur are not yet fully explained; and, as Salkowski remarks in a recent paper, this is all the more to be wondered at, considering the great clinical interest of the decomposition. Everyone is conversant with the fact that the chief change occurring is a decomposition of urea into ammonium carbonate, which subsequently splits up into ammonia and carbonic acid gases. Salkowski noticed that one specimen of decomposed urine he was examining had a strong odour of fatty acids, and was then led to test for these. The method used was the simple one of adding sulphuric acid to the urine and distilling. Fresh normal urine treated in this manner yielded a small amount of fatty acid, but after two to three days' decomposition it yielded six times as much. This is the average of eight experiments. In a urine which had stood five weeks, as much as sixteen times the amount of fatty acid was obtained. On analysis of the silver salt it was found that the acid was almost solely acetic acid. In his remarks as to the body which yields this acid, Salkowski leans to the opinion that it is a derivative of the carbo-hydrates present in normal urine, accepting the results of some recent German observers, who have decided the presence of sugar and a substance resembling dextrine as normal constituents of the urine. Further experiments on the subject are promised. The results up to the present show an acetic acid fermentation as well as an ammoniacal one occurring in urine that is allowed to stand exposed to the air.

INQUESTS.

"THE treatment certainly appeared to be wrong, and as long as they had unqualified men in the district they would have wrong treatment, but cases of that kind he could not deal with. It was a case to be dealt with by the medical societies and not by a coroner or his jury." The above remarks were made in the course of his charge to the jury by a coroner who was holding an inquest on the body of a young woman who had committed suicide by taking carbolic acid. She had been treated by an unqualified practitioner, who apparently contented himself with administering a small quantity of glycerine by the mouth. The stomach was full at the time of taking the poison, and was found to contain a pint of undigested food at the *post-mortem* examination. If a qualified practitioner had attended the deceased, we should have regarded his neglect to evacuate the contents of the stomach as criminal, or almost so. There is nothing in the report of the case which leads us to suppose that the woman would not have recovered if properly treated. The jury censured the man who had attended the deceased for undertaking so serious a case, and for not calling in legally qualified help. In another case, the coroner told the jury that it was very evident that death had resulted from epilepsy. We doubt whether it would seem so very evident to anyone else. The case was that of a married woman, aged 40, stated by her husband to be subject to epilepsy. On the day of her death, early in the morning, she had thrown herself into the canal, but had been rescued owing to the promptitude of a passing constable. She was taken to the police court, and discharged on promising not to repeat the offence. When her husband returned home in the afternoon, he found the door locked, and, on getting into the house, he discovered his wife lying on the bed face downward and dead. The medical man who was called in wrote to the coroner that he had not the slightest idea what was the cause of death; and yet the coroner had the impudence, we can call it by no other name, to say that the cause of death was very evident, and that he would not throw two guineas away in ordering a *post-mortem* examination! Such behaviour is past all comment.

THE LUNGS OF LONDON.

THE Metropolitan Board of Works has decided to advance £15,000 to the Hackney District Board, and £2,500 to the Vestry of Islington, to enable them to contribute to the purchase of Clissold Park. It was also agreed to advance £5,000 to the Vestry of Marylebone, £20,000 to the Vestry of Hampstead, and £30,000 to the Vestry of St. Pancras, towards the purchase of the Hampstead Heath extension. The Board has also determined to apply to Parliament in the session of 1889 for powers to lay out the vacant land in the Tench Street, St. George-in-the-East, Artisans' Dwellings Improvement area, and dedicate it to the public as a recreation ground, upon condition that the Vestry of St. George-in-the-East undertake the maintenance of the ground, and that the vestry be asked if they are prepared to do so. Under the Artisans' Dwellings Act the Board has cleared the ground, and has already provided accommodation for something like 800 families in the immediate neighbourhood. To cover this site with artisans' dwellings would be a retrograde step.

AMERICAN INTERNATIONAL CONGRESS OF MEDICAL JURISPRUDENCE.

THE "Medico-Legal Society of New York" will hold an International Congress of Medical Jurisprudence, which representatives from other countries will be invited to attend. The Congress will last four days, and will meet next year, but neither the place nor the exact date has yet been fixed. A Subcommittee, consisting of Moritz Ellinger, Esq. (Chairman), Clark Bell, Esq., Dr. Isaac Louis Peet, Stephen Smith, M.D., Judge Noah Davis, and E. W. Chamberlain, Esq, has been appointed to make the necessary arrangements. It is requested that all members, whether honorary or ordinary, desiring to contribute papers to be read at the Congress shall forward their names and the titles of their articles to the Secretary of the Committee or to the President of the Society, 57, Broadway, New York. The sooner communications are made, the more easily will the necessary preparations be made.

ATHLETIC EXERCISES FOR LADIES.

A modern development of athletic training is seen in the formation of volunteer fire-brigades, which meet for periodical practice. Fire-brigades for ladies have been formed at Girton and Newnham, and more recently at the Royal Holloway College. Mr. Merryweather, at the request of the principal of the latter college, has organised the lady students into a brigade, and reports that in a preliminary drill they showed much alacrity in the performance of their duties, the majority being very quick and agile in making the connections with the hydrants, running out the hoses, working the fire-pumps and corridor engines, and various other manœuvres. The students drill in sections, the respective floors being allotted to different detachments in order to secure their familiarity with the requirements of each part of the building. Such brigades are useful; they diminish the probability of disorder and panic in case of fire; the drill is a healthful exercise, and adds to the general *esprit de corps* which should prevail in an educational establishment.

PRAIRIE ITCH.

Dr. Corlett, dermatologist to a hospital in Cleveland, Ohio, read before the Section of Dermatology at the 1888 meeting of the American Medical Association, a paper on the so-called "prairie itch," "Lumberman's itch," or "Michigan itch." He concludes that clinical investigations do not give the dermatologist grounds to define a new disease. Dr. Corlett examined some alleged cases in Western Pennsylvania, and found that the patients were suffering from eczema of the hands, xeroderma, pityriasis, phtheiriasis, bug-bites, and, lastly and chiefly, from scabies pure and simple, sometimes evident and infesting an entire household, sometimes masked, through difficulty in finding the acarus. "The Michigan itch," or "Lumberman's itch," was studied through cases in a hospital in the State which has the questionable honour of giving its name to a disease. The first case was a neurosis resembling cheiropompholyx; in the second, the itching was due to bug-bites; in the third, the disease was evidently identical with the pruritus hiemalis of Duhring. The false reports of a new disease arose, Dr. Corlett believed, from ignorance of a thorough knowledge of cutaneous disorders already recognised. Especially important is it that the practitioner should remember that the acarus is but a local irritant, inducing in one case a papillary, in another a vesicular, and in a third a pustular eruption. Persons who wash well, and petroleum refiners, seldom suffer from scabies of the hands. Dr. Corlett's paper is published in the *Journal of the American Medical Association*, October 13th, 1888.

"VERIFY YOUR REFERENCES."

The columns of the Journal which are devoted to reviews testify to the steady increase in the number of books which are annually added to medical literature. Whether the author be a young compiler of a manual, a confirmed bookmaker, or an accepted authority in practical or scientific medicine, one of the chief difficulties of his task, in these days, is the necessity for references and the difficulty of ensuring accuracy. The original reference is not infrequently difficult of access. Perhaps the book or paper is written in a language unknown to the writer. Too frequently the reference is discovered, secondhand, in some well-established textbook. But textbook writers are apt to copy from each other, nor are the scientific authors of papers read before societies always guiltless of the same error. We recently referred to a case where "aged 32" was incorrectly copied "aged 82" in a well-known transatlantic journal and in several textbooks. Again, foot-note references require even more skill in the correction of proofs than is needed for the revision of the text. The chief difficulty in this direction is due to the fact that references of this kind are largely taken from many-volumed archives. This necessitates many figures, and where there are many figures the risk of misprint is great. A misprint is calculated to give great trouble to the *bonâ fide* reader, the true student of a book—especially, for example, when he finds "*Trans. Path. Soc.*, vol. xxiv," instead of *Trans. Path. Soc.*, vol. *xxxiv*." Errors in French and German names, such as "Langenbeck" for "Langenbuch," "Ferraud" for "Ferrand," are unsightly, but less liable to mislead. The worst error, however, is the misinterpretation as well as misquotation of a reference. Verification from careful perusal of the original is the sole means of preventing this error. The author should bear in mind the words at the head of this paragraph, often fathered on the wrong man, just as good anecdotes, really the fruit of eighteenth century wit, are sometimes ascribed to Douglas Jerrold, and the humour of Frenchmen of any age to Talleyrand. The words in question were uttered by Dr. Routh, the centenarian President of Magdalen College, Oxford. Dean Burgon relates, in his *Lives of Twelve Good Men*, recently published, that he himself once asked Dr. Routh for some precept which the aged President might, through his unusual share of wisdom and experience, consider as especially valuable above all other precepts: "He bade me explain—evidently to gain time. I quoted an instance. He nodded, and looked thoughtful. Presently he brightened up, and said: 'I think, sir, since you care for the advice of an old man, sir, you will find it a very good practice'—[here he looked me archly in the face]—'always to verify your references, sir!'"

FRIEDREICH'S ATAXIA.

Dr. Crozer Griffith has contributed to the October number of the *American Journal of the Medical Sciences* a valuable summary on the disease variously designated as "hereditary ataxia," "congenital ataxia," "generic ataxia," "family ataxia," and "Friedreich's Disease." Dr. Griffith objects to the term "Friedreich's disease," as it has already been applied to signify "paramyoclonus multiplex," and solves the difficulty in the usual manner—that is, he contrives a new name, "Friedreich's ataxia." He has analysed the reports of 143 cases. The disease is a chronic, systemic, inflammatory degeneration of the spinal cord, developing usually in infancy or childhood, in cases in which there has probably been an arrest of development of the cord during fœtal life, this being the result of some hereditary predisposition. The posterior columns of the cord, the lateral and cerebellar tracts, and the columns of Clarke are the essential seats of this disease; but other parts are commonly involved, and the sclerosis extends slightly into the medulla. The principal symptoms are gradual disturbance of the co-ordination of the bodily movements, advancing from below upwards, and finally involving the organs of speech. Spinal curvature, talipes, vertigo, and nystagmus frequently develop in the course of this disease. The patellar reflex is nearly always absent. Paralysis and slight sensory disturbances are not uncommon in advanced cases. Trophic, vasomotor, and visceral affections are unusual, and any disorder of intellect is probably accidental. Turning to diagnosis, Dr. Griffith states that Friedreich's ataxia is especially to be distinguished from tabes, disseminated sclerosis, and ataxic paraplegia. Tabes develops in adult life; affection of speech and nystagmus are absent; on the other hand, there is lancinating pain, with atrophy of the optic nerve, alteration of the pupillary reflexes, as well as marked trophic and visceral affections. Disseminated sclerosis is but seldom hereditary, usually develops later in life than Friedreich's disease, and also differs from that affection in the presence of remissions, static nystagmus, rhythmic oscillations, ankle-clonus, exaggerated knee-jerk, intention tremor, and disturbance of intellect, and in the absence of the symptoms of true ataxia, as defined by Romberg. Ataxic paraplegia occurs in adult life, and not in several members of a

family. Patellar reflex is increased; nystagmus and marked affection of speech are absent. The oscillating gait is the only marked symptom common to Friedreich's disease and tumour of the cerebellum. Hereditary chorea has a distinctly different history and mode of termination, and exhibits no truly ataxic symptoms or diminution of the patellar reflex. Friedreich's disease always progresses slowly to a fatal termination; in one case the disease began during infancy, yet the patient lived to the age of 46. In vol. xxi of the *Transactions of the Clinical Society*, which has just been issued, an interesting series of cases of hereditary ataxia in a family of five are described by Drs. Goodhart and Carpenter, and illustrated by photographs. The usual feature of Friedreich's ataxia—evidence of posterior sclerosis—was absent.

SCOTLAND.

EDINBURGH UNIVERSITY COURT—ADDITIONAL EXTRA-MURAL TEACHING.

At a meeting of the Edinburgh University Court on Monday the following teachers of medicine received recognition in connection with graduation at the University of Edinburgh. Dr. A. P. Aitken, Lecturer on Chemistry and Teacher of Practical Chemistry, Edinburgh; Dr. W. Scott Lang, Lecturer on Surgery, Edinburgh; Mr. T. Rymer Paterson, B.Sc., Lecturer on Chemistry, Edinburgh; Mr. G. Munro Smith, M.R.C.S., Lecturer on Physiology and Teacher of Practical Physiology, Bristol; and Mr. Alfred Wilson, Teacher of Practical Materia Medica, Oxford. Extension of recognition was also granted to Professor Windle, M.D., Birmingham, for a new course of one hundred lectures on anatomy.

EDINBURGH HOSPITAL APPOINTMENTS AND THE M.D. DEGREE.

At a previous meeting of the General Council of the University of Edinburgh a motion was made regarding the position of graduates of the University in relation to qualification for appointments to physicianships in the Edinburgh medical charities. At that meeting the Council, without pronouncing on the motion, agreed to transmit it to the University Court. The matter has now been before the University Court, and that body has expressed the opinion that the minute in question ought, in the first place, to be sent by the Council itself to the governing bodies of the several charities. At the last meeting of Council, held a week ago, regret was expressed by the mover of the original motion that the Court had elected to take this course. The Council finally by a majority resolved to petition the various medical charities in the city so to alter their rules in regard to the qualifications of physicians that the M.D. degree of this University shall be held as sufficient qualification. The President of the Royal College of Physicians of Edinburgh opposed the motion. The position taken up by the University Court is especially interesting as apparently recognising the Council's right to communicate directly with external authorities on questions involving University interests.

OPENING OF EDINBURGH UNIVERSITY WINTER SESSION: PRINCIPAL MUIR'S INAUGURAL ADDRESS.

The formal academic commencement of the winter session at Edinburgh University was made on Saturday last, when Sir William Muir, as Principal, delivered the inaugural address. There was a large assemblage of students. The Principal devoted himself chiefly to a record of the more important events of the academic year that had closed. The statistics of matriculation showed an increase in number of students of medicine, in 1887-88 over that of 1886-87 of 26. On the other hand, the Arts Faculty presented a diminution of 92 in the same period. The Principal pointed out that a like diminution had been experienced by the sister universities. The ultimate reason for the fall was difficult to find. He did not think the suggested revival of trade offered sufficient explanation.

ROYAL MEDICAL SOCIETY OF EDINBURGH.

The 152nd session of the Royal Medical Society of Edinburgh was inaugurated by an address from Professor Greenfield. The Professor referred to the unique position occupied by the Society in the medical world. A glance at the roll of past presidents and prominent members showed how very many had become known to fame by their discoveries and writings, and how few had failed in after life to justify the opinion formed of them by their fellow students. Such a Society was of the utmost value in the way of stimulating hero worship, co-operation, and research. Professor Greenfield thought that every man, even as a student, should have some research on hand, to stimulate other work and afford relaxation and interest outside the regular routine of study.

THE REPRESENTATION OF ST. ANDREWS AND EDINBURGH UNIVERSITIES.

A writ for the election of a Parliamentary representative for the Universities of St. Andrews and Edinburgh in room of Lord Justice Clerk Macdonald has been issued. There seems every likelihood that the newly-appointed Solicitor-General for Scotland, Mr. Stormonth Darling, will be returned unopposed. The Liberal Association of the two Universities approached Mr. Erichsen, who on a previous occasion contested the seat, with a view to his becoming a candidate in the Liberal interest; but the Association learned with much regret that Mr. Erichsen had made up his mind not to undertake a parliamentary contest a second time. The Committee of the Association made further attempts to obtain the services of some other distinguished representative of science or medicine, in view of the great preponderance of the medical element in the constituency, but they have had finally to report want of success on account of a disinclination to sacrifice scientific studies or professional practice for the sake of a seat in the House of Commons. The divided state of the party has increased the difficulty greatly, as already some prominent Liberals have pledged themselves to support the Solicitor-General. The Association has therefore resolved as follows: "That no action shall be taken by or in the name of the Association during the present election, all members being free to act individually, as they think fit." Under these circumstances the only consolation for the medical graduates is to be found in one of the paragraphs of Mr. Darling's address:—"The interests of the profession of medicine, to which the great majority of your number belong, have a special claim on the attention of your representative. The assurances of support which I have already received from so many eminent medical men justify me in the hope that I should always have the benefit of valuable information and counsel not only on matters directly connected with the well-being of the profession, but also on those subjects affecting the public health on which medical men are entitled to speak with an authoritative voice."

A THIRTY DAYS' FAST.

Another trial of fasting is in progress at the Douglas Hotel, Edinburgh. On this occasion, however, the alleged motive is the demonstration of the virtue of a herb, which the experimenter believes to be possessed of rare sustaining and nourishing properties. Alexander Jacques, the subject of the experiments, states that he will not part with the secret of the plant—which he learned from his grandmother—for a less sum than £20,000. In place of being used up at the end of the thirty days for which he has undertaken to fast, Jacques has challenged any man of his own weight to a boxing or wrestling contest. A strict watch

is being exercised by a responsible vigilance committee. The fasting feat is a subject of much interest in medical circles in Edinburgh, and M. Jacques's urine is being accurately observed and analysed from day to day.

POOR CHILDREN'S FRESH-AIR FORTNIGHT.

THE committee in charge of this scheme report that, during the season just concluded, 1,227 boys and 1,315 girls, a total of 2,542, had the privilege of the holiday. Of these, 2,363 had two weeks, 30 one week, 110 three weeks, 25 four weeks, 10 five weeks, and 4 six weeks, and all without mishap or misadventure.

QUEEN MARGARET COLLEGE, GLASGOW.

THIS college for Women opens next week. Science is this year represented by Natural Philosophy, taught by Professor Blyth, of Anderson's College, and Botany, taught by Professor Bower, of the University. The College was this week honoured by a visit of the Honorary President, Princess Louise, who was also paying a private visit to the Exhibition, accompanied by the Marquis of Lorne.

ASSOCIATION FOR THE RELIEF OF INCURABLES, GLASGOW.

THE fourth annual meeting of the Ladies' Auxiliary of the Association for the Relief of Incurables was held on October 24th, when it was reported that three new branches had been formed at Dumbarton, Chryston, and Springburn, and that each year the amount of money raised by the ladies was increasing, the total sum this year being over £1,100. Sir William McOnie and Professor Story congratulated the Auxiliary on its success, and moved the adoption of the report.

GLASGOW ARTISAN BUILDINGS.

THE commercial success which has attended the erection, by the Improvement Trust of the Town Council, of workmen's houses in the east end of the city, has been considered sufficient to justify the proposal to erect an additional block on the remainder of the ground owned by the Trust. It is hoped that the commercial value of the buildings will induce private builders to raise buildings constructed on a similar plan, and with the same regard to sanitation, and will thus tend to raise the character of the tenements put up for the poorer classes.

GLASGOW MISSION FOR OUTDOOR BLIND.

A COMPETITION designed to stimulate the blind to acquire the art of reading and writing by means of raised type is held annually in Glasgow. This year the number who presented themselves was greater than on any former occasion, 102 having entered—76 from Glasgow and 26 from surrounding districts; and the age of the candidates ranged from 9 to 70 years. In the class for general readers an old woman, who has been blind and deaf for thirty years, gained the prize, and a man 59 years of age gained the prize in the beginners' class. The reading by the children was exceptionally good, and the Braille writing exercise was performed with wonderful care and expedition both by members of the adult's and members of the children's class. The prizes in money amounted to twelve guineas; and forty books in Moon type were also given, presented by Sir James Watson for that purpose.

JUVENILE DELINQUENCY BOARD, GLASGOW.

AT the monthly meeting on October 26th it was reported that the Government, in the Bill relating to reformatory and industrial schools, had altered the clause with regard to compulsory imprisonment, and had made the imprisonment permissive. The Mossbank Committee reported that 59 boys had been sent from the courts to Mossbank Reformatory; 59 boys discharged or licensed had been received into the home from Mossbank Reformatary, and kept till situations were found for them. In all, 141 boys have been inmates of the home. About 300 boys discharged from Mossbank are regularly visited, and a record kept of their circumstances and conduct; 60 boys discharged from Duke Street Reformatory are also visited and recorded, and the total expense for travelling, clothing, salaries, food, etc., has been £161 12s. 10d. or 6s. 6d. per boy.

GLASGOW POOR CHILDREN'S DINNER-TABLE SOCIETY.

THE annual report of this Society conveys the gratifying information that the directors have been able to meet the want in almost every district of Glasgow where help was needed during the past few winters. Last winter the pressure was not so great as in previous years. In one district a table was opened where the children were required to pay one halfpenny for dinner, but it was not a success. The free dinner tables were open from November to April to the number of 15, and were open 5 days each week. The total number of dinners supplied was 263,781, a decrease of 61,460 over the previous year. Bread tickets were distributed for the benefit of those who could not attend the tables, and during summer some specially destitute families were relieved in this way. The clothing of needy children was also undertaken by the Ladies' Committee, upwards of 1,000 articles of clothing being thus distributed. The expense incurred by the Society amounted to £1,300, and a balance remains in the treasurer's hands. The operations of the Society had been found to be a direct aid to the work of the school board among poor children.

PARRICIDE BY AN IMBECILE.

AT the High Court of Justiciary, Glasgow, last week, a mother and son were charged with the murder of the father with blows on the head with a hammer. The son, a boy aged 13, is an epileptic, and took two fits while in court. He was proved to be imbecile, very excited after a fit, and quite incapable of instructing counsel. He was therefore ordered to be detained during Her Majesty's pleasure. The medical evidence in this case showed that the boy's mind was almost a blank. His head was of so peculiar a shape that the prison surgeon was advised by a medico-legal expert to have a cast taken of it. The same expert considered the boy mentally and physically so weak that it was very improbable he could have inflicted the injuries described. He was so weak mentally that he must have been shown how to do the deed, and so weak physically that he would not have had the power, when raising the hammer, to always strike about the same spot, as had been done in this case. He was suffering from advanced brain disease, and was a thorough imbecile. Further, the convulsions into which he fell were peculiar in respect that one side of the body was more affected than the other, the one being quite rigid and the other flexible; and from this he inferred that the brain was further advanced in disease on one side than on the other. Other medical witnesses, however, proved that the boy, while weak-minded, was capable of remembering injuries done to him, and was at times both violent and dangerous. He had to be put under restraint frequently in Merryflat Asylum, where he was confined immediately before the trial. In these circumstances the charge against the mother was found not proven.

THE EPIDEMIC IN ST. MARY'S ROMAN CATHOLIC SCHOOL.

THE Rev. Mr. Gordon, of the Jesuit College, Garnet Hill, has drawn up a report in reference to the epidemic of last March. The document is described as a "statement of the case" in answer to the "request of the Home Secretary," and its necessity attributed to Dr. Russell's pamphlet on "The History and Circumstances of the Peculiar Outbreak of Febrile Disease in St. Mary's Roman Catholic

School." The statement receives the approval of the directors of the school. It is divided into two parts, the first of which seeks to prove that the epidemic was not due to the insanitary situation of the school. After reviewing the opinions of Professor Gairdner, Dr. Russell, Dr. Gemmell, and Dr. Scott as to the nature of the disease, Mr. Gordon states that the weight of medical evidence, when a definite judgment has been pronounced, and also the opinion of laymen having experience of industrial school children, is clearly in favour of the view (1) that the cause of the "peculiar outbreak of febrile disease" in March last was the sudden change of temperature to intense cold which occurred at the time, and which told severely on enfeebled constitutions; (2) that the disease was not mysterious, nor its cause unknown to those acquainted with reformatory and industrial school practice; and (3) that, consequently, there is no reason to attribute it to the site, nor to necessitate the removal of the institution. In the second part of his statement, Mr. Gordon objects to Dr. Russell's comparison of the unhealthiness of St. Mary's with other schools, on the ground that in other industrial schools it is the practice to discharge diseased children, while in St. Mary's this is hardly ever done, and this Dr. Russell has overlooked. After correcting Dr. Russell's statistics from the annual Government reports, Mr. Gordon shows that during the period of ten years selected by Dr. Russell for comparison with Mossbank Industrial School, the annual death-rate at St. Mary's was 17.6 per 1,000 inmates, and that of Mossbank during the same period was 21.8 per 1,000. Thus St. Mary's is proved to be not abnormally unhealthy, but more healthy than Mossbank. Mr. Gordon thinks that, if the younger boys were placed more under female care, some further attention bestowed on the more delicate girls, and some improvements effected in the heating of the school, together with warmer underclothing already provided, St. Mary's will not only compare favourably with the other Glasgow boys' industrial schools, as it does at present, but with any other school in Scotland.

FURTHER EVIDENCE IN THE CASE OF THE LATE EMPEROR FREDERICK.

WE lately published[1] an impartial, and even we fear somewhat severe, criticism on Sir Morell Mackenzie's conduct in the case of the late Emperor Frederick, based on the text of his own vindication. In repelling the charges urged against him by the writers of the so-called "official" report with a virulence only too obviously inspired by wounded vanity and personal animus, Sir Morell Mackenzie unfortunately used the same controversial weapons, and thereby materially weakened the strength of his defence. Dealing exclusively with the professional questions under consideration, we carefully refrained from discussing the literary character of the German publication, and from entering upon the collateral subjects which throw much light on the whole course of this unhappy case. Those, however, who wish to obtain a clear and connected account of the leading events in the history of the case, logically presented and carefully analysed by a person thoroughly acquainted with all the personal aspects of the question as well as the scientific considerations involved in it, would do well to read the admirable article by Mr. R. E. Prothero on "Frederick the Third and the New Germany," in the current number of the *Nineteenth Century*. The writer, who is, we believe, a son of the Rev. G. Prothero, Canon of Westminster, has throughout been in a position to obtain the most authentic information, and is able to express the views entertained by those devoted friends who surrounded the late Emperor during his last illness. After a masterly analysis of the false issues raised in the "official" report, Mr. Prothero discusses the true issue, which has already been put forward with admirable clearness in the letter of the Empress Frederick which was published in the *Daily News* of October 12th, 1888. That document refers to May, 1887, when the radical treatment was first proposed. Mr. Prothero, who speaks as a layman well informed of the views held by the late Emperor himself, presents what he believes to be the *true* issue between Sir Morell Mackenzie and his German colleagues as follows:

"In May, 1887, two German doctors, without special skill in diseases of the throat, unsupported by any pathological evidence, trusting to the infallibility of their diagnosis, and concealing from their patient and his family the nature of the proposed radical treatment, advised an external operation which in 27.2 per cent. of the cases results in immediate death, which in 54.54 of the cases hastens death, which nearly always destroys the voice, and which in only two cases (and in one of those Dr. Lennox Brown doubts the existence of cancer) has effected a complete cure. The *Kölnische Zeitung*,[2] commenting upon the proposed operation, remarks with complacent frankness: 'Death consequent on the operation would have been easy, nay, almost painless.' Against this proposal Sir M. Mackenzie took up a position from which he never swerved a hair's breadth. Without asserting an opinion whether the growth was or was not malignant, he maintained that no external operation was justifiable without pathological evidence of the existence of cancer; and that, even if cancer were thus proved to exist, a palliative treatment, which prolonged life under normal conditions of health for at least a year, and for another year under less favourable conditions, was to be preferred to a radical treatment. When the alternatives are so terrible, the patient must himself determine. In November, 1887, the Crown Prince deliberately refused to run the immediate risk of the external operation with its remote possibilities and miserable conditions of recovery. This decision, in the opinion of every impartial critic, concludes the controversy. The sole responsibility of reopening the question rests with the German doctors. It is the multiplicity of their charges against the honour and the skill of the English specialist which compelled him to reply, and provoked him to retaliate in the same strain."

A most important piece of evidence is furnished by Mr. Prothero on one of the crucial questions, to which we have had more than once occasion to refer, and of which we were the first to publish the details (JOURNAL, May 12th, 1888, p. 1029); namely, the events which occurred on April 12th, 1888, when Professor von Bergmann was summoned to the Emperor on account of "difficulties with the cannula," to use the words of Sir Morell Mackenzie. The following is the account given by Mr. Prothero, on the highest authority:—[The scene] "was thus described to me by an eye-witness who is not one of the principals in the struggle. A slight change in the cannula was considered necessary by the physician, and, from courtesy to the surgeon engaged in the case, Sir Morell summoned Von Bergmann. The Professor arrived in a state of extreme excitement. Striding across the room, and ignoring the English doctors, who wished to explain the object for which his presence was required, he made his way to the table on which the tubes were placed. Among them was a German tube, modified indeed after the experiences of February, but still with sharp edges and the shape of a cheese-scoop. Seizing this instrument, and placing his two thumbs on the shield, he endeavoured to force it away from his body into the patient's windpipe. Unable to find the well-worn passage with the instrument, he thrust his finger into the orifice, and tried again. The blood spurted out; the Emperor was choking, and blowing the crimson bubbles into the air. The strength which the professor employed forced the tube, not into the windpipe, but into the tissues of the neck in front. At length, sinking back into a squatting posture upon his heels, he asked that Bramann should be summoned. The assistant came, and, while the professor held open the sides of the incision, slipped the cannula into its place. Upon these surgical laurels Von Bergmann practically retired. But his excited violence left a deep impression on the Emperor's mind, and, in Sir M. Mackenzie's opinion, fatally influenced the course of his malady."

[1] JOURNAL, October 20th, p. 887.

[2] As quoted by Hermann Norvid, *Mackenzie und seine Verleumder*; Stuttgart, 1888. p. 21.

DR. CROSBIE, who resides near Tralee, shot himself accidentally last week with a revolver. The bullet penetrated the abdomen close to the region of the stomach.

MIDLETON UNION.—The Local Government Board have sanctioned the payment of a superannuation allowance of £75 8s. 8d. to Dr. Thomas Sandiford, late medical officer of Castlemartyr Dispensary district.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.[1]

THE first meeting of this Congress, and its peculiar constitution—formed by the amalgamation for the purpose of a simultaneous triennial assembly of a series of already existing special associations—has been briefly mentioned in a previous number. The two topics discussed at the general meetings of the Congress were intestinal obstruction and cerebral localisation.

Intestinal Obstruction.—The subject was introduced by Dr. R. H. FITZ, of Boston, who dealt chiefly with medical treatment of acute obstruction due to mechanical causes within the abdomen. He referred also to obstruction due to other causes, which he classed as functional, being due to perverted or suspended action in the gut itself, such as spasm, peritonitis, perityphlitis. He analysed the varieties of acute mechanical obstruction, strangulation from adhesions, vitelline remains, peritoneal slits, pockets, and rings, intussusception, twists and knots, abnormal contents, strictures, and tumours. He described different measures of relief, especially by the injection of water or air, massage, the use of the rectal sound, the hand passed into the rectum; each had, he said, its limitations and dangers; their value was the greatest if used early in the first two days. He believed that the first duty of the physician was to attempt relief by all procedures not surgical in the first two days. In intussusception a longer time was admissible. Here he would try opium, waiting, and massage. Impacted gallstones might be treated in the same way, but other varieties of acute intestinal obstruction required surgical treatment. —Dr. NICHOLAS SENN, of Milwaukee, advocated a strictly surgical treatment of acute obstruction from the first. All forms of obstruction were aggravated by increase of pressure on the proximal side. The preliminary treatment should invariably be irrigation of the stomach with water charged with a non-irritant antiseptic; this removed pressure, checked peristalsis in the gut above the obstruction, and prevented subsequent formation of gas. The injection of liquids into the colon was an ineffectual mode of treatment, as with a safe pressure the ileo-cæcal valve could not be passed. He preferred to use hydrogen gas, which, under one quarter to two pounds pressure, passed the valve, while eight to twelve pounds were needed to injure anything, even if forced from the anus to the mouth; if it escaped by a perforation into the peritoneum it did no harm. The perforation was proved by the escape of gas. Tympanites produced by escaped hydrogen appeared where it collected above the liver. The gas must be injected slowly and gently. Tubage of the rectum was uncertain, and limited to the lower bowel. Manual exploration of the rectum was useful either for diagnosis or treatment when the obstruction was situated below the sigmoid flexure. Taxis and massage were only of use in cases where the obstruction was due to intramural causes, and in some cases of invagination. Uniform pressure over the whole abdomen was useful to secure rest and prevent hyperdistension. He condemned enterotomy, which was only justifiable when it appeared probable that the patient was too weak to survive laparotomy. He considered that lumbar colotomy might be abandoned in most cases in favour of his operation, which consisted in uniting the portion of bowel above the obstruction with that below by means of decalcified bone plates, which avoided the necessity for colotomy. He had specimens showing that a dilated, congested bowel could be repaired when excluded from the fæcal circulation in this way. The author had in the past eight months performed gastro-enterostomy in four cases by this method. In all of these cases the operation was a success, although in one case the patient died because the operation had been postponed too long. In one case the advice of Leucke had been followed, and the first presenting portion of the bowel had been fastened to the stomach. The patient continued in good condition for nine days, when symptoms of obstruction came on and he died in three weeks. It was found that the connection with the bowel was eight feet below the pyloric orifice, and that the movements of the bowel had produced a sharp flexion of the intestine, causing obstruction. Gastro-enterostomy in incurable carcinoma was a safe operation, and one which the surgeon owed to all such patients; it was the best operation.—Mr. ARTHUR DURHAM, of London, said he agreed that an operation should be performed as soon as the diagnosis was made. Diagnosis was often difficult or impossible; statistical probabilities were unreliable guides, and sometimes operation done without diagnosis and in order to make a study of the actual indications and conditions was better than rules. He did not understand why, for purposes of injection, hydrogen was better than air. To determine the site of obstruction, if in the small intestine he believed in opening the abdomen; if in the large intestine, less hurry was necessary. He here took issue with Dr. Senn regarding lumbar colotomy, which he considered exceedingly useful, and he had often regretted not employing it for its great, safe, and certain relief, especially in cancer of the colon or rectum.—Dr. W. M. ORD, of London, sympathised with Dr. Fitz's demand for a little patience; in some cases under the use of opium the obstruction disappeared. He, however, deprecated prolonged delay.—Professor THOMAS ANNANDALE, of Edinburgh, thought it important to distinguish between acute and chronic obstructions. If after forty-eight hours general treatment failed, it was advisable to operate. As a general rule he preferred inguinal colotomy.—Dr. SENN, in reply, stated that there was not the least danger in the use of hydrogen gas. He had performed many experiments on animals, and had used the procedure in man. In cases of intestinal perforation, it aided the diagnosis, and allowed the surgeon to determine whether or not all the openings had been closed. In a recent case of gunshot wound eleven openings near the ileo-cæcal valve were closed, and a twelfth was revealed by the hydrogen gas, at the point where the peritoneum is reflected from the bowel to the bladder. The patient was doing well one week after the operation.

Cerebral Localisation.—Dr. CHARLES K. MILLS sketched the history of the growth of knowledge on this subject, and mentioned the work done by American physiologists, Putnam, Wood and Ott, and others. He stated that in twenty cases of tumour which he had examined after death, he had found one half of the tumours accessible to operation, and fully a fourth in which operation would have led to recovery. He believed, from his own experience, that old gummata and sometimes tubercular growths could be excised. The conditions justifying the removal of brain tumours related to their site, accessibility, solitariness, and size. After referring to the occurrence of localising symptoms in cases of fracture, he said that hæmorrhages of both the cortical and the meningeal series of blood-vessels, if the clot were located, might be removed, it might even be possible to treat some cases of hæmorrhages into the ganglia and capsules, reaching them from the anterior portion of the first or second temporal convolution. He then discussed the most convenient methods of brain-mapping. Among the sources of error in localisation were reflex disturbances. The unilateral convulsions of uræmia and lead poisoning, and the symptoms of hysteria and hystero-epilepsy, needed careful exclusion.—Dr. ROSWELL PARK, of Buffalo, discussed the surgical aspects. After some observations on topographical anatomy, he enumerated the symptoms of deep brain abscess, and expressed the opinion that the introduction of a hollow needle after trephining was attended by few dangers. He discussed the localisation of tumours and their treatment by excision. He had collected 63 cases with 17 deaths, but only 5 of these deaths could properly be attributed to the operation; 15 of the cases were abscesses, subdural or subcortical. In 11 cases, exclusive of tubercular nodules, the lesion was a tumour. Of cysts, properly speaking, there were 12. The 25 other cases were of a miscellaneous nature. In 3 cases the true character of the lesion was not revealed during the operation, and was only discovered at the necropsy. In 2 cases, in which no palpable or visible lesion was discovered at the time of operating the symptoms which led to the performance of the operation were nevertheless relieved, though nothing but careful exploration was practised.—Dr. DAVID FERRIER, F.R.S., said that it had long been a cherished idea with him that, with an accurate determination of the functions of the brain, some of the most distressing ailments of mankind would one day fall under surgical treatment. He reviewed the difficulties attending the introduction of cerebral surgery. There was a great future before it, but care must be taken not to overdo it; septic infection was not the only danger. He had seen several unsuccessful operations and deaths, though recoveries predominated. He was disappointed at the results in Jacksonian epilepsy or discharging irritative lesions of the cortex. There had been relapses, and in some cases the cure of the epilepsy left a worse state—hemiplegia and loss of speech.—Mr. VICTOR HORSLEY, F.R.S., said that he had come to the conclusion that in the motor region three functions were represented—slight tactile sensation; the muscular sense, so-called; and, predominantly, movement. He discussed some of the most recent researches in cerebral localisation, and described his method of operating. He advocated early operation. It required much courage, for the operation was always attended with liability to death of the patient.

Where the epilepsy returned he believed it was on account of incomplete removal of the diseased area, and of a rim of surrounding cells at least one centimètre in thickness. He was alive to the danger of overdoing in certain cases, but also thought there was considerable danger of our being unduly influenced in our opinions by statistics.—Dr. M. ALLEN STARR (New York) dealt chiefly with the localisation of lesions producing aphasia, and observed that the anatomical relations of the faculty of speech were extremely complex; it was only the motor factor which was located in Broca's convolution. Dr. Starr pointed out that the speech centres were remarkably accessible to the surgeon, and urged the examination and recording of all cases of speech disturbance.

THE ASSOCIATION OF AMERICAN PHYSICIANS.[1]

THE following notes of some of the papers read at the meeting of this Congress at Washington will be read with interest:

President's Address.—The President, Dr. W. H. DRAPER (New York), in an inaugural address, discussed the relation of the art to the science of medicine. They could not be dissociated. Scientific medicine was not always practical, but it was ever striving to become so, and practical medicine, though not always in a strict sense scientific, was constantly tending to that end. In spite of this close mutual relation, the worker in the science and the worker in the art occupied essentially distinct positions, and the aim and the methods peculiar to each must be constantly kept in view. The scientist was properly engaged in searching out the ways of Nature in disease; the other in using the knowledge thus attained in doing something for its detection, its prevention, or its cure. The pathologist was concerned chiefly with the causes and effects of disease; the practitioner was absorbed in its dynamics. There was no better illustration of this relation between scientific and practical medicine than was afforded by the history of parasitism, the latest and most portentous contribution which science had made to the theory and practice of the healing art. The germ theory of disease might be said to have reformed surgery; but it was not safe to say that it might not be forging new errors in diagnosis, and beguiling us into dangerous paths in therapeutics.

Geographical Distribution of Typhoid.—Dr. W. W. JOHNSTON (Washington) read a paper founded on returns from 350 physicians resident in various parts of the United States. His inquiries had elicited that in those sections where the deaths from typhoid fever were fewest there were, nevertheless, a great many fevers of an undetermined sort to which the utmost variety of names were given, such as bilious fever, autumnal fever, simple continued fever, and gastric fever. All of these were of shorter duration and without the abdominal symptoms of a typical typhoid fever. He discussed the relation of these fevers to true typhoid fever and to malarial fevers; where malarial fever was predominant, typhoid fever occurred in the worst type. His conclusion was that true typhoid and intermittent fevers were found, but also very many intermediate forms with various symptoms.—Dr. G. M. STERNBERG, Major and Surgeon U.S. Army, in reviewing the army statistics, had noticed that "typho-malarial" fever had had a low mortality; he thought it difficult to understand how a complication could tend to diminish the severity of a disease. He thought the term "typho-malarial" fever ought to be abandoned.—Dr. W. OSLER, of Philadelphia, considered that the changes in the blood to be observed with the microscope would afford a criterion between typhoid and malarial fevers.—Dr. J. C. WILSON, of Philadelphia, thought that in newly-settled countries malaria prevailed; subsequently, as human habitations multiplied, typhoid and malaria existed side by side.

Convalescence from Typhoid Fever.—Dr. JAMES H. HUTCHINSON, of Philadelphia, urged the advisability of withholding solid food during convalescence from typhoid; meat should only be allowed after the second week; alcohol might be needed, and tonics, iron, pepsin, and muriatic acid were often useful; the recumbent posture should be absolutely maintained for the first week. Convalescent typhoid patients were more emotional than in health, and severe relapses might occur from mental excitement. Relapses were generally to be traced to abuse of well-known rules.—Dr. G. L. PEABODY, of New York, thought that solid food—finely divided meat—might be allowed, if the patient desired it, soon after defervescence.—Dr. ORD, of London, agreed with Dr. Hutchinson in the main as to diet and solid food. His experience in a number of cases led him to an agreement with Dr. Peabody also, under the conditions laid down by that gentleman. Recent experience had warned him that one must to some extent be guided by the desire of the patient. He related a case where, with convalescence, a wide daily range of temperature had set in, which had mounted from three or four to seven or eight degrees, accompanied by delirium, in which the patient, a lady, menaced her physicians, followed by increasing disorder of mind and craving for food. This patient had been on a diet of beef-tea two-thirds, and milk one-third, and for two days previous to the delirious attack had been given two eggs daily in addition. It was hardly a delirium from starvation. As an experiment, a piece of delicate boiled fish (sole) was allowed her. This was followed within twenty-four hours by a return to normal temperature, the delirium ceased, and convalescence continued to recovery without interruption. He believed that the patient was primarily in need of close study, and his fever after that. As to diarrhœa, he thought Sir William Jenner's explanation reasonable—that severe diarrhœa was commonly associated with considerable ulceration in the large intestine, the latter accompanied usually by extensive catarrh. The presence of diarrhœa largely depended on the epidemic in question. It had been common in London for some years back. It had a bearing, also, on the occurrence of relapses. It had been found in England that epidemics in which constipation was a noticeable feature had many relapses of the whole course of the disease, not recrudescences merely. English physicians had learned to give castor-oil in these cases, convinced that long constipation allowed time for the germs to produce a second infection from within.—Dr. F. C. SHATTUCK, of Boston, referred to the occasional occurrence of persistent elevation of temperature during convalescence, which had only been relieved by getting the patient out of bed. He was satisfied it was not uncommon, and that it was simply a sort of bed-fever.—Dr. HUTCHINSON remarked that Dr. Da Costa had some years ago called attention to the form of bed-fever cured by ordering the patient out of bed.

Paralysis after Typhoid Fever.—Dr. GEORGE ROSS, of Montreal, observed that in typhoid fever the strain on the nervous system was so severe that it was not a matter of surprise that any weak point in it gave way. Signs of exhaustion were constant, and generally proportionate to the severity of the fever; but there were also more special phenomena. According to Nothnagel, the order and frequency of their paralysis was: (1) parts of one nerve, as the ulnar or peroneal; (2) paraplegia, preferably of the lower extremities; (3) less frequently, one extremity, either upper or lower, or two extremities in crossed order; (4) simple alteration of sensibility. The history of a case of paraplegia resulting directly from typhoid fever and ending in recovery was given in detail, and also the history of a remarkable case which presented paralysis involving all the limbs, and in addition the muscles of the palate.—Dr. W. M. ORD said that peripheral neuritis and paraplegia were comparatively rarely observed in England. It was more common to meet with cerebral weakness, imbecility, or a protracted silence: also a monotony or inarticulateness in speech, loss of word memory (in one case completely), and very slow speech.—Dr. STARR suggested that neuritis might be due to alcohol administered during the fever or convalescence, or if limited to one or two nerves to pressure from lying in one position.—Dr. DELAFIELD thought that there was evidence that the poison of infective diseases might produce acute nerve degeneration, as did mineral poisons.

Causal Therapeutics.—Dr. JAMES C. WILSON, of Philadelphia, reported the results of the administration of hypodermic injections of calomel in the treatment of typhoid fever (five cases) and tuberculosis (three cases); all were benefited. The drug was given every four or five days.—Dr. STERNBERG described the method of treating yellow fever mentioned in the JOURNAL of October 20th, p. 893.—Dr. PEABODY said that he had not found naphthalin of any use in typhoid fever.—Dr. JACOBI strongly recommended the treatment of diphtheria by bichloride of mercury.

Fatty Heart.—Dr. FORCHEIMER read a paper on the relation of obesity to fatty heart, and strongly recommended the so-called "Oertel's method."—Dr. H. C. WOOD thought its indiscriminate use would do harm.

Albumen, Casts, and Renal Inadequacy.—Dr. ROBERT T. EDES

[1] For these notes of the meetings at Washington we are indebted to reports published in the *Medical Record* and *Medical Journal* of New York, and the *Boston Medical and Surgical Journal*.

of Washington, read a paper on the absolute and relative value of albumen and casts, and of renal inadequacy in the diagnosis and prognosis of diseases of the kidney. Many cases of intermittent albuminuria, when carefully followed out, were found to develop Bright's disease. The suggestion that an early pathological state of the kidney might be detected by noticing a diminution of any of the constituents of the urine rested on slender grounds; a badly-damaged kidney might be able to excrete a quantity of urea even in excess of the normal.—Dr. JANNEWAY read a paper on the same subject; he thought that the occasional occurrence of a hyaline cast was not a proof of chronic renal disease, but might be an accompaniment of cyclical albuminuria, in which also the quantity of albumen occasionally passed might be very large, even reaching one quarter.

Albuminuria and Life Insurance.—Dr. JAMES TYSON, of Philadelphia, in reading a paper on this subject, said that lives were often wrongfully rejected because of the presence of albumen in the urine. He believed that the lives might be accepted if the following conditions were observed:—(1) The applicant must in all other respects present the signs of good health. (2) The albuminuria must be unaccompanied by tube-casts, however perfect might be the health in other respects, albumen and tube-casts conjoined always meaning structural changes. (3) The specific gravity of the urine—that is, the "real" specific gravity (that of the quantity for twenty-four hours)—should not be lower than 1015-1025. Great care must be taken to secure the "real" specific gravity, as it would be unfair to reject the candidate on account of the specific gravity of a single specimen. (4) The signs of hypertrophy of the left ventricle, and the existence of high vascular tension, associated with albumen, would exclude the candidate. (5) The age of the applicant was a highly important consideration. It was doubtful whether any person forty years of age with functional albuminuria should be accepted, unless at least he had been long under the observation of a competent and conscientious examiner. (6) The presence of true gout in any case should decide against the person, because gout was always, sooner or later, followed by interstitial nephritis. Finally, retinal changes, such as were associated with nephritis, should exclude the applicant. The absence of albumen from the urine passed on rising in the morning was an important aid in the diagnosis of functional albuminuria, but not an essential one.—Dr. JACOBI said that in infants there was a discrepancy between the growth of the renal arteries and the growth of the tissue of the kidney, which might account for the presence of albumen in their urine.—Dr. P. H. PYE-SMITH, F.R.S., preferred the term "functional" to any of the other names given to this condition. At the present time there was no physiological ground for believing that the healthy kidney secreted albumen at all. With respect to the tests for albumen, he stated that he had come back to the old tests of heat and nitric acid.

Cardiac Changes in Chronic Bright's Disease.—Dr. A. L. LOOMIS, of New York, thought that it was not the hypertrophy of the heart but its degeneration which was of importance. After referring to the literature of the subject, he stated Cohnheim's theory, namely, that the circulation in the kidney, as in all other glands, varied with the demand upon its functional activity. Circulation through the kidney varied directly with the proportion of the parenchymatous elements of the kidney and the excrementitious elements in the blood. Any diminution in the glandular tissue of the kidney at once raised the ratio between the excrementitious materials and the functional powers of the kidney. As a result, when the renal function was lessened in connection with retention of excrementitious materials, the systemic forces generally were projected upon the kidney, in order that the total elimination might remain undiminished. Thus two widely different conditions tended to produce cardiac hypertrophy. First, a general and primary arterial sclerosis to which both the cardiac and renal changes were secondary; and, second, arterial as well as cardiac hypertrophy, which were compensatory and conservative, as was cardiac hypertrophy in aortic lesions. He contended that many of the observed facts supported the proposition that degeneration of the heart-walls, with dilatation of the heart-cavities, were the most frequent and, perhaps, the characteristic cardiac changes in chronic Bright's disease. He then presented observations made in a series of cases, and reached the following conclusions: As a rule, the more extensive the obliterating changes in the renal arterioles, the greater the degree of cardiac hypertrophy. In two cases where the cardiac hypertrophy was greatest, the only change found in the kidneys was obliterating arteritis in the arterioles. In other varieties of Bright's disease the heart changes seemed to be directly dependent upon the renal disease, or rather, upon the toxæmia and faulty nutrition which resulted from them. In all cases of chronic Bright's disease, increased arterial tension and compensatory hypertrophy were present some time during their course; but when the time was reached at which the renal symptoms clearly established an interference with the function of the kidney, a feeble heart-action and diminished arterial tension would indicate degenerative cardiac changes. The cases gave no evidence of acute endocarditis secondary to renal disease, but chronic endocarditis was present in seven cases. Where a systolic murmur was heard during life, accompanying a sudden cardiac dilatation, the necropsy gave no evidence of mitral disease; rheumatic valvular disease might remain latent for many years, but when Bright's disease was developed in such cases heart insufficiency was immediately developed. His cases gave no evidence that valvular lesions occurred secondary to kidney disease. He presented the statistics of Bellevue and Roosevelt Hospitals, showing that, in a total of 164 cases, 43 were complicated by Bright's disease secondary to the valvular disease. His studies seemed to indicate that the cardiac changes in chronic Bright's disease had a wide range of variation, and the exact nature of the changes which might be present in any given case could not be predicted with certainty, except that possibly they were degenerative, and that sooner or later a condition of heart-failure would be reached which might fairly be designated as a Bright's heart. He was disposed to regard Bright's disease as a constitutional malady in which metabolism was imperfect in all the tissues, the kidney changes being expressive of other visceral and arterial changes, which, combined with the kidney lesion, made up the clinical and pathological history of the disease.—Dr. PEABODY said that in probably 30 per cent. of the cases of chronic diffuse nephritis examined after death at the New York Hospital, the heart was not hypertrophied.

Trophic Lesions and Nervous Disease.—Dr. EDWARD C. SEGUIN, of New York, read a paper on the relation between trophic lesions and diseases of the nervous system. He divided the so-called "trophic lesions" into two great classes. In one the lesions were probably mostly due to the action of extraneous causes, and were preventable. The second class embraced lesions which seemed to be directly due to the nervous disease, and which were its necessary and unpreventable results. He endeavoured to show that lesions of the second class, which alone merit the name of trophic lesions, occurred in organs and tissues which were anatomically continuous, and whose life (or preservation of structure and function) was associated or interdependent. The present state of knowledge only warranted the conclusion that disease of the nervous system produced true trophic lesions when it interfered with the associated or interdependent life of continuous tissues.—Dr. HORATIO C. WOOD, of Philadelphia, read a paper on the same subject, and drew the following conclusions: (1) It was physiologically proved that the nervous system directly affected general nutrition; (2) various lesions were the immediate result of previous nerve disease; (3) in various cases the lesions were not preceded by circulatory disturbance; (4) no known vasomotor condition was capable of causing many of these lesions; (5) therefore it was absurd to attribute the changes to preceding vasomotor disturbances.—Dr. ORD, of London, stated that these so-called trophic disturbances might be produced in three ways: (1) through disease of the spinal cord; (2) through disease of nerves; (3) in a reflex way. In illustration he mentioned a case of chronic hypertrophic cervical pachymeningitis in which there was a wasting of the tissue of the digits of the affected arm, and osteo-arthritis; also the case of a man who, through violent exercise, had lost power in his arms, and whose muscles underwent extreme wasting. There was also wasting of the skin. In conclusion, Dr. Ord spoke of the swelling of the joints of women approaching the climacteric. Various other reflex disturbances were referred to.—Dr. HENRY P. BOWDITCH, of Boston, considered that much might be gained by studying the subject on simpler lines, and that, therefore, it would be well to limit the question to a consideration of its relation to muscles which had not two sets of nerves anatomically distinct.—Dr. FERRIER, F.R.S., said that the nervous system had a direct influence on the nutrition of tissue, altogether apart from vasomotor influence. The influence of nerves was amply demonstrated in the case of muscles; whether, in the case of the skin, the influence existed was not so certain. Possibly there were centres which presided over nutrition. It was an in-

teresting question whether there were "trophic" nerves apart from motor and sensory.—Mr. VICTOR HORSLEY, F.R.S., called attention to the recent and interesting investigations of Dr. Frederick Mott, to whom belonged the credit of being the first to show that atrophy was a true active dystrophy and not a mere passive change. He demonstrated an atrophy of the femur after cutting the cauda equina. The whole of its inner surface was lined with osteoclasts.

Extirpation of Thyroid Gland.—Experiments made in the Pathological Laboratory of the John Hopkins University by Dr. W. S. HALSTEAD were reported by Dr. W. H. WELCH. The two lobes of the gland were isolated with strict antiseptic precautions, and all their vascular and nervous connections ligatured. Under these circumstances the gland underwent coagulation-necrosis, and, although in eight cases primary union of the wound was obtained, the animals died with the usual symptoms of extirpation of the entire gland. These results, therefore, were directly opposed to those reported by Munk. In order to determine whether, after complete separation of the gland from all of its vascular and nervous connections, the gland could by any possibility escape death, a single lobe was isolated in a large number of cases in the manner described. In all instances, however, necrosis of the gland ensued, and at the most a few follicles in the periphery of the gland escaped destruction. Extirpation or isolation of one lobe of the thyroid gland, in the majority of cases, was followed by the full recovery of the animal, without any of the symptoms peculiar to complete extirpation. In seven or eight cases out of fifty unilateral extirpations death occurred within a month. The animals became weak and cachectic, had often ulcerations of the gums, and in two cases convulsions. In two cases, after ligation of everything entering two lobes of the gland, except the main artery and vein, changes were found similar to the hypertrophic ones already described. Both cases developed symptoms like those of total extirpation. One terminated fatally in two months, the other recovered. These cases suggested the possible dependence of the anatomical alterations upon changes in the nerves supplying the glands.

Pathology of the Thymus Gland.—Dr. JACOBI gave a demonstration of some points in the pathology of the thymus gland, and read extracts from a long and elaborate paper. He referred to the very doubtful connection between an alleged hypertrophy of the thymus and a so-called "laryngismus stridulus." Still, he admitted that there were a few cases in which the sudden death of infants could not be explained any better than by the hypertrophy of the gland. He briefly alluded to inflammations and suppurations of the gland, and to the occurrence of punctated or larger hæmorrhage into the tissue, and to the occurrence of malignant growths in the organ. He described the various forms under which tuberculosis of the thymus was met with. Syphilis produced two changes, the accumulation of hyperplastic connective tissue and the formation of a gumma. Diphtheria resulted in general parenchymatous degeneration. He exhibited numerous frozen sections illustrating the normal topography of the thymus, also photographs of the same, and microscopical drawings of the pathological changes.

LEGAL TESTS OF CRIMINAL RESPONSIBILITY.

MR. CLARK BELL, the President of the Medico-Legal Society of New York, has recently read a paper before that body entitled "The Recent Judicial Departure in Insanity Cases," in which he discusses the general question of the legal tests of criminal responsibility. He passes in review the legal dicta and some of the principal trials in England bearing upon the plea of insanity, and pays a just tribute to the well-known work of Sir James Stephen, whom he regards as representing the ablest and best legal views upon the subject, more especially in reference to the answers of the judges in 1843 to the questions propounded by the House of Lords. As everyone knows, the pivot on which these answers turn is the making of the knowledge of right and wrong the test of responsibility of the accused. Mr. Bell observes that in some of the American States the judiciary have followed the practice of the English judges, and charged juries in accordance with this principle. Many writers in America, however, denounce this test as strongly as the English medical profession has done, and hold it to be inconsistent with the progress of science, the civilisation of the age, and the well-known experience of mankind. Lord Bramwell's dogmatic utterances are vigorously combated by Mr. Bell, who replies to his doctrine that "because the insane in asylums can be influenced by threats in the control of their conduct, they are under the law's threats, and therefore responsible," as follows: "I concede that they are constantly so influenced, but where does this lead to? Not necessarily to responsibility. Would Baron Bramwell say that, under the law of England, an incurable lunatic, an inmate of an asylum, should be hung for the homicide of a keeper, physician, or even another inmate? Has such a thing happened? Can it occur? Yet the law threatens him. He knows right from wrong, and knows he is doing wrong, and he is influenced by, and is under the threat of, the law, if Baron Bramwell is correct. It is a question of degree, this power of the will. A homicidal or suicidal lunatic threatened with a straight jacket by his keeper, or with hyoscyamus by a physician, might be able to abstain from a given line of forbidden conduct in an asylum, and yet be wholly unable to resist killing another in the one case or himself in the other, if the watch upon him was intermitted an instant. The ability to comprehend the law's threat must be considered in connection with, and in relation to, the will-power of the lunatic to resist or overcome the impulse or delusion. Does the delusion dominate the will? Could he help it? should be the question." It is scarcely necessary to say that this is the view which has been always taken by the medical profession in England. It is satisfactory that an acute lawyer on the other side of the Atlantic should impress upon his countrymen its superiority over the legal test. The celebrated American alienist, Dr. Ray, was constantly urging the importance of recognising the true test of responsibility. The most satisfactory fact, however, is what Mr. Bell treats of as "the recent judicial departure in insanity cases." Two notable trials recently occurring—the one of Parsons in Alabama, and the other of Daly, in the District of Columbia—are adduced as indications of the departure referred to. Full details of these cases are given. It is, however, not necessary to do more than state that, in his charge to the jury, Judge Montgomery laid it down that if they were satisfied from the evidence that Daly, who was charged with murder, "was mentally afflicted so that he did not know right from wrong as applied to the act, or if he did know, but by reason of the duress, the stress of his mental disease (if he had any) he had no power to choose, no power to avoid doing what he did, and if the homicide was the product of his mental condition solely, or if, by reason of the insane delusions which he had been harbouring (if any), he had reached that condition of mind where the morbid impulse to kill became irresistible, and existed in such violence as to subjugate his intellect, control his will, and render it impossible for him to do otherwise than to yield and do as he did, then he was not to be held accountable." It will be seen that while this charge cites the English judicial test, it is so qualified and broadened that it comprises all that a medical man conversant with insanity would demand. In the other case, that of Parsons indicted for murder, Judge Somerville delivered an elaborate historical statement in the Supreme Court of Last Resort in Alabama, and departed from the beaten track of the lawyers by questioning whether there may not be an insane person who, while capable of perceiving the difference between right and wrong, is, as a matter of fact, so far under the duress of a diseased brain that the power to choose between right and wrong is destroyed. The judge expressed the opinion that such a one, although he perceived such difference, was not criminally responsible for an act done under the influence of such controlling disease. The judge quoted with approval a passage from Bucknill and Tuke's *Manual of Psychological Medicine*, in which it is stated that the true test is "whether, in consequence of congenital defect or acquired disease, the power of self-control is absent altogether, or is so far wanting as to render the individual irresponsible. As has again and again been shown, the unconsciousness of right and wrong is one thing, and the powerlessness, through cerebral defect or disease, to do right is another thing. To confound them in an asylum would have the effect of transferring a considerable number of the inmates thence to the treadmill or the gallows." The judgment of Judge Somerville was entirely in accordance with this principle. It should be stated that Chief Justice Stone dissented in part, and expressed his own views separately.

Mr. Bell concludes his paper by observing that "these two cases, the former a decision of the highest Appellate Court in the State of Alabama, and the latter by one of the judges of the Supreme Court of the District of Columbia, at the national capital, indicate the change which is going on this side of the Atlantic in the judicial mind. I trust it will in the near future be universal

in the American States, and help to lead the way to such legislation in the English Parliament as that contained in the law, proposed there in March, 1884, the work of an eminent English jurist, with the approval of the late Chief Justice Cockburn, setting at rest in English-speaking countries a question so full of interest to every citizen, and so pregnant with the rights and destiny of the insane."

It is to be hoped that such will be the case. It is notorious that, in many instances, the English judges commence their charge to the jury by laying down the law as to the test of moral responsibility in accordance with the dicta of the judges of 1843, while they are in the end compelled by the nature of the case to fly, very much against their will, in the face of their own ruling. Thus, the dignity of the law is lowered. In spite of the dilemma in which the Bench finds itself placed from time to time, there continues to be an obstinate persistence in the same doctrine, without any general desire or attempt to have the law altered. The American judges, although the English maxim has been adopted in the States, do not appear to hold themselves bound to charge juries in the same way as in England, and so avoid self-contradiction in the judgments they deliver in the Courts, when, in cases of murder, the plea of insanity is set up by the defence.

THE CONDITION AND OCCUPATIONS OF EAST LONDON.

WE all know that in London and other great cities there are quarters of the town where the poor congregate, and many live in wretchedness, too often in despair. One of the greatest social problems, and one of the high aspirations of the sanitarian, is to reduce to a minimum the masses of poverty-stricken and helpless humanity, whence a large share of depravity and disease is disseminated to other sections of the inhabitants. An important contribution to an exact knowledge of the condition of the poorer districts of London has been made by Mr. Charles Booth in a paper presented to the Royal Statistical Society. His figures deal with a population of 900,000, chiefly in Hackney and Bethnal Green; the information tabulated was obtained from the School Board visitors, who are in daily contact with the people. The author endeavours to give a quantitative value to the facts described. He says: "Of destitution and hunger there is enough, of struggling poverty still more, and of drunkenness, brutality, and crime only too much. My object has been to attempt to show the relation which poverty, misery, and depravity bear to regular earnings and comparative comfort, and to describe the general conditions, under which each class lives." The term "poor" is meant to denote those who have a sufficiently regular though bare income, such as 18s. to 21s. per week for a moderate family, and by "very poor" those who from any cause fall much below this standard. Referring to the closer packing of human dwellings on advancing from the outskirts to the central districts, Mr. Booth says; "It is easy to trace the process. One can see what were the original buildings; in many cases they are still standing, and between them, on the large gardens of a past state of things, has been built the small cottage property of to-day. Houses of three rooms, houses of two rooms, houses of one room—houses set back against a wall or back to back, fronting it may be on to a narrow footway, with posts at each end and a gutter down the middle. Small courts contrived to utilise some space in the rear, and approached by archway under the building which fronts the street. Of such sort are the poorest class of houses. Another sort of filling up which is very common now is the building of workshops. These need no new approach, they go with, and belong to, the houses, and access to them is had through the houses. Some are even arranged floor by floor, communicating with the respective floors of the house in front by a system of bridges. These workshops may or may not involve more crowding in the sense of more residents to the acre, but they, in any sense, occupy the ground, obstruct light, and shut out air. Many are the advantages of sufficient open space behind a house, whether it be called garden or yard, for economy, comfort, and even pleasure."

The author then proceeds to arrange the population with which his statistics deal in eight classes.

A, the lowest class, is put at nearly 11,000, or 1¼ per cent. of the population, but it must be clearly understood that these people are beyond enumeration, and mostly outside of the School Board visitors' books.

B, casual earnings, very poor, add up almost exactly to 100,000, or 11¼ per cent. of the whole population.

C, intermittent earnings, poor, are 74,247, or 8½ per cent. of the whole population.

D, small regular earnings, poor, are 128,887, or nearly 14½ per cent. of the population.

E, regular standard earnings, above the line of poverty, are 376,953, or over 42 per cent. of the population.

F, higher class labour, and best paid portions of the artisans, together with others of equal means and position from other sections, amount to 121,240, or about 13½ per cent.

G, lower middle class, are 34,392, or nearly 4 per cent.

H, upper middle class, are 44,779, or 5 per cent.

In order to try to throw some definite light on the terms of this struggle, and on the causes of destitution, the author has attempted to analyse 4,000 cases, being the "poor" and "very poor" known to selected School Board visitors in each district.

Analysis of Causes of "Great Poverty" (Classes A and B).

		Per Cent.		Per Cent.	
1. Loafers	—	—	60	4	
2. Casual work	697	43	878	55	Questions of employment
3. Irregular work, low pay	111	9			
4. Small profits	10	3			
5. Drink (husband, or both husband and wife)	152	9	231	14	Questions of habit
6. Drunken or thriftless wife	79	5			
7. Illness or infirmity	170	10			
8. Large family	124	8	441	27	Questions of circumstance
9. Illness or large family, combined with irregular work	147	9			
			1,610	100	

Analysis of Causes of "Poverty" (Classes C and D).

		Per Cent.		Per Cent.	
1. Loafers	—	—	—	—	
2. Low pay (regular earnings)	503	20	1,668	68	Questions of employment
3. Irregular earnings	1,052	43			
4. Small profits	113	5			
5. Drink (husband, or both husband and wife)	167	7	322	13	Questions of habit
6. Drunken or thriftless wife	155	6			
7. Illness or infirmity	123	5			
8. Large family	223	9	476	19	Questions of circumstance
9. Illness or large family, combined with irregular work	130	5			
			2,466	100	

Speaking of intemperance as a cause of poverty, Mr. Booth remarks that "drink figures as the cause of poverty to a much greater extent everywhere else than in Whitechapel, where it only accounts for 4 per cent. of the very poor, and 1 per cent. of the poor. This is no doubt to be explained by the Jewish population, who, whatever their faults may be, are very sober. To those who look upon drink as the source of all evil, the position it here holds as accounting for only 14 per cent. of the poverty in the East End may seem altogether insufficient; but I will remind them that it is only as principal cause that it is here considered; as contributory cause it would no doubt be connected with a much larger proportion." The information given in Mr. Booth's paper has been laboriously collected, and is very important; it is only slowly, and by combined efforts of all kinds, that anything like completeness can be given to such inquiries.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

AT the annual general meeting of the Fellows, held in the Albert Hall of the Royal College of Surgeons in Ireland on Friday, October 26th, the following were elected office-bearers for the session 1888-89:—*President:* Samuel Gordon. *General Secretary:* William Thomson.

Section of Medicine;—*President:* Lombe Atthill, President King and Queen's College of Physicians (*ex officio*). *Council:* J. Hawtrey Benson, A. W. Foot, T. W. Grimshaw, Richard A. Hayes, James Little, J. W. Moore, A. N. Montgomery, John Molony, S. M. MacSwiney, Conolly Norman.

Section of Surgery:—*President:* Henry Fitzgibbon, President

Royal College of Surgeons (*ex officio*). *Council:* J. K. Barton, William Colles, C. Coppinger, A. H. Corley, H. G. Croly, Kendal Franks, Edward Hamilton, Edward Stamer O'Grady, Sir W. Stokes, W. Thornley Stoker.

Section of Obstetrics:—*President:* W. J. Smyly. *Council:* J. J. Cranny, Professor Dill (Belfast), R. H. Fleming, Andrew J. Horne, J. R. Kirkpatrick, F. W. Kidd, J. L. Lane, A. V. Macan, T. More Madden, Samuel Mason.

Section of Pathology:—*President:* J. Magee Finny. *Council:* A. W. W. Baker, C. B. Ball, E. H. Bennett, A. H. Benson, H. Bewley, J. Lentaigne, J. M. Purser, J. A. Scott, Walter G. Smith, J. B. Story.

Section of Anatomy and Physiology:—*President:* Ambrose Birmingham. *Council:* H. St. J. Brooks, H. Broomfield, D. J. Cunningham, F. T. Heuston, Edward Ledwich, J. M. Purser.

Section of State Medicine:—*President:* Stephen M. MacSwiney. *Council:* E. M'D. Cosgrave, T. W. Grimshaw, J. W. Moore, C. F. Moore, J. M. Purser, J. M. Redmond.

ROYAL COLLEGE OF PHYSICIANS.

An ordinary meeting of the Fellows was held on Thursday, October 25th, Sir Andrew Clark, Bart., presiding.

The following gentlemen were admitted Members of the College: Sir Hugh R. Beevor, Bart., M.B.Lond.; Charles Planck, M.R.C.S.; Ernest S. Reynolds, M.D.Lond.; William H. Spencer, M.D.Camb.; Theodore S. Wilson, M.B.Edin.; and Thomas O. Wood, M.D.Durham.

The Censors' Board having reported that Dr. Reynolds had specially distinguished himself in the examination, the President complimented him accordingly.

The Licence of the College was granted to 103 gentlemen who had passed the required examinations.

It was announced to the Fellows that an International Medical Congress is to be held in Australia in January, 1889.

The quarterly report of the Finance Committee was received. The audited accounts of the College for the year ending September 29th were also received.

A report from the Censors' Board was adopted, to the effect that the resolution passed by the College with regard to the Institute of Medical Electricity is to have reference only to the Fellows and Members of the College, and not to the Licentiates.

A report was received from the Council on some recommendations of the General Medical Council with regard to professional education and examination, to the effect that the Council had compared these recommendations with the existing requirements for the conjoint examinations, and had found them to be in close accord therewith.

The Committee of Management of the conjoint examinations had nominated the following gentlemen for re-election by the two Colleges as examiners for the diploma of Public Health: Drs. Stevenson, Ballard, Thorne, and Corfield; and this nomination was unanimously approved.

The same Committee further reported that in their opinion it was desirable to pass the following regulation with regard to the Second Examination, and this was sanctioned by the College:

"XI. A candidate is required to present himself for examination in Anatomy and Physiology together until he has reached the required standard to pass in one or other of those subjects; but no candidate will be allowed to pass in one of the subjects without obtaining at the same time at least half the number of marks required to pass in the other subject."

This regulation is to come into force on May 1st next.

Dr. Norman Moore was re-elected a member of the Committee of Management.

A by-law was enacted for the second time to admit Dr. W. B. Headley, resident in Australia, to the Fellowship *in absentiâ*.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS FOR 1889. ELECTION OF MEMBERS.

Meetings of the Council will be held on January 16th, April 17th, July 10th, and October 16th, 1889. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 27th, 1888, March 28th, June 20th, and September 26th, 1889.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

Francis Fowke, *General Secretary*.

COLLECTIVE INVESTIGATION OF DISEASE.

Reports upon the two remaining inquiries, namely, that into Diphtheria, and that into the Geographical Distribution of certain Diseases, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the Etiology of Phthisis.

A fresh inquiry into the Origin and Mode of Propagation of Epidemics of Diphtheria has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

South-Eastern Branch: East Sussex District.—A meeting of the above District will be held at the Queen's Hotel, Eastbourne, on Friday, November 23rd. Dr. Roberts in the chair. Those desirous of reading papers or showing cases should communicate with the Honorary Secretary, T. Jenner Verrall, 97, Montpellier Road, Brighton.

South-Eastern Branch: West Kent District.—The next meeting of this district will take place at the West Kent Hospital, Maidstone, on Thursday, December 13th, Dr. Shaw in the chair. Gentlemen desirous of reading papers or exhibiting patients or specimens are requested to inform the Honorary Secretary of the District, A. W. Nankivell, F.R.C.S., St. Bartholomew's Hospital, Chatham, not later than November 24th. Further particulars will be duly announced.—A. W. Nankivell, Honorary Secretary.

South Wales and Monmouthshire Branch.—The next meeting will be held at the Wyndham Arms Hotel on Thursday, November 15th. Members wishing to read papers, etc., are desired to communicate titles forthwith to Dr. Sheen, Cardiff.—A. Sheen, M.D., Cardiff; D. Arthur Davies, M.B. Swansea, Honorary Secretaries.

Thames Valley Branch.—The next meeting of the Branch will be held at the Talbot Hotel, Richmond, on Wednesday, November 14th, at 6 P.M. Members willing to read papers or exhibit cases are requested to communicate with the Honorary Secretary. *Office-bearers for 1888-89.—President:* Dr. Fenn. *Vice-Presidents:* Dr. Langdon Down, Dr. Wyman. *Council:* G. Farr White, Esq., Dr. Atkinson, Dr. Crichton, Dr. Günther, Dr. Wadd, Dr. Graham.—Charles C. Scott, M.B., Honorary Secretary, St. Margaret's, Twickenham.

Staffordshire Branch.—The first general meeting of the present session will be held at the Railway Hotel, Stoke-on-Trent, on Thursday, November 29th. The President, Mr. F. Baldero, will take the chair at 3.30 in the afternoon.—George Reid, M.D., Honorary Secretary, Stafford.

CEYLON BRANCH.

An ordinary meeting was held at the Colonial Medical Library on Saturday, April 7th, 1888. The following gentlemen were present:—Dr. VanDort (Vice-President) in the chair; Drs. Vanderstraaten, Rockwood, Attygalle; Messrs. Fernando, Brito, Eleyatamby, Nell, VanGeyzel and Keegel (Hon. Secretary). The minutes of the previous meeting were read and confirmed.

Communications.—Mr. Rowland C. Aldons, L.C.M.C., read a Case of Dislocation of the Cervical Spine. A discussion followed, in which Dr. Rockwood and Mr. Brito took part. Mr. H. G. Thomasz, L.R.C.P. and S.Edin., read a paper on the Treatment of Elephantiasis Arabum. A discussion followed, in which Drs. Vanderstraaten, Rockwood, the Chairman, and Mr. Brito took part. Mr. Brito exhibited a Parasite which he had recently discovered in the blood of the chamelion or blood-sucker, which resembled the filaria, and regarding which he was at present prosecuting investigations. Dr. Vanderstraaten exhibited a Clay Cast of an Elephantiasised Leg.

An ordinary meeting was held at the Colonial Medical Library on Saturday, May 5th, 1888. The following gentlemen were present:—Dr. W. G. VanDort (Vice-President) in the chair; Dr. Asserappa, Messrs. Brito, Nell, Schokman, and Keegel (Hon. Secretary). The minutes of the previous meeting were read and confirmed.

Communications.—1. A paper by Mr. G. P. SCHOKMAN on Loose Bodies in the Knee-Joint. 2. A paper by Mr. JAYASINGHE, of Balangoda, on the Therapeutic Uses of the Calotropis Gigantia. 3. A paper by Mr. W. JAYASINGHE on the Euphorbia Pilulifera. 4. Notes of a case of Extroversion of the Bladder, by Mr. BARTHOLOMEUSZ.

Notices of Motion.—Notice was given of the following motions to be brought before the Council of the Branch:—1. By Mr. SCHOKMAN: That it is desirable to have a journal in connection with the Branch for the publication of papers read before it. 2. By Dr. VANDORT: That a reading committee be appointed to which all papers to be read before the Branch might be submitted before they are read. 3. By the HON. SECRETARY: That it is desirable to alter the hour of meeting of the Branch by amendment of by-law. That the hour of meeting be changed from 2 P.M. to 8.30 P.M.

AN ordinary meeting was held at the Colonial Medical Library on Saturday, June 2nd, 1888. The following gentlemen were present:—Dr. VANDORT (Vice-President) in the chair; Drs. Loos, Vanderstraaten, Attygalle, Rockwood; Messrs. Fernando, Schokman, Eleyatamby, and Keegel (Hon. Secretary). The minutes of the previous meeting were read and confirmed.

The HONORARY SECRETARY gave notice that at a meeting of Council to be held on Saturday, July 7th, 1888, at 1 P.M., the motions of which notice have been given would be considered.

Fevers in Ceylon.—Dr. Loos read a paper on the Cause and Nature of Fevers in Ceylon. Dr. ATTYGALLE proposed and Dr. VANDERSTRAATEN seconded a vote of thanks to Dr. Loos, which was carried unanimously.

A MEETING of the Council was held in the hall of the Colonial Medical Library on Saturday, July 7th, 1888. The following gentlemen were present:—Dr. VANDORT (Vice-President) in the chair; Dr. MacDonald, Messrs. Fernando, Schokman, Huybertsz, and Keegel (Hon. Secretary). The minutes of the meeting of Council on February 4th last were read and confirmed.

Motions.—Mr. SCHOKMAN, by leave, withdrew the motion standing in his name—that it is desirable to have a journal in which transactions of the Branch should be published. Dr. VANDORT proposed that it is desirable that a reading committee should be appointed, to whom all papers to be read should be submitted. The HON. SECRETARY seconded: carried. The HON. SECRETARY, in terms of notice, moved that the hour of meeting of the Branch be changed from 2 P.M. to 8 P.M. to meet the wishes of a large majority of the members. Dr. MACDONALD seconded: carried.

New Member.—Mr. S. B. Perera was proposed by the HON. SECRETARY and seconded by Mr. SCHOKMAN as a member of the Parent Association and of the local Branch: carried.

AN ordinary meeting was held at the Colonial Medical Library on Saturday, July 7th, 1888. The following gentlemen were present:—Dr. VANDORT, in the chair; Dr. MacDonald, Messrs. Fernando, Schokman, Huybertsz, and Keegel (Hon. Secretary).

Sponge-Grafting.—Mr. HUYBERTSZ read a paper on Sponge-Grafting, which led up to a discussion.

Leprosy.—A discussion on Leprosy was fixed to take place at the next ordinary meeting.

METROPOLITAN COUNTIES BRANCH: SOUTH LONDON DISTRICT.

A MEETING was held at St. Thomas's Hospital, in the Governor's Hall (by kind permission of the Treasurer), on Thursday, October 25th, at 8.30 P.M. The chair was taken by Dr. BRODIE SEWELL, President of the Branch.

Cases.—The following cases from the wards of the hospital were shown: 1. Dr. ORD: Leucoderma of Sudden Onset. 2. Dr. HAWKINS: Ovarian Cyst in a Child aged 7 years. 3. Dr. HAWKINS: Thoracic Aneurysm. 4. Dr. HAWKINS: Bilharzia and Bothriocephalus in the same patient. 5. Dr. HAWKINS: Rickets and Purpura at the age of 8 months. 6. Mr. H. B. ROBINSON: Congenital Dislocation of Hips. 7. Mr. H. B. ROBINSON: Extroversia Vesicæ. 8. Mr. H. B. ROBINSON: Congenital Syphilitic Disease of Scapula and Skull. 9. Mr. H. B. ROBINSON: Cystic Bronchocele.

Ulcer of Stomach.—Dr. ORD then read a paper on the Diagnosis and Treatment of Ulcer of the Stomach, this was followed by a discussion, in which the CHAIRMAN, Dr. FREDERICK TAYLOR and others took part, and to which Dr. ORD replied. A vote of thanks to Dr. Ord for his paper was carried by acclamation.

Vote of Thanks.—The meeting concluded with a vote of thanks to Dr. Brodie Sewell for taking the chair.

DORSET AND WEST HANTS BRANCH.

THE autumn meeting of this Branch was held at the Boardroom of the Workhouse, Wimborne (by the kind permission of the guardians), on Wednesday, October 24th, the President, Dr. BATTERBURY, in the chair.

Election of Officers.—Mr. P. W. G. Nunn, of Bournemouth, was elected President for the ensuing year, and Mr. Decimus Curme, of Childe-Okeford, and Mr. J. R. Philpots, of Parkstone, Vice-Presidents. Dr. Lush, of Weymouth, and Mr. C. H. Watts Parkinson, of Wimborne, were re-elected joint Honorary Secretaries and Treasurers.

Other Business.—The sum of £2 2s. was voted to the Royal Medical Benevolent Fund. The five members of the Association proposed as candidates for the Branch were elected unanimously.

Papers, etc.—Mr. WYKE-SMITH showed (1) a new Bandage for Hernia Operations and Wounds of the Groin; (2) a Strap for Ganglia of the Wrist. Mr. MAHOMED showed cases treated at the Mont Dore, Bournemouth. Dr. HYLA GREVES read notes on a case of Acute Intestinal Obstruction: Operation and Recovery. Mr. WYKE-SMITH read notes of a case of Land Scurvy. Mr. PARKINSON showed a patient with Injury to the Eye. A discussion on Vomiting in Pregnancy was then opened by the PRESIDENT.

Dinner.—The members afterwards dined together at the King's Head Hotel.

SOUTH-WESTERN BRANCH.

AN intermediate meeting of the Branch, for the purpose of medical discussion, was held at Tiverton on Thursday, October 25th. Dr. JOHN WOODMAN, President of the Branch, occupied the chair, and there were also present Mr. W. Pearse, President-elect, and about twenty members.

Luncheon.—The proceedings began with a luncheon at the Angel Hotel.

President's Address.—In taking the chair at the meeting subsequently, Dr. WOODMAN, in welcoming the members to Tiverton, remarked that it was the first time the South-Western Branch had held a meeting there. He alluded to the advantages of being a member of the British Medical Association, including the having a very excellent JOURNAL, for a very moderate subscription, and the many benefits resulting from the opportunities which it afforded for medical men to meet and act together; he expressed the hope that this meeting at Tiverton might lead to an accession of new members. Dr. Woodman also drew attention to the advantages of the Medical Sickness, Annuity, and Life Assurance Society, and advised all the younger members to join it.

Papers.—Dr. H. DAVY (Exeter) read some notes of Cases of Diabetes. Dr. RAGLAN THOMAS (Exeter) reported Two Cases of Peripheral Neuritis occurring nearly Simultaneously in Husband and Wife. Mr. C. E. BELL (Exeter) read notes of a case of Muscular Spasm in Stump after Amputation of the Thigh, cured by Excision of Extremity of Sciatic Nerve; and of similar Spasms occurring in the other limb arrested by Resection of the Sciatic Nerve. Mr. L. MACKENZIE (Tiverton) showed and commented on three very interesting cases: (1) Fracture of the Spine; (2) Case of Arsenic Poisoning simulating Addison's Disease; (3) Case of Recovery after Fracture of the Base of Skull in a young Boy. Dr. MORTIMER (Exeter) showed a case of Early Myxœdema, of a very characteristic nature. Dr. KEMPE (Exeter) exhibited a useful form of Colotomy Pouch. An interesting discussion took place on the papers and cases, and the proceedings terminated with votes of thanks to the President and to those members who had read papers or shown cases.

Next Meeting.—It was intimated that the next intermediate meeting would probably be held at Paignton.

STAFFORDSHIRE BRANCH: ANNUAL MEETING.

THE fifteenth annual meeting of this Branch was held on Thursday, October 25th, at the Swan Hotel, Stafford. Mr. W. D. Spanton introduced the President-elect, Mr. FREDERICK BOLDERO, who took the chair. Twenty-eight members were present.

Vote of Thanks to Retiring President.—Dr. W. G. LOWE pro-

posed, "That the best thanks of this meeting be given to the retiring President, Mr. W. D. Spanton, for his services during the past year." This was seconded by Dr. J. H. TYLECOTE, and carried unanimously.

Report of Council.—Mr. VINCENT JACKSON read the annual report, which stated that during the past year there had been the usual number of general meetings, and that the attendance of members at each meeting had been beyond the average.

The Council had held two special meetings during the session, the first for the consideration of a memorandum received from the Lancashire and Cheshire Branch, in connection with the amount of the fees paid to medical witnesses in assize and other courts; the second from the Parliamentary Bills Committee of the Association as to amendments proposed to be made in the Lunacy Acts Amendments Bill, 1888. Resolutions in conformity with the views of the Lancashire and Cheshire Branch and of the Parliamentary Bills Committee were unanimously passed and forwarded to the former and to the latter.

The Council had received the resignation of the General Secretary, Mr. Vincent Jackson, who, having been appointed on April 30th, 1874, had held the office for more than fourteen years. The following resolution was unanimously passed at the meeting of the Council on October 4th last:

"The Council desire to record their great regret that Mr. T. Vincent Jackson has found it necessary to resign the appointment of General Secretary, which he has so long held with such conspicuous ability and advantage to the Branch, and at the same time the Council express their warm thanks to Mr. Jackson for his valuable services during a period of more than fourteen years."

The following members and others had contributed to the work of the Society at the various meetings: Dr. McAldowie, Mr. J. G. U. West, Dr. W. G. Lowe, Dr. W. Hind, Mr. W. D. Spanton, Mr. Vincent Jackson, Mr. F. M. Blumer, Dr. E. T. Tylecote, Mr. Alcock, Mr. Reginald Harrison, Mr. W. H. Folker, Dr. C. Orton, Dr. MacMunn, Dr. Alfred H. Carter, Mr. E. Hurry Fenwick. The number of members was 134. Fifteen had joined during the year, and Dr. Eddowes, of Market Drayton, had resigned on leaving for America. The following members had died: Mr. Hales, of Burslem; Mr. Keny, of Leek; Brigade-Surgeon R. J. W. Orton; Mr. W. G. W. Vaughan, of Crewe; and Dr. Waddell, of Longton.

Financial Statement.—Mr. J. G. U. WEST read the statement of accounts for the past year, which showed a balance of £35 17s. 5d.

New Member.—Dr. John Kerr Butler, of Highfields House, Cannock, was elected a member of the Branch.

Next Annual Meeting.—Dr. CHARLES SMITH proposed, and Mr. BUTLER seconded: "That the next annual meeting be held at Wolverhampton, and that Mr. T. Vincent Jackson be President-elect."

Officers and Council for 1888-89.—Vice-Presidents: Dr. W. G. Lowe, Mr. W. D. Spanton. *General Secretary:* Dr. George Reid, Stafford. *Financial Secretary:* Mr. J. G. U. West. *Auditor:* Mr. Folker. *Council:* Mr. J. Allcock, Burslem; Dr. Arlidge, Stoke; Mr. Baddeley, Newport; Dr. Radley Bailey, Bilston; Mr. F. J. Gray, Walsall; Dr. Lycett, Wolverhampton; Dr. McAldowie, Stoke; Mr. H. M. Morgan, Lichfield; Mr. G. A. Phillips, Walsall; Dr. C. R. Smith, Wolverhampton; Dr. Wolfenden, Tutbury; Dr. J. H. Wynne, Eccleshall. *Representative on Council of Association:* Mr. Vincent Jackson, Wolverhampton. *Representatives on Parliamentary Bills Committee:* Dr. C. Orton, Mr. W. D. Spanton.

Resignation of General Secretary.—Mr. SPANTON, in moving a vote of thanks to the auditor and secretaries, referred to the resignation of the General Secretary, Mr. T. Vincent Jackson, and proposed: "That the best thanks of the members of the Staffordshire Branch of the British Medical Association be and are hereby given to Mr. T. Vincent Jackson for his valuable services as General Secretary during a period of more than fourteen years; that it is in a large measure to the energetic, self-sacrificing, and able manner in which these duties have been performed that the present prosperity of this Branch is due; and this meeting desires to place on permanent record the high appreciation which the members entertain of Mr. T. Vincent Jackson's invaluable and conspicuous services to the Staffordshire Branch." The resolution was seconded by Mr. J. VOSE SOLOMON, and carried unanimously.

President's Address.—The PRESIDENT delivered an address upon "Our Profession, and the Advancement of Medicine."—Mr. SOLOMON moved a vote of thanks to the President for his address. This was seconded by Mr. J. HARTILL, and carried with acclamation.

Dinner.—More than thirty members dined together, the Hon. and Rev. C. J. Littleton, Vicar of Penkridge, and Mr. J. Carpenter, Tildesley, being also present as visitors.

SOUTHERN BRANCH: ISLE OF WIGHT DISTRICT.

AN ordinary meeting was held at the Bugle Hotel, Newport, on October 25th. The chair was occupied by the President, T. A. BUCK, M.B.

Business.—The minutes of the last meeting were read and confirmed. Surgeon E. J. Erskine Risk, Sandown, already a member of the Association, was elected to the District. Ventnor was selected as the next place of meeting.

President-Elect.—Mr. Charles Meeres, of Sandown, was unanimously elected to the office of President-Elect.

Papers, etc.—Dr. ROBERTSON, of Ventnor, exhibited a well-marked case of Factitious Urticaria. Dr. BUCK, of Ryde, read an interesting record of a series of cases of Typhoid Fever occurring in one house. Dr. BERNARD HOFFMEISTER, of Cowes, read an interesting paper upon the Influence of Race and Class upon the Course of Disease. Want of time unfortunately prevented a discussion on this paper. The remaining work was postponed until the next meeting.

Adulteration of Drugs.—Much interest was added to the meeting by a good series of specimens by Messrs. Brown and Pollard, of Newport, showing the Adulteration of Drugs; also a good selection of new drugs and pharmaceutical preparation by the same firm, and also by Wyleys and Company, of Coventry, and Richardson and Company, of Leicester.

Dinner.—The members afterwards dined together.

BORDER COUNTIES BRANCH.

THE autumn meeting was held at the Infirmary, Whitehaven, on October 19th; Dr. ROBERTSON (Penrith), President, in the chair. Sixteen members and one visitor were present.

New Members.—The following new members were elected: Richard Clegg, L.R.C.P. and S.Ed., Windermere; William Baron Cockill, L.R.C.P. and S., Kendal; John Hepburn Dudgeon, L.R.C.P. and S., Workington; Frederick David Irvin, M.B.Lond., Milnthorpe, Westmorland; William John Newberry, M.R.C.S.Eng., Burton, Westmorland; John Mason, M.D.Cantab., Windermere; Frederick Proud, M.D. Dunelm, Sedbergh, Yorkshire; George Smith, M.R.C.S.Eng., Appleby.

Discussion at Winter Meeting.—The PRESIDENT announced that the Council had decided to invite an eminent surgeon to open a discussion at the winter meeting, to be held at Carlisle in December. The meeting approved of the intention of the Council.

Accidental Concealed Hæmorrhage.—Dr. WELBY I'ANSON, Whitehaven, read notes on two cases of concealed accidental hæmorrhage. 1. A woman, seven months pregnant with her third child, was suddenly seized with violent abdominal pain, causing her to faint, and followed by vomiting, purging, constant acute pain, collapse, and signs of hæmorrhage. The pain was referred to the right side of the fundus uteri, and the organ at that point was very tender, and its outline somewhat irregular. The whole uterus felt tense and hard; there were no intermittent contractions, but the pain was continuous. *Per vaginam*, there was no show of blood nor dilatation of the os. Stimulants, warmth, etc., were used to combat the shock, and in a short time labour set in, terminating in the birth of a dead child. Ergot was administered, and the uterus emptied of a large quantity of clots. In the evening the uterus had again relaxed, and become filled with clots, causing violent after-pains, which ceased on removal of clots. The patient made a good recovery. Case 2 was similar in character, but the symptoms were more severe.—In the discussion which followed, Drs. JACKSON, IRWIN, CRERAR, BRAITHWAITE, and HARRIS took part.

Fracture of Base of Skull.—Dr. THOMPSON (Penrith) read a paper entitled, Notes on some Cases of Fracture of the Base of the Skull. 1. A woman, aged 54, was thrown out of a trap, being rendered unconscious. She bled from the mouth, nose, and ears; she had a large wound on the left side of the head, running forwards towards the ear, the bone was laid bare under this, but no fracture could be made out. The eyes were closed, the left eye prominent, pupil dilated and immobile, right pupil contracted and sluggish, no vomiting. Next day there was ecchymosis under the ocular conjunctiva in the right eye, and propotsis of the left eye. Three

days after the accident there was flushing of the left side of the face and œdema of the left hand. She died five days after the accident. After death, a fissured fracture was found on the right side, beginning at the squamoso-parietal suture, and running downwards and forwards towards the external auditory meatus, where there was great comminution. From this point an irregular fracture was seen going through the petrous portion, down the foramen lacerum medium, coursing round through the basi-sphenoid and through the petrous portion on the other side. The right temporo-sphenoidal lobe was softened and broken up. 2. A man, aged 66, fell on the pavement; he was unconscious for nearly two hours, but next day was very well. Three days after the accident he began to have intense headache, and he became semi-comatose. He died on the sixteenth day. There was a large effusion of blood all over the right lobe of the cerebrum; also a fissured fracture running from above downwards and forwards through the squamoso-temporal, continuing through the petrous portion to the right of the eminence for the sup. semicircular canal, into the foramen lacerum medium, and then forwards into the cribriform plate of the ethmoid. On the left side, and distinct from the other fracture, was a fracture of the orbital plate of the frontal. There was blood-clot all over the whole base and in the left frontal lobe of the cerebrum on its under aspect. Extending into and destroying the grey matter of the convolutions was a large clot. 3. A man, aged 47, fell backwards on to a paved yard. He remained semiconscious for a week, and then began to clear up, but he had anæsthesia of both legs, and in a less degree of both arms, and his power was less in his right than in his left hand. In a month sensation had in great measure returned, and he ultimately became perfectly well. 4. A lad, aged 18, was thrown from a horse. When seen he was bleeding from his right ear, had had epistaxis, and had vomited a quantity of blood. He was very restless, and complained of headache. The bleeding from the ear gave place in a day or two to oozing of serous fluid. There was a tender point in the bone just above the external ear on the right side. Eighteen days after the accident he was able to be up and go about, but was deaf on the right side. His tympanic membrane was seen to be grey in colour, sloughy, and rent from side to side.

Communications, etc.—Mr. CRERAR (Maryport) showed a specimen of Uterine Polypus recently removed. He also demonstrated a new way of applying Midwifery Forceps. Dr. WELBY I'ANSON showed a specimen of Fibro-cystic Tumour of the Uterus removed by Abdominal Section. The PRESIDENT read Notes of some Cases of Acute Peritonitis treated by Sulphate of Magnesia, on which remarks were made by Drs. PIRIE, I'ANSON, and EATON. Dr. PIRIE showed a specimen of Perforation of the Duodenum and Ulceration after Severe Burn. Dr. HIGHET (Workington) read a paper on the Treatment of Pneumonia, which was discussed by Drs. JACKSON, HARRIS, ABLETT, EATON, I'ANSON, MURIEL, and the PRESIDENT.

Dinner.—At the conclusion of the business the members dined together at the Grand Hotel.

NORTH OF ENGLAND BRANCH.

THE clinical meeting was held at the Ingham Infirmary, South Shields, on Wednesday, October 24th, at 4 P.M. The PRESIDENT took the chair, and sixteen members were present.

Cases.—A number of very interesting cases were shown by Dr. GOWANS, Dr. CRISP, Dr. DRUMMOND (South Shields), and Dr. ARMSTRONG. The patients were seen and examined in the wards, and some good discussions took place. The brain and abdominal cases in particular excited special attention.

Vote of Thanks.—A vote of thanks to the staff of the infirmary was unanimously carried.

Dinner.—After the meeting the members of Council and others were hospitably entertained at dinner by Dr. Gowans, a past president of the Branch.

LANCASHIRE AND CHESHIRE BRANCH.

THE intermediate meeting of this Branch was held at the Co-operative Hall, Warrington, on October 23rd, at 3.15 P.M., Dr. WATKINS, President of the Branch, was in the chair, and 123 members were present.

Communications.—Dr. J. S. TAYLOR, of Liverpool, showed two cases of Removal of the Tongue for Malignant Disease. Dr. HILL GRIFFITH exhibited some cases of Mules's Operation "Artificial Vitreous." Mr. C. E. RICHMOND read a paper entitled Cases of Lymphatic Obstruction. Dr. DRESCHFELD made some observations on Pyrodine, a New Antipyretic, with Temperature Charts. Dr. MITCHELL BANKS read a communication on the Uses of Turpentine and Scraping in Unhealthy Wounds. Mr. JONES mentioned a case of Tumour of the Hard Palate, and exhibited the specimen. Dr. BROOKE read a short paper on the Bases of Ointments. Dr. WALTER exhibited a patient from whom he had removed a Hydrosalpinx.

Dinner.—After the meeting, dinner was served in the Council Chamber of the Town Hall at 6 P.M., sixty-two members and guests being present, among whom was the Mayor of Warrington, and the Chairman of the Sanitary Committee.

OXFORD AND DISTRICT BRANCH.

A MEETING of this Branch was held at the Ratcliffe Infirmary on Friday, October 26th, at 3 o'clock, Mr. CHEATLE, ex-President, in the chair. The minutes of the last meeting were confirmed.

New Members.—Dr. Roberts, of Milton; Dr. Bond, of Brill; and Mr. H. Freeborn, of Clifton Hampden, were elected members of the Branch. Mr. CHEATLE proposed and Mr. MORGAN seconded, Mr. J. Ryan, L.K.Q.C.P.I., L.R.C.S.I., of Northleach, as a member of the Branch.

Communications.—Mr. DOYNE read a paper on Ocular Conditions bearing on General Health. Mr. H. P. SYMONDS showed some rare forms of Vesical Calculi, and related two cases of Median Lithotomy. Dr. P. D. DARBISHIRE read notes of a case of Nervous Affection accompanied by Symmetrical Blepharospasm. Dr. BROOKS read a paper on a case of Cerebral Abscess, and showed two cases of Charcot's disease.

Notice of Motion.—Dr. COLLIER gave notice of a motion for the next meeting: "That five meetings of the Branch be held during the year instead of four, and that one of these meetings be devoted to the discussion of questions of general medical interest, such as the formation of a medical defence union, etc."

PROCEEDINGS OF COUNCIL.

AT a meeting of the Council, held in the Council Room of the Association, 429, Strand, W.C., on Wednesday, October 17th, 1888; present:

Dr. T. BRIDGWATER, President of the Council, in the chair,
Mr. C. G. WHEELHOUSE, Leeds (President-Elect).

Dr. Holman, Reigate (Treasurer)	Dr. J. D. Harries, Shrewsbury
Dr. B. Anningson, Cambridge	Mr. J. H. Hemming, Kimbolton
Dr. H. Barnes, Carlisle	Mr. G. F. Hodgson, Brighton
Dr. J. S. Bristowe, F.R.S., London	Professor G. M. Humphry, F.R.S., Cambridge
Mr. H. T. Butlin, London	Mr. W. D. Husband, Bristol
Dr. Alfred Carpenter, Croydon	Mr. T. V. Jackson, Wolverhampton
Surgeon-General W. R. Cornish, London	Mr. T. R. Jessop, Leeds
Dr. J. Ward Cousins, Portsmouth	Mr. H. R. Ker, Halesowen
Mr. T. W. Crosse, Norwich	Dr. W. G. V. Lush, Weymouth
Dr. G. W. Crowe, Worcester	Dr. John McIntyre, Odiham
Dr. A. Davidson, Liverpool	Mr. C. Macnamara, London
Dr. P. M. Deas, Exeter	Dr. W. Withers Moore, Brighton
Dr. J. L. H. Down, London	Mr. W. Jones-Morris, Portmadoc
Mr. George Eastes, London	Dr. F. Needham, Gloucester
Dr. J. H. Galton, Upper Norwood	Dr. C. Parsons, Dover
	Dr. R. Saundby, Birmingham
Dr. C. E. Glascott, Manchester	Dr. A. Sheen, Cardiff
Dr. Bruce Goff, Bothwell	Mr. S. W. Sibley, London
Dr. O. Grant, Inverness	Dr. W. Strange, Worcester
Dr. W. C. Grigg, London	Mr. T. Sympson, Lincoln
Dr. T. W. Grimshaw, Carrickmines	Dr. T. W. Trend, Southampton
Mr. James Hardie, Manchester	Dr. A. T. H. Waters, Liverpool

Mr. Harries, the representative member of the Shropshire and Mid-Wales Branch, was introduced by the President of the Council.

The minutes of the last meeting, as printed and circulated, were signed as correct.

In reference to the minutes of a previous meeting, the President of the Council placed before the Council Mr. Dix's statement of the facts of the case respecting the vote on the report of Council at the annual meeting at Dublin, and also the opinion of the Solicitor upon the same.

Resolved: That the statement of the case and the opinion of the Solicitor be received and entered upon the minutes.

The Facts of the Case.—1. Minutes of Journal and Finance Committee, No. 137, July 13th, 1887.

Mr. Wheelhouse, as Chairman of the Committee, reported upon the replies of the Branches on the question of the payment of railway fares of representatives of the Council.

Moved by the Treasurer, seconded by Mr. Hugh Ker, and

Resolved: That, in the opinion of the Journal and Finance Committee, it is essential for the welfare of the Associarion that a sum of £2,000 should be invested out of the surplus every year, and that this annual investment having been made, the payment of the expenses of members of the Council should be by fee, as follows:—

Members residing within 100 miles of place of meeting, £1 1s.
" " over 100 " " " , £2 2s.
" " " 250 " " " , £3 3s.
" " " 400 " " " , £5 5s.

Presented to meeting of Council on the same day.

2. Minutes of Council; Nos. 1274, 5, 6.

Read minutes of Journal and Finance Committee.

Moved by the President of the Council and seconded by the Treasurer:

That the minutes of the Journal and Finance Committee of to-day's date be received and approved, and the recommendations contained therein carried into effect.

Whereupon an amendment was moved by Dr. Hardie, seconded by Dr. Strange:

That the minutes of the Journal and Finance Committee of to-day's date be received and approved, and the recommendations contained therein carried into effect, with the exception of the recommendation relating to the payment of members of the Council for their attendance.

The amendment having been put from the chair, the same was declared to be lost.

The original motion was then put, and declared to be carried.

N.B.—The resolution was carried after opposition and discussion, and adopted in the usual terms, namely:—"That the minutes of the Journal and Finance Committee of to-day's date be received and approved, and the recommendations contained therein carried into effect," this being the formula by which all such transactions are authorised and carried out.

3. This was mentioned in the "Report of Council" presented to the general meeting at Dublin as one of the transactions of the Council in these terms:—

Your Council have *accepted* a recommendation of the Journal and Finance Committee on the principle of paying the members of the Council, and have *adopted* the following resolution:—

[Mark the expression *accepted* and *adopted*.]

That, in the opinion of the Journal and Finance Committee, it is essential for the welfare of the Association that a sum of £2,000 should be invested out of the surplus every year, and that this annual investment having been made, the payment of the expenses of members of the Council should be by fees, as follows:—

Members residing within 100 miles of place of meeting, £1 1s.
" " over 100 " " " , £2 2s.
" " " 250 " " " , £3 3s.
" " " 400 " " " , £5 5s.

This plan guards the financial interests of the Association, and at the same time offers a feasible plan for meeting a grievance widely felt.

4. On the motion for the acceptance and adoption of the report, Dr. Strange moved and Dr. Holman seconded, "the omission of the paragraphs recommending payment to the members of the Council," which amendment was carried. See JOURNAL, August 6th, 1887, p. 309.

COMMENTARY.

The question to be determined is, What is the effect of this resolution of the general meeting upon the resolution of the Council? Can it or does it overrule, rescind, or disannul the "accomplished act" of the Council?

So far as I know, there is neither law nor precedent for any interference by a general meeting with the action of the Council in matters of finance; nor do I believe there is any power of the kind; if so, all financial questions would have to be submitted to general meetings for sanction and approval before they could be carried out. It would be absolutely impossible to carry on the affairs of the Association in that way.

For instance, suppose at the next general meeting the increase of salary of the Editor and Manager were impugned and defeated, would Messrs. Hart and Fowke be called on to refund the sums received?

Of course the general meetings can express their opinion on the acts and actions of the Council, and in this case they did express distinct disapproval (a vote of censure in fact) which might naturally have led the Council to rescind and cancel their resolution. But this was never done, and, therefore, my contention is that the Council is bound "to carry into effect" its own deliberate decision.

J. DIX.

Expenses of Members of Council.

14, Austin Friars, E.C., October 14th, 1888.

DEAR SIR,—I am in receipt of your letter of the 10th instant, enclosing print of "facts of the case" herein, and commentary thereon by Mr. Dix. I am of opinion that the Association in general meeting has power to control the Council in the management of its affairs, and accordingly had power to pass the resolution, which it did, adopting the report of the Council with the omission of the paragraphs recommending payment to the members of the Council. I do not infer from your note that my reply is required in detail to the questions raised by Mr. Dix.—I am, yours truly,

F. Fowke, Esq. (Signed) JAMES RICHARD UPTON.

Read letters of apology for non-attendance from Mr. Alfred Baker, Dr. Mackenzie Booth, Dr. Duffey, Sir Walter Foster, Dr. Webb, Dr. Skerritt, and Dr. Edward Waters.

Read letters of acknowledgment of thanks at the Annual Meeting at Glasgow from the President, Dr. Gairdner, Principal Caird, and others, and expressing their pleasure at the success of the late meeting at Glasgow.

Resolved: That the Council of the British Medical Association desire to express their deep regret concerning the death of Mr. Mason, and their great sympathy with Mr. Alfred Mason and Mrs. Phelan, the brother and sister. They record their high estimation of his professional character and benevolent career as an ophthalmic surgeon; and also the great loss which the British Medical Association has sustained by the death of one of its oldest and most experienced members.

The proposed by-laws of the Malta and Mediterranean Branch, were then considered, and were referred back for modification.

Resolved: That the Council of the British Medical Association record with great pleasure their recognition of a Malta and Mediterranean Branch, and they tender their congratulations and thanks to Dr. L. Manché and others who have been instrumental in the foundation of the Branch.

A communication from the Punjab Medical Society, of which the following is a copy, was then considered:—

Lahore, India, March 19th, 1888.

TO THE PRESIDENT AND COUNCIL, BRITISH MEDICAL ASSOCIATION, LONDON,—The following members of the medical profession resident in India have the honour to request the sanction of the General Council of the British Medical Association for their constituting the Punjab Branch of the British Medical Association.—SHIRLEY DEAKIN, Secretary to Punjab Medical Society.

Churchill, F. A., Brig.-Surg., M.D., I.M.S. (President); Dickson, W. P., L.R.C.P., Lahore (Vice-President); Center, W., Surg.-Maj., M.B., I.M.S., Lahore (Vice-President); Mulroney, T. R., Surg., M.D., M.S. (Hon. Treasurer); Deakin, C. W. S., Surg.-Maj., I.M.S. (Hon. Secretary); Anderson, R., Surg.-Maj., M.S., Dalhousie; Anderson, J., Surg., I.M.S., Mussourie; Buchanan, W. J., Surg., I.M.S., Multan; Caleb, C. C., M.D., Lahore; Charles, R. Havelock, Surg., I.M.S., Lahore; Edwards, A. R., Surg., I.M.S., Umritzgar; Faunce, C. E., Surg., M.S., Dalhousie; Hamilton, H., Surg.-Maj., I.M.S., Mussourie; Haig, R. de H., Surg.-Maj., M.S., Rajanpur; Ker, M. A., Surg., I.M.S., Jhelum; Morwood, J.; Surg., I.M.S., Mian Mir; Muir, H. S., Surg.-Maj., M.S., Delhi; Mulvany, P., Surg., M.S., Mian Mir; Myles, E. H., Surg., M.S., Cliffden; Peevor, G. H., Surg.-Maj., I.M.S., Sikhim Field Force; Roe, W. A. C., Surg.-Maj., I.M.S., Simla; Stephen, A., Surg.-Maj. M.S., England; Stephens, A. E. R., Surg.-Maj., I.M.S., Rawal Pindi; Maunsell, T., Brig.-Surg., M.S., Murree; White, C., Surg.-Maj., M.S., Jullundur.

Resolved: That the Council of the British Medical Association will gladly recognise and welcome the addition of a Branch for the Punjab, upon receiving from the members of the proposed Branch a copy of the proposed by-laws and constitution for approval.

The election of 87 candidates was then considered.

It was pointed out that one candidate had been elected by the Lancashire and Cheshire Branch.

Moved by the President of the Council, seconded by the President-elect, and

Resolved: That the remaining 86 candidates whose names appear on the circular convening the meeting be and they are hereby elected members of the Association.

The proposed by-laws of the Griqualand West Branch of the British Medical Association were then considered, of which the following is a copy:

RULES AND BY-LAWS OF THE GRIQUALAND WEST BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

It will be understood that the Rules of the British Medical Association shall also be the Rules of this Branch, and the following By-laws be enacted.

BY-LAWS.

1. That this Society be called the "Griqualand West Branch of the British Medical Association."

2. That the object of this Society be the holding of periodical meetings for the purpose of reading papers and discussing questions either of scientific or ethical interest.

3. That no political or religious subject be discussed, and that in questions of ethics and tariff this Society does not take to itself any right to order but simply to advise, that is, to obtain and make known the opinion of the majority of its numbers on the subject.

4*a*. That the officers of the Society be: President, Vice-President, President of Council, Honorary Secretary, and Honorary Treasurer.

4*b*. That the business of this Society shall be conducted by a Council of seven members, three of whom shall form a quorum.

5. That the office-bearers and Council be appointed annually at the first meeting in each year, at which a quorum is present. Outgoing officers to continue in office until their successors are elected.

6. That none but legally-qualified medical practitioners may become members of the Society.

7. That new members shall be elected by the Council in accordance with the by-laws of the British Medical Association.

8. That meetings be held on the first Friday in each month at 8.30 P.M.—one notice to be sent to members intimating date of meeting and objects.

9. That the subscription to the Society be £2 4s. 6d.—including subscription to the parent Society—payable to the Treasurer on entry and on January 1st of each year, but that for members joining the Society on or after July 1st on the year the subscription be half the above amount; the annual subscription for country members to be £1 14s.

10. That the order of business be as follows: 1. Minutes of previous meeting read and confirmed; 2, general business; 3, reading of papers and discussion.

11. That after the reading of a paper or proposing a resolution each member shall have the right to speak once only, except with leave from the chair, and

reader and proposer shall always have the right of final reply. The general conduct of the meeting in other respects to be left to the Chairman.

12. That before any alteration of these by-laws can take place, a notice of proposed alteration must be given at least one meeting before such alteration can be effected.

Office-bearers.	*Members of the Council.*
President, Dr. Lea.	President, Dr. Watkins.
Vice-President, Dr. Watkins.	Members, Drs. Lea, Nahmmacher, Fuller, Mathias, Mackenzie.
Hon. Treasurer, Dr. Fuller.	Hon. Secretary, Dr. Hollander.
Hon. Secretary, Dr. Hollander.	

Resolved: That the Council of the British Medical Association record with great pleasure their recognition of a Branch for Griqualand West (the first Branch in South Africa), and they tender their congratulations and thanks to Dr. Lea, Dr. Fuller, and others who have been instrumental in the foundation of the Branch.

Resolved: That the minutes of the Journal and Finance Committee of to-day's date be received and approved, and the recommendations contained therein carried into effect.

The minutes of the Journal and Finance Committee contain particulars of accounts amounting to £5,923 2s. 11d., the report of the auditors for the quarter.

Resolved: That Messrs. Price, Waterhouse, and Co. be appointed public auditors for the ensuing year, in accordance with By-law 26.

Resolved: That the minutes of the Trust Funds Committee of the 16th instant be approved, and the recommendations contained therein be carried into effect.

The minutes of the Trust Funds Committee contain particulars of arrangements for the awards of the Stewart and Middlemore Prizes.

Resolved: That the dates of the annual meeting in 1889 be July 30th and 31st, August 1st and 2nd.

Resolved: That there be three addresses; namely, Medicine, Surgery, and Psychology.

Resolved: That the minutes of the Arrangement Committee of to-day's date be received and approved, and the recommendations contained therein be carried into effect.

The minutes of the Arrangement Committee contain the particulars for the arrangements of the annual meeting at Leeds.

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

Smell of Sound Meat.—M. Potain's Treatment of Phthisis.—Chicken-Skin for Grafting.

THE examination of the flesh of animals, from which the viscera have been removed, necessitates the analysis of all the tissues, the inspection of the fat, muscular tissue, fasciæ, pleura, and peritoneum, spinal cord, glands, vessels, blood, etc., before the meat can be accepted. In the normal state the flesh of every animal has its own characteristic odour. Beef has a special insipid kind of smell, modified by the different modes in which the animals have been fed. Thus it is stated that the flesh and milk of cattle in the polar regions have a fishy odour, because the absence of pasturage obliges the inhabitants to feed their oxen and cows on fish. Veal smells of milk, mutton of wool and sometimes grease. The normal odour of pork is insipid and inoffensive, but when the pigs are fed on offal the flesh has a pale cachectic hue, and an offensive smell and taste. The odour of poultry fed on corn differs from that of poultry artificially fattened. In a diseased state, meat emits a typical odour resembling the breath of feverish patients. This odour is particularly noticeable beneath the shoulder, and in the muscles of the inner side of the leg. The odour should be carefully noted immediately after the incision is made. This should be done by the inspector himself. When diseased meat is roasted it emits a strong and offensive smell. The fever odour is particularly marked in the case of animals which have suffered from peritonitis, charbon, morbid symptoms following parturition, or with ordinary acute disease. In such cases the smell is recognisable at once, and it is unnecessary to make any incision. "Feverish" meat is always unfit for consumption, on account of the leucomaines which it may contain. Moreover, there always exist pathological lesions which denote clearly that the animal was diseased before being killed.

M. Potain has lately tried a new mode of treatment in the case of a patient aged 23, in the third stage of phthisis, who some time before had been suddenly seized with symptoms of pneumothorax of the right side, occupying about two-thirds of the pleura. Effusion had commenced on the eighth day, and had reached the angle of the scapula on the forty-sixth day. On the ninetieth day it began to invade the supraspinal fossa, reaching to the second rib in front, after having pushed back the lung. M. Potain now evacuated all the liquid, replacing it at the same time by air, so as to avoid any expansion of the lung. This was done by means of an apparatus which ensured absolute antisepsis of the air introduced. The first operation was performed three months after the beginning of the pneumothorax. Effusion of course took place again. The operation was repeated three times during the ensuing five months. The quantities of fluid evacuated were successively 1,600, 1,400, and 500 cubic centimètres. The fluid, which was slightly purulent, remained without odour, and the bacilli, the presence of which was evident at the first punctures, were no longer present in the fluid withdrawn on the last occasion. The gases extracted were without odour, and the air shut up in the pleural cavity at the body temperature during 246 days had not undergone decomposition and was not fetid. Finally, the air introduced was absorbed; the effusion gradually diminished, and ultimately ceased. Complete expansion of the lung followed slowly and without inconvenience. Twenty-seven days after the last operation there was proof that the pleura had come into contact, and thirty-four days later all traces of liquid or gaseous effusion had disappeared. This was the 288th day of the affection. The final result was excellent; the pneumothorax was quite cured; the chest was normal in shape and natural in circumference; and the lung on the affected side acted with perfect freedom. Besides, there was evident amelioration in the parts of the lung originally attacked, as far as could be inferred from the disappearance of the signs that had at first revealed the existence of extremely serious tubercular lesions. M. Potain thinks, however, that this method must be applied with caution, and that there are numerous cases in which the experience of the practitioner will contra-indicate any surgical interference.

Some observations on the use of the skin of young chickens for grafting were published some time ago by M. P. Redard in the *Union Médicale*. M. Redard has employed this method with success in three cases. He chose the skin from beneath the wing of young fowls. This skin is supple and vascular, and presents on its under surface loose cellular tissue without fat. The size of the portions to be transplanted must not exceed one to two centimètres. A small quantity of cellular tissue must be left adherent, and the adipose tissue carefully avoided. Sutures seem to be useless; the skin, once in place, adheres exactly and does not move. The wound must not be granulating exuberantly, nor freely suppurating, and care must be taken that it be aseptic. It should be carefully dressed with iodoformed muslin; and, if suppuration is not too abundant, it may be left *in situ* for four or six days. Absorption is exceptional. The author does not say that it is the skin of the chicken itself that serves to form a new human skin.

GLASGOW.

[FROM OUR OWN CORRESPONDENT.]

Glasgow University.—University Extension Scheme.—Meeting of General Council.—The University Council Association.—University Local Examination.—Glasgow Obstetrical and Gynæcological Society.—Medico-Chirurgical Society.—Natural History Society.—Glasgow Royal Infirmary School of Medicine.—Woodilee Asylum.—Accidents on the Switchback.—Health of the City.—Bequests.

GLASGOW UNIVERSITY is so often alleged to be behind the age, that it is interesting to record that one of its most recent additions is at least abreast of the times. Professor Grant, of the Observatory, has taken fifteen observations, consecutive with few exceptions, to test the accuracy of the hour bell recently erected in the University tower. On five occasions the bell was in advance of mean time, the total error of the five occasions being 7.1 seconds, while on ten occasions it was slow by a total of 9.6 seconds; but as the Observatory is some distance from the University, and no account was taken of the retardation of sound, the clock would be generally fast, though the results are marvellously in favour of the excellence of the mechanism.

The extension scheme is soon to be inaugurated in the city by simultaneous courses of evening lectures in the east and west end. Those in the west end will be delivered in the University, and include, as lecturers, Professors Grant and Cleland, and Mr. Wm. Smart, M.A. In the east end the lectures will be delivered in the Mechanics' Institute, Canning Street, by Mr. David Forsyth, M.A., B.Sc., on physical geography, and Mr. Mortimer Wheeler, M.A., on English Literature. Later, other subjects will be taken up. At the conclusion of the course an independent examiner will conduct an examination, and the University Board will issue a certificate. The opening of the University for evening courses of lectures looks like the beginning of a revolution.

The University General Council meets on October 31st in the Bute Hall at 11 A.M. The report stated that the prayer of the Council has been heard by the insertion of a definition of affiliation by a new section providing for affiliation when the University and College are both consenting parties, and for its cessation by resolution of the affiliated College or the University Court, and by modification of the clause regarding transfer of patronage of bursaries. The committee asks the Council to express cordial approval of the Bill generally, to accept the affiliation proposals, to suggest that the annual report to be laid before the General Council be statistical as well as financial, to express the opinion that the annual grant to the four universities should not be less than £50,000, and to instruct the committee to petition the House of Commons that the Bill may pass into law during the autumn session. The report also contains a long statement about the University Library. Its annual cost is something like £1,500. It contains 132,000 volumes, that number not including the books of the Hunterian Library bequeathed in 1783 by William Hunter, and containing 13,000 volumes, among which are 600 MSS., and many specimens of fifteenth century printing, nor yet the Library of the Theological Faculty. During the session 1886-87, only 483 students borrowed books, only 13 of whom read books in a foreign language. During the same time 104 members of Council made use of their library privileges, and 54 persons received the privileges of special reader. For the students, it should be added, a large reading room and special reference library are provided. The committee recommend increased facilities for students and members of Council, for the latter a consulting-room open two or three evenings a week is suggested, and the alteration of the ordinances to permit the use of the library, under certain conditions, to the members of Council of any Scottish university. As regards the Council roll, the committee suggest that it ought to be purged, by power being given to the registrar, when he suspects inaccuracy to exist, to send a letter of inquiry to the person concerned, and to strike his name off if no answer is received in six months, the name to be restored on the production of satisfactory evidence. The motions of which notice have been given include two by Dr. J. R. Wolfe, as follows:—"1. That a representation be made to the University Court to consider what steps, if any, might be taken in conjunction with the managers of the Royal Infirmary, either by endowing chairs of clinical medicine and surgery or otherwise, to utilise the clinique of that valuable institution for the alumni of the University." "2. That it be remitted to the Committee to consider the disadvantageous position of extra-mural teachers in medicine, in respect that they are not represented among the examiners for degrees, and to report in what way this disadvantage can best be removed."

The University Council Association of Glasgow met on October 27th, under the presidency of Mr. J. G. A. Baird, M.P. Three representatives from Edinburgh University were also present. The meeting was summoned to express approval of the Universities Bill, and to urge its passing into law this session. A motion expressing the opinion that further delay would be most injurious to the public interest was unanimously passed. Letters from Principal Caird, Principal Donaldson, of St. Andrews, the Rev. Principal Douglas, Professor Candlish, and Mr. James Graham, of Auldhouse, were read expressing entire sympathy with the object of the meeting. The chairman referred to the unanimity of public feeling among university authorities in regard to the desirability of the Bill passing forthwith, but pointed out that there were four amendments on the paper, any one of which, if pressed, would be sufficient to kill the Bill, and urging that pressure should be brought on their authors to withdraw them. On the motion of Dr. McVail, it was agreed that the provisions in the Bill as to a quorum of Council would be prohibitive, as 100 members seldom attended the meetings, and that the old provisions should be restored. It was also agreed to urge that the Bill should provide for the summoning of a meeting of Council, immediately after the passing of the Bill, by the Commission, on receipt of a requisition signed by the number of members of Council constituting a quorum. It was decided to send the motions to the Prime Minister, Secretary for Scotland, Lord Advocate, Mr. Gladstone, Mr. J. B. Balfour, Sir George Trevelyan, Lord Justice Clerk, and the members for the Scotch Universities.

The annual distribution of prizes, etc., in connection with the University Local Examinations took place at the University on October 27th. Professor Jack, who presided, observed that the Board were specially called on at the present time to review the situation in consequence of the institution of Government leaving certificates, and as regarded their bursaries in consequence of the operation of the Endowments Commission. He noted as of interest the fact that the number of candidates had been annually increasing, in spite of a gradual rise of the standard of examination. Last year there were 617 candidates, against 540 the previous year; and, whereas four years ago the pass in the common subjects was 80 per cent., in the junior certificate 86 per cent., in the senior 87, and in the higher 56, last year the numbers were respectively 68, 83, 84, and 44. For the first time last year there had been a candidate who had gained a certificate in the degree subjects, having passed in five out of the seven subjects.

The first meeting of the Obstetrical and Gynæcological Society was held on October 24th, when the following office-bearers were elected:—Honorary President: Professor Leishman, M.D. President: J. Stuart Nairne, F.F.P.S.G. Vice-Presidents: M. Cameron, M.D., and R. Park, M.D. Treasurer; Robert Pollock, M.D. Reporting Secretary: E. H. L. Oliphant, M.D. Secretary: G. A. Turner, M.D. Pathologist: J. Nigel Stark, M.D. Council: W. L. Reid, M.D.; P. C. Smith, M.D.; D. Tindal, M.D.; G. Halkett, M.D.; T. F. Gilmour, M.D.; and Alexander Scott, M.D. Thereafter Dr. M. Cameron initiated a discussion on the use of the forceps.

At the meeting of the Medico-Chirurgical Society, on October 26th, an adjourned discussion on Dr. J. Francis Sutherland's paper on the "Breakdown of the Hospital System" was engaged in. Dr. Sutherland's opinions have been already published in the JOURNAL of August 25th.

The Natural History Society, which held its annual meeting on October 30th, has undertaken a new departure. A course of biological lectures, under its auspices, is announced, to which members of all scientific societies are cordially invited. The lectures are to be given on November 13th, December 11th, January 8th, February 12th, and March 12th, by: Professor Cossar Ewart, on "The Electric Organ of the Skate;" Professor Bayley Balfour, on "Some Plant Parasites;" Professor Herdman, on "The Life-history of an Ascidian;" Professor D'Arcy Thompson, on "Fresh-water and other Polypes;" and by Professor Bower, on "The Constitution of Vegetable Tissues."

The Glasgow Royal Infirmary School of Medicine was opened on October 25th, with an address by the Lecturer on Chemistry, Dr. James M. Milne. Sir James King, Lord Provost of the city, occupied the chair, and in a very interesting speech traced the history of the medical school, from the time, ninety to a hundred years ago, when it worked together side by side with the University, until fifteen years ago, when, from no incompatibility of temper, but from the transference of the University to Gilmore Hill and the erection of the Western Infirmary, separation was necessary. He hoped before many months were past it would be rid of all disadvantages, and fighting on fair footing side by side with other medical schools. He had not supported the St. Mungo's College Bill, because he thought a general Bill would gain all that was necessary, and because the Royal Infirmary School could not promote a private Bill without giving Anderson's College Medical School good grounds for demanding the same privileges. He expressed the opinion that the latter school ought to have sought to associate itself rather with the new hospital of the south side than with the western, and suggested that some satisfactory arrangements might be made by which the Corporation Hospital for Infectious Disease should be made more accessible to students for purposes of instruction.

The annual harvest home of the Woodilee Asylum, Lenzie, and the celebration of its thirteenth anniversary were held on October 26th. This asylum, belonging to the ratepayers of Glasgow, has grounds extending to upwards of 600 acres, cultivated by the patients, numbering between 600 and 700. It is thought that in a few years the income derived from the farm produce will almost make the institution self-supporting.

It is singularly unfortunate that within ten days after the close of the International Exhibition a fatal accident should have occurred within the grounds. It took place on Saturday afternoon last at the switchback railway. A man journeying on one of the cars lost his hat. On reaching the platform he started down the line to recover the hat, and was overtaken and run over by a car coming from the opposite direction. The way on the car being reduced, it could not reach the top of the next incline, and so returned, repassing over the man's body, which was badly mutilated, especially about the head and neck. Death seems to have been instantaneous. It is said on the one hand that the man walked down unseen by the attendants, and on the other that he went in spite of their remonstrances. About 9 P.M. the same day a laden car collided with an empty one coming from the opposite direction, and two persons suffered severely from shock. The cause of this accident is being investigated, and meantime the traffic has been stopped. Hitherto the cars have run right on to the moment of the Exhibition closing for the night, crowds frequently seeking admission up to the last run; and, in view of the rather imperfect lighting, it is a marvel more accidents have not happened.

Evidence has reached Dr. Russell's hands, but not in time for full communication, sufficient to satisfy him that scarlet fever has again been disseminated by means of milk in the west end, though he has not been able to form an opinion as to the point at which infection gained entrance to the milk. The Health Committee has instructed inspectors to take steps to enforce a rule forbidding persons selling milk by retail storing or keeping it in a shop communicating with a sleeping-room. Dr. Russell also reports an increase in the deaths registered during the fortnight ending October 20th amounting to 59, representing a death-rate of 21.5 per 1,000, in place of 18.6.

In hospital there are at present 259 cases of scarlet fever, 66 of enteric fever, 19 of measles, 11 of whooping-cough, 89 of diphtheria, 7 of typhus, 3 of erysipelas, and 3 of chicken-pox—in all 375 cases, as compared with 351 a fortnight ago, and 386 at the corresponding period of last year. A reinspection of dairies has been made, and at the premises of one purveyor five cases of scarlet fever were found and removed to hospital. The shop was shut up.

By the will of the late Mrs. Robina Mitchell, Pollokshields, Glasgow charities have recently received £1,555, each of the general infirmaries receiving £250, and the new Victoria Infirmary and the Eye Infirmary, £100. Mr. Quarrier's Homes receive £300, the Sick Children's Hospital £50, and other similar institutions also benefit. Mr. John Croom, formerly a Glasgow merchant, leaves by his will £150 each to the Royal and Western Infirmaries, £50 to the House of Shelter for Females, and £50 to the Institution for Orphan and Destitute Girls.

CORRESPONDENCE.

PRISCIAN PRICKED BY PHYSICIANS AND SURGEONS.

SIR,—You informed us lately, by way of exciting some interest, I suppose, in the tedious reports of the General Medical Council, with which we are often favoured in your columns, that at the approaching meeting of the Council some piquant revelations might be expected of the defects of medical students in Latin prosody and composition. This is not very surprising, looking to the barbarous methods of teaching still in use in secondary schools, and the inferior calibre of a great many of the aspirants for medical diplomas. Meanwhile, it may not be superfluous to direct a little more attention to English composition. To the majority of mankind who are at all susceptible to pain or pleasure from the influence of literature, it is little short of anguish, and it is an habitual humiliation and grief, to read the slipshod, inaccurate, illogical, and ungrammatical stuff which is almost daily put before us, even by "the leaders of the profession," and even when they indulge in orations and addresses. It is bad enough to have to read the miserably ill-worded and involved sentences in which a large proportion of medical men, from sheer carelessness, if not from defective education, write down their ordinary clinical experiences or investigations, and expect you to print 15,000 copies of them for the edification or torture of their fellow members. But when set orations and addresses are sent for publication, almost every line of which betrays either looseness of thought, carelessness of diction, inaccuracy of expression, ambiguity of language, or downright bad prosody, the fault is inexcusable, and becomes almost an outrage on a profession which is never tired of claiming to be cultured. The ordinary clergyman, the journalist, the barrister, take care to write grammatically, and to observe the elementary rules of English grammar and composition. Why should physicians and surgeons sow their sentences with vulgarisms and breaches of grammatical rule, for which an ordinary schoolboy should be birched?

I take, for example only, the last number of your JOURNAL which is before me, that of October 20th. I do so, not because it contains more glaring examples of what I complain of than usual; rather the contrary. I can recall orations of Lund, Wood, and even Russell Reynolds, which I forced myself to read, and of which even the recollection makes me shudder. But I take the last number as being the nearest to hand; almost any other would serve the same purpose; and it must not be supposed that the orators whose addresses I analyse are at all worse than most of their medical and surgical compeers.

I begin with Sir William Mac Cormac's address, "On the Old Surgery and the New." He is, I believe, an excellent surgeon, a university graduate, and if I venture to criticise with severity the form and method of his address, it will be understood, of course, that I do not question the substantial accuracy of the views which he so loosely clothes in words, and to which he gives such an unlovely *déshabillé* on a full-dress occasion.

First, as to the higher qualities of composition, such as logical sequence of thought and orderly movement of argument; it will be observed that the whole address is a sort of topsy-turvy inversion of the propositions with which he starts. He begins by a sort of reproach to modern surgeons, that they think too little of their great predecessors in the past; quoting rather absurdly a line of Goethe which has no application to this thought, apparently for the sake of bringing in a line of German. He then proceeds soundly to belabour "our predecessors." "The traditions of the past are, *I suppose* (!) a part of the discipline of the surgical mind. *At the same time*, I cannot look back to some of the procedures of our ancestors without horror." Why "I suppose," after his previous adjuration? And why, "At the same time"? In the next sentences he tells us to "fancy the red-hot knife," the "quivering flesh," the "slow healing of wounds," the "fatal atmosphere" of hospitals, the "larvæ" (and a great many other things), and "the deaths." A man may, in the language of common slang, "fancy" pigeons, and he may, I believe in the same regions of the English language be a "fancy man," but to call upon us in a set oration to "fancy" any number of abstract and concrete nouns all coupled by one conjunction is really unpardonable. In the next sentence he tells of the Hôtel Dieu: "I have myself seen two and three in a bed." Two and three make five, and that is certainly not what he means; but "and" and "or" appear to be used as synonyms in many parts of the oration, and the logical difference between conjunction and disjunction is disregarded with bewildering confusion of thought. In the very next sentence we read of "reeking odours of flesh arising from incessant moxas"—intelligible, but incorrigibly careless; the odours arose from the flesh, and not from the moxa. The next sentence tells us of the "arms of surgery" being "literally and metaphorically well appointed." How "literally and metaphorically?" Again, granting that "all surgery is conservative," what does the orator mean by adding "to speak of it as otherwise is a *non est?*" Of course, the "as" should have been left out, but how does the "*non est*" come in to the text? Does he really mean in the next sentence but one that "a neurosis" sometimes ends in an excision; or only that the treatment of it sometimes ends so? Almost every sentence, and certainly every paragraph, teems with similar evidences of loose thought and careless composition; and I hope my (purely literary) indignation does not lead me too far when I say that such compositions—and this is only an ordinary specimen—are discreditable and humiliating to our profession as "men of cultured intelligence," which Sir William Mac Cormac rightly thinks so necessary, and well employed in "the noble object," etc. In the next paragraph we are told that, in the treatment of dislocations the pulley and rack are now replaced by "an assistant," "a sheet," or

the "unaided *tour de maitre*." To replace a pulley by a *tour de maître* is like substituting the sound of a flute for a ton of coals. Again, "we deal with the *former* sealed cavity of the skull..... almost as freely as with other parts of the body." This habitual substitution of adjectives for adverbs and *vice versâ* runs all through the two short columns of an address, every paragraph of which would furnish choice examples for a school examination paper on errors in English composition.

I may point out that the orations of Dr. Latham and Dr. Simpson, printed in the same number, show like defects, although in a much less degree. Thus, if we look only to the first paragraphs of Dr. Simpson's address, we find him writing as follows: "Such cases we may any of us have seen, *when* probably the fœtus died of the pyrexia. In this category we may class the cases where the fœtus has been the subject of extensive inflammation, as in those instances where *not only effusion* into the abdominal cavity, *but the presence of flakes of lymph* on the liver, spleen, and intestinal coils *gives* evidence of active peritonitis."

"When" here does not at all express the author's meaning; he probably intended "in which." "But" is put for "but also," and "gives" for "give." The very next sentence runs thus: "Secondly, in those women *who have a succession of infants dying in utero* we have far more frequently to do with cases where the fœtus is the subject of some chronic affection." Sad indeed must be the case of a woman who has a succession of fœtuses dying *in utero*,, especially if, as the true construction of the phrase implies, they are all dying at the same time; but the whole sentence is a miracle of ambiguity and clumsiness. Needless to go further, especially as the context shows that Professor Simpson thinks clearly and orders his argument closely and logically; all the more pity that he should state it so ungracefully and so ungrammatically.

Professor Latham is more careful of correctness of wording, but is not uniformly happy in the endeavour. He opens by saying: "If, whilst looking to the future, and pointing to the direction in which further advances are possible, and suggesting routes by which these advances may be made, some here present are encouraged and stimulated by what I say to search out these secrets of Nature, I shall feel," etc. He means, no doubt, while *he* is looking and pointing, but that is not the grammatical construction of his phrase, which implies that it is some of his hearers who are doing so. Again, he tells of "butter sometimes even *appearing* to answer better than the cod-liver oil, *and is* certainly more willingly taken." The immediately following sentences are almost as ungrammatical. It would be wearisome to dissect them.

When we find University Professors of Edinburgh, Cambridge, and London publishing on the same day orations which betray ignorance or carelessness of the elementary rules of English composition and grammar, we cannot be surprised if the unhappy "medical student" be not found perfect in his Latin prosody.

Nor let it be supposed that the instances I have chosen are rare. There are, I imagine, very few of your readers (especially among "the leaders of the profession"), of whom it may not be said "*de te fabula narratur*." Perhaps if they notice these observations at all, they may henceforth be a little more careful in securing the revision of their utterances before publication, in which case your readers generally and the profession at large will not perhaps be without some feeling of gratitude to AN OLD FELLOW.

PROFESSOR GERHARDT AND SIR MORELL MACKENZIE.

SIR,—Having for nearly fifty years been constantly engaged in translating from the German scientific books and articles demanding the utmost fidelity of reproduction, I can confidently say that Dr. O. Ziemssen gives an erroneous interpretation to the passage from Dr. Gerhardt's report, of which he gives the original German. The correct translation is: "This is probably the first certainly authenticated case in which a laryngeal doctor endeavoured to tear away from the patient by mistake a piece from the healthy vocal cord." This is the literal rendering of the passage, and I have no hesitation in saying that no German physician could understand it as implying that Dr. Gerhardt meant that Sir Morell Mackenzie "trying to remove a piece, he injured by mistake the healthy vocal cord;" or, if he meant that, his language expresses something totally different. Of course, I know nothing about the merits of the case, and cannot make out what "endeavouring by mistake" implies; but the language is unmistakably as I have translated it and as Sir Morell gives it.—I am, etc.,

R. E. DUDGEON.

Royal Institution of Great Britain.

PUERPERAL FEVER A PREVENTABLE DISEASE.

SIR,—It was scarcely to be expected that the views set forth in my address at St. Thomas's as to the etiology of puerperal fever would be allowed to pass without challenge. I thank Dr. Leith Napier for having expressed his dissent from them so courteously. He is an opponent worth converting, and I honestly believe his conversion to be merely a question of time.

Dr. Napier's main contentions may, for convenience sake, be briefly summarised as follows: (1) That we are not warranted in attributing all cases to infection from without. (2) That, even when the infection is acknowledged to come from without, and to develop in the uterus, the genital passages are not the sole channel of entrance; and (3) that the statistics given in my address are not sufficient to support my view. I hope I have succeeded in stating Dr. Napier's case fairly in these three propositions. Let me now take them *seriatim*.

1. In support of his first contention Dr. Napier adduces two facts, namely, that cases of puerperal fever occur in which careful inquiry fails to discover the source of infection; and, that parturient women may be placed in a bed recently occupied by a case of puerperal fever without becoming infected.

The answer to the first of these arguments has been given over and over again, and perhaps nowhere more pithily and forcibly than in the passage from Parvin's *Obstetrics*, which I have already laid under contribution in my address. Permit me to quote two or three sentences from it. "In most cases," says this writer, "probably nine out of ten, of the disease, careful examination soon traces it to an external cause, so that all will admit it to be heterogenetic. But again other cases occur for which no external cause is discovered, and therefore the hypothesis of self-infection or autogenesis is proposed. We do not thus reason as to other contagious diseases when we are unable—as we often are—to discover the source of the contagion. For example, in many cases of scarlet fever we cannot tell whence the disease came, but we never say it was generated in the patient that suffers from it..... It is more rational—when we meet with cases of puerperal septicæmia whose origin we do not know, but which have the same history as others the source of which we can trace to an extreme cause, and which have the same evolution and the same infecting power—to conclude that they, too, come from like sources, though the connecting thread is so fine that it eludes our vision, and have to erect an altar to the unknown god of autogenesis, and imagine that we have explained the mystery."

The second argument is still weaker. To say that because once now and then a woman in labour may be exposed to the risk of puerperal fever without becoming infected, therefore puerperal fever is not infectious, is like maintaining that rabies in the dog is not infectious because, of a given number of persons bitten, one or more almost invariable escape. This question of individual non-susceptibility is matter of daily experience in regard to every infectious disease known to us, but we do not therefore deny that such a thing as infection exists.

2. With reference to there being other channels besides the genital tract through which the poison of puerperal fever finds entrance to the body, I am open to conviction in the matter; but at present all the evidence seems to me to point the other way. The parturient or puerperal woman, if exposed to the contagion of diseases that are ordinarily transmitted through the lungs, the skin, or the stomach, is at least as liable as anybody else to become infected, and to become infected through the usual channels; but, as came out pretty clearly during a recent discussion at the Obstetrical Society, especially in the remarks of Dr. Cayley, the disease in such instances breeds true. Scarlet fever produces scarlet fever, typhoid produces typhoid, small-pox produces small-pox. The evidence that has been adduced to show that these diseases can breed puerperal fever will not bear close scientific scrutiny. The preservation of lying-in women from sources of contagion such as those I have mentioned did not come within the scope of my address; it forms part of those hygienic precautions that everybody recognises as essential, especially in obstetric practice. Meanwhile, if Dr. Napier can direct me to any well-authenticated and undoubted instance of the transmission of puerperal fever through other channels than the genital tract, I am prepared to accept it and modify my statements accordingly.

3. Lastly, Dr. Napier thinks my statistics do not prove quite so much as I think they do. He says they simply show that "hospitalism" is a thing of the past, and that ordinary septic

poisoning may be avoided. I do not quite know in what sense he here uses the word "ordinary." If he means the same thing as if he said "that septic poisoning in lying-in women may be avoided," he grants all I desire; he and I are agreed. This point, however, I will leave, as it is possible he may attach some meaning to the word "ordinary" that is not at first sight apparent. But to the statement that the statistics simply show "hospitalism" to be a thing of the past I entirely demur. They show, in my opinion, a great deal more than that. Let me take but one example. From May 1st, 1886, to May 1st, 1887, there were delivered, in the Dresden Lying-in Hospital, 1,403 women. Amongst these there were no fewer than 208 operation cases (14.8 per cent.). The operations are tabulated by Professor Leopold as follows:—

Forceps	43
Turning and extraction	32
Extraction	34
Manual removal of placenta	11
Perforation	17
Decapitation	3
Cæsarean section...	7
Induction of premature labour	20
Abortion	14
Suture of severely lacerated cervix ...	10
" " " perineum ...	17
	208

There were included also in this series 9 cases of eclampsia, 11 cases of placenta prævia, and 398 cases of contracted pelvis, in 98 of which the true conjugate diameter was under three inches and a half. Several of the cases of eclampsia and placenta prævia were admitted when actually in labour, and already suffering from the dangerous complications named. Two cases of transverse presentation and one case of breech presentation were sent into the wards in an almost hopeless condition. Of the 1,403 women, 17 died (1.2 per cent.). The *post-mortem* records show that only 2 of the deaths occurred from sepsis, and in both instances the women were septicæmic on admission. The mortality from sepsis originating in the hospital was, therefore, *nil*. From May 7th, 1884, to the end of July, 1885, a similar but even larger series of cases (1,686) occurred in the same hospital, without a single death from septic infection.

I maintain that the records of private practice, before the introduction of antiseptics, contain nothing in the least degree comparable to this, and that these wonderful results go very far indeed towards proving the truth of the views I have put forward.—I am, etc.,

C. J. CULLINGWORTH.

46, Brook Street, W., October 20th.

P. S.—The question raised by Dr. Napier, and referred to in the Harveian Oration by Dr. Latham, as to the possibility of non-pathogenic micro-organisms becoming pathogenic, is highly interesting, but does not appear to me to affect this particular argument.

ELECTION OF ORPHANS.

SIR,—I have read the articles which have lately appeared in your valuable JOURNAL, but my interest was not quite awakened until I came across the letter in your issue of October 20th from the Charity Voting Reform Association.

I had not intended to bring before you this well-established non-canvassing-for-votes institution, but my *amour propre* arises, and I gladly protect, as its secretary, the system which my committee are proud to think is still a success after nearly twenty-five years' trial. The point of your argument, or at least that of your correspondent, seems to be that there exists a haphazard way of putting any child on the list of candidates in kindred institutions, but I would say that in the Royal Albert Orphan Asylum a most careful scrutiny has to be faced by the candidate and friends, and it is far from being "loose and uncertain in its process." No child can get on our list, unless it has come before the committee if within a ten-mile radius, or if outside we are content to take primarily the local doctor; but, within or without, the doctor's report is the guiding star to the London committee. In London cases a severe test is put upon the child by an examination by eminent London physicians, and before a child can be settled down in residence at Bagshot our local medical adviser has the last and final word in the matter. By this method the committee weed out unfit cases; and to show that they have been successful, I would say that out of 1,200 children who have benefited by our asylum during the twenty-four years of its existence the deaths have only amounted to thirteen.—I am, etc.,

RICHARD WITHERBY, Secretary to the Royal Albert Orphan Asylum.

62, King William Street, E.C., October 23rd.

*** We heartily approve of the "non-canvassing" system of election to charities, and have repeatedly expressed our sense of its great advantages in equity and good sense over the canvassing system, which is fraught with hardships, injustice, and uncertainty. We are anxious to see that the system of selection by committee be carried out everywhere with a full sense of responsibility, and for that reason expressed words of caution as to physical as well as social conditions being investigated. We are glad to hear that the committee of this excellent institution are alive to the importance of these considerations.

UNIVERSITY EDUCATION IN LONDON.

SIR,—The address delivered at Gresham College by the Chancellor of the Exchequer, as President of the Society for the Extension of University Teaching, together with other schemes for the advancement of teaching in London, cannot but produce some effect on the Royal Commission for a new university. Some say it is not the teachers, but the taught, that are essential to the true conception of university training; the one set would have a method instituted on the democratic grounds that there are those who demand learning—a demand that should be met. Others take the aristocratic line, the view that it is the function of universities to create new learning, to make some men more learned than any predecessor, that they may advance culture, and making new knowledge spread it by literature and by teaching. Both ideas are worthy of practical attempt in London. The democratic purposes of a metropolitan university require all the elements that may be found existent out of which a teaching university may be built up; the City of London seems likely to contribute nobly to the scheme for which all are hoping and looking. Last week the Worshipful Company of Goldsmiths endowed a Polytechnic for South London, and this and kindred institutions will go far, under proper management, to supply the means of the more popular means of university training. It is to be hoped that in supplying the just demands for popular education means will be found for encouraging the advancement of higher learning and original work and thought.—I am, etc.,

F.R.C.P.

October 21st.

OLD FAMILIES.

SIR,—Since the lamented death of Dr. Bertillon, France has had no more distinguished statistician than Dr. Lagneau, whose pamphlet on the extinction of old families you criticised in the JOURNAL of October 27th. Both M. Bertillon and M. Lagneau took rather pessimistic views of the prospects of France when I read a paper on the slow increase of France at the International Congress of Hygiene in 1878 at Paris. This gloomy view, which you refer to, is, I think, quite unfounded. It is quite true, as Dr. Lagneau says, that the population of the Kingdom of Prussia is increasing at the rate of 4.14 legitimate children per marriage, whilst in France there were last year only 2.97 legitimate children, or 3.2 children altogether per marriage. The consequence of this was, indeed, that Germany in 1885 had a surplus of 530,185 births over deaths, and France last year had a surplus of only 56,000 births over deaths. But the death-rate of France was 22.5, against 27 per 1,000 in Germany; so that France is evidently a far more hygienic country than Germany. Again, France, in 1886, had an excess of females over males of 92,000; whilst Germany had a similar excess of 988,000, so that France is a much more married country than Germany. France also, from her very low birth-rate, has the greatest proportional number of her inhabitants in the productive ages of life (15 to 60) of any European State. Thus, in every 10,000 inhabitants France has 5,373 in these ages; Holland, 4,964; Great Britain, 4,732; and the United States, 4,396. A greater proportion, too, of the population of France attain the age of 60 than in any other European nation. Out of 100 deaths those over 60 are: in France, 36; in Switzerland, 34; in England, 30; in Belgium, 28; in Wurtemberg, 28; in Prussia, 19; and in Austria, 17. If these figures be studied, it will be seen that the French nation is a most healthy and, being so much composed of adults, a most productive nation. I cannot help, then, urging on the distinguished essayist, Dr. Lagneau, that his gloomy vaticinations with respect to his native land are not founded on sufficient

data. France still increases slowly in numbers, for she added 56,000 to her population in 1887; but as she has very few colonies in healthful situations, such as we have, it is evidently much more in accordance with the principles of human farming not to overstock her territory, as the Germans do, with famished claimants for a scanty supply of poor, innutritious food.—I am, etc.,

C. R. DRYSDALE, M.D.

23, Sackville Street, W., October 27th.

PYOSALPINX OR SUPPURATING PAROVARIAN CYST.

SIR,—Will you permit me to make a brief comment concerning a case of double pyosalpinx cured by aspiration, as published in the JOURNAL of October 27th by Mr. Nicholson, of Hull? In the first place, there is nothing in the history, nor in the symptoms, nor in the brief record of physical examination, which makes me in the least degree inclined to accept this as a case of pyosalpinx at all. Indeed, there is such an utter absence of reference to the leading features of pyosalpinx that I am certain we may conclude it was nothing of the kind. Certainly if it were a case of occlusion and distension of the tubes, the period which has elapsed between the operations and the publication of the case is far too brief to justify Mr. Nicholson in saying that the case is cured. The probability is that the case was one of double cyst of the parovarium suppurating, a condition by no means uncommon, but one which is perfectly easily differentiated from pyosalpinx. Even when these broad ligament cysts are filled not by pus but by serum, the appearance of cure by tapping is most delusive. Everyone who has much to do with them knows that they may be quiet for months or even years before they refill.

I have published a case in which I thought I had cured a broad ligament cyst by one tapping, but I had to remove it eight years afterwards, and I found the scar of the original trocar puncture, which proved conclusively it was the same cyst I had tapped before.

Mr. Nicholson will in all probability find that the result of his less heroic treatment will be unsatisfactory, and I know by a large experience that it is by no means less dangerous than the radical cure of removing such cysts by abdominal section.—I am, etc.,

LAWSON TAIT.

Birmingham.

MEDICAL EDUCATION OF WOMEN.

SIR,—As the information given in the JOURNAL of October 27th conveys rather a wrong impression regarding the Edinburgh School of Medicine for Women, I request your permission to explain that the "classes," which were organised two years ago, have now been merged in a completely equipped school, which forms an integral part of the Extra-mural School of Edinburgh. The Executive Committee have been fortunate in securing admirable premises for the school, comprising a circular lecture theatre, seated for more than one hundred students; a spacious hall, lighted from above, for anatomy; a large reading room and museum, with various smaller apartments.

The clinical teaching is conducted in the Leith Hospital, where no other students are admitted, and where four clinical lectures on medicine and surgery are delivered every week during the winter session. Clerkships and dresserships are open to the students without special fees.

The Edinburgh School of Medicine for Women has now twenty-three students.—I am, etc.,

SOPHIA JEX-BLAKE, M.D., Dean of the School.

Edinburgh School of Medicine for Women,
Surgeon Square, Edinburgh.

PARLIAMENTARY REPRESENTATIVES OF SCOTCH UNIVERSITIES.

SIR,—I have read with much pleasure the excellent letter of Dr. J. Anderson, in the JOURNAL of October 27th, every word of which will be heartily endorsed by hundreds of the electors. Some medical graduate of distinction, hailing from either University, is what is wanted, perhaps residing in London, and certainly not being an extreme politician; but, as long as the great body of the electors seem to regard the election from a political rather than from an academical point of view, I fear no such candidate will be forthcoming.—I am, etc.,

R. E. ENGLAND. M.D.Edin.

Dover.

THE MONOPOLY OF HOSPITAL APPOINTMENTS.

SIR,—Two correspondents have already called attention to the above eminently unsatisfactory condition of affairs.

Theoretically, at least, hospitals exist for two purposes—the treatment of the sick poor, and the education of the medical profession. In the opinion of the laity those doctors who are connected with hospitals possess the greatest knowledge and skill. No doubt the *élite* of our profession hold hospital appointments. But as it is generally the opportunities and surroundings which make the man, so it is considered that the performing of hospital duties elevates and improves the general tone.

Holding that the hospitals are for the intellectual improvement and financial benefit of medical men, I venture to suggest that a wider field of work should be opened for them. Some time ago I called attention to the above when writing regarding the Liverpool hospitals. It will scarcely be believed that there are only 94 visiting doctors connected with our 18 hospitals, and further, that many of this number are connected with one, two, or in some cases three, hospitals. I may add that there are only 24 resident, 39 consultants—these acting as visiting men to other hospitals—and 20 dental surgeons. In this city we have over 425 medical men, and a population of about 600,000. In 1885 the eighteen hospitals treated 11,376 in-patients and 244,831 out-patients. These figures show that there might be a much larger staff, and thus a shuffling over of work prevented. I have lately, in connection with the Sturge Prize Essay on the "Financial Condition of the London Hospitals," collected statistics from 130 of the London hospitals. I found from the 1886 reports that during the previous year 50,935 in-patients and 1,179,661 out-patients had received treatment. To attend to and treat this immense number there were 742 visiting, 138 resident medical men, and 83 dental surgeons. There were 287 consultants. These figures point to a disgraceful and contemptibly selfish condition of affairs when viewed in connection with "the liberal-minded profession." As long as this monopoly with its plan of rigid exclusiveness goes on, so long will it be found that medical men will establish hospitals for their own advancement, as is now done in America and Germany. And why not? A "hospital ring" is a wretched scheme; it degenerates into a system of trickery whereby their friends are hoisted into appointments, while it strives to exclude the promising and well educated men from attaining a rightful position. As long as the being on a hospital staff is considered to be the royal road to a good class practice, so long should this path be open to all who are anxious to advance.

In my opinion every respectable and highly qualified medical man in town and city should serve his five or eight years on a hospital staff. In this way the "higher education" would be open to all, the profession would be elevated, and the non-medical public would be benefited. At the same time, all those "catchy" and vexatious restrictions which now hinder men from taking the higher degrees should be withdrawn.

I would strongly recommend that medical men take every opportunity of educating the subscribing public, either by letter or by conversation, so that they may know fully the condition of affairs; for the man who thinks he is going to make any influence on the present hospital staffs so as to induce them to widen their portals is a fool, and deserves to be excluded.—I am, etc.,

ROBERT R. RENTOUL, M.D.

Liverpool.

A NEW METHOD OF TREATING YELLOW FEVER.

SIR,—In the JOURNAL of October 20th there is an article on the above, the method proposed by Dr. George Sternberg. Successful or not, it assuredly is not new, as I shall endeavour to show. As far as I have been able I have made yellow fever a lifelong study, my earliest observations being made in British Guiana, at the Seamen's Hospital, in 1863. Since then I have noted this disease elsewhere, in the West Indies generally. The alkaline and diuretic treatment was adopted in the colony above named in 1864-65 by my father, Dr. Dalton, F.R.C.S.Eng., details being published in the medical journals of the time—not that any original treatment was claimed.

In later years, during my experiences of yellow fever epidemics, I had a run of luck in my cases, solely, I believe, due to similar treatment. Some were published and read by me later before a medical society in England. Will you permit me to mention, as briefly as I can, the course of treatment adopted?

As a rule, in yellow fever, or bilious remittent fever of a malignant type, if by any means—local or otherwise—we can ensure

the kidneys acting beyond the third or fourth day, leaving the alimentary viscera alone—with the exception, perhaps, of giving some such mixture as soda, bismuth, and chloroform to allay nausea or vomiting, using sinapisms also, and ice—the chances of recovery are good. I generally prescribed a mixture containing bicarb. potass. and infus. or tinct. senegæ, and other diluents, as barley-water, lemonade made from fresh lemons, etc. Senega or snake-root has or had almost a specific reputation in some parts of America. I believe this to be due to its diuretic properties, especially if combined with an alkali.

The usual cause of death in yellow fever is what we, rightly or wrongly, used to term uræmic coma. Apart from this, there may be secondary causes of death, even during supposed convalescence, but these do not affect the main question. I look upon the kidney as the organ which suffers most, and actually causes death, and for that reason I have not touched on the liver, which also plays a most important part in the disease, but does not cause death.—I am, etc., HENRY DALTON, M.D., M.B., C.M.Edin.

Harrogate, October 20th.

NAVAL AND MILITARY MEDICAL SERVICES.

NAVAL, MILITARY, OR INDIAN?

D.M—Financially considered the Indian is perhaps the best of the three medical services. There are appointments in India which may be considered prizes; in the home army and navy there are none. A poor man would be better off in India. On the other hand, there are grave risks of climate during prolonged service in that country. The Army Medical Service is at present in a condition of change and great uncertainty, and it would be wise to wait and see how matters will again settle down. No man should enter the navy who is not assured he can stand sea life. Full particulars of the Indian Medical Service can be obtained on application to the Military Secretary, India Office, Whitehall, London; and of the Army of the Director-General, Army Medical Department, Victoria Street, Westminster; and of the Navy of Director-General Naval Medical Service, Avenue House, Northumberland Avenue, London.

CHANGES IN THE MEDICAL SERVICES OF THE ARMY.

Q.E.D., writing from India, says the increase in the terms of foreign service is directly against the ruling of Lord Herbert's Committee, which fixed five years in healthy (?) and three years in unhealthy climates. India, by some unknown process of reasoning, was reckoned among the former. The Warrant of 1858 also required three years service in a rank before retirement, unless the person retiring had served ten years abroad or five years with an army in the field. Will such provision be adopted in the new "reasonable period" scheme?

POST-GRADUATE COURSE FOR NAVAL MEDICAL OFFICERS.

ANOTHER SURGEON, R.N., writes: May I add a few words to the letter of "Surgeon, R.N.," in the JOURNAL of October 6th? The attending the course at Haslar would be quite thrown away, as no apparatus is supplied to the Naval Service for a quantitative analysis of water or air. The *post-mortem* examinations at Haslar are very few and far between, and the operations, except the very minor ones, are seldom done, men being in many more instances invalided out of the service with surgical complaints. There is no doubt that the present scheme is simply a very bad compromise for attending a recognised medical or surgical school, which was the original proposal, but it was found more economical (?), and will be falsely so, to have a haphazard attendance at a useless course, than allow medical officers to attend a course at their own hospitals (and obtain certificates to show they had actually attended), because for the few months they were so doing the navy would lose their services, and rather than do this allow them to get along as best they can. Besides, were it even desirable, there are never more than 5 per cent. of the surgeons in the service stationed at Portsmouth, and who, therefore, could ever attend this course, and these are at Haslar itself (morning fully employed) in the *Excellent*, either kept on board or away in a gunboat; in the *Vernon* the same, and in the *Duke of Wellington*, from which ship perhaps one might sometimes attend when not obliged to be an board or conveying patients to hospital. In fact, when the practical test is applied, it may be shown that perhaps 2 per cent. of surgeons in the service might attend, and that the thing is simply a blind; and on this point I would strongly insist, and to it particularly call your attention.

With regard to drugs, there is one matter which I am sure you, Sir, might help to insist on getting remedied. There is a total absence of many both modern and useful drugs, some of which I can enumerate: tinct. aconiti, cocaine, antipyrin, all tinctures or extracts of cinchona, cubebs, buchu, sandal-wood oil, Calabar bean (for the pupil), vinum ipecac., pepsin, all suppositories, chrysophanic acid, codeine, amyl. nit., and hosts of others, are totally excluded from the Naval Pharmacopœia, and I am sure you will agree with me that these ought to be supplied and not purchased (and that not often) by naval medical officers. I hope you will see your way to take this matter up and get the above faults and omissions rectified, as they are practical suggestions and for the good of the service.

FOREIGN MEDICAL REGULATIONS.

SURGEON J. HICKMAN (Sheerness) writes: In reply to "M.S." (query in JOURNAL of October 13th, p. 850), the Medical Regulations of the French Army are published by L. Buadoin et Cie., 30, Rue et Passage Dauphine, Paris. They are in three volumes, and cost 13 francs. Messrs. Williams and Norgate, 14, Henrietta Street, W.C., will procure any foreign regulations.

2. If the catalogues of MM. T. B. Baillière et Fils and M. Octave Doin be consulted a large number of works on military surgery and hospitals are there enumerated. Messrs. Williams and Norgate, too, publish a catalogue of foreign medical works.

3. The French army medical officers publish monthly an excellent magazine, *Archives de Médicine et de Pharmacie Militaires*, and the Germans the *Deutsche Militairaerztliche Zeitschrift*.

4. The most useful books for a medical officer to have for standard works of reference are *Hygiène Militaire*: Morache; and *Manœuvres d'Ambulance*: Robert

THE NAVY.

FLEET-SURGEON R. C. SCOTT, died of angina pectoris, at Acton, on October 22nd, aged 62. He entered the service on November 8th, 1847, became Staff-Surgeon, October 21st, 1854, and Fleet-Surgeon, April 12th, 1869. He retired on January 20th, 1876. He served in Sir E. Belcher's Arctic Expedition of 1852, for which he received the Arctic medal, and also in the Crimea in 1854 and 1855, receiving for his services the Crimea and Turkish medals. He was in the *Fury* in the Chinese war, and was present at the boat action of Fatshan Creek, and at the three attacks on the Peiho forts, in which he was landed with the storming parties. For his services in the latter war he had received the China medal, with the Fatshan and Taku clasps. By his death a Greenwich Hospital pension of £50 a year is placed at the disposal of the Admiralty.

THE MEDICAL STAFF.

HONORARY BRIGADE-SURGEON H. R. GREENE has been permitted to commute his retired pay, which was granted him on April 7th, 1886.

Surgeon J. RIORDAN, who is serving in the Madras command, has leave of absence for 182 days on private affairs, and Surgeon F. W. H. D. HARRIS, also serving in the Madras command, has leave for 162 days, on medical certificate.

Brigade-Surgeon R. WATERS, M.D., who is serving in Bengal, is appointed Administrative Medical Officer of the Quetta district.

Deputy Surgeon-General T. RUDD, M.D., is brought on the Administrative Medical Staff of the Bengal army, *vice* Deputy Surgeon-General E. H. Roberts, transferred to temporary half-pay.

INDIAN MEDICAL SERVICE.

THE retirement of Brigade-Surgeon H. V. CARTER, M.D., of the Bombay Establishment, which has been already announced in this JOURNAL, has received the approval of the Queen.

Brigade-Surgeon G. Y. HUNTER, of the Bombay Establishment, has retired from the service, which he entered as Assistant-Surgeon, July 23rd, 1858, attaining the rank of Brigade-Surgeon, February 7th, 1888. During the war in Abyssinia in 1867 he was Staff-Surgeon and Medical Storekeeper, and received the medal granted for that campaign.

Surgeon-Major CHARLES HATCHELL, of the Bengal Establishment, has also retired. His commission as Assistant-Surgeon dates from July 23rd, 1858, and as Surgeon-Major twelve years therefrom. He served with the Bhootan Expedition in 1865-66 (medal).

Surgeon-Major G. S. A. RANKING, M.D., Bengal Establishment, is appointed Medical Storekeeper at Meean Meer, *vice* Surgeon-Major C. W. S. Deakin, M.B., who has reverted to regimental duty.

The undermentioned surgeons, having completed twelve years' service, are promoted to be Surgeons-Major from September 30th:—Bengal Establishment: J. MOORHEAD, M.D.; C. H. BEATSON; C. W. OWEN, C.I.E., C.M.G.; and G. S. SAUNDERS. Madras Establishment: W. A. LEE and M. S. EYRE, M.B. Bombay Establishment: J. B. EATON, M.B.; O. H. CHARMER; E. W. YOUNG; H. M'CALMAN, M.D.; and D. R. ROSS, M.D.

Brigade-Surgeon C. P. COSTELLO, Bombay Establishment, is appointed Deputy Surgeon-General, with temporary rank, *vice* Deputy Surgeon-General A. Eteson, M.D., on furlough.

Surgeon M. J. KELAWALA, Madras Establishment, officiating in medical charge of the 12th Native Infantry, is appointed to the medical charge of the 4th Pioneers.

Surgeon-Major T. HUME, M.B., Madras Establishment, doing general duty at Kamptee, is appointed to the officiating medical charge of the 12th Native Infantry.

Surgeon M. P. KHAREGAT, Madras Establishment, doing duty at Quilon, is appointed to the medical charge of the 22nd Native Infantry.

Surgeon-Major E. J. VIVIAN, formerly of the Bengal Establishment, died on the 23rd ult., at the age of 63. He entered the service November 20th, 1850, became Surgeon-Major November 20th, 1870, and retired December 31st, 1872, on a pension of £292 per annum.

THE VOLUNTEERS.

MR. R. F. OWEN is appointed Surgeon (instead of Honorary Surgeon, as announced in the *London Gazette* of June 15th last) to the Liverpool Brigade of the Royal Naval Artillery.

Acting-Surgeon H. W. MANN, M.D., who joined the 1st Inverness Artillery June 5th, 1886, is now appointed Second Lieutenant in the same corps.

Acting-Surgeon W. J. BROWN, M.B., 4th Volunteer Battalion Durham Light Infantry (late the 4th Durham), is appointed Surgeon.

WATER-SUPPLY CONTAMINATED BY GAS.

THE whole of the wells in Clarence Victualling Yard, Portsmouth, from which Her Majesty's ships on the Portsmouth station are supplied, are so contaminated by gas that they have all been ordered to be closed immediately. The pipes supplying the victualling yard with gas were laid near the wells, and, as they had become old and leaky, the gas percolated through the soil, and tainted the water.

REGISTRATION OF PLUMBERS.—At the examination of plumbers for registration, held on Saturday, October 27th, at the Guild Institute, applicants were present from several towns of North and South Wales, Somerset, Stafford, and Hants, as well as from the metropolis and neighbourhood. One-half of the applicants succeeded in passing the examination.

MEDICO-LEGAL AND MEDICO-ETHICAL.

QUEEN'S BENCH DIVISION.

Before Mr. Baron HUDDLESTON and a Special Jury.

LOUIS *v.* THE GUARDIANS OF ST. MARYLEBONE.

THE plaintiff, a barrister, sued the guardians and their medical officer, Mr. W. Rayner, for £20,000, for alleged wrongful imprisonment in a lunatic asylum. The plaintiff alleged that at 10 P.M. on November 17th, 1885, he, being of perfectly sound mind, but in a state of physical exhaustion, and although not a pauper, was conveyed to a workhouse, and thence, two days later, to Hanwell County Lunatic Asylum, and there confined, the provisions of the Lunacy Acts applicable to paupers being, he alleged, put in force against him improperly, and without reasonable and probable cause, and the certificate of the medical defendant being inaccurate in every particular.

As reported in the *Standard*, the defendants said that, when admitted to the workhouse, the plaintiff was a pauper chargeable to the parish of St. Marylebone. They denied that the Lunacy Acts were put in force against the plaintiff improperly, or without reasonable or probable cause; and they denied that the certificate was incorrect in any particular. They pleaded that the information was given to the relieving officer as to the plaintiff's mind, and that he was destitute and homeless, and without friends and relations; that, in the discharge of his duty, the relieving officer saw and found the plaintiff to be of unsound mind, and not under proper care and control, and gave him an order of admission to the workhouse, and took the necessary steps under the Lunacy Act; the plaintiff being conveyed to the asylum under an order of a justice of the peace, who had called Mr. Rayner to his assistance, and had personally examined the plaintiff, and had come to the conclusion that he was of unsound mind. Further, it was set out that the medical certificate of unsoundness of mind had been given *bonâ fide*.

In his evidence and cross-examination, the plaintiff, amongst other things, spoke of his being in a state of exhaustion, at the time he was sent to the workhouse, brought about by overwork, by the excessive strain and anxiety that had been going on for some time, in reference to a seriously adverse concerted action that had been taken against him, although he preferred not to use the word "conspiracy," which, as he said, had a legal signification; and he said that a lady, and the head of a Catholic order, were the parties engaged in the combination referred to, the object being, it appeared, to persuade the mother (in a certain family) that witness and the father were plotting against her in order to get her shut up as being of unsound mind. From April to November, 1885, he said he was seriously harassed and troubled by this combination against him. He further stated that some boys hooted him on the street on November 17th, and that on November 10th, when at the asylum, he wrote that: "Dr. A—— was present, and assisted at the operation of transfusion of blood," upon him. This last, however, he now alleged was part of the phantasmagoria in nightmare, from which he suffered when sent to the workhouse.

His Lordship said the statements made in the medical certificate, on the plaintiff's own showing, were true.

Mrs. Bruce described the efforts she made to get the plaintiff taken into the lodgings he was then occupying, or into the houses where he had previously lived. Being unsuccessful, the only thing she could think of was to take him to the infirmary. Her statement, embodied in the medical certificate, was to the effect that the plaintiff rambled about, frequently talked to himself, chiefly on religious subjects, burst into tears without any apparent cause, and frequently knelt down.

After other evidence had been given, the Solicitor-General (for the defendants) submitted that there was no case, and after the plaintiff's address (for himself), the Judge said he had no hesitation in saying that there was no evidonce to go to the jury against the defendants, to show that they acted in bad faith, maliciously, and without reasonable and probable cause.....As to Mr. Rayner, there was nothing untrue in the certificate, and no evidence, therefore against him. He, therefore, directed the jury to find a verdict for the defendants.....Verdict and judgment for the defendants, accordingly.

HOWARD *v.* HILL.

(Before Mr. Justice KEKEWICH.)

THIS was an action brought by two of the governors of the Glamorganshire and Monmouthshire Infirmary (suing on behalf of themselves and the other governors, except such of them as were made defendants), and Mr. H. Collen Ensor, a surgeon, against Messrs. Edward Stock Hill, M.P., Louis Tylor, Alfred Tilly, Alfred Sheen, Thomas Henry Stephens, and J. Tatham Thompson. The infirmary is managed by a committee composed of the treasurer and twelve governors. By rule 19 a governor may vote by proxy at the election of the honorary medical staff, and the question on which the case really turned was as to the sufficiency of certain proxies given under the following circumstances:—

In the autumn of 1886 the governors were minded to add to the ordinary medical staff an honorary ophthalmic surgeon, and on November 10th a resolution was passed altering the rules so as to enable the governors to do this. Mr. Ensor canvassed the governors, and obtained from many of them proxies, which were intended by them to be used in his favour. The only other candidate was a Mr. Cant, who, finding himself in a minority, desisted from further attempts to obtain the appointment. On December 10th Mr. Ensor received the following letter from the secretary:—"I am directed by the committee to return your original testimonials and state that, inasmuch as only one application for the post of ophthalmic surgeon has been received, no action in the matter can be taken at present." The matter was again considered at the annual meeting of the governors, on January 26th, 1887, when it was resolved that a meeting for the purposes of the appointment should be held within three months. A notice inviting applications was issued on February 19th, 1887, to which only two candidates responded; namely, Mr. Ensor and the defendant, Mr. Tatham Thompson. On April 14th, 1887, a special general meeting was held for the purpose of electing an ophthalmic surgeon. One hundred and forty proxies (which if accepted would have turned the scale in Mr. Ensor's favour) were rejected on the ground that they were signed in November and December, 1886, and were to be used only in the election between Ensor and Cant: and Mr. Thompson was elected as ophthalmic surgeon. The plaintiffs contended that the proxies ought to have been allowed, and claimed a declaration that Mr. Ensor was duly elected as honorary ophthalmic surgeon or, in the alternative, that Mr. Thompson's election was invalid.

Mr. Barber, Q.C., and Mr. C. Herbert Brown were for the plaintiffs. Mr. Warmington, Q.C., and Mr. T. Rolls Warrington, for the defendants, were not called upon.

Mr. Justice Kekewich, in delivering judgment, said that if it had been necessary to decide the question whether the Court had jurisdiction in the case of a voluntary institution like this, his lordship would have called on Mr. Warmington. But the case must be decided on the question as to the proxies. The rejection of these proxies was valid. This was important, because if they had been accepted Mr. Ensor would have had a majority over Mr. Thompson. In no institution, voluntary or otherwise, was there a right to vote by proxy, except when it was expressly given by the instrument of settlement. In the present case it was given by the rules. A form of proxy was also given; but this was merely suggestive, and not binding, and any other clearly-worded form would have sufficed. The proxies were given to a person that he might exercise his discretion at a particular election, and say which person ought to be elected to the important office of ophthalmic surgeon. The proxy was not intended to be held for an immeasurable time. The whole idea was that it was to be a delegation of authority for a particular purpose—in this case for the election then in contemplation, and no other. The date when the proxies were signed—not the date of the actual election—was the important one. The persons who gave the proxies intended that they should be used at the election then in contemplation, but which never took place. Therefore, the case of the plaintiffs failed, and the defendants were entitled to judgment.

A DISPUTED AGREEMENT.

ESPERANCE asks for an opinion on the following clause of an agreement:—

1. "That the said A. shall employ the said B. as his general medical assistant in the practice carried on by the said A. at X. and its neighbourhood, and shall pay unto the said B. as salary the sum of £3 per week (to be paid weekly). The said B. shall furthermore be entitled to receive for his own use and benefit one half of all fees derived from midwifery cases, which shall be personally attended by him, and one half of all money and earnings for this and each succeeding year of this present engagement, which shall be in excess of

the total receipts derived from the practice during the year one thousand eight hundred and eighty-six, viz.—and at the end of each succeeding year a balance shall be struck showing the amount of such excess, and the said A. shall forthwith hand over one-half of such excess to the said B."

The said B. has received from time to time throughout the year his share of the midwifery fees. At the end of the year there is a certain increase. The said A. deducts from this increase about half, on account of these debts having been contracted before the said B. came to the practice. This B. agrees to as he thinks it fair.

Our correspondent asks whether the midwifery fees or any portion of them are to be deducted from the balance of the increase (after deducting old standing debts) before a division is made, according to the agreement.

*** The midwifery fees payable to B. ought to be deducted before striking the balance. Under the agreement, they are no part of the earnings of the practice but belong to B. individually. The amount to be divided is the excess of the net receipts, after deducting expenses and these fees, which strictly are not received for the partnership of all.

LOCUM TENENS AND INQUEST FEES.

DR. H. C. AND Mr. J. H. G.—An unbiassed critical examination of the written communications which have passed between Dr. C. and Mr. G., together with their respective personal statements, in reference to the conduct of the latter, as *locum tenens* to the former, leaves upon our mind the unpleasant conviction that Mr. G. has laid himself open to severe censure; for, irrespective of certain regrettable incidents during his tenancy, it is said not only was he morally wrong in retaining the inquest fee, but he would appear to have misled Dr. C. by the following statement contained in his letter of August 25th, namely, "I am at present acting as *locum* (*sic*) for four weeks with a Dr. S., who will recommend me, as he is very pleased with my management here;" an assertion the truthfulness of which is emphatically denied by Dr. S. in a note (now before us) of October 6th, in which he thus writes to Dr. C.: "I was very dissatisfied with his conduct, and refused to give him a testimonial when he left me. Among other things, I had some unpleasantness with him in reference to two inquest fees which he wanted to retain. I insisted, however, on having them, etc." We also note, with considerable regret, that the language used in his letter of October 5th to Dr. C. is, from our point of view, utterly indefensible; and, moreover, that availing himself of the knowledge derived from his position of trust, as *locum tenens*, to induce a personal friend to commence practice in opposition to Dr. C., was anything but high-principled. Mr. G. should also bear in mind that during the time in which he is engaged, he is morally bound not only to carry out the reasonable professional requests of his employer, but so to conduct himself socially as not in any way to reflect discredit on the latter.

THE DUTIES OF MEDICAL OFFICERS OF HEALTH TO OTHER PRACTITIONERS.

GENERAL PRACTITIONER writes: I am engaged in a large general and midwifery practice, and am surgeon to several clubs. Last winter a member of one of these clubs fell ill with small-pox. I refused to attend, and communicated with the medical officer of health, in order that the patient might be removed to the Small-pox Hospital. Instead, however, of impressing on the man and his friends the necessity of immediate removal, he treated him at his house as a private patient, and sent him a bill of £5 10s. The patient has since sent me the bill to pay, and has also been the means of my losing the club, and has induced the members to pass a resolution refusing to pay me my half-year's salary (£3) until I have paid the bill contracted by the member for medical attendance during his illness. Will you be good enough to inform me if I acted rightly in refusing to attend the above case, and whether I can recover my salary in the county court. I may add that owing to the man not being removed several other cases of small-pox occurred in the neighbourhood.

*** The duty to attend members of a club when suffering from infectious diseases must depend on the terms of the agreement with the club. It is impossible to say whether the salary is recoverable without knowing all the circumstances. The conduct of the medical officer of health seems most irregular, and should be reported to his authority and to the Local Government Board.

LEGAL REMEDY FOR INSUFFICIENT INTRODUCTION.

H.N.P. writes: Some time ago I purchased a practice represented as first class. A specified sum was paid for it, and also a certain sum for the six months introduction, the practice being virtually mine from date of agreement. The vendor "so far as possible," was to introduce me "all those persons who are or have been patients in connection with the said practice." The vendor, I now find, has failed to fulfil that part of the agreement, though there was nothing to prevent his doing so, as the patients to whom I received no introduction live in the near neighbourhood, and, in consequence, I think and know have gone elsewhere. By reason of this breach of the agreement on the part of the vendor, should I have any remedy in a court of law? I implemented my part of the agreement to the letter.

*** Damages could be recovered by action in the High Court of Justice on proof of breach of the agreement to introduce the purchaser of a practice to former patients. It would, however, be necessary to prove a general failure to introduce; merely pointing out the omission of one or two patients would not be sufficient.

FOREIGN DEGREES.

W. McD.—If a foreign medical degree is registrable in the United Kingdom, the holder is morally entitled thereto, and any attempt to prosecute him for assuming it would justly fail. The M.D.Brux. is now registrable, and our correspondent would do well to register it.

THE Victoria Home for Aged British Poor, which was proposed as a Jubilee memorial, is about to be opened in Paris.

UNIVERSITY INTELLIGENCE.

CAMBRIDGE.

AT a special congregation on Thursday, November 1st, Dr. Searle, Master of Pembroke College, was elected Vice-Chancellor in the room of Dr. Taylor, Master of St. John's College, who has served for two years. The new Vice-Chancellor assumes office on January 10th, 1888. The election was enlivened by the scarlet robes of the doctors, the day being the Feast of All Saints.

CRANE'S CHARITY.—A meeting of the distributors of Crane's Charity is announced for November 20th. The distributors propose to make grants "to poor scholars for their relief that are sick, for paying their physick diet or other things necessary for them in their sickness." The applications must be made by the tutors of their respective colleges, and must contain full particulars of the medical and other charges, and of the circumstances of the applicants.

THE theses of the gentlemen admitted to the degree of Doctor of Medicine last week (JOURNAL, page 967) are as follows:—Dr. Phillips, "The Management of Fibromyomata Complicating Pregnancy and Labour;" Dr. Mackenzie, "On Special Diagnosis in Acute Secondary Peritonitis:" Dr. Knaggs, "The Importance of the Peritoneal Effusions (1) after Abdominal Operations, (2) in Acute Peritonitis, (3) in Tubercular Peritonitis."

AT the matriculation on October 22nd, 862 freshmen entered their names on the register, and subscribed the University regulations. The medical students constituted one-seventh of the whole number.

EXAMINATIONS.—The following dates for examinations for Michaelmas term are announced:—First M.B. and second M.B., names sent in November 21st, certificates received November 29th, examination begins December 4th. Third M.B., part 1, names sent in November 28th, certificates received December 7th, examination begins December 11th. Third M.B., part 2, names sent in November 28th, certificates received December 8th, examination begins December 12th. M.C., names sent in November 28th, certificates received December 10th, examination begins December 14th.

HUMAN ANATOMY AND PHYSIOLOGY.—The Museums and Lecture-rooms Syndicate report that it has been represented to them by Professor Macalister and Professor Foster that the need for additional accommodation is becoming more urgent in each term. Plans were prepared by Mr. Fawcett, in 1884, for a building to include rooms for physiology, pathology, and comparative anatomy, together with a large lecture-room. As, however, pathology is to be accommodated elsewhere, these plans require modification, and no architect's plan has been as yet prepared for the buildings required for human anatomy. The Syndicate therefore recommend that they be authorised to confer with Professor Macalister and Professor Foster, and to take the advice of W. M. Fawcett, M.A., architect, with the view of obtaining complete plans and estimates for the required buildings which may be submitted to the Senate early in the Lent Term, 1889.

ST. JOHN'S COLLEGE: SCHOLARSHIPS AND EXHIBITIONS.—The following scholarships will be open for competition among students who have not commenced residence:—Foundation Scholarships: two of £80, two of £60, and two of £50, tenable for two years, and renewable for two years more. Minor Scholarships: four of £50 for two years. Exhibitions varying in number and value, according to the merits of the candidates and the number of vacancies. Candidates for scholarships must be under 19 years of age. This restriction does not apply to candidates for exhibitions. Besides scholars and exhibitioners, a certain number of sizars may be elected in accordance with the results of the examinations. Candidates who acquit themselves with credit will be excused the College entrance examination. Candidates may present themselves for examination in Classics, Mathematics, Natural Science, Hebrew, Sanskrit. In Natural Science the examination will include papers and practical work in Physics, Chemistry, General Biology, Botany, Zoology and Comparative Anatomy, Human Anatomy, Physiology, and Geology. A candidate may be elected on the ground of special proficiency in any one of the foregoing sciences; but every candidate must show a competent knowledge of two at least of the following subjects, namely: (1) Elementary Physics, (2) Elementary Chemistry, (3) Elementary Biology. [The range of the examination in Elementary Biology may be taken as defined by the contents of Huxley and Martin's *Course of Practical Instruction in Elementary Biology* (Macmillan).]

VICTORIA.

DEGREE OF M.D.—The dissertation of J. Hilton Thompson, M.B., "On the Excretion of Micro-organisms by the Kidneys, and their Relations to Changes in the Renal Cells and Albuminuria in the Infective Diseases," has been accepted by the Council as qualifying for the degree.

DONATION.—The Committee of the Paddington Green Children's Hospital have received a donation of £250, under the will of the late Miss Louisa McKellar.

OBITUARY.

FRANCIS WYLEY, M.R.C.S.Eng., L.S.A., J.P.

Mr. Francis Wyley, who died in his 78th year at his residence, the Charterhouse, Coventry, on Thursday, October 25th, was born near Stafford on July 23rd, 1810. Educated at Newport (Salop) School, he afterwards proceeded to Guy's Hospital and took the diplomas of M.R.C.S. and L.S.A. He practised in Coventry for some years as a surgeon. Then he joined his brother, Mr. John Wyley, in the business of wholesale chemists, and was senior member of the firm of Messrs. Wyleys and Co. up till the time of his death. Mr. Wyley's services were not confined solely to his business or to his profession, but he took a very active interest in local public matters. He sat on the Town Council for some years, and subsequently became an alderman. In November, 1860, he was unanimously elected Mayor—the year of great distress among the weaving industry. In his position as Mayor Mr. Wyley made a public appeal for funds, the result being the collection of a sum of £53,000. The deceased gentleman retired from the City Council many years ago. He was Chairman of Directors of the Coventry Union Banking Company, Chairman of the Cotton Spinning Company, Churchwarden of St. Michael's Church, towards the restoration of which he contributed £500, Honorary Secretary of the Corn Exchange, and filled many other offices of a more or less public character.

Mr. Wyley was twice married, first to Miss P. Fitzthomas, the youngest daughter of the Rev. E. H. Fitzthomas, and after her death to a daughter of Thomas Sharpe, the antiquarian. By his first wife he leaves three sons and one daughter.

FREDERICK GEORGE WILLIAM MULLAR, M.D.Ed., L.R.C.S.Ed.

We have to record the death of Dr. Frederick G. W. Mullar, a well-known and much-respected medical practitioner, residing at Oxford Road, Kilburn, at the age of 67. The deceased gentleman, who was an old pupil of Sir W. Fergusson's, took the diploma of L.R.C.S.Ed. in 1844, and the M.D.Ed. in 1845. He commenced practice in Kilburn in 1858. He held uninterruptedly the position of medical adviser to the local Foresters. Previous to 1874 he for many years held the position of medical officer for the Willesden district, and more recently, from 1881 till the time of his death, was the divisional surgeon for the X Division of the Metropolitan Police. He was also local medical examiner for Post Office insurances. He was Master Mason of the Lodge Canongate, Kilwinning, held in Edinburgh. Dr. Mullar suffered from an old-standing affection of the heart.

During the three or four weeks he was confined to his bed, Dr. Threadgale, of Brondesbury Road, was most assiduous in his attentions, Dr. Mitchell Bruce also seeing him in consultation. Dr. Mullar's funeral was attended by a large body of the Kilburn police and representatives of the Foresters.

PUBLIC HEALTH AND POOR LAW MEDICAL SERVICES.

CARBOLIC POISONING.

A poison of the most potent and deadly nature, on the reputation of its efficacy as a hygienic agent, is allowed unrestricted sale in its concentrated and highly destructive form, being as virulent a poison as oil of vitriol or nitric acid. The fatal facility with which this ministrant of health is obtained for the purpose of self-destruction has been amply demonstrated by the dozen or more cases that have occurred within the past month, nine of which are recorded as having taken place in Liverpool. One was that of a woman, named Jane Mealey, the mother of five children, one of whom, a girl of five, she sent to the chemist's for a pennyworth of carbolic acid, stating it was required to cleanse a closet. The woman had been in delicate health since the birth of her last child, and in a moment of aberration swallowed the deadly potion and died in excruciating agony.

A similar case is that of the widow Walsh at Liverpool, in which the carbolic acid was obtained with equal facility and with the same sad result. The only reason stated at the inquest was that the woman had been fretting because her daughter's husband was out of work.

Another case was that of a wool-sorter at Cleckheaton. A man named Hopkinson, returning home fatigued after his day's labour, went into his cellar and, mistaking a bottle of carbolic for one of whisky, took the contents, with fatal results. So also with Robert Winstanley, of Salford, who, groping in the dark for his cough mixture, swallowed a draught of carbolic acid instead, with like effect.

Another and more distressing instance is that of the death of James Jeffers in the Belfast Royal Hospital. In this case crude carbolic acid was administered to the suffering man by the hand of his nurse, either an unpardonable error on her part or the culpable negligence of the dispenser. Occurring in a large and important hospital, immediate help in this case was near at hand, but, in spite of all medical aid could do, the patient rapidly succumbed.

At the meeting of the Health Committee of the Liverpool City Council on October 13th, the Town Clerk reported the result of his inquiries, at the request of the Committee, respecting the restrictions, if any, placed upon the sale of carbolic acid, and called attention to the following: "That carbolic acid is not one of the poisons mentioned in the Schedule to the Pharmacy Act, 1868. That there is a provision in the Act which enables the Pharmaceutical Society by a resolution, with the approval of the Privy Council, to add any other poison to the list of those contained in the schedule." The Town Clerk wrote to the Pharmaceutical Society asking whether carbolic acid had been included in the list of poisons since the passing of the Act, and by a letter, dated September 12th, 1888, Mr. Richard Bembridge, the Secretary to the Society, informed the Town Clerk that the Society had, in February, 1882, resolved unanimously that carbolic acid should be included in the list of poisons to be placed under restriction, but that the Privy Council did not consider it desirable to add this article to the poison schedule. Had they thought it desirable, it would undoubtedly have greatly diminished the number of deaths that have since occurred through the inadvertent as well as intentional drinking of carbolic acid. It is, we cannot help thinking, high time that an influential deputation should wait upon the Privy Council to bring these recent and avoidable fatalities to its notice, with the object of immediately placing carbolic acid under the restrictions of the poisons named in the Pharmacy Act. At present, any child can freely obtain it at the chemist's or oil shop in pennyworths, on stating it is wanted for disinfecting purposes, or a like plea.

It should be remembered that there exists a cognate disinfectant which possesses all the valuable antiseptic properties of carbolic acid, many of them even in a higher degree, and entirely free from poisonous attributes. It is generally known throughout Germany and Austria under the name of creolin, but is of English origin, the manufacturers being Jeyes' Sanitary Compounds Company. Creolin is a coal-tar product obtained from the creasote-yielding parts of suitable varieties of English coal. From the so-called creasote fractions the poisonous constituent (carbolic acid) is entirely removed by fractional distillation. It comes into commerce in its undiluted state as a dark-brown, syrupy fluid of a not unpleasant tar-like odour, soluble in ether and in alcohol, and is entirely miscible in any kind of water, in all proportions. Milky clouds are at first generated, extending until a thorough emulsion is formed. It is both volatile and permanent. Laboratory experiments upon the action and value of the product as a disinfectant and antiseptic have been conducted by Professor Attfield, who states that it is a true germicide. One part in one thousand of water gave a solution in which he could not get germs to develop, and in killing the minute bodies believed to be the cause of infection, it is a true disinfectant. It prevents decay and putrefaction, and is, therefore, a true antiseptic. In Germany and Austria the valuable properties of creolin have been recognised and demonstrated by Fröhner, Von Esmarch, Max Kortum, Eisenberg, Jessner, Spaeth, Neudörfer Klamann, Breitung, Fischer, and others. The following extract is from a report on creolin by Professor Fröhner, of Berlin. Observing that, with a daily increasing mass of new medicinals, he entered with very great reserve on a thorough examination of this product from a chemical and pharmacological point of view, he states that an examination of three months convinced him that creolin may be considered a valuable enrichment of the medicine chest, and that, being entirely non-poisonous, he pronounces it to be the *beau idéal* of a disinfectant, and to be entirely preferred to carbolic acid. Dr. Fröhner states that it is valuable as an antiparasitic for epizoa, also for mange in dogs,

also sheep scab caused by sarcoptes, which yield readily to treatment with a 1 to 3 per cent. aqueous solution of creolin; and, in regard to national economy, he warmly recommends it for use in Australia, the Cape, New Zealand, and South America for destroying the most tenacious of all sheep scab mites, namely, dermatodectes ovis. Dr. Fröhner also advises a 3 per cent. solution of creolin in place of carbolic acid for operations, wounds, abscess-cavities, necrosis of bone, and severe inflammation of the skin. Also, as an inhalation for infectious bronchitis and broncho-pneumonia, and for many other purposes for which reference may be made to the original report in the Archives of Scientific and Practical Surgery, Berlin, 1887.

The report of Prof. Von Esmarch indicates that creolin proves more efficacious than carbolic acid in the destruction of various micro-organisms, such as bacteria, bacillus, anthrax spores, etc. Commercially, it is cheaper than carbolic acid, and relatively more effectual, inasmuch as a 3 per cent. solution of creolin equals a 5 per cent. solution of carbolic acid.

OPHTHALMIA IN POOR-LAW SCHOOLS.

An inspection has just been made of the Central London District Poor-law Schools at Hanwell, with a view to ascertain what remedy could be found for the present serious prevalence of ophthalmia among the children. The report of Dr. Bridges, the medical inspector of the Local Government Board, and Mr. Smith, the architect, was read at a meeting of the managers of the schools on Monday. From this report it appears that out of 2,649 distinct cases of ophthalmia at the schools during the last thirteen years, only 539 could be traced as being imported, the remainder having arisen from contagion within the school buildings, and that although iron huts had been erected and a comparative separation of ophthalmic cases effected in 1875, the above figures showed that the results had not been successful. Dr. Bridges is of opinion that ophthalmia is not a necessary evil in poor-law schools, and he alludes to Anerley Schools, where, by the adoption of a complete system of separation and special attention to this particular disease, it was practically stamped out, there being no cases of ophthalmia at Anerley at the present time. Dr. Bridges now proposes that the managers of the Hanwell Schools should provide separate buildings for the treatment of ophthalmia, or that a separate establishment should be erected for infants, and that, under any circumstances, three large attic rooms at Hanwell Schools containing 300 beds should at once be abandoned as dormitories. The main building, Dr. Bridge suggests, should be recast into three portions—a centre block for administrative purposes, and two wings adapted for boys and girls respectively.

Several schools are mentioned in the report as having been erected on improved lines to cope with the disease—Hornchurch for Shoreditch, Leytonstone for Bethnal Green, Leicester, King's Norton, and Birmingham.

THE MEDICAL OFFICER OF HEALTH OF RUTHIN.

Ruthin has just furnished an illustration of the difficulties and discouragements encountered by medical officers of health under the present system of appointments. Dr. J. Lloyd Roberts has held the post of medical officer of health for the Ruthin urban sanitary district since 1876. But as he was not appointed under the general order of the Local Government Board, the Town Council have hitherto had to pay the whole of his salary of £25 a year; and hence the Council early in the present year desired, in their own interest, to bring the appointment under the orders of the Local Government Board, in order to obtain from that Board a repayment of a moiety of the officer's salary. To effect this end a fresh appointment after public advertisement was necessary; and to facilitate the process Dr. Roberts resigned, under the impression, however, as explained by the Mayor at the recent meeting of the Town Council, that it was only a formality that he was going through, and that he would in due course be reappointed. In this, however, he was disappointed; for a practitioner resident in Ruthin applied for the post and was chosen. No serious complaint seems to have been brought against Dr. Roberts, except that he was non-resident, but, on the contrary, in the words of the Mayor, he "has performed his work exceedingly well." He has undoubtedly given great attention to sanitary matters during the past sixteen years, and his reports and other papers have shown that he has not only given conscientious attention to his ordinary duties in the sanitary districts for which he has acted as medical officer of health, but has at the same time taken note of the broader sanitary questions that have come under his observation. Unfortunately, the risk of encountering inconsiderate treatment at the hands of sanitary authorities frequently deters competent medical men from entering the ranks of medical officers of health.

DEATH UNDER CHLOROFORM.

The death of a woman, named Petch, at East Butterwick, Retford, while under the influence of chloroform, was the subject of a coroner's inquiry on October 17th. The evidence given by Dr. Thomas Murray Robertson, late assistant house-surgeon at the Darlington Hospital, was to the effect that thirteen months ago, when first called to the deceased, he found her in exceedingly bad health, not having been able to walk for years—he believed five—and having suffered during that time from ulcers upon her legs. In addition the patient had, for about two months, unknown to him, extreme stiffness of both knee-joints, the limbs being so contracted that walking was impossible. Dr. Robertson treated the sores successfully, and she then told him of the condition of her knees, and asked if he could do anything for them. He replied that they could be forcibly straightened under chloroform, and she expressed herself anxious to have this done. Taking Mrs. Robertson (who had "been accustomed to seeing surgical work at the Newcastle Royal Infirmary, and at a large provincial hospital, of which she was lady superintendent of nursing") with him to the house, every precaution was taken, and a chloroform mixture known as the A.C.E. mixture was administered on flannel, loosely placed over the lower part of the face, as being considered the least dangerous. The deceased "went under" in about eight minutes. He immediately proceeded to straighten her left knee, Mrs. Robertson, at his request, watching the patient's breathing. The deceased's left leg being straightened in about a minute, he put it on a back splint, and no chloroform was at this time given. Mrs. Petch began to regain consciousness, and he decided to proceed with the second limb. A little more chloroform was given; she was got under, and he straightened her right leg. No more chloroform was given. The deceased was recovering from the chloroform, when Mrs. Robertson called his attention to her condition. Fearing failure of the heart's action, he applied nitrite of amyl and strong ammonia to the nose, with cold applications to her forehead, and began artificial respiration, which was kept up for about three-quarters of an hour. The patient, however, never rallied. The coroner in summing up, observed that it is more usual in towns, where doctors are plentiful, for a second practitioner to be present; but in the country, and where expense is an object, the presence of a second practioner is frequently dispensed with, and thus the doctor has not the advantage or safeguard of a fellow practitioner to support his view that all due care was taken in the administration. A verdict of "death by misadventure," was returned.

Comment on the above case is somewhat difficult, as some of the most important details of information are omitted. We cannot, however, but feel that Dr. Robertson acted most imprudently in undertaking single-handed an operation requiring anæsthesia. It should not be the function of any lady superintendent of nursing to preside over the anæsthetisation of a patient, and so dangerous an assumption cannot be too strongly discountenanced. In many operations, such as in this case, little or no danger to life is involved by the operative measures, whereas every administration of an anæsthetic, unless skilfully carried out and closely watched, jeopardises the patient's life. For his own sake, as well as for his patient's, a medical man should refuse to administer an anæsthetic and operate unless assisted by a qualified medical man.

MEDICAL NEWS.

Royal College of Physicians of London.—The following gentlemen having conformed to the by-laws and regulations, and passed the required examinations, were, at a meeting of the College on October 25th, admitted Licentiates, namely:—

Adamson, Horatio George, St. Bartholomew's.
*Andrew, Francis Charles, Manchester.
Barker, Frederic, St. Thomas's.
*Beaver, Robert Atwood, Liverpool.
Blaxall, Frank Richardson, University College.
Boycott, Arthur Norman, St. Thomas's.
*Bray, Hubert Alaric, King's College.
Briscoe, John Edward, Leeds.

Broadway, Sigismund Alexander William Edward, Charing Cross.
*Burland, Herbert, Manchester.
*Cahill, William Arthur, Guy's.
Cant, Frederick, Manchester.
*Cheale, Montague, St. Bartholomew's.
*Cheatle, Arthur Henry, King's College.
*Cheetham, Charles Francis, Manchester.
Cholmeley, William Frederick, St. Bartholomew's.
Clapham, John Thurlow, St. Bartholomew's.
*Collington, Frank Arnott, Guy's.
*Cooke, Montague Percy, Middlesex.
*Cooke, Thomas Alfred Burnard, Guy's.
Copeland, William Henry Lawrence, St. Thomas's.
Corner, Harry, London.
*Cressy, Charles James, Guy's.
*Cross, Edward John, St. Thomas's.
*Day, Francis William Henry Langston, University College.
Douty, Edward Henry, Cambridge and Middlesex.
Dowling, Edward Alfred Griffiths, St. Bartholomew's.
Dugan, Francis, Guy's.
Eaton, Oliver, Manchester.
*Farmer, Frederick Reginald, Guy's.
*Farrar, Reginald Anstruther, St. Bartholomew's.
Firth, John Lacy, King's and University Colleges.
Foster, Michael George, Cambridge and University Colleges.
Franklin, Lawrence, St. George's.
*Gomez, Anthony Clement, University College.
*Gornall, John Pegge Joseph, Manchester.
Gott, Henry, Leeds.
*Grant, Hope, Edinburgh and London.
Graves, Charles, St. Mary's.
*Grosvenor, Wilshaw William, St. Bartholomew's.
Halley, William, Charing Cross.
*Hanson, Arthur Stephen, St. Mary's.
Hayward, Charles William, Edinburgh and Liverpool.
*Heasman, William Gratwicke, St. Bartholomew's.
Hewer, Alfred Earnshaw, St. Bartholomew's.
Hewlett, Clarence William, Guy's.
*Hill, George Leonard, Birmingham.
*Hodgetts, Charles Alfred, Toronto, Canada.
*Hudson, Frank Horace, Bristol.
Humphrey, George Herbert, St. Bartholomew's.
Hutt, Charles Edward, St. Bartholomew's.
Johns, John Francis, London.
Joslen, Hubert, Guy's.
*Keller, Otto Eugen, Zurich and Leipzig.
Kemp, George Lajus, Guy's.
*King, Richard Henry, St. Bartholomew's.
*Le Feuvre, William Philip, Guy's.
Lewis, Benjamin Morgan, University College.
*Liston, Waller Lawrence, St. Mary's.
Locke, Charles Alfred, University College.
*Mackay, Percy Barnard, St. George's.
Metcalfe, George, Newcastle.
Miers, Arthur, Leeds.
Morland, Charles Henry Duncan, St. George's.
Nicholls, Alfred Robert, Middlesex.
*Norton, Henry Harvey, St. Mary's.
Nuttall, Alfred Edward, St. Bartholomew's.
Ogle, Cyril, St. George's.
*Oliver, George Henry, Leeds.
Ormerod, Charles Evelyn, St. Bartholomew's.
*Owen, Harold Edward, London.
Owen, John Lewis, Edinburgh.
*Padbury, George John, Guy's.
*Parry, Albert Alexander, Melbourne.
Pearse, Albert, St. Bartholomew's.
*Pedley, Samuel Edward, Guy's.
*Phipps, Henry Hostache, University College.
Prosser, Astley Bennett, Birmingham.
*Quirk, Thomas Augustus, St. Bartholomew's.
Reed, John Sleeman, University College.
Reynolds, Ernest James, London.
*Rigby, William Bradshaw, St. Bartholomew's.
*Rilot, Charles Frederick, Middlesex.
Ring, John, Middlesex.
*Roberts, Richard Lewis, University College.
Robertson, John, Guy's.
*Rolston, Thomas Restarick, Guy's.
Scott, Thomas Wilfred, St. Bartholomew's.
Shaw, John Custance, St. Bartholomew's.
*Slyman, William Betenson, St. Bartholomew's.
Smith, Herbert Arthur, King's College.
Spencer, Thomas Edward, St. Bartholomew's.
*Staniforth, John William, Sheffield and St. Thomas's.
Stevens, William Edward, Bristol.
Thompson, George Hobson, St. Bartholomew's.
Thorp, Charles Glover, Guy's.
Tunnicliffe, Francis Whittaker, St. Bartholomew's.
Turner, Edgar Olive, University College.
Walker, Alexander Hope, Charing Cross.
*Ward, Walter Fisher, St. Thomas's.
Watkins, Walter, St. Bartholomew's.
Wells, Frank Barber, University College.
Williams, Robert Edwin, Guy's.
Wright, Thomas Nesbitt, Guy's.
*Young, James, Manchester.

* Candidates who have not presented themselves under the regulations of the Examining Board.

SOCIETY OF APOTHECARIES OF LONDON.—The following gentlemen, having satisfied the Court of Examiners as to their knowledge of the Science and Practice of Medicine, Surgery, and Midwifery, received Certificates entitling them to practise as Licentiates of the Society, in October, 1888.

Baly, Price Prichard, Queen's College, Birmingham.
Burrowes, Henry Ambrose, Royal Infirmary, Liverpool.
Chamberlain, Edward Beatty, London Hospital.
Lee, Henry Boynton, Sheffield and Leeds.
MacLeod, Harold Hay Brodie, King's College Hospital.
Mead, Theophilus William, St. George's Hospital.
Potter, Paul de Cressé, Manchester Infirmary.
Raynes, Sidney Herbert, London Hospital.
Williams, John Cobden, Royal Southern Hospital, Liverpool.

The following passed in the primary examination in Chemistry, Materia Medica, Botany, and Pharmacy.

J. M. Bennett, Liverpool; W. M. Wrench, St. Thomas's Hospital.

In Anatomy and Physiology.

G. H. Brand, King's College; P. D. Burrell, St. George's Hospital; W. F. Cotton, St. Bartholomew's Hospital.

In Anatomy.

R. M. M. B. Hicks, St. George's Hospital.

In Physiology.

E. A. R. Covey, St. Bartholomew's Hospital; J. D. Nicolas, King's College.

In the final examination the following passed in Surgery.

B. M. Basu, Lahore Medical College, Punjab University and Guy's Hospital; J. H. Dawber, Middlesex Hospital; H. R. Henley, King's College; A. E. Joscelyne, London Hospital; Edward Molyneux, Liverpool University College; A. E. G. Roberts, St. Mary's Hospital; E. C. Stone, Women's Medical College, Toronto; H. B. T. Symonds, Charing Cross Hospital and Aberdeen.

In Medicine, Forensic Medicine, and Midwifery.

J. C. Gilmour, Guy's Hospital.

In Medicine and Forensic Medicine.

Edward Molyneux, Liverpool University College.

In Medicine and Midwifery.

F. G. Twigg, London Hospital.

In Midwifery.

E. C. Stone, Women's Medical College, Toronto; G. C. Stephen, McGill University, Montreal; W. H. Coates, Durham University and London Hospital.

MEDICAL VACANCIES.

The following Vacancies are announced:

CHELSEA HOSPITAL FOR WOMEN, Fulham Road.—Three Clinical Assistants. Fee, 5 guineas for three months. Applications by November 3rd to the Acting Secretary.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Assistant Physician. Applications by November 16th to the Secretary, 24, Finsbury Circus, E.C.

DENTAL HOSPITAL OF LONDON AND SCHOOL OF DENTAL SURGERY, Leicester Square.—Lecturer on Mechanical Dentistry. Applications by November 12th to the Dean.

FEMALE LOCK HOSPITAL, Harrow Road. — Assistant House-Surgeon. Board and lodging. Applications by November 3rd to the Secretary.

KENSINGTON DISPENSARY.—Honorary Surgeon. Applications to F. Leach, Esq., Honorary Secretary, 7, Stanford Road, Kensington Square, by November 30th.

LANCASHIRE COUNTY ASYLUM, Rainhill, near Liverpool. — Resident Medical Superintendent. Salary, £1,000 per annum, with certain allowances. Applications by November 21st, to W. Swift, Esq., Clerk to the Committee, 11, Dale Street, Liverpool.

LEEDS FRIENDLY SOCIETIES' MEDICAL ASSOCIATION, Bischoff House Surgery.—Surgeon. Salary, £200 per annum, with extras and travelling allowances. Applications by November 13th to C. H. Wilson, Esq., 8, South Parade, Leeds.

MEDICAL INSTITUTE OF ANCIENT ORDER OF SHEPHERDS, Bristol.—Medical Officer. Salary, £140, and unfurnished residence. Applications by November 7th to Mr. E. Sage, 6, Alma Street, Stapleton Road, Bristol.

ST. MARK'S HOSPITAL FOR FISTULA, City Road, E.C.—Honorary Assistant Surgeon. Applications by November 5th to the Secretary.

TOBERCURRY UNION.—Medical Officer to Coolaney Dispensary. Salary, £120 per annum, and fees. Applications to Honorary Secretary, Dispensary Committee. Election on November 15th.

VICTORIA UNIVERSITY.—Joint Lecturer on Forensic Medicine. Applications to the Registrar of the Yorkshire College.

WILTS COUNTY ASYLUM, Devizes.—Second Assistant Medical Officer. Salary, £100 per annum, with board and residence, etc. Applications by November 5th to the Medical Superintendent.

MEDICAL APPOINTMENTS.

ALEXANDER, James Whitelaw, L.R.C.P.Edin., L.R.C.S.Edin., L.F.P. & S.Glas., appointed Resident Clinical Clerk, West Riding Lunatic Asylum, Wakefield.

BLAIKIE, R. H., M.D., F.R.C.S.E., appointed Surgeon to the Ear and Throat Department, Royal Public Dispensary, Edinburgh.

BRISCOE, J. E., M.R.C.S., L.R.C.P., appointed Resident Obstetric Officer to the General Infirmary, Leeds, *vice* O. Booth, M.R.C.S., resigned.

BROWN, John, M.B.Vic.Univ., L.R.C.P.Lond., etc., appointed Physician to the Sourhall Fever Hospital, Bacup, and reappointed Medical Officer of Health for the borough of Bacup.

CLAYTON, C. H., M.R.C.S., L.R.C.P., appointed Assistant Resident Medical Officer to the North-West London Hospital, *vice* E. P. Furber, M.R.C.S., L.R.C.P., resigned.

FOWLER, W., M.B., C.M.Cantab, B.Sc.Lond., F.R.C.S.Eng., appointed Dispenser to the Seamen's Hospital Society, Well [Street, London Docks, *vice* C. E. Coles, C.M., resigned.

FOX, W. Piercy, L.R.C.P., L.R.C.S., appointed Medical Officer to No. 6 District, Lambeth, *vice* W. Arthur, M.R.C.S., L.S.A., resigned.

FURBER, E. P., M.R.C.S., L.R.C.P., appointed Senior Resident Medical Officer to the North-West London Hospital.

HENSLEY, A. E., M.R.C.S., L.S.A., appointed House-Surgeon to the Padding ton Green Children's Hospital, *vice* G. A. Sutherland, M.B., C.M., resigned.

HUDSON, F., M.R.C.S., L.R.C.P., appointed House-Surgeon to the Leeds General Infirmary, *vice* B. G. Moynihan, M.B.Lond., resigned.

JOHNSON, A. R., M.B., B.Ch.Dub., appointed Resident Medical Officer to the Infirmary, Lower Road, Rotherhithe, *vice* R. J. Shepherd, M.D., resigned.

KAUFFMANN, O. J., M.R.C.S., M.B.Lond., appointed Resident House-Physician to the Seamen's Hospital Society, Greenwich, *vice* E. F. Trevelyan, M.B., M.R.C.S., resigned.

LEWIS, E. J., M.B., M.R.C.S., appointed Honorary Medical Officer to the Kilburn General Dispensary.

MENZIES, J. B., L.R.C.S., L.R.C.P., appointed Resident Medical Officer to the Western Dispensary, Rochester Row, S.W., *vice* P. R. Mander, M.R.C.S., L.R.C.P., resigned.

ROBINSON, N. B., M.R.C.S., L.R.C.P.Lond., appointed Assistant House-Surgeon to the Cheltenham General Hospital, *vice* E. J. Tatham, M.B.Cantab, resigned.

SUZUKI, S. M., M.R.C.S., L.R.C.P.Lond., appointed Fleet-Surgeon, Imperial Japanese Navy, and commissioned as Superintendent to Tokio Naval Hospital, and Professor to Naval Medical College, Tokio; also Assistant-Physician to Tokio Charity Hospital.

TEMPLE, G. H., M.B., C.M., appointed House-Surgeon to the Weston-super-Mare Hospital and Dispensary, *vice* W. J. A. Adye, M.R.C.S., L.S.A., resigned.

THOMPSON, W., M.R.C.S., L.R.C.P., appointed House-Surgeon to the Leeds General Infirmary, *vice* A. S. Barling, M.R.C.S., L.R.C.P., resigned.

THYNE, T. J., M.B., C.M.Edin., appointed Medical Officer to the Parochial Board and Local Authority of the parish of Cramond, N.B., *vice* Thomas Russell, L.F.P.S.Glas., and L.M.

WALKER, R. E., M.R.C.S., L.R.C.P.Lond., appointed House-Physician to the Leeds General Infirmary, *vice* W. Thompson, M.R.C.S., resigned.

WILD, R. B., M.D.Lond., B.Sc., appointed Pathological Registrar to the Manchester Royal Infirmary, *vice* T. Harris, M.D.

PROGRESS OF CREMATION.—The building of the new chapel, waiting rooms, and lodge, in the grounds of the Cremation Society at Woking, is approaching completion. Fifty-one bodies have already been cremated. The erection of a crematory at Leicester for the midland counties is to be considered at a public meeting on November 6th, and in Glasgow the Scottish Burial Reform and Cremation Society, formed last August, is arranging for the immediate erection of buildings, including a chapel and columbarium, on a picturesque site adjoining the cathedral.

THE sale of Sir Morell Mackenzie's book is said to have reached nearly 100,000 copies in the first fortnight of its issue. We are informed that the Empress-Queen Frederick has sent the author a long autograph letter expressing her complete approval of the manner in which he has performed his difficult task, and confirming some of his statements by her own independent knowledge.

THE Prince of Wales, when in Paris recently, visited M. Pasteur's Laboratory and Institute. His Royal Highness was present at the inoculation of numerous patients suffering from the bites of rabid animals, the circumstances of each case being explained to him by M. Pasteur in person. After leaving the laboratory, the Prince proceeded to the Pasteur Institute, which will shortly be opened.

PRESENTATION.—Dr. Adams, on severing his connection with the Ashburton and Buckfastleigh Cottage Hospital, with which he has been for some years associated, has been presented with an address from the officers of that institution, expressing regret at the loss of his valuable services.

DISCLAIMER.—The Registrar of the Royal College of Veterinary Surgeons begs to state that Charlton Powell, mentioned in our issue of October 13th, in a paragraph headed "A Burial Scandal," is not a member of that college.

DONATION.—The Committee of the French Hospital and Dispensary, Leicester Place, Leicester Square, have received a donation of £400 from the trustees and executors of the late Miss Louisa McKellar.

DUMBARTONSHIRE MEDICAL ASSOCIATION.—A meeting of the Dumbartonshire medical men was held in the Elephant Hotel, Dumbarton, on Friday, October 19th, when steps were taken to form a Dumbartonshire Medical Association. The following gentlemen were elected office-bearers: *Honorary Presidents:* Sir G. H. B. Macleod, M.D., Glasgow; Professor McCall Anderson, M.D., Glasgow. *President:* W. A. MacLachlan, M.D., Dumbarton. *Vice-Presidents:* Dr. Cameron (Old Kilpatrick); Dr. McLellan (Alexandria). *Secretary:* James MacLachlan, M.B. (Bonhill). *Treasurer:* Dr. R. Allan (Dumbarton). *Committee:* W. Butchart, M.A., M.B. (Clydebank), Drs. James Wilson (Dumbarton), Gilmour (Duntocher), Stevenson (Clydebank), Wyllie (Clydebank).

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 8.30 P.M.—Dr. Bull (New York): The Surgical Aspect of Typhlitis and Perityphlitis. Dr. Gulliver: A Case of Ascites presenting some Unusual Features.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN, 8 P.M.—Mr. F. J. Bennett: On Certain Points Relating to the Structure of Dentine. Mr. Boyd Wallis: Casual.

TUESDAY.

PATHOLOGICAL SOCIETY OF LONDON, 8.30 P.M.—Specimens.—Mr. Sheild: Complete Rupture of Left Bronchus from Fractured Rib. Dr. Griffith: Tubercle of Ovary. Dr. H. Habershon: Aneurysm of Aorta Rupturing into Pericardium. Dr. H. Weber: Hydatid Cyst of Brain. Dr. Mott: Two Cases of Mediastinal Growth. Dr. A. Money: Mediastinal Sarcoma in an Infant aged 15 months. Dr. Crocker: Case of Paget's Disease affecting the Scrotum. Card Specimens.—Dr. M. Murray: Fatty Tumour in Wall of Stomach. Dr. Perry: Two Specimens of Acute Intestinal Obstruction produced by Adhesions between Appendices Epiploicæ. Mr. Targett: Internal Rupture of Liver.

WEDNESDAY.

OBSTETRICAL SOCIETY, 8 P.M.—Specimens will be shown by Dr. Cullingworth and others. Mr. Albau Doran: On Myoma and Fibro-Myoma of the Uterus, and Allied Tumours of the Ovary. Dr. Matthews Duncan: On Locking, Retroversion, and Strangulation of Uterine Fibroids in the Pelvic Excavation. Mr. Meredith: A Case of Locked Fibroid treated by Supravaginal Hysterectomy.

THURSDAY.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 8.30 P.M. Patients and Card Specimens at 8 P.M. Mr. Lang: On Excision of a Corneal Staphyloma. Messrs. Critchett and Juler: Case of Pseudoglioma. Papers.—Mr. Swanzy: On a Case of Conjugate Lateral Deviation, probably due to a Congenital Lesion. Mr. Lang: 1. On the Suspensory Ligament and Ciliary Process as seen after the Removal of the Iris. 2. On Large Circular Hæmorrhages in the Yellow Spot Region. Mr. Berry: On Prince's Operation for Advancement of Recti Muscles.

FRIDAY.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 9 P.M.—Special Meeting for the delivery of the Bowman Lecture by Henry R. Swanzy, Esq., of Dublin: On the Value of Eye Symptoms in the Localisation of Cerebral Disease.

CLINICAL SOCIETY OF LONDON.—Mr. E. H. Fenwick: Case of Encysted Stone. Mr. Buckston Browne: Case of Encysted Calculus removed by Suprapubic Lithotomy. Dr. Bristowe and Mr. Victor Horsley: Case of Paralytic Rabies in Man. Living Specimens.—Dr. J. J. Pringle: Xeroderma Pigmentosum. Dr. T. D. Savill: Hysterical Contraction and Hystero-Epilepsy in the Male.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTH.

GRIPPER.—On 29th October, at Wallington, Surrey, the wife of Walter Gripper, M.B.Camb., M.R.C.S., etc., of a son.

MARRIAGES.

MANSELL—HAY.—On October 24th, at the English Church, Lausanne, E. R. Mansell, M.R.C.S., of Hastings, to Honorine M. Hay, of Lausanne.

SIMPSON—JAMIESON.—On the 10th September, at Toorak Presbyterian Church, Melbourne, by the Rev. J. Ewing, W. J. Simpson, M.D., Calcutta, to Mary fourth daughter of the Rev. George Jamieson, D.D, old Machar Cathedral, Aberdeen, Scotland.

WEARING—HART.—On October 31st, at St. Paul's Church, Grange-over-Sands, by the Rev. J. Noble, brother-in-law of the bridegroom, and by the Rev. Canon Cooper, vicar of Grange, Allen Wearing, M.R.C.S.Eng., of King Street, Blackburn, to Elizabeth, eldest daughter of Thomas Hart, Esq., of Yewbarrow, Grange-over-Sands.

DEATHS.

WILLIAMS.—October 19th, at The Elms, Wheatley, Oxon, Leonard Williams, M.A., M.B.(Cambridge), aged 42.

WYLEY.—October 25th, at the Charterhouse, Coventry, Francis Wyley, M.R.C.S.E., L.S.A., aged 78.

QUERIES.

LEAD-POISONING.

A. H. asks whether a person living in a house where a good deal of painting takes place can contract lead-colic, other causes being excluded.

TREATMENT OF BALDNESS.

A MEMBER asks for hints on treatment of baldness rapidly coming on in a gentleman, aged 23. There is no specific history, nor does it seem the result of any sequela; it only commenced a few months back, and at the present rate of progress he will be entirely bald in another six months. The hair comes off uniformly, and not in patches.

TREATMENT OF CORNS.

M.R.C.S. writes: I should feel extremely obliged to anyone who would inform me as to the best treatment of corns situated on deformed toes in old people.

PRACTICE AND LIFE IN NEW ZEALAND.

MR. W. BARTLETT (Marsh House, Newcastle, Staffordshire) writes: Would any of your readers who have lived in New Zealand kindly give me particulars as to mode of life, and if a man with moderate capital would make a living practising or farming? I should be glad of any information, privately or publicly.

PARISH NURSES.

DR. FRANCIS MEAD (Mortimer House, Bishop's Lydeard, Taunton) asks for information respecting a parish nurse. She would be required to devote her attention to the sick poor, and not engage in midwifery. He would like to know what salary is usually required in such cases (hospital training), and would also feel much obliged if any medical man having such a nurse in his district could forward him the usual code of rules observed.

ANSWERS.

DR. SMYTH (Shipley): We have not got the information desired.

DR. J. M. L.—*Lunacy in Many Lands* is published by Charles Potter, Government Printer, Sydney, N.S.W., Australia. We are unable to state the price.

MEDICAL PRACTICE IN SOUTH AMERICA.

C.E.F.S.—The conditions under which the holder of a British qualification is permitted to practise in the Argentine Republic were stated by a correspondent in a communication published in the JOURNAL of December 10th, 1887, p. 1315.

IRRITABLE ULCER AND COCAINE.

A.M.S. asks whether any deleterious result may be apprehended from painting an irritable ulcer with a 4 per cent. solution of cocaine. The ulcer covers a large surface. Has cocaine a cumulative action?

*** As the ulcer covers a large surface it would be better to apply a 2 per cent. solution, not oftener at first than once daily. No deleterious result might follow the application of a 4 per cent solution, but cocaine is somewhat idiosyncratic in its action. It is not a cumulative poison, being rapidly excreted.

EAST AFRICAN EXPLORATION.

AFRICA.—The Imperial British East Africa Company, which has removed to 4, Pall Mall East, London, S.W., informs us that the Company is not at present engaging medical officers for service in East Africa; but if our correspondent wishes to obtain employment out there, an application from him, accompanied by copies of any testimonials and records of experience, will be registered and kept in view.

NOTES, LETTERS, ETC.

A CASE OF PUERPERAL SEPTICÆMIA.

MR. H. HARRISON MARSDEN (Southport) writes: Some little time back I attended Mrs. C., aged 33, at her first confinement. She was a second wife, the first having died (as I was informed) over three years previously of "blood poisoning" following the birth of her child. The present birth took place in another house, and I gave instructions that nothing in the way of bedding, etc., was to be used which was in use during the illness of the previous wife. I was satisfied that these instructions had been complied with.

My patient was a tall, slight woman, of not very robust constitution. After being in labour for twelve or thirteen hours, I delivered her with the forceps of a healthy male child. All went well until the fourth day, when she complained of headache and restlessness, feeling very hot. I was at a loss to know what the cause was. The delivery was complete. I was satisfied that no portion of the membranes was left *in utero*, and I made sure that there were no lacerations of the parts. I made a minute examination of the drains of the house and found nothing wrong, but had disinfectants constantly used to be on the safe side. I again made searching inquiries if there was anything about her that was used for the previous wife, and elicited the fact that the macintosh underneath her was the same. I was informed that it was thoroughly cleansed when it was put by (over three years previously), and had not been used since. It was, of course, removed. A medical friend who saw the case with me agreed that this was the source of infection. The case was treated by washing out the uterus with a weak solution of Condy's fluid, and aconite and quinine were given, the dose being reduced and given less frequently as the symptoms subsided. The patient ultimately recovered.

He adds: My object in reporting this case is chiefly to show how easily, in spite of the medical attendant's endeavours to remove all sources of danger, the patient may be thrown into a state of imminent peril through the carelessness and indifference of those around her.

GOVERNMENT VACCINE.

TWENTY-FIVE YEARS A PUBLIC VACCINATOR IN THE COUNTRY writes: On October 12th I received on application two well filled capillary tubes from the Government Vaccine Department. On October 15th I vaccinated thirteen children, having a plentiful supply of fluid to vaccinate each in four places. They were brought to me this morning. Out of the 13 eight failed altogether, 2 children presented two small ill-developed vesicles, 2 children each presented one, so that out of 52 scratchings there were 46 utter failures.

Surely here is a matter for investigation. It is an oft-told tale. Some men have so little faith in the Government lymph, that they will not attempt to vaccinate with it; but here we are obliged to have recourse to it or purchase lymph from a private source, as our periods for vaccination are bi-annual, and lymph cannot be relied upon preserved even in capillary tubes for any length of time, certainly not for six months. This record fails to give any idea of the immense amount of trouble and labour such a failure involves. The children have to be dragged miles by their mothers over hill and dale, regardless of weather, when their services are urgently needed at home, and all through the culpability of someone.

HYPODERMIC SYRINGES.

MESSRS. BURROUGHS, WELLCOME, AND CO. write: We notice in the JOURNAL of October 13th and other dates various letters respecting the inaccuracy of hypodermic syringes. A deviation of a few minims is stated by "M.D." to be unimportant when using ordinary solutions, but if the "tabloids" are used accuracy is of paramount importance. May we be permitted to remark that the syringes supplied by us in our hypodermic pocket cases with an assortment of tabloids are fitted with a glass cylinder, which is fitted with as much accuracy as a minim measure? The plug of the piston fits tightly down to the bottom of the needle. Besides this, the piston-rod is carefully graduated and supplied with a screw, this being a perfect check on the other graduation.

DENTAL SCHOOLS AS DEPARTMENTS OF MEDICAL SCHOOLS.

MEDICAL STUDENT writes: In the JOURNAL of October 20th a letter appears from Professor Ashley Gibbings, in which he says: "At the present time the medical student can learn all that will be found necessary or useful to him in after practice in the dental department of his hospital, but, as a rule, he unfortunately does not make use of his opportunities." Such a statement is hardly correct, at least, it is not so at the hospital to which Professor Gibbings is attached. At this hospital, a student who wishes to learn any dentistry has to attend at 9 A.M. twice a week. On arrival at the dental department he finds that there are no patients, or at most only three or four, who take about half an hour to be attended to. No wonder, then, that the medical student "does not make use of his opportunities" when it means coming a long distance early in the morning and finding nothing to do, for, after 9.30 A.M., there is no other department open till 1.30 P.M. Another reason why the medical student "does not make use of his opportunities" is owing to the materia medica, anatomy, and obstetric lectures taking place at the same hour.

Some time ago, on expressing my surprise to the dental surgeon at a London hospital at there being no patients, he said: "Oh, the patients don't come because the hour is too early for them. Formerly, the department was open at 1 P.M., and there were always plenty of patients then, but I don't want them."

This was all very well for the dentist who wanted to get back to his private patients, but was hardly fair on the students. The majority of dental cases come in the afternoon with the ordinary surgical out-patients, and are treated by the house-surgeon. Why not, then, have the dental department open in the afternoon? There would then be a larger number of patients, and the medical student would not have to rush off to the hospital at an early hour on a fool's errand. I think if a gentleman takes an appointment at a hospital he ought not to mind being a little inconvenienced in return for the honour such an appointment confers on him. If Professor Gibbings will change his hour at the dental department from 9 A.M. to some hour in the afternoon, he will have no cause to say that the medical student "does not make use of his opportunities."

"ANGELS UNAWARES."

"To see ourselves as others see us" is a privilege which transatlantic visitors from time to time accord to our British surgeons through the medium of their published notes of travels. There is a frank and *naïve* candour of thought and experience about many of these, which are often a little disconcerting, but it is just as well that from time to time we should know what style of comment is made by our visitors when they return. Dr. D. A. K. Steele is publishing "A Chicago Surgeon's Impressions and Observations of European Surgery." His first letter includes the following paragraph:

"I spent a most enjoyable day in the General Hospital, Birmingham, where Mr. Nason, the resident surgical house officer, afforded me every opportunity of seeing their practice. I also had the pleasure of meeting the venerable senior surgeon of the hospital, Mr. Oliver Pemberton, who has been on continuous duty for thirty-six years, and I doubt whether he has ever had his hair cut since his appointment. He is a very genial old man with flowing beard, and wearing a velvet skull-cap, who greeted me most cordially and flatteringly, and said that 'when they received visiting surgeons from abroad they were very likely entertaining angels unawares.' He made an arthrectomy of the knee-joint for tubercular granulations, making an incision straight across the patella, which was sawn through transversely and turned back upwards and downwards, affording excellent access to every part of the joint, which was thoroughly curetted and all suspicious tissue clipped away. Mr. Jolly, a grave and dignified man (quite unlike his name), one of the surgeons, assisted in the operation. The patella was reunited by catgut sutures, through two holes drilled in each fragment midway between the centre and external edges. A ludicrous mistake was made in threading the catgut through the second drill-opening in upper fragment, from articular to tegumentary surface by means of a cannula passed from within outwards. Of course the cannula could not be withdrawn without removing the suture as well, which had been laboriously coaxed through. I suggested passing the cannula from the opposite side, and was rewarded by the venerable Pemberton saying, 'Quite right; right you are, sir.' Spray was used all through the operation, and a regular Lister dressing applied, the limb being fixed upon a posterior splint. Suppurative joint affections are treated by incision and permanent irrigation after the manner of Treves, which I will describe in my London letter. I said to Mr. Pemberton that during his exceptionally long career as a surgeon he must have witnessed wonderful changes in the practice of surgery. To my surprise he said No. The principal events he

noticed were our acquaintance with the peritoneal cavity and the interior of joints, and of late a better knowledge of the methods applicable in brain surgery. Certainly here are three grand fields wherein great improvement has been made, and the death-rate from surgical interference wonderfully reduced. Pemberton is not an ardent believer in the germ theory of disease, indeed, seems rather sceptical, and regards the termination of the case of the late Emperor of Germany as a serious blow to microscopical diagnosis. He thinks Mackenzie pursued a wise policy of judicious reticence in this justly celebrated case. Pemberton is purely an old school surgeon and gentleman who bases his beliefs almost entirely on clinical experience."

Mr. Steele is obviously unaware that a good deal of this borders on impertinence. But there is comicality about this style of record of professional impressions which will amuse, while it is not without suggestive warning. "Angels unawares" are evidently sometimes very lively company.

Hay Fever.

DR. C. R. ILLINGWORTH (Accrington) writes: Dr. W. Walford's letter, in the JOURNAL of October 20th, leads me to place more confidence in the treatment I adopted in July last of a bad case of hay fever. My patient was a clergyman, and he had been ill and under treatment without benefit for four or five weeks. The disease was well marked, and affected the chest as well as the nose. I prescribed a douche of 1 in 2,000 of warm lotion of the biniodide of mercury at bedtime, and the nasal affection disappeared with one application. I then ordered a spray inhalation of the same lotion to be used at bedtime. My patient came in great glee two days afterwards to inform me that he had been cured with one inhalation.

Gas Stoves.

THE SANITARY AND ŒCONOMIC ASSOCIATION, Limited (Gloucester) desire to refer those who are interested in this matter to the illustration of Dr. Bond's euthermic gas ventilating stove, which may be seen in our advertising columns. The Company considers that it combines in the highest possible degree the conditions of efficiency in heating power and the introduction of fresh warm air.

MR. F. W. JORDAN (Heaton Chapel, Stockport) writes: With reference to the inquiry about gas heating stoves, in the JOURNAL of Sept. 15th, I would like to say that in my opinion "George's patent calorigen" is of all the stoves I have met with the best; it is practically useful, and is scientifically correct. It admits warm and only fresh air, and provides for the exit of the products of combustion. In addition, the gas jets are shut up inside the machine, and have a separate air-supply of their own. The machine is expensive, but not dear, and it is not more ugly than any other heating apparatus. With regard to the cost of gas used I cannot yet speak from experience, as I have had mine in use only for a short time, but it has seven jets in it, so I suppose it will be expensive (these jets are ordinary gas burners; I am not sure whether Bunsen's burners would not be better); but if you want a gas-heating stove to be effective it must consume gas, and the more gas consumed the greater the heat evolved. For rooms occupied only part of a day, especially if you want to save servants' attendance, dust, and dirt, a supply of coals, an expensive coalbox, etc., and noise, there is nothing better than a gas stove. The cheerfulness of an open fire that is here wanting must be supplied in some other way (for example, it makes one cheerful to think that there is no need for the servant to come into one's room to dust books and dust and "side" papers, etc.).

Cycles or Carriages.

Mr. FRANK SHAPLEY (Consul Cyclists' Touring Club, Sidcup, S.E.) writes: "Junior Partner," in his letter, refers entirely to tricycles. I do a great deal of my work on a Safety. I keep one horse, but do all my visiting, if any distance off, between 5 P.M. and 9 A.M. on a machine. Prejudice points with a disdainful finger on the Safety, but custom soon removes that. Besides the economy, which to me I estimate as equal to half a horse—and as such a luxury cannot be enjoyed it really means equal to a whole horse—there is the saving of time whilst a horse is being put to, added to which is the exhilaration and exercise most beneficial to a class of men which requires to be active and strong.

It strikes me that our pedantic patients are the worst political economists. It is absolutely essential for their welfare that we should always be available to go to their succour, and to be of use we must have *mens sana in corpore sano*; and yet these very same people would insist on relegating us to a stuffy brougham and *costume de rigueur*—frock coat and box hat, both black and intensely disagreeable in hot weather.

If the cycle were more generally used in the profession I am certain that it would conduce to improved health in the doctors themselves, which, I argue, is of ultimate advantage to their patients. If "Junior Partner" cares to write I shall be happy to give any further information *re* machine, costume, etc.

ERRATUM.—In the report of the proceedings of the Leeds and West-Riding Medico-Chirurgical Society, in the JOURNAL of October 27th, p. 942, col. 1, line 34, for "cheek the success," read "check the excess."

COMMUNICATIONS, LETTERS, etc., have been received from:

Mr. G. M. Kelson, London; Mr. C. R. Laurie, Loughton; Mr. R. Fletcher, Worcester; Mr. R. T. Halliday, Glasgow; Mr. S. J. Rennie, Devlali, India; Mr. Lawson Tait, Birmingham; Mr. P. Schlossmann, London; Dr. D. B. Smith, Woolston; Mr. A. T. Story, London; Dr. J. Hern, Darlington; The Executive Committee of the Princess's Cinderellas, London; Mr. W. W. Dickinson, Uffculme; Messrs. Wyleys and Co., Coventry; Mr. J. F. Mirza, Karachi, India; Mr. E. J. Adams, Sheffield; Mr. T. H. Pinder, Manchester; Mr. M. J. Doidge, Lifton; T. P. Thomson, M.B., Shrewsbury; Messrs. H. K. Lewis, London; Mr. H. Bramwell, Cullercoats; Mr. R. A. Brannigan, Liverpool; Mr. Wm. Carter, London; Surgeon-Major J. R. Murray, Hilsea; Dr. W. Lattey, Southam; Dr. L. W. Marshall, Nottingham; Dr. A. H. Griffith, Manchester; Mr. A. W. Riddell, Westbury-on-Trym; Mr. E. G. Peck, Cambridge; Mr. J. L. Callaghan, Colyton; Mr. C. B. Keetley, London; Mr. J. McFadyean, Edinburgh; Dr. S. Martin, London; Mr. W. A. Gostling, West Worthing; Dr. S. Steven, Glasgow; Mr. C. B. Lockwood, London; Mr. A. H. H. Smith, Stourbridge; Mr. H. S. Houldsworth, Leamington; Mr. S. Hosegood, Manchester; Dr. E. Buxton, Great Crosby; Dr. Bucknill, Killater; Messrs. J. Bennett, Bros., London; Mr. A. Oakes, London; Dr. J. Ratton, London; W. S. Dobbin, M.B., London; Mr. A. W. Nankivell, Chatham; Professor Victor Horsley, London; Mr. C. Sheather, London; Dr. M. Brown, Edinburgh; Mr. T. B. Cross, Scarborough; Dr. R. E. England, Dover; Dr. R. Marsh, Hove; Dr. H. B. Allen, Melbourne; F. W. Edridge Green, M.B., London; Dr. S. Jex-Blake, Edinburgh; A Member; Dr. G. Buchanan, Glasgow; Mr. L. Smith, Torquay; Miss Dunn, London; Dr. M. Deas, Exeter; Dr. S. D. Darbishire, Oxford; Mr. J. Collier, Deansgate; Sir E. Lechmere, London; Dr. Drysdale, London; Mr. J. W. Bennett, Liverpool; Messrs. H. Sells, and Co., London; Dr. R. P. Smith, London; Mr. C. R. Anderson, Liverpool; Mr. Anderson, London; Mr. S. M. Suzuki, Tokio; Mr. M. M. Bird, London; Dr. Hack Tuke, London; Fleet-Surgeon S. L. Mullen, Bray; Mr. A. W. Hill, London; Mr. C. J. Mouncey, Earlestown; Mr. J. W. Renshaw, Stretford; Mr. McArthur, Broseley; Dr. Norman Kerr, London; Dr. C. E. Threadgale, London; Mr. C. H. W. Parkinson, Wimborne; Dr. R. E. Dudgeon, London; Mr. H. E. Drake-Brockman, Netley; Mr. H. S. Jackson, H.M.S. *Monarch*; Mr. Young J. Pentland, Edinburgh; Mr. A. Waller, London; Mr. S. Snell, Sheffield; Dr. Ferrier, London; J. K. Tomory, M.B., Inveresk; Mr. M. F. Simon, Straits Settlements; Mr. N. Gratton, Cork; Mr. G. M. Kelson, London; Dr. F. W. Grant, Elgin; Dr. Beddoe, Clifton; Mr. H. W. Kerr, Bishop Auckland; Mr. J. Laird, Sligo; Mr. A. D. Moffat, Glasgow; Mr. B. A. Brannigan, Liverpool; Mr. G. E. Williamson, Newcastle-on-Tyne; Surgeon; Mr. F. Leach, London; E. N. Nason, M.B., Birmingham; Mr. T. F. Raven, Broadstairs; W. S. Dobson, M.B., London; Mr. J. D. Malcolm, London; Our Berlin Correspondent; Mr. S. Murphy, London; Dr. R. Wade Savage, London; Messrs. Mayer and Melzter, London; The South Australian Register Office, London; C. E. Paterson, M.B., Broadmoor; Mr. Blackett, London; Professor E. Crookshank, London; Mr. J. Cuthbert, Selly Oak; Mr. E. F. Freer, Handsworth Wood; Mr. A. Sutcliffe, Burnley; Mr. W. Bardwell, London; The Secretary of the Sanitary Institute of Great Britain, London; Dr. Tatham, Salford; Mr. Swanzy, Dublin; Dr. J. C. Duffus, Perth; Dr. J. M. Bennett, Liverpool; Our Vienna Correspondent; Mr. E. M. C. Hooker, Retford; Mr. F. Burgoyne, London; Mr. J. T. Davies, Neath; Mr. A. W. Loveridge, Newport; Miss J. Wilson, London; Sir William Mac Cormac, London; Mr. R. Fowle, London; Mr. W. Vincent, Norwich; Mr. J. O. McCreery, Debenham; Mr. J. Whitson, London; Dr. W. A. Gostling, West Worthing; Mr. W. Johnson, Leeds; Mr. F. H. Douglas, Portsmouth; Dr. A. S. Gubb, London; Brickdust; Mr. W. P. Fox, London; Dr. J. H. Bertolacci, Transvaal; Mr. C. E. Winckworth, Sheffield; Dr. T. Laffan, Cashel; The Secretary of the Queen's Jubilee Hospital, London; Mr. R. Hartley, Thirsk; Mr. J. Noble, Grange-over-Sands; Mr. S. Craddock, Bath, etc.

BOOKS, ETC., RECEIVED.

Transactions of the Medico-Chirurgical Society of Edinburgh. New Series. Session 1887-88. Vol. VII. Edinburgh: Oliver and Boyd. 1888.

Select Monographs: Raynaud's Two Essays on Local Asphyxia: Klebs and Crudeli on the Nature of Malaria: Marchiafava and Celli on the Origin of Melanæmia: Neugebauer on Spondylolysthesis. London: The New Sydenham Society. 1888.

Lectures to Practitioners on the Diseases of the Kidney Amenable to Surgical Treatment. By David Newman, M.D. London. Longman, Green, and Co. 1888.

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NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-Offices letters addressed to initials only.

A DISCUSSION
ON A
CONTRIBUTION TO THE STUDY OF HEMIANOPSIA,
WITH SPECIAL REFERENCE TO ACQUIRED COLOUR-BLINDNESS,

In the Section of Ophthalmology at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

By GEORGE MACKAY, M.D., F.R.C.S.E., M.R.C.S.,
Assistant-Surgeon Eye Dispensary of Edinburgh, Ophthalmic Surgeon New Town Dispensary, Lecturer on Practical Ophthalmoscopy.

Mr. President and Gentlemen,—My purpose in addressing you to-day is to draw attention to the desirability of investigating cases of hemianopsia of all kinds with more thoroughness and precision than is usually shown in the published reports of such cases.

Starting, then, from a physiological standpoint, I shall first invite your attention to some preliminary remarks on the

Compound Nature of the Visual Sense.

For practical purposes, physiologists and ophthalmologists have for many years (at least on the Continent) regarded the sense of light as primarily consisting in three special perceptions, namely, the light-sense, form-sense, and colour-sense. In this country the practical utility and full significance of this differentiation has been more tardily recognised, but in two recent works by British ophthalmologists[1] it has received due recognition and adoption. Though perhaps neither complete nor scientifically exact, this subdivision is undoubtedly of value, as suggesting a convenient method of estimating the state of the visual functions in health and disease.

The order in which these three kinds of perception have been mentioned expresses rightly their relative importance for useful vision since neither the second (the form-sense) nor the third (the colour-sense) are able to manifest themselves as existent if the first (the light-sense) be destroyed; and, again, the third may be markedly defective without failure in the other two becoming apparent, for example, in congenital colour-blindness. The precise nature of their mutual relation has not yet been ascertained, and it is, therefore, all the more desirable that in suitable cases of disordered vision, we should neglect no opportunity of estimating their condition. This at least is self-evident that, provided the musculature and refractive media of the eyes be normal, these three kinds of perception, when objectively evoked in the normal act of vision, are dependent on a healthy condition of the visual nervous apparatus, namely, the two retinæ, optic nerves, chiasmic crossing, optic tracts in their extra- and intra-cerebral course, and, finally, their central and cortical terminations.

When we endeavour to discriminate between them more nicely, and allot each to its proper place of origin or seat in the visual nerve mechanism, our task becomes more difficult. In the present instance, I shall go no further than the assertion that it is the function of the retina, when stimulated by light vibrations, to initiate the nerve commotions on which these sensations are dependent; that it is the function of the optic nerves and tracts to conduct these commotions to the cerebrum; and that it is the function of the cortical substance of some part or the whole of the occipital lobe to bring them into the sphere of our conscious perception. It is more than probable that the basal ganglia with which the optic tracts are connected are not directly concerned in the production of visual sensations.

Lastly, with a view to investigating the condition of these sensations, it is important to remember that, since they may arise when one eye alone or both, or different parts of one or both, are exposed to objective stimulation, we must not be content with examining the central parts of the visual field of each eye separately, but must extend our inquiry to the peripheral parts also. As I shall have occasion to refer to the methods of investigation later on, I pass now to the consideration of that form of hemianopsia which I have taken as the title of my paper.

[1] *Subjective Symptoms in Eye Diseases*, by G. A. Berry, M.B. *A Handbook of Diseases of the Eye*, 2nd edition, 1888. By H. R. Swanzy, M.B.

Hemianopsia of Central Origin.

It may now be said to be a well constituted fact in cerebral pathology that a lesion of an optic tract in its extra- or intra-cerebral portion or of one occipital lobe produces blindness of the visual half fields on the side opposite to the lesion (lateral homonymous hemianopsia), and according to the extent of the neural or cerebral injury the homonymous defect may be of the nature of a small scotoma at any part of the field, may be sector-like, or involve the entire half of each visual field.

As regards its *extent*, then, the hemianopsia may be *incomplete* or *complete*. There is, however, another aspect in which we ought to regard these cases, namely, in relation to *the degree of impairment of the visual power* in the affected half fields. This seems to me to be deserving of much more attention than it has hitherto received, and is the text of my discourse to day.

In many cases of hemianopsia the lesion has been so destructive that not only the sense of colour and form, but even that of light, is lost, and the blindness in the affected areas may then be very properly termed *absolute*. But in some it has been found that the visual loss is *partial*, and it is said that such cases may be divided into two main groups:

1. Loss of colour-sense with perfect retention of form- and light-senses.
2. Loss of colour- and form-sense, but light-sense intact in the affected areas.

Now of the first of the above groups there have been published by different observers a few cases under the title of hemiachromatopsia (*Farbenhemianopsie* or homonymous half-blindness for colours).

The characteristic features of these cases have been stated to be—retention of good central (direct) vision; good perception of colour, form, and light in one pair of half fields, while in the opposite half fields all colours appeared grey, but the senses of form and light were not only retained, but believed to be intact.

It has seemed reasonable to conclude that a lesion which can thus dissociate the visual functions, maiming one and sparing the others, has its seat in the cerebral cortical substance, or in other words the visual centres, and not in the optic tract or radiation, whose function is purely passive and conductive, unless, indeed, one accepts the theory that some nerve-fibres conduct only colour, others form, and the remainder light impressions, and that they form separate bundles in the optic tracts. And the above view has been further supported in the recorded cases by the fact that though there have been threatenings or previous attacks of hemiplegia or hemianæsthesia in one or two, the combined symptoms at the time of observation have not pointed to the base of the brain or internal capsule as the seat of the lesion, and that the only marked complaint has been of the visual disturbance.

Thus, to quote the words of Mr. Swanzy, of Dublin[2] in reference to the first four cases recorded (see Analysis), these cases "go to prove that the centre for colour-perception is situated in the brain, and not in the eye or peripheral parts of the optic nerve, and moreover that in the brain it is a separate centre, distinct from that for the form-sense and for ordinary light-perception."

Dr. Gowers, in his recently-published work on *Diseases of the Nervous System*, p. 146, mentions all the recorded cases, and states that "the symptom (hemiachromatopsia) probably depends on disease of some part of the occipital lobe, and is proof of a separate centre for colour-vision." In making this assertion, however, he only follows the footsteps of Dr. Wilbrand, of Hamburg, who has taken up this opinion very strongly.[3] Indeed, a consideration of these cases seems to have been the basis of his most ingenious theory of the constitution of the hemiopic visual centre, namely, that there is a special centre for colour, another for form, and a third for light. He believes these three centres may be disposed in the occipital cortex, either in a strata-like or in a superficial (side-by-side) arrangement; but whichever it be, their connection to one another is such that all the nerve filaments enter the light centre; those concerned in light impressions end here, those for form pass into the next centre accompanied by those for colour, but the latter terminate in the third (most distant or most superficial) centre.

This theory of a threefold centre, inasmuch as it has appeared to accord with clinical experience, seems to have been gaining ground. Mr. Swanzy gives it prominence in the second edition

[2] *Trans. Ophth. Soc.*, vol. iii, p. 188.

[3] *Ophthalmiatrische Beiträge zur Diagnostik der Gehirn-krankheiten*, von Hermann Wilbrand, 1884.

Table to accompany the paper, "A Contribution to the Study of Hemianopsia of Central Origin, with special reference to Acquired Colour Blindness," by Dr. GEORGE MACKAY (Edinburgh).

Author and Reference.	Sex.	Age.	History.	Direct Visual Acuity.		Left Half Fields for			Position of line of Demarcation.	Right Half Fields for			Ophthalmoscopic Examination.		Extra Ocular Muscles.	Reaction of Pupil.	Onset	Duration.	Other and Later Symptoms.	Post Mortem.
				L.V.	R.V.	Colour.	Form.	Light.		Colour.	Form.	Light.	Left Eye.	Right Eye.						
1877. Charpentier, "De la vision avec les diverses parties de la rétine." *Thèse de Paris.*	–	–	On Page 6, in treating of the importance of studying the state of the visual power throughout the whole extent of the retina, Charpentier writes: "We have lately seen a remarkable example of this in the case of a young man who, independently (?) of a cerebral affection, presented a disturbance of vision which neither the ophthalmoscope, nor the examination of the general field of vision could account for. On examining the limits of the field for colours we were able to determine the presence of a perfectly characteristic hemiopia, affecting the visual function, however, only in this particular manner." There is no further published record of this case.																	
1881. Bjerrum, *Centralb. f. Augenh.*, p. 471.	M	39	A tobacco worker complained of 14 days severe headache with dimness of sight after 2 days. Required to hold objects nearer.	Normal		Red, green, blue, and yellow all appeared grey.	Normal as tested by fingers.	"Unfortunately not tested;" good field for white.	Vertical and through point of fixation.	Normal	Normal (to fingers).	"Not tested;" good field for white.	Normal		—	—	Sudden.	14 days	Severe headache on day after first seen; formation of abscess in left temporal region opened; no evidence of bone disease; no hemiplegia; next night delirium, collapse, death.	Not allowed
1881. Samelsohn, *Centbl. f. Med. Wiss.*, Nos. 47 and 50.	M	63	In March, 1875, had a right hemiplegia, with slight loss of consciousness. First seen 9 months later, when a slight paresis was still present and impaired vision.	$\frac{20}{30}$ H=1.25 D. Vision known to have been so before.	$\frac{20}{30}$	All colours seen as shades of grey.	Appeared normal because Snellen's types were recognised by indirect vision as well as in right half fields.	Appeared normal "as far as could be tested." Good field for white.	Ditto	Ditto	Normal	Normal	Normal		Paresis of right superior rectus which passed off in one month after first examination.	—	Sudden.	5 years	Remained unchanged till death by apoplexy in 1880.	Not allowed
1883. Swanzy, *Trans. Ophth. Soc.*, vol. iii. p. 185.	M	77	A clergyman, on rising one morning, felt giddy, lay down, was unconscious till evening. In a few days quite well, save defective sight and confusion of ideas on mental effort. Had a difficulty in recognising people.	$\frac{6}{9}$ H=1.5 D.	$\frac{6}{9}$	Red, green, and blue (probably all colours) not appreciated.	Not specially tested	Peripheral defect in upper quadrants as tested by white.	Ditto	Red, green, and blue recognised, but fields much contracted.	Not specially tested.	As tested by white gave good field.	Normal, save slight senile changes		—	—	Sudden.	Had existed five months when seen.	—	–
1884. Wilbrand, *Ophthal. Beiträge zur Diagnostik der Gehirn-Krankheiten* pp. 23 and 51.	M	59	Had suffered at one time from epilepsy. Was awakened suddenly one day by arrival of visitor during siesta; felt headache and disturbance of visual impressions. No loss of consciousness, nor other cerebral manifestations.	Normal		Sense lost in upper quadrants. Absolute blindness in lower quadrants.	(No note of its examination).	Some contraction of field for white.	Vertical between greater part of lower quadrants then inclined up and to the left avoiding point of fixation in right eye but involving it in the left.	Normal (This case was originally published with charts in 1881—see Wilbrand *Ueber Hemianopsie*, p. 175, *et seq.*—Bischoff), but its relation to half-colour blindness was not emphasised at that time.)	Normal	Normal	Normal		Normal	Right pupil rather larger than left. Reactions normal.	Sudden.	14 days achromatopsia in upper quadrants	After 14 days left upper quadrants entirely regained colour, form, and light sense. In left lower quadrants all three senses still entirely absent. Three months later patient lost power of left arm from an apoplectic attack.	Patient still living (1888)

1884 Eperon, *Archiv. D'Ophthal.* (Juillet, D'Aout).	M. 70	About 3 months before first seen awoke one day with feeling of numbness and paresis of right side and limbs. This passed off in a few days, but some difficulty in reading remained	H = 2·25 D. V = perfect for dots or single letters, but there was a verbal blindness a dyslexia of mental origin. *Cæcité verbale.*	Sense present but fields constricted except under direct solar illumination.	Appeared	normal.	Vertical and through point of fixation.	All colours appeared grey and dim.	Greatly diminished eccentrically on comparing letters (test-types) held to either side.	Diminished to 1-9th of the normal acuity, and though white paper appeared duller than on opposite side, the field was of normal extent.	Dises senile, otherwise normal.	All acting perfectly and muscular sense of eyes very good.	—	Sudden.	Had existed for twelve months & remained unchanged for 9 months under observation.	The patient could write, but less easily than before; better from dictation, and could then even read part of what he had written; but he could not do this for a phrase written from his own inspiration. He could read short and familiar words more easily than long and rare ones.	—

of his *Handbook of Diseases of the Eye*, and it has been favourably received in many quarters.

It may be worth our while to inquire for one moment how far the published records of these cases of hemiachromatopsia support this theory by showing that the colour-sense was really the only one involved in the visual defect.

In the accompanying analysis I have confined myself to the cases hitherto published under the name of—or, at least, up to this time adduced in argument as examples of—hemiachromatopsia, with the exception of two published by Dr. Noyes,[4] of New York, which were certainly not uncomplicated, and are more than doubtful examples. It is only right to say that Mr. Swanzy appears to accept only the first four as genuine cases. Wilbrand adds his own, and Dr. Gowers mentions all the six without, however, pledging himself to Wilbrand's theory *in toto*.[5]

From the analysis which I have prepared, I think it will be evident (1) that the cases are very few in number; (2) that the clinical examinations have been generally incomplete; (3) that there has been no *post-mortem* examination in any of them.

Now I ask your special attention to the columns headed left and right half fields. Under each of these I have endeavoured to bring out the state of the visual power in relation to the colour-, form-, and light-senses in the eccentric and peripheral parts of the field of vision, and in the preceding columns have stated the condition of the refraction (if recorded), and the *direct* visual acuity for form. This distinction is essential, because in cases of complete hemianopsia, where the line of demarcation passes through the macula, the patient can, by a little manœuvring of his head and eyes, receive the image of the object, or enough of it for purposes of recognition, on the sound half of his retina, and thus unconsciously elude examination of the desired part, or falsify the result. The same fallacy, of course, is present in estimating the state of the colour- or light-sense by direct vision. But though the necessity for examination of the whole visual field for white and for colour is generally recognised and practised, the same cannot be said of the sense of form, which is seldom investigated at all in the peripheral parts of the field, or only in the roughest manner.

Taking these cases, then, in chronological order, we see that Charpentier's is a mere reference, which would probably have never been placed in the list but for a letter written by Dr. Landolt, of Paris, to Dr. Samelsohn, of Cologne, and acknowledged by the latter in the *Centbl. f. Med. Wiss* (No. 50). Precise details of this case have never been published, so far as I am aware.

It will be convenient to discuss the other cases:

1. *As regards the Eccentric and Peripheral Form-Sense.*

In Bjerrum's case (left sided), it was only estimated by counting fingers held to either side—a method which I shall be able to show is not sufficiently precise.

In Samelsohn's (left sided), it was estimated with a greater degree of accuracy by Snellen's types, and appeared to be intact.

In Swanzy's (left sided), it does not appear to have been specially tested.

In Wilbrand's (left sided), there was an absolute extinction of all the visual perceptions in the lower quadrants, and there is no published record of the form sense having been tested in the upper quadrants.

In Eperon's (right sided), it was markedly defective when tested by Snellen's test-types, and was complicated by a peculiar form of dyslexia in direct vision.

2. *As regards the Light-Sense in the Eccentric and Peripheral Parts of the Field.*—Without enumerating all the names, it can be readily seen that only Samelsohn and Eperon really tried to estimate it by diminishing the illumination under which the test-types were observed eccentrically. The former confesses that though the sense appeared normal, his test was only approximate; the latter found it markedly defective. The other observers employed no more precise method than tracing the field for white, which by many persons is thought to be quite sufficient, and is frequently employed as synonymous with the estimation of the light-sense. This is only true in one aspect, and is certainly not the whole truth, since, in ordinary daylight, it gives us no information as to the minimum of light perceptible, or the power of distinguishing differences in the amount of illumination. An instructive moral may be drawn from Eperon's case, where, notwithstanding the defective light- and form-senses, the field for white appeared normal in extent, though admittedly the test-object seemed less bright on the defective side. But if we were to accept the field for white as a fair test of the peripheral light-sense, then be it observed there was a peripheral defect in the case reported by Swanzy, and a marked defect in that of Wilbrand.

Thus far the only case which seems to deserve the name it bears in a special and restricted sense is that of Samelsohn, but it is not above suspicion. I shall presently show that the test employed by him for the form-sense was not the most delicate, and since he only estimated the light-sense in relation to this form-test, his investigation of it was both incomplete and imperfect.

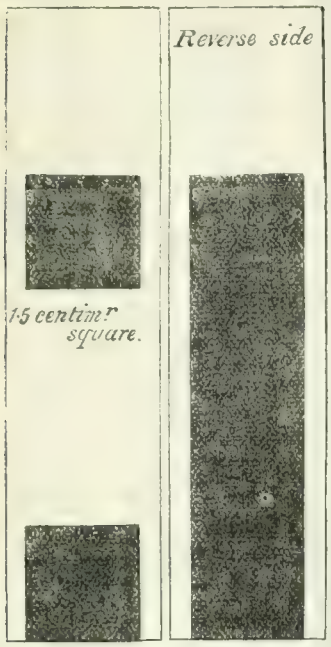
It remains for me now to adduce the evidence on which I have based my criticism of the methods employed in testing the peripheral form-sense. Since October, 1887, I have had four patients under observation suffering from hemianopsia, complete in extent but partial in degree. In two the right half fields were affected, in two the left half fields. The line of demarcation passed through the fixing point in all. The symptom common to all was hemiachromatopsia, but in none did I fail to find a defect of the peripheral form-sense on careful examination, and I do not believe that the light-sense entirely escaped in any.

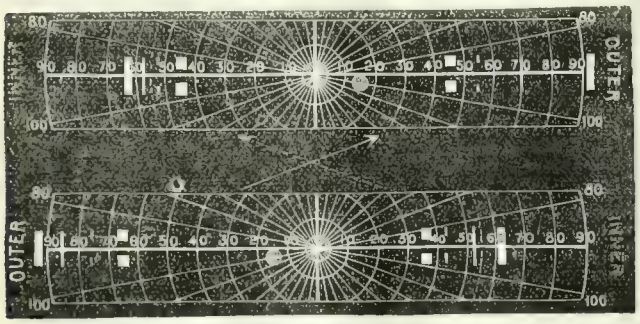
The case most nearly typical of simple colour-defect was that of an active and otherwise healthy man, aged 37, who complained of defective vision of sudden onset. Examination revealed well-marked half colour-blindness to the right, V = $\frac{6}{6}$ in either eye, but to obtain this he had to turn his head slightly towards his right shoulder. The field for white was excellent, in-

[4] *Arch. f. Augenh.*, xiii, p. 123.

[5] I have purposely omitted reference to some cases of partial hemianopsia, with colour defect, which may be found now on record under various titles, because they do not influence my present argument, except as showing cases insufficiently examined. There is, however, one notable exception—namely, the case just published by Verrey (*Arch. d'Ophthal.*, Juillet-Aôut, 1888, p. 289), which arrives most opportunely to support my contention for more careful clinical study, and affords the additional interest of a *post-mortem* examination. Still more recently Landolt has published a case in connection with the Donders Festival at Utrecht.

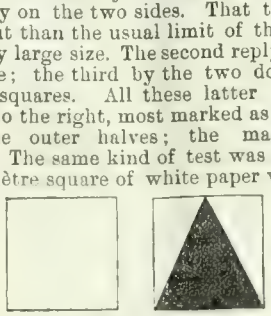
deed unusually large, and he appeared to *count fingers* with equal facility to either side. To estimate the form sense more accurately I employed first (on the suggestion of Mr. Berry, but for whom this inquiry might not have been undertaken, and to whom I am under many obligations for kindnesses received during its progress), a test object, such as I now exhibit, consisting of a piece of white cardboard 8.5 centimètres long by 2 centimètres broad. On one side it has two black squares, each 1.5 centimètre square, separated by a white space twice as long, and on the reverse a single black band equal to the combined extent of these. This card with its long axis vertical was brought along the arm of the perimeter, from the periphery of the horizontal meridian towards the centre of the field, first from one side and then from the other; each eye being of course separately examined and the card frequently reversed. The patient was asked to tell successively:—1. The moment at which the object was seen entering the field. 2. Whether it appeared white or black. 3. Whether there was one spot or more. 4. What was the shape of the spot or spots.

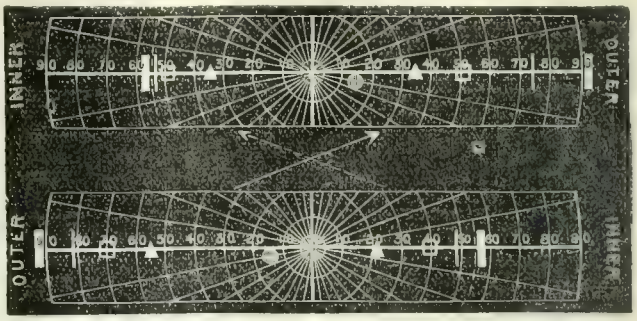




The First Diagram represents the Right Eye, the Second the Left Eye. (The half fields must be contrasted in the manner suggested by the arrows, namely, right inner with left inner, and right outer with left outer.)

The first reply is indicated by the broad white band; it shows complete uniformity on the two sides. That the object was recognised further out than the usual limit of the visual field was due to its unusually large size. The second reply is marked by the narrow vertical line; the third by the two dots; the fourth by two small white squares. All these latter indicate a slight peripheral failure to the right, most marked as one might expect on contrasting the outer halves; the maximum difference amounting to 20°. The same kind of test was applied in another way. A 1.5 centimètre square of white paper was taken, as ordinarily used for estimating the field for white. To one side of this a triangle of black paper was affixed so as partly to cover the white surface. The patient was asked to say: 1. When he saw anything entering the field. 2. Whether it appeared white or black. 3. What was its shape.





The First Diagram represents the Right Eye, the Second the Left Eye.

The same indicators are employed for the first and second replies, as in the former chart and the half fields must be similarly contrasted. The square and triangle are marked at the positions where their shapes were respectively recognised.

In order to control the patient's replies, the test was further varied by substituting a black square for the black triangle, as above. Here, then, as in the former chart, there is proof of a slight peripheral loss of the form-sense, amounting again to a maximum of 20° on the right side as compared with the left.

Unfortunately, in the course of a few days, and before I was aware that Snellen's types had been used by other observers, this patient's condition changed to almost absolute hemianopsia, so that I am unable to make any direct comparison in that respect. For the same reason I was also prevented in this case from investigating the state of the form-sense in other meridians than the horizontal; but I wish to take this opportunity of emphasising the importance of so doing, because I have found in other cases a marked difference in the condition of the upper and lower quadrants in the defective half fields. I also wish to lay stress on the preliminary questions about the recognition of black and white, since the replies to them will immediately reveal whether black and white test-objects are suitable. Thus, in one of my cases I found a marked defect for black and white, and therefore for all test-objects based on their use, associated with an apparently good power of recognising hand-movements in the periphery, and counting fingers or other equally large objects held excentrically.

To return from this digression. I ask you to take notice that the first of these test-objects which I employed allowed of the form-sense being estimated on the sound side as far out as 45° and 65° respectively in the inner and outer half fields; and from personal observation I am satisfied that either of them supplies a more delicate method for the periphery than the use of Snellen's test-types, or any such figure of complex form. For the recognition of a complex figure it is necessary that it should be of such a size that we not only appreciate it as a whole, but discern its separate parts. A small test-type cannot be identified by a normal eye far from the point of direct fixation, and is, therefore, no proper test of the peripheral visual acuity. The smaller the type, the smaller the area tested. If a large test-type is taken, a larger surface of the retina is stimulated than by the test-objects shown to-day, and the test is less delicate.

I hope I shall not be thought too captious if I point out that the above remarks may be applied to Samelsohn's case with additional force. First, because it is questionable whether a patient whose direct visual acuity is below normal can have his peripheral form-sense equal to normal; and secondly, because this patient must have had a special difficulty, on account of his hypermetropia and presbyopia, in seeing objects, particularly those near at hand, even on the sound side. Two of my own cases afforded illustration of this difficulty, and showed further that the assistance to be derived from spectacles—as, indeed, is well known—is ordinarily limited to the central parts of the field of vision.

Lastly, one word about the light-sense. We have as yet no completely satisfactory method of investigating it in the periphery, so that any statement of its condition is apt to be imperfect and hazardous. Therefore, let us not theorise, but inquire.

Time will not permit of my giving further details of my own cases at present; but I shall take an early opportunity of recording them more fully. If the facts which I have exposed go to prove anything, it is surely that there is not yet any well constituted case where a hypothetical half-vision colour-centre has suffered alone,

and other senses have been left "intact." It may be said that the apparently great preponderance of the colour-defect over that of the other senses is highly suggestive, or only explicable on the presumption that there are special centres; but that, owing to their close proximity, it is hardly possible for one to be injured without the others. While I admit the plausibility of that argument, it in no way alters my position in respect to the assertions made by the writers whom I have quoted, nor does it diminish the necessity for careful inquiry, especially as to whether the preponderance is real or apparent.

I shall not in conclusion be so illogical as to say that there are no special centres, for, in connection with the colour-sense in particular, I know that there are other recorded cases, congenital and acquired, which lend some probability to the theory of a special centre for colour. On other grounds I am not disposed to favour that theory, but it is beside my present purpose to discuss these. I have endeavoured to show that the imperfect investigation of one group of cases has led to deductions unwarranted by the facts before us, and that a fresh inquiry is necessary. I feel confident that cases of partial hemianopsia are far more frequent than is usually supposed, and not less certain that their more careful investigation is calculated to throw much light on the nature, relations, and localisation of the visual senses.

Mr. HEWETSON said that he himself had hemianopia at times. The form from which he suffered was that suddenly in the right half of both retinæ he saw an appearance of an electrical discharge, which completely blotted out from that half of the field of vision all objects whatsoever; this was followed by severe pain on the left parietal region.—Dr. BENSON asked Mr. Hewetson if such appearances were not indicative of possible cerebral trouble?—Dr. KARL GROSSMANN thought that such cases were more like a scintillating scotoma. He had suffered from such attacks, and with him they were always followed by sickness and headache.—Dr. MACKAY thought such cases functional; they should, however, receive as careful investigation as those due to gross lesion.

GENERAL NEUROSES HAVING AN OPHTHALMIC ORIGIN.

Read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

BY H. BENDELACK HEWETSON, M.R.C.S.,
Ophthalmic and Aural Surgeon, Leeds General Infirmary; late House-Surgeon Leeds Public Dispensary.

IT is now some years since I first observed symptoms, many and varied, occurring in neurotic persons who were also the subjects of uncorrected optically defective sight. In investigating more particularly the relationship between the various optic errors and sick headache, or simple headache, I was occasionally startled by the apparent direct relationship between the long uncorrected disorder (with all its immediate train of nervous disorders) and general conditions of ill-health which seemed to be the direct outcome of a thus already demoralised nervous system. It is now well established that many cases of migraine or sick headache are directly attributable to the reflected irritation of the brain (and thence the gastric functions and heart's action) from some uncorrected optical state, chiefly on the side of hypermetropia, and always in a neurotic subject. It is also well proven that many of these cases are entirely relieved from their periodic attacks by the use of properly selected glasses; or, having passed an age when the activity of the accommodation ceases more or less, and the eye becomes presbyoptic, the severity of the headache or migraine becomes greatly modified. It is further well known that a patient, the subject of hypermetropia, is liable, according to varying circumstances, such as extent of defect and use of the eyes, to more or less constant "head pains," not necessarily associated with very obviously defective vision, or aching eyes, but always peculiar in their position and character, and aggravated by close application of the sight. Although I have very fully published my observations some time ago on the relations between sick headache and optical defects, and utilised what was previously discovered as to the relation between headache (broadly defined as such) and hypermetropia, I had not felt my footing sufficiently to enable me to bring forward that which is now my desire to show, namely, that the neuroses growing and arising from congenital optical error are more subtle in their nature, more varied in their distribution, and more demoralising to the right evolution of the nervous system than I was at first led to suppose,

I particularly wish it to be clearly understood I do not think all sick headaches come from an optic defect, for it is well known that decayed teeth or central irritation of the ear or nose are frequently causes as well as other more general neuroses. But I have patients who have been martyrs to sick headache; who are also astigmatic, and in whom a complete cure has been effected by the use of cylindrical lenses, showing that when sick headache and its accompanying dyspepsia is due to reflected irritation in a neurotic subject, from the eyes to the stomach, complete immunity from attacks of this kind may be obtained by glasses; and further, as I have observed, a very marked improvement in general cheerfulness and health. I may here remark that many persons who suffer from sick headache are astigmatic in an abnormal though slight degree, and it is only by straining their eyes by looking long and hard at some fine object, or exercising such feats of sight-seeing as "doing" the National Gallery and the Academy in one day, or severe microscopical study, reading, and the like, which will irritate the brain sufficiently to cause an attack. One patient says he always suffers from sick headache after watching a play; another actually brings on headache, vertigo, and vomiting by doing fine sewing; a third has sick headache only when reading for an examination; a fourth when she was at school, not since; but all proving to be ametropic, and completely cured by the systematic use of glasses constantly worn.

The most common forms of headache associated with that optical error known as hypermetropia are—either simply a heaviness or pain over the brows (this may or may not be combined with general headache), or very frequently a tender place on the top of the head, making it particularly painful to dress the hair—such a pain as occurs after a lock of hair has been "slept on the wrong way," in common parlance; there is also frequently pain at the back of the head. All these pains may be present together, or they may exist singly, but they all occasionally occur in conjunction with severe neuralgia at the back of the neck. This I have frequently noticed, and where it occurred, whether associated with the other head pains or not, it, as well as they, soon disappeared with the systematic use of accurately adapted correcting glasses. This symptom of pain at the back of the head and neck is not one which has long been associated with optical defect, but I have now seen a sufficient number of cases to show without doubt that such may be safely regarded as one of the symptoms of (frequently latent) optical error, perfectly remediable by the use of glasses, and, when such, by glasses only.

Dr. Lauder Brunton wrote me that he has seen several cases of neuralgia of the back of the neck cured by glasses. It would not appear to need demonstration that with symptoms so severe and depressing to the general nervous system as are the various forms of headache—vertigo, which is associated with astigmatism; vomiting; possibly, as I have noted, palpation, or neurotic dyspepsia between the attacks of migraine—other conditions should arise as a sequel in many constitutions. One which I particularly wish to draw attention to is insomnia. This particular symptom I observed in many cases the subjects of astigmatism. In one instance in particular, where the eyes had given much trouble during the examination period of an Oxford man's life, it was particularly remarked to me that after the astigmatic trouble was corrected by suitable glasses, with an equal amount of work, the insomnia disappeared, and the whole physical and nervous state of the gentleman improved greatly. One object of my paper will be to show what an important factor these optical errors are in, as it were, moulding during childhood and early life the nervous and constitutional state of the individual. As a proof of this I will quote two cases, both in ladies of education and refinement, which seem to give us some sort of clue to the possible effects on the constitution of persons who conscientiously struggle through a severe scholastic career with important optical errors entirely uncorrected.

The first case was that of a lady, aged 22, whom, some few years ago, I found to be the subject of compound hypermetropic astigmatism. Her health was not good, but she particularly complained of headache and general feelings of *malaise*. I corrected the astigmatism after very patient testing, since here great nervousness made it a very trying process for myself as well as the patient. There were other symptoms, such as would be ordinarily covered by the convenient but too easily accessible

term hysteria, which showed itself in subjective pains at the back of the neck, tenderness of the spine, and frequently of the skin generally. There was no apparent lesion in any important organ, and she appeared to be the possessor of a greatly demoralised nervous system, which was easily overwrought, no matter what amount of moral pluck appeared to be put forth to resist an attack. After wearing the glasses for three years constantly her whole being seemed to change, so great was the relief. All headaches and difficulty in obtaining sleep disappeared, the appetite improved, and she became more companionable at home; but there was evidently, with all this improvement, a disordered state of the nervous system not yet removed; the tenderness of the spine remained more or less, and the health was still subject to variable and unaccountable fluctuations. I made up my mind that though the head pains had been so far cured by the use of glasses, yet the long struggle in pain and toil of educational work had so far damaged the peripheral nerves that some other means of cure must be attempted.

I could multiply instances in which varying degrees of this kind of nervous demoralisation occurred; but generally there is either nerve-resisting power or neurotic recuperation sufficient to enable the individual to recover if the sight be fully corrected. I am perfectly convinced that until the sight had been corrected all such treatment as I have indicated would be useless. If carefully looked into, this appears to me to suggest some very important conclusions in relation to the community at large. I see children driven to do their work although suffering from defective sight, constant headache, and restless nights, which result in great exhaustion of the nervous system, disturbance of the various functions of the body, and a disinclination to innocent and beneficial child-play, all of which is with perfect ease set to right by a correction of the optical defect which causes it. But supposing that a naturally nervous subject grows up under these conditions, the right evolution of some of the nervous system is undoubtedly endowed with morbid action, as well as the formation of the character disturbed. The causes are evident; the consequences, I believe, will be found in some of the neuroses which I have endeavoured thus imperfectly to describe.

There are conditions and pains associated with these *head pains*, and commonly attributed by the patient to disease of the eyes, since the eyes are frequently affected. I refer to the pain in and around, due to carious teeth, and these pains are frequently coincident with other—if I may so call them—ophthalmic neuroses. The existence of apparently quiescent carious lower molars causes invariably a point of pain in the temporal region; but the upper molars, when carious—one or all it may be—cause pain above the outer part of the eyebrow of the same side. Decay of the incisors and canines or bicuspids, mostly quiescent in the mouth, commonly causes pain either in the eye or about the inner side of the orbit above the diseased teeth. The extraction of the offending teeth invariably removes the local pain. These conditions were so frequently referred to diseases of the eye, that it became necessary to localise pains in the head so as to correctly diagnose their origin, and hence reach the cause.

Mr. CARTER gave further details of a case mentioned by Mr. Hewetson, and of other cases in his practice.—Mr. BICKERTON spoke of epileptic attacks as being determined by ametropia and want of convergence, and cured by the use of glasses.[1]—Dr. REID asked if those were cases of high degree. He generally supposed that the cases which gave most trouble were those of moderate degree, where the ciliary muscle made an attempt to overcome the ametropia.—Mr. HEWETSON replied that the large majority of cases giving trouble were in those in whom there was a small optical error; in the higher degrees the accommodation "throws up the sponge," but in the lesser degrees there is a constant attempt at ciliary correction.

[1] Mr. Bickerton, since the reading of this paper, has seen a case of epilepsy occurring in a lady of 30, whose eyes were naturally highly hypermetropic, but have become the subjects of conical cornea. She, of her own accord, avoided reading, etc., as being "sure to bring on an attack."

UNDER the new Army Bill, to be laid before the Parliaments of Austria-Hungary, medical students will be called upon to serve six months in the ranks, and six years in army hospitals or field ambulances.

MEDICAL MAGISTRATE.—Dr. A. H. Kelly, Parsonstown, late Staff Surgeon R.N., has been appointed to the Commission of the Peace for the King's County.

SAILORS AND THEIR EYESIGHT, INCLUDING COLOUR-BLINDNESS.

Read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY T. H. BICKERTON,
Oculist to the Liverpool Royal Infirmary.

IN the discussion following a paper on "Colour-Blindness in the Mercantile Marine," read last year before this Section at Dublin, Mr. Nettleship made a remark to the effect that, in the absence of proof of accidents having occurred through the defective eyesight of sailors, but little attention would be paid to the subject. He suggested, and his suggestion was endorsed by the BRITISH MEDICAL JOURNAL, that evidence should be collected of accidents which have actually happened from mistakes as to the colour of signals, or from other defective eyesight, believing that such evidence would form a real fulcrum on which to work.

Acting on that suggestion, I have during the past year been on the look out for facts which in any way bore upon this point; but the difficulties in the way of obtaining evidence of this nature are great.

In the first place, the question of eyesight can scarcely yet be said to enter into the inquiries held as to the causes of shipping accidents. Secondly, if perchance defective vision has appeared as a possible cause, it has been passed unnoticed by the press; and, finally, it is to the interest of those employing sailors with defective eyesight to be silent about the deficiency in case of accident.

It is not my intention in this paper to discuss the regulations, or rather the want of regulations, which allow colour-blind and defective-sighted men to enter the sea service.

In the BRITISH MEDICAL JOURNAL will be found ample proof of the thoroughness with which the general aspect of this subject has been treated, and, should further corroboration be required, it is to be found in the admirable paper, by Dr. Brailey, "On the Tests of Vision best adapted for Service at Sea;" in the "Cantor Lectures on Colour-Blindness," by Mr. Brudenell Carter; and in a paper "On Colour-Blindness with relation to Railway and Sea Signals," written by our Vice-President, Dr. Wolfe, as far back as 1879; and if the opinions of these and other experts have had but little or rather no effect upon those who should be responsible for the safety of the sea-travelling public, no additional general statements are likely to be of benefit. While we may regret the state of affairs which require for what is so obviously necessary such proofs as suggested by Mr. Nettleship, we shall, I think, be best furthering our cause by acting on that suggestion. Therefore, my remarks to-day will consist mainly in the relation of cases of accident in which the colour-sense has been called in question; of cases of accident in which the evidence has shown that it should have been called in question; of a case where, although a mistake as to the meaning of a light was made, the good vision and prompt action on the part of an officer was the means of preventing a serious calamity; and of cases of pilots with defective eyesight.

The first case is one known to most, if not to all, present; but in a paper of this description it is convenient to mention it. It is to be found on page 6 of the Annual Report of the Supervising Inspector-General of Steam Vessels to the Secretary of the Treasury, dated Washington, 1880,[1] and reads as follows: "On the night of July 5th, 1875, there was a collision near Norfolk, Va., between the steam tug *Lumberman* and the steamship *Isaac Bell*, the former vessel bound to, and the latter from, Norfolk. The accident occurred at about 9 P.M. on an ordinarily clear night, under circumstances which until recently seemed more or less mysterious. The master of the steamer and all his officers made oath that at the time signals were made to the tug, the latter was from one to two points on the steamer's starboard bow, and consequently the steamer's green light only was visible to the approaching vessel. Yet the master of the tug, whose statement was unsupported by any other testimony, asserted that the steamer's red light was exhibited, and he signalled accordingly. The discrepancy in the statements was so great, that many persons uncharitably charged the master of the tug with being intoxicated, although no evidence was ever offered in support of the charge. By this accident, ten persons lost their lives. Upon a visual examination of this officer under the rules during the past summer,

[1] For this information I have to thank Dr. Joy Jeffries, of Boston.

namely, four years after the accident happened, and during which time there had been no question as to his sight, by the surgeon of the Marine Hospital at Norfolk, he was found to be colour-blind, two examinations having been accorded him, with an interval of ten days between them."

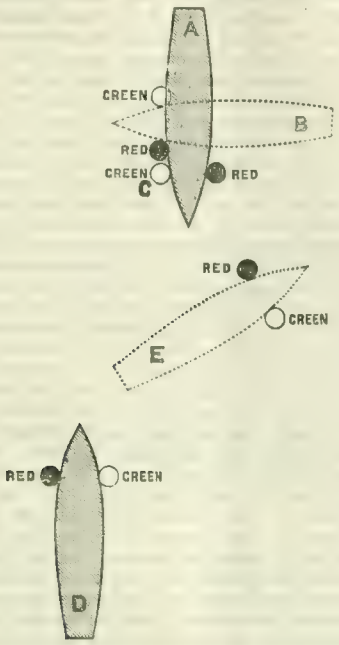


Fig. 1.—A, actual position of steamship, *Isaac Bell*. C, its green light, which was taken for a red one. B, Supposed position of *Isaac Bell*. D, original position of the tug, *Lumberman*. E, the course the tug-master took in order to pass astern, as he supposed, of the steamer, and thus directly causing the collision.

The second case I have come across will be found mentioned in the *Shipping and Mercantile Gazette and Lloyd's List*, dated June 29th, 1881. The paragraph runs thus: "Colour-Blindness, New York, June 18th.—The pilot of the steamer *City of Austria*, which was lost in the harbour of Fernandia, Florida, last April, is proved to be colour-blind. In this way it would appear he mistook the buoys, and his mistake cost the owners 200,000 dollars (£40,000). An examination showed that, at a distance of more than six feet, he could not distinguish one colour from another. The physicians attribute the defect to an excessive use of tobacco. The services of the Marine Hospital surgeons were tendered to the local authorities without fee two years ago, but were declined."

These are the only two cases I know of where colour-blindness has been positively asserted as the cause of accident. In the following case the steamer *Toronto* on the night of January 18th, 1888, ran down the Norwegian barque *Freidis* in the Irish Channel, on which occasion thirteen lives were lost. The evidence given at the Board of Trade inquiry as to the lights seen may be briefly summed up as follows. The captain, the mate, and the quartermaster saw first a red light and then a green one. The look-out man saw no red light, only the green light. Asked if he was colour-blind, he replied that he was not, and that he had never made a mistake in reporting the colour of a light; and, in answer to the question as to what in his opinion was the cause of the collision, he had no hesitation in stating that it was owing to his own captain porting his helm. In a letter published and commented upon in the leading Liverpool shipping paper, the *Journal of Commerce*, referring to this case, it is remarked that "the negative evidence of the look-out man that he did not see the red light cannot weigh against the positive evidence of the captain, two officers, and the quartermaster that they did see it, and it has yet to be ascertained why it was not seen by him." In this remark we shall undoubtedly agree; for, although there is no evidence that he was colour-blind, neither is there any evidence that he was not. Common sense would say, "Have the man tested;" but the wiseacres who adjudicate these matters do not consider such matter-of-fact methods necessary, and prefer to *ask* the question: Did anyone ever know a sailor who acknowledged himself colour-blind? This case is also of more than usual interest from a statement made by the captain of the *Toronto* in giving his evidence—namely, that "they only had one look-out on the steamer, because they always had two officers on the bridge, who invariably saw a light sooner than the look-out." The importance of this remark cannot be overrated; and when we find that it is the opinion of a man who for nineteen years has held the position of captain, and who has, in addition, never before had a casualty, its importance becomes the greater. Is this opinion a solitary one; or should we, if inquiry could be made, find it a general one? Are we to consider that the post of "look-out" is a superfluous one? For that is what this captain's statement practically amounts to. If there are any who think thus, I would advise them carefully to read a speech made by Lord (then Mr.) Brassey in the House of Commons in 1876, for in that speech occurs the following sentence: "That the entire management and manœuvring of a ship by the officers in command might depend on the experience and judgment of the men on the look-out aloft; and, if they were not efficient, the gravest consequences might ensue."

Personally, I am thoroughly convinced that in very many cases this captain's statement is literally true, and there can be none who have had practical acquaintance with sailors who could not call to mind cases of men who, from colour-blindness or defective sight, were utterly unfitted for the responsible position of "look-out" in which they are placed, for it must not be forgotten that not only may a colour-blind or defective-sighted sailor fail to recognise danger when present, but that he actually constitutes an element of danger to the very vessel to which he is intended to be a safeguard.

It must also be borne in mind that in the verdicts given by the Board of Trade Court of Inquiry into the causes of accident, equal, if not more, credence is given to the evidence of the irresponsible "look-outs" than to that of the responsible officers.

In the *Mercantile Marine Service Association Reporter*, vol. xiii, No. CL, page 11, in an article entitled "South American Notes," is to be found the following: "The port (Ceará), such as it is, is situated behind the submerged reef already mentioned, and the channel to get to the anchorage is rather difficult. The pilots, however, are the very best of their kind to be found anywhere, as they can perform their functions—which, as you know, in general require the best possible eyesight—without any sight at all. Captain Lecky, the talented author of *Wrinkles*, mentions he was himself taught a wrinkle in piloting at this place. He knew the way in perfectly well, having been there several times, but took a pilot, as the custom is, all vessels being charged pilotage, whether availing themselves of the services of pilot or not. On the particular occasion in question, while entering, he was struck by the fact that the pilot brought a small mulatto boy with him, and, on observing that the courses steered seemed very erratic and likely to endanger his ship, he inquired further into the matter, and discovered that the pilot was quite blind, and was being prompted by this little boy. Talk of the blind leading the blind and both falling into a ditch; that is nothing to the destruction which may be wrought by a blind pilot."

The statement just quoted would appear almost incredible; but should proof be required of the probability of its correctness, the following incident personally related to me by Captain Henry F. Watt, of Liverpool, will be sufficient corroboration. I give it to you in the same words in which it was given to me, and to which statement Captain Watt kindly affixed his signature.

"The pilot came aboard at Patras at 8 P.M. to conduct my steamer, *Charles Morand*, to Vostitza. I took her clear of the shipping in harbour, and then handed her over to the charge of the pilot. For the first hour a labourer was on the bridge assisting the pilot to make out the lights, but, getting tired, he went below. Finding the pilot was keeping close to the shore, and noticing that he never looked at the compass, I became suspicious of his eyesight, and during the next hour myself hauled the ship off the shore several times. About midnight, the atmosphere being fairly clear, the pilot announced that he had arrived off Vostitza, and could see the light. I could see no light, and stopped to sound, and then hauled in for what the pilot said was the harbour. The ship was just moving when the look-out man sang out that she was within a stone's throw of the beach, and just as I got the telegraph full speed astern, she ran ashore. But for my suspicions she would have gone full speed on to the rocks."

A second case of defective eyesight occuring in a pilot, I also

give in the words in which I took the statement down, but in this case my informant asks me not to mention his name. "Time midnight. My steamer was bound to London with a valuable and perishable cargo, and every hour was therefore of great importance. The Trinity pilot came on board off Dover, and took charge in the usual course. There was a spring flood tide, with a violent gale from the north-west, with rain squalls, but the atmosphere was clear. At the Gull lightship, the pilot, to my great annoyance, slowed down. On arriving at the Tongue light-vessel, the pilot said that he could not see the next light—the Princes Channel lightship—and that the weather and tide made it too risky to enter the river. The North Sand Head, the North Foreland, the Tongue, and the Princes Channel light were perfectly visible to me, but the pilot declined to go on. I then called the mate on to the bridge, and asked him if he could see the Princes Channel light. He immediately answered 'Yes sir;' and at the same time pointed it out. The pilot now proceeded, but anchored off the Chapman, and would not go any further. The ship lost twelve hours in time, and over £100 in money, by this delay, and I am of opinion that had the pilot's eyesight been equal to his duties, this loss would not have occurred."

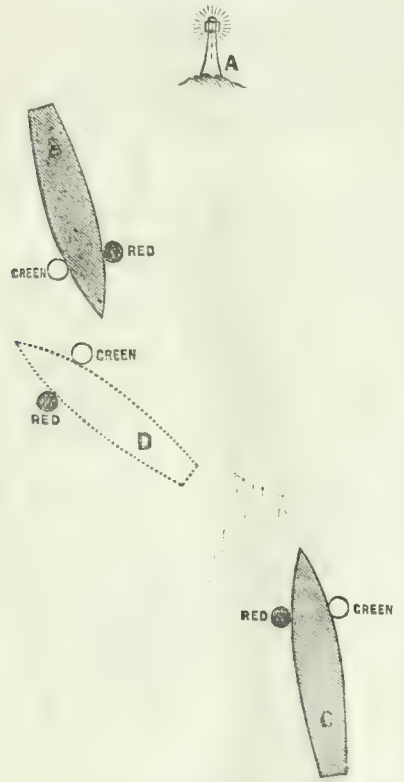


Fig. 2.—A, Ushant Light, twice white, once red. B, French mail steamer, its red light being mistaken for the light of Ushant. C, advancing steamer, with D the course taken, narrowly escaping a collision.

The captain who related the following case to me, entitled it "*Mauvais quart d'heure* aboard a steamer." I give it to you in his own language. "Position, off Ushant, a north-east gale with very heavy squalls of hail; in the squalls, atmosphere thick; between the squalls, very clear. Bound to Rouen, and standing in on an E. by S. course, to try and make Ushant. Look-out man reported the red revolving light off Ushant, which is twice white and once red. I could not make it out clearly, but there were two officers on the bridge, one of whom had passed Ushant many times recently, and knew the light well. I had not seen Ushant for fifteen years. In the middle of a squall, when night glasses were of no use, the second mate reported that he saw breakers, and I put the helm hard a-starboard, and made the nearest shave of a collision possible to make. It turned out that the light taken for Ushant was the red electric light of what appeared to be a large French mail steamer, and that the breakers were nothing else but the tail water of her screw. Sailors will appreciate the gravity of this incident better than landsmen." Had the so-called breakers been seen one half minute later than they were, a collision would have been inevitable.

I now come to a case of more than usual interest. It is one which, so far as I am aware, has not been mentioned before in connection with this subject; and if the conclusions which I have formed after a close reading of the evidence commend themselves to you, it will be, I think, unnecessary to seek further for cases of accident due to defective eyesight. I refer to the loss of H.M.S. *Vanguard* in the Irish Channel on September 1st, 1875. The particulars of that disaster are briefly these. Four men-of-war (*Warrior*, *Hector*, *Vanguard*, and *Iron Duke*) weighed anchor at Kingstown Harbour for Cork. Shortly after sailing the vessels ran into a bank of fog. Whilst in this fog the speed of the *Vanguard* was reduced while that of the *Iron Duke* was maintained, and the not unnatural sequel of the one running into the other occurred, seventy minutes sufficing to send upwards of a quarter of a million of money to the bottom. The court-martial on the loss extended over nineteen days; the evidence was minute, and the court came to the conclusion that the loss of the ship was due to six causes, which, however, it is scarcely necessary to mention here. In addition six officers were reprimanded, two of them being dismissed their ship. That four of these causes had practically nothing to do with the disaster will be seen by the fact that the Lords of the Admiralty, in commenting on these six said causes, cut them down to two, namely (*a*) to the reduction of speed of the *Vanguard*, and (*b*) to the sheering out of line and quitting station by H.M.S. *Iron Duke*. No one will question the statement that however much the *Iron Duke* had sheered out of line, the collision could not have occurred but for the reduction of speed on the part of the *Vanguard*. But the slowing of the *Vanguard* was not the initial cause of the accident; it was in itself but the effect of a cause, and we must inquire what it was that led to the slowing, for in that lies the real cause of the disaster. On that point the evidence is very definite; we find that the slowing of the vessel was a direct consequence of a report by a "a look-out" man that a ship was crossing the bows of the ironclad, and it was to avoid running this ship down that the captain gave the order to slow. And when we find that this "look-out" man had defective vision, that in evidence he stated that his sight was "not good on all occasions," that he had "on two or three occasions been treated for defective eyesight," and that "the sight of his left eye was a good deal stronger than that of his right," when we find that of five look-out men placed equally well for seeing, this man alone saw the ship; and when again we find Mr. Hunt, First Lord of the Admiralty, stating from his seat in Parliament that "indeed the vessel seemed to be the veritable phantom ship," and again that "from the evidence there could be no such ship," are we not justified in coming to the opinion that the ship ahead was indeed but a phantom of this "look-out" man's disordered vision, and that in his defective vision lay the true cause of the accident?

I fail to see how a case better proving the correctness of our contention, that defective eyesight in sailors is sufficient to, and frequently does, lead to accident, could be found. And, if further corroboration of this case is required, it may be found in the quotation from the Parliamentary report of a speech delivered on this disaster by Lord Brassey, which reads as follows: "Was it not unsatisfactory that the men who were placed in the most responsible positions, such as look-out men and signal men, were only ordinary seamen? An ordinary seaman was stationed as look-out man at the top masthead of the *Vanguard*, who had been only eight months in a sea-going ship. The entire management and manœuvring of a ship by the officers in command might depend on the experience and judgment of the men on the look-out aloft, and if they were not efficient, the gravest consequences might ensue. The seaman placed as look-out on board the *Vanguard* was an ordinary seaman, and it was in consequence of his reporting a ship ahead that the *Vanguard* stopped and the collision followed. It turned out that *this seaman had been twice treated for blindness in the right eye, which was the organ directed to the supposed ship*" (the italics are my own).

It is scarcely necessary to add that this deficiency of vision on the part of the look-out man was much too trivial a condition to be taken into consideration either by those who formed the court or by the Lords of the Admiralty. It was sufficient and necessary for them to find a cause, and I can quite understand their being influenced by some such feeling as that six causes ought to be sufficient without troubling to find a seventh, and that in repri-

manding six officers and dismissing two of them their ship they had done their duty. The official account of the court-martial does not say how they rewarded the defective-sighted look-out man; for all we are aware he is still on the look-out for some more phantom ships, and I have very little doubt but that when found he will do his best to make use of them.

And now I must bring this paper to a close. Were it not that I have no right to encroach further, nor even for so long, on your time, I could relate other cases, each of which has some special feature; but I trust the additional evidence I have brought forward will be deemed sufficient to justify the medical profession in continuing to press the Legislature for precautionary measures. Individual companies are now doing what they can to obviate those preventable dangers arising from defective eyesight or colour-blindness in their sailors; but individual action is not enough, and it is deplorable that the Government of the country has not taken the subject up and settled it once and for all. The means recommended by their Select Committees for the Prevention of Collisions at Sea and for the Prevention of Loss of Life at Sea are and must remain futile, so long as they continue to ignore the very essential of safety—namely, perfect eyesight—on the part of officers and men. Surely it would be wiser to avoid danger than to provide for it.

There has recently sailed from this city of Glasgow a vessel [2] which may well be considered an ornament and a credit, not only to the men who designed and built her, but also to the nation to which she belongs. We can rest assured that the company to which she has gone will take every care that she is manned by men of good quality, and free from all physical defects such as colour-blindness and defective sight. In their hands she will be safe from all the perils of land, of rock, and of shoal, for she has simply to be kept away from them and she is secure against the worst of weather; but all the vigilance and care on the part of her officers and men cannot prevent her from being run into, if, on the colliding vessel, colour-blind or defective-sighted men hold the command, and that such a possibility should exist is, to my mind, a disgrace.

The subject is not a medical one; it is a national, or rather an international one, and the keen interest manifested by the public, as instanced by the copious correspondence following a suggestion that a possible factor in the cause of the railway disaster at Arlsey Junction was colour-blindness on the part of the engine driver, or by the equally copious correspondence which followed an excellent leading article on colour-blindness in the *Times* of December 6th, 1881, is to my mind sufficient evidence that were the facts (1) that there is no official test whatever as to a sailor's eyesight; (2) that a man may be the subject of any of the various forms of eye disease, may have any degree of blindness, or may be so shortsighted as to be unable to see distinctly more than a few inches in front of his nose, and yet be at perfect liberty to be a sailor, and to become an officer; (3) that although there is a compulsory colour examination—in many cases a most inefficient one—to be passed before a sailor can become an officer, there is no check to a colour-blind man being a sailor, or to his remaining one to his life's end; that were these facts placed fairly before them, public opinion would obtain for the subject of "sailors and their eyesight" that attention which so far the medical profession has demanded in vain.

[2] *City of New York*, Inman and International Line.

MEDICAL MAGISTRATES.—In a list of gentlemen appointed Justices of the Peace for Lanarkshire there occur the names of John Henry Beath, C.B., M.D., Hillhouse, Hamilton, and John Forrest, M.D., Calderview, Motherwell.

BEQUESTS.—The bequests of the late John Griffith, of 6, Hanover Terrace, Regent's Park, who died on September 21st, aged 91, include £4,000 to the London Hospital; £4,000 to Guy's Hospital; £4,000 to the Middlesex Hospital; and £4,000 to St. Mary's Hospital, Paddington.—Those of the late Mr. William Adam, of No. 3, Tenterden Street, Hanover Square, who died on July 27th at Forfar, include £500 each to St. George's Hospital, King's College Hospital, Middlesex Hospital, St. Mary's Hospital (Paddington), and Charing Cross Hospital; £600 to the Hospital for Incurables (Putney); £400 to the Association for the General Welfare of the Blind; £300 each to the Hospital for Epilepsy and Paralysis (Regent's Park), St. Thomas's Hospital, the Hospital for Diseases of the Throat (Golden Square), the Infirmary at Forfar, and the Cancer Hospital (Brompton).

COLOUR-BLINDNESS, WITH DEMONSTRATIONS OF NEW TESTS.

Read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

BY KARL GROSSMANN, M.D.,
Ophthalmic Surgeon to the Stanley Hospital, Liverpool.

To employ people in positions for which they are, for some reason or other, unfit, is not a wise action; but when such a post on which the welfare of life and property depends is entrusted to anyone completely incompetent, such a proceeding is unjustifiable, not to say reckless. To urge before you the great dangers arising from the employment of colour-blind individuals as railway servants and seamen would be quite superfluous, as no one here could possibly be of a different opinion. Any contribution, however, which will show to the laity at large that we are not mere "theorists," and that our grievances are well founded, will deserve the thanks of everyone, and all the more so if such practical *demonstratio ad oculos* acts at the same time as an easy means of detecting colour-blindness—a means which can be applied by anybody without special knowledge or assistance. I believe it is principally due to a want in this direction that the practical points in reference to colour-blindness have not yet been generally acknowledged.

But before demonstrating to you an apparatus constructed with special view to the points mentioned, I beg leave to make a few theoretical remarks on colour-blindness. I am not going to give you either a long history of the first observations on colour-blindness, from John Dalton onwards, nor do I intend to tire you by exposing at length the different theories on colour-perception. These are elementary points known to every medical student. For the sake of simplicity, I shall confine my remarks to-day to that kind of colour-blindness which is by far the most frequent, namely, red-green-blindness.

A colour-blind person may be defined as one who mistakes as alike, or nearly so, certain colours which appear quite different to the normal eye. Holmgren, modifying Seebeck's tests with coloured papers, uses a bundle of about 150 different coloured skeins of worsted, out of which all those similar to a given one have to be selected. It is clear that if the selection be large enough, a certain colour may be matched as identical with the test specimen. Stilling combined two such colours to form a pattern of the one on a ground of the other. By this way, a colour-blind eye will see a single colour only. Stilling had thus plates printed; and although he succeeded finally in overcoming the great technical difficulties in the reproduction, still his plates were not perfect, and failed often, and this principally from a theoretical mistake, for which I think I have found out the reason. I return to this point in a moment.

For convenience sake, I want to introduce here a new word: I will call "twin-colours" a pair of different fundamental colours [1] (both simple and in combinations) which appear identical to the colour-blind eye. It requires long and often repeated working with very intelligent patients, and the harvest is not over rich; still it gives us a fair insight into the way colours appear to them.

To mix pigments is the way Stilling pursued; and although this is in one sense the easiest mode, it has the disadvantage of producing subdued tints only. For brilliant colours I resorted again to aniline-dyed wools. The way I finally adopted for comparing colours easily is shown by this tail of wools (exhibited). It contains 102 colours, each arranged so that it is shaded gradually from dark to light, from knot to knot being of one shade. There are altogether 1,744 different tints. The mode of comparing colours here is extremely convenient, the only thing required is to pick out two colours which seem very nearly the same, and then to run the one tint along the shades of the other. On this plate which I pass round you will find a good collection of such twin-colours. In order to verify their apparent identity, I resorted to the mode adopted by Cohn, and embroidered letters of the different wools. Of the specimens I show here, let me draw your attention to some of the yellows and greens, which are particularly valuable, as I shall explain presently.

In searching through the colours, I found that to some pairs a third fundamental colour could be added, thus completing the

[1] Fundamental colours: yellow, blue, red, green.

twin-colours to triplet-colours; for instance, to green and yellow, a certain red. Here, on this plate (passed round), you see some of these triplet combinations. Soon, however, I observed the following: The red in its darker shades was not always satisfactory; it was acknowledged by some individuals, while others disowned it both in twin- and in triplet-combinations, and yet the yellow-green twins and the pale-red tints were equally good for all, In some cases, the red appeared exactly like the green or brown; in others, it was lighter, in others darker. Still, in all my cases, the brown, the yellowish-brown, and green, acknowledged by one was identical for all the others. There, then, was a problem which wanted solving. After several futile attempts, I at last found the following explanation. Some colour-blind persons do not see the spectrum in its full normal length, but shortened at the red (left) end. Therefore, not perceiving certain red rays of the spectrum, they would see a particular red, darker than some of their co-sufferers, whose spectrum is of normal length. Of course, as pigment (and dyes) are not pure like prismatic colours, a certain red will not appear black to them, but as a dark-brown; and a pale red or pink will contain so much white that there will be no darkening effect noticeable from the red component of that particular colour. On the other hand, the green did not appear affected by the length of the spectrum, and, therefore, all my colour-blind patients saw the yellow and green twin-colours alike.

This explains why some of Stilling's plates are theoretically unreliable. It shows us that for the purpose of such pseudo-isochromatic combinations, the darker or middle tints of red have to be avoided. I made some special use of this observation by embroidering letters, of which the following woodcut (Fig. 1) gives

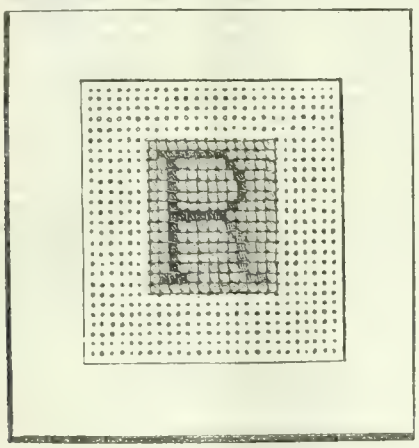


Fig. 1.

an idea, as far as an illustration in black and white can do so. Three colours are employed—green, brown, and red. On a brown ground a P is formed of red wool. This P is completed to an R by a green tail (marked in the woodcut by a lighter shade). When I show this letter to one of my patients whose spectrum is of normal length, he says, "I do not see any letter, all is a blank to me." Another one, whose spectrum is shortened, recognises a P (dark on a lighter ground), and we ourselves see the R. The more the spectrum is shortened at the red end, the darker and more distinct appears the P.

It seems to me that herewith a step forward is made in the direction of explaining the difference between the "red-blindness" and "green-blindness" of the followers of the Young-Helmholtz theory. As for myself, I have never met with a case where red-blindness alone or green-blindness alone existed; I always found that an individual incapable of recognising red as such was equally insensible to green.[2] Everyone who would mix green and grey would also add reddish tints to those colours, provided the selection of shades and tints was sufficiently large. The only difference I could find up to the present was the one concerning the red end of the spectrum, and this accounted for the difference of twin-colours required in the different cases.

By the three-coloured letter described above we are thus enabled to know at once to which class our candidate belongs.

[As a parenthesis, I will add another less important reason, while easier avoided, why red is not very suitable for letters or figures of twin-colours—namely, the variability of the daylight. As we all know, the sunlight is not white, but yellowish. Clouds alter the light very much, and fogs and smoke, abounding in our atmosphere, contribute their share to modify it, too. In my specimens, the red was hereby far more affected than the green and yellow—thus doing away with the apparent identity of some twin-colours.]

For these reasons most of Stilling's plates are not reliable. But also the wools used in twin-colours in the shape of letters or figures are subject to a very great drawback, and that is, they are very apt to fade. The colours are not only not fast, but fade differently. Some pinks, for instance, are completely altered by an exposure of a few minutes to the sun; the same with some mauves; and most of the other colours are affected to some extent. The amount of fading is different in every individual

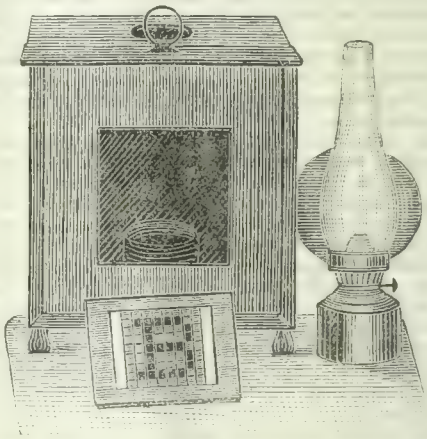


Fig. 2.

colour, with the result that a letter originally quite indistinguishable becomes easily readable after a certain time by the mere exposure to ordinary daylight.

Also Holmgren's test is open to the objection that it can only be perfectly applied in daylight.

In order to obviate as much as possible these objections, I tried to construct tests for artificial light which would at the same time imitate the coloured signal lights as nearly as possible. I

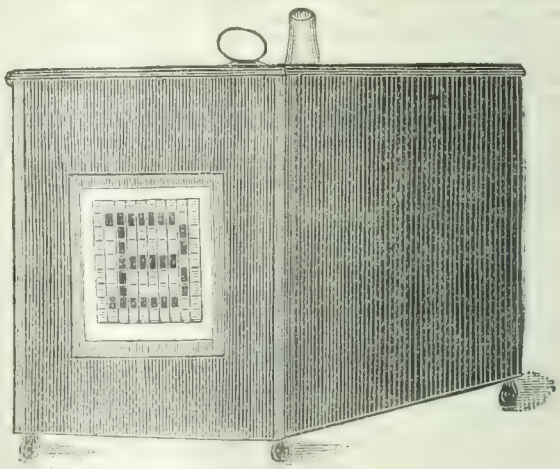


Fig. 3.

experimented with different transparent and semi-transparent material, paper, tissue paper, gelatine, etc., and finally adopted coloured glass. Out of two pieces of different (twin-coloured) glass I cut small squares, and arranged them loosely between two sheets of plain glass, so as to form some mosaic pattern. They are kept in their position by four bands of glass cemented to the edges of the one cover-glass. A narrow metal frame keeps the

[2] I mean, of course, typical congenital colour-blindness.

whole together, and forms it into a slide, to be placed into a lantern. Fig. 2 represents this lantern when open. It consists of an almost cube-shaped tin box, about six inches high, six inches wide, and eight inches deep. It contains a small paraffin lamp with a reflector, both fitting into a socket in the bottom of the lantern. The top has an opening for the chimney. The back (invisible in the figure) opens so as to admit the lamp easily. The front is open, and contains several grooves to receive the carrier for the slide. A piece of ground glass is placed behind the carrier, and in the third groove a transparent coloured glass may be placed if needed. The slide itself lies in front (in Fig. 2).

Fig. 3 represents the lantern when ready for use. The ground glass behind the slide makes the light more even, and allows the use of a very small wick. The construction of the slide will be readily seen in Fig. 4, as the lines in the woodcuts Fig. 2 and

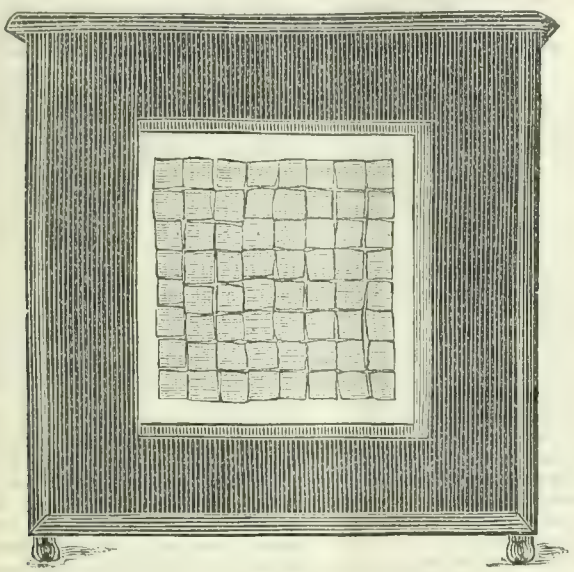


Fig. 4.

Fig. 3 are somewhat misleading. Fig. 4 is a copy from a photograph, and shows very well the imperfect shape of the squares, due to my want of practice with the diamond. This photograph was taken from a light red and green slide. It shows very well how all these slides appear to the colour-blind eye. It is quite interesting to note, *en passant*, that the sensitive plate of the photographic camera is in this respect equally defective as a red-green blind eye. It is highly sensitive to dark and light, and registers apparently equal intensities of blue and yellow by differences of dark and light; but both slides and wool letters made of twin-colours for the red-green-blind came out as complete blanks when photographed. Want of space forbids me to go further into this matter here.

I must also refrain from giving here a detailed description of the different slides; a few remarks only may suffice. Some slides do equally well for lamplight and daylight, for instance, one of bright yellow and green; others for lamplight only, others again only for daylight. To the latter class belongs one slide which is interesting in so far as its material is taken from red and green signal glass. Seen in daylight, it appears to the colour-blind as one colour only, the only difference perceived being due to the circumstance that the green squares vary considerably amongst themselves in shade. In lamplight, however, this particular slide shows the green bluer and duller than the red, the latter thus becoming distinguishable. To equalise this difference, it requires only a transparent pale bluish-greenish glass to be placed between lamp and slide. This tint, however, was not to be obtained anywhere, and I had to stain the glass myself. In a similar way I stained glass yellowish red, to allow those slides which are twin-colours in lamplight, to appear as such in daylight.

There are also slides of triplet-colours. One of these is made of green, red, and brown. The colours are so chosen that the green and brown do equally well for lamplight and daylight, while the red completes the triplet for lamplight only. The red forms a P, completed by brown squares to a B, the ground being green. This slide is therefore a complete blank in lamplight, while in daylight it shows a P to the colour-blind. I have also "pilot-letters," which every one must recognise; to demonstrate the letters and slides to the candidate, and there are also "trap-letters," to detect shamming.

I have thought of having my slides reproduced, not as fixtures but movable, so that at any time the examiner thinks it desirable, the slides could be opened and the letter or pattern altered. This would have the advantage that the candidate could never be certain what letter he would be shown, and no one of his friends could grind him beforehand in the different letters. Still there are several strong mechanical obstacles in the way; and this idea may therefore have to be abandoned. The carrying out of the manufacture of these slides is almost as laborious as that of my models, as hardly one foot in a big sheet of coloured glass is like another, and the most minute difference in shade is already detrimental. Still, if once perfect, the slides will last for ever. The small bits can scarcely be destroyed by anything, and their colour will outlive us all.

I should like to conclude with a few remarks on some practical points.

The tests at present applied by the Board of Trade are anything but satisfactory. They consist in coloured cards and coloured glasses, the names of which are asked. This may lead to wrong results in two directions: (1) it may prove too much, as the misnaming of these colours may be due to ignorance and not to colour-blindness; (2) it may prove too little, as colour-blindness by no means always prevents the correct naming of most colours, even if we could exclude guessing. Several of those who were not able to distinguish the letter in my red-green glass slide distinctly named the reds and greens of the Board of Trade tests quite correctly and without much hesitation.

Yet, there is another point I want to urge, and that is the examination for colour-blindness ought to be repeated periodically. Tobacco and other causes very often affect the keenness of sight, especially the colour-perception. This has been fully recognised in other countries, where the officials of many railway companies are examined not only periodically, but after each individual case of typhoid fever and other complaints.

Statistics are hardly wanted here, but for those who are very fond of them I will just mention that I have before me the most careful and elaborate statistics of seventy-nine German railways, comprising nearly a quarter of a million *employés* (239,726). One single point I will state: out of 16,201 cases of repeated examination 305 gave a result different from a previous one, and the report particularly emphasises the great importance of repeated examinations.

And considering how easily the examination for colour-blindness can now be carried out by anyone, it is greatly desirable that this defect, which in its typical form is a congenital affliction, should be detected at a period of life when the future vocation is not yet a settled affair, I mean at school. This would enable parents or guardians to prevent a colour-blind child from embarking on a career for which he is utterly unfit, and would thus save a great deal of time and expense.

I therefore sum up with the following points, namely: (1) in all schools (boys' schools at least) an examination for colour-blindness ought to take place at a certain time, say for instance at the age of ten; (2) every railway servant and sailor ought to be examined when entering the service; (3) these latter examinations ought to be repeated, both periodically and after special occasions.

Dr. Reid asked whether the spectrum in those cases was shortened on the red end only, or whether there was a defect in the green too, and how the colour-blind sees the red and green; also whether there was a limit in the restriction of the shortening of the spectrum within which the triplet-coloured test could be applied.—Dr. Grossmann replied that in all his cases the red end only was shortened, where there was shortening at all. There was no discontinuation within the spectrum in the green portion. As for the triplet letter, it was intended for (and made with the help of) colour-blind people whose spectrum was of normal length.—Dr. Mackay asked that in Board of Trade examinations more attention should be paid to the examination of the colour-sense eccentrically, with a view to determining whether hemiopic congenital colour-blindness was not sometimes present, and he indicated the value of such information towards the elucidation of the constitution of the visual centres.

OBSTETRIC MEMORANDA.

PUERPERAL ECLAMPSIA.

J. M., aged 24, robust, primipara, was delivered of a female child on December 14th, 1887, very little loss of blood occurring at the time. The next morning she had a convulsive fit, from which she rallied in about eighteen minutes. I administered bromide of potassium and chloral hydrate aa gr. 20. Another fit resembling epilepsy came on in about half an hour. The head was thrown from side to side with great rapidity; the arms worked convulsively; the face became bright red, and then gradually livid. The breathing, which was at first jerky, became stertorous in about forty seconds. The attack culminated in coma, from which she recovered in twenty minutes. The next time she had a fit I placed her under chloroform, which seemed to modify the intensity of the seizure. The attacks continued to recur even when completely under the influence of chloroform, and in the evening of the same day the patient had had seventeen fits in twelve hours, and had been continuously unconscious for the last four hours. The pulse was 120, full; carotids visibly throbbing; face flushed; pupils contracted. I administered elaterium (ext.) gr. ¼, calomel gr. 5, and drew off 14 ounces of blood from the arm; after this she had only one fit, and became conscious in six hours, although she was drowsy for several days. The bowels acted freely. The urine contained about one-third albumen, which gradually disappeared in the course of a week.

The patient manifested the usual after-symptoms of puerperal eclampsia—remembering nothing that had occurred, not even the birth of the child (which she said was not hers), and not recognising the surroundings. At the end of a fortnight her memory had improved, and she got up from bed in fairly good health.

MAITLAND THOMPSON, M.R.C.S., etc.

Metheringham, Lincoln.

VENESECTION IN POST-PARTUM ECLAMPSIA.

THE following account of a case, which came under my notice recently, may possibly be of some interest to your readers.

I was called to a case by the midwife in attendance on September 12th, 1888. When I arrived I found the patient quite unconscious and in the height of a convulsive seizure. She had that morning given birth to a live healthy child, and the placenta had come away without difficulty, the labour being described by the midwife as a very easy one. In a quarter of an hour after the expulsion of the placenta, the patient became unconscious, and had a number of convulsions in rapid succession.

When I saw her she had been unconscious half an hour. I administered chloroform at intervals, and succeeded to some extent in controlling the violence of the attacks for several hours; but as this did not appear to be curative, and as the venous system was intensely engorged, there being little or no discharge from the uterus, I opened the right median basilic vein, and removed about twelve ounces of blood. After the venesection the convulsions moderated greatly and finally ceased within an hour. Altogether the patient was unconscious thirty-six hours, and had upwards of sixteen eclamptic seizures. Whilst the patient was unconscious nutrient enemata were given, and when she could swallow I gave a saline aperient, followed by a bromide mixture. The urine drawn by the catheter showed on examination one-sixth albumen.

I mention the case because, beyond a little œdema of the legs, the patient had felt quite well up to and during her confinement, and had done all her own housework. I saw the patient last on October 1st; the urine was normal and she was quite well.

Great Crosby. EDWARD BUXTON, M.R.C.S., L.R.C.P.

CLINICAL MEMORANDA.

A CASE OF MALFORMATION.

A FEW weeks ago I attended a primipara, said to be eight months' pregnant. The appearances of the child were briefly these:

Left talipes varus; double hare-lip; abdomen divided from sternum to pubes; liver and intestines lying outside abdominal cavity: frontal and parietal bones wanting, brain being exposed; dura mater, or what appeared to represent the ossa cranii, continuous with membranes of placenta. On dividing this membrane, I found the placenta and brain not only in contact, but partially adherent. Eyes sightless, the right being considerably protuberant. Place of right ear covered with a loose membrane; behind this membrane the finger could be passed into the skull. Umbilical cord, five or six inches long, passed in a straight line from umbilicus to placenta; through its greater portion it was adherent to the margin in opening of the abdominal cavity. The whole contents of uterus came away together. Foot presentation. The child made five or six attempts at respiration.

Northampton. W. KENNEDY, L.R.C.S.E.

A SPECIAL FORM OF REFLEX SPASM OF THE TYPE OF BLEPHAROSPASM, BUT MORE EXTENSIVE AND ELABORATE.

O. H. W., an undergraduate, 22 years of age. He was tall, but with narrow and sloping shoulders. His look was heavy, his movements wanting in force. The lungs were healthy. The apex beat was indistinct, the heart sounds weak, the valvular closures not marked enough. He was rowing in the torpid of his college; last year, for some reason or other, he was not able to row, though he had been tried. He had blepharospasm when first seen. The day after the levator labii superioris and alæ nasi were affected. The want of force in the circulation caused an impairment of nutrition. Perfect assimilation of food demands, of all things, an equilibrium of exercise and nutrition. A man in training and rowing is at a great disadvantage when he cannot assimilate his food. Under these circumstances the excessive impairment of the functions would account for the special extent of the spasm.

Oxford. S. D. DARBISHIRE, M.D.

A CASE OF SO-CALLED "CATHETER FEVER."

THE following case is regarded as of sufficient interest for publication, inasmuch as, while the symptoms exhibited were remarkably in accordance with those of "catheter fever," they were shown by *post-mortem* examination to be connected with a definite lesion. This lesion, moreover, was worthy of note and so obscure as to render accurate diagnosis impossible.

A. C., male, aged 37, was seen by me on May 23rd, 1888. He appeared extremely ill, weak, and emaciated. His pulse was 120, and the temperature 102.6°. The tongue was dry and cracked, the bowels constipated. The bladder had almost entirely lost its contractile power; it was greatly distended, and urine was escaping involuntarily. There was no other paralysis, but the deep reflexes were not to be elicited, even with the Jendrassik test. The urine was copious, pale, of specific gravity 1010, containing one-sixth of its bulk of albumen. A few blood cells were discoverable with the microscope, but no casts or epithelium. He complained of nothing but feverishness and weakness and the trouble of the bladder.

The family history was not good, cancer, struma, and gout having occurred among his near relatives. Eleven months ago he got his bladder much distended, and although he thought he had emptied it before going to bed, he passed water that night in his sleep. For five months he remained well and had no trouble with the urine that he remembers. He never had gonorrhœa or syphilis. For six months he has been feeling "out of sorts," and during this time the bladder difficulty has reappeared and increased, and he has had constipation, and dry, furred tongue. For two months he has been losing flesh and strength. A fortnight since he consulted a doctor on account of the difficulty in emptying the bladder. A flexible india-rubber catheter was given him, which was rather a tight fit, but there was no stricture, and he passed it twice a day, always using carbolic oil. At this time he was capable of playing lawn-tennis and taking other exercise. On May 21st (two days before I saw him) he had rigors, and since then has been seriously ill. Next day his temperature had risen to 105°, and the pulse to 140; and from this time to his death, on June 12th, there was almost constant pyrexia (the average temperature being a little over 100°), rapidity of pulse, varying polyuria, and total loss of power over the bladder. The largest quantity of urine drawn off during twenty-four hours was twelve pints, and the smallest three pints. It remained to the last clear of anything but a small quantity of blood, but was always albuminous. Once he complained of pain and tenderness in the region of the right kidney, but nothing could be detected on examination. Before death emaciation and exhaustion were extreme.

The necropsy revealed large, white kidney. The capsule of the right kidney was much thickened and separated from the surface of the organ by about a drachm of sero-pus. The surface of this kidney was smeared with pus, but there was no abscess of the perinephral cellular tissue or in the kidney itself. The mucous

membrane of the bladder showed points of congestion whence, doubtless, came the blood which was found in the urine. A section of the wall of the bladder was examined for me at St. Bartholomew's Hospital, and neither degeneration nor atrophy of the muscular fibre was found; on the contrary, it was thought that, if anything, the muscle of the bladder was somewhat hypertrophied.

In studying the course of this illness, and attempting to determine rightly the course of events, I surmise that some obscure affection of the nervous centres preceded and underlaid the whole condition, producing atony of the bladder, followed by distension of the organ, which in turn gave rise to irritation of the kidneys, renal degeneration, and finally suppuration.

Broadstairs. THOMAS F. RAVEN, L.R.C.P.

ACCIDENTAL REVACCINATION.

THE case of self-vaccination in a child, recorded by Dr. Page, of Redditch, resembles in its accidental causation the following incident in my practice.

Mrs. C.'s infant was vaccinated in April last successfully in four vesicles. About eleven or twelve days after this the mother sent to my surgery for advice as to what she had better do for a painful swelling on her chin, which she thought was a "gathering." I did not see her then. A week after this I was summoned to the patient's house to see the inflamed chin. I found on the point of the chin a well-marked vaccination vesicle, nearly as large as a shilling, already drying up, but with a good deal of inflammatory swelling around it. The patient's story was that she had a pimple on the chin while she was nursing the vaccinated infant, washing it and dressing it. She admitted that she had been in the habit of scratching this pimple with her finger-nails at any moment, regardless of what she had been touching just previously. In this way she succeeded in vaccinating herself. The whole trouble soon subsided with fomentations, etc., and she now has a well-marked pock left on her chin, as a readily exhibited proof—if ever needed—that she has been vaccinated. M. J. DOIDGE.

Lifton.

REPORTS

ON

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

KENSINGTON INFIRMARY.

AN UNUSUAL FORM OF INTESTINAL OBSTRUCTION.

(Under the care of Mr. PERCY POTTER.)

A. W., aged 5 years, was admitted on May 4th with intestinal obstruction of a week's duration. The countenance was pinched, the pulse small and weak, the abdomen flattened, and specially tender over the right iliac region, and the child lay on the left side with the thighs flexed. She was torpid but restless. The tongue was dry and brown; the temperature was not increased; vomiting had been frequent, and after admission was persistent; it was not fæcal. Enemata had been given before admission without satisfactory result. In the absence of any physical signs of intussusception or fæcal accumulation, it was thought advisable to give small doses of opium and belladonna and to try once again enemata. These palliative remedies failed, and as the child rejected everything swallowed, even small quantities of milk and brandy, the following day an exploratory operation was performed.

Operation.—Chloroform was administered, and an incision made, commencing two inches above the pubes and extending to within an inch of the umbilicus. A distended bladder was emptied by means of a catheter. By the introduction of the finger search was made for any source of obstruction, such as bands. Coils of intestine were exposed and traced from the duodenum downwards. This and the first part of the jejunum were distended with flatus, whilst chyme was felt to be present in the lower part of the small intestines; the large bowel was empty. There were no signs of peritonitis, old or recent, the abdominal contents, so far as could be seen, being healthy. Objective signs of obstruction were absent, therefore the results of the investigation were somewhat disappointing. The abdominal incision was sutured with carbolic catgut, which included the peritoneum. The patient died from collapse six hours after the operation.

Necropsy, seventeen hours after death. No signs of commencing peritonitis. All the organs of both chest and abdomen were apparently normal. The intestines were removed and filled with water in the usual manner. It was found that the ileo-cæcal valve was impervious; no fluid entered the larger bowel. The valve was therefore carefully examined, with the following result. The lower few inches of the ileum was found to be the seat of enteritis; flakes of inflammatory lymph had agglutinated the edges of the valve to such an extent that, upon close inspection, only a pin-hole opening remained through which water could percolate drop by drop. There was no foreign body in the vermiform appendix, nor anything found in the intestines to cause inflammation of the mucous membrane.

Such appearances as those described are probably infrequent. The absence of any condition giving rise to the symptoms on examination at the operation can be explained by the obstruction being centred solely in the interior of the bowel. The exhibition of any active aperient would doubtless have intensified the enteritis without effecting a satisfactory cure.

CHARING CROSS HOSPITAL.

ENORMOUS CYSTIC KIDNEY: NEPHRECTOMY BY MEDIAN INCISION: DEATH: NECROPSY.

(Under the care of Mr. BELLAMY.)

[From notes by F. O. STEDMAN, M.B., B.S.Lond., Surgical Registrar.]

THE great interest attached to this case lay in the difficulty in its diagnosis. The patient was sent as suffering from an ovarian cyst, and on most careful examination it was made out that the tumour was either ovarian or a pedunculated uterine fibroid.

The patient, E. M., aged 44, single, was admitted on April 11th, 1888. She first noticed an abdominal swelling about three years ago, since which time it had gradually increased, causing some dragging pain. The menses were regular. On admission, the tumour was in the middle of the umbilical region, reaching down to the pubes, dull on percussion, fluctuation indistinct. In consultation with Dr. Watt Black, who thought it was connected with the uterus, and was either a pedunculated fibroid or an ovarian cyst (the urine was perfectly normal), abdominal section was decided on.

Accordingly, on April 12th, at 10 A.M., under strict antiseptic precautions, an incision in the mesial line 2½ inches long exposed a cyst wall, reddish white and shiny; this was tapped with a Wells's trocar, and a large amount of bloody fluid escaped.

The tumour was found to be very adherent to the small intestine at various points, and there were numerous firm adhesions behind and above to the diaphragm, and one very tough one passed across to the right side. Having no room for manipulation, Mr. Bellamy increased the abdominal incision as far as the umbilicus. On following up above the adhesions, he came down on a hard mass, and tracing this up, another mass which was dragged forward with a Nélaton's forceps proved to be the upper part of the left kidney.

Nephrectomy was at once decided on, and all bleeding vessels being clamped or tied, the ureter was first tied and divided, then an armed aneurysm needle was passed round the renal vessels, which were secured and divided. After separating more adhesions, and ligaturing vessels, the mass was removed entire. The ordinary peritoneal *toilette* was carried out, and the abdominal wound closed with silver-wire and horsehair sutures; and dressed with gauze and salicylic wool.

The lower part of the kidney was found to be dilated into a thick, tough-walled cyst, containing altered blood and decolorised clot. The cyst had come forwards and to the right side, so as to lie as nearly as possible in the mesial line and across the front of the spinal column.

April 13th. Temperature 99°. No pain, but great thirst. She gradually sank, and died on the 14th, of collapse.

Post-mortem examination showed a little commencing peritonitis. All other organs healthy.

NOTICE has been given in Alsace-Lorraine that, hereafter, all prescriptions must be written in Latin or in German, except in localities where the people speak only French.

PRESENTATION.—Dr. F. M. McJannet, who is leaving Campsie, has been presented by his friends with a purse of sovereigns, as a token of esteem and good wishes for his future welfare.

REPORTS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, NOVEMBER 6TH, 1888.

Sir JAMES PAGET, Bart., F.R.S., President, in the Chair.

Tubercle of Ovary.—Dr. GRIFFITH showed a series of microscopical sections of an ovary, which Dr. Galabin had removed from a young woman, aged 19. The ovary was the size of a small apple, showing on section numerous small cysts filled with viscid fluid. There was no appearance of caseation. The Fallopian tube was also enlarged. The microscopical sections showed connective tissue stroma, with small round cells, containing scattered spherical nodules, the connective tissue being circularly arranged round the nodules, and sending branched prolongations into the centres of the nodules, which were occupied by giant cells. There was no caseation in any part. A few newly-developed blood-vessels were seen traversing the sections, but they did not enter the nodules. There was no normal ovarian stroma to be detected in the sections. The peritoneal surface was thickened by fibrinous exudation, which was invaded by leucocytes. The thickened Fallopian tube contained only a few tubercles. He referred to the English, French, and German literature of tuberculosis of the female genital organs. Tubercles of the ovaries were found in two forms: (1) small subperitoneal tubercles in general tuberculosis; and (2) caseous masses in cystic ovaries. Of the latter form he referred to two cases mentioned by Sir Spencer Wells, and to a specimen in St. George's Hospital Museum—a large cystic ovary with caseous masses scattered through it. Microscopical sections of this specimen showed numerous lymphoid cells, and a few giant cells, with much caseous *débris*: no tubercle bacilli were found. He mentioned that tubercular disease of the Fallopian tubes was less rare than of the ovaries; and that the female genital organs were much less frequently affected by tuberculosis than the male, and that in the former it was of pathological rather than of clinical interest. He suggested that some cases of suppurative salpingitis occurring in young women, in whom there could be no suspicion of gonorrhœa, might be of tubercular origin.—Dr. A. MONEY mentioned a specimen from a girl about 6 years old, in which the mucous membrane of the genital tract was infiltrated with tubercle.—Dr. EDMONDS exhibited an ovary (card specimen) which microscopical examination showed to be undoubtedly tubercular.—Dr. ORMEROD mentioned a specimen that he had seen, in which there was probably tubercular disease of the ovary.

Aneurysm of Aorta rupturing into the Pericardium.—Dr. HERBERT HABERSHON showed a specimen of aneurysm of the aorta (extra-pericardial portion of arch) which had ruptured into the pericardium. The case was that of a man aged 34, who presented during life the signs of a small aneurysmal tumour pulsating in the second left intercostal space. He had previously been under Sir Dyce Duckworth's care at St. Bartholomew's Hospital, and six months later applied to Dr. Herbert Habershon at the General Marylebone Dispensary. The physical signs of his disease had altered very little, and he was recommended to stay at home and abstain from work; but on the following day, May 8th, while engaged in sweeping out a room, he was suddenly seized with faintness and symptoms of collapse. When seen on the same evening he was apparently dying, being pulseless, with cold extremities and clammy skin. No effusion was apparent into any of the cavities. On the next day, May 9th, the patient had rallied; but on this and the succeeding day effusion into the pericardium gradually manifested itself, and was accompanied by a paroxysmal cough, with intense pain, presenting in some respects the character of angina pectoris. His highest temperature was 101° F. He died on the morning of May 11th, having lived fifty-six hours after the rupture had commenced. A description of the specimen was given. A fusiform aneurysm, with two large saccules, one occupying the greater part of the arch and involving the great vessels, and partly obliterated by fibrinous clot, the second smaller saccule deeply ulcerated, separated from the left bronchus by the thickened walls and matted surrounding tissues; an ulcerated track led from it, by a perforation large enough to admit the little finger, into the pericardium, immediately anterior to the pulmonary artery. The pericardium showed no sign of recent pericarditis, except in the vicinity of the perforation. The cavity was distended with a pint and a half of dark fluid blood without clots. Dr. Habershon commented on the rarity of this termination of aneurysm of an extra-pericardial part of the aorta, and quoted cases and statistics of authors. He also remarked upon the unusual clinical features of the case and upon the efforts at repair which the specimen illustrated.

Hydatid Cyst of the Left Cerebral Hemisphere.—Dr. HERMANN WEBER exhibited a brain and hydatid cyst, which were taken from a man, aged 22 years, who had suffered from severe pain over the whole of the head, with nausea and vomiting. He was rather apathetic, but without unconsciousness; he had some diminution of power on the whole of the left side, and especially of the external rectus muscle of the left eye; he had well-marked double optic neuritis (choked disc), and vision was much impaired. The movements of the tongue and the sphincters were unaffected. The temperature was rather below than above the normal. Pulse normal. Sudden death occurred within six weeks from the beginning of the symptoms, and on the twelfth day after admission into the German Hospital. The *post-mortem* examination exhibited a large hydatid cyst on the posterior part of the left hemisphere. Dr. Weber remarked that the course of the disease had been comparatively short for a hydatid affection, and that the slight hemiplegic symptoms had been on the side of the lesion, not on the opposite side. Dr. Michel and Dr. Weber had recognised the presence of a tumour in or on the brain, but the absence of certain knowledge as to the exact locality had prevented them from attempting any operation. The wish to obtain the opinion of members of the Society as to the possibility of a more accurate diagnosis in similar cases was the principal cause for bringing the case before the Society.—Dr. A. MONEY thought that the incomplete paralysis of the left side might suggest pressure on the motor tract lower down than the cortical area; he said that paralysis of the external rectus muscle was of no great aid in localisation of brain tumours, owing to frequency of its occurrence with various intracranial lesions, and thought that the practical thing to do in such a case was to trephine in two or three different places.—Mr. BLAND SUTTON stated that in sheep hydatid cysts of the brain were common, but that it was not possible to localise their position from the symptoms.

Two Cases of Mediastinal Growth Involving the Pericardium and the Heart.—These were exhibited by Dr. F.W. MOTT. CASE I. Female, aged 21, admitted into Charing Cross Hospital for left pleural effusion. No definite history, except of rheumatism six months previously. Symptoms at first presented were difficulty of breathing and cyanosis, and evidence of left pleural effusion. The dulness extended over the whole left chest, even to the clavicle in front. This, together with the normal temperature and some dulness over the upper part of the sternum, were the leading features of the case. She was tapped many times, the fluid removed being from 50 to 70 ounces at each operation. In no case was the fluid blood-stained. After she had been in the hospital a month a new symptom developed, namely, œdema of the legs and the left arm. The œdema disappeared after slinging the arm above the head. A fortnight later the patient became much worse, and the œdema returned in an aggravated form, the left side of the chest being also involved. Symptoms of pericarditis also supervened, and later, evidence of considerable pericardial effusion and death occurred from cardiac failure. The voice was not affected, neither were the pupils; she never had any stridor, and until a few days before death she never spat blood. At the necropsy a large lympho-sarcomatous tumour was found occupying the superior mediastinum, infiltrating the whole pericardium, extending up into the neck by the trachea, completely obscuring the great vessels. The growth was attached by two symmetrically placed pedicles to the sternum. The left innominate and left jugular veins were filled with a thrombus. The heart was infiltrated with growth, and presented an appearance as if covered with candle wax. The right ventricle was attached to the pericardium by a mass of growth. Under the microscope the growth was seen to be a lympho-sarcoma, and a section of the heart showed the muscle fibres to be somewhat altered in shape, though still preserving their striation. CASE II.—E. B., carpenter's labourer, aged 45, admitted into Charing Cross Hospital for pain in the præcordial region, vomiting, and weakness. The symptoms and physical signs indicated a mediastinal growth involving the left lung. A few days after admission the temperature went up to 101° without any accountable reason. As the physical signs present over the left base could be interpreted as being caused by an accumulation of fluid, an exploratory puncture was made and pus removed by the house-physician. Mr. Barwell was called in and he excised the tenth rib, but no pus was obtained; there

was, however, a daily discharge on the dressings. The wound did well, but the man died from cardiac failure a month later. At the necropsy a mediastinal tumour was found involving the pericardium, bronchial glands, and the left auricle of the heart. There were secondary deposits in the pancreas, suprarenal capsules, etc. The left lung was surrounded at its root by growth, with which it was infiltrated. The lower lobe was broken down into irregular anfractuous cavities containing a purulent fluid. This accounted for the pyrexia and the supposition of a local accumulation of pus. He mentioned that a very similar case to the first of his had been placed on record by Sir T. Watson in the Society's *Transactions*, vol. xix. He suggested that the growth might have originated in the thymus, as the portion adherent to the back of the sternum was attached to the latter by two pedicles, and was of a red colour, like that of the thymus gland.—Mr. BARWELL referred to the second of Dr. Mott's cases, and said that when he was called to see it he had not considered it a case of empyema, owing to want of bulging of the side, but that when pus had been drawn off he thought it must be one. He then demonstrated an instrument he had devised for sawing through the ribs instead of cutting them through with bone forceps in the operation of excision of rib for empyema.—Dr. MAGUIRE asked if the endothelium lining the veins was intact or not, as in his experience lympho-sarcomata had little if any tendency to destroy the endothelium of the vessels which they invaded, whereas ordinary sarcomata ulcerated into the vessels and caused hæmorrhages.—Mr. ROGER WILLIAMS asked if Dr. Mott had any microscopical evidence of the growth mentioned in the first case having originated in the thymus gland.—Mr. GODLEE asked whether the effusion into the pleura in such cases was more commonly sanguineous or serous. He mentioned one case in which the effusion was at first serous and afterwards became purulent; it was considered to be a case of pleurisy and empyema, and only at the *post-mortem* examination was the presence of a mediastinal tumour discovered. He mentioned another case with anomalous symptoms, where a mediastinal tumour ultimately showed itself, and a third case in which an empyema appeared to be pointing in three places at once, but on cutting down a very soft mass of new growth was discovered.—Dr. MOTT, in reply, stated, in answer to Dr. Maguire, that he thought the endothelium of the veins had not been altered; in answer to Mr. Roger Williams, that he could not positively state that the growth originated in the thymus; he had made the suggestion from the position and naked-eye characters of the growth. In answer to Mr. Godlee, he said he thought the effusion might be sanguineous when the lungs were involved, and clear when they were not. He thought that the soft character of the growth might explain the absence of symptoms of pressure on the vagus.

Mediastinal Sarcoma in an Infant aged 15 months.—Dr. ANGEL MONEY showed a rare specimen of sarcoma growing in the posterior mediastinum. It was the size of a man's fist, and projected chiefly into the right side of the thorax; it extended from the fifth dorsal vertebra down to the diaphragm: it was one-fourth the size of the thoracic cavity, and caused extensive collapse of the lungs; it pushed the heart, aorta, and vena cava in front of it, and displaced the liver downwards; it did not grow from the vertebræ, and the spinal column was not eroded. During life the symptoms resembled those found in extensive collapse of the lungs; the physical signs were extreme dulness of the right lower half of the chest, with absence of breath-sounds; elsewhere bronchitic *râles* obtained. An exploring needle thrust into the dull area felt as if held in a dense solid tissue; no fluid could be withdrawn. Microscopic examination proved the tumour to be a round-celled sarcoma without any striated muscular tissue.

Case of Paget's Disease affecting the Scrotum.—Dr. RADCLIFFE CROCKER related a case and showed the drawing and microscopical specimens of Paget's disease affecting the scrotum and penis. The patient was a whitesmith, aged 60, in whom the disease began in the summer of 1886, without apparent cause. Superficial ulceration appeared on the anterior part of the scrotum and under surface of the penis, somewhat resembling eczema, but very sharply defined, and the excoriation was evidently deeper than an ordinary dermatitis. A great variety of both internal and external treatment was employed without any good effect, the diseased area gradually extending laterally, but without other change until November, 1887, when two nodules were noticed on the left side, one the size of a pea, the other of a large bean. They were firm to the touch, and covered with a yellowish secretion. The malignant nature of the disease was then apparent, and its similarity to the disease of the nipple recognised, an analogy with which Sir James Paget concurred. The whole diseased area was therefore excised by Mr. Godlee: sound cicatrisation took place, and six months later there had been no recurrence. The microscope showed an alveolar structure, sometimes with scanty, sometimes with abundant stroma, the alveoli containing aggregations of small epithelioid cells, suggesting in many respects the structure of the rodent ulcer. Specimens were shown demonstrating malignant change, commencing in the sweat coils and ducts.—Mr. ROGER WILLIAMS said that all kinds of cancer were of one kind, namely, that wherever epithelial cells were found growing where no such cells should be, such structures must be considered cancerous.—Mr. GODLEE mentioned a case of rodent ulcer in which nodules formed during the progress of the disease.—Sir JAMES PAGET said that when a disease was known by a person's name, it was a sign that it was not a clearly understood disease. He had never seen a case of rodent ulcer with such large nodules as there were in Dr. Crocker's case.—Dr. CROCKER replied that this case had nothing to do with an ordinary dermatitis. He was very interested to hear of Mr. Godlee's case of rodent ulcer; this case differed from ordinary cancer in originating in the dermal appendages and not in the skin itself.

Card Specimens.—Dr. M. MURRAY: (1) Fatty Tumour in Wall of Stomach; (2) Fracture of Cricoid and Thyroid Cartilages.—Dr. PERRY: Two Specimens of Acute Intestinal Obstruction produced by adhesions between Appendices Epiploicæ.—Mr. TARGETT: Internal Rupture of Liver.—Dr. W. EDMONDS: Tubercular Ovary.—Mr. HUDSON: Primary Cancer of Liver.—Dr. MAGUIRE: Lympho-Sarcoma of the Mediastinum involving the large Blood-vessels.

MEDICAL SOCIETY OF LONDON.

MONDAY, NOVEMBER 5TH, 1888.

SIR WILLIAM MAC CORMAC, President, in the Chair.

On the Surgical Aspects of Typhlitis and Perityphlitis.—Dr. BULL (New York) read a paper on the diagnosis and treatment of typhlitis and perityphlitis from a surgical point of view. For the purposes of a brief summary, he divided these cases into three groups. 1. Ten cases in which abscess was opened by incision through its walls without opening the peritoneal cavity. In these cases the operation was performed within from seven days to six weeks of the commencement of the attack, and was successful in all, thus showing the advantage of the extra-peritoneal operation. 2. Six cases, in which the peritoneal cavity was opened for supposed perforation. The earliest was performed thirty-six hours and the latest five days after the commencement of the attack. Two of these cases proved fatal. 3. This group comprised only a single case, in which the abdomen was opened on the third day in the presence of threatening symptoms. No pus was found and no evidence of peritonitis, but the pelvis was full of old adhesions. Referring to the fact that the necessity for early operation in threatened peritonitis had mainly occupied their minds, he observed that it was a universal comment in such cases that the operation should have been performed earlier. He said that while they preached early intervention their practice was not always early enough to save the life of the patient. He urged that there were good clinical reasons for preserving the designation of perityphlitis, since the exact nature of the case was not often easy to make out on the living subject. Suppurative inflammation was induced by perforation, the pus being first in the appendix, and later finding its way into the peritoneum, or the pus might burrow through into the iliac fossa and so a secondary abscess be formed. He thought that the intraperitoneal origin and situation of the abscess might be considered as proved by the following evidence: Both the cæcum and appendix were completely invested by peritoneum, and in operations for well developed abscess, when the thickened walls had been incised, the iliac sac had been opened up and found quite free from infiltration. Dr. Weir had called attention to this, and he had been enabled to confirm his observations. The general rule of treatment as to opening up purulent collections as soon as detected was one which had met with general approval. The disease sometimes ended in resolution, and even suppuration might be limited by strong adhesions, and thus permit of a safe termination by a timely incision. The first advance was made by cutting down for pus before fluctuation had been detected, thus preventing the possibility of an accumulation of pus.

Then came the idea that constitutional signs alone might suffice to show whether there was any pus or not. That, however, did not help them in general peritonitis from perforation. Those cases were a source of great anxiety, and would continue to be so until they insisted upon an exploratory operation before general extension of the peritonitis took place. He preferred to use the terms "spreading" and "circumscribed" peritonitis, as marking the characteristic feature of each variety. Suppurative peritonitis might be spreading, circumscribed, and intra-peritoneal, or there might be cellulitis with secondary abscess; he would add hepatitis with or without abscess of the liver. The author then recapitulated the symptoms of the disease, insisting on the surgical importance of fever and shivering. In such cases the abdomen and rectum should be frequently examined, tenderness and the presence of an area of dulness indicating pus. The outline of the cæcum might be made out, filled with fæces, and that might exist alone or in connection with a less distinct area of induration, and the latter might persist when the former had disappeared. The end of this should be reached in about ten days. The abdomen might then become tympanitic, with debility, loss of appetite, sweating, and marked anæmia. In order to determine the presence of pus under these circumstances the exploring needle was the best instrument. He mentioned that since this plan of diagnosis was introduced he had heard of peritonitis being caused by it; but he urged that, although the use of the needle was not altogether devoid of risk, yet, if proper precautions were taken, the risk was very small. He then narrated three cases characterised by the disappearance of the pain and the fever after a few days; but the tumour had persisted, and the needle had revealed the presence of pus in large quantities. In all these cases the abscesses were opened with a satisfactory result. At any moment the symptoms of perforation might supervene, even though the general symptoms had subsided. Severe constitutional disturbance, however, was usual, and might be held to justify interference. By the third or fourth day the tumour would be well marked in the right or left iliac fossa, and it was about this time that the needle was likely to prove useful. The more rapid the development of the symptoms the earlier should the surgeon interfere. Exploration in case of doubt was preferable to waiting for unequivocal information. The operation for perityphlitis might be laparotomy or mere incision. In washing out the cavity no solution should be used stronger than 1 in 10,000 of corrosive sublimate or 1 in 100 of carbolic acid. He then discussed in detail the steps of the operation, and read the notes of his principal cases, concluding with the aphorism that the risk of operation was less than the risk of waiting.—The PRESIDENT expressed his sense of the value of Dr. Bull's admirable paper.—Mr. FREDERICK TREVES said that clinically one heard a good deal of inflammation of the peritoneal investment and cellular tissue of the cæcum, but observed that no cellular tissue existed round the cæcum. He asked why the cæcum and the appendix should be singled out as liable to take on a form of catarrh which involved such serious consequences. He thought that it could be shown that the appendix played a very prominent part in the production of typhlitis. In 70 per cent. of the cases the appendix was found to be the source of the mischief. Referring to extra-peritoneal abscess, he said it was very difficult to understand how pus originating within the cæcum could find its way outside. As Dr. Bull had pointed out, it was very rare to find pus round the cæcum, except in connection with pus inside the peritoneal cavity. He endorsed the need for rest, etc., but added that many people would hesitate as to the early employment of the needle. Personally, he considered the procedure somewhat risky. He thought it was exceedingly bad practice to ligature and cut off the appendix, which after all was an integral part of the intestine. When removed, the edges ought to be united by a continuous suture, or joined to the parietal peritoneum. Alluding to the fact that typhlitis was very apt to recur, he advocated operating after the second attack, and removing the appendix, which was the cause of the trouble. He mentioned such a case in which after the third attack he had operated, and found the appendix twisted in consequence of the non-development of its mesentery, and acutely distended with mucus. Since the operation there had been no recurrence of the malady, and the patient might be looked upon as cured.—Dr. PARAMORE mentioned that he had been operated on about sixteen years ago by Mr. Heath for this complaint, and a large quantity of pus and fæcal matter had been removed. There had been no recurrence.—Dr. WEIR, of New York, said that, according to some statistics which he had collected of a hundred patients operated on after the eighth day, 17 per cent. had died, whereas of those operated on before that date, only 8 per cent. had succumbed. He looked askance at the catarrhal theory, and, indeed, at the stercoral inflammation. He thought the practice of giving purgatives and enemata was all wrong, seeing that the trouble was due, in the majority of cases, to perforation of the appendix. Perforation of the cæcum was rare, occurring only three times in 300 cases. Last year he had collected notes of a hundred necropsies of typhlitis, and in only six cases was the cæcum filled with fæces. He quoted some statistics, according to which the mortality was 40 per cent. under the old method of treatment, and only 16 per cent. since purgation had been abandoned. Reverting to the necropsies, he said that in twenty-two cases the abscess was localised, and in thirty-two cases there was abscess *plus* peritonitis, while in fifteen cases there was general suppurative peritonitis. In only four cases was there any extra-peritoneal disease. About fifteen abscesses out of sixty-seven burst into the peritoneal cavity. The needle was a good means of arriving at a diagnosis provided one fell upon the pus, but the not finding pus was no proof that pus was not present. In some cases where general suppurative peritonitis was suspected, no tumour could be felt, and in such cases he thought it was advisable to operate.—Mr. KNOWSLEY THORNTON said that no surgeon of the present day would hesitate to operate when pus had been recognised to be present. With reference to washing out in these cases he said that he had never found it necessary to do this, and he thought that good drainage was all that was required. He alluded to the troublesome sinuses which were apt to form, the cure of which was often impossible. He mentioned the case of a lad aged 17, who had suddenly developed symptoms of typhlitis, for which a purgative and enema were given; a day or two afterwards he suddenly became collapsed, and when they operated they found the appendix standing upright, distended, black, and gangrenous, together with the adjacent portions of mesentery. The patient lived for about a week after the operation and then died, probably from an extension of the gangrene along the mesentery. Another case was that of an aged gentleman with symptoms which pointed to typhlitis and a large dull mass on the right side. The question was as to whether this mass was malignant or not. He determined to puncture, which he did with a long, narrow knife. He found at once that he had to do with a solid mass, and desisted from anything further, under the impression that it was a sarcoma. Only a little bloody serum exuded. Curiously enough, that patient recovered after the puncture and got quite well. He said he had often seen Sir Spencer Wells ligature and cut away the appendix, and he had never seen any ill results follow. Latterly, however, he had taken to bringing the edges together by means of a continuous suture, which on the whole was perhaps preferable.—Mr. BARKER, in response to the President's invitation, said he had only had two cases, and they had both proved fatal. He asked which incision Dr. Bull preferred; he thought that it was easier to wash out the cavity through the median incision.—Dr. KINGSTON FOWLER protested against the idea that the disease was one which could not get well except by surgical interference. He quoted Dr. Fagge to the effect that during his last five years at Guy's Hospital not a single case had proved fatal, though treated simply by opium and rest. He admitted, however, that there were cases in which surgical intervention could not well be dispensed with.—Dr. BULL, in reply, observed that he had purposely only dealt with the surgical aspect of the disease. He doubted whether patients could often be persuaded to undergo any operation after an attack had subsided, as suggested by Mr. Treves. He had never met with any accidents in the use of the exploring needle himself. He said that no one would hesitate to wash out fæcal matter, and he asked why they should hesitate to wash out pus that smelled as bad as fæces, and was as injurious in its effects. He made his incision from the middle of Poupart's ligament vertically upwards, and even a little up outwards, and he much preferred this to the median incision.

BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, OCTOBER 24TH, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., President, in the Chair.

Uterine Fibro-Cyst.—Mr. LAWSON TAIT showed what he said was usually described as a fibro-cystic tumour of the uterus. This condition was said to be common, but, as a matter of fact, it was very uncommon; in fact, a real fibro-cystic tumour, in his experience, was quite unknown. What they did get was a fibroid

which had broken down in places, and formed cystic cavities. All the tumours he had met with had been of this nature.

Cyst of the Ovary.—The PRESIDENT exhibited a tumour which he had removed from a girl, aged 17. Menstruation, which commenced at 12½ years, had always been irregular and painful. Both ovaries were diseased. The specimen demonstrated very clearly the salient points in Mr. Bland Sutton's classification of ovarian tumours.—Mr. BLAND SUTTON exhibited other specimens to illustrate the restriction of certain cysts to definite regions of the ovary when in their early stage. The first showed an incipient cyst in the oöphoron; the second an early papillary cyst in the paroöphoron; the President's specimen was a parovarian cyst. In this specimen the three cyst regions were strikingly differentiated. The term "paroöphoron" was used by him in a very different manner from that of Waldeyer, inasmuch as he (Mr. Sutton) included under that term not only the paroöphoron of Waldeyer but also the "tissue of the hilum," which was composed mainly of mesonephritic remains in various stages of retrogression.

Sarcoma of the Ovary.—Dr. F. A. PURCELL exhibited a specimen removed from a patient, aged 35, who had had six children. Shortly after her last confinement, twelve months previously, a lump was noticed on the right side of the abdomen, which had continued to increase. The left ovary had very thick walls, and a large cavity filled with a purulent fluid mixed with blood. It was of sarcomatous growth. The right ovary was also cystic, about the size of a fist, and was removed.—Mr. BLAND SUTTON said the specimen was an example of the rare condition of ovarian adenoma.

Ovarian Tumour with Twisted Pedicle.—Dr. RICHARD T. SMITH showed this specimen. The patient, aged 32, had noticed the enlargement of the abdomen for six months. On admission into the hospital, the catamenia being due, she was allowed to remain in bed. On the third day the flow appeared, associated with some degree of sickness and faintness, and diffuse pain, not severe, over the abdomen. The bowels not having acted since admission, mild laxatives were administered with a simple enema, but with no relief. Next day the temperature was 101.4°, the abdomen more distended, and the vomiting and faintness became alarming. Convinced she was suffering from obstruction and peritonitis, Dr. Smith was prepared to operate at once, but finding she had passed ten hours free from sickness, that a fair motion had passed, and the patient was evidently more comfortable, and it being 11 P.M., he postponed operative interference till next day. A large tumour was found filled with blood, and the pedicle twisted half a turn. The peritoneum was velvety and much thickened. The other ovary was cystic, and was removed at the same time. The patient at the close of the operation had a fair pulse (130), but sank of shock in seven hours. There was no vomiting until half an hour before death, and nutritive enemata were all retained. On *post-mortem* examination the patient was found to have but one kidney, about half as large again as natural. It was distinctly granular, and the capsule adherent. The liver was fatty, and the heart enlarged and flabby. These conditions, which pointed to alcoholism, were probably essential factors in the want of recuperative power.—Dr. GRANVILLE BANTOCK said the symptoms in this case were fairly characteristic of the twisting of the pedicle. There was always an amount of shock when the strangulation took place. It occurred to him that it would be better in such cases to wait until the acute symptoms had subsided.—Dr. BARNES said his own experience of twisted pedicle was that it went from bad to worse. The first shock was not all: there was a continuous shock from increasing injury leading to exhaustion. He thought it was very desirable to cut the matter short by operating at once.—The PRESIDENT observed that in many cases it was absolutely impossible to know before they opened with what they had to deal.

Extirpation of the Kidney (Two Cases).—1. Dr. GRANVILLE BANTOCK exhibited an example of hydronephrosis which he had removed from a woman aged 38, the mother of six children. She had suffered from pains and aching in the left side and other renal symptoms for many years. After every confinement she was sensible of swelling in the left side a few inches above the groin. For the last year and a half the swelling had become larger and harder. The ureter was reduced to a small cord, and was impervious. A drainage-tube was inserted without securing the edges of the peritoneal envelope. The patient did well.—2. Dr. Bantock also showed a specimen of pyonephrosis which he had removed that afternoon from a girl aged 19, who had had hæmaturia at intervals for some months. She was then passing a large quantity of pus with the urine, and as there were no signs of bladder irritation it was assumed that it came from the kidney, which formed a marked tumour in the right side. The incision was made just outside the rectus muscle. After dividing the peritoneum over the kidney, the colon being already displaced inwards, the organ was separated from its adhesions with rather free bleeding. A pint of purulent urine was drawn off by means of the aspirator. The opening in the peritoneum was partly closed, and the remaining free edges secured to the abdominal wound. A drainage-tube was inserted. He considered this mode of treatment preferable to opening the loin and draining the kidney for the following reasons: 1, the stone might escape detection or defy removal; 2, in consequence of the damage already done to the kidney the most that could be expected would be a permanent urinary fistula, to the great discomfort of the patient and the necessity of extirpation later on, with probably diminished chance of success.—Dr. MACKERN thought that a central incision was preferable to the lateral, as it was possible in that case to ascertain the condition of the other kidney.—Mr. BOWREMAN JESSETT preferred operating upon the kidney through the loin in all cases excepting very large, solid kidneys. He thought in Dr. Bantock's second case if the calculus had been removed through the loin the kidney substance would probably have recovered to a very great extent.—Mr. PHILLIPS HILLS, Dr. HEYWOOD SMITH, Dr. FENTON, Dr. BEDFORD FENWICK, and the PRESIDENT took part in the discussion.—Dr. BANTOCK replied.

CLINICAL SOCIETY, MANCHESTER.

TUESDAY, OCTOBER 16TH, 1888.

W. N. MACCAIL, M.D., in the Chair.

Cerebellar Tumour.—Dr. RAILTON showed a boy, aged 5, with double optic neuritis, staggering gait, increased knee-jerks, and ankle clonus. The disease had apparently commenced six months before, when he began to complain of frontal headache, to suffer from vomiting at irregular times, and to stagger and fall when walking. At the time of admission into the Clinical Hospital for Women and Children in July, his sight had not failed him, although there was evidence of optic neuritis. During his stay in the hospital he became entirely blind, and was unable to walk without being supported under the arms. Though there was no absolute paralysis there seemed to be general loss of power. There was no nystagmus, no sensory defect or loss of intelligence, and the chest and abdomen appeared to be free from disease. On October 12th, he had two attacks of unconsciousness with tonic spasm, affecting the limbs on both sides, and followed by retraction of the head; since then he had no further attack. Dr. Railton thought that there was a cerebellar tumour, probably tuberculous, occupying a central position, and pressing forwards so as to interfere with both motor tracts.

Dislocation of Ankle by Rotation.—Dr. JAMES HOLMES read notes of a case of dislocation of the ankle by outward rotation. A man, aged 46, was injured by a skip, weighing about 1½ cwt., falling from a height of 16 feet. In addition to other injuries his foot had been twisted round at the ankle-joint as on a pivot, until the outer side had become posterior and the inner, anterior, the whole foot forming with the leg somewhat the appearance of one form of the letter L; part of the tarsal, the metatarsal, and the phalanges forming the longer branch pointing outwards, the os calcis forming the shorter. The anterior surface of the lower end of the tibia formed a marked projection with a depression below. No fracture could be discovered. Dr. Holmes said he could find no description of this injury in works on surgery, the only cases recorded, three in number, being published in foreign journals.

Hæmophilia.—Mr. HERBERT LUND showed a boy, aged 8, who had been subject since the age of 3 to effusion into all the larger joints after the slightest injury, also effusion of blood into the cellular tissue of the cervical and dorsal regions. No evidence of hereditary hæmorrhagic diathesis could be obtained, the parents on both sides showing a clear family history. The questions of heredity, pathology, and treatment were briefly noticed.

Amputation of Penis.—Mr. E. S. BISHOP showed a case of amputation of the penis and removal of inguinal glands for epithelioma.

Eczematous Eruptions.—Dr. H. G. BROOKE made a short communication upon some influences modifying eczematous eruptions.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, OCTOBER 5TH, 1888.

WILLIAM TRAVERS, M.D., President, in the Chair.

President's Address.—Dr. TRAVERS reviewed the condition of the profession on his entering it as a pupil in 1853, contrasting it with the present. He urged the advantages the student and practitioner of to-day possessed over his predecessor both from a professional and a social point of view. He showed that the qualified aspirant now started not only better equipped to carry out fairly efficiently his daily work, but, beyond this, endowed with an amount of knowledge of scientific medicine that urged him to pursue his student life throughout his entire career. Hence the necessity of such societies as the one he was now presiding over, the proof of such necessity being their increasing number, fulness of attendance, and enhanced vitality. He instanced the immense value the Branch meetings of the British Medical Association had been to its provincial members in breaking down the old business of exclusiveness and petty jealousy, and replacing them by free interchanges of professional opinions and social courtesies, thus absolutely raising the status of the profession not only in the eyes of its own members, but in the eyes of the world at large. He felt confident that when, thirty years hence, a future President should repeat his task, he would have to acknowledge that this Society had contributed its quota in producing the marked progress he must at such a time have to rejoice over.

Communications.—Dr. THUDICHUM read a paper on Uræmia and its Connection with the Alkaloids and Extractive Acids of the Urine.—Dr. ABRAHAM showed microscopic specimens of Morbid Conditions of the Skin.—Mr. PERCY DUNN showed some interesting pathological specimens.

FRIDAY, NOVEMBER 2ND, 1888.

WILLIAM TRAVERS, M.D., President, in the Chair.

Suppurative Peritonitis treated by Laparotomy.—Mr. KEETLEY described two cases, the patients being both school-girls, aged 11, treated in the West London Hospital in May, 1887, and August, 1888, respectively. CASE I.—L. S., sudden attack of vomiting, severe abdominal pain, etc. Had always had good health before. Vomiting and pain continued, and on third day became much worse. Defæcation and micturition painful. Tendency to diarrhœa. On seventh day lower half of abdomen was swollen, hard, and evidently contained fluid. Evening temperature 100° F. On ninth day the case came under Mr. Keetley's care, and he opened the abdomen. The intestines were not distended, but were matted together; by separating them several collections of pus were found and evacuated, and the hot boracic douche was used copiously. Drainage and daily syphon douche. The day after operation the patient was decidedly better; no vomiting, no pain. That night the pain returned; suddenly, at 5 A.M., diarrhœa commenced, and at 9 A.M. she died. *Post-mortem Examination.*—Intestines extensively matted together, especially in and near right side of pelvis, where a small mass of adherent intestines enclosed both the appendix vermiformis and the right uterine appendages. A concretion in the appendix was so easily squeezed through the wall that probably a perforation existed and had given rise to the peritonitis. CASE II.—J. K. was exhibited to the members present. She had had scarlatina nine months before illness, and said she had had a "big belly" ever since. No albumen now in urine. A fortnight before admission she was kicked in the right loin and in the front of the abdomen. The same evening vomiting came on, with severe pain and delirium. On admission there was no pain, but the abdomen, except in the epigastric and hypochondriac regions, was swollen, tender, and fluctuating. Slight subcutaneous œdema. Laparotomy. Pus evacuated. Warm douche (1 in 5,000 sublimate solution). Large rubber drainage-tube passed into Douglas's pouch. Two large pieces of iodoform gauze passed, one into Douglas's pouch, the other into right iliac region, and when brought out of wound carried round right flank so as to hang outside sufficiently to act as syphon drains. Moist iodoform gauze underdressing, wood-wool pad over all. Temperature fell from 102° to 99°, and recovery was steady, except that a curious kind of delirium resembling mania came on, and persisted for some days. The patient did better when boiled water was substituted for medicated douches. She was discharged quite well and perfectly healed two months after admission. Three other cases of laparotomy for suppurative peritonitis were briefly mentioned.—Dr. DREWITT asked Mr. Keetley whether, in any of his cases, there was complete constipation as well as vomiting, as he had seen two children in whom purulent peritonitis simulated intestinal obstruction.—Dr. ALDERSON had aspirated a case, drawing off a pint and a half of pus, and afterwards another half a pint. Later he opened with a Syme's knife. The patient got well, but now had a hernia in the situation of the wound.—Dr. LEWERS said that disease of the uterine appendages should be borne in mind among the probable causes of acute general peritonitis in women. He had examined the pelvic organs in one hundred bodies at the London Hospital taken as they came from all parts of the hospital, and found the Fallopian tubes dilated in seventeen cases; of these five were cases of pyosalpinx. In one of them death certainly occurred from rupture of the tubes causing general peritonitis, and in another the pyosalpinx was very probably the cause of death. In cases of acute general peritonitis in women, therefore, Dr. Lewers thought that a careful pelvic examination should be made, and if evidence pointing to disease of the uterine appendages was found the proper treatment would be abdominal section, washing out the peritoneal cavity and draining it.—Mr. BALLANCE mentioned a boy, who had a blow on the abdomen, followed by pain in the right iliac fossa; he was treated with opium, etc., but general peritonitis set in, and death occurred on the sixth day. In cases of repeated pain in the right iliac fossa, perhaps during twelve months, he advocated operation in an interval, to avoid general peritonitis occurring at some time during an attack.—Mr. KEETLEY briefly replied. He thought that the surgeon should be called into such cases from the first, not necessarily with a view to operation, but with a view to an early consultation and decision as to under what contingencies or at what time operation should be done.

Cases, etc.—Clinical cases were shown by Dr. DREWITT, Mr. KEETLEY, and Mr. BALLANCE; microscopical specimens by Dr. ABRAHAM; pathological specimens by Dr. CROMBIE, Messrs. DUNN and LLOYD.—Mr. LAKE showed the Typhoid Chart of a case recently related in the *Lancet* by him.

REVIEWS AND NOTICES.

HANDBUCH DER MASSAGE. Für Studirende und Aerzte. Von Dr. GEORG HÜNERFRAUTH, Besitzer der Wasserheilanstatt zu Bad Homburg, etc. Leipzig: F. C. W. Vogel.

THE remarkable revival in the use of massage which has taken place within the last decade, though it has affected this country, has yet attained much larger proportions on the Continent; nowhere has the attention given to the newly-acquired art been greater than at some of the German baths. Though too much has perhaps been claimed for the method by some of its most ardent advocates, yet a very short experience will convince any impartial observer that in it we possess a very valuable means of treating certain forms of disease. Every practitioner ought to make himself acquainted with the general principles of the manipulations employed, and with the results which may be obtained.

Dr. HÜNERFRAUTH'S handbook gives a very complete account of the uses to which massage may be put, and as clear instructions for the performance of the various manipulations as words and drawings can convey. The plan of the book is systematic; the first chapter contains a short but sufficient history of massage, in which we are taken back into a very hoary antiquity, where the *Cong-fou*—said to be the oldest Chinese book extant—and the *Ayur Véda* are quoted as authorities. The chapter on the physiology of massage might have been condensed with advantage, but appears to leave few observations of any importance unnoticed. In the third chapter the author gets to the centre of his subject, and gives a most excellent description of actual methods in use; he describes no less than five different movements used upon the abdomen, namely, stroking *(streichung)*, kneading *(knetung)*, pressing *(drückung)*, tapping *(klatschung)*, and succussion *(erschütterung)*; the French terms, *effleurage*, *pétrissage*, and *tapotement* have been used in this country for the first, second, and fourth of the manipulations above enumerated, but there seems to be no good reason why we should not, as Mr. Holmes suggested at the Royal Medical and Chirurgical Society, employ the English equivalents, nor, indeed, why the Anglo-Indian word shampooing should not be retained. The multiplication of terms used in a technical sense by writers on massage is an evil; and, as Dr. Hünerfrauth admits by his main classification, the three French

terms connote three radically different movements, to which the author applies the terms *streichung*, *knetung*, and *klopfung*. When *klopfung* (knocking) is performed with the flat of the hand it is called *klatschung*, when with the edge of the hand *hackung*, and so on, a bewildering multiplicity of words having very similar meanings being employed. It must be admitted, however, that when the reader has become familiar with the words in these special senses they are convenient, often enabling the author to avoid the repetition of descriptive phrases.

The remainder of the handbook is devoted to a systematic discussion of the diseases to which massage is applicable, and the forms which may be used with greatest advantage for each organ. As might be expected, the author finds most to say about diseases of the nervous system and of the joints, but he has many interesting observations to make on derangements of the digestive system, and others of less importance on the diseases of the respiratory organs, on cardiac neuroses, on diabetes and gout, on hernia, enlarged prostate, and a number of other special diseases. The chapter on massage in eye disease deals shortly with a subject but little understood in this country; another chapter, that on massage in gynæcology, does not materially add to the value of the book; and two illustrations of "bimanual" and of "combined uterus massage," on an early page, are not calculated to remove the prejudice with which massage is still regarded by many practitioners.

As a whole, the handbook is one which may be cordially commended; it will serve as a good introduction to the study of the subject, and will give an adequate and yet not exaggerated idea of its importance.

NOTES ON BOOKS.

A Practical Manual of Venereal Diseases, including Disorders of Generation. By M. K. HARGREAVES, M.D. (London: R. Kimpton.)—We are unable to recommend this book to "the senior student and general practitioner," for whose instruction the author says he has published it, because, apart from the curious style in which it is written, the information given on certain subjects is not of a kind likely to be of much practical use. Take, for example, the following passage from the chapter on stricture: "Stricture usually deranges the general health to a serious degree; the sufferer complains of chronic indigestion, sleepless nights, and breaking out of blotches, boils, pimples, and rashes, and at night has rigors from more or less blood-poisoning." Again, with regard to the use of electricity, we read: "If a stronger current" (than the galvanic) "is required, use the faradaic current, about ten to fifteen cells, in a similar manner to the galvanic poles." And we think that even a junior student would have been able to inform Dr. Hargreaves that the term "coryza" does not mean watering of the eyes, and that deep ulceration at the root of the nail is not usually called "psoriasis."

State Organisation of Hospital Management. By J. BRINDLEY JAMES, M.R.C.S.Eng., President of the West Kent Medico-Chirurgical Society, etc. (London: John Bale and Sons. 1888.)—*The Hospitals of Paris.* An inaugural address delivered before the West Kent Medico-Chirurgical Society. By the same. (Same publishers.)—These pamphlets are a contribution to the discussion raised by the financial difficulties of the hospitals of London. The author has shrewdly observed that this difficulty is only one of those which have been created by the migration of the rural population into great towns. He advocates as a solution the organisation of the hospital service of the metropolis on the model of the French "Assistance Publique," and contemplates with equanimity the imposition of a national rate for hospital expenses. The author, it will seem to many, materially weakens his own position by omitting to notice the fact that in England, so far from ignoring the existence of public hospitals (p. 8), we already devote large sums to their maintenance, only we call them infectious hospitals, or asylums, or poor-law infirmaries. The two pamphlets together contain an interesting and instructive description of the "Assistance Publique de Paris" and of the hospitals under its control. The author perhaps exaggerates the merits of the organisation, and minimises its faults, but his pamphlets are well worth reading as an honest contribution to the study of a difficulty which many will agree with him in thinking has been rather aggravated than alleviated by the establishment of the Hospital Sunday Fund.

Quand et Comment doit on Prescrire la Digitale. Par HENRI HUCHARD, Médecin de l'Hôpital Bichat. (Paris. 1888.)—This pamphlet is, as its title indicates, a description of the conditions of disease in which digitalis is prescribed. A great part of the work is of necessity occupied with the treatment of heart disease, and Dr. Huchard has dealt with this part of the subject in a very practical manner—not, perhaps, adding anything new to our knowledge, but setting forth the facts clearly and forcibly. Although, indeed, much is known of the action of digitalis in various conditions, yet there is no doubt that great harm is sometimes done by its incautious administration, and the conditions in which the drug is harmful are very well set forth in Dr. Huchard's *brochure*. One point he mentions which is interesting if confirmed, and this is that the diuresis produced by digitalis differs from that caused by caffein and strophanthus by appearing, often suddenly, two or three days after the administration of the drug, the diuresis of caffein and strophanthus being progressive and continuous. This is well known as regards caffein; if proved regarding strophanthus, it would add another to the differences of action between this drug and digitalis. The action of digitalis in diseases of the vascular system, such as arterio-sclerosis and aneurysm, and in febrile diseases, is shortly considered, and the book ends with a list and short description of the simple and compound preparations of the drug. The value of the work would be much enhanced if it were preceded by a short account of the present knowledge of the physiological action of digitalis.

A Manual of the British Discomycetes. By WILLIAM PHILLIPS, F.L.S. (London: Kegan Paul, Trench, and Co.)—This work forms the sixty-first volume of the international scientific series. The author states that it was his intention to provide the student with the means of acquiring a knowledge of the discomycetes of this country. With this object in view it would have been more suitable if there had been a few chapters affording such information as would serve as an introduction to the study of the species so fully catalogued. There are twelve plates of illustrations drawn by the author and reproduced in monochrome, but here again it would have been of great assistance to the student, especially in the recognition of these fungi, if chromolithographs had been supplied of the more important and interesting species. The work has been compiled with great care, and, both etymologically and biographically, is very complete. It will probably prove of more value to those who have already acquired a special knowledge of the subject as a work of reference, than to the student or the general reader who may be in search of an elementary textbook.

Baths and Wells of Europe. By JOHN MACPHERSON, M.D. Third edition, revised. (London: Edward Stanford. 1888.)—Inspector-General Macpherson is one of the most experienced and impartial European authorities on the interesting subject on which he writes. His experience dates back from a time when Homburg and Soden were in the course of being laid out, when St. Moritz was a neglected village, and when the value of mountain climates was first beginning to be recognised, and that, he justly reminds us, only in the tropics and chiefly by Indian medical officers. The book includes an interesting introduction on "faith," "mystery," and "changes in baths," "an account of bath life," a summary of information as to mountain air, with a list of summer resorts, and an article on compressed air; a chapter on "sea air," with a list of winter resorts, and on "dry hot air baths;" a chapter on the external use of water and the cold water cure, with a list of places; a description of douches, massage, vapour baths, and sudation; and a chapter on the internal use of water and of hot and cold water drinking. Dr. Macpherson's survey is wide and general, but clear, explicit, and full of sound common sense and accurate information. Altogether this volume, which we are glad to see has reached a third edition, is one of the most reliable, readable, and condensed summaries of existing knowledge on the subject, and is written by a man of matured judgment and clear, sound common sense.

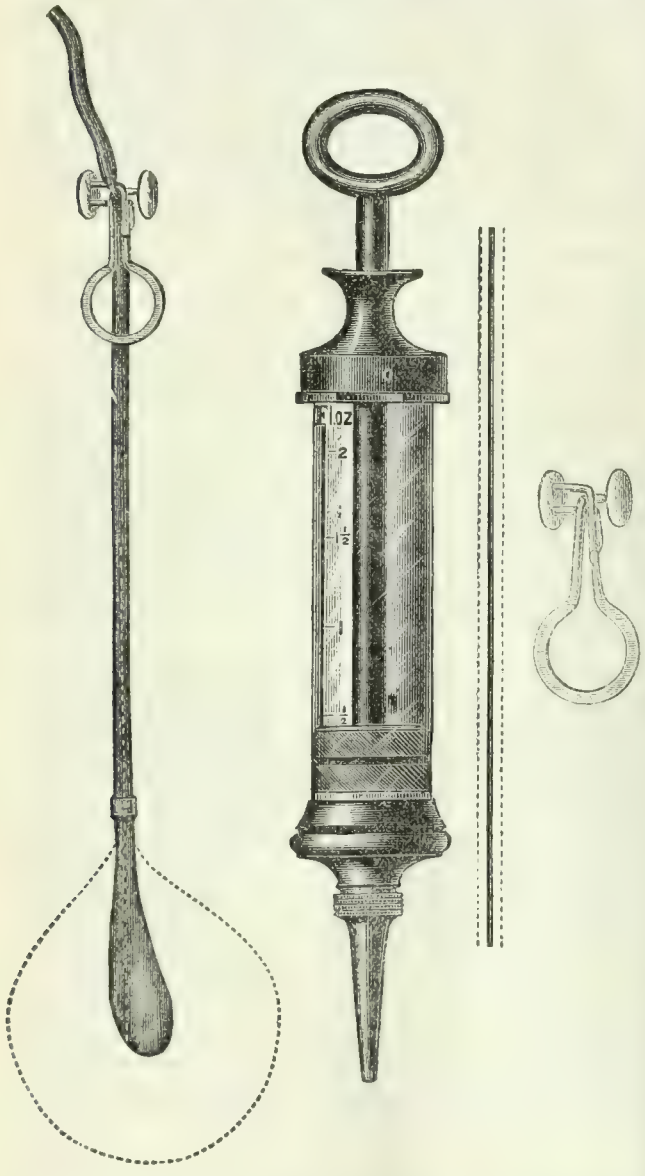
COLOUR-BLINDNESS IN RAILWAY MEN.—The Supreme Court of the United States decided, on October 22nd, that a State possessed the right to prescribe tests for colour-blindness for men employed on railways.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

ON A METHOD OF DILATATION OF THE NECK OF THE WOMB.

By JOHN W. TAYLOR, F.R.C.S.,
Surgeon to the Birmingham and Midland Hospital for Women.

SOME three years ago I described in the columns of the JOURNAL[1] a method of dilatation of the uterus which was intended to imitate the natural process occurring in labour.



The uterine cervix was dilated from within the uterus by an inflated thin rubber bag, which was therefore termed an "artificial amnion." Experience since this date has taught me: 1. That considerable modifications may be made with advantage in the original instrument, mainly as regards simplicity of construction and more exact imitation of the natural structure I had set myself to copy; 2. That its use, while perfect in suitable cases, has a certain and somewhat restricted field. It is, therefore, a valuable additional measure to others already in use, and does not supersede all other methods. On both of these points it may be well to enter into some detail.

The instrument I have been using for some time now consists of four essential parts. 1. A thin rubber bag, to which a long and fairly thick (non-collapsible) rubber tube is attached. 2. A japanned stylet or sound which is contained within the tube. 3. An ordinary spring clip. 4. A graduated syringe.

Before introduction, the instrument (with stylet inside it and clip attached to the end of the tube) is inverted, and the stylet pushed or allowed to fall to the extremity of the bag. The clip is momentarily opened, and whatever air is within the bag pressed out by grasping the bag tightly in the hand. The clip is allowed to close again, when the atmospheric pressure causes the bag to collapse round the stylet, and holds the latter in place. The instrument is now ready for use. It is introduced in the same way as a sound, being carried beyond the internal os, within the cavity of the uterus.

The syringe, containing two ounces of warm water, is then attached, and two ounces, one ounce and a half, one ounce, or half an ounce, injected, according to the distension required and the capacity of the uterus.

The clip, which has been opened during the injection, is now allowed to close; the syringe is removed, and the "artificial amnion" (from which it is quite easy to withdraw the stylet) is left, a delicate bag of fluid, without any hard or metal constituent whatever, resting at the internal os.

In suitable cases mild labour pains result almost immediately, and dilatation goes on uninterruptedly until the bag is "born."

Now as to the limitations to its use. It requires, of necessity, an already enlarged uterine cavity. It is therefore suited for all recent cases of incomplete abortion, and for a few cases of uterine tumour. It may with advantage (because so easy of introduction) take the place of Barnes's bags in all labour cases where these would be employed, and will no doubt prove of very great service in many cases of hæmorrhage. But it is not suited for any cases in which the cavity of the uterus is contracted and small. If its employment is attempted in such cases it will cause severe pain, and in some instances any attempt at distension will result in its immediate expulsion. For all these cases dilatation by means of Hegar's, Sloan's, or Tait's dilators, or by means of antiseptic tents, will give the best results.

The method I have here described will probably be of most service to the general practitioner. It is an easy, safe, and gentle method which is applicable to the greater number of those cases which are of frequent occurrence in daily practice. Those cases in which it is found unsuitable, and which at the same time require dilatation, ought probably to come at once under the care of the specialist.

When writing on this subject before, I was told that other instruments had been suggested having a somewhat similar object in view, but that they had been proved to be unsatisfactory. I therefore set myself to study the limitations of this plan of dilatation and the defects due to imperfect instruments, so that what is obviously a good and sound idea might not be fruitless, but be made practically useful.

After nearly three years' experience, I think the present instrument definitely meets the necessary requirements, and that it has a certain, useful, and lasting sphere of action. The apparatus is manufactured by Messrs. Mappin and Co., 121, New Street, Birmingham.

[1] JOURNAL, June 20th, 1885.

HOLLAND'S PATENT INSTEP ARCH.

THIS is a modification of the sole plate usually made by surgical mechanicians for giving an arch to a flat foot, or for supporting a weak one. For moderately bad cases it will probably answer the purpose very well, but will hardly be strong enough for the more severe ones. It is stated to have the advantage over those manufactured to order, that it is made and sold at a smaller price.

The patentee and vendor is Mr. Thomas Holland, of 40, South Audley Street, W.

A. S. G.—The open back cycle saddle may be obtained from Mr. von Lubbé, 30, Grove Road, Regent's Park, N.W.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st; and notice is hereby given, in accordance with by-law 5, that Branch Secretaries' subscription-accounts close on October 31st, and all unpaid subscriptions must be forwarded, after that date, to the General Secretary, 429, Strand, London. Post Office Orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, NOVEMBER 10TH, 1888.

THE ROYAL COLLEGE OF SURGEONS.

I.

THE annual meeting of 1888 may be said to mark the commencement of a new stage in the history of the Royal College of Surgeons of England. To that meeting the governing body submitted the usual report of the events of the year, including a very inadequate account of the proceedings before the Privy Council relative to the grant of a Supplementary Charter. Their report is, in this matter, characteristic of their present policy. It practically ignores the proceedings and representations of the Members' Association as distinguished from the Fellows.

Except that the world is informed that the President was good enough to report to the Council the resolutions passed at the last annual meeting, the Report is silent as to the claims so urgently and publicly pressed by the great body of the College. We are told, without a hint of reasons or a word of apology, that the Council, after receiving the President's copy of the resolution, "did not propose to ask for any change in the terms of the Charter for which they had applied to the Privy Council." But the Members have at least the consolation of knowing that the protests of the Fellows fared no better. The Privy Council did indeed summon the Council to make some reply to the powerful "statement" forwarded to Mr. George Pollock, and, under compulsion, they forwarded a singularly weak and inaccurate "reply." To this Mr. Pollock was permitted to furnish a "rejoinder," the logic of which was still more cogent than before, and which directly alleged some serious misrepresentations in the document produced by the Council. But when this was forwarded by the Privy Council, the College Governors retired from the debate. They could not be at the trouble of putting their final arguments on record. They suggested instead that they would wish to have "an interview" with the Lord President to pour into his private ear any "information" he might require concerning Mr. Pollock's statements. They do not even say whether they had this private opportunity, or whether other ways of influence, equally or still more private, were opened out to them. The result in any case was that, on April 26th, Mr. C. L. Peel wrote to ask if they would take a maimed charter leaving out the positive matters in controversy, and accepting those business provisions to which in themselves neither the Fellows nor the Members objected, and to this somewhat lame conclusion the immediate contest came.

The Members of the College, however, could not be expected to accept any such result. They conceived, indeed, that they had reason to protest against the curious decision of the advisers of the Crown; and as soon as they heard of it, they recorded their protest by a fresh petition, too late, apparently, to secure a further hearing. They had taken the distinct, if somewhat bold, position, that the present condition of the constitution of the College is so utterly at variance both with its ancient and essential character, and with the whole exigency of modern conditions, that the Crown ought to withhold any fresh concession until an adequate scheme of reform could be devised. It was said that the College must needs have a new charter that it might hold more property. They replied that an autocratic and irresponsible body already administered far too much; and that the technical necessity of further legal powers was a fitting opportunity to compel a revision of a scheme of internal government, now plainly obsolete in conception and unsatisfactory in practice. Why the ministers and officials who for these purposes are euphemistically described as "Her Majesty's Privy Council," rejected this contention without any reason given, and without according any opportunity for the full discussion, either with themselves or with the advocates of the Council, is a question for Parliamentary debate. But the decision to pass over their formal protest on this branch of the argument did not imply any rejection of the main constitutional demand. Neither the Privy Council nor the governing body have yet dealt with the vital question. And that, whether it be by friendly conference, or by Parliamentary debate, or by legal proceedings, must inevitably be dealt with soon.

The annual meeting, which is the modern representative of the ancient "moot" at which the members of the Surgeons' brotherhood managed the affairs of their profession, afforded the appropriate occasion for the commencement of a new campaign; and the resolutions, of which notice was given by Mr. John Tweedy, Dr. Danford Thomas, Sir Guyer Hunter, and Mr. Jabez Hogg, may be taken, we presume, as indicating broadly the lines on which, if necessary, it may be fought. Some of these were modified at the meeting, but they raised four points, each of cardinal importance. Mr. Tweedy's motion censured the Council for its neglect to carry out the very moderate recommendations made by the meeting of March, 1888, "that the Fellows and Members should be admitted to a larger share in the management of the College;" "that no alteration should be effected in the constitution or relations of the College without the consent of Fellows and Members specially convened to discuss such alteration;" and "that the President of the College should be elected annually by the Fellows." Dr. Danford Thomas moved a resolution calling for immediate steps to ask for the embodiment in a public charter of the concessions required, and inviting the Council to appoint a Committee to confer with representatives of the Members and Fellows, with a view to an amicable settlement.

Sir Guyer Hunter's resolution gave expression to the strong dissatisfaction which is felt among the Members at the existing financial management, and resolved itself ultimately into a demand that the body of the College should be consulted as to all extraordinary expenditure. Mr. Jabez Hogg proposed to move a final resolution going to the root of the matter. He

proposed (1) to affirm the ancient rights of the Members; (2) to declare that the powers and property now vested in the Council are held by them in the nature of a trust for all the Members; (3) to assert the constitutional right of Members to meet together for discussion and furtherance of their common interest; and (4) to resolve that the claims made by the Council to limit this essential right of meeting, by the 17th by-law and otherwise, were "against common right, illegal, and void." The President said that the solicitor would not let him put this to the meeting, though it is not easy to see why; but having made public note of their contention, the Members did not press the point further than to pass a politely worded request for the enactment of a by-law enabling twenty members to obtain a meeting by requisition.

To the general principles and policy so outlined the meeting gave its assent by the usual decisive majorities. The College, therefore, has affirmed that there is need of a further Supplemental Charter to admit the Fellows and Members to a larger share of governing power, by whatever reasonable concessions that may be arranged; that the financial administration is even now responsible to the College, and requires to be controlled; and that some sufficient freedom of meeting is the right of the constituent body, and may, therefore, if it be not conceded by the Council, be enforced at law.

The situation thus arising is, we need not add, a matter of the highest importance, not only to the College of Surgeons, but to the whole profession. We have already taken part in the preliminary discussions; but as the time has come for a comprehensive review of the whole matter, we propose to deal with it in a series of articles embodying the considerations, past, present, and future, which our readers will desire to appreciate in order that they may bear their part in promoting a reasonable solution.

THE ARMY MEDICAL SCHOOL AND THE PROSPECTS OF THE BRITISH AND INDIAN MEDICAL SERVICES.

Rumours regarding the abolition of the Army Medical School at Netley still continue to reach us. The authorities at Whitehall and the India Office ought to know that such disquieting rumours, if permitted to continue, are likely to prove extremely injurious to the interests of the public medical services and of the army. If half of what we hear be true, the sooner the matter is carefully gone into and definitively settled the better.

We ourselves regard the existence and prosperity of the Netley School of Medicine as an object of high national concern. We consider the proposal for its abolition as extremely injudicious and uncalled for. Indeed, we are constrained to say that a greater official folly than this was never contemplated. Those who, in their wisdom, desire such a change, would probably also take pleasure in doing away with Haslar, Woolwich, Sandhurst, and the Staff College. To how many more of our time-honoured national institutions such wiseacres would be pleased to give the *coup de grâce*, we care not to speculate. At present our thoughts are only with the Royal Victoria Hospital, and the great medical training school of the army, which is so honourably and usefully associated with it.

Briefly, the facts are these. On May 19th, 1856, Her Majesty the Queen laid the foundation stone of the Netley Hospital, "intended for the reception of the sick and wounded soldiers of her army." Since then, up to the present time, upwards of 76,000 sick and wounded soldiers have been received into the hospital from foreign military stations in all parts of the world. On the occurrence of war as many as 1,200 invalids have, at one time, been accommodated within its walls. For more than a quarter of a century the Army Medical School has been intimately associated with this great hospital. Indeed, the two institutions are complementary one of the other. Here upwards of 2,600 medical officers have had the advantage of special training, closely bearing on their every-day duties in the army, during peace and war.

The founding of this great national institution followed as a result of one of the recommendations of Lord Herbert's famous Commission of 1857. It was the direct outcome of the far-seeing wisdom of the late Prince Consort, of the keen intellectual foresight of Sidney Herbert, and of the Royal approval of Her Majesty. Since then the Netley system has been, and is now, steadily serving the vastly important uses for which it was originally intended. Were it necessary to adduce proof of this statement, it ought to be sufficient to point to the splendid fact that, since the date of the establishment of the Army Medical School, the mortality of British troops in the United Kingdom has been reduced to one-third of what it was formerly, while the death-rate of our European army in India has, within the same period, been lessened to a considerably greater degree even than this.

When so tangible a proof is available of the signal success of the present system of army medical education; when such priceless benefits have accrued to the State; when there is every prospect of such money-saving results being steadily maintained and possibly augmented, it is a matter of extreme regret that the restless love of change, which seems everywhere to be in active operation, should here also be brought into play. Yet such is the case. Over-zealous reformers, who see before them a fair tree growing, gaining strength, and bearing good fruit, appear to think that it would be well ruthlessly to uproot it, and to substitute for it some crude, infructuous sapling of their own. To such patriots we can only repeat the wise words of Lord Bacon: "It is good not to try experiments in States, except the necessity be urgent or the utility evident, and well to beware that it is reformation that draweth on the change, not the desire of change that pretendeth the reformation."

In view of the same principle, in its more restricted application, it is very certain that all changes and so-called reforms of settled public institutions, such as the Army Medical School at Netley, can only be justified on the most serious grounds, and ought to be thought of with the utmost caution and circumspection.

The time seems to have come when the Government should, in simple and plain terms, put its peremptory veto on lines of public policy and action which are clearly leading up to most unfortunate results. It is full time that the interests of the army, from a medical and sanitary point of view, should be protected from ceaseless meddling and muddling.

These remarks have a close bearing on the wild proposals

now current regarding the future of the Netley School, which we regard as one of the most important national medical institutions in the country. The latest phase of this question is embodied in the recent recommendation that the candidates for the Indian Medical Service should no longer be permitted to enjoy the advantage of passing through the Netley course of study. This suggestion, and the arguments which are held to justify it, seem to have originated in India, the idea being that the admirable and thoroughly practical system now in force at Netley might with advantage be done away with, in favour of a scheme, of an entirely different character, to be worked out in India. It is difficult to speak calmly of such a proposal as this, which appears worthy of the severest animadversion. At present we have only time and space briefly to comment upon a single statement which has been authoritatively made with reference to the teaching of sanitary science at Netley. We have reason to believe that it has been deliberately asserted, by a responsible adviser of the Government of India, that "beyond the microscope and water-analysis there is very little practical instruction to be had at Netley." It might reasonably have been supposed that the Head of the Medical Department in India would have been the very last person to detract from the results of the Netley system, when it is remembered that, during a long course of years, by far the most valuable work which was done in his office must be credited to two of the most distinguished prizemen of Netley. Apart from this fact, however, we have no hesitation in saying that the above-mentioned assertion is entirely indefensible, and completely at variance with fact. Indeed, the very reverse of such a statement is the simple truth. One would have thought that it could never possibly have become necessary to write a single line with the object of exonerating the memory of such men as Parkes and De Chaumont from the charge involved in such a reckless mis-statement as this, which equally betrays an ignorance of the facts or want of accuracy in their statement which is little less than culpable.

It is by the use of such ill-considered forms of speech that unmerited reproach is cast upon the distinguished men who have made Netley what it is. It is upon such a flimsy basis of perverted facts that an ill-considered scheme has been recommended to the Government of India, as an experimental measure, in lieu of the Netley system. Its only certain effect, if it were allowed to come into operation, must be to lower the tone and prestige of a service which merits a very different fate; a service which can boast of a splendid record in the past; which, throughout the history of England's greatest dependency, has highly distinguished itself in time of war; which in peace has devoted all its energies, in the spirit of the truest philanthropy, to the best interests of the people of India, whose confidence, sympathy, affection, and gratitude it has won; a service which has always proved itself loyal to the Crown, to humanity, and to the best traditions of the medical profession, but which now seems to be in danger of forfeiting one of its most valuable professional privileges. We hope that some member of Parliament will, before long, ask a question in the House on this important subject, with the view of bringing to light all the facts of the case, and the official correspondence connected with it.

THE DEBATE ON VACCINATION.

For the last time it has been possible for a debate on vaccination to be raised in the House of Commons in connection with the vote for grants in aid. Mr. Bradlaugh was, as reported in the *Times*, guilty of a technical error in discussing the subject of awards to vaccinators under contract on a motion for the reduction of the vote by £1,864, the item for the National Vaccine Establishment, an institution which relates only to the provision of lymph-supplies for the use of public vaccinators and the maintenance of two educational vaccine stations in London. We refer to this point because we presume this item will appear in subsequent votes; and it is obvious it does not afford the opportunity for another discussion on the existing method of payment of public vaccinators out of Imperial funds.

Mr. Bradlaugh's objection to the making of awards to public vaccinators was based on the fact that this method of remuneration was limited to England, and that Ireland and Scotland received no share in the vote. The same argument was used by Mr. Arthur O'Connor last year, and Mr. Ritchie then fully explained that awards were given under the Act of 1867, which applied only to England, and that if its provisions had extended to Scotland, less than a hundred pounds would be the share which that part of the kingdom would receive. Ireland, he further pointed out, was under no disadvantage, for the public vaccinator there was always the medical officer to the dispensary, part of whose salary was paid from Imperial funds. So far, therefore, the arrangement was equitable in regard to the three parts of the kingdom.

The larger question, whether the system of making awards was beneficial, was discussed by Dr. Macdonald, who objected to public vaccination, on account of its interference with the work of the private practitioner, and by Mr. Picton, who urged that the system implied that doctors had to be bribed to do their work properly. It must be recollected, however, that the vaccination of communities can only be adequately performed when there is opportunity for direct arm-to-arm or calf-to-arm vaccination, and it is evident that the private practitioner must largely depend upon the use of stored lymph. Again, the public vaccinator has a larger number of cases from which to select his vaccinifer, and the interest of the public must be first considered. If evidence of the advantage of public vaccination were wanting, it would be found in Dr. Stevens's inquiry as to the condition of vaccination of children under ten years of age in London attacked with small-pox. Whatever objection may be felt to the method of payment by awards, it must be admitted as a necessity until medical men have learned that the protection afforded by vaccination, in one or two places, is less than that conferred by a larger number; vaccination is so indifferently taught that the control of the Local Government Board is still needed; and the only way in which this influence can be maintained is by the existence of a system which shall ensure compliance with regulations laid down by the Board.

The merits of vaccination were but briefly discussed. Dr. Fitzgerald referred to syphilis as being often communicated by vaccination, and Dr. Gavin Clark stated that by the introduction of compulsory vaccination, while the death-rate from small-pox had been reduced, scrofula and consumption and other diseases had increased. The former gentleman appears

to be ignorant of the fact that all cases of alleged injury from vaccination are the subject of careful investigation by the Local Government Board, and that for many years no single instance has been found in which syphilis has been communicated by this operation. Dr. Clark has evidently not studied the work of his fellow-countryman, Dr. McVail, who clearly proves the groundlessness of this oft-repeated assertion. We do not know the reasons which have led him to make such a statement in the House of Commons, but we are reminded that last year he said in the same place that he had himself vaccinated from children suffering from syphilis. Possibly he has intended, on both occasions, that his words should convey some other meaning than would be attached to them as reported in the daily press.

In his reply, Mr. Ritchie dealt fully with the objections that had been raised, and explained that Sheffield, which had been so freely quoted as affording evidence of the failure of vaccination, would be found to greatly strengthen the arguments in its favour; the report, he said, on the small-pox outbreak in that town would shortly be in the hands of members. An examination of 27,000 children vaccinated in fourteen years showed that the number pitted with small-pox was in inverse proportion to the number of vaccination scars which they possessed. Sir Guyer Hunter added his experience in India, which had led him to the conclusion that compulsory vaccination was absolutely necessary for the protection of the inhabitants from small-pox. The termination of the debate was marked by an expression of opinion of the House, which we are convinced properly reflects public sentiment on this question; only 45 members were found to support Mr. Bradlaugh, and among these it may be asserted were many whose objection to the vote was not based on any antipathy to vaccination itself.

SOLDIERS' RATIONS.

In previous articles we discussed the subjects of quality and quantity, as well as those relating to inspection, distribution, and cooking of the rations.

We come to the last, but by no means least important, points, namely, what would be the best distribution of the soldier's food over the twenty-four hours, especially the most suitable hour for dinner? How best, if it be decided not to increase the present free ration, can it be supplemented either in money or kind?

In discussing the subject of meal hours, it should be frankly recognised that theoretical ought to give way to practical considerations, and the latter must be based on grounds, first, connected with the soldier's duties; and, secondly, with his personal wishes and tastes. To give him no voice in the settlement would be both impolitic and unjust; it is true his likings may not strictly square with theory, but all the same must be duly regarded. This is evident by a glance at his ordinary routine existence.

The soldier is roused out of bed about two hours before his eight o'clock breakfast; as is well known, he often gets up, if not actually hungry, at all events with a craving sense of emptiness; to relieve this disagreeable sensation some men will resort to alcoholic "mornings," but many more to the consoling pipe, which will be sucked and smoked incessantly until the breakfast bugle sounds. Recourse whether to strong drink or strong tobacco during the early morning is but a bad preparation for even an appetising meal; it is almost fatal to a plain breakfast of bread and tea.

To relieve not only mere craving, but to stay and sustain him until the breakfast hour, it is therefore most desirable that the soldier should have an honest cup of coffee—either free or at a small charge—within his reach immediately after getting up. In India, as a custom of the country, we believe this is usually provided, but, as a very salutary practice, it ought to be made universal at home and abroad.

It must not be supposed the time before breakfast is an idle one; cleaning of clothing, arms, accoutrements, or horses, harness, etc., as the case may be, gives plenty of work. But it is immediately after breakfast that the more important drills, parades, etc., begin, and which occupy the time till the dinner hour at one o'clock. Such duties are often continued after dinner, and may stretch well into the afternoon.

It thus not infrequently happens that the very important dinner meal is hurried over between parades, as it were. We think commanding officers and zealous adjutants should so arrange that a full and free hour, at least, is always allowed for dinner. As the entire meat ration is cooked and served at dinner, the meal becomes the only substantial one to which the soldier sits down; the whole question of his feeding, in fact, centres round it. Objection has been taken to its being served at one, and it has been argued that it should be deferred so as to take the place of the present tea between four and five o'clock. Then, it is said, the soldier would have more time to eat, and due leisure to digest his only big meal; he would also be less likely to go to bed craving and wake up empty. But, on the other hand, those who know his ways maintain that, all things considered, the midday dinner is much the better; it divides his time in a more convenient way; it is infinitely more to his liking; he comes from a class brought up to a midday dinner, and who are apt to look upon all late or evening meals merely as makeshift suppers! A late dinner would also seriously trench upon the evening hours for needful relaxation and amusement; it would, of course, in no way shorten the objectionably long interval between the meat meals. From such considerations, therefore, a midday dinner, supplemented by a light supper, offers the best solution of the problem.

But the supper question has hitherto been beset with many difficulties. Not that the soldier has ever had much supper; its slender nature has long been a subject of jest, as in the old doggerel lines:

> First a pinch of snuff,
> Then a glass of water,
> Undress and go to bed,
> That's the soldier's supper!

Something in the nature of an evening meal, with extra bread, etc., was tried some years ago, but proved a complete failure, and was discontinued. The issue of cheese has been proposed, but many men positively dislike it. In short, it comes to this, that provision for an evening meal must be in the form of "supper money," to be expended on food of the soldier's own choosing.

The great difficulty hitherto has lain in securing that

such money shall be expended in food only, and not in drink or otherwise improvidently. It is quite true there are many careful soldiers who can be trusted with the money; but there are also many others that cannot, and who must be protected against themselves.

Supposing a grant of supper money to the extent of 2d. or 3d. per head, *per diem*, is determined on, there are two ways in which it could be carried out: by issuing a free grocery ration which would save each man from a stoppage of about 3½d. a day; or by giving a direct money vote to about that amount. There are several good arguments against the issue of a grocery ration by Government, the chief of which are, that it is better obtained by the company messes themselves, and that to properly carry it out an increase of the commissariat establishment would be necessary. On the other hand, a money grant can be directly applied by regiments and corps themselves with but little additional expense to the Government. It is true there would probably be some difficulty when regiments are much broken up into detachments, as often in Ireland.

The following plan has been suggested by a very experienced officer: Let the company messes be credited monthly with the supper money; let each man have the power of expending the sum allowed him on food of his own choosing, say after 6 P.M., in an eating establishment regimentally provided; let the money unappropriated be recredited to the paymaster at the end of the month. The said eating establishment should, if possible, be wholly away and distinct from the canteen; let it be in connection with the recreation-room, and placed under a responsible non-commissioned officer; rules of the most stringent kind must be adopted to ensure that the money be expended on food only, and by the person entitled to it; that it be not transferred from man to man; that no soldier can finger it as cash, but take it out only in kind; that if not spent on the day when due it would lapse. Of course there would be no objection to a soldier supplementing his supper out of his own pocket. A sort of regimental restaurant could easily provide meat, ham, bacon, pies, sausages, eggs, etc., either hot or cold, at the lowest fixed charges. A man could choose his supper for himself, or combine with men of kindred tastes and sit down to a sociable conjoint supper.

The above is necessarily a mere sketch, but, we feel assured, only wants good management combined with strict rules, to ensure success. Indeed, we believe some regiments in India have already carried out a system of this kind, not only with the greatest benefit to the soldier, but with fair financial success.

THE subject of the Lumleian Lectures, which will be delivered next year by Dr. John Harley, is "Enteric Fever."

A MEETING of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Friendly Society will be held on Wednesday, November 14th, at 4.30, at 38, Wimpole Street, W.

THE Morton Lecture on Cancer and Cancerous Diseases will be delivered by Sir Spencer Wells at the Royal College of Surgeons on Thursday, November 29th, at 4 P.M. The Bradshaw Lecture will be delivered by Mr. Jonathan Hutchinson, F.R.S., on Thursday, December 6th, at 4 P.M.

THE first meeting of the British Laryngological and Rhinological Association will be held on Wednesday, November 14th, at the Langham Hotel, Portland Place, W. The afternoon session will begin at 3 P.M.; the evening session at 8.30 P.M.

A DEMONSTRATION in honour of Professors Gerhardt and von Bergmann was made on November 2nd by some students of the Berlin University. Only 213 undergraduates out of a total number of 5,000 took part in the ceremony, and the students of the medical faculty were conspicuous by their absence.

WE are informed by Dr. Schemeil, editor of the Arabic medical journal *El Shifa*, that the statement made in a French medical journal and reproduced in these columns to the effect that the Egyptian Government had suppressed *El Shifa*, is without any foundation.

TOYS FOR POOR CHILDREN.

THE School Board for London have provided two school nurseries for little children in the division of Southwark, and now, as Christmas approaches, make an appeal for toys and little articles of dress for the children. The nurseries are attached to two of the poorest schools. Such an appeal is not likely to remain without response.

THE COUNCIL OF THE ROYAL SOCIETY.

IN the list of names recommended by the President and Council of the Royal Society for election into the Council for the year 1889, at the forthcoming anniversary meeting on November 30th, are those of Professor Michael Foster, M.A., M.D. (one of the Secretaries); John Whitaker Hulke, F.R.C.S.; Edward Emanuel Klein, M.D.; Professor E. Ray Lankester, M.A.; Sir James Paget, D.C.L.; Sir Henry E. Roscoe, D.C.L.

OPPORTUNITIES FOR AMBULANCE WORK.

THE season for the football teams has begun, and already we hear "on Saturday two cases of broken collar-bone and one broken leg are reported." Broken bones may be mended, and the players in these rough games incur a known danger; perhaps many of them would do worse if they had not this means of putting out their animal strength. The probability of such accidents among the football teams may add some zest to the work of those men who have joined ambulance classes, holding out the probabilities of real work, where to do the right thing at the right time is all-important.

THE PATHOLOGY OF CHRONIC ALCOHOLISM.

THE discussion at the Pathological Society of London on the Morbid Anatomy and Pathology of Chronic Alcoholism, which will be held on Tuesday, December 4th, and on Tuesday, December 18th, is intended to include observations and specimens illustrating the effects of alcohol on the digestive system, on the urinary system, on the nervous system, on the respiratory organs, and on the skin and other organs. The debate will be opened by Dr. J. F. Payne, and continued by Dr. George Harley, F.R.S., Dr. Lionel Beale, F.R.S., Dr. Savage, Dr. Crooke, Dr. Suckling, Dr. Finlay, Dr. Pitt, Dr. Hadden, and Dr. Ormerod. It is hoped that other members of the Society will contribute microscopical and other specimens, and take part in the debate.

COMPULSORY NOTIFICATION IN FRANCE.

THE advisability of making the notification of infectious diseases compulsory has been the subject of investigation by the Comité Consultatif d'Hygiène Publique, in France; indeed, the matter has gone so far that the committee has approved a report by M. Brouardel, and has recommended the preparation of a Bill to

render compulsory the notification by the medical attendant of certain diseases. The list appended is very long; it includes cholera, cholera infantum, whooping-cough, diphtheria, dysentery, yellow fever, typhoid fever, infectious puerperal diseases, septic diseases, plague, measles, scarlatina, sweating fever, typhus fever, and small-pox. Dr. C. Vinay, Professeur Agrégé at Lyons, in the course of an able article on the subject, published in the *Lyon Médical*, criticises the length of this list, and urges that the only endemic diseases which need to be included in the list are small-pox and diphtheria, though he gives no reason for excluding scarlatina, typhus, and enteric fevers. Cholera, yellow fever, and plague are the only exotic diseases which he would consider it necessary to notify. He thinks that the committee is justified in throwing the responsibility for the notification upon the medical attendant. "The obligation upon a physician," he writes, "to notify certain epidemic diseases is a social necessity which ought to be recognised by the law."

DEATH OF DR. J. S. LAVIES.

THERE are few members of the profession w o will note without regret the death of Dr. J. S. Lavies. Dr. Lavies has for many years been a universal favourite with the profession in London, to whom he was endeared by his boundless kindness of heart and agreeable social qualities, which were added to his excellent qualities as a professional colleague. It is not too much to say that the gaiety of no small proportion of the friendly reunion of metropolitan medical men will suffer eclipse from the loss. Dr. Lavies was possessed of rare musical acco plishments and gifts, of which he was lavish for all social purposes among his brethren, as well as for charitable and kindly ends. He held several public appointments, which he filled with credit to himself and advantage to the public.

STAFFORDSHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

IT will be seen with regret that after fourteen years of continuous service as Honorary General Secretary of the Staffordshire Branch Mr. Vincent Jackson has found it necessary to resign that appointment, which he has held with conspicuous ability, and of which he has performed the duties to the great advantage of the Br nch. At the recent annual meeting of the Staffordshire Branch a resolution was passed expressing the warm thanks of the members for the valuable services which he had rendered, and the opinion that the present prosperity of the Branch is in a great measure due to the energetic, self-sacrificing, and able manner in which his services have been performed. Mr. Vincent Jackson has taken a prominent share also in the general affairs of the Association on the Council and at the annual meetings, and his assistance will no doubt continue to be given in furtherance of the general objects of the Association, although compelled by the pressure of engagements to resign the arduous local post which he so ably filled.

PARLIAMENT AND THE LUNACY COMMISSION.

ON Tuesday night in the House of Commons, upon the vote to complete the sum for the Lunacy Commission, Mr. Molloy moved, and Mr. A. O'Connor supported, the reduction of the vote; and this they did, making various complaints against the Commissioners and their annual report. Considering that the Commissioners' report is a volume of large size, and of almost 400 pages; that it contains numerous elaborate statistical tables upon almost every possible useful aspect of the statistics of lunacy dealt with; that the information upon any point requiring notice is usually full and explicit; and that the Commissioners never shrink from attributing blame where they believe blame to be due; we fail to see the cogency of the honourable members' criticisms upon the Commissioners' report. As to the criticism upon the manner in which the Commissioners in Lunacy perform their duties one hon. member seemed to be singularly misinformed. It is well known that they perform their difficult duties in a thorough and painstaking manner. As Mr. Stewart-Wortley said later on, in the debate in the House of Commons: "The Commissioners might have been treated with more respect when they laid before the public opinions founded, as they must have been, upon long and close experience of the administration of the law. The complaint was not only that the Commissioners had ventured to express their opinions, but that they had passed over lightly cases of abuse. Now he found in the last report presented to Parliament no fewer than thirty closely-printed pages dealing with the details of special establishments, and bringing to notice various cases in which the Commissioners showed what they had done, and how far they had exercised their powers. That report showed that the Commissioners had acted with energy, and there was nothing in the face of the report which justified the condemnation which had been passed upon them."

WHAT CONSTITUTES A MEDICAMENT?

A CHEMIST of Fleet Street was lately summoned for selling patent medicines, to wit, "corn solvents," without the necessary Government stamp. It was contended for the defence that corn solvents and such like things were not comtemplated by the Act of George II, under which the proceedings were taken. A corn was not "an ailment of the body." Mr. Bridge: How about toothache? Mr. Rose-Innes, who appeared for the defendant, was bound to admit, from personal experience, that that was an ailment. Mr. Bridge decided that this and other articles sold by the defendant came within the statute, and imposed a penalty of £5, and costs 8s. In two or three cases he held that the charge had not been proved—such as, for instance, when concentrated essence of ginger was sold, and another where a compound was described as a toothpaste for beautifying the gums and preventing toothache. Pears' soap was said to beautify the skin. Preventing a disease was different to curing one. A tooth tincture for curing toothache came under the word "medicament."

A CREMATORY FOR THE MIDLAND COUNTIES.

A LARGE and representative meeting was held on Tuesday last at Leicester, presided over by the Mayor, to arrange for the establishment of a crematory for the Midland Counties. Sir Henry Thompson wrote saying that cremation was absolutely necessary for the bodies of those who had died from infectious diseases. It was making rapid progress, and the demand for new crematories was as great as they could meet. The Manchester Cremation Society wrote strongly, urging the establishment of a crematory in the centre of England. Sir Spencer Wells moved a resolution condemning the present system of burial as dangerous to the living, and recommending cremation. The resolution was carried unanimously. Sir Henry Halford moved a resolution in favour of providing a suitable crematory and chapel for the Midland Counties, and he strongly condemned the present system of burial, especially in large towns. This also was carried unanimously.

ALLEGED VACCINAL SYPHILIS.

MEMBERS of the House of Commons should note the way in which charges are sometimes brought against vaccination and the evidence which is adduced in support of them. Last month, at Gosport, a father pleaded that he had omitted to have his child vaccinated because an older child had suffered from syphilis as a result of vaccination, and he ventured to cite the opinion of Dr. Ward Cousins in support of his statement. We learn from letters which have been published in a local journal that the father had unwarrantably used Dr. Cousins's name, and that, so far from en-

couraging the belief that the disease had arisen in this way, Dr. Cousins pointed out that there was no evidence whatever of such an occurrence. The unfortunate child appears to have suffered from congenital syphilis, and the vaccinator is confident that the vaccination had nothing to do with the child's illness. It is to be hoped that wherever the story of the father is published Dr. Cousins's denial will obtain equal publicity.

"FORCED RESPIRATION."

By "forced respiration" is to be understood a method of treating narcotic poisoning or apparent death from drowning by forcing air into the lungs by bellows, a tube being introduced either into the larynx through the mouth or into the trachea through an opening made by tracheotomy. Dr. G. E. Fell, who read a paper on the subject at the recent meeting of the New York State Medical Association (*New York Medical Journal*), recommended that the air should be warmed to 100° F.; he related one case where the method was persisted with for twenty-four hours with ultimate success; the patient had taken two ounces of laudanum, and there had been great loss of blood from cut throat.

FREQUENCY OF DIPHTHERITIC PARALYSIS.

In a paper read before the New York State Medical Association (*New York Medical Journal*), Dr. J. Lewis Smith gave it as his opinion that diphtheritic paralysis occurred oftener than was commonly supposed. A slight development manifested itself by a difficulty in swallowing and a nasal tone in the voice, and might escape observation or mention if attention was not directed to its discovery. He thought it probable that from 20 to 30 per cent. of cases of diphtheria developed paralysis to a greater or less extent.

THE NATIONAL PENSION FUND FOR NURSES.

Since the Council determined, with the consent of the four munificent donors, to issue provisional policies, this fund has progressed rapidly. At the meeting of the Council on Thursday, November 1st, the Honorary Manager, Mr. E. T. Clifford, reported that the number of applications for pensions and sick pay up to date was 508. Of this number, 295 had paid, their contributions amounting to £4,383 4s. 9d.; £1,142 11s. 10d. had been received during the month of October. Eighty applications had been received since the last meeting of the Council, and seventy-four applications were accepted.

EFFECT OF LANOLIN ON MICRO-ORGANISMS.

The results of Gottstein's experiments on this subject are thus given in the *Deutsche Med. Zeitung*, Berlin: (1) The bacteria which effect a spontaneous decomposition of glycerine fats belong presumably to the class of anaërobes; a number of aërobe germs (even the putrefactive) perish on a medium containing fat. But the term of continuance of this retrogressive metamorphosis is decided by the proportion of fat to the other ingredients of the nutritive medium. (2) Free fat contains anaërobes for some days after it is exposed; but lanolin has under similar circumstances neither aërobe nor anaërobe germs. (3) Glycerine fats may be so impregnated with bacteria that the latter can pass through the fat to the lower-lying infectible substances, while lanolin cannot be permeated by bacteria. It acts, therefore, as a preventive of decomposition when laid over infectible substances.

THE CASE OF PREGNANCY IN A DOUBLE MONSTER.

In the Journal of September 22nd we published an account of this case. The patient, Mrs. B., was a married woman, aged 19. Dr. Joseph Jones, of New Orleans, has succeeded in discovering a complete history of Mrs. B., from her birth. It is published in the *Journal of the American Medical Association* for October 20th. Mrs. B. was born on May 12th, 1868, in Tennessee. The mother was 34 years old, her father 25. In June 1868, Dr. Jones and Professor Paul Eve examined the infant, Josephine Myrtle Corban. They noted down that it had the head and trunk of a well-developed, healthy, active infant. The lower part of the body was divided "into the members of two distinct individuals near the junction of the spinal column with the os sacrum." The lower portion of the spine seemed to be cleft, and there were two pelvic arches supporting the four limbs, which were situated on the same plane. One umbilicus was lower than the other, and not so well marked. The infant was seen to micturate simultaneously from both urethræ. The outer legs of both sides were the most natural of the four, though the foot of the right outer limb was clubbed. They were widely separated by the two supernumerary (*sic*) legs, which were less developed, except at their junction with the body, from which they tapered to the feet and toes, also turning inwards. One toe on the left inner leg was bifid. At birth the inner legs (the left leg of the right and the right leg of the left pelvis) were folded flat upon the abdomen. Dr. Lewis Whaley's account of the pregnancy of Mrs. B. caused Dr. Jones to make inquiries. At length he ascertained, through Dr. Sholl, President of the Alabama State Medical Association, that "the lady, Mrs. B., of Blount County, Alabama, is the Myrtle Corban of days gone by, attractive in face, physically well, and able to attend to all her household duties."

TESTIMONIAL TO DR. G. H. SAVAGE.

The past and present principal officers and resident students who have been connected with Bethlem Royal Hospital during Dr. Savage's term of office as resident physician entertained him at dinner at the Café Royal, on Friday, November 2nd. The dinner was arranged to allow of the presentation of an illuminated address and some pieces of plate on the occasion of his retiring from the appointment to commence private practice, and was attended by the subscribers and a few guests, including Major Copeland (Treasurer of the Hospital), Dr. Hack Tuke, Dr. F. Taylor, and Professor Stewart. Dr. Percy Smith, the present resident physician, occupied the chair. The address, which is signed by the whole number of principal officers and, with few exceptions by the resident students, referred to the exceptional ability and energy with which Dr. Savage had performed his duties, to the maintenance of steady progress in the rational and humane treatment of the patients, and to his efforts for the diffusion of knowledge of psychological medicine. The gift consisted of a massive silver bowl and pair of candelabra, manufactured by Messrs. Lambert, of Coventry Street. The toast of the evening, proposed by the chairman and seconded by Dr. Mickle, was most enthusiastically received, as also was that of "Bethlem Hospital," proposed by Dr. Fletcher Beach, and responded to by the Treasurer. It may be added that, before leaving Bethlem Hospital, presents were given to Dr. Savage by the attendants and by patients.

METROPOLITAN POLICE SURGEONS' ASSOCIATION.

The first annual meeting of the recently formed Association of Police Surgeons was held on Wednesday afternoon, followed by a dinner under the presidency of Mr. McKellar, chief surgeon of the Metropolitan Police Force. The President was supported by Sir Charles Warren (Commissioner of Police), Mr. Ernest Hart, Dr. Gordon Brown (Surgeon to the City Police), Mr. Phillips (Treasurer), Sir Thomas Crawford (Director-General A.M.D.), Mr. T. Holmes (late Chief Surgeon), Dr. R. McDonald, M.P., Mr. Nelson Hardy, and Dr. Waters (Honorary Secretaries). The vice-chairs were occupied by the Vice-Presidents, Mr. Bond and Mr. Buckle. A large number of divisional surgeons from all parts of the metropolis were present. Mr.

McKellar dwelt on the great advantages which had already resulted in the medical charge of the police, and in the humane and efficient performance of the duties of the divisional surgeons from the opportunities of conference which the formation of this Association had afforded. Among other matters he referred to the improvements which had been effected in the direction of preventing the use of public vehicles for infectious cases, and the substitution of ambulances; the better means of obtaining isolation for contagious cases occurring among the police force, and the improved sanitation and general care for the health of the men of the force. He paid a warm tribute to the uniform kindness and consideration with which every suggestion put before Sir Charles Warren had been met, and the readiness with which, whenever possible, such suggestions for the benefit of the men or of the persons charged had been carried out. Sir Charles Warren, in reply, expressed his great satisfaction at the formation of this Association; every suggestion, whether general or referring to individual cases, which the divisional surgeons felt it necessary to make should have the most prompt and favourable consideration, and he assured the Association from his experience as an army officer that the medical department of such a force was, perhaps, more powerful than any other for securing the carrying out of their recommendations and the personal welfare of the force to which they were attached. The subsequent toasts included the "Health of the President" and of "The Guests;" other toasts having been duly honoured, the dinner was brought to a close amid general congratulations at the satisfactory progress of this young Association, and the excellent prospects for scientific discussion and administrative efficiency which the new organisation afforded.

REGISTRATION OF MIDWIVES.

A MEETING was held, in Oxford, on October 25th, by kind permission of Mrs. Arthur Evans, for the discussion of this subject. Miss Rosalind Paget read a paper on the rise, progress, and objects of the Midwives' Institute. Mrs. F. Malleson dwelt upon the necessity for midwives, properly trained and educated. She described the state of the agricultural population in a remote district in Gloucestershire. The doctors are hard-worked men, not well within access of the wives of cottagers in the small villages. The midwifery practice is in the hands of women ignorant, illiterate, and wholly untrained, experience being their sole qualification. They cannot discriminate between normal and abnormal cases, and hence often send for medical relief when all is going well, or allow a woman to suffer agony which might readily be assuaged, or risk which need never be incurred. The midwives are generally as devoid of resource as they are wanting in knowledge. After-treatment is entirely left to kind neighbours. The mothers hold perilous notions as to the way to rear their infants. When an Act of Parliament enforces the registration of qualified midwives, there will, in Mrs. Malleson's opinion, be still some difficulty in exchanging untrained for trained midwifery in remote districts. The task can be settled by direct personal assistance, she herself having succeeded in establishing good midwifery in her district, with the best results to all concerned. The question debated by several ladies at the Oxford meeting, where the wives of professors and practitioners appeared in considerable force, is most important. The full assistance of doctors, ladies, and clergymen in every part of the kingdom is necessary for a satisfactory solution of the problem. First in the field is the Obstetrical Society of London. The Board for the Examination of Midwives was established in 1872. The first examination was held in March of that year. Since that date 753 candidates have entered their names for examination, of whom 618 have obtained the Society's diploma. The Society has recently taken steps to increase the value of the diploma, and to counteract as far as practicable any abuse of privilege. Each midwife, on passing, signs a declaration, a copy of which is appended to the diploma and another retained by the Society, to the effect that she will obey the rules of the Society pertaining to midwives, and that she will surrender her diploma when called upon to do so through any act on her part which the Society, as represented by its Council, may consider as rendering her unworthy to hold the same. The steady increase in the number of candidates is shown by the following statistics:—From 1872-82 there were 162 candidates; in 1883 there were 64; in 1884, 63; in 1885, 82; in 1886, 102; in 1887, 127; and in 1888 (the last examination for the year having been held last month), 153. Obstetricians of the most varied opinions (and there is as great, if not greater, variety of opinion amongst them as in the other departments of medicine) have co-operated to make the Board a most valuable agency in ensuring the proper education of a most necessary class. For the educated midwife will relieve the hard-worked practitioner of drudgery as unprofitable as it is fatiguing, and of encouragement to a form of competition disastrous to himself and to the profession at large. The Midwives' Institute, or any similar association for the promotion of the cause of the midwives themselves, must not fail to bear in mind that the profession will never tolerate any effort on the part of the midwives to usurp powers and to perform functions which pertain solely to physicians and surgeons. The aim of independent associations should be the local distribution of midwives, who understand their duty and its limits. A satisfactory central agency exists already, and has proved quite sufficient for general purposes, as the above statistics amply prove.

THE USE AND ABUSE OF EDUCATIONAL STIMULANTS.

EVERY living thing needs some stimulation, as well as a supply of food, to aid the nutritive processes; these factors are essential to growth and development, and the brain is no exception to this rule. The purposes which education are intended to effect require continuous and varied brain-stimulation, through the senses, to aid growth and development, to increase spontaneous action, and to bring the functional activities into harmony with the social surroundings, and give aptness for future brain-power, self-command, and practical adaptability for intellectual work. General hygienic care and the sight of Nature will, it is true, produce activity, but it is the purpose of the higher forms of a liberal education—literary and scientific—to train the brain faculty by impressing it with those methods of action among which its own future activity is to find a place. Everything seen and every word heard produces a present impression, and moulds the individual to aptness for future work. The sight of prize lists and decorations, the social successes of other people's lives, the impressions produced by academical display and ceremonial, as well as the sight of the syllabus of lectures, and the written book, are stimulants to the brain, each producing its own effect for good or evil. As applied to practice, these principles have a different bearing on (1) primary education; (2) secondary, or liberal education; (3) technical or professional education. The primary process is to develop mental faculty only; the processes of secondary education, or the higher stages of training, are intended to give self-culture and a grade of high intellectual capacity, while technical or professional education is intended to manufacture a man qualified for one particular kind of brain work, and that to a great extent independent of the natural, spontaneous, or inherited, modes of his intellectual development. The effect of brain-stimulation, for good or evil, is seen to vary much according to the personal peculiarities of the individual, and the stage and purposes of education. It may be generally granted that the less stimulation of an artificial kind the better, and this applies particularly to the period of primary education, when the benefit to the

growth of intellectual power from the more artificial forms of outside pressure may well be doubted; we refer to such stimulation as that of competitive examinations for school scholarships, and places on foundations, the excitement of "speech days," and punishments in relation to school work. In higher education, undertaken for the cultivation of full intellectual faculty, evil effects from brain-stimulation, as regards physical health, are less likely to occur suddenly, but independently of such possible evil results it may cripple mental expansion if used unwisely. Fixed ideas and fixed trains of thought, inculcated in scholastic method, tend to prevent free exercise of the mental faculties; they are necessary in the early stages of development, as they tend to control spontaneous mental action, and mould it to accommodation with average social methods; carried too far and continued too long without freedom in study, they limit mental capacity, preventing the exercise of the powers of original thinking. In these directions the overpressure of a fixed curriculum, and the eager pursuit of academical honours, often act unfavourably on the intellectual powers. When we consider the course of technical or professional education, which is intended to fit the man for business, the conditions are much changed. The student is not free, the profession dictates in strict terms what the man must learn, and the respective amount to which he must study each subject, thus practically putting a limit to his freedom of study. Society requires men trained after a particular manner, that they may get from them appropriate special service; the professional curriculum is in the main arranged to turn out men fit for certain service, not men raised by the curriculum to high intellectual culture. The man of culture gets his elevated training before, after, or in spite of his curriculum work. Inasmuch, then, as society needs these specially-trained men, it is right that professional education should be endowed; some compensation should be given for enforcing a heavy curriculum, as an encouragement to men to follow it. Whether stimulants be used or not in education, it is always important to observe the students from time to time, to see what are the physical and mental effects of their training. No guardian should encourage a student to run an educational career, merely to win barren academic position; that is a poorer prize than professional position. Students differ greatly in their need of mental stimulation; this is the most needed when the student is lacking in spontaneous mental action; it is probably most harmful when there is much spontaneous action, which only needs controlling and regulating by circumstances to make it available for the intellectual welfare of the individual. In the question of preventing evil from examination, as in so many other educational questions, a settlement of the best line of action can only be found in direct observation of the individual whose training is under consideration.

HOSPITALS AMONG THE GREEKS.

An interesting lecture was given on Saturday, November 3rd, by Miss Jane E. Harrison, at Toynbee Hall, Whitechapel, the Rev. S. A. Barnett in the chair, on Hospitals among the Greeks. The lecturer, who illustrated her discourse by the use of a magic lantern, said there was no one of the Greek gods who had been so thoroughly misunderstood as Æculapius, the god whom the people came to consult in their difficulties, and especially in cases of sickness. His temple at Athens, which had only recently been excavated, was nothing more nor less than a hospital, where people went to get their diseases diagnosed and cured. This, like the other Greek temples or hospitals, had three indispensable things—a shrine, a large apartment in which the patients slept or walked about, and a spring of clear water, known as the holy well. From the very earliest times the people were always careful to choose for their temples very healthy places—as a rule, some far-away inner valley, where there was a pleasant grove of trees and plenty of pure water. Miss Harrison went on to describe the method of treatment which the patients underwent, and the manner in which they were really made to dream, and thus came to believe so thoroughly in the powers of the dream god Æsculapius. In the first place, a patient had to leave his home and most of his friends, so that there was a complete change of environment. He found everything quiet and tranquil, and he was shown all the offerings made by former patients in thankfulness for the good they had received from the dream god. He would have a long conversation with a priest, who by this means discovered what the patient's ailment was, and, after a burnt-offering on the altar, he went to bed. It was not at all wonderful, under the circumstances, that he had a dream. There were some who would not conform to the rules as to diet, and we were told that the gods wisely refused to visit them in the night. There were, however, some heavy sleepers who could not dream and these were allowed to have a friend to dream for them, or for a small sum they could hire a professional dreamer. In some instances there was no doubt the priests dressed up in fantastic garments and appeared before the patients, who were thus led to believe they saw visions. After the dreams, practical remedies were applied, and many of the remedies of Æsculapius were the same as would now be given in similar disorders; and there was an instance of a physician offering as a token of his gratitude a stone set of his surgical instruments. Miss Harrison then gave an interesting description of a number of stone offerings placed in the temple by patients, and at the close of her address a hearty vote of thanks was accorded her.

CREOLIN AS AN ANTISEPTIC.

A detailed series of experiments has recently been made in the Vienna Hygienic Institute by Eisenberg on the antiseptic properties and practical utility of creolin. The experiments were performed by mixing a certain percentage of the antiseptic with bouillon-cultures of the organism, from which mixture, after a certain time, the presence of living bacteria was tested by a fresh cultivation free from creolin. It was found that a 2 per 1,000 mixture of creolin killed the cholera bacillus and the streptococcus of pus and of erysipelas within two minutes; the bacillus of anthrax was killed in five minutes, while the typhoid bacillus and the staphylococcus of pus were still alive after one hour. This last organism, as well as tetragenes, was killed in ten to fifteen minutes by a 2 per cent. mixture. Compared with carbolic acid, it was found that a 3 per cent. mixture of creolin killed the spores of the anthrax bacillus in two days, a 6 per cent. mixture within twenty-four hours, while a carbolic acid mixture up to 8 per cent. had no effect on the spores within seven days. A similar comparative result was obtained with the hay bacillus, and the superiority of creolin over carbolic acid was further shown by its greater power in preventing the growth of organism in cultures. Creolin is not poisonous, as it may be given in large doses to dogs without deleterious effect. Eisenberg recommends its use in surgery in place of corrosive sublimate, carbolic acid, and iodoform. Späth has strongly recommended its use. He has applied it in the form of emulsion or a creolin gauze, and found that it stimulates the growth of granulations, and aids in separating sloughs without the production of any toxic symptoms. The urine does not present the green colour of carbolic acid urine, but tribromophenol may be separated from it on the addition of hydrochloric acid and bromine water.

PROLAPSE OF URETER.

Dr. Caillé, of New York, describes, in the *American Journal of the Medical Sciences*, a case of prolapse of the inverted lower portion of the right ureter through the urethra in a female child, two weeks old. The infant had suffered from diarrhœa. A

soft, bluish-red, pyriform tumour, the size of a walnut, protruded from the vulva; it bore a pervious orifice. It was reduced under chloroform, but soon came down again. At first, the tumour was taken for a prolapsed bladder, but a catheter could be passed between the tumour and the annular tumefaction surrounding its base (representing the urethral orifice) into the bladder beyond. Straining efforts forced urine through the same passage from within outward. Further, the tumour was found to be inserted into the right lateral aspect of the vesical cavity, and within the prolapsed sac which constituted the tumour, a small, hard, new growth, a true tumour, in fact, was detected. The sac was cut away; but the child died. The right ureter was found to be double, the branches opened by a single orifice into the bladder. The bladder was empty, the point of insertion of the amputated sac was plainly visible, and corresponded to the site of the normal opening of the right ureter. The right kidney had undergone cystic degeneration, and contained sero-purulent fluid; the left showed evidences of severe interstitial nephritis, and the left ureter was dilated. Dr. Caillé believed that the small tumour first blocked the right ureter, at the point where it was single, close above the vesical orifice, and then, pressed upon by the urine from above, it was forced into the bladder and out of the urethra, dragging with it the ureter near to the point of its attachment to the mucous membrane of that duct.

OLD FAMILIES.

In our issue of November 3rd we inserted a letter from Dr. C. R. Drysdale commenting on our annotation of the previous week entitled "Old Families," in which we drew attention to some remarkable, not to say paradoxical, conclusions of Dr. G. Lagneau respecting the extinction sooner or later of "aristocratic" or independent families. The only expression, however, that appears to have aroused his Malthusian ire is one we borrowed from Dr. Lagneau's paper, though of course the facts are common property. "The population of the Kingdom of Prussia is increasing at the rate of 4.14 children to each marriage. Twenty-five years ago the French nation increased at the rate of 3.08, but now only at 2.97 per marriage." Dr. Drysdale's letter furnishes a striking example of the way in which a man possessed by a fixed idea will misread facts and figures, and draw from them conclusions the fallacy of which he would instantly detect in the arguments of an opponent. The low birth-rate and the absence of emigration are amply sufficient to explain the contrast presented by the vital statistics of France to those of Germany and England, but certainly do not justify his flattering estimate of the national life. Some of his conclusions are ludicrously weak, as that the French are a "more married" people than the Germans because the excess of females in France is only 92,000, while in Germany it is 988,000. Certainly few Frenchwomen need remain single, and a large number of German girls must perforce remain unmarried, but the mere equality of the sexes does not of itself prove that they are all paired off in wedlock. As a matter of fact, there are more marriages in Germany, but the explanation of the difference is that, few Frenchmen emigrating, the normal proportion of males and females is maintained, whereas the 900,000 German men are seeking their fortunes in and contributing to the prosperity of other lands. The larger proportion of adults in France is, as Dr. Drysdale admits, the natural result of the lesser number of children, but does not involve a longer duration, or, more accurately, expectation, of life. If Frenchmen did actually live to a greater age than their neighbours, the non-productive part of the population would in time be increased by an accumulation of aged persons, without a corresponding increase in the number of boys and girls, the men and women of the next generation. The fallacy of assuming that the food supply of a country, or, what is the same thing, the production of wealth which may be exchanged for food, is a fixed quantity has been exposed again and again. Were it so, Russia and Brazil would be vastly more prosperous than Great Britain and the United States, which no one will pretend to be the case. A teeming population without industries and commerce will of course live on the verge of starvation, but with them the more workers the better. Ireland, if its people were employed like those of Yorkshire and Lancashire, in manufactures, would support double the population that now ekes a wretched subsistence from the soil. The world is richer for the growth of the prosperous States of North America and Australia from the overflow of the prolific populations of Great Britain and Germany; and Europe, not excluding France, shares in the additional food supply. Had the Teutonic races been like the French and Spaniards, Canada and the United States would have been as stagnant as the republics of South America, while Australia would have remained a desert. The Italians have for the last ten years poured their surplus population into the Argentine Republic, swamping the effete Spanish and mixed inhabitants, with the result that ere long it will rival in wealth and progress the most flourishing of our colonies, and it is remarkable that, while the population of Normandy is the most stationary in France, their descendants, the French Canadians, display not only an extraordinary fertility, but a physical development and strength equalling if not exceeding that of those of British, Irish, or Highland descent. The social and moral aspects of French society were exhaustively discussed in the year 1884, both at the Congrès d'Hygiène at Havre and at the meetings of the Société de Médecine Publique of Paris by MM. Layet, Javal, Rochard, and others, who well described it as "starving the future for a present apparent advantage," and pointed out that illegitimacy prevailed exactly in inverse proportion to legitimate propagation, while the slow increase of the native population encouraged the immigration of foreigners, chiefly Germans and Italians, of whom, in 1881, there were over a million in France.

SCOTLAND.

GLASGOW UNIVERSITY.

The public opening of the University took place on November 6th, Principal Caird contenting himself, as his recent practice has been, with formally opening the session, deferring his address till to-day, when the students will be in a frame of mind more conducive to listening than is usual on the first day of the session. The Lord Rector Lord Lytton delivered his inaugural address, coming from Paris for the purpose, in the Bute Hall of the University. There being no accommodation for the general public, the audience consisted almost exclusively of students and others connected with the University.

THE SCOTCH UNIVERSITIES: PARLIAMENTARY RETURNS.

In connection with pending university legislation, a return relating to the Scotch universities, ordered by the House of Commons at the instance of Mr. Hunter, M.P., has just been published. The return is of great interest and value, as "showing in respect of each of the universities in Scotland (1) the number of students for each of the years from 1861-2 to 1887-8, both inclusive, distinguishing the number of students in each faculty; (2) the emoluments of each principal, professor, and lecturer for the years 1876-7, 1881-2, 1886-7; (3) the number of all assistants attached to any chairs during the years 1876-7, 1881-2, 1886-7, specifying in each case the amount of the assistant's remuneration, the source from which it is derived, and the nature of the assistants' duties." With regard to the number of students, the return shows that the maximum attendance at Edinburgh University was reached in

1885-6, when the total was 3,602. In 1887-8 the number had fallen to 3,475. In the Faculty of Medicine, however, the members show an almost uninterrupted rise till 1887-8, when a total of 1,891 was reached. In Glasgow the maximum of 2,320 students in all the faculties was reached in 1881-2. In 1887-8 the figure recorded is 2,188. In the Faculty of Medicine the maximum noted is in 1886-7, when the number stood at 793. Aberdeen shows in 1887-8 a decided maximum, both in the total number of students and in that of the Faculty of Medicine, respectively 918 and 406. St. Andrews University, which has no regular medical curriculum, shows a steady increase in the total of students up to 218 in 1887-8. The other returns, under heads (2) and (3), are made with great detail, and are pregnant with suggestions for the coming commission.

EDINBURGH AND ST. ANDREWS UNIVERSITIES: PARLIAMENTARY REPRESENTATION.

On Tuesday, November 6th, Mr. Moir Stormonth Darling, Solicitor-General for Scotland, was elected Member of Parliament for the Universities of Edinburgh and St. Andrews, in succession to Lord Justice Clerk Macdonald. The seat was not contested. The Solicitor-General was proposed by Dr. John Duncan, Edinburgh, and seconded by Professor Crombie, St. Andrews. In proposing Mr. Darling, Dr. Duncan took occasion to congratulate the constituency as about to obtain a member who was able and willing to promote by every means in his power the passage of the Universities Bill which had been introduced by the Government, and which was undoubtedly the best ever introduced.

IS THE EXTRA-MURAL TEACHING OF MEDICINE A MISTAKE?

Professor Butcher, Professor of Greek in the University of Edinburgh, in an address to the Edinburgh Branch of the Educational Institute of Scotland, combated the view that extra-academical teaching was advantageous to a university. He was inclined to think that such a system, introduced in relation to the Faculty of Arts, would foster the worst evils of "cramming," and tend to stunt the growth of higher and more individual scholarship. In respect of the alleged success of the system in relation to medicine, Professor Butcher spoke of the "criticism sometimes made by eminent men outside Edinburgh that, while the Edinburgh School of Medicine had been a great instrument for the diffusion of medical knowledge, yet, compared with the smallest of the German universities, it was doing virtually nothing for the increase of knowledge; and this decay in original research they set down in large measure to the preponderating force of competitive teaching for the medical degree, which was kept alive by the extra-mural system."

GLASGOW UNIVERSITY GENERAL COUNCIL.

The half-yearly meeting of the General Council was held on October 30th, at the University, under the presidency of Vice-Chancellor and Principal Caird. A feeling of approaching dissolution seemed to pervade the meeting, which was very small, and devoid of almost all interest. Dr. Ebenezer Duncan was reappointed to the Committee, and the Rev. Dr. Brown, of Paisley, and Mr. Alex. Ure, advocate, were appointed in room of those retiring. The Rev. Mr. Hunter, convener of the Business Committee, moved the adoption of the Committee's report, the nature of which was noted in our last issue. Professor Dickson wished an addition to be made to the motion, urging principally reconsideration of the question whether the handing over of the financial administration of the University to the University Court would not be likely to interfere with the proper exercise of the other functions of the Court; and the Rev. Dr. James Brown gave more direct expression to this view by moving that a separate governing body, dealing with finance, should be created for the University, so as to leave the Court free to exercise the higher duties of general superintendence as a board of control, appeal, and patronage, suggesting that this might permit the Court to be reduced in numbers, the proportional representation of the various interests being preserved on it. Both proposals were, however, withdrawn after discussion, as it was considered undesirable to imperil the passing of the Bill during the autumn session, by reopening the whole question of finance. It was agreed, however, to add to the motion a clause stating that the Council approved of the proposal of two statutory meetings being held not requiring a quorum, but that for all special and adjourned meetings the quorum should be 10 per 1,000 on the register. Dr. Wolfe then proceeded to move his motion, desiring the Court to consider how the clinic of the Royal Infirmary could be utilised for University students, explaining that he thought it possible for all interested in medical teaching in Glasgow to co-operate for the establishment of one large clinic for the University, which would be more worthy of the medical teaching of Glasgow than if the material were broken up by small schools. He believed judicious concessions by the University authorities would secure this peacably and without agitation. It was ruled, however, out of the power of the Council to ask the Court to undertake any such consideration. Dr. Wolfe's second motion, regarding the appointment of extra-mural teachers as assessors for degree examinations, was unanimously adopted.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

A recent meeting of the Council of this Society had under consideration a remit from the Society upon the advisability of having special evenings set apart for the consideration of (1) skin diseases, and (2) healing and healed pathological lesions. It was resolved that the evenings of December 17th and February 25th be entirely devoted to the exhibition of rare and interesting cases of skin affections, and that the evenings of January 28th and March 25th be similarly given up to the exhibition of specimens illustrative of healing and healed pathological lesions. It was further resolved that gentlemen not members of the Society be asked to submit on these evenings cases or specimens bearing on the particular subject to be discussed, cases that may be or may have been under their observation.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

The medical section of this society met on November 2nd; the President, Professor McCall Anderson, in the chair. Dr. John Ritchie showed a lad suffering from bulbar paralysis, with evidences of involvement of other parts of the nervous centres. There was atrophy of both optic nerves, some paralysis of portio dura and ninth nerves, and descending sclerosis of spinal cord. The disease was probably due to inherited syphilis. Dr. George S. Middleton showed a man, aged 30, suffering from sclerosis of the spinal cord, not referable to any ordinary type, but which seemed on the whole most akin to locomotor ataxy.

IRELAND.

The Kilmacthomas Board of Guardians, by a majority of one, have refused to rescind their recent order prohibiting their medical officer, Dr. Walshe, from consulting in difficult cases with Dr. Mackesy, J.P. The only reason for this proceeding is, that Dr. Mackesy's political opinions are not in unison with those of the majority of the Board of Guardians.

THE "EQUITABLE" INSURANCE CASE.

DR. J. C. SMYTH, who was found guilty at the Wicklow assizes, and sentenced to six months' imprisonment, has been admitted to bail until a point of law has been decided by the Court of Criminal Appeal.

BELFAST ROYAL HOSPITAL: RESIGNATION OF DR. SMITH.

DR. J. W. T. SMITH, the senior physician to the hospital, has just resigned his appointment after twenty-four years' service. The resignation came before the Board of Management on November 3rd, and was received with general expressions of sincere regret. A resolution, moved by Mr. W. H. Dixon, and seconded by Mr. R. W. Murray, J.P., was heartily passed, thanking Dr. Smith for his many years of invaluable service and successful effort on behalf of the hospital, regretting his severance from the institution, and appointing him one of the consulting physicians. Dr. Smith's eminent abilities, both as physician and as clinical teacher, have met with universal recognition, and his loss to the Royal Hospital is difficult to estimate. His rapidity and certainty in diagnosis, his remarkable faculty of clear and forcible exposition, and his thoroughness and simplicity in therapeutics all combined to render him a great favourite with the students, by whom his loss will be much felt and regretted.

BELFAST ROYAL HOSPITAL: OPENING OF THE SESSION.

THE present session of clinical instruction at the Belfast Royal Hospital was inaugurated on November 1st by an address by Mr. John Fagan, F.R.C.S.I. There was a large attendance of students and members of the staff, the chair being occupied by Dr. Richard Ross, the senior physician present, who briefly introduced the lecturer. Mr. Fagan began by welcoming the students, especially the newcomers, to the hospital. He wished the time had come when at least the senior students could be released from the drudgery of attending a succession of collegiate lectures, and permitted to spend their time between the dissecting-room, the chemical laboratory, and the hospital ward. Practical work alone would be found of genuine service to them in after-life. He would urge them to set before them those two chiefest virtues, perseverance and self-reliance, to begin well, and to remember that in the few years just opening to them they must forge and temper the weapons which would serve them in the coming battle of life. He strongly advised them to be diligent in case-taking as the only efficient means of training their habits of careful observation. They must not let their intellectual cultivation absorb all their attention, to the exclusion of their moral and physical needs, remembering the saying that "he who cultivates his physical nature only becomes an athlete or a savage; he who cultivates his moral nature only, an enthusiast or a maniac; and he who cultivates his intellectual nature only becomes a diseased eccentricity." They must exercise care in the choice of their lodgings, as many a promising career had been retarded or cut prematurely short by a leak in a sewer-pipe, and must take heed to food, exercise, and amusement. He warned them against the snare of evil companionship, and exhorted them to cherish a lofty ideal of the duties and privileges of the profession to which they had devoted their lives. On the motion of Dr. Byers, seconded by Dr. Lindsay, a cordial vote of thanks was passed to Mr. Fagan for his admirable address, which was listened to throughout with great attention by the large body of students in attendance.

CERTIFICATE OF EFFICIENCY IN PSYCHOLOGICAL MEDICINE.—The next examination (for England) of the Medico-Psychological Association will take place at Bethlem Hospital on December 20th and 21st.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held at the College on the afternoon of Thursday, November 8th. The minutes of the quarterly Council held on October 11th were read and confirmed.

A report was read from the Committee of Management respecting the numerous rejections at the second examination of the two Colleges. The Committee recommended the following regulation:

Second Examination.—XI. "A candidate is required to present himself for examination in Anatomy and Physiology together until he has reached the required standard to pass in one or other of those subjects; but no candidate will be allowed to pass in one of the subjects without obtaining at the same time at least half the number of marks required to pass in the other subject."[1]

This Report was approved, adopted, and entered on the minutes.

The Thirteenth Report from the Committee on the Extension of the College Premises was approved, adopted, and entered on the minutes.

A report of the result of the meeting of Fellows and Members on November 1st was presented.

The Council resolved,

"That they cannot accede to the requests contained in the following resolutions:—

'2. That this meeting of the Royal College of Surgeons of England is of opinion that it is necessary for the interests of the College that immediate steps be taken to proceed with the consideration of all the matters relating to the constitution and charters of the College, and to the rights and claims of the Members thereof which have been under discussion in the course of the recent proceedings before the Privy Council referred to in the Report, and to submit to the Privy Council, for embodiment in a further Supplemental Charter, proposals for the settlement of the said matters according to the general sense of the College; and that the Council of the College be invited to appoint a Committee to consider with representatives of the Associations of Fellows and Members of the College, the matters to be included in the petition for such further supplemental Charter.

'3. That the Council be respectfully requested to forward a copy of the foregoing Resolution No. 2 to the Lord President.

'5. That this meeting, having taken note of the privileges at present enjoyed by Members of the College, as enumerated in the reply of the Council to the Privy Council (pages 26 and 27 of the Report), respectfully requests the Council to add thereto the right of meeting at convenient times within the College walls, for the purpose of discussing any questions relating to their position as Members, in which they may be interested; and with this object the Council is hereby requested to enact a by-law, instructing the Secretary, upon the receipt of a requisition signed by twenty Members (or Fellows and Members), to arrange with the Members forwarding such requisition a convenient day and hour (within one calendar month) at which such meeting may be held upon the College premises.'

"That they deem it best, in the interest of the College, that the discussion on the subjects which have been in dispute should close with the grant of the supplemental charter.

"That they cannot believe that any advantage is likely to arise from reopening questions which have been fully considered; and on behalf of the College they trust that these questions will now be allowed to rest.

"That copies of these resolutions of the Council be forwarded to the movers of the resolutions at the meeting of Fellows and Members quoted above."

A letter was read from Miss Johnstone, of Clarendon Place, Leamington, offering for the acceptance of the College an interesting letter from John Hunter addressed to the late James Johnstone, M.D., of Kidderminster.

Mr. MACNAMARA moved that it be referred to a committee to consider and report to Council whether it be desirable, and, if so, practicable, that candidates for the Membership of the College be examined in Operative Surgery on the dead body.

This was seconded by Mr. PEMBERTON, and carried; and the following Committee nominated: Messrs. Bryant, Macnamara, Hill, and Sir William Mac Cormac, together with the President and Vice-President.

[1] The Committee consider that this restriction will provide against the possibility of one of the subjects being taken up without preparation.

AMERICAN SURGICAL ASSOCIATION.

For the following notes of the proceedings of the American Surgical Association we are indebted to the report published in the *Medical Record* of New York.

President's Address.—Dr. D. Hayes Agnew gave a very interesting and instructive address on The Relation of Social Life to Surgical Disease. He gave instances of the evil effect of muscular restraint. The weak ankles and everted feet often seen in children he traced to the practice of using boots tightly laced above the ankle even before the children could walk. The confinement of the flexor and extensor muscles by this constriction prevented that free play of movement which reacted so favourably on all the elements of an articulation, so that, when the time arrived for standing and walking, the muscles were unequal to the firm support of the joint; consequently, the feet turned outward, throwing the strain on the internal lateral ligaments, which in turn became elongated. The evil did not terminate there. The calcaneo-cuboid and astragalo-scaphoid ligaments, losing the proper support of the tendon of the posterior tibial muscle under the abnormal tension, began to yield, and to the deformity of eversion was added that of "flat-foot." That the above was not a mere hypothetical explanation of the ankle defects he had many times verified by finding the threatening symptoms disappear after liberating the imprisoned muscles and subjecting the enfeebled parts to a judicious massage. Under no circumstance should instruments be applied, unless in cases where, from neglect, the deformity was thoroughly established and was progressive. In the treatment of commencing bow-leg the limb was too often trammelled with irons and the growth of the muscles arrested; whereas, if manual force were systematically applied two or three times a day, the limbs would gradually assume their typical form. He discussed the effect of attitudes maintained for many hours in school. Stooping forward on a desk, the serrati and pectorales muscles were relaxed, the erectores spinæ and trapezii muscles stretched; under these circumstances also the scapulæ, the rhomboidei and levatores anguli scapulæ muscles, being unopposed, were rotated into the position called by the older anatomists "scapulæ alatæ." The round shoulders and narrow chests produced by these mechanical means, and the evil intensified by long hours of sitting, when the respiratory function was reduced to a minimum, led to the bent form, the pale face, languid air, and capricious appetite of many schoolgirls; the remedy resorted to—shoulder-braces and stays—in reality, by still further restraining the muscles, increased the physical deterioration. Lateral curvatures might also be traced to constrained attitudes in school. As in the case of round shoulders, so here in order to prop up the falling column, instrumental contrivances were immediately called into requisition. The body was encased in a formidable coat of mail, to be followed by muscular atrophy and permanent distortion of one of the otherwise most beautiful pieces of mechanism in the human frame. Dr. Agnew condemned the use of stays and other constricting garments, and traced many of the diseases and difficult labours observed in women of the wealthier classes to their failure in muscular training. He also referred to the injurious effects of ill-designed and ill-fitting boots, to the lesions observed as a consequence of excessive indulgence in certain games (base-ball pitcher's arm), and to the increase of defects of refraction or other visual defects, which he traced to the excessive use of the eyes from an early age under unfavourable circumstances. In conclusion, he discussed the relation of renal disease to dyspepsia.

Excision of Joints.—Dr. John Ashhurst, of Philadelphia, communicated the results of the study of excisions of the larger joints, based on 120 cases in his own practice. Excision of the *shoulder-joint* he performed by a single longitudinal incision, and attached most importance in the after-treatment to the use of Stromeyer's cushion; he reported four cases, all in adults and all successful. In excising the *elbow-joint* he employed a longitudinal incision on the inner side of the articulation, taking care not to wound the ulnar nerve and to retain the attachment of the biceps. As a rule, all the articulating surfaces should be removed, and, within reasonable limits, the more bone that was taken away the better, since flail-like union was less to be dreaded than ankylosis. He reported nineteen cases with six deaths; two, where the injuries had been very severe, from traumatic gangrene; two from tubercular meningitis, one an old man from exhaustion in the course of the fifth week, and one from delirium tremens. In excision of the *hip-joint* the incision was begun in the direction of the fibres of the gluteal muscle, curved round and behind the trochanter, and was finished by a straight cut corresponding to the axis of the femur. While affording free exposure to the joint it necessitated but little transverse division of muscular fibres. The head of the bone might be made to protrude and might be removed with the chain-saw, or, under other circumstances, divided by a small saw *in situ*. It was his custom to remove both trochanters and round off the sawn end of the femur. The operation was one of great and rapidly-increasing gravity when once puberty was passed. Thus, while he had had twenty-five successes and only four deaths in persons under 15 years of age, he had had only three recoveries and no less than seven deaths in those older. Excision of the *knee* he performed by a single transverse incision, and invariably removed the patella and all the diseased synovial membrane; the bursa under the quadriceps tendon was reached by a long incision on the outer side of the limb, and either dissected out or its lining membrane scraped away. He had performed the operation fifty-one times, and had only had five deaths. In excision of the *ankle-joint* he made an external incision curving around, behind, and below the outer malleolus, and carried forward as far as could be done without endangering the extensor tendons, and prolonged upward as far as needful in the line of the fibula. A second smaller incision was made longitudinally over the lower end of the tibia. It was usually desirable to remove the whole astragalus. He had performed this operation six times; two of the patients had died from phthisis four and nine months respectively after the operation, which in itself was attended with very little risk. Dr. Ashhurst said that he performed excision of the hip as a rule only when life was threatened by suppuration or its consequences, and Dr. Lewis Sayre expressed the opinion that there was a tendency to perform the operation too early.—Sir William Mac Cormac said that he had heard with some surprise this recommendation to postpone excision of the hip until all other measures had failed. He had performed the operation with advantage also in old-standing dislocations.

Cerebral Surgery.—Dr. W. W. Keen, of Philadelphia, showed three patients upon whom he had performed operations on the brain. The first case was one of removal of a large tumour from the brain; the second trephining for old depressed fracture, followed by epilepsy, with removal of underlying brain-substance; the third was the removal of the cerebral motor centre for the left wrist and hand for epilepsy.

Suprapubic Cystotomy.—Dr. Hunter McGuire, of Richmond, Va., related two cases of prostatic hypertrophy in which the difficulty in micturition had led him to establish a suprapubic fistula; in the passive state the fistula was closed by the pressure of the parts; when the bladder became full and contracted, the urine was forced through the fistulous tract; the patients were able to retain their water for several hours.—Dr. John H. Packard read a paper on suprapubic cystotomy, in which the views of Sir Henry Thompson, accidentally omitted from a previous paper, were fully discussed.—Dr. S. W. Gross, of Philadelphia, congratulated Dr. McGuire on having introduced a new operation—the formation of an artificial urethra in a new position—based upon a knowledge of the physiology of micturition.—Mr. Reginald Harrison described his operation by perineal incision for enlarged prostate. He thought that all methods of operation should be remembered, and each employed in those cases where it seemed indicated.—Professor Thomas Annandale also preferred the perineal operation; among other advantages, it rendered it possible to remove a pedunculated portion of the gland, if such existed.—Dr. A. Vander Veer had found the results of Harrison's operation to be good.—Mr. Arthur Durham emphatically endorsed the statement that no one operation for stone was applicable to all cases. The man who treated all his cases of fracture in one way, all his cases of stone in one way, all his cases of prostatic disease in one way, either had very little practice and experience, or he was a fool.—Professor Hingston, of Montreal, thought that the suprapubic operation was only applicable to certain classes of classes: 1, impermeable stricture; 2, prostatic obstruction; 3, tumours of the bladder interfering with the lateral operation; 4, hard or large stones.—Sir William Mac Cormac considered the operation to be one almost devoid of risk, and did not think a drainage-tube necessary.—The President agreed that no single operation was applicable to all cases. Suprapubic cystotomy was not void of danger, the bladder had been ruptured during the preliminary injection, and an unskilful operator might open the peritoneal cavity.

Laparotomy for Perityphlitis.—Dr. William T. Bull (New

York), in discussing the treatment of perityphlitis, expressed the opinion that it was justifiable to explore with a needle to ascertain the presence of pus when a distinct "tumour" could be made out. Symptoms of general peritonitis called for immediate laparotomy. In other cases it might be desirable to wait a week.

Laparotomy for Perforating Typhoid Ulcer.—Dr. J. EWING-MEARS (Philadelphia) discussed the propriety of surgical interference in perforating typhoid ulcer. He had only found four cases recorded, all of which ended fatally; still, he thought laparotomy would be justifiable in the third week of the disease in mild cases, and in the stage of convalescence. He endorsed Lücke's recommendation that the best operation would be laparotomy with the formation of an artificial anus.—Dr. R. B. BONTECOU (Troy, New York) had performed laparotomy in one case in the third week. The patient died, but he thought the operation might be successful during convalescence.

Tracheotomy and Intubation.—Dr. GEORGE W. GAY (Boston) read a paper on the comparative merits of tracheotomy and intubation in the treatment of croup, and drew the following conclusions:—1. Intubation may be tried in all cases of croup. 2. It is preferable in young children, and in cases in which the tube must be left entirely to itself. 3. It may be resorted to for euthanasia, provided the operator is reasonably expert, and can do it without producing collapse. 4. Tracheotomy is called for in those cases in which intubation cannot be done, or in which it fails to give relief, or in which the laryngeal tube is repeatedly ejected, or requires frequent removal for cleansing. It may also be required in those cases in which sufficient food cannot be given while the O'Dwyer tube is in position. It is also preferable in cases situated at a distance from a surgeon capable of introducing the laryngeal tube. 5. The tracheotomy instruments should always be at hand in intubation in case of emergency.—Dr. H. H. MUDD (St. Louis) said that intubation had been done as a precautionary measure in many cases in which tracheotomy would not have been thought of, and in some cases it was afterwards necessary to perform tracheotomy.—Dr. HUBER (New York) had had thirty-seven recoveries out of ninety-four cases of intubation. It was sometimes an advantage to use a small tube, which would probably be coughed out, and membrane along with it.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE autumn general meeting of the above Association was held on Wednesday, October 31st, at 30, Sackville Street, Piccadilly, Professor A. MACALISTER, F.R.S., President, in the chair.

A resolution was adopted on the proposition of Dr. H. M. JONES, seconded by Dr. O'BRIEN WILLIAMS, R.N., directing the Council to take steps to hold a *conversazione* in London during the current medical session. It was announced that future meetings of the Association in the metropolis would probably be held in the Medical Society's rooms, Chandos Street, Cavendish Square. The Treasurer's (Brigade-Surgeon W. Alexander's) resignation was submitted at his request, inasmuch as, his present appointment being at a Scotch station, he would be unable to be present at the monthly meetings of Council in London or the provinces. A resolution, however, was unanimously adopted requesting Dr. Alexander to continue in office till the end of the current financial year.

The autumn dinner took place the same evening at the Hotel Victoria, Northumberland Avenue. Covers were laid for forty-eight members and guests. The chair was occupied by the President of the Association (Professor Macalister, F.R.S.). Among the others present were Sir W. Mac Cormac (Vice-President); Dr. Macnaughton Jones (Chairman of Council); Dr. R. Fegan (President-elect); Sir T. Crawford, K.C.B. (ex-President); Director-General Dick, C.B.; the President of the Royal College of Physicians of London (Sir A. Clark, Bart.); the Master of Downing College, Cambridge (Dr. Hill); Professor Sir T. Wade, K.C.B. (Cambridge); Dr. Robert Barnes, Deputy Inspector-General Lloyd, R.N., Surgeons-Major Roe and Corbett, D.S.O., Drs. Donald MacAlister, Steet, Wilson Hake, Bredin, Fancourt Barnes, Gaussen, Dudley Buxton, Mapother, Kenneth Mackenzie (Oregon, U.S.A.), Gaven, Campbell Pope, Helen Webb, Gilbart-Smith, Sarah Gray, Douglas Lithgow, Jessie Crossfield, and the two Honorary Secretaries (Drs. Stewart and Abraham).

The usual loyal toasts having been duly honoured, Sir T. CRAWFORD proposed the toast of "The Medical Profession," remarking that metaphysical as well as physical, theological as well as biological, questions must necessarily engage the attention of anyone aspiring to high rank in the profession. As long as their recruits included such men of culture as the royal personage now a medical student, there need be no misgivings as to the glorious traditions of their noble profession being worthily sustained.

Sir A. CLARK, in responding, said he was glad he held his present official position in his College, if for no other reason, because it had afforded him an opportunity of again enjoying the hospitality of the Irish Graduates' Association. As a rule, medical dinners were intensely dull and commonplace, but the *alumni* of the Irish medical schools, when they assembled at the social board, had a power—envied alike by their English and Scotch *confrères*—of making those around them feel for the time as if living in a brighter world, illuminated by sparkling wit, where the ruling spirits were good fellowship and the kindliest feelings of the heart. The toast to which he was speaking was one he liked better than any other to respond to, for he was very proud of his profession—one which, in purpose, in scope, in scientific achievements, in the self-effacement, and, above all, the self-denial of its members, was absolutely unapproachable. As regards culture, too, the definition he would give of which was refinement with knowledge, the votaries of the science of medicine had opportunities such as few others could possibly enjoy.

Sir W. MAC CORMAC, proposed "The Health of the Guests," coupling with the toast the name of Sir Thomas Wade, K.C.B., whose distinguished career, he said, had been followed with much interest and admiration by his Irish fellow-countrymen. He had not only served in Her Majesty's Army, but had risen to the high position of Envoy to China, the language of which country he had become so proficient in that, when the Cambridge University recently founded the professorship of Chinese, it was admitted by all that no one could be found more competent to fill the chair.

Sir T. WADE, in reply, said he was always proud of his country, for in every part of the world he had found Irishmen, and especially Irish medical men, occupying positions of great responsibility with credit to to the land of their birth.

The toast was also responded to by Dr. TONNER (Ex-Surgeon U.S. Army), and Dr. KENNETH MACKENZIE, the latter remarking that there was still in the United States abundant outlet for the surplus medical men entering the profession in this country.

The toast of the evening, "Success to the Irish Medical Schools' and Graduates' Association," was proposed by the MASTER OF DOWNING COLLEGE, who said that the fact of the number of members having increased more than fourfold in four years, and that they had now nearly 550 names on the roll, was sufficient evidence of their prosperity. The success of such a society was beneficial to the whole profession, for the service they were doing to the schools of medicine and licensing bodies of Ireland would react beneficially on the other centres of medical education.

The PRESIDENT, in responding to the toast, said that not only did their social gatherings afford great pleasure to each of them individually, but the work accomplished by the Association gave to the world at large a good example of the heartiness with which they could labour together for the common good, and for the sustainment of prestige of the Irish schools of medicine, notwithstanding marked differences among themselves in matters of religion and general politics. He hoped that medical women would not forget that it was through an Irish portal they first obtained admission to the ranks of the profession.

"The Health of the Officers of the Association," was proposed in a humorous speech by Dr. GILBART-SMITH, and responded to by the HONORARY PROVINCIAL SECRETARY (Dr. Stewart), who said they looked forward to a large accession of new members before the end of the year, when the invitations would be issued for the January *conversazione*.

The proceedings were enlivened by music, and the singing of Irish melodies and other songs by Mr. GROOME, Drs. CAMPBELL POPE, GILBART-SMITH, and others.

REGULATION OF THE SALE OF OPIUM.—The Pharmacy Law of the State of New York, we learn from the *Medical Record* of New York, requires all preparations of opium and morphine, except paregoric, to be labelled in white letters on scarlet paper; a law passed last year further provides that a prescription, containing in each dose more than one-fourth of a grain of opium, or than one-twentieth of a grain of morphine, shall not be repeated, except on the verbal or written order of a physician.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS FOR 1889. ELECTION OF MEMBERS.

MEETINGS of the Council will be held on January 16th, April 17th, July 10th, and October 16th, 1889. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 27th, 1888, March 28th, June 20th, and September 26th, 1889.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary*.

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.—The inaugural meeting of the session will take place on Thursday, November 29th, at the Hackney Town Hall at 8.30 P.M. The chair will be taken by the President of the Branch. A paper on Chronic Metritis will be read by H. Gervis, M.D. All medical practitioners will receive a cordial welcome.—J. W. HUNT, Honorary Secretary, 101, Queen's Road, Dalston.

SOUTH-EASTERN BRANCH: EAST KENT DISTRICT.—The next meeting of the above District will take place at Canterbury on Thursday, November 29th. Any one wishing to send papers, etc., should communicate at once with the Honorary Secretary, W. J. TYSON, 10, Langhorne Gardens, Folkestone.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—A meeting of the above District will be held at the Queen's Hotel, Eastbourne, on Friday, November 23rd. Dr. Roberts in the chair. Those desirous of reading papers or showing cases should communicate with the Honorary Secretary, T. JENNER VERRALL, 97, Montpellier Road, Brighton.

SOUTH-EASTERN BRANCH: WEST KENT DISTRICT.—The next meeting of this district will take place at the West Kent Hospital, Maidstone, on Thursday, December 13th, Dr. Shaw in the chair. Gentlemen desirous of reading papers or exhibiting patients or specimens are requested to inform the Honorary Secretary of the District, A. W. Nankivell, F.R.C.S., St. Bartholomew's Hospital, Chatham, not later than November 24th. Further particulars will be duly announced.—A. W. NANKIVELL, Honorary Secretary.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The next meeting will be held at the Wyndham Arms Hotel on Thursday, November 15th. Members wishing to read papers, etc., are desired to communicate titles forthwith to Dr. Sheen, Cardiff.—A. SHEEN, M.D., Cardiff; D. ARTHUR DAVIES, M.B. Swansea, Honorary Secretaries.

THAMES VALLEY BRANCH.—The next meeting of the Branch will be held at the Talbot Hotel, Richmond, on Wednesday, November 14th, at 6 P.M. Members willing to read papers or exhibit cases are requested to communicate with the Honorary Secretary. *Office-bearers for 1888-89.—President:* Dr. Fenn. *Vice-Presidents:* Dr. Langdon Down, Dr. Wyman. *Council:* G. Farr White, Esq., Dr. Atkinson, Dr. Crichton, Dr. Gunther, Dr. Wadd, Dr. Graham.—CHARLES C. SCOTT, M.B., Honorary Secretary, St. Margaret's, Twickenham.

STAFFORDSHIRE BRANCH.—The first general meeting of the present session will be held at the Railway Hotel, Stoke-on-Trent, on Thursday, November 29th. The President, Mr. F. Baldero, will take the chair at 3.30 in the afternoon.—GEORGE REID, M.D., Honorary Secretary, Stafford.

SOUTH-EASTERN BRANCH: WEST SUSSEX DISTRICT.

A MEETING of this District was held at the Marine Hotel, Worthing, on Tuesday, October 30th; W. J. HARRIS, Esq., of Worthing, in the chair.

Next Meeting.—It was decided to hold the next meeting of the District at Petworth in May.

Papers.—Dr. A. E. BUCKELL, of Chichester, read a paper on Puerperal Septicæmia, showing the value of Intra-uterine Injections; and Dr. GOSTLING, of Worthing, read a case of Puerperal Convulsions with Albuminuria. These papers were followed by practical and interesting discussions, in which all the members present took part.

SYDNEY AND NEW SOUTH WALES BRANCH.

THE ordinary meeting of the Branch was held in the Royal Society's Rooms, Sydney, on Friday, August 3rd, 1888; Dr. CHAMBERS (President) in the chair. The following gentlemen were present: Drs. Knaggs, Ross, Lloyd, Megginson, Pockley, W. W. J. O'Reilly, Wm. Chisholm, Warren, Fiaschi, Quaife, Hankins, Shewen, A. T. O'Reilly, Garrett, Fisher, Scot Skirving, Clubbe, McCulloch, Parker, Thring, Twynam, Crago, West, Horrall, Kendall, Sydney Jones, Breneman. Mr. McDonald was present as a visitor. The minutes of the previous meeting were read and confirmed.

New Member.—The following gentleman was elected a new member: Dr. Todd, of Waverley.

A Question of Charity.—The Honorary Secretary (Dr. SCOT SKIRVING) read a letter from Mr. John Elliott, drawing the attention of the members to the destitute condition of Dr. Cummings, of Woollahra. Resolved that the matter be left in the hands of Dr. W. W. J. O'Reilly.

Ethics of Anæsthetics.—Dr. KNAGGS read a paper on the Ethics of the Administration of Anæsthetics, introducing a discussion on the subject.—The PRESIDENT said there were two things which men just fresh from the university always thought they thoroughly understood, first, the administration of anæsthetics; and, secondly, the diseases of women. As to the responsibility of the operator and the administrator, he (Dr. Chambers) was not quite sure as to the exact amount of responsibility each should take; but there should, without doubt, be the utmost confidence between them. With regard to the chloroformist being present at the consultation prior to the operation, no doubt it would be advantageous; but he (Dr. Chambers) thought it hardly practicable. It would be a great advantage to have a chloroformist appointed to each of the Sydney hospitals, not only for the administration of anæsthetics, but also to give instruction to the students, for as far as he (Dr. Chambers) knew, there was little or no instruction in this subject given to the students at the present time. Deaths very rarely, if ever, occurred under the hands of an experienced chloroformist.—Dr. SHEWEN said he did not think the responsibility of the administration of an anæsthetic should be equally divided between the operator and the administrator, but always fall wholly on the latter once the patient was taken charge of.—Mr. G. T. HANKINS agreed in the main with the remarks of Dr. Shewen.—Dr. CLUBBE said Dr. Knaggs had made no mention of the ethics of the administration of an anæsthetic by one man single-handed. He (Dr. Clubbe) would like to know what the members thought of this point.—Dr. QUAIFE said he had given a great deal of thought to the point raised by Dr. Clubbe, and had come to the conclusion that in a great city like Sydney, where the services of a second man could be easily obtained, it was always better to call in assistance. Of course there would always be cases where a man would use a little chloroform by himself.—After some remarks by Dr. WORRALL, Dr. MEGGINSON said that at Leeds Infirmary the house-surgeon always gave the anæsthetic. At Edinburgh, second and even first year's men gave the anæsthetic. To give the students the impression that this duty was very dangerous would be a false course of action, and the impression would be difficult to remove afterwards. Touching civil actions, if a jury was allowed to censure the chloroformist, for being young for instance, there would be no end to further extension of such a view. Suitors against medical men were not of the genus who know much about ethics; if they did, they set it aside carefully. In dealing with that question, it would be forced upon us to make a rule of obtaining written release from legal action previously to operating. This part of the subject and its "ethics" were surely worthy of development at the present day on their own account.—Dr. SHAND made a few remarks.—Mr. G. E. TWYNAM said that Mr. Clover, of London, was a man of very large experience, and yet he had administered anæsthetics to 4,000 patients without a death, and then had two deaths in a fortnight.—Dr. SCOT SKIRVING said that Dr. Shewen stated that the students at the Alfred Hospital received proper instruction as to

the administration of anæsthetics; this he (Dr. Scot Skirving) did not think was quite the case. In Edinburgh all students were allowed personally to administer them, under proper supervision, and if our students were allowed to feel the personal responsibility of giving chloroform under the supervision of an experienced man, there would ultimately be fewer deaths under chloroform.—Dr. SYDNEY JONES said the regular medical attendant was the proper person to decide what anæsthetic should be used. The moment the operation was commenced, the operator could not possibly be expected to have any responsibility as to the administration of the drug. He (Dr. Jones) was strongly of opinion that chloroform specialists should be appointed to all metropolitan hospitals, and that every student should have opportunities of administering chloroform.—Dr. KNAGGS, in reply, apologised for appearing to oppose the appointment of specialists to administer anæsthetics in public hospitals, while he really approved of such officials as experts and instructors of students. His apparent antagonism was merely a subterfuge adopted to draw a decided expression of opinion from those speakers who were to follow him. With regard to Dr. Chambers's opinion that deaths from chloroform very rarely occurred under the hands of experienced chloroformists, he wished to state that in six of the cases occurring in Sydney during the past four years wherein he had made necropsies, it was proved that every reasonable care had been used in the administration of the anæsthetic. The question as to the respective degree of responsibility incurred by the operator and the administrator of the anæsthetic was a difficult one to decide. He thought Dr. Sydney Jones had best described the position in saying that it differed in time and in degree. An investigation into the causes of death during operations under anæsthetics, and a decision as to which of the parties concerned in the operation should face the coroner and jury, in case of a fatal result, might tend to settle this question. It certainly was within the fitness of things to establish a rule in medical ethics that every person who took an active part in a surgical operation under anæsthetics, which terminated fatally, should attend and give evidence at the judicial inquiry into the cause of death. He might relate an instructive instance that happened in his own practice as a reply to those who thought that the administrator of the anæsthetic was to be held responsible once the patient was under its influence. A scorpion-bite caused a malignant ulcer, involving the elbow-joint of a lad; amputation seemed the only chance of saving life, but the usual friend of the family interfered, and prevented the parents from giving their consent until some weeks later, when it was palpable to them that death must soon ensue. At their urgent request, when the case was all but hopeless, he operated, and the lad died on the table. Here was a death to which the administrator of the anæsthetic did not in the least contribute. He would relate another instance which was investigated by a coroner's jury; a very trivial operation was attempted, in order to relieve the agony of a dying man, with fatal results. Yet it was difficult to decide which contributed most to cause death, the operation or the anæsthetic—at most, the final end of the case was but briefly anticipated. Assuming, therefore, that the respective responsibilities of operator and anæsthetist not only differed in time and in degree, but also varied according to circumstances, he thought that both, as essential factors to every operation, should be prepared equally to share the responsibility; and, while doing so, adopt such a code of ethics as would contribute towards the protection of all.

THE seventy-fourth general meeting of this Branch was held in the Royal Society's Room, Sydney, on Friday, September 7th, Dr. CHAMBERS (President) in the chair. The following gentlemen were present: Drs. Quaife, Fiaschi, Shewen, Sydney Jones, Twynam, W. Chisholm, Faithfull, Crago, Garrett, Knaggs, Hankins, Roth, Worrall, Fisher, Marano, Scot Skirving, Lyden, Breneman, West, Brady, Thring, McCulloch; Dr. Hurst, visitor. The minutes of the previous meeting were read and confirmed.

New Members.—The following gentlemen were elected members: Dr. H. H. Marshall, Liverpool Street; Dr. R. F. Reading, Elizabeth Street.

Death of Dr. G. Marshall.—The PRESIDENT announced that since the last meeting of the Branch Dr. George Marshall had died.—Dr. QUAIFE proposed, and Mr. HANKINS second: "That a letter of condolence be forwarded to Mrs Marshall."

Uterine Appendages.—The PRESIDENT exhibited a specimen of uterine appendages.

Hydatid Tumour.—Dr. SYDNEY JONES read a paper on Two Cases of Hydatid Tumour Simulating Distension of the Bladder.—Dr. SHEWEN said he would like to ask Dr. Jones how he ascertained that the hydatid cyst was in front of the bladder, and also as to where the puncture was made.—Dr. QUAIFE said that in the first case mentioned by Dr. Jones the tumour was distinctly in front of the bladder. The puncture was made about the middle line. There were no bad symptoms, and the man was about again in a few days.—Mr. G. T. HANKINS said that he remembered a case in the Prince Alfred Hospital of a woman suffering from an enlargement resembling an ovarian tumour. When punctured it showed clearly hydatid fluid, and about six pints were drawn off. After two weeks the operation was repeated. The patient was afterwards readmitted, and a pailful of fluid was taken away.—Dr. SYDNEY JONES, in reply, said that it was easy to ascertain that the cyst was in front of the bladder by rectal examination. The puncture was made in the middle line, about one inch and a-half above the pubes.

Suprapubic Cystotomy.—Mr. GEORGE E. TWYNAM read a paper on the Present Position of the Suprapubic Operation, with a case and an analysis of sixty-seven others.—Dr. FIASCHI said that Mr. Twynam had made an *ex parte* statement as to the revival of an old method, and had not brought forth convincing proof as to its superiority. There was a possible danger in the suprapubic operation which had not been mentioned by Mr. Twynam, namely, rupture of the rectum.—Mr. G. T. HANKINS said, with regard to the question of suturing the bladder, this could be readily done in the case of females. He had removed a stone weighing four ounces, in which case he sutured at once, and made provision for proper drainage. A slight leakage occurred about the eighth or ninth day, but after that the patient made a good recovery. Another case was that of a man who had been operated on previously. In this case no suture was put in and no catheter was used. It was found that the wound became sloughy and was very slow in healing.—Mr. G. E. TWYNAM, in reply, said that Dr. Fiaschi's remark as to the possible danger of rupturing the rectum was correct; over-dilatation should always be carefully avoided. As to the paper being an *ex parte* statement, Mr. Twynam said he had started with the idea of making certain comparisons, and had been very much astonished at the results, so much so that he might possibly have been led to think a great deal of the suprapubic operation.

Ague-cake Spleen.—Dr. A. SHEWEN read some notes on a case of ague-cake spleen, and exhibited a specimen.

The Jockel Fund.—The CHAIRMAN announced that £133 19s., had been collected for the widow of the late Dr. Jockel. Resolved that the expenses of collection be deducted from the amount collected, and the balance handed to Mrs. Jockel.

EAST YORK, AND NORTH LINCOLN AND YORKSHIRE BRANCHES.

A CONJOINT meeting of these Branches was held at York on Wednesday, October 31st; Dr. RAMSAY (President of the Yorkshire Branch) and Dr. F. NICHOLSON (President of the East York and North Lincoln) presiding.

Communications, etc.—The following papers were read: Dr. ELLIOTT: Landry's or Acute Ascending Paralysis. Mr. E. ATKINSON: Ichthyosis Linguæ. Dr. TEMPEST ANDERSON exhibited (1) a simple Eye Speculum; (2) a Bench for Operating on the Eyes of Children; (3) a Method of Applying Eye Ointment. Mr. PIGEON: A case of Carotid Aneurysm. Mr. SNELL: Eye Accidents, and some remarks on Prevention. Mr. ARTHUR ROBERTS related a case of Tetanus, with a view to a discussion of its Pathology and Treatment. Dr. F. NICHOLSON: Pseudo-hypertrophic Paralysis occurring in Four Brothers. Mr. H. BENDELACK HEWETSON: Further Investigations into the Relationship between Optical Defects and occasional Epileptiform Attacks. Dr. MYRTLE: Neurasthenia: True and False, Diagnosis and Treatment.

Dinner.—After the meeting, twenty-six members of the two Branches sat down to dinner at the Station Hotel.

BATH AND BRISTOL BRANCH.

THE first ordinary meeting of the session was held at the Museum and Library, Bristol, on Wednesday evening, October 31st. J. HINTON, Esq., President, in the chair.

The Late Mr. F. Mason.—The following resolution was proposed by Dr. GOODRIDGE, seconded by Dr. SWAYNE, and adopted unanimously:—"That the members of the Bath and Bristol Branch of the British Medical Association deeply deplore the loss of their esteemed associate Mr. Frederick Mason, and beg to ex-

press their hearty sympathy with the relations of the deceased."

Communications.—Dr. MICHELL CLARKE read a paper on Two Cases of Muscular Hypertonicity in Paralysis, with remarks. Drs. WALDO, SHINGLETON SMITH, LONG FOX, and PARKER, joined in the discussion which followed. Mr. RICHARDSON CROSS read a paper on The Treatment of Iritis, and exhibited illustrative cases. Dr. A. E. AUST LAWRENCE read a paper on Uterine Hæmorrhages occurring during Pregnancy, upon which Dr. SWAYNE made some remarks. Dr. WALDO read a paper on Pernicious Anæmia, which was discussed by Dr. ROXBURGH.

SPECIAL CORRESPONDENCE.

BERLIN.

[FROM OUR OWN CORRESPONDENT.]

Professor Koch on the Prevention and Treatment of Epidemics in Armies in the Field.

PROFESSOR ROBERT KOCH recently delivered an address on epidemic diseases among soldiers in the field, in which he said that the hygiene of clothing, food, and lodging was of the first importance for an army; for instance, at the beginning of the last war, 30,000 men were made useless for service, owing to unsuitable foot-gear. Whilst, however, in such a matter, the soldier may to some extent help himself, he is entirely powerless if epidemic diseases break out in the army; against these only one protection is left him, namely, hygiene. In former campaigns it was reckoned that for one man who fell in battle, about six died from diseases such as typhus, cholera, dysentery, etc. During the Crimean war the French and English armies were both placed in similar circumstances as to climate, diet, and medical treatment; yet during the first winter the English lost 10,285 men from diseases, whilst the French, although four times more numerous, lost only 10,934, so that the English mortality was four times as large as the French. In the second winter, on the contrary, the British lost 551 men, the French, 21,182. In other words, the French mortality was ten times as great as the British. This wonderful change in the rate of mortality, showing a diminution to one-fortieth of the first number, was due to the hygienic measures adopted by the English physicians; who, by a lucky hit, were able almost to stamp out typhus in their army. The preventive measures, however, cost fifteen million francs. What then proved correct empirically, was demonstrated nowadays beyond doubt by the immense progress of hygienic science. Since the parasitic pathogenic micro-organisms, and their conditions of life, were exactly known, we were more and more enabled to prevent every special disease by special means. Professor Koch proceeded to lay down the following principles: "All matter causing infection consists in micro-organisms; every infectious disease is a parasitic one. Micro-organisms, pathogenic as well as harmless, are never produced by *generatio æquivoca*, but are all generated by organisms of the same kind. Therefore, all infecting diseases are generated not by matter in the form of gas, but by matter in the form of dust. Hence all measures against gaseous matter, that is, against putrefaction, prove useless. Infectious diseases, and above all those prevalent in armies in the field, are produced not by dirt and misery, but in every case by contact with specific germs. One form of disease is never changed into another (for instance, dysentery into petechial typhus). There are differences in the virulence of the infectious matter, causing a severer or a milder form of the epidemic. The real element of infectious matter is moisture; some germs, if dried, will perish, others come to a standstill in their development. They are unable to pass into the air from the moist substance unless this dries up and falls into dust. Thorough ventilation of the sick-room will effectually prevent this. The pollution of the floor is only of importance so far as infection may be conveyed, either directly by soiled feet, heads, and articles in use, or else indirectly through subterranean channels emptying themselves into water for drink or use."

Professor Koch here argued strongly against the views of Professor von Pettenkofer. He then continued: "It is essentially water which carries the micro-parasites, especially water exposed to the air, either standing or flowing—pools, pumps, and cisterns. Hygienic preventives must meet the different kinds of infection. Those organisms which can develop only in animal bodies take effect by immediate contact or else by being contained in the dust; and here it would be useless to direct any means against soil or water; whilst just this is necessary to be done against organisms which have the faculty of propagating outside of the body in the water and soil. Some of them take effect in the digestive canal; here attention must be paid to water and food; others settle on the respiratory organs or on the skin; here other measures are required. The prophylactic rules are: limitation of all possibilities for infection by water, soil, air, or clothing. Prevention of great crowding of men—especially night quarters in insufficiently ventilated rooms—thorough ventilation of sleeping apartments and sick-rooms. The ground should be kept dry by drainage of the surface and, if need be, by underground drainage. All excrementitious matter, soiled bed-linen and clothing, dirty water, etc., should be removed and buried deep in the ground. The greatest care should be taken to ensure the purity of the water-supply. Filtered water is best for camps, hospitals, etc. Doubtful water must be boiled before being used. All food, especially milk, must be freshly boiled. The greatest attention must be paid to cleanliness of dwellings, of clothes, and of the person. If, in spite of all these precautions, an epidemic arises, it is of the greatest importance to recognise the first cases at once. This requires an intimate acquaintance with bacteriological and microscopical methods. The early cases must be strictly isolated; all suspicious objects, clothes, bedding, tents, etc., should immediately be burned. Infected buildings must be at once abandoned, and thoroughly disinfected after the new methods. In cases of dysentery, cholera, typhoid, etc., attention must be chiefly given to the purity of the water and the soil; in petechial fever to the purity of the air. If the epidemic has had time to get settled, a change of place—the further removed the better—will be of the greatest use. Perhaps we may yet arrive at a preventive vaccination for other diseases, the method having proved so effective in the case of small-pox."

GLASGOW.

[FROM OUR OWN CORRESPONDENT.]

Princess Louise's Visit to Glasgow.—Queen Margaret College.—Queen Victoria Nurses' Institute: Scottish Branch.—Paisley Medical Officer.—Scarlet Fever in Glasgow.—Death of Dr. Wallace, City Analyst for Glasgow.

DURING her recent visit to Glasgow, Princess Louise, accompanied by the Marquis of Lorne, visited Queen Margaret College, of which she is Honorary President, and the Sick Children's Hospital, of which she is Patroness. At the former she was received by a large muster of the lady students and the full staff of professors, lecturers, and tutors, and was presented with an address. At the Sick Children's Hospital she was welcomed by the staff, and went the round of several wards, expressing her gratification with the arrangements made to secure the comfort of the children, and with the brightness and cleanliness which characterise the hospital.

It is some years since a movement was set on foot for the endowment of Queen Margaret College for Women in Glasgow. The smallest sum required is £25,000, and by the liberality of some friends in Glasgow £12,000 were speedily raised. For the past year or two, however, effort has been in abeyance, owing to the depressed state of trade. On the success of the endowment scheme depends the securing as the absolute property of the College the magnificent building and grounds provided by Mr. John Elder. It has, therefore, been determined this winter to push forward the scheme, and for this purpose a public meeting was held in Glasgow on November 5th, under the presidency of the Lord Provost of the city, Sir James King, and was attended by many of the most influential and reprentative gentlemen of Glasgow and the West of Scotland. Sir James King traced the growth of the institution from the meeting of the British Association in 1876. Hitherto its success has been mainly due to the energy of Mrs. Campbell, of Tillichewan, the generosity of Mrs. Elder, who provided the buildings, and other friends, who endowed two chairs at a cost of £3,000, and raised an annual sum of £105 for bursaries; and to the able management of the Honorary Secretary, Miss Galloway. The numbers of ladies who have taken advantage of the institution show its need; 300 last year attended lectures, and 400 engaged in the correspondence classes. This year the enrolment of students promises to be larger than before. These facts, as well as the prospect of affiliation to the University held out by the new Universities Bill, supply the reason for the renewed effort for

endowment. Professor Gairdner moved: "That Queen Margaret College for the Higher Education of Women is an institution of great value, supplying a felt want, and in every way worthy of public support and encouragement; and that it should be placed in such a pecuniary position as to ensure the adequate fulfilment of the purpose for which it has been formed." Professor Gairdner thought that women should be instructed as well as men, due regard being paid to the requirements of sex, which could only be by a separate college for women. Provided the necessary education was obtained, university degrees should also be open to them. An education up to the university level would be a benefit to the sex, and would be a reflex benefit to men. His motion was seconded by Sir Archibald Orr Ewing, M.P., and unanimously agreed to. On the motion of Professor Edward Caird, seconded by Dr. F. H. Underwood, the American Consul, the meeting cordially approved of an immediate effort being made to obtain subscriptions in aid of the endowment. Dr. Underwood expressed the opinion, from his experience in the United States, that the education of women was even more important to society than that of men. Whatever society was centuries ago, it was in our time that which women made it. If women were uncultivated and inane, the tone of society would follow their level, and not that of the brilliant men. Society was to be benefited by a solid foundation rather than by the superficial training that many ladies acquired. The proceedings terminated with the usual votes of thanks.

Miss Guthrie Wright, the provisional honorary secretary of the Scottish Branch of the Queen Victoria Nurses' Institute, has issued an exceedingly clear statement of the aim and method of working of this institution. The Scottish Committee consists of the Marchioness of Lothian, the Countess of Aberdeen, the Hon. Lady Campbell of Blythswood, Lord Hamilton of Dalzell, the Right Hon. J. B. Balfour, M.P., Dr. Joseph Bell, Sir Thomas Clark, Sheriff Crichton, Mrs. Ford, Professor Gairdner, Mrs. Higginbotham, Miss Lumsden, Mrs. Louisa Stevenson, and Mrs. Trayner, with Lady Rosebery as president, and Miss Wright as honorary secretary. A suitable house is being sought for in Edinburgh, to be equipped as a training home for nurses for district work, of which Miss Peter, of the Sick Children's Hospital, Edinburgh, has been appointed lady superintendent. Ordinary nurses will receive one year's training, superintendents two years' training and hospital service, as well as six months' approved training in district nursing and three months' in maternity nursing. Nurses will be supplied to towns and districts as required, and the aim is ultimately to establish local homes and to affiliate any similar institutions that may desire affiliation. The share of the income devoted to the Scottish Branch is £300 annually. Considerably more money is, therefore, needed to carry out the details of the scheme, and as the object is to provide nurses for the sick poor in their own homes, it is hoped that the public will afford a generous support to the scheme and enable it to be carried out in its entirety.

Dr. W. F. Gibb has been appointed medical officer for the central district of Paisley, in room of the late Dr. David Taylor.

Scarlet fever continues to abound in Glasgow and its neighbourhood. In some of the suburbs it is extending; in Milngavie, for example, a somewhat serious outbreak has occurred.

Dr. W. Wallace, F.R.S.E., F.C.S., who for the past fourteen years has been City Analyst for Glasgow, died on November 5th, after a month's illness. Dr. Wallace worked his way up from being assistant to the late Dr. Penney, of Anderson's College, and subsequently lecturer to the Mechanics' Institution, until he occupied a very high position as an analytical chemist in Glasgow, in association with Mr. R. R. Tablock and Dr. John Clark. He was very well known for his work on gas analysis, and in 1879 published, in conjunction with Dr. Russell, the medical officer of health, a set of lectures on public health, which were delivered under the auspices of the corporation of the city. Not many years ago he occupied the president's chair of the Philosophical Society. He had been in feeble health for some years, and was only 56 years of age.

HOSPITAL SATURDAY FUND.—At a meeting of the delegates of this fund, held on October 27th, it was reported that the fund to date amounted to £9,069, and that seven hundred additional payments would probably be made before the close of the fund, which had been fixed for November 30th. A scheme of registration under the Companies Acts was deferred for the consideration of a special meeting.

MANCHESTER.

[FROM OUR OWN CORRESPONDENT.]

Proposed Union of Manchester and Salford.—Ancoats Hospital. Degree Day at Victoria University.

IN the spring of this year a large number of influential citizens formed themselves into an Association for the consideration of the union of the city of Manchester with the borough of Salford. After a long, searching, and impartial inquiry into all phases of the subject, a report has been issued which clearly and emphatically indicates the desirability of Manchester and Salford being united into one corporation. Apart from the purely municipal aspect of the question, the report shows that, from a sanitary point of view, citizens of both corporations would be greatly benefited. The union would give a joint population of over 600,000.

Manchester is making great endeavours to ameliorate the condition of her numerous and teeming sons of toil. Within the last few weeks we have had to chronicle the provision of a great lung space by the Whitworth legatees, and an offer of a much-needed hospital from the same generous donors. But the corporation itself is not unmindful of the wants of its present, and above all of its future, citizens. The district of Ancoats is the most densely populated in Manchester, and in which are situated numerous workshops, so that it is the abode of an enormous artisan class. Sixty years ago the Ardwick and Ancoats Dispensary was founded solely as a dispensary, with no provision for in-patients, but in 1880 provision was made for a few in-patients. In 1887 the accommodation was increased to fifty beds, and so useful has this medical charity proved, that the directors felt justified in appealing to the public for further funds, and they did not appeal in vain. Besides the site, the cost of the new building will be about £11,000. The Ancoats Hospital is situated in the midst of a district containing from 40,000 to 60,000 poor people.

"Degree day" or graduation ceremonial of Victoria University took place on November 1st in the Town Hall, Manchester. Besides the medical graduates, degrees were conferred on graduates in Arts and Science; and the most striking event was the graduation of several female students, one of whom, from University College, Liverpool, obtained the degree of Bachelor of Science.

CORRESPONDENCE.

PRISCIAN PRICKED BY PHYSICIANS AND SURGEONS.

SIR,—Permit me to make a few observations upon the letter of "An Old Fellow," published in the JOURNAL of November 3rd.

In the first place, "An Old Fellow" insists that Sir William Mac Cormac's "whole address" is "a sort of topsy-turvy inversion of the propositions with which it starts." It is difficult to understand how he is warranted in this assertion, as, according to his own showing, he had before him only "the concluding portion of the address," published in the JOURNAL of October 20th.

Secondly, "An Old Fellow" affirms that the line of Goethe, "Vergiss die treuen todten nicht," cited by Sir William in deprecation of a tendency to forget what has been accomplished by the great surgeons of the past, has no application to what he curiously terms "this thought." To me it seems difficult to conceive of a more appropriate quotation.

Thirdly, Sir William writes: "One cannot look back to some of the procedures of our ancestors without horror.....Fancy the red-hot knife, the quivering flesh, the slow and painful healing of the wounds by second intention." "An Old Fellow" takes exception to this use of the word "fancy," which he appears to regard as a slang adjective, proper only to the description of a certain kind of pigeon or a certain kind of man. On turning to Johnson's Dictionary, I find: "To Fancy, *v. a.* I. To portray in the mind, to image to himself, to imagine;" and a quotation from Dryden's *Juvenal* is given as the authority. This seems amply sufficient to justify Sir William Mac Cormac's employment of the word.

Fourthly, Sir William Mac Cormac tells us that, in the Hôtel Dieu in Paris, he has seen "two, and three, in a bed." "An Old Fellow" suggests that he means two or three. But surely that is not what Sir William means. His meaning clearly is that in one bed he has seen two, in another three. His language may be somewhat elliptical, but the *ius et norma loquendi* warrants it.

I will not trespass further upon your space to follow "An Old Fellow" through the rest of his hypercriticism. I will merely observe that the very eminent surgeon so rudely taken to task was doubtless more intent upon what he had to say than upon the manner of saying it, and that the occasion upon which his address—not "oration," as your correspondent calls it—was delivered well warranted the use of colloquial language.

"An Old Fellow" would do well to ponder the good advice of a great poet:—

> Whoever thinks a faultless piece to see,
> Thinks what ne'er was, nor is, nor e'er shall be.
> In every work regard the writer's end,
> Since none can compass more than they intend;
> And, if the means be just, the conduct true,
> Applause, in spite of trivial faults, is due.
> Neglect the rules each verbal critic lays,
> For not to know some trifles is a praise.

—I am, etc.,

A MAN OF LETTERS.

SIR,—It is to be hoped that the letter of "An Old Fellow," in your last issue, may be productive of some good. The state of matters to which he calls attention is a crying evil. The most elementary rules for the use of conjunctions, adverbs, and adjectives, for the construction of sentences and paragraphs, and for the logical arrangement of an argument, are alike ignored by a very large number of medical men. It matters little whether one takes orations, ordinary articles, or standard textbooks to prove this statement. "An Old Fellow," takes his examples from your columns; numberless others may be found in any other periodical, and in most medical books.

When reading anatomy, I used for the most part a well-known manual, and I took the trouble to correct the grammatical mistakes in it as I went along. I believe I am within the mark when I say that it contains, on an average, at least one example of glaringly incorrect grammar, or careless composition, to every page.

It is only fair, however, to recognise that medical men are not the only offenders. Clergymen, barristers, and professed literary men are by no means blameless. The schoolboy would fare ill who modelled his style on that of Joseph Addison; and it is a well-known fact that, to the searcher after "sentences for correction," the works of an eminent living Scottish philosopher, who has written much on English grammar and composition, are a perfect mine of wealth.

It is, however, much easier to point to defects in a picture than to paint one. Some of "An Old Fellow's" own sentences are not very elegant; probably he will say the same of mine. We cannot all be Huxleys and Pagets, but many atrocities now committed might be easily avoided with a little care.—I am, etc.,

M.B., C.M.

DEATH UNDER CHLOROFORM.

SIR,—Permit me to give you a few facts in connection with the death under chloroform at East Butterwick, a comment on which though without some of the most important details of information, appears in your issue of this week.

First, thirteen weeks, not months, was the time I had been in attendance on the deceased.

Secondly, Mrs. Robertson, to whom I regret you have given such publicity, when too there was an absence of information, was in the habit of visiting the deceased, who was bedridden for years, as she is in the habit of visiting all my poor patients, and that she was present at the operation, not for the purpose of administering the chloroform, but at the deceased's earnest request; that Mrs. Robertson did not administer the anæsthetic, that I did so myself, and when I had the patient fully under, stretched one leg and placed it on a back splint; by this time deceased had partially recovered consciousness, and before proceeding with the second leg I again fully anæsthetised her, when I concluded the operation. I was never away from the patient's side, and on the completion of the operation took my place at her head. The patient was coming out of the chloroform, when I noticed her pupils suddenly dilate, and Mrs. Robertson, who was by her side, remarked her embarrassed respiration. Immediately I used every effort to resuscitate life. Every precaution was taken prior to and during the administration, the A.C.E. mixture was used, and the patient was under for a few minutes only. I at once acquainted the coroner, and both he and the jury exempted me from any blame. Mrs. Robertson was present to give evidence, but both coroner and jury expressly desired that she should not be called on.

Thirdly, as regards my imprudence in not having a second medical man to assist me, permit me to say that in all cases when possible I have, and that in this particular case I tried to impress upon the deceased the advisability of having one, but she would not hear of it, and that I acted upon her own desire when I chloroformed her.

Fourthly, on the very night of this unfortunate case I was sent for to the case of a man *in extremis*, from strangulated hernia. Telegraphic communication was closed, and hours might have elapsed before extra aid could be secured; was I to operate, or was I to watch the man succumb for what you would call my own sake? I chose the former course, and the man is now well.—I am etc.,

T. MURRAY ROBERTSON, M.D.Edin.

Owston Ferry, Rotherham, November 3rd.

*** Dr. Robertson does not add any material facts to the report we published last week, but confirms the main points upon which we commented, namely, that he, unassisted by any other medical man, undertook to anæsthetise and operate upon a patient. The fact that the patient Petch "would not hear" of another medical man being called in to help, simply showed she did not appreciate the gravity of the situation. Dr. Robertson asks, was he, telegraphic communication being closed, to refrain from operating in another and an urgent case, and the answer is evident. Urgency and inability to procure professional assistance would always exonerate a practitioner from running risks, however undesirable, but we do not gather that, in the case of the patient Petch, there was either urgency or any insuperable difficulty in obtaining assistance from another medical man. We are, then, confirmed in our opinion that no medical practitioner should undertake the charge of the anæsthetic and of the operation singlehanded. If such a thing be done we cannot accept the statement that "every precaution was taken prior to, and during the administration of the anæsthetic."

BURIAL OF THE DEAD.

SIR,—In view of the memorial to be presented to the Home Secretary asking for a Royal Commission to inquire into the condition of cemeteries and modes of burial, kindly permit me to ask what object there can possibly be in carefully constructing a box of considerable strength and power of resistance to decay for the enclosure of a dead body which, inherently given to corruption, is thereby converted into a source of danger to the living? The Burial Service requires that earth be given back to the earth; but nothing of the sort is done in the prevalent mode of burial. By the intervention of strong coffins and the like, the remains of the departed are prevented from undergoing the very changes which should be expected and welcomed.

The question that concerns us is, Shall we let kindly Nature do her work properly and with benefit to the living, or shall we say, in our impotent folly, "Stand aside and do not interfere with our belongings"? If we do this it is certain Nature will avenge herself by arranging the products of change in harmful combinations. Nature is a potent chemist, malignant or beneficent in her action according to the way in which she is treated; and just as a human chemist can, by skilful combination and arrangement, make a harmful body or a harmless body out of materials alike in their origin, so Nature can in like manner work for good or for evil. Nitre, sulphur, and charcoal are severally innocent enough bodies, but combined in certain proportions they make gunpowder, the destructive properties of which are appreciated by all. Just so with the constituent elements of the body. Suffered to rise through the superincumbent earth, the gases are harmless and become food for plants. Confined within an imperishable coffin these gases become virulent and death-producing, sooner or later to find their way to where they may work harm.

The earth is the great natural deodorising medium, and is able to act as such mainly because, being porous in composition, it allows the processes of oxidation to go on within it. By oxidation is meant the power possessed by the gas oxygen of combining with other gases or bodies and effecting their change. Thus oxygen enters the dead body and returns in the form of carbonic acid gas, which is composed of two atoms of carbon and one of oxygen. This carbonic acid gas, as it mingles with the air above, is seized hold of by the trees and plants; the carbon is retained for their own use, the oxygen is returned to the air for man to breathe.

Consequently, if the dead body be so placed that the oxygen of the air can get at it through the soil, the products of decay can reach plants which are growing in the soil above, and the body is gradually and harmlessly resolved by natural processes. It stands to reason that, if we resolve on giving these natural processes fair play, we shall put our dead into coffins which, while enabling us to bury them with all reverence and decency, will yet enable the oxidising processes to take place. But this is just what, under our existing methods of burial, we do not do. We encase the dead in strong coffins and bricked vaults. There the inevitable decay is retarded, but not prevented. Valuable areas are for ever given up to the dead. Noxious gases escaping have a chance of doing harm, instead of being at once turned to good account, and God's acre of mossy turf and leafy shrub is converted into man's acre of brick and monument; the latter often depicting a grief which is not real, and a woe which is alike opposed to our Christian faith and to our best hopes of the future.

The fact is, conventionality steps in and puts us in an utterly false position, from which the Church of England Funeral Reform Association aims at delivering us; and this the Society proposes to do on lines distinctly laid down in the Church of England form for the burial of the dead.—I am, etc.,

F. LAWRENCE
Hon. Sec. Burial Reform Association.

Weston Vicarage, York, November 3rd.

PROFESSOR GERHARDT AND SIR MORELL MACKENZIE.

SIR,—Mr. R. E. Dudgeon's literal translation (*vide* JOURNAL, November 3rd), which Mr. Dudgeon "cannot make out himself," and which I also am at a loss to understand, shows best how right I was in supposing that a linguist's error roused the JOURNAL to throw that unjust affront on Professor Gerhardt. To translate literally, with a dictionary on the table, will often cause great misunderstanding. In this case the words "aus Versehen," "by mistake," cause the trouble. The rule of the English language draws it as adverb to the verb "endeavour," and renders the whole sentence a nonsense, while the German language does not do so.

Being born German, but talking and writing English nearly forty years, I never should endeavour to rectify a learned Englishman about his own language; and I venture to ask Mr. Dudgeon, who, not being German (I don't know if he is English), tries to translate German, to render me the same justice. To prevent further misunderstanding, I may add that the only reason for my mixing in this affair was to stop the JOURNAL of the British Medical Association, misguided by a wrong interpretation of the sentence of a book, from applying an unjust and unfounded affront to a man who is known in all Germany as clever in his science, as honest in his heart.—I am, etc., OSWALD ZIEMSSEN, M.D.,
Member of the British Medical Association.

Villa Ziemssen, Wiesbaden, November 4th.

REFORM AT THE ROYAL COLLEGE OF SURGEONS.

SIR,—It is a noteworthy sign of the strength of the position of the Members of the College of Surgeons, in their contention for a voice in its management, that almost every speaker or writer on "the other side of the house" is forced to use a two-edged argument, the sharper edge of which is directed against the party whose cause he champions. The last instance of this self-mutilation is presented in the well-meaning speech of Mr. Christopher Heath, on November 1st, at the College meeting.

Admitting the justice of my claim that that meeting was a "meeting of the Corporation" (witness the mace and the President's robes of office), he further adopted my view that, as such, it was entitled to the balance-sheet now annually presented; but, strange to say, he coupled this admission with the claim that "the action of the directors" (pursuing my analogy of a company meeting) "had to be taken as it was; the money had been spent and they could not help it. They might turn out the directors, just as the Council of the College might be turned out, but the Members could not go back upon the money already spent."

Mr. Heath has thus presented our case *in nuce*. We have *not* the alternative which Mr. Heath suggests, and his words but give added force to our argument that we must be enabled—I will not say to "turn out," as that were an impolite act—to elect men who will respect our views as to the spending of money partly drawn from the pockets of the Members and partly bequeathed to a Corporation of which they form the overwhelming majority. Mr. Heath, however, admitted later in his speech the *indirect* power we Members already enjoy in his reference to the negativing by the Council of a money grant: "Perhaps they had the present meeting in their eye," though in an earlier sentence he had deprecated the very meetings which have so wholesome an effect. As Mr. Heath—though avowing that he spoke *suâ sponte*—was not corrected by any of his colleagues on the Council, I must take it that his views were not objectionable to that body. They certainly are a most important, though unwitting, addition to the accumulating testimony of eminent men in favour of our claim that the Members shall take a direct part in the control of the College.

It is a sorry thing to make a rejoinder in print or in cold blood to the warm words of debate, but I could not again trespass upon the good will of the meeting on November 1st by twice over rising to support one motion. I therefore beg your kind insertion of these lines. One point, however, I must call further attention to, and that is, that again the President has refused to put to the meeting a motion proposing that the Secretary of the College should forward to the Privy Council a copy of a resolution passed by the College in an officially summoned assembly. Such ruling is assuredly an abuse of authority.—I am, etc.,

14, Grosvenor Road, S.W. WILLIAM ASHTON ELLIS,
Joint Hon. Sec. Association M.R.C.S.

THE PARLIAMENTARY REPRESENTATION OF EDINBURGH AND ST. ANDREWS UNIVERSITIES.

SIR,—I quite agree with your correspondent as to the desirability of our great Alma Mater having a medical representative in the House of Commons, but I would respectfully submit that, in order to do so, we must put forward a candidate who can command other essential conditions for success.

1. He must be a Scotchman; national exclusiveness would, I am sure, be a fatal barrier to anyone else.

2. For similar reasons he must be a graduate of the Edinburgh University, and probably also he ought to be able to display an intimate acquaintance with the government of all the Scottish universities.

3. He should possess, besides professional pre-eminence, a very considerable amount of personal influence due to literary, social, oratorical, or well-known business acquirements.

4. It must be ever borne in mind that a large proportion of the most accessible (and, therefore, most reliable) voters are ministers of the Established Church, who are almost to a man opposed just now to the policy of Mr. Gladstone. It would, therefore, be very desirable to propitiate this class by the selection of a supporter of Lord Salisbury: a Conservative, if possible, after the reforming type of Mr. Ritchie would probably suit all parties.

In compliance with the precedent established by your correspondents I avoid mentioning names, but I venture to go so far as to suggest that amongst the governing members of the British Medical Association, there is at the present moment at least one man who, if he could be prevailed upon to act for us, would exactly fulfil all these conditions.—I am, etc.,

PHILIP H. KIDD, M.B.EDIN.

Bassingbourne, Cambs., November 5th.

THE EXAMINATION INCUBUS.

SIR,—It is quite refreshing to read your article in the JOURNAL of November 3rd, on "The Examination Incubus," and to think and hope (though it may be only a castle in the air) that it may lead to an alteration in the present style of examination.

"Incubus" is the happiest word that could have been selected to describe what the examinations are at present to the bulk of medical students, as passing one is becoming a mere matter of chance instead of a fair test of professional knowledge. A question is asked, and an answer may be given displaying a fair knowledge of the subject; but should the examiner have a theory of his own—a not uncommon occurrence—and the unhappy candidate not happen to know it, the rest goes for very little. The present fashion with some examiners seems to be, not to ascertain what a man knows, but what he does not know, and then to pluck him.—I am, etc., MEDICUS.

November 4th.

JUDICIAL EXECUTIONS.

SIR,—I do not think that anyone reading Dr. Barr's letter can fail to recognise the official *non-possumus* nature of its tone and the legal aroma of which it is "absolutely redolent." In true

attorney style he tries to start a false scent by defending death by rupture of the cord, as if I advocated death by suffocation; and he calls Heaven to witness the illustrious names of the Capital Sentences Committee, as if I tried to conceal them, whereas I gave them in full in my paper. I simply blame this Committee for ignoring the overwhelming testimony in favour of the submental knot, and also, but in a far slighter degree, for not recommending that a fair trial be given to my chin-trough. I never expected it to be adopted without a trial, and it was to show that no risk of cruelty (beyond the death by suffocation, which happens in nine out of ten executions) could attend such trial that I dwelt on the probable painlessness of the latter.

It is doubtless gratifying to Dr. Barr to find his evidence acted on in preference to that of several other surgeon experts who advocate the submental knot, and to see ignored Professor Haughton's important conclusion that "with the knot submental half the decapitating energy is sufficient." I complain that on this ground they should have recommended, for instance, that a ten-stone culprit should get a five-foot drop with the knot under the chin, whereas they lay down that he is to get a nine-foot drop with the knot under the ear, the conclusion being that a ten-foot drop would be the "decapitating energy."

I again deny that the chin-trough would take extra time in application, and I am perfectly confident that the impetus given by the violent blow on the chin would dislocate the head, as said impetus must have done in the case of the plasterer falling on the shutter, for the latter could not have followed the chin back, and must have ceased contact with it even before 75 degrees of elevation of the jaw could have been attained. Notwithstanding Dr. Barr's sneer at my knowledge of mechanics, I contend that my proposition to increase the angle to which the trough could be thrown back by standing the culprit sideways on the drop, away from the over-head attachment of the rope, is perfectly sound. If you allow a six-foot man (roughly speaking) six feet of rope from an eight-foot high beam, and stand him exactly under the attachment of the rope, he falls four feet, and the floor of the trough is forced into the perpendicular. If he is placed sideways, one of his feet on each leaf of the drop and three feet to the left or right, his back being of course towards the attachment of the rope, he only has a vertical fall of about three feet, the check of the rope jerking the trough's floor about a third of a right angle (30°) back, which is to be added to the despised 15° at the other side of the vertical, making 45° of a wrench backwards altogether over and above what we can do willingly. The pendulum swing is, of course, immaterial, and could be immediately stopped. I do not think that anything like this leverage is necessary, but there it is at hand if required.

My reason for saying that the Committee favoured the chin-trough was because their secretary was "directed by the chairman" to write and "express the sense they had of the great credit of" my "invention." Lord Aberdare also remarked, on Dr. Barr's contemptuously saying that "it would slip up over the face:" "We don't care where it goes after giving the blow on the chin." Dr. Haughton also honoured me by saying: "This is a step in the right direction," which justifies me in thinking that the Committee have since tumbled down *a whole flight* in the wrong direction. In order to try the trough on a cadaver, as suggested by Dr. Haughton, I immediately sought the advice of Dr. Yeo, Professor of Physiology at King's College, who explained the insuperable difficulties of procuring a body, and the sentimental objections (*esprit de corps?*) against subjecting it to such indignities; and I may say that Professor Yeo was so impressed with the deadliness of the chin-trough that he declared he would not fall *six inches* with the contrivance *in situ*.

I simply complain, with regard to Currell's case, that Dr. Haughton classed him as "suffocated" *because* the pulse was so low as 80, and notwithstanding my statement that the neck was dislocated. Either Dr. Barr or Dr. Morgan, or both, have confounded Lipski's with Currell's sphygmographic tracings, for I quite remember comparing notes in the Governor's room at Newgate with Dr. Morgan after Lipski's execution, when, after counting the number of slips used in a minute and the number of kicks on one slip, that gentleman replied: "Yes, six times twenty seven; 162 exactly" (I had it down 160). Dr. Gilbert and myself agreed in the pit that Currell's pulse was 80. Dr. Barr admits that this part of a prison surgeon's "duty" is repulsive, and so do I; but that is no reason why it or any other *duty* should for years be shirked and deputed to others, ignorant and callous, to carry out. As to the willingness of prison medical officers "to be relieved by" me "or anyone else," I beg leave to doubt the sincerity of the statement, especially after Dr. Barr's no-interference manifesto; and I beg to remind him that none of his *confrères* have ever had an opportunity of judging whether or not my invention was a "humane improvement" till you, Sir, did me the honour of inserting my paper in the JOURNAL. It is undeniable that "there is not much science in the art of hanging," and equally plain that the "head and front of my offending" is the attempt to introduce a little; but I should like to know how long have executions been going so smoothly as to justify Dr. Barr's *coup de grâce:* "The rules are so plain that no scientific expert is required to carry them out." Were these plain rules of the long-drop Committee carried out at Oxford Prison recently, when a man was almost decapitated; and, if not, when are they to come into operation? If Dr. Barr really takes offence at what he calls a gross libel on prison surgeons (who must chuckle at his assumed injured innocence), he may just ask the late Committee what they felt and said on the subject of the doctors giving misleading hints to reporters as to instantaneous deaths at executions. I beg to tell Dr. Barr that the real reason of my perseverance in this matter is chiefly due to the contemptuous manner in which he, without a moment's examination, condemned before the Committee the work upon which I (a professional brother!) had spent so much thought and time, and on which I naturally prided myself; and I intend to persevere until some more independent and disinterested judge than Dr. Barr pronounces my invention to be "neither useful nor ornamental," and myself to be the clumsy, unscientific, and mercenary ignoramus that he suggests.

In conclusion, I may be allowed to express the hope that, when the wounds are healed which he received in his plucky struggle in defence of the weak and unarmed, and the tendon of his "extensor indicis" is united, he may in future be less eager to point the finger of scorn at his fellow-labourers.—I am, etc.,

Hastings, October 31st. JOHN J. DE ZOUCHE MARSHALL.

TREATMENT OF OBESITY.

SIR,—Referring to my letter, which you were good enough to publish in the JOURNAL of October 6th, I apparently have not made it as clear as I intended. Several letters have reached me from medical practitioners asking for further information; and in the JOURNAL of October 20th, "W. P. F." desires certain questions answered. In describing the treatment that I subjected myself to three years ago, I intended it to be understood that the diet was confined to what I stated, to the absolute exclusion of everything else, that is to say, no bread, toast, biscuits, or anything but the rump-steak, cod-fish, and hot water for fourteen days. Finding my own personal experience so successful, I determined this year to take up the treatment of obesity as a speciality, on the lines conveyed in my letter of October 6th, subject to some modification in certain cases. I append to this letter a tabulated statement of the results of forty cases that have been under my care during this year.

With regard to the questions of your correspondent, "W. P. F.," the diet was absolutely limited to rump-steak, cod-fish, and hot water. But with reference to the effect of the diet on a dyspeptic patient, though I have had no experience of such a case, I venture to think that the ill results of taking meat in large quantities could easily be got over by reducing the meat into an essence, which may be done as follows. Take four pounds of beef, free from skin and fat, cut it to pieces about an inch square; place the meat in a close-fitting, air-tight jar; stand the jar in a pan of boiling water, and let it simmer for six hours. Pass the juice of the meat thus obtained through a sieve, then measure four ounces of the fibrin of the meat, pulverise it in a mortar, and stir it up with the essence; divide this into four doses, and you will obtain the nitrogenous elements required of the quantity of meat to be taken at one meal. There is also a similar way of obtaining meat essence, by using a pot called "Boule Americaine." In treating my cases I have been obliged in many instances to modify the amount of hot water, and lessen occasionally the quantity of meat; but as regards my own personal experience, I found three pounds of rump-steak and one pound of cod-fish hardly sufficient to satisfy one's appetite, taking into consideration the absolute exclusion of every other aliment. In carrying out the treatment it is important to get accurate weight, if possible without any clothing; and, secondly, accurate measurement round the girth. The meat diet and hot water alone must be regularly adhered to for fourteen days, and the amount of hot water, taken at any time during the

day, commencing at 7 in the morning, and finishing at 10.30 at night, varies from 6½ pints, more or less, according to the powers of the patient. The second epoch of twenty-one days, the diet may be considerably varied, as I reduce the hot water to four pints in the twenty-four hours, and allow other kinds of meat, such as mutton-chops, free from fat, and chicken; and as regards fish, grilled turbot, whiting, or soles, a little green vegetable, and some slices of plain unsweetened rusk. The third epoch, thirty-one days, the hot water is reduced to about a quart a day, and I allow tea, stale bottom crust of household loaf, captain's biscuits, grilled fish, fowl, game, turkey, any joint, hock or claret, with seltzer-water, in place of whisky. As hot water is very unpalatable, a slice of lemon may be added to each tumbler.

I think it well to state that I never undertake to treat any case of obesity when the patient suffers from any organic disease, unless it is some trifling malady, and then only in consultation with the medical attendant of the patient. The loss of weight in nearly all my cases varies somewhat, but I have found my patients bear the treatment exceedingly well, and express themselves as feeling far better in health, and able to take exercise with comfort, and in all respects they are materially benefited by the treatment. I have had only three ladies under my care. One was fully successful, another partially, but the third was hopeless, as nothing would induce her to adhere to the rules as regards diet. I will not treat anybody unless they faithfully promise to adhere to the rules laid down; and as the first period of fourteen days is really the only hardship, I have found very little difficulty in persuading patients to stick to the diet. As some alkali is essential, I prescribe five grains of bicarbonate of potash to be taken night and morning.

I shall be very glad to send my diet cards to any medical practitioner who will write to me; but shall ask for the result of any case put under treatment in return.—I am, etc.,

W. TOWERS-SMITH.

	Before Treatment.						*After Treatment.*				
No.	Date.	Sex.	Age.	Weight.		Girth.	No.	Date.		Weight.		Girth.
				st.	lbs.	inches.				st.	lbs.	inches.
1	Jan. 3	M	45	14	10	43	1	March 6		13	2	39½
2	,, 10	M	40	13	12	41	2	,, 16		11	10	37
3	,, 18	M	48	15	4	46	3	,, 28		13	1	41½
4	,, 21	M	39	14	2	42½	4	April 1		12	1	39¾*
5	,, 29	M	53	16	9	47	5	,, 10		14	2	41½
6	Feb. 2	M	45	12	10	39	6	,, 18		11	1	35½
7	,, 3	M	39	14	2½	41	7	,, 20		12	3	37½
8	,, 7	M	42	15	4	44	8	,, 18		13	6	39
9	,, 10	M	54	16	2	48	9	,, 22		14	5	42½*
10	,, 11	F	33	13	1	37	10	,, 24		11	4	32½
11	,, 19	M	39	14	6½	41½	11	,, 30		12	8	39
12	,, 23	M	45	13	10	39	12	May 1		12	5	34
13	,, 26	M	52	14	10	42	13	,, 6		13	2	39½
14	,, 28	M	49	13	12	39½	14	,, 10		11	10	37½
15	,, 29	F	43	15	2	45	15	†		†		†
16	March 2	M	51	14	10	41½	16	,, 18		12	6	39½
17	,, 4	M	48	13	6	36	17	,, 19		11	13	32¾
18	,, 8	F	37	13	4	35	18	,, 20		12	10	34
19	,, 8	M	59	14	10½	41	19	,, 22		13	4	39
20	,, 12	M	42	12	10	34	20	,, 24		11	6	33
21	,, 14	M	45	14	5	41	21	,, 25		12	7	38¾*
22	,, 18	M	59	14	10	42	22	,, 29		13	6	39
23	,, 18	M	41	13	10	39½	23	,, 30		12	2	35½
24	,, 23	M	52	13	12	41½	24	June 3		12	6	40
25	,, 29	M	32	13	8	39	25	,, 10		11	6	36½
26	April 1	M	49	14	10	43	26	,, 12		12	11½	38
27	,, 8	M	37	13	2	38½	27	,, 20		12	0	34
28	,, 10	M	51	15	10	44½	28	,, 28		13	8	41¼
29	,, 18	M	31	12	9	38½	29	July 1		11	2	34
30	,, 21	M	49	13	13	41	30	,, 8		12	3	38½*
31	,, 29	M	28	14	10	44½	31	,, 7		12	1	37½
32	May 4	M	39	13	12	42	32	,, 15		12	4	38
33	,, 10	M	42	14	1	41	33	,, 20		12	7	37
34	,, 15	M	49	13	10	39	34	,, 20		12	2	38½*
35	,, 20	M	52	14	8	45	35	Aug. 4		12	6	39½
36	,, 29	M	49	13	13	41	36	,, 14		12	8	38
37	June 1	M	42	15	12	43	37	,, 27		13	6	39½
38	,, 5	M	51	14	10	42	38	Sept. 2		12	10	38½
39	,, 20	M	42	16	1	48	39	,, 8		14	5	43
40	,, 24	M	39	13	8	39½	40	,, 12		12	1	36
41	,, 27	M	45	14	10	42	41	,, 20		13	1	39¼
42	July 1	M	50	15	4	45	42	,, 28		13	6	40½

* Treated by letter. † Failure; would not conform to rules.

AMYLOID DEGENERATION IN ANIMALS.

SIR,—In the JOURNAL of October 20th, Dr. Julius H. Shannon refers to a case of amyloid degeneration of the liver in a cow. That amyloid degeneration is occasionally to be met with in the lower animals must, I presume, be known to everyone who has had much experience in veterinary pathology. Within the past few months I have encountered an instance of very advanced amyloid liver in a turkey, and also a case of the same degeneration in a horse. It is interesting to note that, in both of these cases, the animals were the subject of tuberculosis; but there was neither suppuration nor phthisis, properly so called. It may be as well to add that the diagnosis was not based on the macroscopic characters alone, but also by the colour reaction of microscopic sections when treated with methyl-aniline violet.

I was astonished to read in Dr. Clifford Allbutt's philosophical address on Comparative Nosology, reported in the JOURNAL of August 10th last, that cirrhosis of the liver is unknown in animals. I possess specimens of cirrhotic livers from nearly all the common domestic animals, and my experience is that, in some of these, the lesion is by no means rare. Dr. Clifford Allbutt has been equally misinformed regarding the occurrence of carcinomatous new formations in the lower animals. I speak from my own personal observation when I say that almost all the varieties of epithelial tumours met with in the human subject occur also in the lower animals.—I am, etc.,

J. MCFADYEAN, M.B., B.Sc.,
Demonstrator of Pathology at the Edinburgh
Leith. Veterinary College.

THE ISOLATION OF DIPHTHERIA IN THE METROPOLIS.

SIR,—I read your annotation on this subject with much interest. The gradual increase of diphtheria in the metropolitan area is a very regrettable fact; and although at present the amount is far below what occurs in some other capitals and large cities, it is high time that steps be initiated to cope adequately with the disease before it becomes more serious. It is, therefore, a matter for congratulation that the Local Government Board are about to apply to Parliament for the necessary powers to have diphtheria treated in the Asylums Boards Hospitals for infectious disease, and that, meanwhile, these hospitals are to be allowed to admit such cases for treatment.

In providing for such cases, I think that medical officers, with special knowlege of the diseases and its requirements, should be placed in charge of the diphtheria wards, and that the cases should be as much as possible admitted into one hospital. At present, these cases are treated in so many different hospitals, by so many different men—often by the resident officers, whose term of office is very limited—that few if any get that cumulative experience so essential to cope adequately with this very insidious disease.

I cannot but feel how helpless we frequently are in the face of severe diphtheria cases, and I cannot see any chance of our becoming more experienced, or of our treatment proving more efficient, until opportunities of accumulating experience on a large scale, and of treating cases in larger numbers, are placed at the disposal of those able and willing to undertake such work.

I do not speak only for physicians and surgeons. I would include, also, those who have to nurse these cases, for I am convinced that successful treatment is largely dependent on good nursing. Good nurses can only be obtained by careful and special training.

Thus over and above the separation and isolation of these cases, a further advantage will result from the establishment of diphtheria wards, provided only they be placed under suitable supervision and control, namely, more extended knowledge of the treatment most likely to stay the disease. And besides this, by subjecting fewer doctors and fewer nurses to the contagion, valuable lives may be saved; for it is well known that frequent contact with infectious cases appears to secure some immunity from their influence; and that those who succumb are persons who have not previously been much brought in contact with it.—I am, etc.,

ROBERT WILLIAM PARKER.

Old Cavendish Street, W., November 5th.

THE SYMBOL ℥.

SIR,—In conversation with a medical practitioner, who has had exceptional opportunities of knowing, I find that many members of the medical profession understand the symbol (℥) to represent an avoirdupois ounce of 437.5 grains.

This subject was discussed at great length a few years ago in the pages of the *Pharmaceutical Journal*, and was finally concluded by a letter from Professor Redwood[1], in which he states

[1] *Pharmaceutical Journal* [3] vol. viii, p. 477.

that, in the opinion of the Pharmacopœia Committee of the Medical Council, the symbol (℥) represents a troy or apothecaries' ounce of 480 grains.

As there is a difference of 42.5 grains, the point is one of considerable importance to prescribers as well as dispensers, and it would be interesting to know what is the general opinion of your correspondents on the subject. A definite authoritative settlement of the question is certainly very desirable.—I am, etc.,

J. Rutherford Hill.

Pharmaceutical Society of Great Britain, North British Branch, 36, York Place, Edinburgh, November 3rd.

CURRICULUM AND APPRENTICESHIP.

Sir,—The winter session is now well under weigh. There is room for improvement in hospital teaching, but taken as a whole that system is good.

The student is taught anatomy fairly enough; there are plenty of able young demonstrators, and no actual famine of subjects. Physiology, after a fashion, is also taught, but that science is too deep to allow of more than the most rudimentary instruction. The use of the microscope, if not overdone, is good for the student.

Eighteen months soon slip by, and then the 1888 freshman will turn to medicine, surgery, and midwifery. A dressership is a most valuable, indeed indispensable, appointment, but the young dresser's attention is turned too much to severe operations and rare forms of disease; and as he has little, if any, responsibility in the management of such cases, he gains but little knowledge, and tends to despise minor surgery and relatively trivial affections. A clinical clerkship is absolutely necessary. Auscultation, percussion, the examination of urine, and certain other professional accomplishments must be learnt, and they can be learnt in the medical wards. Again, as in surgery, minor affections must not be overlooked; in this direction the clinical clerk will find a rich field for work in the out-patient department. Midwifery is absolutely needed; the great majority of students will require it, and all will be the better for attending a series of labours. In the lying-in room alone does the student enjoy the advantage of anything approaching direct responsibility. It is in this department of medicine that the apprentice question most strongly suggests itself. In many respects it would be fairer to the student if he could study practical obstetrics in decent homes, like those, it is to be hoped, of his future private patients.

The fourth year passes, the qualification is gained; then comes the house staff appointment. The house-surgeon is extremely popular. In many respects, as experienced practitioners have often admitted, the house-physiciancy is of higher value to the average man. Should medical education be concluded without any form of apprenticeship?

The young medical man who intends, from the moment of qualification, or from the day on which he finishes his term of duty on the hospital house staff, to live by general practice knows little or nothing of the prejudices of patients, and not very much of minor maladies or prescribing, unless he be the son of a doctor. Should he set up in practice on his own account, he has much to unlearn, often at a fatal cost. Should he become a junior partner, much friction with his senior may ensue through his ignorance of the requirements of practice. That he will easily learn "all that sort of thing" directly he gets into practice is a fond illusion chiefly confined to medical officers in hospitals and others who earn their bread (not without hard drudgery) by other means than practice during the long period before their fame brings them patients. The truth is that a short term of apprenticeship would be very advisable towards the end of studentship. At the beginning it has proved unsatisfactory. Mr. Rawdon Macnamara spoke truly when he once declared before the Medical Council that the student who had gained a smattering of practice was the most difficult to prepare for examination. Last year the Practical Education Committee of the Medical Council reported, strange to say, in favour of a mid-period apprenticeship, after fully admitting that such an arrangement would break into the career of hospital work. Apprenticeship in the fourth year appears most reasonable. The student, being in nowise ignorant of the principles of his profession, is fitted for responsibility, and can enjoy the advantages of the study of the prejudices and practices of private patients. He can emancipate himself from his hospital pharmacopœia, and learn how to prescribe tasty tonics and aperients which do not gripe, discarding the familiar "Haust. 46" or "Pil. 22," probably very nasty and very potent compounds, in which the poor put their trust. Should he be vain about his hospital learning, experience or the practitioner whom he serves, if not both, will cure his vanity. In any case he will learn what sort of thing is that general practice by which he means to live.—I am, etc.,

Senex Adolescens.

THE MONOPOLY OF HOSPITAL APPOINTMENTS.

Sir,—I called attention a few weeks back to some of the aggravating circumstances of the monopoly of hospital appointments in London, and I taunted the upholders thereof with their unwillingness to defend their position by argument. Others have written since expressing similar views, still there is no reply. I think, therefore, that as the prevalent system is admittedly indefensible, it becomes a public duty to do as Dr. Rentoul suggests, to educate the subscribing public in these matters. And I would suggest that we should not content ourselves with vague generalities, but attack the system in its particular cases, beginning at home. I shall, therefore, for my part, when opportunity arises, inform those subscribers over whom I have influence that I consider the regulations for appointing the staff of the Great Northern Central Hospital in Holloway Road so objectionable that I think they will do well to subscribe in preference to institutions where wiser rules are in force. Why is a university M.B. or M.D., together with the diploma M.R.C.P.Lond. or F.R.C.P.Edin., or F.K.Q.C.P.Irel., required from the physicians to the Great Northern and Central Hospital, and yet the M.S. is not required as well as the F.R.C.S.Lond. from the surgeons? Again, why are the diplomas of the Irish and Scotch Colleges of Physicians admitted, and the corresponding diplomas of the Colleges of Surgeons not admitted?

Foolish as such exclusive rules are, they might at least be consistent. Such curious inconsistencies might even give rise to unjust suspicions. I challenge the authors of these rules to justify them. Will this as well as my more general challenge be passed over with contempt?—I am, etc.,

M.D.

TREATMENT OF LATERAL CURVATURE OF THE SPINE.

Sir,—Surgeons who have much to do with spinal disease ought to feel much indebted to Mr. Roth for bringing to their notice his excellent and simple method of keeping a record of their cases—a method which will be of real use in watching the progress of the disease or recovery. But I think, for the profession at large, the by far most important part of his paper he has kept for the postscript, so to speak. I mean when he refers to treatment by "posture and exercise" as being the only rational treatment of lateral curvature. No surgeon who has been much brought into contact with such cases can have failed to have seen the most disastrous results following on the indiscriminate use of Professor Sayre's and other rigid apparatus—a mode of treatment the value of which cannot be overrated in suitable cases, but which should never be resorted to in uncomplicated scoliosis.

But Mr. Roth is in error if he supposes that the treatment he advocates is by any means new, as the creed which he enunciates is a part of that which has guided the treatment in use at the Birkdale Spinal Establishment, Southport, for the past fifteen years, the only difference being that the resident surgeon, Mr. Cooper Harrison, interprets exercise in its widest sense, and avails himself of the passive as well as the active form; in other words, massage enters largely into the method he adopts to re-educate and strengthen the muscles.—I am etc.,

John Tisdall.

Liverpool.

PUERPERAL FEVER, A PREVENTABLE DISEASE.

Sir,—In your issue of November 3rd, I observe Dr. C. J. Cullingworth writes, in the course of his letter, the following words. "Meanwhile if Dr. Napier can direct me to any well authenticated and undoubted instance of the transmission of puerperal fever through other channels than the genital tract I am prepared to accept it, and modify my statements accordingly." I presume the challenge is open to all, and write this to bring before Dr. Cullingworth the following fact. I have attended two cases of puerperal fever. Both cases died on the eighteenth day, both had healthy lochia, and an entire absence of all uterine disease. Both had the same symptoms, namely, pyrexia and delirium; other symptoms there were none. In neither case could the source of infection be traced. Both cases were seen by several consultants, and in each case I was present throughout, taking up my quarters in the houses. One case occurred in the tropics

(South America, where scarlet fever is unknown), one in England. Surely I am entitled to say that in these cases the poison entered through some channel "other than the genital tract." We cannot explain all diseases, I believe puerperal fever is one of this class. Why not, for want of a better explanation, agree with Dr. Barnes, that sometimes after labour the woman is poisoned through her inability to eliminate her own excrementitious uterine tissue?—I am, etc., WM. A. DAY.

Redcar, November 4th.

NAVAL AND MILITARY MEDICAL SERVICES.

DANGEROUS STRAW.

THE use of straw for stuffing soldiers' paillasses is open to many objections, and has been abandoned in India; it is still retained in this country, but we have reason to believe that the War Office has at present under consideration the advisability of abandoning its employment for this purpose altogether. The straw is renewed quarterly, and is sold mainly to dairy farmers, a practice which has many disadvantages. The straw is, of course, liable to become contaminated by excreta from cases of scarlet fever, typhoid fever, and of tuberculosis; in the light of recent discoveries as to the connection which exists between the infectious diseases of man and animals, the fear that disease may thus be communicated to dairy or store fed cattle, and by them to man, cannot be considered imaginary. Moreover, it is a remarkable fact that pleuro-pneumonia exists as an enzootic only in countries—such as Ireland and Russia—where human beings and cattle often live under the same roof. Surgeon-Major William Hill Climo, M.D., of the Army Medical Staff, who has given much attention to this question, suggests that pleuro-pneumonia may be in some way connected with human exhalations. An epidemic of measles which occurred during the American Civil War was supposed to have been due to the use of contaminated straw for bedding.

Surgeon-Major Climo urges the substitution of coir fibre for straw in this country, a reform which he was instrumental in bringing about in India. Coir fibre is cleanly, is easily disinfected, and is extremely cheap; by the substitution, a considerable annual saving to the country, estimated by the Commissariat Department at about £10,000, would be effected The straw costs £1 12s. 4d. a bed every fourteen years; coir fibre would cost, landed in England, 3s. a bed every fourteen years; this is assuming that the coir fibre, which is so cheap, would be destroyed, as it ought to be, when discarded. We are not aware that any serious objection can be made to the substitution, and as it would probably benefit not only the public purse, but the public health, it is to be hoped that the change will shortly be effected.

PEACOCKE'S PORTABLE FIELD HOSPITAL HUT.

IN a late number of the *Indian Engineer*, we notice a detailed description of this invention, which was originally designed for the Antwerp Exhibition, in response to a prize for the best thing of the kind, offered by Her Imperial Majesty the Empress of Germany. Unfortunately for Mr. Peacocke, who is a Surgeon in the Bombay Medical Service, his models were unavoidably incomplete for the competition. The conditions in the competition were very severe; the ideal hut was to combine the following seemingly incompatible qualities: true portability; absolute simplicity of parts; to be easily put up and taken down; to afford protection against heat, cold, wind, rain, and fire; strength; cheapness, and to have a raised floor. Enough surely to tax the ingenuity of an inventor. We cannot say whether Mr. Peacocke has wholly succeeded, but his hut is clearly well worthy of attention. Various attempts have previously been made in the same direction, of which there was one shown by a Dane in the Health Exhibition, three years ago.

The first condition, true portability, is the essential requisite for the use of such huts in warfare; to the absolute front, amid all the hurry of marching and movements, such huts should never be sent, and are indeed not wanted; but for erection on temporary lines of communication, or in such circumstances as the siege of Sebastopol, they might be invaluable in lieu of tents. In certain phases of our Indian and South African wars they would be very serviceable.

Mr. Peacocke claims for his hut much portability, as it can be packed in small compass, in lengths suitable for animal pack carriage. It may be briefly described as a metal or wooden "frame-work, held together by tension rods, and with walls, roof, and flooring of roller-shutters, 'Willesden paper,' or other suitable pliable material." Further, "it has no central supports to impede the passage through the building; parts are interchangeable; no skilled labour is required in erecting and taking apart." The framework in sections may be either metal or wood, interlocked by channelling, grooving, hinging, hooking, morticing, and dovetailing; instead of the roller shutters, any other suitable and handy material may be used for walls, flooring, and roof.

The hut as described is capable of accommodating twelve men, but can be easily divided into compartments. The inventor may truly claim that it would not only be useful in war, but of advantage in sudden outbreaks of epidemic disease in civil life.

THE VOLUNTEER MEDICAL SERVICE.

DR. LEWIS W. MARSHALL, Acting Surgeon, Robin Hood Rifles (42, The Ropewalk, Nottingham) writes: Permit me to endorse all that Acting Surgeon Freer has said in the JOURNAL of October 27th. My case is exactly similar to his, but I have longer service. The injustice to acting surgeons is so obvious that a "Reserve" rank can scarcely be considered of sufficient value to remove it.

THE WHEREABOUTS OF OFFICERS OF THE NEW MEDICAL RESERVE.

STATIST writes: I felt curious to ascertain the regiments and residences of those members of the auxiliary forces who have so conspicuously reduplicated themselves in joining the Reserve. A study of the October *Army List* disclosed the following facts.

The total number enrolled in the Reserve up to September 30th is 94, and their distribution is as follows: militia regiments, 12; yeomanry regiments, 4; volunteer regiments, 72; Volunteer Medical Staff Corps, 5; Honourable Artillery Company, 1. I would remark that, if having one's name often repeated in different sections of the *Army List* be a worthy object of ambition, then the militia Reservists have the best of it; thrice over these officers are accounted for: first, in the "regimental territorial" lists; secondly, in the "Militia Medical Staff" lists; thirdly, in the "Reserve." Surely such distinction more than realises the "proud position" of which your poetic correspondent sings. Reservists from other branches must meanwhile put up with only two entries of their names until some means are found to bring them up to the higher militia level.

The five Volunteer Medical Staff Corps Reservists demand special attention, for one is actually a "Surgeon Commandant," and two are "Surgeons in Command" of companies of the corps. Puzzled outsiders can only conclude that these officers must be more ornamental than useful in their corps and companies, otherwise they could not be spared in "national emergency" for ordinary hospital duty with regular troops. And what can be said about the solitary Reservist belonging to the Artillery Company? Finding such a one in the Reserve is at once a shock and a surprise. The honourable, ancient, and unique corps has no kinship with modern militia or volunteers, and is not even controlled by the War Office or Horse Guards, but is proudly commanded by and in direct touch only of its own Royal "Captain-General and Colonel." But here, in violation of all boasted rights and traditions, is one of its medical officers directly under the ordinary military authorities in the Reserve. After this, truly, all must be reckoned fish that comes into the Reserve net.

Classified according to the military districts into which the United Kingdom is divided the following are the localities furnishing members to the Reserve:

England and Scotland.			
I. Northern District	29	VI. South-Eastern District ...	2
II. Eastern ,, ...	7	VII. Home ,, ...	15
III. Western ,, ...	9	VIII. Woolwich ,, ...	3
IV. Southern ,, ...	3	IX. Aldershot ,, ...	0
V. Chatham ,, ...	1	X. North British ,, ...	19
Ireland.			
Belfast District	1	Dublin District	2
Cork District	3		

Herein it appears that 48, or more than one-half of the whole, are located in the very widely extended Northern and North British Districts. These are the very regions, though great and important, in which comparatively and actually but very few regular troops are quartered during peace, and which will, in "national emergency," with certainty be even further denuded to effect concentration on the more vital and vulnerable Southern and Eastern Districts. Northern Reservists, therefore, with but the poorest chances of pickings at "contract rates" during peace, must yet be prepared for sharp and sudden separation from homes and practices when the "national emergency" bugle sounds. They will, indeed, be much wanted in the South, for that region in the Reserve lists makes but a sorry and shabby show. As for the dull metropolis proper, its Reservists can be counted on one's finger ends. Truly this Reserve is indeed a delusive paper scheme; its wisdom is on a par with Paddy's famous method for lengthening his blanket.

AMBULANCE CLASSES FOR LADIES.

MEMBER B. M. A.—As we have from time to time intimated the best books for a ladies' ambulance class are *First Aid to the Injured*, translated from the German by H.R.H. Princess Christian; *Accidental Injuries*, by James Cantlie, F.R.C.S.

REGIMENTAL MEDICAL OFFICERS.

SURGEON writes that he thinks the return to a partial regimental system would be fraught with disastrous results to the Medical Staff; it would split the latter into cliques, fatal to *esprit de corps*, and lay its weakness open to its adversaries. He thinks the station hospital and regimental systems incompatible, more especially in small Indian stations. The medical officer in charge of the hospital might also be attached to a regiment. Who would be

his master—the officer commanding the station or that commanding his regiment?

PROMOTION IN THE HIGHER RANKS: INDIAN AND HOME SERVICES.

THE *Pioneer*, in commenting upon the promotion to Brigade-Surgeon of Surgeon-Major McLeod, Bengal Service, after twenty-three years' total service, states that from the condition of the Indian Lists, promotion of this kind and to Deputy will become more and more rapid, while in the home service, with threatened reductions, it will be slower and slower. Even as it is, the venerable age of the senior executive officers of the home service is the subject of remark.

REDUCTIONS IN ADMINISTRATIVE GRADES.

DELTA, writing from India, says the rumoured reductions in the higher grades of the Medical Staff are causing much uneasiness among the senior executive officers. These are the very men who were caught in the deadlock previous to 1873, and had to serve fifteen years as Assistant-Surgeons; now they will be nipped again after double that service. The question is not whether a Deputy might replace a Surgeon-General here and there, but whether the higher appointments are to be made disproportionate to the total members of the Department. Personally, he has no objection to the reductions if compulsory retirement after a given service in the higher ranks is ordained, so as to give men a chance. He suggests five years as a maximum in each of the administrative ranks.

THE NAVY.

THE following appointments have been made at the Admiralty: J. A. ROBERTSON, Staff-Surgeon, to the *Penelope*; R. D. WHITE, Staff-Surgeon, to the *Hotspur*; M. O'C. MCSWINY, Staff-Surgeon, to Haslar Hospital; J. W. SLAUGHTER, Surgeon, to the *Pheasant*; G. D. TWIGG, Staff-Surgeon, to the *Hecla*; S. H. YOUEL, Surgeon, to the *Ganges*; W. J. COLBORNE, Surgeon, to the *Hecla*.

THE MEDICAL STAFF.

BRIGADE-SURGEON JOHN WARREN is promoted to be Deputy Surgeon-General, ranking as Colonel, *vice* R. Webb, retired. He entered the service as Assistant-Surgeon, November 9th, 1857; became Surgeon, March 1st, 1873; Surgeon-Major, April 1st, 1873; and Brigade-Surgeon, June 1st, 1883. He served in medical charge of the 15th Hussars in the Afghan war of 1878-80, including the advance to Khelat-i-Ghilzie and with the Thull Chotiali Field Force under Major-General Biddulph (medal); in the Egyptian war of 1882 in charge of No. 5 Movable Field Hospital (medal and Khedive's star); and in the Soudan campaign in 1885 (mentioned in despatches, clasp).

Surgeon-Major JOSEPH FLEMING, M.D., F.R.C.S.Edin., is promoted to be Brigade-Surgeon, ranking as Lieutenant-Colonel, *vice* John Warren. His previous commissions are dated: Assistant-Surgeon, March 31st, 1864; Surgeon, March 1st, 1873; and Surgeon-Major, April 28th, 1876. He was on board the hospital ship *Victor Emanuel* and on shore at Cape Coast Castle during the Ashanti war of 1873-74, and was appointed Pathologist to the expedition (medal); in the Afghan war of 1878-80, first with the Koorum Field Force, and afterwards with the Northern Afghanistan Field Force (medal); and in the Soudan campaign in 1885, including the engagement at the Tofrek zereba (mentioned in despatches, medal with two clasps, and Khedive's star).

Captain of Orderlies JOHN ANDREWS has been granted retired pay. His first appointment was as Dispenser, April 12th, 1854; he was made Apothecary, December 5th, 1856, and Captain of Orderlies in the late Army Hospital Corps, June 25th, 1873; he went on half-pay September 29th, 1880, but was restored to the establishment November 26th, 1881.

Surgeon-Major R. H. CAREW, who accompanied the Sikkim Field Force on service, has received special mention for his services in the despatches of Colonel Graham, the officer in command of the force.

ARMY MEDICAL RESERVE.

SURGEON R. A. JACKSON, 20th Middlesex Rifle Volunteers, to be Surgeon-Major, ranking as Major.

Acting Surgeon W. H. PACKER, M.D., 1st Worcester Artillery Volunteers, to be Surgeon, ranking as Captain.

INDIAN MEDICAL SERVICE.

THE services of Surgeon-Major A. E. R. STEPHENS, Bengal Establishment, are replaced at the disposal of the Military Department.

The services of Surgeon G. M. J. GILES, M.B., Bengal Establishment, are temporarily placed at the disposal of the Chief Commissioner of the Central Provinces.

Surgeon G. S. GRIFFITHS, Bengal Establishment, is promoted to be Surgeon-Major from September 30th, twelve years from his entering the service as surgeon.

The services of Surgeon-Major J. NORTH, Madras Establishment, are replaced at the disposal of the Military Department.

Surgeon-Major WELLINGTON GRAY, M.B., Bombay Establishment, who entered the service as Assistant-Surgeon March 31st, 1866, is now promoted to be Brigade-Surgeon, *vice* Brigade-Surgeon Carter, retired.

The Government of India have sanctioned the transfer of the Deputy Surgeon-General of the Sirhind Division to Quetta, and of the Administrative Medical Officer of the Quetta District to Umballa, with effect from November 1st.

THE VOLUNTEERS.

SURGEON G. BURN, M.D., 1st Caithness Artillery, has resigned his commission, which dates from July 10th, 1869; he is granted the honorary rank of Surgeon-Major, and permitted to retain his rank and uniform.

Mr. W. J. FAIRLIE, M.B., is appointed Acting Surgeon to the 1st Cumberland Artillery.

Surgeon and Honorary Surgeon-Major J. ELLISON, M.D., of the 1st Volunteer Battalion Royal Berkshire Regiment (late the 1st Berkshire), has resigned his commission, which was dated June 23rd, 1875; he is allowed to retain his rank and uniform.

Mr. S. W. WOOLLETT is appointed Acting Surgeon to the 1st Volunteer (Norfolk) Brigade, Eastern Division, Royal Artillery (formerly the 1st Norfolk Artillery).

MEDICO-LEGAL AND MEDICO-ETHICAL.

ALLEGED INFANTICIDE.

AN inquest was recently held at Pontefract on the body of a newly-born infant found buried in a garden. The question at issue was, as usual, whether the child had been born alive, in the legal sense. The body was that of a mature child. There was a large bruise on the right side of the scalp, extending to the back of the head. On opening the head, a large quantity of semi-clotted blood poured out; the scalp was separated from the bones, and small clots were found between the pericranium and the frontal bone. Both the parietal bones were fractured, as well as the wing of the right temple bone. These injuries formed one large cavity filled with blood, which pressed upon the brain. The lungs about half-filled the cavity of the chest; the right lung was salmon-coloured, the left less so; both crepitated on pressure, and both floated on water after as well as before pressure. The heart was quite empty.

Dr. E. W. Pryce, who made the *post-mortem* examination, expressed a strong opinion that the child had been born alive, and had died from the effects of the injuries to the head, basing his opinion on the condition of the lungs, and on the fact that the blood on the head was clotted and extravasated.

The coroner (Dr. Grabham) told the jury that he could not agree with the medical evidence that the clotted blood could not have been produced by injuries inflicted after death, and the jury returned an open verdict.

As regards the head injuries, it will, we think, be generally admitted that they were much too severe to have occurred spontaneously *in utero* or during labour. For the same reason they could not be attributed to the falling of the child on the floor or ground owing to the unexpected delivery of the mother. Such extensive violence must have been intentional, and if the child was not alive at the time, it is at any rate clear that the mother thought it was, or she might have saved herself the trouble of inflicting the injuries to the head.

The inference to be drawn from the extravasated and clotted blood would depend entirely upon its amount, and on that point we have no exact information; but, unless an artery of some considerable size had been ruptured, it does not seem probable that the amount of blood extravasated would be otherwise than small. We have no evidence as to the state of the cord, and none regarding the causation of the head injuries, both points of very great importance in deciding the question of live birth. From the condition of the lungs and of the head, medically speaking, there is a strong presumption that the child was entirely born alive; but in these cases it is practically impossible to prove the fact of entire live birth by medical evidence.

Until some alteration is made in the law, we shall agree with Taylor's conclusion that, "if positive proof of entire live birth be in all cases rigorously demanded of medical witnesses on trials for child murder, it is scarcely possible that any conviction for the crime should take place, except where a confession was made by the accused, or a murder was actually perpetrated before eye-witnesses."

QUEEN'S BENCH DIVISION.

Before Lord COLERIDGE and Mr. Justice GRANTHAM.

BROCKWELL *v.* BULLOCK AND LEIGH PEMBERTON.

THE plaintiff, a medical man, sued for professional fees due on account of attendance on the defendant Bullock, a person disclosed by inquisition to be of unsound mind. The other defendant was duly appointed, and still acted, as committee of the lunatic. The solicitor of the latter had opposed the "petition" at the said inquiry or inquisition in lunacy, and had secured the attendance of the plaintiff upon the defendant Bullock; and had also been authorised by the Lords Justices to receive a cheque for £200 from the lunatic, to be applied for and towards the expenses to be incurred in defending the lunatic at the inquiry. With the exception of £5 given to him with his subpœna, no payment had been made to plaintiff for his services. On the plaintiff suing for his fees in the county court, the defendants objected that the claim was not recoverable without an order from the Lord Chancellor, obtained in compliance with Section 11 of the Lunacy Regulation Act, 1862. This also was the opinion of the county court judge, and the plaintiff, having been nonsuited, now appealed.

Lord Coleridge's judgment was against the appeal. Mr. Justice

Grantham was of opinion that the Act did not mean that proper expenses, properly incurred, could not be recovered except after an order by the Lord Chancellor allowing the same, but, as junior judge, withdrew his judgment, with the result that the appeal was dismissed, with leave to appeal; the Court of Appeal to deal with all the costs.

THE PRICE OF A DEGREE.

A CORRESPONDENT has recently received the following letter:—

"*Private and Confidential.*"

"DEAR SIR,—Owing to the step the London Combined Colleges have taken their licentiates will, in all probability, soon be M.D.'s. This result will leave Scotch and Irish double licentiates in a very unfair position. If you feel disposed to possess an M.D. I can obtain you one from a recognised foreign university upon certain conditions in virtue of your threefold qualification. If you decide to accept my offer I must ask you to send me a thesis in English on some subject of professional interest (three pages of foolscap), stating when and where you passed your arts examinations, and fee of £18. If these are satisfactory the degree will be forwarded to you in about three weeks or a month.—I am, Sir, yours truly, M.D., M.R.C.P., L.R.C.S., L.M.Ed."

*** That an individual practitioner, imbued with a spirit of covetousness, might, for the sake of petty lucre, be induced to lend himself to such an unprincipled proceeding, we can understand; but that a "recognised" (not, we take it, by the General Medical Council) foreign university should be primarily associated therewith as indicated passes comprehension. In a matter deeply affecting the true interests of the profession and the public, we fail to recognise the assumed right that such a missive is to be regarded as "Private and Confidential," and therefore willingly accord it insertion in the columns of the JOURNAL.

ADVERTISEMENTS FOR RESIDENT PATIENTS.

SENIOR PRACTITIONER will be obliged for an answer to the following query. Can any censure be passed on a surgeon for advertising in a Christian weekly paper, and a daily paper, or the *Exchange and Mart*, to the effect that he will be pleased to receive (*a*) an invalid patient to reside in his house, (*b*) or a lady for accouchement? Could he lose any of his qualifications as a doctor for so doing?

*** Although it would, in our opinion, be better to restrict such an advertisement as that indicated by our correspondent to the medical journals, we nevertheless do not recognise any serious objection to its insertion in a standard "Christian weekly" or "daily paper." At the same time, we entertain a doubt as to the construction which the public might put upon the proffer to receive "in his house a lady for accouchement;" whether, in fact, it more especially referred to illegitimate cases of maternity. The proposed advertisement, therefore, should be carefully worded. In reply to his third question we may observe that the advertisement would not of itself entail "the loss of his qualifications as a doctor."

AN ADVERTISING OPHTHALMOLOGIST.

IN reply to our correspondent's communication relative to Dr. G.'s advertisements in the *Ceylon Observer*, we may venture to assure him that not only are they most unprofessional, but in contravention of the disciplinary rules of the Royal Colleges of which the person is a registered member, to the President of which (not to the General Medical Council, as conditionally determined on at the meeting in Ceylon) we would advise him, in conjunction with some three or four resident practitioners, to address a memorial letter and forward therewith a copy of the newspapers containing the tradelike advertisements, and solicit their attention thereto. Such memorial will, we apprehend, induce them to communicate with the offending practitioner, and request an explanation of his conduct in the matter.

PROFESSIONAL LISTS: NAMES ONE SHILLING EACH.

MEMBER B. M. A.—We do not advise your correspondent to assent to Messrs. K. and Co.'s proposition to embody his name and address in the special "professional list" at the end of the local directory, the general columns of which, if judiciously arranged, ought to afford the public all the necessary information without his being mulcted of an extra fee.

FOREIGN DEGREES.

IN reference to the note under the above heading (reply to "W. McD."), which appeared in our last week's issue, it is essential to state that no foreign degree can be registered in the *Medical Register* except it was obtained prior to the Medical Acts Amendment Act, 1886.

REFUSAL TO MEET IN CONSULTATION.

UNDER the circumstances related by "A Young Practitioner," it would be a grave breach of professional etiquette "for him to call at ——, and examine the boy's leg." At the same time, if Dr. B. is permitted to retain the case, and persists in declining to meet our correspondent in consultation, we would venture to suggest, in the interest of the boy, that the opinion of some other practitioner should be obtained ere the family sanctions the operation.

L.R.C.P., L.R.C.S.—A person holding these qualifications is entitled to call himself a physician and surgeon.

JUSTITIA.—If a homœopathic practitioner is a registered medical practitioner he is under no legal disability which would prevent him from holding the office of medical officer to a school or schools.

THE Birmingham General Hospital has benefited to the extent of £2,500 by the proceeds of the recent Birmingham Musical Festival.

UNIVERSITY INTELLIGENCE.

OXFORD.

SCIENCE SCHOLARSHIPS.—An examination will be held on Tuesday, November 20th, for Natural Science Scholarships, at Balliol, Christ Church, and Trinity Colleges.

THE JUNIOR SCIENTIFIC CLUB.—The Junior Scientific Club in the University, which comprises most members of the University below the standing of Master of Arts who are studying science, intends giving a *conversazione* on November 23rd. Professor Milnes Marshall, of Manchester, is announced to deliver a short lecture, and it is anticipated that Colonel Gouraud will attend and show the new phonograph. The Club's ordinary meetings are well attended, and prove the growing interest of the University in science. The President for this year is Mr. Pritchard, of Hertford College, who graduated in the Physiology School, and who is now a medical student.

CAMBRIDGE.

DR. SYDNEY RINGER, F.R.S., has been appointed an Elector to the Downing Professorship of Medicine, in the room of the late Sir George Burrows, Bart.

AMONG the new Fellows of St. John's College elected on November 5th is Mr. Edward Hamilton Acton, First Class in the Natural Sciences Tripos, 1886, in Botany. Mr. Acton is also a distinguished chemist, and takes part in the chemical instruction of the medical students of St. John's.

INSTRUCTION IN VACCINATION.—Arrangements have been made by which Dr. Robert Cory, of the Local Government Board, will attend at the Vaccination Station, Barnwell Road, Cambridge, on Fridays for the purpose of giving instruction in vaccination, and issuing the certificates of proficiency required by the medical regulations of candidates for the third M.B. examination. Thus one of the last of the certificates, which a student has hitherto had to seek outside the University, can now be obtained in Cambridge.

COUNCIL OF THE SENATE.—At the election to the Council of the Senate on November 7th, which was very keenly contested, the following were returned:—Dr. Peile, Master of Christ's College, and Mr. Henry Latham, Master of Trinity Hall; Professor Alexander Macalister, M.D., St. John's, and Professor G. F. Browne, B.D., St. Catharine's; Mr. A. Austen Leigh, Vice-Provost of King's College; Dr. Henry Jackson, of Trinity College; Dr. Routh, of Peterhouse, and Mr. Hill, St. John's. Among the unsuccessful candidates were Dr. Porter, Master of Peterhouse; Professor G. G. Stokes, P.R.S., M.P., of Pembroke College; and Dr. Sheridan Lea, of Gonville and Caius College. Professor Liveing retires.

APPOINTMENT OF EXAMINERS.—The examiners for the first and second M.B. examinations appointed under the new scheme are as follows:—*Chemistry:* Mr. Neville, Sidney, and Mr. Fenton, Christ's. *Physics:* Professor W. G. Adami, St. John's and London, and Mr. Hart, St. John's. *Biology:* Mr. Francis Darwin, Trinity, and Mr. Harmer, King's. *Anatomy:* Dr. Hill, Master of Downing, and Professor Cleland, Glasgow. *Physiology:* Dr. Gaskell, Trinity, and Professor Stirling, Manchester. *Pharmaceutical Chemistry:* Mr. Robinson, Downing, and Mr. Pattison, Muir, Caius.

EXAMINATIONS FOR MEDICAL AND SURGICAL DEGREES. Plan of Examinations in Michaelmas Term, 1888 (subject to alteration in details, of which due notice will be given). *First Examination.*—December 4th, Mechanics and Hydrostatics; Heat, Electricity, and Optics. December 5th, Elementary Biology, Chemistry. December 7th, Oral and Practical Examination in Physics. December 10th, Oral and Practical Examination in Elementary Biology. December 11th, Oral and Practical Examination in Chemistry. December 12th, Oral and Practical Examination in Chemistry (continued).

Second Examination.—December 4th, Physiology and Practical Examination in Pharmaceutical Chemistry. December 5th, Human Anatomy. December 6th, Oral and Practical Examination in Pharmaceutical Chemistry. December 7th, Oral Examination in Pharmaceutical Chemistry (continued). December 10th, Oral and Practical Examination in Physiology. December 11th, Oral Examination in Human Anatomy. December 12th, Practical Examination in Human Anatomy.

Third Examination: Part I.—December 11th, Principles and Practice of Surgery, Midwifery. December 14th, Oral Examination in Surgery and Surgical Operations; Oral Examination in

Midwifery. December 15th, Oral Examination in Surgery and Midwifery, and Surgical Operations; Clinical Examination (at the hospital). December 17th, Clinical Examination (at the hospital).

Third Examination: Part II.—December 12th, Pathology, Elements of Hygiene. December 13th, Principles and Practice of Physic, Medical Jurisprudence. December 17th, Clinical Examination (at the hospital); Therapeutics and Prescriptions, and Oral Examination. December 18th, Clinical Examination (at the hospital); Microscopical Specimens, and Oral Examination. December 19th, Oral Examination.

For Degree of Bachelor of Surgery.—Candidates who passed the Third Examination, Part I, before June, 1887, are examined in Surgical Operations and the Application of Surgical Apparatus on Saturday, December 15th, and also in Clinical Surgery, unless they have already passed in that subject.

For Degree of Master of Surgery.—December 14th, Pathology, and Principles and Practice of Surgery; Essay on Surgical Case and Topic relating to Surgery. December 15th, Oral Examination, Surgical Operations and Surgical Anatomy (in the Anatomical School). December 17th, Clinical and Oral Examination (at the hospital).

THE ANATOMICAL DEPARTMENT.—In the discussion in the Arts School, on November 1st, the question of providing additional accommodation for the departments of human anatomy and physiology was brought before the Senate. Sir George Paget remarked that, in considering the proposal for an outlay for this purpose, the University should be aware of the great increase in the number of its medical students, and the advantages, both in public estimation and in other respects, which had followed from the excellent manner in which those who had conducted these studies had done their work. The increase was about tenfold, and with the present numbers, medical students contributed each year in degree fees, capitation tax, and so on, not to mention a large excess of examination fees over expenses, about £600 a year. There was therefore a claim on their part to be well taught. And as questions had been raised of late as to assistance given by Colleges to the University, he would point out that while the medical students made this considerable contribution to the University chest, they must be contributing much more than that to the Colleges of which they were members. He would not have referred to this if the whole question had not been so much a question of expense, and, if the matter were not rather a personal one, he could point out that in reality the University received from these students something more like double the amount he had mentioned. To himself the question was one of reputation to the University. The University of old had set the example to the world of fostering and rewarding the study of mathematics and classics. It now appreciated the advantages of the study of other subjects in addition to those. Professor Macalister pressed upon members of the Senate the urgent need there was of the proposed buildings for human anatomy. All the department asked for was a decent roof and sufficient light, with no architectural ornamentation: indeed, anything of the kind would be out of keeping with the buildings all round the place where the new buildings were to be put. Of all things a lecture room was greatly wanted, for they now had only one, where the light was so bad they could scarcely see, and after three consecutive lectures the air was so bad that they could scarcely breathe. In Continental universities, seated in small towns and with a small number of students, he had seen the buildings of such a character that it was with a feeling of shame that he returned to Cambridge and saw in what a small corner and with what extremely inadequate means the large number of students in Cambridge had to be instructed in his department.

MEDICO-PARLIAMENTARY.

HOUSE OF COMMONS.—Tuesday, November 6th.

Lunacy.—Upon the vote to complete the sum of £15,217 for the Lunacy Commission, Mr. MOLLOY moved the reduction of the vote by £5,000 on the ground of what he considered the incomplete and unsatisfactory nature of the reports of the Commissioners.—Mr. A. O'CONNOR argued that the Commissioners had discharged their duties in a singularly bold and perfunctory way. The increase in lunacy in this country had been principally among the poor. He should like to have investigated whether there was not a connection between the accumulation of the poor in the borough and county asylums and the extraordinary high death-rate there discovered, and also the falling ratio of cure. A radical fault of the system was that the medical superintendents were not regarded by the Government in their scientific capacity, but as so many stewards or clerks engaged in financial and other arrangements, besides which the number of medical officers was totally inadequate.—Mr. S. SMITH protested against the plan at present in force of placing idiot children in asylums with adult pauper lunatics.—Mr. STUART WORTLEY maintained that the report of the Lunacy Commissioners showed that they had gone about their labours with energy, and had prosecuted their powers to the full extent. Hon. members who were criticising the estimates might render assistance in passing a measure which represented the labour, experience, and concurrence of the opinion of three successive Lord Chancellors. With a little assistance from hon. members from whom comment had proceeded that night, the Lunacy Law Amendment Bill, now before the House, might be passed even without reference to a Grand Committee.—Dr. TANNER said he hoped the time would soon come when all lunatics, whether pauper or otherwise, would be taken charge of by the State. There was no doubt that the Commissioners did not visit often enough. It was almost criminal that patients restored to health should be allowed to associate with lunatics. There were a great many insane persons in workhouses, and boards of guardians were not fitted to deal with them, nor was proper means of treatment to be found in those places. He maintained that lunatic institutions were under-officered, and he trusted before long the question would be thoroughly looked into. The amendment was then by leave withdrawn, and the vote agreed to.

Vaccination.—The House went into Committee of Supply. On the vote of £173,968 for salaries and expenses of the Local Government Board, Dr. CLARK called attention to the vote for medical vaccination, which amounted to £400 in Scotland and £21,000 in England. In the Medical Department in England they paid £9,080 in salaries and £2,900 in expenses, while Scotland only got £200. £149,200 was paid for medical officers of health, and £74,500 for the poor-law in England, while the entire Scotch vote was £20,600. Taking the population the vote meant £10 per 1,000 for England and £5 10s. per 1,000 for Scotland. The hon. gentleman asked for an explanation. If the statement was unsatisfactory he should move the reduction of the vote by £100,000 to bring the English to the level of Scotch payments.—Mr. BRADLAUGH moved to reduce the vote by the amount of the bonuses paid to vaccination officers in England. These bonuses were not given in Ireland and Scotland, and had failed to accomplish their object in this country.—Mr. PICTON thought that £18,000 was too large a sum to be wasted. He contended that many places where the amount of bonus paid was small were almost free from disease, whereas in many districts where the bonus was large disease prevailed. He asked the President of the Local Government Board to say whether some further inquiry into the subject might not now be ordered, in the new position the matter had assumed medically.—Mr. RITCHIE said the position which he took up was this; if vaccination were a good thing (and he thought it must be conceded that it was), it was right to take precautions that the vaccination should be carried out under conditions which would secure the greatest amount of safety and the greatest amount of efficiency. Only one payment was made to the vaccination officer, but a portion of that payment was contingent on the vaccination being successful. It was not contended that vaccination was an absolute preventive of small-pox, but he asserted that it was a great protection against that disease. He had arranged with the Registrar-General to let the Local Government Board know of any case where death was in any way attributed to vaccination, and he would at once direct full medical inquiry into the whole circumstances of the case.—Sir G. HUNTER said his observations in India led him to the conclusion that revaccination was necessary for the prevention of small-pox.—Dr. TANNER hoped the Government would cause proper inquiry to be made into the subject, with the view of checking the effect of the anti-vaccination doctrines that prevailed.—Mr. WHITBREAD doubted whether the advocates of vaccination were not losing far more than they gained by insisting on the continuance of a sham compulsory system.—Dr. FITZGERALD suggested as a remedy for small-pox the ancient one of calf-lymph.—Mr. RITCHIE said the opposition of anti-vaccinators to vaccination would not be less strong if every child in the kingdom were vaccinated with calf-lymph. It would be impossible for the Government to set up all through the country establish-

ments for that purpose, but they did all they could to provide public vaccinators with calf-lymph. This was the last year that this item would appear on the estimates, as in future it would be borne on the local rates. The Committee divided—for the reduction, 45; against, 154; majority against, 109.

INDIA AND THE COLONIES.

INDIA.

PRESENTATION.—Surgeon S. J. Rennie, Medical Staff, has been presented with a handsome travelling clock by the members of the Mussoorie ambulance class in token of their appreciation of his services as instructor of the class, which was set on foot by the Deputy Surgeon-General of the Meerut Division, Dr. Collis, in which division the hill station of Mussoorie is situated. The attendance numbered over a hundred, and the class was a great success.

SANITATION IN MADRAS.—Dr. Bidie, the sanitary commissioner of Madras, in an important paper entitled "Our Duty to Our Filthy Neighbours," expresses the opinion that little can be done except under the advice of qualified sanitary engineers. It is pointed out that in order to fully carry out the plans of these engineers it will be also necessary to employ under them trained sanitary inspectors, as the inspectors and overseers at present employed for this duty are without any of the special knowledge required. Where to find them at present is the difficulty, but Dr. Bidie suggests that hygiene should be included in any scheme of technical education, when fairly educated men might qualify for sanitary inspectors, especially if the study were made obligatory.

THE Duchess of Connaught has attended a course of the St. John Ambulance nursing lectures at Poona, India, and passed a satisfactory examination. Her Royal Highness obtained the "first aid" certificate some weeks previously.

LEPERS IN INDIA.—In response to the request made by the Government of India to the local governments to send in reports as to the extent of leprosy in India and management of leper asylums, and as to what steps are taken for the segregation of the sexes, an important and remarkable return has been made. It is anything but satisfactory to learn "that the number of lepers who come under organised relief in institutions maintained by charity or assisted by Government amounts only to about 1 per cent. of the number of lepers actually known to exist in the country, and in these institutions orders for the segregation of sexes are not always enforced." The census of 1881 gave a return of 131,618 lepers in British India, but these figures, in the opinion of the Governor-General and Council, do not afford a true measure of the disease, the deduction being that about 120,000 lepers are scattered throughout the country, mixing more or less with their fellow-men, and so spreading the disease. In the Bombay Presidency only 576 lepers received treatment last year in asylums and hospitals, although the census gave a return of 10,800 lepers; in Madras 438 were under treatment in the same year, the census of that Presidency giving a return of 11,000. A still more remarkable state of things is said to prevail in Bengal; out of a census return of 53,800 lepers, only 276 were under treatment last year. The North-West Provinces included 17,000 lepers in 1881, of whom 648 were treated last year. The Punjab shows a slightly better state of affairs; of 5,600 lepers, according to the census of 1881, the cases treated last year were 530. There appears to be a larger prevalence of male over female lepers, the proportion being 98,982 of the former to 32,636 of the latter. In many places it has been ascertained that no attempt is made to segregate the sexes. In certain asylums not only are married couples, being lepers, permitted to live together, but some of the patients are permitted to contract marriage. The resolution of the Government of India acknowledges the fact that, though medical science can alleviate the sufferings of natives, it has as yet discovered no cure for leprosy. "The Governor-General in Council is assured that no measure can effectually stamp out the disease which stopped short of the absolute segregation of the sexes and the confinement for life of all affected by it." Such a measure, it says, would not only be repugnant to public opinion in India, but be perfectly impracticable. The *Times of India* advocates the establishment by the local governments of asylums, "as the small and poor State of Norway has done, and by means of them decreased the disease 45 per cent. in thirty years." His Excellency in Council has arrived at the conclusion that for the present "it is impossible for Government to attempt to do more than encourage the grant and charitable relief to lepers in voluntary hospitals and leper asylums," and adds that the grants to institutions should be dependent upon the strict enforcement of the segregation of sexes. "The least the Government can do," says the *Times of India*, "is to insist on compulsory segregation when the malady arrives at that stage from which contagion may occur. In insisting on this the Government will, it believes, have the support of the educated natives."

THE BOMANJEE EDULJEE ALBLESS HOSPITAL, BOMBAY.—The Governor in Council has notified that the trustees of the estate of the late Bomanjee Eduljee Albless have placed at the disposal of Government the sum of 66,000 rupees; 60,000 rupees to be devoted to the erection of an obstetric hospital, to be named after the donor, on a plot of Government ground adjoining the Cama Hospital, and the balance of 6,000 rupees, contributed by the trustees themselves, to be applied towards the construction of quarters for the resident lady physicians in charge of the hospital.

CHOLERA IN BENGAL.—In October, the deaths from cholera in Calcutta numbered 130. The Government of India had addressed a letter to the Bengal Government, urging it to adopt sustained and energetic measures to remedy the sanitary difficulties in Calcutta. The Lieutenant-Governor is requested to impress the Municipal Commissioners with the absolute and immediate necessity of rendering the sanitary inspection efficient, and of rectifying every insanitary condition. It is pointed out by the health officer that the Viceroy is convinced that Dr. Simpson's reiterated demands for sanitary inspectors are reasonable, and that those demands should be complied with.

NATIONAL ASSOCIATION FOR MEDICAL AID.—Lady Dufferin, whose recent visit to Lahore was connected with the formal opening of an institution in aid of the objects of the National Association for Medical Aid, has received an address of welcome from the Purdanashin ladies of Lahore, who gratefully recognise her humanitarian efforts for supplying medical aid to the women of India, and refer to the fact that the prejudices against medical treatment on the European lines are rapidly disappearing before the progress of scientific education, and that "at no distant date adequate female medical skill will be abundantly available to the Indian women, whose beds of sickness, even in very serious feminine ailments, no male doctor can approach."

PUBLIC HEALTH
AND
POOR LAW MEDICAL SERVICES.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

THE Registrar-General has just issued his return relating to the births and deaths registered in England and Wales during the third or summer quarter of this year, and to the marriages in the three months ending June last. The marriage-rate was lower than in the corresponding quarter of any year since 1883, and considerably below the mean rate in the second quarter of the ten preceding years, 1878-87. The birth-rate and the death-rate were also considerably below their respective averages. The mean temperature of the air during the quarter was much below the average, and the weather was, on the whole, favourable to the public health.

The births registered in England and Wales during the three months ending September last were 214,665, equal to an annual rate of 29.7 per 1,000 of the population, estimated by the Registrar-General to be 28,628,804 persons. This birth-rate showed a further decline from the rates recorded in the third quarters of recent years, and was as much as 3.2 per 1,000 below the mean rate in the third quarters of the ten years 1878-87; it was also lower than that recorded in the corresponding period of any year since 1847. The birth-rate during the quarter under notice in the several counties ranged from 23.6 in Rutlandshire and 23.8 in Sussex to 33.4 in Durham, 33.5 in Northumberland, 33.7 in Essex, and 35.6 in Monmouthshire. In the twenty-eight large towns for which the Registrar-General publishes weekly returns, the birth-rate last quarter averaged 30.4 per 1,000, ranging from 22.3 in Huddersfield and 23.8 in Brighton to 37.1 in Preston, 37.3 in Newcastle-upon-Tyne, and 40.7 in Cardiff. The births registered in England and Wales during the quarter under notice exceeded the deaths by 106,753; this represents the natural increase of the population

during that period. From the Board of Trade returns it appears that 106,675 emigrants sailed from the various ports of the United Kingdom at which emigration offices are stationed; of these, 51,917 were English, 10,067 Scotch, and 17,829 Irish. The proportion of British emigrants to a million of the respective populations of the three divisions of the United Kingdom were 1,813 from England, 2,495 from Scotland, and 3,732 from Ireland.

During the third quarter of the current year, the deaths of 107,912 persons were registered in England and Wales, equal to an annual rate of 15.0 per 1,000 of the estimated population. This death-rate was as much as 3.0 per 1,000 below the mean rate in the corresponding periods of the ten years 1878-87, and was considerably lower than that recorded in the third quarter of any year since the commencement of civil registration in 1837. Among the urban population of the country, estimated at more than eighteen and a quarter millions of persons, the rate of mortality during the quarter under notice was equal to 15.7 per 1,000; in the remaining and chiefly rural population, of about ten and a quarter millions, the rate was only 13.6 per 1,000. These urban and rural rates were considerably below their respective averages for the six preceding corresponding quarters. The rate of mortality among infants under one year of age, and among persons aged between one and sixty, was considerably below the average; while the death-rate among persons aged upwards of sixty years was but slightly below the average.

The 107,912 deaths registered in England and Wales during the three months ending September last included 6,458 which were referred to diarrhœa, 1,933 to whooping-cough, 1,323 to measles, 1,284 to scarlet fever, 1,134 to "fever" (including typhus, typhoid, and simple fever), 953 to diphtheria, and 104 to small-pox; in all, 13,189 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1.83 per 1,000, the average annual rate in the ten preceding corresponding quarters having been 3.39 per 1,000. The mortality from each of these zymotic diseases, except diphtheria, was considerably below the average. The deaths referred to small-pox in England and Wales, which had been 583 and 310 in the first two quarters of the year, further declined to 104 during the three months under notice, of which 23 occurred in Preston, 6 in Great Grimsby, 5 in Sheffield, and 4 in Hull. In London only 2 fatal cases of small-pox were recorded during the quarter.

The rate of infant mortality, or the proportion of deaths under one year of age to registered births, was 135 per 1,000 last quarter, and was considerably below the average proportion in the corresponding periods of the ten preceding years. While the rate of infant mortality in London during the three months ending September last was 169 per 1,000, it averaged 178 in the twenty-seven provincial towns, among which it ranged from 101 in Bristol, 116 in Newcastle-upon-Tyne, and 125 in Sunderland to 225 in Salford, 229 in Preston, 231 in Leeds, and 289 in Leicester.

BURIAL REFORM.

A CONFERENCE of the Church of England Burial Reform Association was recently held at the Council House, Birmingham, under the presidency of Mr. A. Baker. The Rev. T. Lawrence read a memorial praying for an inquiry by Royal Commission into the condition of cemeteries and other burial places, and the mode of burial adopted, with a view to improved legislation, and to the codification and simplification of the burial laws, and in the meantime that such steps should be taken as may be deemed advisable for the protection of public health and the maintenance of public decency. The Rev. W. H. Connor referred to the state of Ardwick Cemetery, Manchester, and the City of London and Tower Hamlet Cemeteries, where bodies were buried in trenches. Birmingham was not quite free of that terrible system, for he remembered burying a person a few years ago in an enormous pit, and he was told that about fifty bodies had to be interred in it before it was filled up and closed. He was informed that when filled the pit would be concreted. Dr. Alfred Hill, medical officer of health for Birmingham, advocated cremation. A resolution that the Home Secretary be memoralised to appoint a Royal Commission was passed.

SEVERE EPIDEMIC OF MEASLES.

THE epidemic of measles which has during the past month caused hundreds of deaths in North Staffordshire seems to increase in severity. In one small suburb of Hanley alone no fewer than twenty-four deaths took place last week. Adults are being attacked almost as freely as children, and with them also the disease is frequently of a fatal character. All Board schools and most of the voluntary schools and Sunday schools have been closed.

HEALTH OF ENGLISH TOWNS.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 5,809 births and 3,930 deaths were registered during the week ending Saturday, October 27th. The annual rate of mortality, which had been 21.0 per 1,000 in each of the two preceding weeks, rose to 21.8 during the week under notice. The rates in the several towns ranged from 15.7 in Derby, 16.0 in Leicester, 16.7 in Norwich, and 17.0 in Bristol to 25.4 in Blackburn, 25.5 in Cardiff, 29.1 in Huddersfield, and 32.8 in Manchester. In the twenty-seven provincial towns the mean death-rate was 22.4 per 1,000, and was slightly below the rate recorded in London, which was 22.8 per 1,000. The 3,930 deaths registered during the week under notice in the twenty-eight towns included 169 which were referred to measles, 93 to diarrhœa, 63 to "fever" (principally enteric), 53 to scarlet fever, 47 to diphtheria, 45 to whooping-cough, and 2 to small-pox; in all, 472 deaths resulted from these principal zymotic diseases, against 461 and 465 in the two preceding weeks. These 472 deaths were equal to an annual rate of 2.6 per 1,000; in London the zymotic death-rate was 2.7, while it averaged 2.5 per 1,000 in the twenty-seven provincial towns, and ranged from 0.5 in Bradford and in Birkenhead, and 0.7 in Bristol to 4.4 in Manchester, 4.8 in Leeds, and 6.7 in Cardiff. Measles caused the highest proportional fatality in Leicester, Liverpool, Leeds, Huddersfield, Portsmouth, and Cardiff; scarlet fever in Leeds; whooping-cough in Norwich; "fever" in Derby, Salford, Sunderland, Halifax, and Cardiff; and diarrhœa in Brighton, Portsmouth, and Preston. Of the 47 deaths from diphtheria recorded during the week under notice in the twenty-eight towns, 31 occurred in London, 5 in Manchester, 2 in Nottingham, and 2 in Halifax. Small-pox caused 1 death in London and 1 in Preston, but not one in any of the twenty-six other great towns. There were no small-pox patients under treatment in any of the Metropolitan Asylums Hospitals on Saturday, October 27th. These hospitals contained, however, 954 scarlet-fever patients on the same date, against numbers increasing from 716 to 951 in the nine preceding weeks; 73 cases were admitted during the week, against 110 and 85 in the two previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 6.4 per 1,000, and was considerably above the average.—During the week ending Saturday, November 3rd, 5,300 births and 3,531 deaths were registered in the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had been 21.0 and 21.8 in the two preceding weeks, declined again to 19.6 during the week under notice. The rates in the several towns ranged from 10.0 in Brighton, 11.5 in Birkenhead, 14.0 in Nottingham, and 14.1 in Plymouth to 23.7 in Preston, 24.0 in Manchester, 24.8 in Bolton, and 29.9 in Newcastle-upon-Tyne. The mean death-rate in the twenty-seven provincial towns was 19.6 per 1,000, and was slightly below the rate recorded in London, which was 19.7 per 1,000. The 3,531 deaths registered during the week under notice in the twenty-eight towns included 467 which were referred to the principal zymotic diseases, against numbers increasing from 461 to 473 in the three preceding weeks; of these, 160 resulted from measles, 88 from diarrhœa, 62 from scarlet fever, 55 from whooping-cough, 54 from "fever" (principally enteric), 47 from diphtheria, and 1 from small-pox. These 467 deaths were equal to an annual rate of 2.6 per 1,000; in London the zymotic death-rate was 2.7, while in the twenty-seven provincial towns it averaged 2.5 per 1,000, and ranged from 0.5 and 0.7 in Birkenhead and Plymouth to 5.3 in Cardiff, 5.9 in Newcastle-upon-Tyne, and 6.6 in Blackburn. Measles caused the highest proportional fatality in Huddersfield, Leicester, Wolverhampton, Leeds, Cardiff, and Blackburn; scarlet fever in Norwich, Derby, and Blackburn; whooping-cough in Halifax and Newcastle-upon-Tyne; "fever" in Nottingham and Preston; and diarrhœa in Cardiff and Newcastle-upon-Tyne. The 47 deaths from diphtheria in the twenty-eight towns included 32 in London, 4 in Newcastle-upon-Tyne, 3 in Salford, 2 in Birmingham, and 2 in Manchester. Small-pox caused one death in London, but not one in any of the twenty-seven other great towns. The Metropolitan Asylums Hospitals contained no small-pox patients on Saturday, November 3rd; there were, however, 941 scarlet fever patients in these

hospitals on the same date, against numbers increasing from 716 to 954 in the ten preceding weeks; there were 59 admissions during the week under notice, against 100, 85, and 73 in the three previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 5.4 per 1,000, and slightly exceeded the average.

HEALTH OF SCOTCH TOWNS.—During the week ending Saturday, October 27th, 875 births and 500 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had been 20.4 per 1,000 in each of the two preceding weeks, declined to 19.8 during the week under notice, and was 2.0 below the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Leith and Perth, and the highest in Glasgow and Paisley. The 500 deaths in these towns during the week included 69 which were referred to the principal zymotic diseases, equal to an annual rate of 2.7 per 1,000, which was slightly above the mean rate during the same period in the large English towns. The highest zymotic rates were recorded in Greenock and Paisley. The 211 deaths registered in Glasgow during the week under notice included 9 from diarrhœa, 6 from whooping-cough, 5 from diphtheria, 4 from scarlet fever, and 2 from "fever." Twenty-three fatal cases of measles were recorded in Paisley, against 7, 12, and 22 in the three preceding weeks. The death-rate from diseases of the respiratory organs in these towns was equal to 4.4 per 1,000, against 6.4 in London.—In the eight principal Scotch towns, 787 births and 473 deaths were registered during the week ending Saturday, November 3rd. The annual rate of mortality in these towns, which had been 20.4 and 19.8 in the two preceding weeks, further declined to 18.9 during the week under notice, and was 0.9 per 1,000 below the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Perth and Edinburgh, and the highest in Greenock and Paisley. The 473 deaths in the Scotch towns during the week included 56 which were referred to the principal zymotic diseases, equal to an annual rate of 2.2 per 1,000, which was 0.4 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Dundee and Paisley. The 200 deaths registered in Glasgow included 8 from diarrhœa, 7 from measles, 4 from whooping-cough, 1 from scarlet fever, and 1 from diarrhœa. Fourteen fatal cases of measles were recorded in Paisley, against numbers increasing from 5 to 23 in the five preceding weeks. The death-rate from diseases of the respiratory organs in these Scotch towns was equal to 4.0 per 1,000, against 5.4 in London.

HEALTH OF IRISH TOWNS.—During the week ending Saturday, October 20th, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 22.3 per 1,000. The lowest rates were recorded in Lurgan and Armagh, and the highest in Galway and Limerick. The death-rate from the principal zymotic diseases averaged 3.2 per 1,000. The 164 deaths registered in Dublin during the week under notice were equal to an annual rate of 24.2 per 1,000, against 23.3 and 23.6 in the two preceding weeks. These 164 deaths included 23 which were referred to the principal zymotic diseases (equal to an annual rate of 3.4 per 1,000), of which 7 resulted from diarrhœa, 7 from "fever," 6 from whooping-cough, 1 from scarlet fever, 1 from measles, and 1 from diphtheria.—In the sixteen principal town districts of Ireland the deaths registered during the week ending Saturday, October 27th, were equal to an annual rate of 21.8 per 1,000. The lowest rates were recorded in Londonderry and Wexford, and the highest in Lurgan and Sligo. The death-rate from the principal zymotic diseases averaged 3.0 per 1,000. The deaths registered in Dublin during the week under notice were equal to an annual rate of 21.9 per 1,000, against 23.6 and 24.2 in the two preceding weeks. The 148 deaths included 12 which resulted from diarrhœa, 5 from whooping-cough, 4 from "fever," 3 from measles, and 1 from scarlet fever. These 25 zymotic deaths were equal to an annual rate of 3.7 per 1,000, the zymotic death-rate during the same period being 2.7 in London and 0.4 in Edinburgh.—During the week ending Saturday, November 3rd, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 21.2 per 1,000. The lowest rates were recorded in Wexford and Dundalk, and the highest in Waterford and Armagh. The death-rate from the principal zymotic diseases in these towns averaged 3.1 per 1,000. The 165 deaths registered in Dublin during the week under notice were equal to an annual rate of 24.4 per 1,000, against 24.2 and 21.9 in the two preceding weeks. These 165 deaths included 20 which were referred to the principal zymotic diseases (equal to an annual rate of 3.1 per 1,000), of which 10 resulted from "fever," 6 from whooping-cough, 2 from measles, 1 from scarlet fever, 1 from diphtheria, and 1 from diarrhœa.

NEW BOUNDARIES, OLD SALARIES.

G. W. H. asks: On what basis would the calculation for compensation for loss of portion of salary be made? Say, for example, that the claimant has been appointed for life, that he is 40 years of age, and in robust health.

*** We presume this question applies to some anticipated reduction of salary under the Local Government Act of this year. Section 120 of that Act provides that compensation is not to exceed the amount paid to a civil servant on the abolition of his office. The amount payable in such cases is defined by Section 7 of the Act, 22 Vic., c. 26, and is "such as on full consideration of the circumstances of the case may appear to be a reasonable and just compensation for the loss of office," not exceeding two-thirds of the salary and emoluments of the office. The length of time during which the person receiving compensation has held the office is an important factor in determining the amount payable to him, but without knowing all the circumstances it is impossible to say what he could properly claim.

MEDICAL OFFICERS OF HEALTH AND THE COUNTY GOVERNMENT ACT.

S.H. writes: I am, and have been, medical officer of health for a district of close on 22,000 population since the year 1876. I am M.R.C.S. and L.S.A., and have been re-elected each year. Will you kindly inform me whether, under the new Local Government Act, I shall have to obtain any further qualification in order to enable me to keep in office?

*** Our correspondent need not obtain any further qualification.

A CORRECTION.

STAPLETON URBAN.—In our notice of Mr. W. Brown's annual report on this district for 1887 (JOURNAL, October 6th, 1888, page 798) we referred to the medical officer's of health's opinion that the outbreak of small-pox in the locality last year was due to the dissemination of infection from the Barton Regis Workhouse. The expression, "a real contamination with small-pox germs," was, however, accidentally misprinted for "aërial contamination," etc.

FLUSHING CISTERNS FOR WATER-CLOSETS.

M.O.H. writes: 1. Is it within the power of an Urban Sanitary Authority to enforce the provision of cisterns for flushing closets hitherto dependent on hand-flushing?

2. If so, would such an exercise of their powers be unusual?

3. I shall be glad to be furnished with precedents of cases in which such powers are exercised, as my local authority are very unwilling to move in the matter, which is a pressing local evil.

*** 1. It is within the power of an Urban Sanitary Authority to enforce the provision of water-supply to water-closets where the absence of such supply constitutes a nuisance. See Section 40, Public Health Act, 1875.

2. and 3. We would recommend you to put yourself in communication with other health officers on these points, as the practice is not uniform in all parts.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

BIRKENHEAD (Population, 97,703).—*Measles and Scarlatina: "Uncertified" Deaths.*—Mr. Francis Vacher's report for 1887 contains as usual a very complete and exhaustive analysis of the diseases prevalent during the year. The death-rate (21.01 per 1,000) was exceptionally high for Birkenhead; it had not been so high since 1878. The increase last year was partly caused by an excessive fatality from measles and scarlatina, both of which diseases were successively epidemic—the former in the months of May, June, and July, and the latter from September to the end of the year. A sketch-map of the borough shows the position of the houses in which deaths from zymotic diseases occurred, and a street register is also kept. From this it is observable that in 1887, as in former years, the sickness and mortality were most prevalent in the smaller streets and alleys inhabited by the very poor. Mr. Vacher comments severely on the number of "uncertified" deaths recorded from year to year. If professional advice is not obtained for an adult when sick, it may be owing to his own default; but if it is not obtained for a sick infant, it is obviously referable to the neglect of others. So manifold are the means of obtaining medical relief in Birkenhead that no one can plead poverty as an excuse for not doing his duty to his child in this respect. "Can it be," observes Mr. Vacher, "that a certain class of parents by preference bring their children to charlatans; or is there anything to conceal that parents and guardians are afraid of calling in a qualified medical practitioner? The only satisfactory reflection in connection with this matter is that the

proportion of uncertified deaths is not increasing. The proportion of the uncertified deaths to the sum of the deaths was not quite 2.2 per cent. in 1887; the mean proportion during the nine years, 1878-86, was 2.8 per cent."

BRIGHTON (Population, 118,186).—*Low, Decreasing Death-rate.*—Dr. Newsholme's appointment as health officer of Brighton is of recent date, and his report for 1887 is necessarily brief and almost entirely confined to statistics. During the year, 1,988 deaths were registered in the municipal borough, equal to a death-rate of 16.9 per 1,000. The seven principal zymotic diseases caused 262 deaths, or an annual death-rate of 2.21 per 1,000 of the population. In London the corresponding rate was 3.02, and in the twenty-eight great towns 3.21 per 1,000. Measles was the most fatal infectious disease, and whooping-cough next in order of fatality. There were no deaths from small-pox, and only 10 from scarlet fever. Compared with those of the twenty-eight largest towns of England and Wales, the general death-rate of Brighton is lowest on the list, and the zymotic rate is also, with one exception, the lowest. The mortality was the most favourable recorded for the town within the last ten years. During that decade there has been a steady and almost uninterrupted decline in the death-rate.

CARDIFF (Population 111,148).—*Resignation of Dr. Paine, the Medical Officer of Health.*—The report for 1887, with which Dr. H. J. Paine closes his long career as health officer of Cardiff, is just that which an earnest sanitarian would write, drawing, as it does, upon the experiences of the past for the guidance of the future. The extraordinary improvements in the death-rate during his administration are matters of history, and have received public acknowledgment, yet with interest as keen as ever Dr. Paine points out the weak spots and urges their amendment. Each incident recorded is used to point a moral. Thus the epidemic of small-pox which broke out in February, 1887, and prevailed until the following September is made the occasion for giving a practical outline of the past and present history of the disease and of vaccination. It is satisfactory to find that during the year the mortality from zymotic diseases was low, the death-rate being 2.6 per 1,000, as against 4.1 per 1,000 in the large towns. Dr. Paine attributes the slight increase in the general mortality to the inclement weather which characterised the early months of the year, and it may be noticed that in the quarter when the general death-rate was highest the mortality from zymotic diseases was almost at its lowest. As usual, the greatest mortality from these diseases was in the third quarter of the year; but, though the high temperature and persistent drought should have caused an increase in diarrhœa and enteric fever, a judicious flushing of sewers with chemically-prepared water seems to have had the effect of reducing the mortality.

EPPING RURAL (Population, 22,733).—*Diphtheria: Disease Spread by Gipsies.*—During 1887 there were in this district very few deaths from infectious diseases, and not much illness due to them. Measles, scarlatina, and diphtheria caused 1 death each; whooping-cough, 4; and enteric and other fevers caused 6. Dr. Fowler reports that it is now ten years since the district was so free from diphtheria. The yearly average for the previous five years was 12. He believes the reduced prevalence of diphtheria in 1887 to be mainly attributable to the long drought in the summer, and hence his opinion is strengthened that the outbreaks in previous years have been attributable to peculiarities of a cold, damp, misty atmosphere, due to an impervious clay soil, and the faultily constructed houses in which the poor have to live, rather than to any specific source of contamination. Several sporadic cases of scarlatina occurred in various parishes. With regard to many of them no history of infection could be traced, but considering the great prevalence of the disease in London, there seems little doubt but that it was imported from the metropolis. There was no spread of the disease until October, when a serious outbreak occurred at Matching, and there were strong reasons for suspecting that the infection had been conveyed there by gipsies. Of 27 deaths from zymotics diseases, 14 were due to diarrhœa. The death-rate from these causes was 1.1 per 1,000 and the general death-rate was 15.0 per 1,000.

GLANFORD BRIGG RURAL (Population, 30,655).—*Reduction in Prevalence of Typhoid Fever.*—The small mortality from infectious diseases and the generally favourable climatic conditions of 1887 had their effect in a marked reduction of the death-rate. Mr. Moxon states that it has only once previously been lower, namely, in 1879, when it was 14.2 per 1,000 as against 14.4 for the year under notice. All ages profited by the fine dry season, for not only were there 20 fewer deaths among children than in 1886, but in the ages 25 to 60 and upwards, there was a difference of 55 deaths. Measles and scarlet fever prevailed over various parts of the district, but each disease was remarkably mild in character. Isolated cases of diphtheria occurred, 3 of which terminated fatally. Typhoid fever caused 7 deaths, though there was nothing like an epidemic of the disease. The cases appeared mostly to depend upon unhealthy circumstances of a local character, though in some instances no probable cause could be discovered. Mr. Moxon states that of late years typhoid has not been at all a common disease in the district, though he remembers that thirty years ago he used to treat a large number of cases, and certain villages were considered "fever villages." He attributes this great improvement to the better drainage of the country generally. Consumption was not quite so fatal as in other years, the dry weather being probably favourable to persons predisposed to this disease.

HOSPITAL AND DISPENSARY MANAGEMENT.

GIFT OF A HOSPITAL TO LANGHOLM.

MR. THOMAS HOPE, of New York, who is now on a visit to Langholm, his native place, has intimated his intention to build and endow a hospital in Langholm for sick and infirm persons. He has already secured a site for the hospital at a cost of £1,500, and conveyed it to trustees. In connection with this event, a deputation of representatives of various public bodies in Langholm have presented Mr. Hope with an address of thanks. The precise amount of the benefaction has not been publicly stated, but it is understood to be a very large sum.

TAUNTON NURSING INSTITUTION.

THE Victoria Jubilee Nursing Institute, which was opened at Taunton last week, has been erected and endowed at a cost of £10,000. The institute adjoins the Taunton and Somerset Hospital, which was erected as a memorial of the Jubilee of George III. The scheme of enlarging the usefulness of this institution has been promoted by Dr. Edward Liddon, and on an appeal being made for subscriptions, an anonymous donor gave £5,000. The whole of the desired sum has been raised. The architect was Mr. Houghton Spencer, of Taunton.

VICTORIA HOSPITAL, BOURNEMOUTH.

THE Victoria Hospital, which is being built at Bournemouth at a cost of £6,000, is rapidly approaching completion; at a recent meeting of the dispensary governors and hospital subscribers it was decided to amalgamate the two institutions; a provisional committee was appointed to take over the funds and properties of the Victoria Hospital on January next.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS, ENGLAND.—The following gentlemen having passed the necessary examinations, were at a meeting of the College, on November 8th, admitted Members, namely:

Adamson, Horatio George, L.R.C.P.Lond., 26, Grange Road, Ealing, W.
Andrew, Bennett Harvey, L.S.A., 33, Tyrwhitt Road, St. John's, S.E.
Andrew, Francis Charles, L.R.C.P.Lond., 13, Bread Street, Manchester.
Barker, Frederic, L.R.C.P.Lond., 20, Morton Place, Belgrave Road.
Blaxall, Frank Richardson, L.R.C.P.Lond., 166, Stanhope Street, N.W.
Boycott, Arthur Norman, L.R.C.P.Lond., 47, Richmond Terrace, Clapham.
Bray, Hubert Alaric, L.R.C.P.Lond., 41, Great Russell Street, W.C.
Briscow, John Edward, L.R.C.P.Lond., 37, Wellclose Terrace, Leeds.
Broadway, Sigismund Alexander William Edward, L.R.C.P.Lond., 63, Arlington Road, Tulse Hill.
Burland, Herbert, L.R.C.P.Lond., Poolstock House, Wigan, Lancashire.
Burns, Robert John, L.R.C.P.Lond., 1, Beauclerc Terrace, Sunderland.
Campbell, John, M.D.Q.U.I., 11, Wellington Park Terrace, Belfast.
Cant, Frederick, L.R.C.P.Lond., 118, Rumford Street, Manchester.
Caswell, George William, L.S.A., 27, Queen Street, Cheapside, E.C.
Cheatle, Arthur Henry, L.R.C.P.Lond., King's College Hospital, W.C.
Cheetham, Charles Francis, L.R.C.P.Lond., 7, York Place, Manchester.
Cholmeley, William Frederick, L.R.C.P.Lond., Charleton Road, Rectory Attleborough.

Clapham, John Thurlow, L.R.C.P.Lond., 29, Lingfield Road, Wimbledon.
Clark, Percy John, L.S.A., 22, Margaret Street, W.
Clarke, William, L.S.A., St. Paul's Square, Burton-on-Trent.
Collington, Frank Arnott, L.R.C.P.Lond., College Villa, St. Heliers, Jersey.
Cooke, Thomas Alfred Burnard, L.R.C.P.Lond., St. John's Vicarage Brixton.
Copeland, William Henry Lawrence, L.R.C.P.Lond., 27, Philbeach Gardens.
Corner, Harry, L.R.C.P.Lond., Manor House, Poplar, E.
Cressy, Charles James, L.R.C.P.Lond., Hayesden, Wallington, Surrey.
Cross, Edward John, L.R.C.P.Lond., St. Neots, Hunts.
Date, William Hortou, L.S.A., Elmhyrst, Ilkeston, Derbyshire.
Douty, Edward Henry, L.R.C.P.Lond., King's College, Cambridge.
Dowling, Edward Alfred Griffiths, L.R.C.P.Lond., Belvedere Road, Upper Norwood.
Dugon, Francis, L.R.C.P.Lond., 35, Brockley Road, S.E.
Eaton, Oliver, L.R.C.P.Lond., Arley Hall, Blackrod, Chorley.
Farmer, Frederick Reginald, L.R.C.P.Lond., Courtfield, Bycullah Park, Enfield, N.
Firth, John Lacy, L.R.C.P.Lond., 52, Burton Crescent, W.C.
Foster, Michael George, L.R.C.P.,Lond., 9 Wells, Great Shelford, Cambridgeshire.
Franklin, Lawrence, L.R.C.P.Lond., Clarence House, Thaxted, Essex.
Fullard, John, L.S.A., Dudley Port, Tipton.
Gomes, Anthony Clement, L.R.C.P.Lond., 196, Stanhope Street, N.W.
Gornall, John Pegge Joseph, L.R.C.P.Lond., Newton Heath, Manchester.
Gott, Henry, L.R.C.P.Lond., 14, Hanover Square, Leeds.
Graves, Charles, L.R.C.P.Lond., 77, Maryland Road, Paddington, W.
Grosvenor, Wilshaw William, L.R.C.P.Lond., 9, Greville Place, Maida Vale.
Halley, William, L.R.C.P.Lond., 36, Elgin Crescent, S.W.
Hanson, Arthur Stephen, L.R.C.P.Lond., 61, Warwick Gardens, Kensington.
Hawthorne, Herbert John, L.R.C.P.Lond., Uttoxeter, Staffordshire.
Hayes, Horace Frederick, M.B.Melb., Marlow, Bush Hill Park, Enfield.
Hayward, Charles William, L.R.C.P.Lond., 117, Grove Street, Liverpool.
Heasman, William Gratwicke, L.R.C.P.Lond., Court Wick, Littlehampton, Sussex.
Hewer, Alfred Earnshaw, L.R.C.P.Lond., 33, Highbury New Road, N.
Hewlett, Clarence William, L.R.C.P.Lond., 12, Royal Naval Cottages, St. John's Road, Penge, S.E.
Hill, George Leonard, L.R.C.P.Lond., The Grove, St. George's, near Wellington, Salop.
Hudson, Frank Horace, L.R.C.P.Lond., 6, Royal York Crescent, Clifton, Bristol.
Humphreys, George Herbert, L.R.C.P.Lond., St. Bartholomew's Hospital.
Hutt, Charles Edward, L.R.C.P.Lond., 102, Chetwynd Road, Highgate.
Johns, John Francis, L.R.C.P.Lond, 184, High Street, Southampton.
Joslen, Hubert, L.R.C.P.Lond., Heathcroft, Buckland Hill, Maidstone.
Kemp, George Lajus, L.R.C.P.Lond., 46, Gipsy Hill, S.E.
King, Richard Henry, L.R.C.P.Lond., 7, Granville Square, W.C.
Le Feuvre, William Philip, L.R.C.P.Lond., 4, Northbrook Road, Lee, S.E.
Lewer, Edward Stewart, L.K.Q.C.P.I., 71, Upper Leeson Street, Dublin.
Lewis, Benjamin Morgan, L.R.C.P.Lond., Glaubaiden, Abergavenny.
Liston, Walter Lawrence, L.R.C.P.Lond., 21, Aberdeen Place, Maida Vale.
Locke, Charles Alfred, L.R.C.P.Lond., 34, Keppel Street, Russell Square.
Luson, Thomas, M.B.Edin., 45, Thornton Heath, Surrey.
Mackay, Percy Barnard, L.R.C.P.Lond., Langton Vicarage, Wragby, Lincolnshire.
Macleod, David Thomas, M.D.Glas., 13, Kelvin Drive, Kelvinside, Glasgow.
McQueen, Charles Alexander Simpson, M.D.Philad., 34, Harrington Square.
Mead, Theophilus William, L.S.A., Woodville, Kingston Road, Portsmouth.
Metcalfe, George, L.R.C.P.Lond., 25, Harrison Place, Jesmond, Newcastle,
Miers, Arthur, L.R.C.P.Lond., Seacroft, Leeds.
Morland, Charles Henry Duncan, L.R.C.P.Lond., 5, Portsea Place, Connaught Square, W.
Nicholls, Alfred Robert, L.R.C.P.Lond., 16, Philip Road, Peckham, S.E.
Nuttall, Alfred Edward, L.R.C.P.Lond., North Staffordshire Infirmary, Stoke-on-Trent.
Ogle, Cyril, L.R.C.P.Lond., 30, Cavendish Square, W.
Ormerod, Charles Evelyn, L.R.C.P.Lond., 1, Fell Road, Croydon.
Owen, John Lewis, L.R.C.P.Lond., 31, St. Patrick Square, Edinburgh.
Padbury, George John, L.R.C.P.Lond., 325, City Road, E.C.
Parsons, George Gooden, L.S.A., 5, Barr's Hill Terrace, Coventry.
Pearse, Albert, L.R.C.P.Lond., 16, South Hill Park, Hampstead, N.W.
Pedley, Samuel Edward, L.R.C.P.Lond., 9, The Terrace, Camberwell.
Phipps, Henry Hostache, L.R.C.P.Lond., Eastcote, near Towcester, North Hants.
Prosser, Astley Bennett, L.R.C.P.Lond., 136, Brearly Street, Birmingham.
Quirk, Thomas Augustus Frederick, L.R.C.P.Lond., Melbourne, Australia.
Reed, John Sleeman, L.R.C.P.Lond., 159, Edgware Road, Hyde Park.
Reynolds, Ernest James, Milton, Sittingbourne, Kent.
Rilot, Charles Frederick, 17, Grange Park, Ealing.
Ring, John, 12, Cambridge Gardens, Kilburn, N.W.
Robert, Richard Lewis, 18, Rochester Square, N.W.
Robertson, John, St. Anne's, Thurlow Park Road, West Dulwich, S.E.
Robinson, George Arbuthnot, 104, Inverness Terrace, Bayswater, W.
Rolston, Thomas Restarick, Clarendon Villa, Stoke, Devonport.
Scott, Thomas Wilfred, Heathfield, Bromley, Kent.
Shaw, John Custance, Walton House, Wakefield, Yorks.
Sheldon, Robert Garnett, 223, Boundary Street, Liverpool.
Smith, Herbert Arthur, "Winchcombe," Turnham Green, Chiswick.
Spencer, Thomas Edward, 94, Wimpole Street, Cavendish Square.
Stephens, Richard John, King's College Hospital.
Stevens, William Edward, 97, Old Market Street, Bristol.
Thompson, George Hobson, 2, Holly Place, Hampstead Heath.
Thorp, Charles Glover, Ashdown Villa, Wickham Terrace, Lewisham High Road, S.E.
Tunnicliffe, Francis Whittaker, Riverlea, Woodside Park, N.
Turner, Edgar Olive, 64, Alexandra Road, South Hampstead.
Walker, Alexander Hope, Penkhull, Stoke-on-Trent.
Ward, Walter Fisher, 56, Queen's Road, Peckham, S.E.
Watkins Walter, 13, Tavistock Place, W.C.
Wells, Frank Barber, 17, Nassington Road, Hampstead Heath.
Williams, Robert Edwin, 41, Trinity Square, S.E.
Winnett, Frederick, 51, Simcoe Street, Toronto, Ontario.
Wright, Thomas Nesbitt, Foulksrath, Old Dover Road, Blackheath.
Young, James, L.R.C.P.Lond., Oakwood, Worsley, Lancashire.

The following gentlemen having passed the necessary Examinations at a meeting of the Board of Examiners on the 7th instant, were at the same meeting admitted Licentiates in Dental Surgery, namely:

I. J. H. Boyton, 2, Woodlands Road, Barnes Common; W. H. Dolamore, 93, The Grove, Ealing, W.; F. G. Grimsdale, 53, High Street, Uxbridge; F. A. Harsant, 16, Parliament Hill Road, N.W.; A. S. Hayman, 5, Belle Vue, Clevedon, Somerset; H. L. C. Hope, Rockholme, Hastings; F. R. Howard, Villa Road, Handsworth; W. T. Madin, Shustoke, Colehill, Birmingham; E. A. Manton, 51, Frithville Gardens, Shepherd's Bush; A. E. Marten, 22, Tyson Road, Forest Hill, S.E.; J. Mountford, 2, Richmond Terrace, Clapham Road; A. C. Pritchard, 13, Delamere Terrace, Bayswater; L. C. Smith, Grove House, Durham; P. L. Webster, 2, Redesdale Terrace, West Hampstead; C. Winterbottom, M.R.C.S.Eng., 16, Sloane Street, S.W.

MEDICAL VACANCIES.

The following Vacancies are announced:

BRADFORD INFIRMARY AND DISPENSARY.—House-Physician. Salary, £100 per annum, with board. Applications by November 24th to William Maw, Esq., Secretary.

CAHERCIVEEN UNION, Caher Dispensary.—Medical Officer. Salary, £95 per annum and fees. Applications to Mr. J. J. Keating, Honorary Secretary. Election on November 15th.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Assistant Physician. Applications by November 16th to the Secretary, 24, Finsbury Circus, E.C.

DENTAL HOSPITAL OF LONDON AND SCHOOL OF DENTAL SURGERY, Leicester Square.—Lecturer on Mechanical Dentistry. Applications by November 12th to the Dean.

DOVER HOSPITAL AND DISPENSARY.—House-Surgeon. Salary, £100 per annum, with furnished apartments, etc. Applications to the Secretary, Mr. E. Elwin, Castle Street, Dover.

GRANTHAM FRIENDLY AND TRADES SOCIETIES' MEDICAL INSTITUTION.—Resident Medical Officer. Salary, £150 per annum, with fees and residence, etc. Applications by November 21st to Mr. F. Hullott, Stanton Street, Grantham.

HOSPITAL FOR CONSUMPTION, Brompton.—Physician. Applications by November 14th to the Secretary.

KENSINGTON DISPENSARY.—Honorary Surgeon. Applications to F. Leach, Esq., Honorary Secretary, 7, Stanford Road, Kensington Square, by November 30th.

LANCASHIRE COUNTY ASYLUM, Rainhill, near Liverpool.—Resident Medical Superintendent. Salary, £1,000 per annum, with certain allowances. Applications by November 21st, to W. Swift, Esq., Clerk to the Committee, 11, Dale Street, Liverpool.

LEEDS FRIENDLY SOCIETIES' MEDICAL ASSOCIATION, Bischoff House Surgery.—Surgeon. Salary, £200 per annum, with extras and travelling allowances. Applications by November 13th to C. H. Wilson, Esq., 8, South Parade, Leeds.

LISNASKEA UNION, Derrylin Dispensary.—Salary, £115 per annum and fees. Applications to Major B. Winslow, Honorary Secretary, Mount Prospect, Derrylin. Election on November 14th.

LONDON TEMPERANCE HOSPITAL, Hampstead Road.—Junior House-Surgeon. Board and residence. Applications by November 17th to the Secretary.

NEWCASTLE-UPON-TYNE BOROUGH LUNATIC ASYLUM.—Superintendent. Salary, £450 per annum, with furnished apartments, etc. Applications by November 14th to J. Atkinson, Esq., Solicitor, 21, Grainger Street West, Newcastle-upon-Tyne.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Surgeon. Applications by November 24th to the Secretary.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Assistant Surgeon. Applications by November 24th to the Secretary.

TOBERCURRY UNION.—Medical Officer to Coolaney Dispensary. Salary, £120 per annum, and fees. Applications to Honorary Secretary, Dispensary Committee. Election on November 15th.

VICTORIA UNIVERSITY.—Joint Lecturer on Forensic Medicine. Applications to the Registrar of the Yorkshire College.

MEDICAL APPOINTMENTS.

BEDFORD, Charles Henry, M.B., C.M.Edin., M.R.C.S.Eng., appointed Clinical Assistant, Ear, Throat, and Nose Department, Royal Infirmary, Edinburgh.

CALLAGHAN, James Leslie, L.R.C.S.I., L.R.C.P.Ed., appointed District Medical Officer to No. 8 District, Honiton Union, *vice* F. A. O'Meara, deceased.

CLARKE, E. A., L.S.A., appointed House-Surgeon to the Wrexham Infirmary and Dispensary, *vice* J. N. Maclean, M.B., resigned.

COTES, C. E. H., M.B., B.S., F.R.C.S., appointed Surgeon to Out-patients to the Great Northern Central Hospital, *vice* C. B. Lockwood, F.R.C.S., promoted.

DICKINSON, W. W., M.R.C.S., L.S.A., appointed Medical Officer to the Uffculme District of the Tiverton Union, *vice* R. Bryden, M.R.C.S., resigned.

FOX, W. H. Piercy, L.R.C.P.and S.Edin., appointed Medical Officer to No. 6 District, Lambeth Parish, *vice* Walter Arthur, M.R.C.S., L.S.A., resigned.

GAFF, J. D., M.D., M.Ch., appointed Medical Officer to No. 5 District, Lambeth Parish, *vice* Walter Arthur, M.R.C.S., L.S.A., resigned.

LLOYD, P. A., F.R.C.S.Eng., L.R.C.P.Lond., appointed Resident Surgeon to the General Hospital, Nottingham, *vice* A. R. Anderson, F.R.C.S.Eng., resigned.

MORISON, Rutherford, M.D., F.R.C.S.Ed., appointed Assistant Surgeon, Royal Infirmary, Newcastle-on-Tyne.

NAPIER, A. D. Leith, M.D.Aberd., F.R.S.Edin., M.R.C.P.Lond., appointed Physician-Accoucheur to the St. Pancras and Northern Dispensary, *vice* R. Boxall, M.D., M.R.C.P., resigned.

NIELSEN, F. W., M.R.C.S.Eng., L.S.A., appointed Assistant Medical Officer to the Royal Albert Asylum, Lancaster, *vice* T. B. Hyslop, M.B., C.M., resigned.

OWEN, D. C. Lloyd, F.R.C.S.I., appointed Richard Middlemore Post-Graduate Lecturer, Birmingham and Midland Eye Hospital.

SHEA, J. G., L.R.C.S.I., L.K.Q.C.P.I., appointed Medical Officer to the Parishes of Brampton and Walton, and the Industrial Schools in the Chesterfield Union, *vice* Richard Jeffreys, M.R.C.S., L.S.A., resigned.

SHELDON, R. Garnett, M.R.C.S., L.S.A., appointed House-Surgeon to the Liverpool Royal Infirmary, *vice* E. J. T. Steele, M.R.C.S., L.R.C.P., resigned.

SNAPE, E. A., appointed Medical Officer to the St. Marylebone General Dispensary, Welbeck Street, *vice* A. L. Achard, L.R.C.P., M.R.C.S., resigned.

SYERS, H. W., M.D., M.R.C.P., appointed Physician to Out-patients to the Great Northern Central Hospital, *vice* E. Clifford Beale, M.B., M.R.C.P., promoted.

THOMSON, John Anstruther Mulville, appointed Certifying Factory Surgeon, Bradford-on-Avon, Wilts, *vice* W. D. Lovell, M.R.C.P., M.R.C.S., retired.

ST. BARTHOLOMEW'S HOSPITAL AND MEDICAL SCHOOL.—At a special meeting of the School Committee on Saturday, October 27th, the following medals and prizes were presented by the senior physician, Dr. Andrew, on behalf of the School:—Preliminary Scientific Exhibition: Mr. R. E. Scholefield. Bentley Surgical Prize: Mr. E. A. Edelsten, B.A.Oxon. Hichens Prize: Mr. F. Mangan. Foster Prize: Mr. M. L. Hepburn. Treasurer's Prize: Mr. N. O. Wilson. Harvey Prize: Mr. J. F. Nall. Skynner Prize: Mr. Bedford Pierce and Mr. W. G. Willoughby. The Open Scholarships in Science: Senior, Mr. W. N. Soden; junior, Mr. J. W. Pickering. Shuter Scholarship: Mr. J. A. Edwards, M.A.Cantab. Junior Scholarships (in anatomy, etc.): Messrs. A. S. Blackwell, H. W. Armstead, and A. A. Weir. Senior Scholarships (in anatomy, etc.): Mr. H. J. Waring. The Brackenbury Scholarships: Medical, Mr. Bedford Pierce; Surgical, Mr. G. E. Colby. Kirkes Medal and Scholarship: Mr. C. H. Roberts. Laurence Medal and Scholarship: Mr. G. Heaton, B.A.Oxon. The total value of the prizes and scholarships, etc., amounted to between £700 and £800.

METROPOLITAN ASYLUMS BOARD.—The last fortnightly reports of the Board showed that only one case of small-pox had been admitted (this in the Eastern Hospital), and which ended fatally soon after admission, leaving a clean sheet in all the hospitals. In respect to fever, 159 acute cases had been admitted, as against 216 in the previous fortnight; 156 had been discharged recovered; and there remained under treatment on Thursday in last week 1,012, against 1,033 in the previous fortnight. Of these, 923 were scarlet fever cases, 10 of diphtheria, 1 of typhus, 77 of enteric fever, and 1 of other disease of a febrile type. It was decided that a communication should be made to the boards of guardians of the parishes and unions of the metropolis, calling attention to the letter of the Local Government Board in respect to the admission of diphtheritic cases into the managers' hospitals. The committees of the four chief fever asylums had made provision for 50 cases of diphtheria each, the first admissions of which had been reported that day.

THE total number of suicides in France during the year 1887 was 7,572, of which 2,168 are attributed to mental afflictions of different kinds, 1,228 to physical suffering, 975 to domestic troubles, 800 to drunkenness, 483 to poverty, 305 to pecuniary difficulties, 208 to the desire to avoid imprisonment, 100 to the loss of employment, 89 to the fear of exposure, 56 to the loss of relatives, and 25 to the dread of military service. Among the other causes specified in the returns, 227 suicides are put down to jealousy and crossing in love.

DENTAL HOSPITAL DINNER.—The annual dinner of the staff and past and present students of the Dental Hospital of London will be held on Saturday, December 1st, at the Holborn Restaurant, when the chair will be taken by James Smith Turner, Esq. Gentlemen, either now or formerly connected with the hospital or medical school, who may through inadvertence not have received special notice, and who desire to be present, are requested to communicate with the Dean of the Hospital.

THE Lord Mayor has subscribed £50 to the building fund of the new French Hospital to be erected in Shaftesbury Avenue.

RICHARD MIDDLEMORE POST-GRADUATE LECTURES.—The first appointment under this Trust, in connection with the Birmingham Eye Hospital, was made on November 1st, when the committee of selection appointed Mr. Lloyd Owen, Senior Honorary Surgeon to the Hospital, as Lecturer for the year 1889. These lectures have been established by Mr. Richard Middlemore, the senior consulting surgeon to the Hospital, with a view of extending the usefulness of the Hospital as a teaching centre.

PRESENTATION.—On his resignation of the post of Senior Assistant Medical Officer to the Lambeth Infirmary, the nursing staff of the infirmary have presented, as a testimonial of their esteem, a handsome spirit stand to Dr. George Lewis Rugg.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 8.30 P.M.—Dr. Gulliver: A Case of Ascites, presenting some Unusual Features. Dr. E. Symes Thompson: On the Climate of Cape Colony and the Voyage Thither.

TUESDAY.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 8.30 P.M.—Edmund Owen, F.R.C.S.: Arthrectomy; Erasion of Joints. William Robert Smith, M.D., D.Sc.: The Etiology of Puerperal Fever.

WEDNESDAY.

BRITISH GYNÆCOLOGICAL SOCIETY, 8.30 P.M.—Specimens will be exhibited by Mr. Lawson Tait, Dr. Granville Bantock, Dr. Fenton, Dr. Bedford Fenwick, Dr. Mansell-Moullin, and the President. Dr. Arthur W. Edis: On the Treatment of Cases of Incomplete Abortion.

ROYAL MICROSCOPICAL SOCIETY, King's College, W.C., 8 P.M.—Mr. W. West: List of Desmids from Massachusetts, U.S.A.

HUNTERIAN SOCIETY, 8 P.M.—Clinical evening. Dr. H. Fox: 1. Exaggerated Elbow and Wrist-Jerk. 2. Syphilitic Disease of Nervous System. Mr. Tatham: Recovery from Traumatic Paraplegia. Dr. Davies: Growth in the Tongue. Mr. Poland: 1. Supernumerary Breast. 2. Pyæmic Epiphysitis. And other cases.

PHARMACEUTICAL SOCIETY, 8 P.M.—Chemistry of Tartar Emetic (from the Research Laboratory). The Ancient Materia Medica of the Egyptians.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, 8.30 P.M.—Mr. Mitchell Banks: On the Permanence of the Radical Cure of Hernia. Messrs. Bryant, Treves, Lawson Tait, Kendal Franks, and Barker, will take part in the discussion.

NEUROLOGICAL SOCIETY OF LONDON, 8.30 P.M., at the National Hospital for the Paralysed and Epileptic, Queen Square.—Cases at 8 P.M. Dr. Ormerod: Peculiar Affection of Speech. Dr. de Watteville: 1. Atrophic Paralysis of Arms and Neck. 2. Atrophic Paralysis with Increased Tendon Reactions. Dr. Hughlings Jackson: Case of Return of Knee-Jerk in Tabes Dorsalis after Hemiplegia. Dr. James Anderson: Case of Facial Hemiatrophy. Dr. Beevor: 1. Case of Poliomyelitis from Injury. 2. Case of Traumatic Functional Contracture with Anæsthesia. Dr. Hadden: Case of Neuro-Muscular Irritability.

FRIDAY.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND, 4 P.M.—Quarterly meeting at Bethlem Hospital. Pathological specimens will be exhibited by several members of the Association. J. W. Plaxton, M.R.C.S.: A case of Pachymeningitis. Dr. Hack Tuke (if time permits): A Short Account of a Recent Visit to Kennoway.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTH.

ORTON.—On July 21st, at Stanthorpe, Queensland, the wife of Arthur Orton, M.R.C.S.Eng., L.S.A., late of Foleshill, Warwickshire.

MARRIAGES.

COLE—SAWYERR.—On October 4th, at St. George's Cathedral, Sierra Leone, by the Venerable Archdeacon Robbin, Sylvester John Cole, M.B., C.M., Assistant Colonial Surgeon, Gold Coast Colony, to Adelaide Nancy, only daughter of the Honourable T. J. Sawyerr, merchant and Member of the Legislative Council, Sierra Leone, West Africa.

KIRKLAND—MACLULLICH.—At Aird's Cottage, Strachur, Argyllshire, on Wednesday, October 31st, by the Rev. Neil Macpherson, M.A., Inverary, assisted by the Rev. H. F. Macdonald, Strachur, Hugh Kirkland, M.B., C.M., to Nina, youngest daughter of the late Duncan Maclullich, Procurator Fiscal of Argyllshire. No cards.

PARKER—GREENE.—November 7th, at the Parish Church, Roby, by the Rev. S. A. K. Sylvester, M.A., Vicar, assisted by the Rev. W. J. Melville, M.A., Rector of Ashton, and the Rev. Astell Powell, M.A., Dr. Roger Parker, of Stoneycroft, Liverpool, to Mrs. Greene, only daughter of the late Isaac Penny, Esq., J.P., Liscard Manor, Cheshire.

DEATH.

WALTER.—On November 5th, at Tarrazona, Bournemouth, William Walter, M.D., formerly of Stephen's Green, Dublin, aged 76.

OPERATION DAYS AT THE LONDON HOSPITALS.

MONDAY.....10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's (Ophthalmic Department); and Royal Westminster Ophthalmic.—2 P.M.: Metropolitan Free; St. Mark's; Central London Ophthalmic; Royal Orthopædic; and Hospital for Women.—2.30 P.M.: Chelsea Hospital for Women.

TUESDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.30 P.M.: Guy's; St. Bartholomew's (Ophthalmic Department); St. Mary's; Royal Westminster Ophthalmic.—2 P.M.: Westminster; St. Mark's; Central London Ophthalmic.—2.30 P.M.; West London; Cancer Hospital, Brompton.—4 P.M.: St. Thomas's (Ophthalmic Department).;

WEDNESDAY....10 A.M.: National Orthopædic.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: Middlesex.—1.30 P.M. St. Bartholomew's; St. Thomas's; Royal Westminster Ophthalmic.—2 P.M.: London; University College; Westminster; Great Northern Central; Central London Ophthalmic.—2.30 P.M.: Samaritan Free Hospital for Women and Children; St. Peter's.—3 to 4 P.M.: King's College.

THURSDAY.....10.30 A.M.: Royal London Ophthalmic.—1 P.M.: St. George's —1.30 P.M.: St. Bartholomew's (Ophthalmic Department); Guy's (Ophthalmic Department); Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; St. Thomas's (Obstetric Department); Central London Ophthalmic; Hospital for Diseases of the Throat; Hospital for Women.—2.30 P.M.: North-West London; Chelsea Hospital for Women.

FRIDAY.....9 A.M.: St. Mary's (Ophthalmic Department).—10.30 A.M.: Royal London Ophthalmic.—1.15 P.M.: St. George's (Ophthalmic Department).—1.30 P.M.: Guy's; Royal Westminster Ophthalmic.—2 P.M.: King's College; St. Thomas's (Ophthalmic Department); Central London Ophthalmic; Royal South London Ophthalmic; East London Hospital for Children.—2.30 P.M.: West London.

SATURDAY.....9 A.M.: Royal Free.—10.30 A.M.: Royal London Ophthalmic.—1 P.M.: King's College.—1.30 P.M.: St. Bartholomew's; St. Thomas's Royal Westminster Ophthalmic.—2 P.M.: Charing Cross; London; Middlesex; Royal Free; Central London Ophthalmic.—2.30 P.M.: Cancer Hospital, Brompton.

HOURS OF ATTENDANCE AT THE LONDON HOSPITALS.

CHARING CROSS.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.30; Dental, M. W. F., 9.

GUY'S.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu. F., 12.30; Skin, Tu., 12.30; Dental, Tu. Th. F., 12.

KING'S COLLEGE.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., M. W. F., 12.30; Eye, M. Th., 1; Ophthalmic Department, W., 1; Ear, Th., 2; Skin, Th.; Throat, Th., 3; Dental, Tu. F., 10.

LONDON.—Medical, daily, exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p. W. S., 1.30; Eye, W. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9.

MIDDLESEX.—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1.30; o.p., W. S., 1.30; Eye, W. S., 8.30; Ear and Throat, Tu., 9; Skin, Tu., 4; Dental, daily, 9.

ST. BARTHOLOMEW'S.—Medical and Surgical daily, 1.30; Obstetric, Tu. Th. S., 2; o.p., W. S., 9; Eye, Tu. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9.

ST. GEORGE'S.—Medical and Surgical, M. T. F. S., 1; Obstetric, Tu. S., 1; o.p., Tu., 2; Eye, W. S. 2; Ear, Tu., 2; Skin, W., 2; Throat, Th., 2; Orthopædic, W., 2; Dental, Tu., S., 9, Th., 1.

ST. MARY'S.—Medical and Surgical, daily, 1.45; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Throat, Tu. F., 1.30; Skin, M. Th., 9.30; Electrician, Tu. F., 2; Dental, W. S., 9.30; Consultations, M., 2.30; Operations, Tu., 1.30; Ophthalmic Operations, F., 9.

ST. THOMAS'S.—Medical and Surgical, daily, except Sat., 2; Obstetric, Tu. F., 2; o.p., W., 1.30; Eye, M. Th., 2; o.p., daily, except Sat., 1.30; Ear, M., 12.30; Skin, W., 12.30; Throat, Tu. F., 1.30; Children, S., 12.30; Dental, Tu. F., 10.

UNIVERSITY COLLEGE.—Medical and Surgical, daily, 1 to 2; Obstetrics, M. Tu. Th. F., 1.30; Eye, M. Tu. Th. F., 2; Ear, S., 1.30; Skin, W., 1.45, S., 9.15; Throat, Th., 2.30; Dental, W., 10.30.

WESTMINSTER.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 3; Eye, M. Th., 2.30; Ear, M., 9; Skin, Th., 1; Dental, W. S., 9.15.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

PRACTICE IN AMERICA.

M.R.C.S. asks what are the chances of obtaining a lucrative practice, by purchase or otherwise, in one of the large western cities of the United States.

ETIOLOGY OF CLUB-FOOT.

DR. GEORGE BUCHANAN (Professor of Clinical Surgery to Glasgow University) writes: As I am making some inquiry on this subject, I shall take it as a favour if any surgeon will send me a note of any cases in which the subjects of club foot were the children of parents with the same deformity.

PREVENTION OF STYES.

J. W. W. asks for suggestions for treating persistently recurring styes. The patient, a young lady, has suffered from them for years, with short intervals, all treatment being unavailing in preventing their return. Both eyes are affected. There is no apparent local or systemic cause.

PHOSPHATURIA.

W. B. asks for information concerning cases of amorphous "phosphaturia" in which there really is no increase in the quantity of the daily excretion of phosphates, but merely a deposit occuring in the urine of apparently healthy people during one or other part of almost every day, and perhaps more marked when there is a little dyspepsia; the urine not alkaline and generally slightly acid, otherwise normal, but micturition frequent. Does the deposit (which often forms into gravel, the particles frequently being pyriform, the small end sharp) take place in the kidneys, or the bladder, or where? What are the pathology, prognosis (as regards calculus chiefly), and the treatment of such cases? Mineral acids, of course, are of no use, neither is benzoic or citric.

ANSWERS.

J. R. M.—*The Surgeon's Handbook*, by Dr. F. von Esmarch, translated from the third German edition by Dr. B. F. Curtis, of which a review appeared in the JOURNAL of October 27th, is published by Messrs. Sampson Low and Co., Fetter Lane, E.C.

SLIGO.—Thomas's *Complete Pronouncing Medical Dictionary*, published by Lippincott and Company, will be found useful to the general practitioner. It can be obtained through English or Irish booksellers.

HOSPITAL CONSTRUCTION.

R. J. N. asks for the names of recent French or Belgian hospitals with asylums, with any points of special interest, suitable for study in connection with the study of modern hospital construction.

*** *Hospital Construction and Management*, by Dr. F. J. Mouat and Mr. Saxon Snell, contains information on this subject.

AMBULANCE INSTRUCTION FOR WOMEN.

DR. W. L.—The members of the Medical Committee of the St. John Ambulance Association are strongly of opinion that it is most important that women attending the "nursing course" should first have gone through "the first aid course." Were it not for this proviso, the chief secretary of the Association is convinced that few women would ever attend the "first aid course" at all; if they were allowed to take the "nursing course" first, they would most certainly not trouble themselves about the other. It is altogether an error, although a common one, to suppose that a year must intervene between the two courses. The "nursing course" can be commenced as soon as the result of the "first aid examination" is published. This is done very frequently, and the Association prefer it, offering as an inducement that the nursing examination (if passed) can count as a re-examination towards that coveted distinction, the medallion, thus saving a year.

TREATMENT OF CORNS.

MR. G. SHERMAN BIGG, F.R.C.S.Ed. (Dover) writes: Pare the corns carefully with a sharp knife without drawing blood, and lightly apply the solid stick of nitrate of silver. In the course of two or three days scrape away the hardened surface. A small, delicate, pinkish blister will be seen, which should be painted over with a 5 per cent. solution of cocaine, and a small crucial incision made. Usually a bead of pus will escape. Apply lead lotion dressing to each toe separately. The deformity is due to reflex muscular contraction, the result of the irritation caused by the corns. A thin leather-soled shoe or slipper, with a heel-piece, should be worn, in which longitudinal slits should be cut corresponding to the spaces between the toes. The corns being covered with ordinary corn plasters, with a central hole, a piece of thin elastic webbing should be threaded through a slit and over the toe covered with plaster, through the next slit, and so on, and finally fastened on the in- or outside of the foot. In severe cases subcutaneous tenotomy may be necessary, but is rarely required. Afterwards a broad-soled shoe should be worn.

DR. G. E. J. GREENE (Ferns, Co. Wexford) writes: In answer to M.R.C.S., first bathe the feet in lukewarm water for about fifteen minutes, then pare away with a sharp knife the upper strata of corn; after which apply the following: ℞ Acid. salic. 2 parts, collodion flex. 4 parts, creasote 1 part, with a camel-hair brush or feather, and allow it to dry. This treatment to be repeated every day, or other day, as required.

NOTES, LETTERS, ETC.

ERRATA.—In Dr. Cullingworth's letter on "Puerperal Fever," in the JOURNAL for November 3rd, p. 1021, col. 2, line 39, for "extreme" read "external;" line 42, for "and have" read "than;" line 50, for "invariable" read "invariably."—In Mr. A. W. Loveridge's note on "Chloroform Administration" (Oct. 27th), p. 974, col. 1, line 10, for "thumb" read "thumbs."—In the report of the annual meeting of the Royal College of Surgeons of England, published on November 3rd, the name of Dr. Edward Haughton was incorrectly given as Mr. E. Horton, p. 997.—Mr. Walter Fowler, M.A., M.B., B.C.Cant., etc., has been appointed Surgeon to the Seamen's Hospital, Greenwich, and not as we were incorrectly informed, Dispenser.—It was Mr. H. G. Stopford Taylor who showed the cases of excision of the tongue at the Lancashire and Cheshire

Branch of the British Medical Association at Warrington on October 23rd, and not Dr. J. S. Taylor as reported.

Prescribing for Patients who are not Seen.

M.R.C.S. writes: May I be allowed to call attention to what I fear is a growing practice, and what is certainly a most reprehensible one among consultants, that of prescribing for patients whom they have never seen? Twice during the past four months has this occurred in my own practice, and by men who, I doubt not, consider themselves in the front rank. Nothing could, to my mind, be more fatal to that proper understanding which should exist; and I never fail to make a mark against the name of any man who does this sort of thing, and I strongly advise my professional brethren to do likewise.

A Touching Appeal.

Mr. William Vincent, Secretary, Society for Preserving Memorials of the Dead (Belle Vue Rise, Norwich) writes: I thank you most heartily for inserting my letter. Please allow me to say, first, I am not a medical man. Secondly, that an ambiguity is conveyed as to the army status of the medical man, who was for four years medical officer to the staff of the regiment before receiving his commission in 1858, and that in 1873 he received Her Majesty's commission to the Medical Department. In 1881 he was shelved by the Government by reason of age without pension or compensation, and reduced to penury. Thirdly, with grateful thanks I have to acknowledge, per C. Williams, Esq., from M.B., Torquay, 10s. P.O., and to me direct, E. J., 10s. P.O.; J. W. H. Mackenzie, 10s. P.O.; Charles W. Cathcart, £1 P.O.; A. B., £2 P.O.; T. Smith, £5 cheque; "Surgeon Medical Staff," £2 2s.; J. W. Chester, 10s. 6d.; J. Watts, £1; W. M. B., £2 5s.; and a young lady's ulster with post-mark "Fairlie," under Greenock.

Milk Jelly and Milk Powder.

The *American Druggist* gives the following directions for preparing these milk foods. As a variation in milk diet the following is recommended by Professor Liebreich:

Heat one quart of milk with one pound of sugar, and when the sugar is dissolved continue the heat, at a boiling temperature, for about ten minutes. Now cool it well, and then add, slowly stirring, a solution of one ounce of gelatine in a cupful of water. Next add the juice of three or four lemons and three wineglassfuls of wine, brandy, or other liquor. Set the glasses containing the mixture in a cold place, so that the contents may gelatinise. It is necessary to have the milk quite cold before the other ingredients are added, as it would otherwise curdle. Dried milk, in the form of powder, may be prepared by evaporating skimmed milk in a suitable apparatus, preferably *in vacuo* and under continued stirring, at a temperature of 60° to 70° C. (140° to 158° F.), to a syrupy consistence, then mixing it with 30 to 50 per cent. of its weight of finely-powdered sugar, and continuing the heat, with constant stirring, between 30° and 55° C. (86° and 131° F.) until the product has assumed a dry, granular condition.

"Finger-nails and Nail-brushes."

M.D. writes: The annotation in the Journal on this subject is an important one, though to many persons it may, perchance, seem of trifling moment. Personal cleanliness is not too widely practised, even in England, where the use of soap and water, is, however, certainly more prevalent that it is on the Continent.

Dr. Mittman is right in directing attention to the use of the nail-brush in his own country, where it is much needed, unless the customs of the people have undergone some marked change in the last few years.

As a board school manager, it is one of my duties to inspect the school premises, and here again I find the fact staring one in the face that for all the tens of thousands of children attending the schools of this country, there is no provision for personal cleanliness, and that paper is seldom or never made use of; and when one goes into a school the first thing to be noticed is the pungent smell of dirt—rank and ammoniacal. And where is the wonder when these children's clothes and hands are thus soiled? Where the wonder that books handled by the unwashed should stink so vilely? Would it not meet a great national want if some of the benevolent, who are so ready to supply pictures, toys, etc., to our schools and hospitals, would also supply another requisite, which is even more necessary? Could not the School Board economise a little more and spare a few hundred pounds for making provision for such an obvious want? It seems to me that the teaching of morality is considerably handicapped when the first essentials of purity and cleanliness are neglected. And that if cleanliness is next to godliness, our rising generation are many degrees removed from the latter desirable state. Nail-brushes and scrubbing-brushes should be regularly disinfected. Many so-called "poisoned" fingers are due to unclean scrubbing-brushes.

Cycles or Carriages.

E.L.S. writes: In answer to your correspondent, "A Junior Partner," I should say let him by all means visit his patients on a tricycle if the opinion of his brother practitioners in the neighbourhood is not hostile to his doing so, and that the cycle is not an unfamiliar mount in his vicinity. No change of dress is requisite, except that flannel worn next to the skin is essential; cuffs and collars I always use of enamelled linen, which can be washed and dried in a minute.

I have ridden a tricycle for some years (first upon the old side-steerer type, now on one of Singer's straight steerers), during which time I have ridden some 12,000 miles. Cycling in this part of Devonshire is common; our leading clergy and their curates mount the "iron steed," and feel no shame in doing so. It appears to me that they have lost neither professional dignity or respect by their love of the wheel. Our leading residents have also largely taken up cycling. In a radius of three miles from my house there are but two other medical men that I know of who use the cycle. We are the only class here who eye it doubtfully. For this I am sorry; it is not only a pleasant recreation, but a delightful means of progression. I am convinced it is one of the healthiest exercises ever taken up by the public, and one which can be enjoyed by all ages and by both sexes, the only requisite being that at the start moderation and prudence should be practised. As regards the cycle to be used there is no such great difference between the modern tricycle and the ordinary Safety bicycle in use. The Safety is lighter, faster (but not so much faster), and can be run into the house without difficulty. The modern tricycle is learnt at once, is certainly safer, and is a luggage carrier (a useful adjunct to a medical man). There are several good makers of these machines. Personally I prefer those made by the Singer Company, Coventry, but I find as a rule each rider praises his own particular type of machine and maker.

Dr. T. H. Pinder (96, Mosley Street, Manchester) writes: I have used a tricycle for some years, and have not found my practice fall off in consequence. It is a safe and swift machine in frosty weather, when a horse would be useless, and is convenient for night work. On paved streets, when "greasy," Safety bicycles are unsafe from their tendency to slip sideways under the rider. The most suitable is the Beeston Humber Cripper of this year's pattern, with bicycle handle-bar, a machine to be recommended on account of its good workmanship and easy running. If your correspondent keeps a boy a tandem Cripper is preferable, as it can be left safely in the street, which the single cannot. For wet weather a macintosh, or, if the rider perspires readily, a paraffin-proofed cloth coat is useful, which should be cut obliquely from behind, where it may hang eight or ten inches below the saddle, downward to the front to within a few inches of the instep, the buttons extending to the bottom. Rolled up it may be carried upon the back by a strap across on the shoulders, or hung under the back of the saddle, except on the single machine, from which it would be stolen.

The porous waterproof cloth may be obtained from a firm in Germany, the address of which I can supply if required.

As to fatigue as compared with walking upon good level macadamised or wood-paved roads, the machine has great advantages, but in very hilly districts, or upon the sets, there is not much to choose, if anything, the inevitable vibration and labour in riding over the stones occasions greater fatigue than walking the same distance, though time is undoubtedly economised.

Dr. Reginald Hartley (Thirsk) writes: As a medical man, with both a town and country practice, and a tricycle rider for the last ten years, I think I can give "Country Practitioner" the information he requires. First let me say that I agree with Dr. Farrar that a tricycle, not a Safety bicycle, should be used.

In a town a tricycle might be used all the year round, in the country only in fine weather during the summer and autumn. If the roads are wet or stony tricycling is too great an exertion, and the machine sustains damage. On a suitable machine in a town long distances could easily be travelled, even in wet weather. I have, in this country district, frequently done forty miles in a day without any appreciable fatigue.

Then as to the choice of a tricycle. I have ridden all kinds; front and rear steerers, the Sterling, the Coventry Rotary, the Premier, the Humber of Marriott and Cooper, the Otto bicycle, and, last of all, the Humber Cripper tricycle, made by Humber and Co., Beeston, near Nottingham. Of this machine it is not too much to say that it is perfect; it is a good hill climber, a delightfully easy runner, a beautiful steerer, light yet wonderfully put together. I have never before ridden such a tricycle, and it is so elegant that it is universally admired. I have ridden it over three hundred miles in the last three weeks, and given it a thorough trial in all sorts of weather and on all kinds of roads.

Country Assistant writes: As a rider of a rear-driving Safety bicycle for the last eighteen months of some four thousand miles, I beg to put forward the advantages of the bicycle over the tricycle.

The rear-driving Safety can be easily stored, either in the pantry or kitchen, and is ready at a moment's notice, and can be cleaned at leisure at home, whereas the tricycle has generally to be put into a stable or outhouse. The bicycle makes only one track, and is a great deal better suited for bad roads, or those lately stoned, as the newly-worn carriage wheel track can be ridden upon, and any loose stones easily avoided. It takes up very little room in passing vehicles in narrow lanes. It is considerably lighter than the tricycle, and therefore runs easier and is a quicker machine. It can be lifted over stiles for cross-country riding. The tricycle has certainly one advantage on greasy roads in that the three wheels being in different tracks rarely skid sideways, which is the only true drawback to the Safety bicycle, but this can be reduced to a minimum by very slow and careful riding in greasy parts.

Whichever machine is purchased get a first-rate maker's, as that is a guarantee of good material and work. The bicycle is the cheaper machine. In either case for wet weather the driving chain should be entirely covered in to prevent the mud clogging it. As regards safety there is little to choose between the two machines.

Dr. E. M. C. Hooker (Retford, Notts) writes: I have bi- and tricycled in my practice for the last twelve or thirteen years, and, as far as I know, have not lost either professional or social caste thereby. Prior to the advent of cycling I kept three horses, and the worries connected therewith many of your readers will quite understand, nor need I here dilate on the tricks of horse-dealers, professional and amateur, or the numerous ills affecting horse-flesh, ranging from broken knees to broken wind.

The advantages of the "iron horse," as far as my experience goes, are 1, less cost in purchase; 2, no cost in keep; 3, readiness for use night and day; 4, that any repair necessary can be quickly and substantially done by an intelligent smith; 5, improved general health from the exercise of cycling, and from the useful diversion created, which certainly modifies the acuteness of the numberless worries attendant on a doctor's daily work. I might say that I have found the Rudge Coventry Rotary a very durable machine.

L.R.C.P.Lond. writes: It is very improbable that cycles will ever supersede vehicular or equestrian modes of transit in private practice, except where the mileage is insignificant, and where there is a possibility of their being supplemented by pedestrian means. As an adjunct, however, the cycle will prove invaluable, and at the same time enjoyable. For the performance of a second round, an evening visit, or for night work, the cycle answers admirably. In country practice it is a great boon in midwifery work, and the "iron horse" needs no stable nor caretaker. After protracted sitting, often in cramped positions, it is a great relief to exercise one's limbs during the homeward ride. In cold weather one arrives at the patient's house with warm hands instead of benumbed ones. The bicycle (Safety or otherwise) has many advantages, such as its single track, which permits of picking the best of the road, besides the smaller amount of friction, etc.

I have ridden a tricycle for about eight years. My present one is a Marlborough Club, which is a front steerer, with bicycle handles and a saddle seat, and I am well satisfied with it. For elderly gentlemen the Salvo Patent Safety, by Sterley Brothers, with ordinary seat, would be more suitable. I have never found that my highest class of patients considered a tricycle *infra dig.*; on the contrary, they have taken great interest in it, and

have come out to the door to watch me riding homewards. The celerity with which one responds to a "call" quite astonishes them. It is quite easy to pack up a frock-coat in the tricycle bag (which measures 1½ foot by 1 foot), when one has to remain at a patient's house. The best dress to wear in winter is a thick pea-jacket, with or without a short lounge coat underneath, and gaiters are occasionally necessary.

INQUESTS AND DEATHS FROM CHLOROFORM.

M.B., M.A. writes: I should like to ask, through your columns, why it is considered necessary to hold inquests in cases of death occurring during the administration of an anæsthetic? I am at a loss to understand why, unless the friends of the deceased wish for an inquiry, or express doubts as to the skill or care with which the anæsthetic has been administered, the coroner, with his jury of small shopkeepers, should be called upon to go through the farce of deciding that the anæsthetic was a proper one, and that due precautions were observed. When a death from chloroform occurred in this neighbourhood a few years ago, the coroner, upon being informed that two qualified medical men had been present during the administration, declined to hold an inquest, so that the custom is not universal, and, to my mind, is one more honoured in the breach than the observance. Surely, if coroners' inquests are necessary in these cases, they are equally so in cases of death occurring as the result of operations, but we do not yet hear of a jury being summoned to decide if Mr. A. applied a tourniquet properly, or if Mr. B. ligatured the arteries skilfully, or whether all had been done with full Listerian rites. We may in time arrive at this perfection of lay control, but so long as we are considered worthy of being entrusted with the lives of our fellow-creatures while undergoing capital operations, and not called to account before a coroner and his jury because one died from hæmorrhage, or another succumbed soon after the giving of morphine hypodermically, I fail to see why the same confidence should not be reposed in us when an anæsthetic happens to shorten life.

The only effect of the holding of an inquest, and the publication in the local papers of the evidence, is to create a prejudice against anæsthetics and their administrators, and to render patients so nervous and frightened when they have to be placed under their influence, that the risks of accidents occurring are thereby doubled.

I think all medical men should keep a record of those cases in which they give an anæsthetic, the nature of the anæsthetic, and the mode and result of its administaation being noted; and if these results could be periodically collated, we should be in possession of data from which a sound opinion could be formed as to which is the safest and best mode of producing anæsthesia. It is now the fashion in some quarters to decry chloroform; I am, however, old-fashioned enough to believe in it; and having an experience of some ten thousand cases without a death, I think I am justified in my preference. Deaths, no doubt, are frequently recorded from its use; but before deciding to abandon it for some other anæsthetic, it is necessary to know how much more frequently it is administered than any other. Judging from local experience, I should think it is given fifty times for every once that any other is given. A record such as I have mentiond would settle this question satisfactorily. The JOURNAL has in its time done much good work. Will it add to our indebtedness by placing such information within our reach?

TREATMENT OF OBESITY.

DR. ROBT. SAUNDERSON, Jun. (Rhode, King's Co.), writes: It would be of great advantage to some of Mr. Towers-Smith's stout brethren and the corpulent public if he would give more particulars of his treatment of obesity, namely, how he divided his daily gallon of hot water? If he used any other kind of food-such as bread, vegetables, fruit, etc., in addition to the grilled cod and rump steak; if so, what kind and quantity, and on what principle he can explain the process of reduction in weight. A patient of mine, to whom I was speaking on the matter, remarked that it would also be very interesting to know the nature and amount of his previous dietary when his daily lowering scale was so liberal as one pound of fish, three pounds of flesh, one glass of whisky, and water *ad lib.*

COMMUNICATIONS, LETTERS, etc., have been received from:

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BOOKS, ETC., RECEIVED.

Alpine Winter in its Medical Aspect, with Notes of Davos Platz, Wiesen, St. Moritz, and Maloja. By A. Tucker Wise, M.D., L.R.C.P., M.R.C.S. Fourth edition. London: J. and A. Churchill. 1888.

Animal Physiology. By William S. Furneaux; with 218 illustrations. London: Longmans, Green and Co. 1888.

A Handbook of Therapeutics. By Sidney Ringer, M.D., F.R.S. Twelfth edition. London: H. K. Lewis. 1888.

A Handbook of Surface Anatomy and Landmarks. By Bertram C. A. Windle, M.A., M.D. London: H. K. Lewis. 1888.

Section Cutting and Staining. By Walter S. Colman, M.B. London: H. K. Lewis. 1888.

Epitome of Diseases and Injuries of the Ear. By W. R. H. Stewart, F.R.C.S. London: H. K. Lewis. 1888.

The British Journal of Dermatology. Edited by Malcolm Morris (London) and H. G. Brooks (Manchester). London: H. K. Lewis. 1888.

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THE BOWMAN LECTURE

ON THE

VALUE OF EYE SYMPTOMS IN THE LOCALISATION OF CEREBRAL DISEASE.

Delivered before the Ophthalmological Society, November 9th, 1888.

By HENRY R. SWANZY, A.M., M.B., F.R.C.S.I.,

Surgeon to the National Eye and Ear Infirmary, Dublin; Ophthalmic Surgeon to the Adelaide Hospitals, Dublin.

Mr. President and Gentlemen,—Recent advances in cerebral surgery have brought with them, in some respects, increased responsibility, and increased anxiety for the surgeon, in cases of focal cerebral disease. In these cases perhaps the gravest responsibility and anxiety is encountered at the very outset, when the regional diagnosis has to be made. It is true that our present knowledge of the anatomy, physiology, and pathology of the brain frequently enables us to diagnose the position of focal lesions; but it must be confessed there remains much to be learned before we shall be able to say that in all of the cases met with localisation can be successfully effected. Yet we may confidently hope that the difficulties which still beset this subject will gradually disappear; and we are encouraged to think so by contemplation of the marvellous progress which has been made in cerebral physiology within the last eighteen years.

In order that the desired end may the sooner be attained, it is of the utmost importance that the symptoms of each case of focal cerebral disease should be carefully noted, and that each necropsy should be conducted with the greatest precision; and in looking over the records of such cases, one cannot help observing that it is just in respect of the necropsy that most of them are defective. I do not mean merely that in many of the cases which ended fatally no necropsy was, or probably could be, made, but also that in many instances where a *post-mortem* examination was obtained the record of it affords only scant or inaccurate information as to the seat and extent of the disease.

I feel sure we shall see quicker and better progress in cerebral localisation when many physicians and surgeons recognise more fully than they yet have done that the interests of science, as well as their own reputations, are best served by entrusting the examination of the brain in all these cases to skilled pathologists and microscopists, rather than by undertaking the necropsies themselves; for it must, I think, be admitted that the successful examination of a diseased brain requires special training. The mere fact that marked focal symptoms may be caused by minute cerebral lesions is sufficient to demonstrate the importance of this view, without dwelling upon it further.

In the meantime, while our knowledge of the physiology and pathology of the brain is gradually increasing, we must be careful in our daily practice to employ all the facts which have hitherto been acquired concerning this interesting organ; and it has occurred to me that it might serve a useful purpose were I to occupy the time at my disposal this evening in reviewing the symptoms which are derivable from the eye in cases of focal cerebral disease, and in considering how far they may be utilised for the localisation of cerebral lesions. I incline to the opinion that these eye symptoms are not as much valued as they should be, perhaps because their often subtle and sometimes subjective nature renders them less readily studied than are other focal brain symptoms.

I also incline to think that eye symptoms are too often not looked for at first, but utilised rather as a *dernier ressort*. This is a serious error, for many of these symptoms are of the highest localising value; while their very nature may render their discovery in a late stage of the disease impossible. How, for example, can a field of vision be examined in a late stage of tumour of the brain when the patient is racked with pain, delirious, or half unconscious?

And, if it be remembered what a prominent *rôle* in cerebral regional diagnosis the process of exclusion must necessarily play, and what a very large extent of the brain is placed in relation to the eye, it will be admitted that when a search for eye symptoms in a case of focal brain disease gives only a negative result, yet the significance of this for the diagnosis falls little short of that which belongs to a positive result.

In endeavouring to accomplish the task I have set before me, I invite your attention to the facts provided for us by clinical pathology, rather than to those of experimental comparative physiology. For, important as are experiments upon animals for our knowledge of the physiology of the human brain, yet no one will deny that the evidence of the bedside and of the *post-mortem* table, when it can be obtained, is of even greater importance. You will understand, then, why it is that I refer but little in the following to the epoch-making researches of such distinguished men as Ferrier, Schafer, Victor Horsley, Hitzig, Munk, Flechzig, Goltz, and many others.

Gentlemen, in the details of this lecture I can hardly hope to offer anything that is new to you, yet I trust that in this respect you will extend to me your indulgence, and that you may be able to find at least some interest in the presentation of the subject as a whole.

In estimating the localising value of the focal eye symptoms which may be afforded by a given case of recent brain disease we are immediately confronted with a difficulty which is common to all focal symptoms, the difficulty, namely, of distinguishing between direct symptoms and the so-called indirect symptoms; the former, as you are aware, being those which depend upon the loss of function of the part in which the lesion is situated, and which, consequently, are the symptoms it is desirable to point out, while the indirect symptoms are not the result of the local disorganisation caused by the lesion, but of its pressure, of disturbances of circulation to which it gives rise, and, it is also thought, of inhibition effects, all of these being liable to interfere with the function of parts of the brain more or less distant from the lesion.

I agree with Dr. Gowers in thinking that the term "indirect" conveys a false conception of the nature of the symptoms to which it is applied, and I venture to suggest to you in its place the term "distant symptom" as being more suitable. It is an adaptation of the *Fernwirkung* of some German writers, and implies, I think, the one fact of which we are certain in connection with these symptoms, and no more.

We may at once say that there is nothing in the manner in which focal eye symptoms present themselves which can enable us to distinguish between the direct and distant symptoms. It is only in cases of stationary lesions, which remain under observation sufficiently long—some six weeks or more—after the first onset, that we can feel pretty sure that the symptoms before us are direct symptoms; for, after that interval, it is probable that the distant symptoms, if any have been present, will have passed away. But, in the case of a tumour, which constantly and slowly increases in size, distant symptoms may come and go, and then we can often only recognise the direct symptoms by their greater constancy. No doubt some symptoms are more often distant than others, and it will be my duty, as I go along, to endeavour to point out those which seem to be, respectively, the most and the least prone to be distant.

The opposite of those cases, in which not only direct but also distant focal symptoms are present, is afforded by cases where the lesion is latent, where it gives rise to no focal symptoms whatever. There is probably no part of the brain in which a destructive lesion may not be present without producing any focal symptoms, and this is one of the most remarkable facts connected with cerebral disease. Here the presence of diffuse symptoms renders the existence of focal brain disease indubitable, while the absence of focal symptoms renders localisation of the disease impossible. Lesions in those parts of the brain which, as as a rule, give rise to eye symptoms, may sometimes be latent like lesions elsewhere. Marked disease, for example, in the occipital lobe, in the internal capsule, in the cerebral peduncle, and so on, may fail to produce the accustomed eye symptoms, or any others. It was necessary that I should refer to this interesting point, but its further consideration does not come within the scope of this lecture.

Focal eye symptoms may be divided naturally into those which depend upon disturbances in the motor apparatus of the eyeball, including the intraocular muscles, and those which depend upon disturbances in the special visual apparatus. We have also to consider symptoms due to lesion of the nerve of ordinary sensation of the surface of the eyeball.

And, first, as regards the symptoms derivable from the motor apparatus. In the cerebral cortex, centres exist for the motions of the face, arm, and leg, respectively, but no centre, in precisely the same sense, for the motions of the eyeball is present; that is to say, there is no centre in the cortex of one hemisphere a lesion of which will produce ophthalmoplegia, partial or complete, of the opposite eyeball alone, although attempts have been made to describe some such centres. All are agreed that the reason for this is, that the two eyes being associated in their motions, it is only those associated motions which are represented in the cortex.

By far the most common derangement of these associated ocular movements, as the result of cortical lesions, is the conjugate lateral deviation of the eyes to one side—that is, abnormal function of the internal rectus of the one eye, and of the external rectus of the other eye. In paralysis, the deviation being, of course, towards the side of the lesion, the eyes look at the cerebral lesion, as Prevost has expressed it; and in spasm, from the side of the lesion. In many of these cases, if the patient's intelligence be not impaired, the eyes can be moved as far as the middle line, or even further, by an effort of the will. We are not able, as yet, to say where the cortical centre for these motions resides in man, for Grasset's statement[1] that it is situated in the supra-marginal and angular gyri has not been verified.

But, did we know its position, it is not likely that much would be gained, so far as clinical localisation is concerned, for this centre seems to be extremely sensitive, and to be easily thrown out of gear by lesions of many different parts of the cortex. Conjugate deviation is, in short, very apt to be a distant symptom, especially in cerebral hæmorrhage, when it is often accompanied by a rotation of the head in the corresponding direction, and lasts only a brief time. Moreover, it is thought that, when this centre may happen to be actually involved in the lesion, its function, being largely bilateral, is rapidly taken up by the opposite hemisphere; and hence, even when conjugate lateral deviation plays the part of a direct cortical symptom, it can never be recognised as such, owing to its evanescent character.

Again, conjugate lateral deviation similar in character to that caused by a cortical lesion may proceed from a lesion of the internal capsule.

This same symptom, finally, may be caused by a lesion of the pons, involving the special nucleus for the associated motion, which is common to the sixth and third nerves, although distinct from their proper nuclei, and which probably resides in the superior olivary body. But conjugate deviation from a lesion in this locality differs from the same symptom in a case of lesion of the cortex, or of the internal capsule, inasmuch as the eyes are here turned away from the side of the lesion, towards the hemiplegic side of the body, in paralysis, and towards the side of the lesion, away from the convulsed side of the body, in irritating lesions. Gowers, in his recent exhaustive work on *Diseases of the Brain*,[2] points out that, in these pontine lesions the symptoms vary according as the disease does or does not involve the nucleus of the sixth nerve. In the first place, if the disease is above the nucleus of the sixth nerve, that is at or in the neighbourhood of the superior olivary body, the eyes cannot be moved towards the side of the lesion beyond the middle line, but in some cases, although the associated movement is lost, yet convergence can be effected. But, if the very nucleus of the sixth nerve be involved, there is complete loss of power of the external rectus, so that the eye deviates inwards, and cannot be rolled outwards; while the other eye can be moved by its internal rectus as far as the middle line and no further. Attention was first drawn to this form, I think, by Broadbent.[3] In it the facial nerve, on the side of the paralysed sixth nerve, is often also paralysed, owing to the proximity of its fibres to the nucleus of the sixth nerve; or, because the sixth and portio dura have a common nucleus. Finally, if the fibres of the sixth nerve in the pons, after they have left their nucleus, be injured, the external rectus is paralysed, but the associated internal rectus of the other eye is not impaired in its function. Conjugate deviations due to pontine lesions differ again from those due to cortical or capsular lesions, in that they are almost always direct symptoms. Doubtless the reason for this is, that the close proximity of the two nuclear centres for the associated lateral motions of the eyes to each side, respectively, lie so close together that a distant effect can hardly be produced upon one of them alone. Yet if both nuclear centres should happen to be paralysed, we must not at once conclude that the resulting symptom is a distant one, for, according to Wernicke,[4] cases of simultaneous focal lesion of both of these centres have been observed. The clinical appearance is then very peculiar, the eyes being directed straight forwards, and being absolutely immovable to the right or to the left, while their upward and downward motions are preserved, as well as the motions of the upper eyelids.

Conjugate lateral deviation of the eyes, then, may assist us in the diagnosis of a cortical or of a capsular lesion from one in the pons. It may aid us in deciding in which side of the brain a lesion is situated when other symptoms are not readily observed, as in coma. And the varieties of the symptom, when it is due to disease in the pons, may enable us to form a refined diagnosis as to the precise seat of the lesion there.

As regards loss of other associated motions of the eyeball, an interesting case of loss of motion of the eyes upwards has been recorded by Gowers,[5] in which a small tumour was found in the middle line behind the posterior quadrigeminal bodies, damaging them slightly, as well as the velum and the adjacent part of the inferior vermiform process of the cerebellum. In a case of tubercle of the corpora quadrigemina, Hennoch[6] observed this same defect as the first focal symptom to make its appearance.

Paralysis of the upward and downward motions of both eyeballs, sometimes with ptosis, while the lateral motions are unimpaired, may be the result of a focal lesion involving the third nerve nuclei in the floor of the Sylvian aqueduct; and, if attended by hemiplegia, the lesion involves the pyramidal tracts, probably at the level of the anterior quadrigeminal bodies, the posterior commissure, and the neighbouring part of the optic thalamus. Lang and W. A. Fitzgerald reported a case to this Society[7] in which this symptom and hemianopsia were the two focal signs. The case rapidly recovered, leaving only homonymous insular scotomata. In their communication the authors do not profess to have localised the lesion accurately, but I think this combination of symptoms might be accounted for by a lesion involving the pulvinar and anterior corpora quadrigemina.

Loss of the power of convergence, accompanied sometimes, as in Eales's interesting case,[8] by paralysis of accommodation, is a symptom of lesion of the posterior quadrigeminal bodies. Probably, however, this symptom is occasionally a distant one, for there are three cases published, one of them by Senator,[9] in which the lesion was in the pons, and did not involve the corpora quadrigemina.

A symptom which is the very opposite of conjugate deviation or paralysis may be best referred to here. It consists in a deviation of one eye downwards and outwards, while its fellow is turned upwards and inwards. This remarkable, and, as yet, wholly inexplicable, symptom has only been seen with lesion of the middle cerebral peduncle, and the lesion may or may not involve the neighbouring cerebellar substance. The last-mentioned symptom, as well as loss of power of the upward, or of the upward and downward, motions of the eyeballs, are almost always direct symptoms.

We have now to consider the localising value of those paralyses of the cranial nerves for the supply of the motor apparatus of the eye other than conjugate paralyses.

As regards the third nerve, we are at once struck with the fact that ptosis, partial or complete, may be present as a focal symptom in cortical lesions—cerebral ptosis, as it is called—without any other third-nerve branch being paralysed. That a separate cortical centre for this branch of the third nerve exists, and that it innervates the muscle of the opposite side, is very probable. The existence of such a centre would not be inconsistent with the view that, as regards the motions of the eyeballs, associated centres alone are present; for although, as a rule, the elevators of the lids are associated in their motions, yet by an effort of the will most people can throw one of them into motion separately, or more than the other. No doubt the power to voluntarily innervate one levator and orbicularis alone varies in different individuals, and Wernicke[10] leans to the opinion that in many persons the levator centres are practically associated centres,

[1] *De la Deviation Conjugée*, Paris, 1879.
[2] Page 167.
[3] *Medical Times and Gazette*, 1872, vol. i.
[4] *Lehrbuch der Gehirnkrankheiten* Bd. i, p. 353.
[5] *Medical Ophthalmoscopy*, 2nd Ed., p. 340, and *Diseases of the Brain*, 1888, p. 174, foot note.
[6] *Berl. Klin. Wochenschr.* 1864, No. 13.
[7] *Trans. Ophth. Soc.*, vol. ii, p. 230.
[8] *Trans. Ophth. Soc.*, vol. iv, p. 390.
[9] *Arch. f. Psychiatrie*, Bd. xiv, p. 644.
[10] *Loc. cit.*, Bd. i, p. 323.

and that this is the reason why cerebral ptosis is rather rare. The position of this centre is still an open question, for the view of Landouzy that it is situated in the posterior part of the inferior parietal lobule has not met with acceptance.

Ptosis, then, has no value as indicating the locality of a lesion in the cortex; but, according to Nothnagel,[11] it may be of use in distinguishing a cortical lesion from one situated elsewhere in the brain, for monolateral ptosis, as the only focal symptom, occurs with cortical lesions alone.

It is probable that ptosis, as the result of a cortical lesion, is a distant symptom in not a few of the cases where it is present.

Double ptosis was seen by Steffen[12] as the only focal symptom in a case of tubercular degeneration of the corpora quadrigemina, the neighbouring parts of the brain being absolutely uninvolved in the lesion. It is interesting to note that in this case the motions of the eyeballs were not impeded, nor was there any defect of vision.

It is evident that lesions causing bilateral paralysis of branches of the third nerve which are wont to be innervated together—loss of motion of the eye upwards, of motion of the eye downwards, of convergence, and double ptosis—are to be sought for in the quadrigeminal bodies. Basal lesions do not give rise to similar paralysis.

Ptosis on the side of the lesion has occasionally formed a symptom in disease of the pons, without paralysis of the other branches of the third nerve—except, sometimes, in so far as conjugate deviation is concerned—and without the third nerve being involved in the lesion. An interesting case of this kind has been published by Wernicke.[13] Both upper lids drooped, the left more so than the right; there was also conjugate lateral deviation of the eyes to the right, the left eye being turned more inwards than the right eye was turned outwards. On an effort to look to the left the left eye did not move at all, while the right eye only reached the middle line. The whole of the left facial nerve was paralysed, and sensation on the right side of the face and head was dull. These were only the focal symptoms, and they continued until the patient's death. At no time was there any paralysis, either of motion or of sensation, in the extremities. The carefully made necropsy showed a tumour in the floor of the fourth ventricle, a little to the left of the middle line. Towards the left it did not extend beyond the lateral boundary of the pons; its posterior edge reached within 1½ centimètre of the calamus scriptorius, and its anterior edge was 1 centimètre from the corpora quadrigemina, while the width of the tumour was 2 centimètres. The growth did not involve the middle peduncle of the cerebellum, but it did extend into the inferior cerebellar peduncle. The rest of the brain was normal. The zone of nerve tissue surrounding the tumour was free from all pathological changes, nor were there any traces of pressure in the pons or in the medulla. The upper half of the tumour was found to have involved, on the left side, the nucleus said to be common (Stilling) to the facial and sixth nerves. The nucleus of the small motor root of the fifth nerve on the same side had suffered, and the fibres of the descending root of the right fifth nerve had been interrupted. The lower part of the tumour had destroyed a large part of the facial nucleus, and a great part of the internal and external auditory nuclei, and the upper end of the glossopharyngeal nucleus. The nuclei and fibres of the third nerve were not in any way implicated in the lesion. It is as yet impossible to explain the occurrence of ptosis in this and other such cases—they have all been cases of tumour—unless we regard it as a distant symptom. It is important to note that in each of these cases paralysis of the facial was a constantly associated symptom. Consequently, in this combination, even if it should be a distant symptom, ptosis may have some localising value.

Again, ptosis, by forming a factor of a crossed paralysis, may serve to localise a lesion in the crus cerebri. When the third nerve is paralysed by a lesion in this situation, it is the rule to find it paralysed as a whole, but paralysis of only some of the third-nerve branches may be produced by a lesion of the cerebral peduncle, and the branch to the levator palpebræ seems to be the one most frequently implicated alone. A case of this kind was published by Dr. Rickards,[14] in which there was loss of motion and sensation of the left side of the body, with ptosis of the right eye; later on ptosis in the left eye appeared. The necropsy discovered a hæmorrhage of the size of a hazel nut occupying the upper and inner surface of the crura cerebri, but involving chiefly the right crus.

Another important case of this kind (important especially on account of the accurate necropsy) was published last year by Professor Leube.[15]

In order now to complete this subject of ptosis as a focal symptom, I must refer to a rare form of it which has been described by Nothnagel,[16] and which does not depend on a lesion of the third nerve. It may be called sympathetic, or pseudo-ptosis, and is accompanied by other eye symptoms as well as by symptoms of vasomotor paralysis of one side of the body, such as elevation of temperature and redness and œdema of the skin. In these cases, this author says, there is—1. Apparent ptosis on the paralysed side, owing to the contraction of the palpebral aperture, but the lid can be raised. 2. Contraction of the pupil on the same side. 3. A shrinking back of the eyeball into the orbit, so that it seems to have become smaller. 4. An abnormal secretion of thin mucus from the corresponding nostril, of tears from the affected eye, and of saliva from the corresponding side of the mouth. Nothnagel states he has found this train of symptoms in lesions of the corpus striatum.

A common sign of disease of the crus cerebri is what is known as crossed hemiplegia. Paralysis of the third nerve on the side of the lesion, with hemiplegia, hemianæsthesia, often facial, and sometimes hypoglossal, paralysis of the opposite side of the body, is a frequent form of it. The lesion may implicate all the branches of the third nerve or only some of them. I have already given an instance in which only the branch to the levator palpebræ is involved. But the localising value of crossed hemiplegia, as Hughlings Jackson long ago pointed out,[17] depends chiefly on the hemiplegia and paralysis of the cranial nerve coming on simultaneously. If they occur at different times, they may be due to two distinct lesions, neither of which may be in the crus; for the hemiplegia might be due to a lesion in the hemisphere, and the third-nerve paralysis to a basal lesion of earlier or later date. Yet a few cases have been observed where, with a lesion in the cerebral peduncle, the third nerve paralysis preceded the hemiplegia by a considerable interval.

That basal lesions are by far the most frequent cause of paralysis of the third nerve is beyond a doubt; and here it is usual, but not constant, to find it paralysed in all its branches. The diagnosis to be made, when direct symptoms are being considered, is, for the most part, between a lesion in the crus and a lesion at the base. We cannot pretend to be able to make this diagnosis with certainty in all cases. Complete paralysis of every branch of the third nerve without any other paralysis is almost always basal; so also, as Graefe pointed out, are those cases in which, where there is hemiplegia, it is slight as compared with the degree of the third-nerve paralysis; and those cases, too, to which I have already referred, where there is an interval between the onset of the paralysis of the extremities and of the third nerve, are apt to be basal. Of course, there may be such a combination of paralysis of the other cerebral nerves with that of the third nerve as to leave no doubt with reference to the basal position of the lesion. But into all this I need not here enter.

Third-nerve symptoms—in addition to those included under the headings conjugate deviation, or paralysis and ptosis—are sometimes distant symptoms. Tumours of the cerebral hemispheres, more particularly if accompanied by violent general head symptoms, indicating probably high intracranial pressure, are the lesions most apt to produce these distant third-nerve symptoms. As a rule, the slighter the general cerebral symptoms are, the most likely are the third-nerve paralyses to be direct symptoms. This rule, indeed, applies to other, as well as to third-nerve, focal symptoms.

Paralysis of the fourth nerve, when combined with paralysis of other motor eye nerves, is difficult to recognise; and, consequently, in such cases, it supplies but little aid for localisation. Solitary paralysis of this nerve, as a symptom of cerebral focal lesion, is extremely rare. Nieden has placed a case on record[18] in which paralysis of one fourth nerve was the only focal symptom to which a tumour of the pineal gland, of the size of a walnut, gave rise. But the isolated fourth-nerve paralysis is more apt to be produced by a basal lesion. In combination with

[11] *Topische Diagnostik der Gehirnkrankheiten* p. 454.
[12] *Berl. Klin. Wochenschr.*, 1864, No. 20.
[13] *Archiv für Psychiatrie und Nervenkrankheiten*, Bd. xii, p. 513.
[14] JOURNAL, 1886, vol. i, p. 774.
[15] *Deutche: Archiv für Klinische Medicin*, Bd. xl, No. 2, p. 217.
[16] *Loc. cit.*, p. 327.
[17] *Lancet*, September 6th, 1873.
[18] *Centralblatt für Nervenheilkunde*, 1879, No. 8.

paralysis of the third nerve it speaks for a lesion in the cerebral peduncle, extending back to the valve of Vieussens, and has, I believe, been utilised by Meynert in this sense.

Paralysis of the sixth nerve associated with paralysis of the internal rectus branch of the third nerve has been already considered. When paralysis of the sixth nerve occurs as the only focal sign, it is probably due to disease at the base, or it is a distant symptom. I think I am correct in stating that there is no cranial nerve so liable to provide a distant symptom as the sixth. Gowers refers this liability to the lengthened course these nerves take over the most prominent part of the pons, which renders them readily affected by distant pressure. One or both nerves may in this way be paralysed. I was recently consulted in a case in which there were diffuse cerebral symptoms, which left no doubt as to the presence of an intracranial tumour. The only focal symptoms were complete paralysis of the left external rectus muscle, and very slight loss of motion upwards of the eyeball, and these had been present for only a few days. On one occasion, for a few minutes, there had been a tingling sensation in the left index finger. The shortness of the duration of the sixth-nerve paralysis rendered it, for the time, useless as a localising symptom; and that it was really only a distant symptom seemed not unlikely from the fact that, as I was informed, there had been a few days previously paralysis of the right internal rectus, of which now there was no trace. Wernicke[19] states that sixth-nerve paralysis is most apt to be present as a distant symptom, when the lesion, especially a tumour, is situated in the cerebellum; differing in this way from the third nerve, which, as I have said, is more likely to give distant symptoms with a lesion in the cerebral hemisphere.

Paralysis of the sixth nerve, simultaneous in its onset with hemiplegia of the opposite side of the body, indicates a lesion in the pons, usually a hæmorrhage, on the side corresponding to the paralysed nerve. We know that the fifth and facial, and sometimes the auditory, spinal accessory, and hypoglossal nerves, may all, in varying combinations, form one of the elements in a crossed paralysis from a lesion in this position; but, in the opinion of Nothnagel,[20] if special localising value is to be given here to the participation of any one cranial nerve, that nerve is the sixth. The paralysis of this nerve, simultaneously with palsy of the opposite side of the body, while other conditions point to an intracerebral lesion, speaks then almost certainly for pontine disease.

Paralysis of the facial with the sixth is not an uncommon combination caused by a lesion in the pons, which at the same time produces hemiplegia of the opposite side of the body. This combination is a natural one, in view of the close relations of the nuclei of the sixth and seventh nerves. Indeed, Lockhart Clarke, Meynert, and others, as you are aware, are of opinion that there is one nucleus which is common to both nerves, a view not shared in by Gowers and others. The manner in which the root of the facial nerve winds round the sixth-nerve nucleus must also have an important bearing on the occurrence of associated paralyses of these nerves.

Hemiplegia due to a lesion of the cortical motor region, which might happen to be combined with paralysis of the sixth nerve as a distant symptom, offers no difficulty in its diagnosis from hemiplegia with sixth-nerve paralysis in pontine disease; for while the latter is a crossed paralysis, the former is homonymous.

Lagophthalmos, we know, is the eye symptom to which paralysis of the facial nerve gives rise. It is useful for localisation, inasmuch as it assists in differentiating a lesion in the internal capsule, or in the facial motor centre of the cortex, from one implicating the portio dura in the pons, as it is absent or very slight in the former cases, but very often markedly present in the latter. With a lesion in the lower part of the pons we are apt to have lagophthalmos with crossed hemiplegia; but, if the lesion be in the upper part of the pons, the fibres from the opposite side having here joined the motor tract, the hemiplegia and lagophthalmos will be homonymous.

Nystagmus, as a focal symptom, has little localising value. Indeed Nothnagel and Raehlmann agree in the view that it has no such value. It occurs as a distant symptom in many focal, as well as diffuse, cerebral diseases in various situations, but Gowers states that it is "especially common in tumours of the cerebellum."[21]

[19] *Loc. cit*, Bd. iii, p. 369.
[20] *Loc. cit.*, p. 159.
[21] *Loc cit.* p. 193.

It will be convenient to refer here briefly to the eye symptoms of localising value afforded by paralysis of the fifth nerve. Similarly as the sixth nerve, crossed paralysis here points to a lesion in the pons. Moreover, when the nucleus or fibres of the nerve in the pons are diseased, neuroparalytic ophthalmia rarely supervenes; while, if the lesion be basal, the corneal affection is the rule.

The condition of the pupils is rarely of much value in regional diagnosis. Bilateral myosis is often seen with hæmorrhage in the pons, and is usually reckoned amongst the more important symptoms of the lesion; but it is by no means a constant symptom of it, the pupils here being frequently of normal size. Although myosis is most commonly the result of pontine lesions, yet it may accompany disease in other parts, as for instance, hæmorrhage in the corpus striatum, which bursts into the latter ventricle, and in meningeal hæmorrhages. Bilateral mydriasis is frequently present in apoplectic coma, without reference to any particular locality. The same holds good as regards monolateral myosis and mydriasis.

To the monolateral mydriasis, which forms one of the symptoms of paralysis of the third nerve, I shall refer only to point out that this monolateral paralytic mydriasis has greatly assisted in localising a lesion in the cerebral peduncle. Rudolf Arndt has recorded a case[22] in which, among the early symptoms, the most marked were uncertainty and occasional loss of power of both lower extremities, incontinence of urine and of fæces, vomiting, and frequently recurring dilatation of the left pupil, no other branch of the third nerve being at the time affected. The necropsy discovered, as had been foreseen, a tumour in the intrapeduncular space, which pressed more on the left than upon the right peduncle.

Loss of the pupillary reflex to light, apart from cases of paralysis of the third nerve, is a sign of lesion of the anterior quadrigeminal bodies, or of the optic tracts, and may be utilised to distinguish these lesions from others which may cause loss of sight by implicating both visual paths beyond the corpora quadrigemina, or both visual centres; for, in such cases, notwithstanding the amaurosis, the pupil reflex is maintained. Gudden's investigations[23] showed that there are special afferent fibres in the optic nerves and tracts for the pupil reflex, distinct from those for vision.

In cases of hemianopsia, similarly, the pupil reflex serves to establish a diagnosis between a lesion in an optic tract and one further on in the visual path, or in the visual centre, of the same side; for, if the pupil contracts actively to light concentrated on the blind side of the field, the lesion cannot be in the tract; but if it does not react, the lesion must be in the tract. It must be admitted that to decide the presence or absence of this hemiopic pupil is not always a simple matter, owing to the diffusion of the light when thrown into the eye, yet with care it may be obtained, or at least a marked difference in the promptness of reaction of the pupil, according as the light is concentrated more on the seeing or on the blind side of the retina.

And now, as to the second part of my subject—the localising symptoms derivable from the visual apparatus. Of these hemianopsia is one of the most common, as it is one of the most valuable. I may at once dismiss the three forms of hemianopsia which are known as temporal, nasal, and altitudinal, for they are only found with lesions of the chiasma, and provide a means, upon which I need not dilate, of localising those lesions at one or other side, above or below, the chiasma. But complete and absolute homonymous lateral hemianopsia is often a symptom of great localising value. It may be caused by a lesion in the cerebral cortex, or by one situated anywhere in the course of the fibres between the cerebral cortex and the optic chiasma; and, by taking concomitant symptoms into account, we are frequently enabled to say in what part of this course the lesion lies.

By complete hemianopsia we, of course, mean, that the defect in the field extends up to the vertical dividing line, and by absolute hemianopsia, a defect which involves each of the three visual perceptions—colour, light, and form.

And, first, as regards hemianopsia due to a lesion in the cerebral cortex, a lesion of the visual centre. Pathological anatomy leaves no doubt, but that, in man, the visual centre is situated in the occipital lobe rather than in the angular gyrus or elsewhere, and the evidence goes to show that the absolute optical centre chiefly

[22] *Archiv f. Psych.*, iv, 2, p. 432.
[23] *Sitzungsber. d. Münch. Ges. f. Morphol. u. Physiol*, 1886, p. 168.

occupies the cortex of the cuneus and of the superior occipital convolution, and also, especially in respect of the colour sense, the posterior part of the superior and inferior occipito-temporal convolutions. The most important evidence to this effect is supplied by four cases published respectively by Haab,[24] Huguenin,[25] Féré,[26] and Seguin,[27] in which homonymous hemianopsia was present for a length of time before death, and in each of which the only cerebral disease consisted in a circumscribed lesion of the cuneus. Also an interesting case published by Bouveret,[28] in which sudden blindness of both eyes was caused by arterial thrombosis, resulting in softening of a symmetrical region on the mesial surface of each hemisphere, which included the cuneus on each side, and, it is true, a considerable extent of the occipito-temporal convolutions.

Then Berger, and Nothnagel[29] have each observed cases in which the lesion causing hemianopsia was restricted to the superior occipital convolution. Seguin, indeed, would confine the absolute optical centre to the cuneus, but Nothnagel seems to have good grounds for extending it over to the superior occipital convolution as well. Nothnagel points out that in nearly all the cases of extensive lesion of the occipital cortex which gave rise to hemianopsia, the cuneus and the superior occipital convolution were both implicated. He also draws attention to the fact that the middle and inferior occipital convolutions, the lingual and fusiform gyri, may all be disorganised without hemianopsia resulting. He is speaking here of absolute hemianopsia, but he does not discuss hemiachromatopsia, nor the question of separate centres for the three visual perceptions, and Verrey's case of hemiachromatopsia, to which I shall shortly again have to refer, makes it tolerably certain that the centre for the colour sense is in the posterior part of the occipito-temporal convolutions.

Yet cases of hemianopsia are on record in which the disease has attacked one or other or all of these parts, and has left the cuneus and superior occipital convolution unscathed. In some of these cases the lesion, no doubt, extended deep enough to involve the optic fibres on their way from the cuneus and superior occipital convolution; but in others it certainly did not do so. For these exceptional cases Nothnagel thinks that, as there is sometimes a departure from the usual anatomical arrangement of the convolutions of the occipital lobe, so, also, there may, in these cases, be an apparent irregularity in the distribution of its functions.

I may here mention that Reinhard[30] inclines to the view that at a point in the superior occipital convolution, close to the intra-parietal fissure, there is a half-vision centre for the macula lutea. Should this prove to be correct, a lesion of the cortical centre for vision which included this spot should always give a hemianopsia, of which the dividing line would pass through the fixation point. These observations of Reinhard's require confirmation, for his paper, being the product of investigations made upon persons of unsound mind, is necessarily unreliable in many particulars. It is especially so as regards the field of vision, for perimetric observations could not be made.

Wilbrand, also, believes that the macula lutea is specially represented in the visual centre.

But, so far as our present knowledge goes, it seems most probable that the view held by Gowers regarding the variations in the dividing line in hemianopic fields is the correct one, namely, that the slight differences with which we are familiar in the position of this line, with reference to the fixation point and to the central vertical line of the field, depend upon slight individual differences in the decussation of the central optic fibres, and have no important localising value.

It would appear, then, that we cannot expect to be able to distinguish clinically between an absolute hemianopsia due to a lesion confined to the absolute visual centre, with or without its efferent fibres, from one due to a lesion involving at the same time other parts of the occipital cortex; and this we find to be borne out in practice.

But can we distinguish a complete and absolute hemianopsia, due to a lesion confined to the occipital lobe, from a similar defect in the field, due to a lesion in the optic radiations, internal capsule, pulvinar, or optic tract? We may conclude that the hemianopsia depends upon an occipital lesion, if it be unaccompanied by hemiplegia, motor aphasia, or paralysis of cerebral nerves, as direct symptoms—as might occur with a lesion in the posterior limb of the internal capsule on the left side (*vide infra*)—; but, be it remembered, that one and all of these are liable to accompany lesions of the occipital lobe as distant symptoms.

Aphasia, too, occasionally accompanies right cortical hemianopsia as a direct symptom. It is not easy to offer a satisfactory explanation of this fact, unless we accept Naunyn's view,[31] that there is sometimes a centre for speech in the region where the angular gyrus passes over to the occipital lobe, a region, consequently, very close to the centre for vision. It is also close to the centre for visual memory of words; and hence, aphasia, hemianopsia, and word-blindness—of which more later on—may be found in varying combinations in different cases. The form of aphasia, which Naunyn describes as produced by a lesion in this locality, is not altogether sensory, nor altogether motor, but is an undefined or mixed form. It is, moreover, often caused by a lesion in Broca's lobe, or by one in the centres which usually give sensory aphasia. But in about 40 per cent. of the cases, the lesion producing this undefined aphasia is, according to Naunyn, in neither of these localities, and then this part of the angular gyrus—that long-suffering region—is found to be the most common seat of disease.

Cortical hemianopsia may be a distant symptom. Gowers has observed that, at the onset of many attacks of cerebral hæmorrhage, hemianopsia is present as a distant symptom of very fleeting character, so fleeting indeed that it does not complicate attempts at localisation. Except under this condition, distant hemianopsia seems to be rare, a fact which enhances the localising value of the symptom.

Cortical hemianopsia may be incomplete, but we do not as yet know that a lesion of the visual centre can be so situated as to produce loss of precisely the upper or lower half of the half field; yet clinicists should bear in mind those interesting experiments made by Schäfer[32] on monkeys, which show that in these animals, as Munk had already proved for dogs, there is a correlation between the parts of the retina and of the occipital lobe. Removal of a certain part of each occipital lobe in the monkey gave rise to loss of the lower part of the field only in each eye. In future cases of incomplete cortical hemianopsia in which necropsies can be obtained, it will be important to note with the greatest possible exactness the precise extent and position of the disease.

So much for absolute hemianopsia. But the lesion may be such as to destroy only the colour centre, without reaching those for form and light. Eight cases of hemiachromatopsia are on record.[33] There are also some cases of loss of colour-vision in the whole field of each eye with retention of the form and light-senses.[34]

Again, the form-sense may be lost in the half field along with the colour-sense, while only the light-sense is retained. Such cases are hardly less rare than the loss of the colour-sense alone. Furthermore, cases of hemianopsia are on record[35] in which, in part of the defect, both the colour and form-senses were absent, but the light-sense present, while in the remainder of the defect all three visual perceptions were lost. In some of these cases partial recovery took place by the light and form-senses returning, while the colour-sense still remained wanting; or, it may be, that the functions which returned had merely played the part of distant symptoms.

Until quite lately we had no necropsy in a case of loss of the colour-vision alone. But Dr. Verrey, of Neuchâtel, has been so fortunate as to be able to publish, in the last number of the *Archives d'Ophthalmologie*,[36] a case which practically fulfils these conditions. Dr. Verrey is also to be congratulated upon the good sense which led him to submit his valuable preparation to the skilful handling of Dr. Burkhardt. The patient was a lady, 60 years of age, who consulted Dr. Verrey for a difficulty of sight she experienced in continued reading. This was the result of an apoplectic attack, from which she had rapidly recovered, without

[24] *Monatsbl. f. Augenhlk.*, 1882, p. 149.
[25] *Monatsbl. f. Augenhlk.*, 1882, p. 143.
[26] Quoted by Seguin.
[27] *Archives de Neurologie*, 1886, p. 176.
[28] *Revue Générale d'Ophthalmologie*, November, 1887, p. 481.
[29] *Verhandlungen des VI Congresses für Innere Medecin*, 1887.
[30] Zur Frage der Hirnlocalisation, etc., *Arch. f. Psych.*, Bd. xviii, 2, p. 478.
[31] *Verhandlungen des VI Congresses für Innere Medicin zu Wiesbaden*, 1887.
[32] "Experiments on Special Sense Localisation in the Cortex Cerebri of the Monkey," *Brain*, Parts 39 and 40, January, 1888.
[33] 1. Charpentier, *Thèse de Paris*, 1877. 2. Bierrum, *Centralbl. f. Augenheilk.*, 1881, p. 471. 3. Samelsohn, *Centralbl. f. d. Med. Wissensch.*, 1881, Nos. xlvii and l. 4. Swanzy, *Trans. Ophth. Soc.*, vol. iii, p. 185, 1883. 5. Eperon, *Arch. d'Ophthal.*, Juillet, 1884. 6. Wilbrand, *loc. cit.* 7. Landolt, *Delle Cecite Verbale*, 1888. 8. Verrey, *Arch. d'Ophthal.*, Juillet, 1888.
[34] Wilbrand, *Zur Diagnostik der Gehirnkrankheiten*, 1884, p. 24; Steffan, *Arch. Ophthal.*, xxvii, 2, p. 11.
[35] Wilbrand, *loc. cit.*
[36] T. viii, No. 4, Juillet-Août, 1888.

any other symptom of which she complained remaining. A perimetric examination showed that there was absolute colour-blindness in the whole of the right side of the field of each eye, with diminution, but no absolute loss, of the light and form-senses in the same part of each field. Dr. Verrey considers that the patient's difficulty in reading was due to cerebral asthenopia, and expressly states that she had no dyslexia, properly so-called, nor any word-blindness. He also does not think that the slight diminution in the light and form-senses in the right side of the field would account for the difficulty in reading which was present. In the course of the following twenty months, during which the patient lived and enjoyed fair general health, Dr. Verrey examined the fields several times, and found them unchanged. Finally the patient succumbed to another apoplectic attack.

The cause of death was found in a fresh hæmorrhage in the right centrum ovale and lateral ventricle; while an old hæmorrhagic cyst, in the lower part of the left occipital lobe, extending into the temporal lobe on the mesial side, explained the hemiachromatopsia. This cyst was situated between the floor of the posterior horn of the left lateral ventricle and the basal surface of the occipital lobe. It had occupied the white substance of the inferior occipital convolution, and had almost completely destroyed the white substance of the posterior extremity of the occipito-temporal convolutions, as well as that of the postero-inferior part of the cuneus. The cyst came almost to the surface of the cuneus and of the occipito-temporal convolutions, having destroyed the deeper layers of their cortex.

There can, then, be no doubt but that the centres for the colour form, and light senses are all present in the occipital lobe and, posterior end of the occipito-temporal convolutions; and it is probable that they are either, as Wilbrand suggests, arranged in layers one over the other in the cortex, or, as others think, they are placed side by side. The latter is the arrangement Dr. Verrey deduces from his case, and he thinks the colour-sense occupies the most inferior part of the occipital lobe, and probably the posterior part of the lingual and fusiform convolutions of the temporal lobe; while higher, and more towards the superior part of the occipital lobe, is situated the cortical centre for the light-sense; and probably between these two is the centre for the form-sense, for the latter was the function which, after the colour-sense, he found most affected. This agrees in the main with the view of Seguin and Nothnagel.

Relative hemianopsia can only occur with lesions of the cortex, hemianopsia from lesions elsewhere must always include all the visual perceptions. Those cases of hemianopsia, also, with some peripheral contraction of the other side of the field, are due to cortical lesions.

Hemianopsia from a lesion in the optic radiations will often be indistinguishable from the same symptom due to a cortical lesion. The defect may be incomplete, as the lesion may implicate only some of the radiating fibres; or it may be complete, if they are all involved. Pronounced distant symptoms, such as hemiplegia, hemianæsthesia, ptosis, and so on, are more apt to be caused by a lesion here than in the cortex.

A lesion in the posterior third of the posterior limb of the internal capsule—the sensory crossway—is likely to produce complete hemianopsia; because the nerve fibres are here collected together in a small space. Hemianæsthesia will be present as an accompanying direct symptom: and also, sometimes, loss of the other special senses on the opposite side from the lesion; and, should the disease extend forwards to the anterior part of the posterior limb, hemiplegia will be added as a direct symptom. Moreover, if the lesion be on the left side, motor aphasia may be present, by reason of the proximity of the path for speech on its way to the cerebral peduncle. I have already spoken of the combination of cortical hemianopsia with aphasia.

There are a few cases on record of hemianopsia caused by a lesion in the pulvinar. The symptoms in such cases strongly simulate those present in many cases of cortical hemianopsia, so that a differential localisation as regards these two positions may be impossible. The hemianopsia will be absolute, and probably complete; but lesions just in this situation seem to be very rare.

In hemianopsia due to a lesion of the optic tract the defect in the field is usually complete. The characteristic sign which enables us to localise a lesion in this position from one elsewhere causing hemianopsia is the hemiopic pupil already described.

Two cases may be mentioned which exemplify the peculiar service this pupil-symptom is sometimes capable of rendering. One of these—interesting, too, for other reasons—is published by Brandenburg in the last volume of Graefe's *Archiv*.[37] In the right eye there was a hemiopic defect of the field to the right side. But the field in the left eye could not be examined, owing to complete leucoma of the cornea. The defect in the right field, therefore, might have been the representative of a bitemporal hemianopsia due to a lesion at the chiasma, in so far as the perimeter could decide. The absence of the hemiopic pupil it was which showed that the lesion was not at the chiasma, and, no doubt, if the field of the left eye could have been examined, a homonymous defect would have been found in it.

The other case, observed by Brieger, is quoted by Wernicke.[38] In it there was complete blindness of both eyes, and, as the pupil in a general way reacted to light, a diagnosis of double hemianopsia due to lesions of both occipital lobes was made. At the necropsy only the right occipital lobe was found diseased, while the left occipital lobe was healthy; consequently, the left-sided hemianopsia alone was so far accounted for. But the cause of the right-sided hemianopsia was soon discovered. It consisted in a degeneration of the left optic tract. If, then, during life the pupillary reaction had been more carefully examined, the existence of two lesions, one in the left tract and the other on the right side, beyond or higher than the tract of that side, could have been diagnosed: for the pupillary reflex would have been found wanting or defective if light had been concentrated on the left half of one or other retina.

Lesions of the optic tract are, of course apt to implicate the crus cerebri, but do not necessarily do so. Leber has pointed out that atrophy of the optic nerve is likely to make its appearance, and at an early stage of the case, in lesions of the tract.

Total blindness of both eyes, when it appears as a focal symptom—apart from such cases of double cortical hemianopsia, or of cortical hemianopsia combined with a lesion of the opposite optic tract, as I have already referred to—can only be due to a lesion involving the whole of the chiasma, or of both optic tracts. The great mass of clinical evidence is opposed to the idea that lesions of the corpora quadrigemina produce blindness,

I must now ask you to return with me for a moment to the occipital lobe. Visual aura have sometimes been noted as a symptom of disease of this lobe. Gowers has recorded a case[39] in which flashes of light were seen before both eyes, but especially before the left eye, and in which the necropsy discovered a sarcomatous tumour occupying the first and second occipital convolutions, the posterior half of the superior and inferior parietal lobes, and, on the mesial surface, the cuneus and the præcuneus. Other authors, too, have recorded occipital tumours with similar symptoms.

A very remarkable visual defect is that known as mind-blindness, or loss of visual memory—blindness, we may say, of what has long been known as "the mind's eye." Sight in the ordinary sense of the word—the reception of the retinal images by the visual centre—is unimpaired, but the psychical realisation of the retinal images is not effected. The objects are seen, but the sight of them suggests no corresponding idea in the patient's mind.

We are acquainted with several varieties or degrees of this symptom. In a well-marked case the patient may be unable to recognise the streets of the city in which he has been resident for many years, and will feel as if in a strange place; he may not know his own hall door. He may be unable to distinguish his wife from his mother, and his children may appear as strangers to him. He will be unable, when away from them, to recall to his mind's eye the appearance of the places and people that have been familiar to him all his life. Yet such a man will be perfectly capable, so far as his other intellectual faculties are concerned, of transacting business, and of entering into the enjoyments of life.

In a case which I brought before this Society five years ago, mind-blindness of a partial character was one of the symptoms; although at the time I did not sufficiently direct attention to it, for I did not myself understand its significance. The case is recorded in our *Transactions*[40] as one of hemiachromatopsia; but it was partial mind-blindness which brought the gentleman, aged 77, to me. Five months previously he had had a slight apoplectic attack, and he came complaining that ever since then he could not see people properly, although he saw everything else as plainly as ever. Then he expressed himself differently, and said

[37] Bd. xxxiii, 3, p. 93.
[38] *Loc. cit.*, Bd. iii, p. 335.
[39] *Lancet*, 1879, Vol. i, p. 363.
[40] *Loc. cit.*

he did see people indeed, but did not know them, even when near to them. His own wife he would pass in the street, and if she stopped him, he would look straight in her face, she told me, without any expression of recognition in his until she spoke, and he then at once knew who it was. He said that although he saw me at that moment quite plainly, yet if he met me unexpectedly five minutes later, my appearance would be as new to him as though he had never seen me before; but he always identified people when they spoke. He was hypermetropic 1.5 dioptries, and had an acuteness of vision of $\frac{6}{12}$. With the exception of some peripheral cataract, his eyes were organically sound. In the course of the functional examination I discovered the hemiachromatopsia, which afterwards formed the main subject of my communication, although in my paper I did mention his difficulty of recognising people, and stated that I regarded it as a disturbance of a cerebral function. In addition to the difficulty of recognising well-known faces, the patient only complained of a confusion of ideas, when he made an unwonted mental effort. He did not tell me anything about colour-blindness, until he saw that I was going to test his colour-sense, and then he said he had found it most difficult to distinguish colours since his attack.

Mind-blindness is seen in cases of general paralysis, usually in the advanced stages. In one case under Wernicke's care,[41] and which was examined by Schweigger—where the symptoms came on at an early stage, the patient's intelligence being still good—the remarkable circumstance was noted that, with good acuteness of vision, and without any absolute defect in the field, there were, disseminated over a great portion of the field, a number of relative scotomata, within the area of any one of which, although objects could be seen by the patient, yet he could not recognise them—could not tell what they were. The same objects in other parts of the field he was able, not only to see, but also to recognise. The region of the macula lutea did not correspond to one of these scotomata. Wernicke regrets that the colour-vision in the scotomata was not tested, and it would, indeed, have been interesting to know what its condition there may have been.

The position of the cortical centre for visual memory is still a subject of discussion. Hitherto all the necropsies have been made in cases of general paralysis, and for definite knowledge we must wait for the *post-mortem* examination of a case in which the symptom has been caused by cerebral hæmorrhage. Nothnagel, Wernicke, Wilbrand, and some other writers assign this function to all, or to most, of that part of the occipital cortex which does not form the centre of vision. Gowers thinks it is either in the anterior part of the occipital lobes, or in the posterior part of the parietal lobes; but the latter, he believes, is the more probable. The curious and interesting fact that, in Charcot's case, in a case recorded by Quaglino, in one by Landolt, and in my own case, a derangement of the colour-sense came on simultaneously with mind-blindness seems strong evidence in favour of a localisation of visual memory very close to the visual centre. My case is, perhaps, of special importance in this connection, as the lesion was evidently of slight extent. Cases, too, are on record in which absolute hemianopsia accompanied mind-blindness. I should, therefore, be inclined, in the absence of a conclusive necropsy, to localise this function very close to the centre for vision, probably in the occipito-temporal lobe.

Gowers thinks that when mind-blindness results from disease of one hemisphere, it is probably transient; but my case, where the lesion was evidently in the right hemisphere, and where, even when I first saw the patient, the symptom had lasted five months, does not support this view.

It would seem that mind-blindness may be a distant symptom, for Wilbrand records a case in which it appeared to have only this significance.

I must here refer to a case reported by Dr. Macewen, of Glasgow, in his remarkable address on "The Surgery of the Brain and Spinal Cord," delivered at the last meeting of the British Medical Association.[42] A man, who had received an injury about a year previously, suffered from deep melancholy and strong homicidal impulses, which were relieved by paroxysms of pain in the head of indefinite seat. The only localising symptom Dr. Macewen could obtain was mind-blindness, which had been present immediately after the accident, and for about two weeks subsequently. On operation, the angular gyrus was exposed, and it was found that a portion of the internal table of the skull had been detached from the outer, and had exercised pressure on the posterior portion of the supra-marginal convolution, while a corner of it had penetrated and lay imbedded in the anterior portion of the angular gyrus. The bone was removed from the brain and reimplanted in proper position, after which the patient became greatly relieved in his mental state, though still excitable.

Dr. Macewen thinks, that the definite localisation in this case will assist in indicating, in man, what function the anterior portion of the angular gyrus and the posterior portion of the supra-marginal convolution subserve. The brilliant result obtained places the case almost beyond the region of any criticism; and yet I cannot help expressing the view that Dr. Macewen ventured a good deal here in adopting the mind-blindness as a localising symptom. The fact that it was present immediately after the accident for only a fortnight, although in marked degree, would raise a strong suspicion that the mind-blindness may have been a distant symptom, and nothing more. Again, I do not quite agree with Dr. Macewen in thinking his case conclusive as to the function of the injured convolutions. If visual memory be their function, why was it so completely destroyed in the first fortnight during which the lesion existed, and completely restored from that time on, although the lesion remained for a year afterwards? The centre for visual memory may, indeed, reside in the angular gyrus; but I hardly think Dr. Macewen's interesting case can be taken as a proof that it does reside there.

Word-blindness, or alexia—loss of the power of understanding printed or written speech-symbols—is held by many to be nothing more than partial mind-blindness. Gowers, Wernicke, and Wilbrand are of this opinion, and all these authors, as well as Ferrier and Broadbent, localise the lesions which produce the symptom in the angular gyrus of the left hemisphere. Nothnagel,[43] while he localises the centre for visual speech-symbols in this same region, dissents from the view that word-blindness is to be included in mind-blindness; and the fact that in some well-marked cases of mind-blindness there was no word-blindness might seem to support this view. But, if the centre for visual memory of every kind, except that for printed and written speech symbols, is situated in the occipital lobe, as Nothnagel himself holds, there is no reason why word-blindness should accompany mind-blindness, unless in those cases in which the lesion extends to the angular gyrus. The fact that word-blindness may exist without mind-blindness is, for a similar reason, no argument in favour of Nothnagel's opinion.

A good many cases of alexia with right hemianopsia have been recorded, and a natural explanation of this combination of symptoms is supplied by the proximity of the centre for vision to the angular gyrus. Indeed, some authors go so far as to state that hemianopsia is present in all cases of word-blindness. It is interesting to note that there is one case, reported by Dr. Borel,[44] in which, in a right-handed person, word-blindness along with mind-blindness accompanied left hemianopsia. And Landolt[45] has placed on record a case of right hemiachromatopsia in which there was word-blindness.

I may be permitted to briefly refer to a peculiar variety of alexia which has been seen in two cases, although we cannot at present utilise it for the purposes of localisation. One of these is reported by Brandenburg.[46] The patient, who was also affected with right homonymous hemianopsia, was unable to read any printed or written letters or words, yet he could read off with ease long numbers reaching to tens of thousands in Arabic characters. In the second case—quoted by Brandenburg—Joly[47] observed the same power of reading Arabic numbers, while the power of reading words and letters was lost.

I do not know that alexia has been seen as a distant symptom.

The remarkable symptom termed dyslexia was first described by Berlin.[48] He has observed it in six cases, and Nieden[49] and Bruns[50] have each recorded one case of it. The patient is unable to read more than a very few words consecutively, either aloud or to himself, owing to a feeling of dislike or disgust which suddenly invades him, and which he cannot overcome. After he has read a few words, which he can understand well, he pushes the book away, or hands it to the surgeon,

41 *Loc. cit.*, Bd. iii. p. 552.
42 JOURNAL, August 11th, 1888.

43 *Verhandlungen des VI Congresses für Innere Medicin zu Wiesbaden, 1887.*
44 Landolt, *loc. cit.*
45 *Loc. cit.*
46 *Loc. cit.*
47 Amnesie et Cécité verbale, *Le Scalpel*, 1183, No. 24, p. 147.
48 *Arch. f. Psych.*, Bd. xv, p. 276, and in his monograph, *Eine besondere Art der Wortblindheit, Dyslexia*, Wiesbaden, 1887.
49 *Arch. f. Augenhlk.*, Bd. xviii. p. 162.
50 *Neurolog. Centralbl.*, Nos. 2 and 3, 1888.

while he draws his head back, and turns it aside. After a brief interval the attempt may be renewed, but with the same result, when a few words have been read. There is no dimness of sight, defect of accommodation, or pain in the eyes or head to account for the symptom. It usually comes on suddenly, and is the first sign of serious cerebral disease, being soon followed by other symptoms, such as headache, giddiness, aphasia, hemianopsia, hemiplegia, and so on. All of these cases have ended fatally. The details of the necropsies, in those cases where they were obtained, leave much to be desired. In every instance the lesion was on the left side of the brain, the patients being all right-handed. The disease seems to have occupied chiefly the inferior parietal lobule, extending sometimes as far forwards as the inferior frontal convolution, and sometimes as far backwards as the angular gyrus. It is evident, however, that we must be content to wait for more definite information with regard to the usual seat of the lesion, before this symptom can be utilised in practice for the purposes of localisation.

In crossed amblyopia—in which the eye on the side away from the cerebral lesion is almost blind, with very contracted field, while the field of the other eye is also contracted, but in a less degree—the lesion has been found in the lower and hinder part of the inferior parietal lobule.

I must mention that so distinguished an author as Nothnagel, writing about a year ago,[51] expressed his doubt as to the occurrence of crossed amblyopia. He does not think the perimetric examinations have been made in these cases with care sufficient to exclude the possibility of their being examples of incomplete hemianopsia. Nothnagel does not offer any experience of his own, and I am slow to think that observers like Ferrier, Gowers, and Sharkey could fall into such error.

In conclusion, with reference to optic neuritis, it is merely necessary to state that it has practically no localising value; nor should I think it is necessary even to do this much but that, in some recent cases of brain surgery, it seems to have been tried to utilise the optic neuritis for localisation. Optic neuritis occurs in most cases of intra-cerebral tumour, irrespective of the seat of the disease.

And now, gentlemen, I have come to the end of this lecture, and have not as yet made any reference to that distinguished man in whose honour I have the honour to address you. But, I do not believe you could wish that we should separate this evening, without your having heard from me some expression of the esteem in which we hold Sir William Bowman, nor will I be guilty of such an omission. And here I might dwell upon Bowman's scientific attainments, upon the good work he did in years gone by—not alone in ophthalmology, but also in physiology—upon all this Society owes to his prestige and to his generosity, upon his clinical knowledge and his operative skill, and upon many another topic which his name suggests. But I prefer to remind you of the high standard of professional life he has shown us, a standard which we of a younger generation must endeavour to maintain. Conscientious in his relations with his patients, honourable in his relations with his professional brethren, careful not to put himself forward in any unrecognised manner, not seeking notoriety, simple, kind, courteous, dignified, William Bowman is presented to our mind's eye as the personification of the best of those qualities which go to make an English gentleman. We are indeed privileged in being permitted during his lifetime to offer some tribute to his distinguished scientific merit; but, while recognising how much we owe to him scientifically, I think, and I believe you will admit, we should not forget how much his every-day professional life has tended to give to the noble speciality he adorns that high tone which belongs to it. Our sincere hope is that Sir William Bowman may long live to enjoy the honour conferred on him by his Queen, the love of those who are dearest to him, and the warm, heart-felt esteem of this Society.

[51] Congress für Innere Medicin, Wiesbaden, 1887.

REGULATION OF THE SALE OF CARBOLIC ACID.—From the report of the meeting of the Council of the Pharmaceutical Society of Ireland, it is seen that the subject of accidental poisoning by carbolic acid has again been under consideration by that body, and that, in pursuance of the view taken with regard to it on a previous occasion, it has been resolved to urge again on the Privy Council the desirability of adding carbolic acid to the poison schedule. The proposal to do so met with the approval of the King and Queen's College of Physicians in Ireland in 1882.

GENERAL SUMMARY
OF
CONCLUSIONS FROM A SECOND SERIES OF ONE THOUSAND CONSECUTIVE CASES OF ABDOMINAL SECTION.

Read before the Birmingham and Midland Counties Branch.

BY LAWSON TAIT, F.R.C.S., LL.D.

Professor of Gynæcology in Queen's College, Birmingham; late President of the British Gynæcological Society; Honorary Consulting Surgeon to the Brooklyn Hospital for Women; etc.

WHEN I had the privilege some four years ago of communicating to this Society the results of my first series of 1,000 consecutive cases of abdominal section, I said that I did not know whether the general death-rate, 9.3 (the figures ought to have been 9.2, the fractional increase being an error), was high or low, for no such series had up to that time been published, nor have I seen such a series since. I thought the figure must be high, and I expressed my conviction that if I lived to complete another such series the death-rate would be very much lower, and it is with no small satisfaction that I can record a diminution from 9.2 in the first series to 5.3 in the second. I pointed out that as my first series included my early work, which had been so heavily tainted by the mortality of clamp and other blunders arising from the traditions of the elders, the mere freedom from these alone ought to give me far better results. That this prediction has been completely verified is certain, from the mere fact that my mortality in the treatment of ovarian and parovarian cystoma has fallen from 8.1 to 3.3. But that by no means represents the full gain which I can point out, for in this class of cases I had, in my previous series, a large group of uncompleted operations with a mortality of at least 50 per cent., and these have now practically disappeared. They were cases chiefly of sessile ovarian tumours and imbedded cysts of the broad ligament, the removal of which I always now complete, and thus at once diminish my mortality together with that greatest of all opprobria, imperfect work. I am now in a position to say that no cystic tumour of the abdomen exists which cannot be removed, and this is quite as true of solid tumours of a non-malignant character associated with any organs in the abdomen except the liver and spleen, and I lay far less stress upon my diminished death-rate as evidence of the improvement of my work, than upon the fact that in my second series I have only to plead guilty to 6 uncompleted operations in 1,000, whereas in my first series the number was 30, with the same mortality in each—50 per cent. Even in these six I know now, for *post-mortem* examination revealed the fact, that I could have finished the operations in at least two, perhaps in three, if I had screwed my courage up to a still harder strain, and I blame myself accordingly.

I therefore lay it down as an axiom that a man who has a large proportion of unfinished operations is a bad surgeon, worse than one with a high mortality. I may here again assert that I never in any way select my cases or refuse to operate in such as look unfavourable for any statistical results. This diminution of incompleted operations may, I think, be fairly and entirely put down to increased experience, giving greater readiness of resource, better judgment, and increased manual dexterity; and to some extent the diminution of the death-rate may be credited in the same direction. But I am proud to be able to say that there is certainly another factor which enters largely into this increased success, and that is the fact that the mind of the general profession is now rapidly freeing itself from the shackles of the ancient authorities of abdominal surgery, and is opening itself to the new rules of progress. The most important of these are two: first, that the principles which govern our actions in general surgery must apply to the abdomen; and the second is that no doubt or difficulty of diagnosis should stand in the way of adopting that

means by which the diagnosis is at once made clear, and successful treatment rendered possible by means of abdominal section.

In our Birmingham and Midland district these rules have received an almost universal acceptance, and it is only from outside places now that we get cases which are a disgrace to our art. The day has now come for very plain speaking on this subject for very many reasons, some of which I have repeatedly urged on former occasions, and a few others which are new. Of the former I may cite one. Do we not invariably urge a woman who comes to us with an abscess of the breast to have it opened without delay? If so, why should we not deal on the same principle with a woman who has an abscess in the pelvis? We might just as well treat the former with a splint as the latter with a pessary, and this kind of nonsense is one I could illustrate afresh every week from my practice.

A rule was introduced by Sir Spencer Wells some thirty years ago, and is maintained stoutly yet by his followers, that an ovarian tumour should not be removed as long as the woman can go about. On the contrary, the rule which I have advocated for the last ten years is that the time for the removal of an ovarian tumour is as soon after the time of its discovery as is possible.

What would be thought of us if we told our patients with enchondromata of the thigh, or sarcomata of the jaw, or lipomata of the neck, or aneurysm of the femoral, to nurse and treasure their troubles as long as they could go about? What would we say of a physician who, when he discovered an incipient pneumonia, advised his patient to go about as long as he could, and, when he could do so no longer, this physician would come in to treat the case? I ask again and again why the rules of general surgery and medicine should be excluded from abdominal surgery; and I can get no one to whisper an answer; and I show in every series I publish, with increasing emphasis, that early operations mean successful operations, and I am glad to say that nineteen out of twenty of my neighbours agree with me. But what about the others? Let me give two of my most recent experiences on this subject; they both occurred last week. A gentleman who is very amiable and good, sent me a woman in the last stage of exhaustion and emaciation, and he sent me a notice to the effect that he had been attending her for three months, with a lump in her pelvis, that he could not make out what it was, and that, therefore, he sent her to me. I opened the abdomen, and removed a huge putrid fœtal sac, the result of a ruptured tubal pregnancy, a thing that ought to have been removed when this gentleman first saw her. Of course she had no chance of recovery, and died a few hours after the operation. Now, this gentleman's conduct cannot be considered a credit to our profession, and I have in all probability sacrificed his friendship for ever by frankly telling him so. For twelve weeks he went on physicking this poor wretch; and when he sent her to me, she had nothing left to pay for an operation, and was an object of my charity—a subsidiary, but still certainly an element in the case. But, worse still, he secured for me a fatal result, which I do not deserve; and, worst of all, a crime in my eyes, for which there is no forgiveness, he secured for surgery a disaster instead of a triumph. I am speaking strongly, gentlemen, but not more so than I feel; for the advancement of our art depends not more on those who practise such a department as this, than on those who are in the position to give us reasonable chances of success, and that success is essential for all of us concerned in dealing with sick people.

A worse case than this, however, is the second; for the gentleman who sinned as I have described, sinned by an act of omission, and in ignorance. But the second was a sin of commission, based upon that assumed certainty of diagnosis which the inexperienced mostly are guilty of.

My friend and former pupil, Dr. Gowans, of Perth, sent me last week a woman from that city, who brought with her a note dated March 22nd, 1888, and signed "Skene Keith," to the effect—

"The case is probably sarcomatous. I told the husband that he must not hope for a recovery, and told the patient herself that, when the weather got better, she should go out and see if she got stronger. She would be better, I think, with a bottle, perhaps a tonic, or stomach mixture."

The case seemed to me rather one of large ascitic effusion, due to an ovarian tumour jammed in the pelvis, and probably fixed there by papilloma. As she had been tapped twice nothing further was to be got in that direction. With a sort of half hope that I might get the tumour out, I opened the abdomen, and, to my disappointment, found that the omentum, mesentery, spleen, and liver were all fully infected by advanced growths of papilloma, the centre of origin of which was a small cystic tumour of the right ovary, covered by dendritic masses. The tumour could of course, have been removed, and a recovery for a short time would probably have resulted, but no permanent good would have been done, and I might have had to record a death which, had it happened, would have been more fairly credited to Dr. Skene Keith, and therefore I contented myself with an exploratory incision. From the history of the case I think it is perfectly certain that in March there was no papillomatous infection, possibly no papilloma at all. Dr. Keith's diagnosis of sarcoma is merely an illustration of how completely mistaken we all may be, even the youngest. The blunder consists in his not admitting the advisability of adopting the practice of exploring. Dr. Skene Keith has signallised himself by sneering at some people who open the abdomen on all sorts of pretexts, and his father has bewailed the "restless spirit of abdominal surgery which has lately been let loose," and they both have laid claim to a freedom from errors in diagnosis to which no others have a right. But such a case as this, and it is by no means my first experience, walking in the footsteps of these two conservatives, makes me satisfied in my restlessness. Had this woman's abdomen been opened last March in Edinburgh, as it ought to have been, she would have been another life saved.

It is far better that we should even open the abdomen a few times unnecessarily than that we should deliberately limit the powers of our art in this foolish way.

In my former series there were ninety-four simple exploratory incisions; of these I said that "ninety-four is a large number, but it must be remembered that years ago I advocated exploratory incisions in preference to first tappings, and that I have persistently carried out the practice. They serve the purpose of complete tappings; and as the patients almost uniformly recover, they do not harm at all." The same is true of the present series, and I never tap as a first proceeding, I always explore. In the present series there are only fifty-three of such operations, and this diminution is chiefly, if not entirely, due to the fact that I get the cases earlier than I used to do, so that I arrive at results exactly the opposite of the disaster just narrated in Dr. Skene Keith's case. There are at least thirty cases in this series in which I have removed tumours successfully, and these, had they been delayed, as in his case, would have resulted as in that instance; an argument for early operations and for exploratory incisions which is perfectly unanswerable.

Against the fifty-three exploratory incisions there are recorded two deaths, but these two deaths might be eliminated from the table with perfect fairness, for the operation neither delayed death nor accelerated it by an hour.

I have also to repeat what I said before on this subject, that "occasionally the exploration is followed by drainage, and in some of these cases results of the most marvellous kind have followed, the ascitic effusion has not appeared again," and tumours of spleen, liver, and of other kinds, the nature of which were not ascertained, have disappeared, and the patients have been permanently cured.

I am as far off as ever from any explanation of this extraordinary fact, but as it has received abundant confirmation since I first announced it, it is beyond dispute.

The next group of my series is a lot of 263 cases of operations for chronic inflammatory disease of the uterine appendages, with a mortality of 3.4 per cent., as against a mortality of 5 per cent. in my first series, a diminution due largely to increased experience. Here, too, the absence of mere exploratory incisions and incomplete operations is very marked, for there is not a single case of incomplete operation to be credited to this group. These operations are far more difficult in every way than removal of tumours of any kind, and the deaths are almost entirely confined to cases of broken-down women, the "too-late" cases, as Mr. Bryant well designates them. Since my last paper this subject has been threshed out in numerous discussions, and has even appeared in the law courts, but the confirmatory verdict of the lay, as well as that of the professional, jury, has been in absolute harmony with all I have said on the subject. Useless and diseased organs, incurable by ordinary means, must be removed from the pelvis, just as from other approachable parts of the body; even the lungs are no longer sacred to the "restless spirit of modern surgery." The route of my practice is not governed solely by my own wishes and inclinations. It is far more completely influenced by the judgment of my professional brethren; and the fact that

from all parts of the world these cases have been sent to me in the increased proportion of 263 in this 1,000, to that of 201 in my first series is a convincing proof that the benefits of this proceeding are being fully recognised. I am not concerned in the present paper with the ultimate results of such cases, but I may mention incidentally that these have been materially augmented, and the period of convalescence shortened, since the discovery by Dr. Arthur Johnstone, of Danville, Kentucky—and it is one of my greatest honours to be able to say that he was one of my pupils—that there is a large nerve trunk entering (or leaving) the cornu of the uterus, in the angle between the round ligament and the tube, which seems to have a powerful agency in the process of menstruation. When this trunk is secured in the ligature close to the uterus, the results of the operation are more speedily effected, and are more complete.

I have just received a very strange pamphlet with a very attractive title, *Electricity versus Tait*, surely a subject large enough to attract universal attention. Of the manner in which the author speaks of the defendant in this action, I have no reason to complain, in fact quite the reverse. It is very flattering, and I hope altogether true; but when he speaks of the immediate subject, which is really that of chronic inflammatory disease of the uterine appendages, I feel sure that every skilled reader will come but to one conclusion, that the author has never seen the disease which he professes to cure by electricity. I showed the pamphlet to a skilled electrician a few days ago, and his verdict was that the author did not know what electricity was, or anything about it; yet the following is a quotation from its pages: "In the use of electricity we subdue the local inflammation, promote absorption of hyperplasia and hypertrophy, establish the general health, and produce proper nutrition. In this manner of electrisation we have a means brought to bear upon nutrition, local and general, of such pronounced influence that the result is all that could be desired. By it I have been enabled to carry the class of cases instanced above over the apparent limit of repair; observed thickened tubes and adhesions of long standing disappear, which had resisted every means to overcome them." By such writing as this we are strikingly reminded of Bishop Berkeley and his book on coal-tar water, from which I might reclaim parallel passages; but the famous metaphysician was floored by the concrete example of a sailor's wooden leg. Let our electrolysists try a living limb of flesh. Gonorrhœal inflammations of the uterine appendages are very common, and similar diseases of the large joints are not unknown; they are almost equally intractable. Fortunately in the case of the joints the recovery can be greatly assisted by rest in splints; but we cannot put the ovaries and Fallopian tubes in splints; we have no means of giving them physiological rest short of destroying them. Therefore they are in a far worse position than the joints I speak of. Asking amongst my friends who practise general surgery, I find they say that gonorrhœal inflammation of joints is a most intractable disease, rarely getting well under the most favourable conditions in less than six months, and often extending over years; finally, that a serious proportion of the cases never get well at all, or get well only with stiff, useless joints. Here, then, is Dr. Berkeley's wooden leg. Let us ask our electrolytic friends to take some cases of gonorrhœal elbows and knees, and let us see what they can do. If they cure them, as they say they cure the same disease in the uterine appendages, then we can believe them about the pelvis. But let them remark the contrast: the joints are outside, visible, and easy of observation, whereas the favourite hunting ground of quackery is an obscure, mysterious mucous canal.

One other word about this *Electricity versus Tait*, and I am done with the subject. He assumes, like many other critics, that those of us who deal surgically with the abdomen and pelvis are like Mr. Wemmick, "Here's a church, let's have a wedding." "Here's a something, let's have an operation." So far as I am concerned, this is not so. I have always said that the great bulk of cases of inflammatory disease of the uterine appendages get well without operation, though by getting well we do not necessarily mean that they are cured. All I contend for is that the residuum should not be condemned to live on, hopelessly suffering, whilst there is a *dernier ressort* at our command. When that should be called in is a matter for determination in each particular case, and depends upon conditions which cannot be formulated into laws, varying as they do in importance, even according to the social position of the patient. Electricity may yet prove the means of still further diminishing the number of cases to be submitted to the surgical method, but it does not promise much in the hands of those who have taken it up. Ever since the year 1827, which date indicates, so far as I can discover, the first serious application of the electrical current to the treatment of disease, it has been a source of disappointment to the honest, earnest practitioner, with an exceedingly limited area of exception, whilst it has, on the other hand, yielded an abundant harvest to the pouch of the charlatan.

Naturally enough, this brings me to speak of the treatment of myoma, concerning the electrolytic treatment of which much discussion has taken place within the last two years, since Dr. Apostoli made assertions concerning it which startled the surgical world. To form a judgment on such a subject as this, there are two methods, both of which must be applied: the first, open, it is true, to much fallacy, and the second still fallacious, but much more trustworthy; but they must both be tried to satisfy a mind that is logical. The first method is that of *a priori* reasoning; and when Dr. Apostoli's assertions were subjected to this process, it was found that there were grave initial objections to his statements. In the first place, there was nothing new about his processes whatever. It is true he had a new nomenclature, but that was all; and in not a single essential detail were his methods new. Years before they had been tried, had failed, and had been found to be dangerous. Then it was remembered that Dr. Apostoli had made precisely similar assertions about the process of involution of the uterus after labour. He had asserted that all the evils of subinvolution might be obviated by the electric current, his proposals had received a fair trial, and had been uniformly condemned. Cognisant of all this, when in Paris eighteen months ago, I made very extensive inquiries, and I could find no evidence which induced me even to visit Dr. Apostoli's clinic; for merely to see electrodes applied to patients by a man who had had no experience in gynæcology, who had received most of his training as an army surgeon, could be of no service. I inquired as to what was known to others concerning the ultimate results of patients who had been treated by his methods, and I heard quite enough to make me determine that I should leave this kind of treatment on this side of the Channel to others. I had no desire to complicate my work with such difficulties and dangers as I heard of on all sides, and I was perfectly sure that I should before long find that there were others ready enough to try them. Speedily we had accounts in the medical journals of visits to Dr. Apostoli—Dr. Burton, of Liverpool, and Dr. Elder, of Nottingham, wrote such papers. I have heard of two fatal cases in Liverpool occurring in the practice of Dr. Grimsdale, and in which the treatment was carried out by Dr. Burton. I wrote to Dr. Grimsdale, asking if the statement were correct, but he has not even answered my letter. Dr. Elder has written to me within the last few days with regard to electrolysis: "I am convinced it will not do as much as some of us hoped. In the majority of hæmorrhagic cases, it certainly is an efficient hæmostatic, although the effect is not always permanent. Now and again, in the same class of cases, it signally fails to modify the flow. Rarely under its use a tumour disappears; in a larger number of cases it causes marked shrinking; whilst in some, even with symptomatic improvement, no diminution in size follows. Pain it usually relieves, and in most cases an improvement takes place in the general nutrition. As it evidently will not abolish hysterectomy, I have invented an 'Elder's Clamp,' which I hope you will try." But all that Dr. Elder admits can be secured by easier and safer methods; and, therefore, electrolysis gains no support from his evidence. My colleague, Dr. Savage, also went to see Dr. Apostoli, and wrote a paper on what he was told he was seeing; but he does not try the methods, at least not in hospital practice; and when, at consultations, I have urged him to do so in what seemed to me suitable cases, he merely shook his head with much gravity, and proceeded to remove the uterine appendages.

I have, therefore, received no more encouragement from the second or empirical method of investigation than I did from *a priori* argument, and I have left electrolysis severely alone. My own negative experience has quite justified this action, for it is as follows. Since May, 1887, there have been fifteen patients who have passed through my hands, upon whom the electrolytic treatment has been tried, as a substitute for surgical interference. Three of these have died, of what I do not know. Nine others have returned to me for operation, and have all got well. The remaining three are as yet undecided. In addition to these, I have performed hysterectomy on three patients, who had just before been subjected to treatment by electrolysis; and I have removed

the appendages in four cases which have been similarly treated.[1] I conclude, therefore, that, up to the present, we are still in want of evidence in favour of Dr. Apostoli's claims in this country; and if we take a recent record in Germany, we find all that I urged against it on *a priori* grounds completely confirmed.

It is published by Dr. Brüse, in the *Zeitschrift für Geburts. und Gynäk.*, Band xv, Heft i.

CASE I.—The patient was 50 years old, a multipara, suffering from multiple uterine myomata. Uterus, 12 centimètres in length; the tumour reached to within two fingers width of the umbilicus. She suffered much from pain and irregular hæmorrhage. After a few sittings the pain was eased; the size of tumour and uterus diminished. After thirty-five sittings, uterus 6¾ centimètres; all pain and irregular hæmorrhage had disappeared. Fifteen months later she came again; the pain and tumour had returned, but again disappeared on applying the constant current. After sixteen sittings, uterus 5 centimètres long, and the highest point of the tumour 7½ centimètres from the umbilicus; the patient suffered no more pain.

CASE II.—Patient aged 43, had aborted twice, and suffered from a large uterine myoma, which filled up the pelvic cavity and projected 15 to 16 centimètres above the symphysis. The sound passed 11½ centimètres into the uterus. She suffered from irregular hæmorrhages. After a few sittings the pain was eased, the size of tumour and uterus diminished. After thirty-five sittings, uterus 6¾ centimètres. All pain and irregular hæmorrhage had disappeared. Fifteen months later, she came again; the pain and tumour had returned, but again disappeared on applying the constant current. After sixteen sittings, uterus 5 centimètres long, and the highest point of the tumour 7½ centimètres from the umbilicus; the patient suffered no more pain.

CASE III.—Patient aged 43, had aborted twice, and suffered from a large uterine myoma, which filled up the pelvic cavity and projected 15 to 16 centimètres above the symphysis. The sound passed 11½ centimètres into the uterus. She suffered considerable pain and from pressure symptoms: menstruation regular. During treatment the pain ceased, and the tumour reached 13 centimètres above the symphysis. The patient absented herself for nine months, and came back worse than before. The tumour had grown again, and the uterus measured 12½ centimètres. On using the constant current, the symptoms again abated. After eleven sittings, the uterus was 11 centimètres long; the patient then left my care.

CASE IV.—Patient, aged 29, one child, submucous myoma. The uterus was as large as a four months' pregnancy. There was much dysmenorrhœa and menorrhagia. After one sitting (1½ milliampères), slight pains like labour pains; second sitting (20 milliampères), strong contractions of the uterus, with labour pains, which lasted for two days continuously till the next sitting. Bloody discharge; pieces of tissue (myoma) were passed. A badly smelling discharge came on; the myoma had necrosed and was being cast out. The constant current was applied twice again; the necrotic mass removed with spoon; the uterus drained. Death five days later from septic peritonitis.

CASE V.—Aged 36, nullipara, uterine myoma. Great pain and much dysmenorrhœa. No result after twelve sittings. Hysterectomy was successfully performed.

As a contrast, let me submit a group of 148 cases of removal of the uterine appendages for myoma, with 3 deaths, giving a mortality percentage of 2.03, as against my 99 cases in the former series with a mortality of 7. I have already published in detail (BRITISH MEDICAL JOURNAL, September, 1885) proof of the satisfactory and permanent results obtained from this operation, and have only, in addition, to say that these are maintained. I have, in the two series, to include 247 cases with 10 deaths. Of the 237, I know that 3 have since died of cancer, and that 3 have had hysterectomy performed, owing to the subsequent growth of the tumour, and I know of no other failures.

The next group is that of 88 hysterectomies, with a mortality of 11.3 per cent.—a striking contrast to my previous series of 54 cases with a mortality of 35.7, a result so distressing that I utterly condemned the operation. But, as Dr. Elder says, we are driven to it, no matter what Dr. Keith says! and, if Dr. Keith had not refused to let me see him do the operation, my mortality in this series would have been less than it is now, for he had a method of operating which I did not know, and the knowledge of which at once reduced my mortality enormously. The point was a very simple one. He tied the broad ligaments separately, and stripped them off the uterus. He does not seem to have appreciated the reason of the success of this method, but the explanation is very simple. It prevents occlusion of the rectum by taking off strain. The fact that I have gone so far as to have thirty-one consecutive recoveries from hysterectomy satisfies me that, before long, I shall bring its mortality down to something approaching that of ovariotomy.

I have already said in previous writings all that need be said concerning such operations as cholecystotomy, nephrectomy, nephrotomy, opening and draining pelvic abscesses, and operations for tubal pregnancy. I have nothing to alter and nothing to add.

For the relief of intestinal obstruction, I still prefer to perform enterotomy, rather than make prolonged searches for the seat of obstruction. I have put a group of these cases together; but they have so many divergent features, that no efficient conclusion can be derived from mere statistical display. I propose to make this subject the basis of a special paper to the Midland Medical Society during the ensuing session. Of suppurating peritonitis treated by abdominal section, washing out, and draining, I have to speak in terms of unqualified satisfaction. I have lumped together all the cases, save those that were puerperal, in the same group, for it really is impossible to draw hard-and-fast lines between the acute cases and the chronic. I have operated, in this series, on 26 cases and have saved 22. I say "saved" advisedly, for, without the opening of the peritoneal abscess, they must all have died. The mortality is 15.3 per cent., and in my first series I had 9 cases with a mortality of 22.2 per cent. Here, again, I must plead with my brethren for assistance, and urge that cases of purulent effusion in the peritoneum should be treated by early and efficient drainage, just as purulent effusion in the pleura is dealt with.

In London this operation has been received with much favour, and has had very fair success. In a communication on the subject, Mr. Treves expresses a view which seems to imply that in my practice the operation arose, in a sort of blundering way, in a case which I did not know what I was about; and subsequent writers are, therefore, disposed to give Mr. Treves the credit of introducing this practice. Mr. Treves is quite mistaken about my introduction of the operation, which took place in a case sent to me by Dr. Arthur Underhill in 1879. Dr. Underhill had diagnosed the case completely, and I quite concurred in his view of it; I therefore opened that patient's abdomen, not only knowing quite well what I was about, but with the full intention of relieving my patient, and I was successful. The operation was performed on October 30th, 1879.

Of puerperal peritonitis, I have to speak still with bated breath. I have operated four times, and had only one recovery. But I nearly had two others; and, I believe, if I had obtained twelve hours' start in these two cases, the mortality of my little group would have been 25 instead of 75 per cent.

Puerperal peritonitis—puerperal fever, as it is practically called—is a deadly disease. The recoveries from it are quite fractional. The argument, therefore, for attempting to save such cases by opening or cleansing is surely a strong one, but it must be fairly tried; that is, it must not be left merely to close the scene with. I am strongly disposed to think that, in severe cases of puerperal inflammatory mischief, the chief trouble is in the womb itself, and I am inclined to think removal of the organ in its inflamed condition may be requisite. In any case, the disease is so hopeless when left alone, that any kind of effort seems legitimate.

One small group of cases remains for discussion, as it is full of interest; I mean those in which the pregnant uterus was amputated because it was impossible to remove the child by the natural passages. In my life I have three times performed the

[1] The only case in which I have seen pronounced benefit has been derived from the treatment of electrolysis, and is one which occurred at the hands of Dr. Apostoli himself. It was a case of subinvolution and chronic metritis, with the invariable retroversion of the uterus, accompanied by chronic catarrh of the endometrium. This lady went over to Paris, and had, according to her own account, thirty-one applications of the electric current, several of which were conducted under an anæsthetic. Of course she does not know exactly what was done, but she tells me that the treatment was so severe that nothing would induce her to undergo it again. It occupied five months, and cost a very great deal of money. Now such a case as this could be, and certainly in my practice is, invariably cured by the simple process of dilating and curetting the uterine cavity, and applying Paquelin's cautery freely to the inside. This proceeding is absolutely devoid of risk; nothing in the least approaching anxiety has ever been experienced in an enormous number of cases I have successfully treated. The pain is infinitesimal, and only one sitting is required. The cost is a mere bagatelle. I do not see, therefore, that the electrolytic treatment can be accounted in any way an advance upon the treatment by curette and actual cautery; in fact, it is entirely the contrary.

old Cæsarean section, and the mother died in every case. In a fourth case, seven years ago, I did exactly what Sänger claims as a new operation, and I removed the appendages to prevent future impregnation, but the patient died. I put all these deaths down to the fatal influence of the "puerperal condition," but it is clear that that explanation is nonsense, for I have now done four operations on the principle laid down by Professor Porro, and all the mothers have recovered, and the children have all lived. The operation I perform is certainly not Porro's operation, for I have altered nearly every detail; but the discovery of the new principle—that of removing the uterus to save the mother from the fatal effects of suppurative metritis, and the possibility of having the same trouble over again—is the credit of my friend Professor Porro. I prefer to give the operation the name of no particular person, because men's names attached to operations are always productive of misunderstandings, quarrels, and confusion. I indicate the principle by calling it "amputation of the pregnant uterus," every word of this term being fact, and not theory.

Analysis of Series.	Cases.	Deaths.	Mortality.	Mortality of previous Series.
			per cent.	per cent.
Exploratory incisions	53	2	3.7	2.1
Cystoma parovarian	24	1		
,, of one ovary	158	6	3.3	8.1
,, of both ovaries	78	2		
Enucleation of cysts of broad ligament	12	0		
Removal of appendages for myoma	148	3	2.03	7.0
Removal of appendages for inflammatory diseases	263	9	3.42	5.0
Removal of appendages for deformity	2	0	0.0	0.0
Hysterectomy	88	10	11.3	35.7
Opening and draining pelvic abscesses	6	0	0.0	0.0
Hepatotomy	5	1	20.0	0.0
Cholecystotomy	28	2	7.1	0.0
Nephrectomy	12	2	16.6	0.0
Nephrotomy	24	1	4.16	0.0
Ruptured tubal pregnancy	28	1	3.57	9.0
Hydatids of peritoneum	4	0	0.0	0.0
Tumours of omentum and mesentery	2	0	0.0	0.0
Enterotomy	11	2	18.18	12.5
Supp. peritonitis, opened and drained	26	4	15.34	22.2
Puerperal peritonitis	4	3	75.0	—
Radical cure of hernia	9	0	0.0	0.0
Amputation of pregnant uterus	3	0	0.0	—
Tumour of abdominal wall	1	0	0.0	—
Resection of cæcum for cancer	1	1	100.0	—
Perityphlitis, removal of vermiform appendix	2	0	0.0	—
Incomplete operations	6	3	50.0	50.0
Cholelithotrity	2	0	0.0	—
	1,000	53	5.3	9.2

This operation, I venture to predict, will revolutionise the obstetric art, and in two years we shall hear no more of craniotomy[2] and evisceration, for this new method will save more lives than these proceedings do, and it is far easier of performance. It is the easiest operation in abdominal surgery, and every country practitioner ought to be able and always prepared to perform it. No special instruments are required—nothing but a knife, some artery forceps, a piece of rubber drainage-tube, two or three knitting-needles, and a little perchloride of iron.

My method of operating is to make an incision through the middle line large enough to admit my hand, and then I pass a piece of rubber drainage-tube (without any holes in it) as a loop over the fundus uteri, and bring it down so as to encircle the cervix, taking care that it does not include a loop of intestine. I then make a single hitch and draw it tight round the cervix, so as to completely stop the circulation. I give the ends of the tube to an assistant, who keeps them well on the strain, so as to prevent the loose knot from slipping, the reason of this being that should there be any bleeding and any necessity for further constriction, I could secure this in a moment, without undoing any knot, and the simplicity of this method greatly commends it. I then make a small opening in the uterus, and enlarge it by tearing with my two forefingers, seize the child by a foot and remove it. I then remove the placenta, and by that time the uterus has completely contracted, and is easily drawn through the wound in the abdominal wall. The constricting tube will now probably require to be tightened, and the second hitch of the knot may be put on at the same time, and the work is practically done. Stuff a few sponges into the wound to keep the cavity clear of blood, and pass the knitting needles through the flattened tube and through the cervix, and in this simple way a clamp of the most efficient kind is at once made. The uterus is removed about three-quarters of an inch above the rubber tube. The usual stitches are put in, the wound closed round the stump, which, of course, is brought to the lower part of the opening, and then the stump is dressed with perchloride of iron in the usual way.

The operation takes far less time to perform than it takes to describe, and as there is hardly any possibility of complications, it is one of the simplest operations that can be undertaken, and must always be pretty much the same; for this reason no one need be in any fear about undertaking it, for in the absence of variation in the difficulties to be encountered, it differs entirely from any other operation in abdominal surgery. If performed before the patient has been mauled about by ineffectual attempts to deliver, its mortality will be no greater than that of ovariotomy, and the arguments in its favour against all alternative proceedings are, first, that it cannot be more dangerous to the mother than most of these are, that it saves the life of the child, that it prevents the unfortunate mother from again being placed in a similar condition, and it certainly has the great advantage over alternative proceedings having a similar object, that its great simplicity, as contrasted for instance with operations proposed by Thomas, Müller, and Sänger, will make it possible for the country doctor, less experienced in surgery, to perform it without hesitation. These complicated and difficult proceedings may have their advantages, though I confess I do not see them, but they will be left for the hands of experienced specialists. The operation I have described will be the operation of emergency, when only the resources of general practice are at hand.

[2] Save for hydrocephalus.

PRESIDENTIAL ADDRESS
ON
THE PROGRESS OF LARYNGOLOGY.

Delivered at the First Meeting of the British Laryngological Society, on November 14th, 1888.

By Sir MORELL MACKENZIE, M.D.Lond.,
Consulting Physician to the Hospital for Diseases of the Throat, Golden Square; late Physician to the London Hospital.

Gentlemen,—My first duty on taking possession of the presidential chair to which your suffrages have called me is to thank you for the high honour which you have conferred on me. I consider it much more than a mere honorary distinction to be chosen to preside over such an assembly as this. To be the first president of a Society numbering among its members the foremost workers in the field of medical science to the cultivation of which my own professional life has been devoted, is a dignity and a privilege peculiarly gratifying to me. It will be my endeavour to justify your selection by striving to be something more than a figure-head—ornamental, or the reverse—as presidents have been sometimes known to be.

In discharging the duties of my office, I have to think, not like certain great monarchs, that the eyes of my predecessors are on me, but that I am setting an example and establishing precedents for my successors. The Society whose formal entrance on life we are met here to-night to celebrate is, I feel, destined to play a most important part in the furtherance of our knowledge of diseases of the upper air-passages, and of our ability to prevent and cure them. But the scientific work which it will perform, valuable as that cannot fail to be, is not its only title to independent existence. Our Society embodies in concrete form the development and tendency, the efforts and aspirations, of laryngology. It gives a "local habitation and a name" to the speciality such as it has never yet had before the public eye in this country. The Laryngological Association supplies a bond of professional union among throat specialists in the United Kingdom which has hitherto been wanting. It has, therefore, a double function—the advance of laryngology, and the promotion of proper *esprit de corps* among its professors. Under both these aspects the Society will, there can be no doubt, be of the greatest use to the younger generation of specialists; and I, as representing

the older race, who had to fight their way to professional recognition without these advantages, now bid God-speed to the youngest of the medical societies of London.

To us veterans the successful establishment of the Laryngological Association is doubly satisfactory, as it is, if I may say so, a monument of our past labours as well as an earnest of future progress to be achieved by younger toilers. A very few years ago such a Society would have been impossible, not from the lack of objects of scientific activity, but from the want of men. Twenty-five years ago throat surgery was in the hands of anyone who chose to "swab out" the larynx, or, to speak more exactly, the upper surface of the epiglottis, with nitrate of silver. But the invention of the laryngoscope created a new era. The new speciality, of course, became at once a target for the *francs-tireurs* of the medical press to shoot at. The profession would probably have heard of a new religion with equanimity or of a new vice with interest, but a new speciality was a thing which would not be tolerated.

I shall not indulge in the harmless amusement of flogging a dead horse for your edification. Specialism needs no defence at my hands, and, besides, I have already said all that I care to say on that matter elsewhere. As for our own speciality in particular, it has had the ordinary fate of every great improvement in the healing art since medical corporations have been in existence. The laryngoscope was at first ridiculed as a "toy," then declared to be useless, and finally it was gravely stated, in a leading medical journal, that "without its use throat diseases were perfectly well treated in every general hospital in London." How great a change has taken place since that time can best be estimated by the presence of the distinguished assembly which I have now the honour of addressing. There can be no doubt that laryngology has ceased to be the "poor relation" which it was once thought to be—it is no longer the Lazarus feeding on the crumbs that fell from the table of the medical Dives who had taken all disease to be his province. It has forced its way to its proper position, and now carries its head as high as any of its sister specialities. It appears to be even in danger of becoming fashionable—at any rate the number of its votaries has lately been increasing and multiplying with a rapidity which makes one inclined to wonder, with Abernethy, "What is to become of them all?"

But however bad for the individual the crowd of competitors may be, it is an unmixed benefit for suffering humanity, for science, and, let me add, for this Society. We do not dread the increase of the laryngological population, nor wish for any Malthus to teach us how to check it; in whatever numbers they come we can find room for them all, and we shall be glad to accept not only their subscriptions, but their contributions to our funded capital of knowledge. Nor do we wish to confine our membership exclusively to specialists. We are ready to welcome all who are interested in the subjects which interest us, provided they are serious workers who can help us in any way. We are specialists in no narrow sense, but wish to cultivate our own corner of the field of medicine with every kind of assistance that may be available. *Fiat lux* is our motto, from whatever quarter the light may proceed; we are not, I hope, so foolish as to accept no other source of illumination than the laryngological lamp.

That the establishment of this Society marks an epoch in the progress of our speciality will not, I imagine, be denied by anyone whose mental vision is unblurred by personal prejudice. The objections which have been raised to its creation in certain quarters are so trivial as hardly to call for serious notice. Thus we are assured that there is no need for our Society, because the British Medical Association was this year graciously pleased to assign a separate Section, at its general meeting, to laryngology. But even supposing that this arrangement were permanent, can it be seriously contended that what I may, perhaps, without too much irreverence call a "scratch" assemblage of specialists, held during three days in the year in the midst of every sort of temptation to pleasure-making, is sufficient for the discussion of matters interesting to members of our fraternity, for the interchange of scientific ideas, the ventilation and criticism of new theories, the demonstration of new methods of diagnosis and treatment, the exhibition of new apparatus, and the manifold purposes which can only be fulfilled by personal meeting and debate? The suggestion is, I venture to say, one of the worst insults that has ever been offered to laryngology, for it implies that the subject is so narrow as to require only a few hours for the adequate report of the progress made in the foregoing year, with full discussion of all the points involved therein. It is understood that our speciality was constituted an independent Section this year in recognition of the excellent work which was done in the Laryngological Subsection last year in Dublin; but different counsels have already prevailed, and next year laryngology is to be combined with otology at Leeds, an arrangement equally inconvenient to two sets of specialists.

No one has a warmer appreciation of the British Medical Association than I have. There is certainly no medical organisation which has done so much good during the past fifteen years as it has done. Every member must feel proud of the JOURNAL, and many of us must look back with pleasure to the great annual medical assemblies we have attended. I myself have the greatest reason to be grateful to the Association, as some of my earliest and most enduring friendships were formed at its pleasant gatherings; but this does not blind me to the fact that such a body is very unsuited to control the destinies of a great and important speciality; so far from the British Medical Association giving us advice, there are many of us who could give very useful advice to the Association. Twenty-five years ago, when I first began attending the annual meetings, there were no lectures at all. The members met in one large hall, and the papers that were read were of a character calculated to interest the whole medical profession. Those who wished to hear certain papers attended the meetings, and those who did not think they should be edified stayed away, but now, owing to the fact that interesting subjects are read in different sections at the same time, those who attend the annual meetings are very frequently prevented from being present at discussions which they would like to attend. Indeed, the multiplication of sections and subsections has, in my opinion, enormously diminished the usefulness and interest of the annual meetings. It may be desirable, or even necessary, to recognise such broad distinctions as surgery, medicine, and perhaps obstetrics, but I feel sure that a large number of the profession must agree with me that the undue multiplication of sections is a great drawback. I recollect once attending a meeting of an Otological Section. There were six gentlemen in the room; these consisted of the President, Secretary, the reader of the paper, and the gentleman who was apparently present to oppose him (all these four were London practitioners); there were also two young gentlemen who looked as if they were attending a preliminary course of instruction at the provincial hospital before coming to London, and I was myself the seventh victim. After waiting a few minutes and hearing a discussion on the ever-fertile subject, catarrh of the middle ear, I was hesitating as to how I would leave the room without hurting the feelings of my London friends. Signs of distress were actively shown when I made preparations for departure, and the President, a distinguished London aurist, even said, in a stage whisper, "Don't go; there is something very interesting coming on." I yielded to the blandishments of the President, but after another ten minutes, the reader of the paper not seeming to be making much headway, I withdrew, my example being followed by the two young students, who seemed extremely grateful to me for having given them a lead. This is, I believe, a very fair specimen of a meeting of one of the minor Sections of the British Medical Association.

In any case, these homely little parties do not give the laryngologists of the United Kingdom anything like the opportunities of personal intercourse, or of that attrition of mind with mind which are essential to progress.

What, after all, is the advantage of scientific gatherings of all kinds? Is it not to make workers in the same field acquainted not only with each other's labours, but with each other's person and character? A man's theories can be read, and the value of them can be gauged to a certain extent by the written words, but adequate allowance for the "personal equation" can only be made by those who know the man in his mental habit as he lives, his intellectual temper, his general character, and even his physical constitution. This practical knowledge, so necessary for the proper discounting of dogmatic assertions, sweeping generalisations, and enthusiastic anticipations, can only be acquired by seeing the man and hearing his living voice. This is what makes medical societies the greatest instruments of medical progress; the fire of debate separates base metal from true more quickly and more effectually than volumes of printed criticism. Hitherto, laryngologists in England have been almost without the means of judging of each other's quality, and estimating the value of each other's work. It is ridiculous to say that the general medical societies give them sufficient facilities in this direction; it would be just as reasonable to say that there is no need for journals de-

voted to the speciality, because the *Lancet* and the BRITISH MEDICAL JOURNAL can occasionally be induced to publish an article on a laryngological subject. Again, it is quite a different matter to read a paper on a special subject before a general medical society and before a select body of experts. The general society is pleased, no doubt, and possibly enlightened; but it can pass no trustworthy judgment on the work presented to it, which is forthwith buried in the limbo of its *Transactions*, whence it may be years before it is disinterred by some laborious inquirer. Further, a general society is more or less helpless as to the quality of papers on special subjects which may be offered to it. The work of specialists can only be appraised at its true value by their professional peers, that is to say, only by their brother specialists. One not unimportant function of an Association like ours is to winnow the wheat from the chaff, to eliminate the refuse, and preserve the useful matter. Nothing can compensate for the want of the shock of minds which is as the breath of life to scientific societies; and laryngology, no doubt, in this country has suffered from this cause. If our Society does nothing beyond supplying this want, it will amply justify its existence.

The talk about a Laryngological Society leading to "isolation" is the merest claptrap. It is, indeed, the old familiar bogey held up for the terror of the youthful mind in the form of the awful consequences which must follow the divorce of laryngology from general medicine. No laryngologist, so far as I am aware, has the slightest wish to be "independent" of general medicine, any more than the captain of a coasting steamer wishes to be "independent" of navigation. Surely specialists may gather together to compare notes as to details of their work without surrendering the scientific principles which unite them to the general body of their profession. Are members of the Society of Antiquaries in danger of becoming "independent" of general history? Do the members of those highly-specialised bodies, the Shelley or the Browning Societies, run any serious risk of forgetting that there are other poets besides those to whom their chief worship is paid?

These, gentlemen, are the principal objections which I have heard to the foundation of this Society, and it is significant that so far they have only been heard in one quarter; and the voice that utters them has remained without echo, like "the voice of one crying in the wilderness." I need not, it seems to me, pursue the subject further. Whatever objections there may be to its existence, the Laryngological Association has passed beyond the region of argument, and is now a reality which must in future be reckoned with. It remains for all of us to use every effort to make its actual work worthy of the objects for which it has been founded, and of the hopes with which its birth has been hailed.

I fear I have already detained you too long, but I should like to conclude with a few words of advice to my younger brethren, which, coming from one of the pioneers of the speciality (if I may say so without egotism), will, I trust, be considered neither superfluous nor impertinent.

In the first place, I would urgently recommend the younger members of this Association, whilst devoting themselves to our speciality, to continue to practise general medicine or surgery for the first ten years of their professional career. It is impossible that a man can be a really good specialist without possessing a general knowledge of disease; and when I say general knowledge I do not mean such a knowledge as can be obtained in a student's career, or even such as may be acquired by the holding of minor appointments at the termination of the hospital curriculum. What I consider requisite is such a familiarity with morbid processes as can only be acquired by those who are in the habit of using all the resources of their art in combating the great variety of ills which flesh is heir to. In my opinion, only those who have acted as general practitioners for some years, or who have held appointments as physicians or surgeons to general hospitals, are thoroughly equipped for practising as specialists. It is only after thorough knowledge has been obtained in many departments of medicine that learning and experience can be focussed with advantage on a single point.

For those who are thoroughly competent there still remains much work to be done in our special department of medicine. It is true that only a quarter of a century ago our knowledge of diseases of the larynx was limited to what can be derived from the *post-mortem* room, and that the diagnosis and treatment were mere blind groping in the dark. On the other hand, it is hardly too much to say that at the present day laryngology more nearly approaches the position of an exact science than any other division of surgery. Much, however, still remains to be done and, industriously tilled as our small but fruitful field has been, the younger husbandmen whom I see before me may yet hope to reap a plenteous harvest.

A glance at what has been accomplished will best indicate what still remains to be achieved. Whether we examine the pharynx, the larynx, the post-nasal region, or the nose itself, we shall find in each region that many diseases which three decades ago were practically incurable now readily yield to judicious treatment. Chronic follicular disease of the throat, whether exudative or granular, was at the period I refer to so troublesome a complaint that, though patients occasionally "got well," the art of the physician had little to do with their cure. When Horace Green introduced nitrate of silver, it was thought that a great discovery had been made; but those who practised in the early days of laryngoscopy can recollect how frequently disappointment resulted from the use of this agent. Now both forms of this disease—a disease, mind you, of remarkable frequency—can be cured with mathematical certainty. Tonsillitis, if treated in the early stage, can now be readily arrested. Catarrhal affections of the larynx, though still claiming all our zeal and attention, are now much more quickly cured than they were a few years ago, and the greater rapidity with which the normal conditions can be restored in cases of chronic inflammation of the larynx has largely prevented those affections from resulting in benign growths; whilst such tumours, when they do occur, are in most cases quickly removed. When we look at the excellent work of Ryland, published some fifty years ago, we can fully appreciate the progress which has been made in recent times. Careful and sound as Ryland's work is, we see how little was really known. We read of laryngeal polypi eighteen inches long discovered only after death. Of course, the almost inevitable fate of such sufferers was death by suffocation. The laryngoscope has banished such cases from the realm of practice, at any rate in civilised countries.

In the case of laryngeal phthisis, the excellent results obtained by Professor Krause and Dr. Heryng have proved conclusively that this disease can be cured, and I urgently invite the younger members of the Society to follow in the path of those distinguished workers. The methods are undoubtedly laborious, and require the greatest industry on the part of the physicians, but the results are eminently satisfactory. I, who have always been of opinion that laryngeal phthisis was in point of fact incurable, must now admit that the possibility of cure, even in unfavourable cases, has been fully established. Dr. Heryng during the last year has given me the opportunity of seeing microscopical specimens of cured tubercular ulcers of the larynx. Under these circumstances, I feel bound to exhort my younger brother specialists to persevere in endeavouring to cure tubercular disease of the larynx, feeling sure that though further modification may be made both as regards the instruments and medicaments, yet the lode has been struck, and all that we have to do is steadily to work it out. In the case of cancer there is also an interesting field for further investigations, and it is not at all unlikely that pre-cancerous conditions such as have of late years been recognised in the tongue and breast may exist, and that by carefully watching and treating such conditions the malignant tendency may be prevented from passing into an accomplished fact. Again, in spite of the enormous masses of statistics that have been collected, I do not think that the relation of benign to malignant disease is definitively settled. Thousands of negative cases are as nothing compared with one positive case, and so many circumstances have to be taken into account in each individual instance that in this particular matter it is obvious that statistics are hardly of any value.

Laryngeal paralyses have been carefully studied in recent years, but though much has already been effected, more remains behind. It must be admitted that the neuropathy of the larynx is as yet very imperfectly known, a fact hardly to be wondered at when it is considered how little the subtler physiology of the organ is understood. The inquiry is a most difficult one, but this should form an additional incentive to ambitious minds.

In diseases of the nose great progress has been made, especially during the last decennium. A polypus, though still trying all our patience, can be more easily, more completely, and more painlessly attacked than ever it was before. The varied morbid phenomena which have been thought to be not infrequently due to diseases of the interior of the nose have in many cases been traced to their particular sources, and a great number of diseases have been cured which formerly almost defied treatment

Amongst those I must mention especially hay fever and paroxysmal sneezing. In the post-nasal region the cure of adenoid vegetations has resulted in the prevention of deafness to such an extent that there are probably at least 100,000 persons now hearing well who, had it not been for Dr. Meyer's valuable discovery twenty years ago, would be hopelessly deaf. In this region, however, there remains a disease which will tax all your energy and perseverance, all your talents and skill to overcome. I allude to the more severe form of post-nasal catarrh. Any specialist who can discover the means to cure this disease will deserve to rank by the side of Harvey or Jenner!

In your future studies I would especially urge on you not to confine your attention to the graver or more out-of-the-way diseases. I feel convinced that there is a good deal to be done in the somewhat uninteresting region of the minor aphonic ailments. Let me remind you that, however dull such cases may be to the doctor, they are quite otherwise to the patient. It is important, therefore, that even the most commonplace affection should be carefully studied. It is the experience of everyone, I suppose, that such cases, trivial as they are, are often the most difficult to cure. May not this be in part due to the very fact that they are uninteresting? Those who are content perseveringly to interrogate Nature in her everyday dress will, I am persuaded, be fully compensated for such courageous humility.

Let me also point out to my younger *confrères* that our knowledge of the relations of the various constitutional dyscrasiæ, such as scrofula, gout, and rheumatism, with affections of the throat, might be developed with great advantage; at present, it must be owned the sacred lamp of laryngology sheds only a "dim religious light" on those subjects.

Further, I would urge upon you that various methods of treatment should be perseveringly tried, and the results, whether good or bad, honestly recorded. I think there is, in the case of complaints which are generally looked upon as incurable, far too great a disposition to fold one's arms and acquiesce in the inevitable, laying the flattering unction to one's soul that our duty to our patient is discharged by attempting to relieve his symptoms. Thus one never really tries to cure a cancer because one never hopes to be able to do it. Some exuberance of enthusiasm would, I venture to say, be advantageous even in the most hopeless cases; at any rate, I would have the doctor carry on the battle to the last gasp, by every means his ingenuity can devise. It is only in this way that the secret of coping with these terrible diseases will ever be wrested from Nature. For this reason, among others, I would earnestly impress on young specialists the necessity of keeping themselves well abreast of the progress of their department in every particular. Let them not be satisfied with being merely good "practical" men, jogging contentedly through their professional career with only their own experience to guide them. However large a man's opportunities of observation may be, he should remember that, as Johnson said, "An Athenian blockhead is the worst of blockheads," and should make himself acquainted with what is being done and seen by others. By this the mind is kept open, and premature crystallisation, the penalty of routine, is avoided. This Society will give you opportunities in the direction here indicated which your predecessors never had; and I have no doubt you will use them to the best advantage.

If, as a specialist of some length of days, I might hazard a further word of advice to my younger brethren, it would be this—to give your attention mainly to pathology and therapeutics, seeking to enlighten darkness and eradicate error in these important matters. I would earnestly advise you to give your attention to these subjects rather than to the invention of apparatus. One may earn some cheap renown, no doubt, by modifying the mechanism of a snare, or applying the electric light in some slightly novel fashion to laryngoscopy, but an ambition that is satisfied with such triumphs can hardly be called "an infirmity of noble minds."

I have here indicated, in the briefest and most cursory manner, only a few of the points on which independent observation and research will be well employed; but there are many others. Do not allow yourselves to underestimate the importance of the field which you cultivate because it is of limited extent. Small as the larynx is, it is of immense importance, both in itself and in its relations to other parts. These relations can be satisfactorily studied only by the specialist. How often is the existence of grave mediastinal disease, such as an aneurysm or a solid tumour, first disclosed by the laryngoscope? And, conversely, how often is it the means of dispelling the suspicion that some such formidable condition exists by showing that the loss of voice is merely functional? The little mirror may in like manner give the first hint of serious disease in the brain.

Again, in the case of phthisis, do we not know that the laryngoscopist can often detect signs of danger invisible to others, and give effectual warning which may prevent the onset of the disease? Thus, gentlemen, we may, not figuratively but literally, call ourselves watchers by the gate of life; scientific sentinels whose duty it is to note the cloud when it is still no bigger than a man's hand, and sound the alarm. Surely this is no ignoble function, but a field of activity presenting opportunities for brain-work which may well tax the highest powers and satisfy the most ambitious.

Work steadfastly then, whether the subject be recondite or apparently trivial. Observe and test everything, and bring your results here to be criticised by your fellow-workers. This will give a definite method and aim to your clinical studies which cannot fail to be fruitful of good. This is not merely a "counsel of perfection;" it is a duty incumbent on all, even the humblest among us, who are engaged in building the ark of medical science for the benefit of the human race. No man with the opportunity of making even the most trivial original observation has the right to keep it to himself; it must be added to the common store. I do not think I can conclude my address better than in the words of Carlyle, which have a special application to members of such societies as this over which I have the honour to preside: "Be no longer a chaos, but a world, or even worldkin. Produce! produce! were it but the pitifullest infinitesimal fraction of a product, produce it in God's name. 'Tis the utmost thou hast in thee: out with it then!" I will only add that however "infinitesimal" your "product" may be, if only it is honestly come by, we shall be glad to welcome it here.

A NEW AND ONLY WAY OF RAISING THE EPIGLOTTIS.[1]

By BENJAMIN HOWARD, A.M., M.D., F.R.C.S.E.,

Formerly Lecturer on Surgery in the University of New York; Professor of Surgery and Surgeon to Long Island College Hospital, Brooklyn, New York; and Professor of Surgery in the University of Vermont.

THE epiglottis, mysteriously described by the ancients as "standing at the gateway of life," attracted from a very early period a good deal of curious attention and speculation. Concerning its functions Hippocrates wrote, Plato disputed, Galen experimented, but nearly all of them disagreed.

As a factor in apnœa—to which my remarks will be confined—the introduction of anæsthetics gave to the epiglottis a new, familiar, and momentous interest; but, in contrast to the contentions which, down to the time of Magendie and Pinel, continued about its functions, what was taught at first respecting the epiglottis and the method for its supposed elevation in apnœa has been taught ever since, and is everywhere taught now. This teaching, which to-day governs universal practice, is, I think, correctly expressed as follows:—

1. When the unconscious state deepens into the insensitive state called apnœa, the epiglottis falls backwards and closes the glottis.

2. In this condition the elevation of the epiglottis is the first thing in order and in importance, as, without this, respiration, whether natural or artificial, is impracticable and the result fatal.

3. The only way by which the epiglottis can be raised is by means of the tongue; as the tongue is brought forwards the epiglottis is moved upwards.

For the proposed elevation of the epiglottis by the moving forward of the tongue, the great and good Marshall Hall—who, like most of us, must have experienced the frequent difficulty of getting at it—instituted the pronation of the entire patient. In 1856-57 he wrote:[2] "The tongue gravitates forward, and draws with it the epiglottis." In another place, without saying how it is to be done, he writes, that to this end (the raising of the epiglottis) the tongue might be "*drawn* forward." To make the drawing forward possible, Sir James Simpson and Mr. Syme

[1] Read before the Medical Society of London, October 22nd, 1888.

[2] Address to Royal Humane Society, London, 1856. "Prone and Postural Respiration," London, 1857

used forceps, the practice of applying them to the tongue—not at its tip, but as far back from it as possible—being particularly urged by Sir Joseph Lister.

The only suggestion of a doubt even, not of the practice but of the theory involved, was by the quick-sighted Sir Joseph Lister, who from observations upon his own person, and therefore far removed from the conditions of apnœa which we are considering, inferred, and doubtless for sufficient reasons, that traction of the tongue by forceps induced the elevation of the epiglottis in some cases perhaps, rather from the irritation by the forceps and the reflex action thereby excited than by mechanical action. This suggestion was made without any anatomical explanation, and, though offering another theory, was accompanied by a specially emphatic direction to use the artery forceps upon the tongue without delay, and thus rather confirmed than disturbed what I have just stated as the universal practice, and to which the tongue forceps and jaw priser in every operating theatre bear witness.

Having at intervals, for some years past, continued investigations and experiments in connection with the upper air-passages, I will endeavour to submit in the briefest outline I can some things I have found containing lessons of practical importance on the subject indicated, reserving such details as might be wearisome to you for publication in such form that you may read them or leave them, according to your future inclination or convenience.

In making the examinations and experiments I shall refer to, I have been careful to secure the conditions identical with those of complete apnœa, the subjects being used within forty-eight hours after death, and when free from rigor.

In certain of the subjects a fenestrum was made in the throat, which exposed the epiglottis without disturbing it. In others, this exposure was effected by the removal of cervical vertebræ, with corresponding parts of the posterior wall of the pharynx. In others, the sections were made so that from one or the other a view was obtained of each of the parts desired, while avoiding interference with the movements and results to be observed.

I started with no theories; I have none to suggest now; and in submitting just the facts, I guarantee their correctness only as regards the completely insensitive state, except when I state otherwise.

The diagrams before you I made from drawings which I sketched at the time of examination, and from Nature in each instance, and their accuracy will, I think, be in no particular contradicted by the actual dissections before you. By their aid we will consider:—

1. The effect of traction of the tongue; what is done by it, and what is not done by it.

2. A new and only way of raising the epiglottis.

3. Some other important changes in the relations of certain parts of the upper air-passages to each other induced by a position which I call complete extension of the head and neck.

Looking at the structure of the upper air-passages from the cricoid cartilage to the posterior nares, roughly speaking, they are bounded above by the base of the skull, behind by the cervical vertebræ, anteriorly by the posterior nares, hard palate, velum palati and uvula, the base of the tongue, the hyoid bone, the epiglottis. All these are susceptible of motion more or less extensive. The cavity of the larynx does not now concern us, because it is always the same; the arytenoid cartilages are always entirely separate, the chink of the glottis or entrance to the trachea widely open. The upper boundary, by means of the occipito-vertebral articulations and also of the first and second cervical vertebræ, is susceptible to extensive flexion. The posterior boundary is susceptible to moderate flexion at points corresponding to the first and second cervical vertebral articulations, also between the fifth and sixth and the seventh; while between the seventh and the first dorsal the flexion is greater. Between the third, fourth, and fifth there is practically no flexion; the application of force does not flex them beyond a straight line. The susceptibility to extension, on the other hand, is throughout these parts very great. By careful measurement I find that by means of the occipito-vertebral articulation the base of the skull—including, of course, the anterior nares, os palati, etc.—can be extended upon the cervical column about 60 degrees, and that the cervical column can be extended upon itself in all about 30 degrees, giving an aggregate extension of the head and neck of about 90 degrees. The bearing of these facts will appear further on.

In the ordinary supine position, I have found always three anatomical causes of obstruction lying across this upper airway.

The first of these is the velum palati and uvula. Whether the mouth is open or shut, the velum is quite flaccid, its free border inclining upwards and backwards, nearly approaching or resting upon the posterior wall of the pharynx; while the uvula, if long, is curled upon itself, in some instances almost completely closing the airway at that point.

The second is the tongue. Equally, whether the mouth be open or shut, this is invariably found with its dorsum more or less resting upon the posterior wall of the pharynx, the obstruction from this cause as tested by water being sometimes complete.

Third, the epiglottis. This is always found fallen backward over the glottis, its free edge resting upon the posterior wall of the pharynx.

Flexion of the head, in proportion as it is more than that of a right angle with the cervical column, increases the obstruction from each of these causes. This is chiefly due to the fact that as the head is flexed the hard palate descends upon the tongue, pressing it downwards and backwards, wedging the tongue between the hard palate above and the os hyoides and upper border of the thyroid cartilage below. The resistance of the posterior wall of the pharynx in that case causes the tongue to bulge below, pressing downwards still further the epiglottis, causing impaction of the pharynx there, and a bulging above against the velum, making the closure of the pharynx at that point complete. These observations respecting the falling back of the tongue and of the epiglottis are simply confirmatory of what has been stated often enough before. That respecting the velum confirms what was observed by Dr. Robert Bowles, of Folkestone, in 1860.[3] The observations he made respecting the effect he had in some cases observed from opening the mouth seem also to be partly confirmed; but what in a single dissection he thought he observed—that the connections between the tongue and the symphysis were too short to allow the dorsum to reach the posterior wall of the pharynx when the mouth was shut—is contrary to my own observations in every instance. Turning the head on one side, as he recommended, to correct stertor, I found sometimes partially, but in a slight degree, shifted the upward edge of the tongue, but not if the head was flexed at an angle more acute than a right angle.

With this reminder of the anatomical facts before us, we will, if you please, consider:

1. *Traction of the Tongue: What is done by it, and what is not done by it.*—As the tip of the tongue is pulled forwards, the body of it, I need scarcely say, becomes elongated, thinner, and narrower. Next, the dorsum is shifted forwards from contact with the posterior wall of the pharynx. Resistance is now encountered; this is found to be from the frænum linguæ, which is become very tense. Traction being continued, a second point of resistance is met with, this time from the anterior pillars of the fauces, which, in their turn, become quite tense also. Add to the force, and with it a prising motion, and at the expense of the frænum linguæ, which, where it crosses the lower incisors, becomes lacerated, the anterior pillars of the fauces become slightly more tense. Looking beyond, the glosso-epiglottidean folds, by which the force employed upon the tongue has been supposed to be communicated to the epiglottis, will be found, however, to be quite relaxed. If you get larger forceps and pull with greater force, as I have often done, the laceration of the frænum linguæ will be found to increase, the anterior pillars of the fauces to remain nearly as before, while beyond is a dead calm. The relaxation of the glosso-epiglottidean folds still continues as before, while the supreme disappointment of all is this: the epiglottis is seen to be unlifted, undisturbed.

In elucidation of the results described, if a vertical section of the tongue in question be made along the median line, some of the anterior fibres of the genio-hyoglossi muscles will be found to be lacerated. If the traction be now repeated on either of the two sections, the force will be seen to be chiefly expended through the remaining of these fibres, upon the genial tubercles of the inferior maxilla to which they are attached, while the posterior fibres of the hyo-glossi will be comparatively relaxed. I had supposed the posterior fibres of the genio-hyo-glossi muscles, and, still more certainly, the glosso-epiglottidean ligaments, would serve as media by which the tractile force upon the tongue would, in the former indirectly and in the latter directly, be communicated to and draw upward the epiglottis. The reasons for the disappointment, I believe to be chiefly these. In the case of the genio-hyo-glossi, their attachments to the hyoid bone are not so

[3] "Observations on Stertor," *Transacts. Royal Med. and Chir. Soc.*, 1860.

much to its body as to its greater cornua, and though some surviving force did reach these, their elevation would tend to depression, rather than elevation, of the epiglottis. In the case of the glosso-epiglottidean ligaments; while these consist almost entirely of mucous membrane, the few fibres found within their folds have their origin as we know, not in the tongue, but from near the sides of the tonsils; hence a gap where the supposed line of communication between the tongue and the epiglottis is broken and the tractile force is lost.

An experiment which I have many times repeated by way of demonstration is the following. A subject with a large larynx, well exposed by a fenestrum, is firmly held in an erect position, in which it will be noted the glosso-epiglottidean fossa has for its floor partly, and for its anterior wall entirely, nothing less than the fallen epiglottis itself. The glosso-epiglottidean fossa being then filled with water, traction upon the tongue has been made with various degrees of force. In no case has the water been overturned or spilled.

I will now anticipate the question already doubtless in your minds, and will endeavour to show:

2. *A New and Only Way of raising the Epiglottis.*—That the essential condition of life—an open glottis—may, in whatever extremity, be surely maintained, there is a distinct mechanism, superficial, always available, so that, whether by volition, instinct, reflex action, or by the effort of another person, the fallen epiglottis may be instantly, surely, and completely elevated.

The central part of this mechanism is the body of the os hyoides. This is the central link of a three-linked chain. By the lower link, the hyo-epiglottic ligament, the body of the freely-movable hyoid bone, is attached to the freely-movable epiglottis below; while the upper link, consisting of three pairs of muscles, the genio-hyoidei, mylo-hyoidei, and the anterior bellies of the digastrici, proceeding from the body of the hyoid bone, are attached to the body of the inferior maxilla above. Thus, the body of the inferior maxilla above is coupled to the epiglottis below.

As the attachments of these muscles to the inferior maxilla are near and on either side of the median line, where is the greatest range of motion, it follows that, if the head be extended but a certain distance, the chain in question becomes straightened and tense. Beyond this point, however slight the additional extension may be, the epiglottis is raised in unison. Continue the extension sufficiently, and the epiglottis becomes instantly, completely, inevitably erect.

As if in anticipation of the critical emergencies connected with apnœa, this special provision is so strictly mechanical, that whether the extension of the head be by volition, instinct, reflex motion, or by the action of another person, whether in health, apnœa, or after death, the same cause produces beyond prevention precisely the same effect.

If you will allow me to go along this same line but a little further I will next point out—

3. *Some important Changes in the Relations of Certain other parts of the Upper Air-passages to each other, as induced by Extension of the Head and Neck, when carried to its utmost.*—I have already remarked that in the insensitive state, and in the ordinary recumbent position, in addition to the epiglottis, if not of equal importance, there are other anatomical respiratory obstructions, not one of which is without consequence; and for all of which I will endeavour to point out a means of prompt, simultaneous, general correction.

By a series of measurements, I have found, as I have said, that the cervical vertebræ may be extended upon themselves, in all, about 30 degrees; that the occipito-vertebral articulation admits of the head being extended upon the neck about 60 degrees. That is, the head and neck are susceptible of the rather surprising aggregate extension of about 90 degrees, and this by moderate force, in which there is no manner of risk or inconvenience to the unconscious patient.

The correlative changes which are induced in the anatomical causes of respiratory obstruction referred to, as well as those throughout the entire pharynx, by complete extension of the head and neck, are as follows: Posteriorly, the wall of the pharynx, which was horizontal, is now, at its upper and lower parts in particular, bent strongly backwards, and in its general direction is nearly vertical. The base of the skull and the hard palate, which were vertical, are now horizontal. By this extension the naso-pharynx is correspondingly enlarged, and the course of the nares is almost in line with the pharynx.

Anteriorly, this extension of the head acting upon the hyoid bone through the genio-hyo-glossi and mylo-hyoidei muscles in combination with the very strong dragging of the sterno-thyroidei and thyro-hyoidei, pull very forcibly forwards all the rest of the anterior wall of the pharynx, including to some extent the base of the tongue also.

The Tongue and Velum Palati.—Gravitation, which before precipitated the dorsum of the tongue into the pharynx, now precipitates it out of the pharynx and into the cavity of the mouth, the roof of which now forms a floor to receive it. The velum palati, by means of the palato-pharyngei muscles, which have for a fixed point the posterior part of the thyroid cartilage and wall of the pharynx, is pulled from the direction of the posterior wall of the pharynx, the entire membrane being stretched tightly forwards and downwards behind part of the dorsum of the tongue, forming a partition which helps to shut the tongue out of the pharynx and into the mouth where it belongs, and with part of the dorsum forms the anterior wall of a now post-oral airway, thus created and maintained. Thus, in its antero-posterior diameter, the entire pharynx is very greatly enlarged throughout, and the upper airway, which before was a tortuous, angular, flaccid canal, barely and, if at all, uncertainly permeable, is made an enlarged, firm, but slightly curved tube, free throughout, from the glottis to the nares.

This sufficiently completes, I think, the outline I proposed to give of facts observed repeatedly by myself, and verified by distinguished anatomists much more competent than myself to judge of them, at demonstrations made by me at the Royal College of Surgeons of England, at King's College Hospital and Guy's Hospital, London, and at the Hospitals Salpêtrière and La Pitié, Paris.

I am not unmindful of the bearings these facts respectively have on questions of vital importance in daily practice; but the proposed scope of this paper precludes the consideration of them at length from that aspect.

The Way to Make Complete Extension of the Head and Neck.

Having, by bringing the patient to the edge of the table or bed, or by elevation of the chest, provided that the head may swing quite free,

With one hand under the chin and the other on the vertex, steadily but firmly carry the head backwards and downwards. The neck will share the motion, which must be continued until the utmost possible extension of both head and neck is obtained.

The degree of extension to be made simply to correct commencing stertor or irregularity of breathing must in each case naturally be left to the judgment of the operator. Simply shutting the mouth or pushing up a flexed chin may of itself give relief in some cases, because by either of these—as also by jerking forward the angle of the lower jaw, or by turning the head over upon the face—a jarring motion is communicated to the tongue; and by close watching I have observed that, if the head be not too much flexed to allow it, this in some cases causes the occluding tongue at some point in the mouth, but more often in the pharynx, to be slightly dislodged, the water test showing that the airway at that point has thus been slightly opened and is more permeable.

That there may be no possible mistake, however, about the all-important raising of the epiglottis, I wish this to be very precisely and distinctly understood; assuming the mouth to be shut and the inferior border of the inferior maxilla to be at a right angle with the cervical column, as in the average recumbent posture, the head must be continued to be extended from 30 to 35 degrees more before it is possible for the epiglottis to be affected at all. Not until after the skin from the symphysis to the sternum is quite tense do the relaxed muscles in question beneath it become tense at all. These being tense, from this point the elevation of the epiglottis begins. In a nut-shell: Make the line of skin from the chin to the sternum as straight as it can be made, and the complete elevation of the epiglottis is assured.

It is always better to make the extension rather more than rather less than appears to be necessary, because, while an excess can never do any harm, a slight insufficiency might bring to the operator failure, and to the patient death. The further effects of extension, as I have described them, upon the tongue, the velum palati, and the entire pharynx, with the establishment of a free post-oral airway, I wish particularly

to emphasise, cannot with certainty be secured except by making the extension of the head and neck quite complete, as directed.

My discovery of the failure of traction of the tongue to raise the epiglottis was to me only a great disappointment, for I had just been publishing what I thought to be an improved way of seizing the tongue for that purpose.

Over against the facts I have submitted I find is the dictum for which I had almost a reverence, but no counter-facts; for, to my surprise, a thorough search has up to this moment failed to discover a single record in which any observer states that he has himself seen the epiglottis raised by traction of the tongue, or in which any reference is made to anybody who has ever been said to have so seen it. Any other way of raising the epiglottis I could not find had ever been contemplated. In the midst of this dilemma I felt sure there must be some way of raising the epiglottis, and that which I have submitted I confess I did not discover until I had looked not a little.

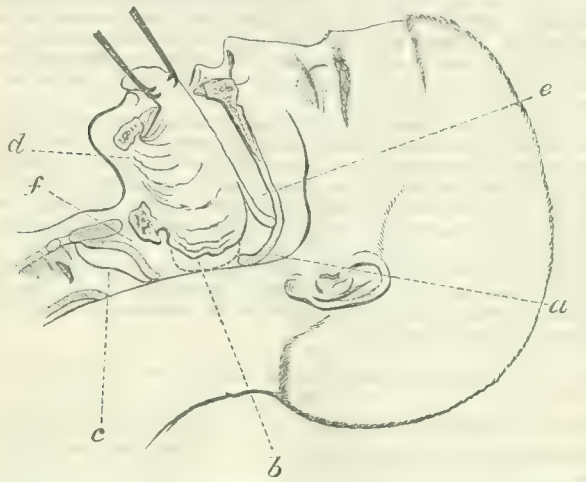


Fig. 1.—The ordinary recumbent position, and the three anatomical obstructions of the airway always found in it, namely, *a*, the velum palati and uvula; *b*, the dorsum of the tongue as indicated by the dotted lines; *c*, the epiglottis, each lying across the airway and against the posterior wall of the pharynx. Traction of the tongue, and what is done by it: The dorsum of the tongue drawn forward from dotted line to thick line *b*; the resistance at frænum and genial tubercles *d*; the further resistance at the anterior pillars of fauces *e*. What is not done by it: The wavy relaxed hyo-epiglottic ligaments *b* are not straightened; hyoid bone below not raised; epiglottis *c* is not lifted.

I have ventured to call this way a new way. I do this not because I pretend to say that never before has the epiglottis been thus raised, but because till now we did not know how to do it. In a prize essay published by the Medical Society of the County of New York—I think in 1866—as well as in my lectures at that time in the University of New York, the position I described and illustrated for the treatment of apnœa is exactly that which inevitably raised the epiglottis; but I did not know it. The "tête-à-bas" position, which Nélaton found so useful in restoring breathing—in which he not only inverted the head, but the entire patient, his motive being hydraulic correction of the cerebral anæmia which he said the chloroform induced, and by which it killed—where it did good, it elevated the epiglottis; but he did not know it.

The swinging by the feet as high backwards and forwards as possible, as I have seen practised on still-born children in Bonn; as also the trick of chucking under the chin, or of seizing and urging forwards the angle of the lower jaw—each of these practices, though done for the only and all-sufficient reason—"the good it did"—effected that good only in so far as it respectively raised the epiglottis. There is no evidence, however, that any of the operators knew it. I know that in 1870 Sir Joseph Lister wrote of pushing up the lower jaw as one of the things which may be tried before using forceps, but he gives no intimation of the way in which it may act to produce that relief beyond what I have already stated, Dr. Robert Bowles, of Folkestone, wrote in 1860,[4] namely, by its drawing forward the tongue, and which, as I have said, a number of experiments by myself have quite failed to corroborate. The dorsum of the tongue, when the mouth is shut, falling against the posterior wall of the pharynx, as much as when it is open. Neither by Sir Joseph Lister nor by Dr. Bowles, however, is the epiglottis once mentioned in this connection.

In this paper my purpose is confined to showing demonstrable facts as I have actually observed them, so I will not discuss the "inference," as Sir Joseph Lister himself calls it, of the suggested elevation of the epiglottis by reflex irritation from the wounding of the tongue, except to remark that I find nothing in the epiglottis itself, nor any direct muscular attachment of it to anything outside of it, by which the always purely passive epiglottis could be thus raised. Its elevation is possible only through the medium of the hyoid bone, by which it is raised, if raised at all, mechanically, and in no other way.

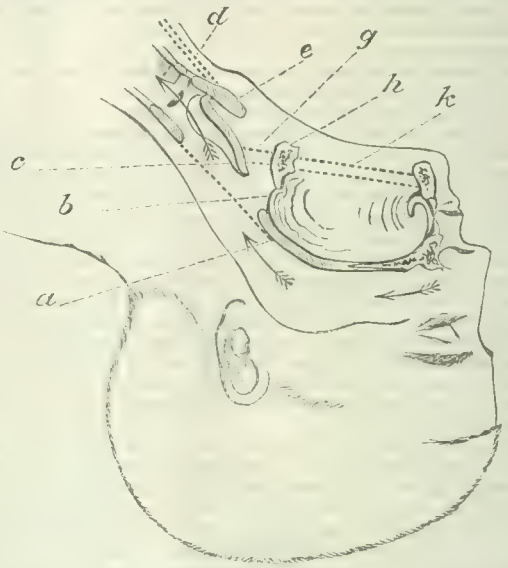


Fig. 2.—Position of complete extension of head and neck. From symphisis of inferior maxilla, genio-hyoidei, mylo-hyoidei dotted lines *k*, tightly pull upward hyoid bone *h*, hyo-epiglottic ligament *g*, and make erect epiglottis at *c*. Tongue rests on horizontal roof of mouth; is further retained within its cavity by velum palati *a*, stretched tightly behind dorsum by dotted lines, palato-pharyngei. Anterior enlargement of pharynx by dragging of sterno-thyroidei, dotted lines *d*, in conjunction with dotted lines genio- and mylo-hyoidei *k*. Antero-posterior enlargement by extension of cervical vertebræ on themselves, greatest opposite glottis *e*. Course of airway shown by upper arrow at posterior nares; post-aural airway at middle arrow; to trachea at lower arrow. The thyroid cartilage, epiglottis, and hyoid bone are much further from the posterior wall of the pharynx, and nearer the surface, and the anterior posterior diameters greater than here represented.

If it be desired to excite the respiratory act by reflex irritation, I am quite unable to understand why the cutaneous peripheral distribution of the nervous respiratory centres, Nature's special provision, should be passed over, and a comparatively inaccessible and less sensitive part should be selected for that purpose.

Any other laryngeal obstruction than those mentioned which seems sometimes to be vaguely implied or hinted at does not, I think, exist, as in the insensitive state I find the arytenoid cartilages are always widely separated, the chink of the glottis completely open.

I have called this way a new way, then, because, with the how and the why in it, this procedure enables us for the first time imperatively to raise the epiglottis, and know that we raise it. I have allowed myself to call this way the only way; but not lightly. That it is Nature's way is plainly seen in the frequently intense trismus, when apnœa threatens death—which in our ignorance we have deemed it imperative, by some means, or by any means however violent, to resist and overcome. Every day this (Nature's way) is seen, too, in the position instinctively assumed by the croupous, the diphtheritic, the asthmatic; in the position taken just before extraordinary efforts by the opera singer, the wrestler, and, too, in that of the dying. That, except through the hyoid bone, any surface procedure for raising the epiglottis is impracticable, I am confident; that it is the only available way known to us, I feel sure; that any way could be more

[4] *Loc. cit.*

prompt is indisputable; that any way could be more simple, it would be hard to imagine. What I have endeavoured to show may be summarised as follows:—

1. Contrary to general belief, traction of the tongue, however and whatever the force employed, does not and cannot raise the epiglottis as supposed, because: *a*. The tractile force supposed to be exercised upon the epiglottis is arrested chiefly by the frænum linguæ, and through the muscular fibres within it is expended upon the inferior maxilla. into the genial tubercles of which they are inserted. *b*. The surviving force is expended almost entirely upon, and intercepted by, the anterior pillars of the fauces. *c*. For any tractile force which might survive, a continuous and sufficient medium for its transmission to the epiglottis is wanting.

Proof.—The glosso-epiglottidean fossa being filled with water while the body is erect, traction upon the tongue, however forcible, does not spill it.

2. The only way by which the epiglottis can be certainly raised is by extension of the head and neck; by this means its elevation is instant and complete, because: *a*. By a three-linked chain, in which the hyo-epiglottic ligament is the lower link, the body of the hyoid bone the central link, and the combined genio and mylo-hyoidei muscles the upper link, the epiglottis is so connected to the body of the inferior maxilla, that above a certain point, as the body of the lower jaw is moved upwards, the epiglottis instantly, irresistibly, and inevitably moves upwards exactly in unison till it is erect. The violent wrenching asunder of the clenched teeth, in proportion as it depresses the body of the inferior maxilla, antagonises a distinct effort of Nature to maintain the elevation of the epiglottis.

3. By extension of the head and neck carried to the utmost, the remaining obstructions from the backward-fallen tongue, the velum palati, and uvula, are also simultaneously removed, and the entire pharynx is enlarged throughout. Because: *a*. The tongue, the dorsum of which before fell by gravitation upon the then horizontal posterior wall of the pharynx, falls upon the now horizontal arch of the palate. *b*. The velum palati, by means of the great tension of the palato-pharyngei muscles, is pulled away from the posterior wall of the pharynx, the entire membrane being stretched tightly forwards and downwards, behind part of the dorsum of the tongue helping to complete the shutting of the tongue out of the pharynx and into the mouth, and, together with its dorsum, forming a partition—the anterior wall of a now post-oral air way, thus created and maintained. *c*. The pharynx, anteriorly, from the base of the tongue to the cricoid cartilage, is stretched strongly forwards by the extreme tension of the sterno-thyroidei muscles. While above, the extension of the head by the occipito-vertebral articulation about 60 degrees shifts far forwards the anterior wall of the naso-pharynx, posteriorly, by the extension of the cervical vertebræ upon each other, in all about 30 degrees, the entire part of the pharyngeal wall is shifted backwards, this being observable in the greatest degree, opposite, and just above, the now widely open glottis. Thus, as I have previously said, the upper airway, which before was an angular, flaccid canal, barely permeable, is now an enlarged but slightly curved tube, free throughout from the glottis, which in this position is above, to the nares below. It may be mentioned, too, that for tracheotomy this position makes the skin tense, and the parts beneath accessible and firm. For operations upon the naso-pharynx such as the removal of adenoid growths, the space concerned is greatly enlarged, and in all cases blood or other matters are thus precluded from draining into the trachea.

I have been asked, only this afternoon, to answer to-night a question, and if you will excuse an unintended digression, I will do so now. The question is this: If the pulling forward the tongue, as always practised, does not always raise the epiglottis, how do you account for the relief it always and unquestionably affords, the very evidence of which is in the continuance of its universal practice? I answer, the relief alleged I admit, in some cases, but in some cases only, and then, it is not by raising the epiglottis. In commencing irregularity of breathing the cause of obstruction is sometimes chiefly one thing, sometimes it is chiefly another. When, as often happens, the chief cause is a backward-fallen tongue, if the tongue be pulled forward, that cause is removed, but mark, nothing more is done, except that by the usual depression of the body of the lower jaw in the doing of it, any tendency to a falling of the epiglottis has been already favoured.

And now in turn let me make one remark, and ask also one question. Unfortunately, it is not true that pulling forward the tongue does afford relief always; on the contrary, there are occasional cases in which it does no good at all, and it is these occasional cases which not exclusively, but chiefly, concern me.

For example, out of over thirteen thousand cases of death from asphyxia which during the past three years occurred in England alone, I have selected over one hundred, unequivocally attributed to the administration of anæsthetics—cases which, beyond reasonable doubt, received the most skilful treatment, and in which the tongue was conscientiously pulled forward in the recognised way—but they died. Of what did these unfortunate persons die?

I commenced this paper with the axiom, with which you all undoubtedly agree, that "in the insensitive state, or complete apnœa, the epiglottis falls backwards and closes the glottis." "That in this condition the elevation of the epiglottis is the first thing in order and in importance, as without this, respiration, whether natural or artificial, is impracticable, and the result fatal."

The question I have asked I should be sorry even to pretend to answer. How many of these deaths may have been due to alleged "constitutional peculiarity," or the always convenient, and indisputable "heart-failure," I cannot judge.

From all the facts which I have now presented, however, I am unable to avoid the belief that, in every instance, the epiglottis was not raised, but continued unlifted till death was complete. The perplexing, painful obscurity enshrouding many of these deaths, may, I think, hereby be somewhat lightened, and a certain proportion of them at least be fairly and intelligently accounted for.

It is a happy feature that instruments—the delays in getting them and in using them, the occasional violence and the wounding with them, yet the utter helplessness without them—are, in the procedure recommended, so entirely superseded.

These facts emphasise the still further observance of the well-known fact that the nose, not the mouth, is to be used for breathing. Before administration of anæsthetics, not the heart only, but the upper air-passages should be carefully examined. From the commencement and throughout inhalation the head should be as low as is consistent with convenience, and so arranged that no obstacles exist to instant complete extension, should it seem expedient. With these precepts observed, stertor will be an unusual occurrence, and always under control. As far as it goes, this applies also to ordinary sleep, in which the habitual snoring of some persons may be largely avoided simply by the use of a sufficiently low pillow.

From long habit, to most operators the inaccessibility of the tongue will be a cause of disquietude. To such I commend an actual inspection of its disposition as I have described it on the fresh cadaver, and as regards any obstruction from it, they will be at rest.

The order to be observed in the treatment of suspected apnœa is—1, to secure a completely free airway; 2, to induce the respiratory act by reflex action; 3, artificial respiration. Heretofore, with an unsuspected but closed airway, incomplete respiratory effort with slight heaving has sometimes been induced, but no breathing. Artificial respiratory motions have been practised, but often without respiration or exchange of air; hence have resulted inexplicable deaths.

The most important facts I have submitted are:—

1. That, contrary to universal belief, traction of the tongue cannot raise the epiglottis.

2. By sufficient extension of the head and neck, whether by volition, instinct, reflex action, or by the effort of another, whether in the healthy, the dying, or the dead, the epiglottis is instantly, and beyond prevention, made completely erect.

3. By complete extension of the head and neck the tongue and velum are as respiratory obstructions, simultaneously with the epiglottis, removed; and without a moment's delay the entire airway can be straightened, enlarged, and be made free throughout by the nearest person.

4. If syncope happens to be the chief factor, or only incidental, this also gets thus the quickest and best corrective.

The author expresses the hope, as he has the confident belief, that the facts above submitted will be found to be permanent additons to our means of averting death.

MEDICAL MAGISTRATE.—On the recommendation of the Lord Lieutenant of Lincolnshire, the name of Mr. William Harding Sissons, M.R.C.S., etc., Burton-on-Humber, has been placed on the Commission of the Peace of the Parts of Lindsey.

CLINICAL MEMORANDA.

PARACENTESIS PERICARDII.

THE patient, a fairly-nourished though anæmic-looking girl, aged 20, I found suffering from a very severe attack of rheumatic fever, and she had been ill for some days before I saw her. I found her sitting up erect in bed. The respirations were very rapid, about sixty-five to seventy in the minute; quick, irregular pulse; and the temperature high. The joints were much swollen. She was sweating profusely and suffering great pain, and was literally gasping for breath. It was pretty clear, therefore, unless something were promptly done to relieve her, she could not live long.

On examining the cardiac region, muffled sounds could only be heard, and nothing was to be made out of the state of the heart for certain, although it was pretty evident she was suffering from endocardial or pericardial trouble. The apex of the heart appeared to be tilted up to and under the edge of the sternum, about one inch and a half above its attachment to the ensiform cartilage, and, as far as one could make out, it was close to the under surface of the bone. My partner, Mr. C. P. Hooker, saw the case with me, and we determined to perform paracentesis pericardii. This I did with an ordinary exploring trocar, passing the instrument carefully a little to the left of what seemed the apex of the heart, the trocar going through the edge of the cartilage of one of the ribs on its way to the pericardium. About one ounce of yellowish-red fluid was drawn off, and it was clear this came from the pericardium, as the cannula could be seen "bobbing" up and down with each pulsation of the heart. She bore the operation very well, and the symptoms were at once relieved, the respirations rapidly falling to about thirty-five to forty a minute.

She made a good recovery, and has been earning her livelihood as a domestic servant for some years.

Tapping the pericardium is an operation which has not been often performed, I believe; but I feel sure, unless we had done it in this case, we should have lost our patient; and, if ever called upon to perform the operation again, I should not hesitate to do it, for surely the relief given to the embarrassed heart was the means of saving the patient.

HUGH TAYLOR, L.R.C.P.Ed., M.R.C.S.

Coltishall, Norwich.

REPORTS

ON

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

ST. MARK'S HOSPITAL FOR FISTULA, CITY ROAD, E.

THREE CASES OF INGUINAL COLOTOMY.

(Under the care of Mr. ALFRED COOPER.)

[From notes by the House-Surgeon, Mr. ARTHUR CHILCOTT.]

D. M., aged 55, a clerk, came up to the out-patient department on February 22nd, 1888, complaining of constant diarrhœa, pain on defæcation, and bloody discharge from rectum, dating from about five months previous.

On examination *per rectum* a hard mass could be felt encircling the bowel, causing stricture, through which the finger could not be passed; the mucous membrane was ulcerated to a large extent; the lowest part of the growth was about three inches from the anus.

Excision not being thought practicable, as it was not easy to say how far up the growth had extended, it was decided to open the colon in the left inguinal region The operation was performed on February 29th. The incision was made running parallel with Poupart's ligament, having its centre almost opposite the anterior superior spine of the ilium, at about two inches from it; and measuring three inches in length. The muscles having been divided and the peritoneum exposed, it (the peritoneum) was carefully opened the whole length of the incision; a flat sponge was inserted through the peritoneum to keep the intestines out of the way; the peritoneum was then stitched to the edges of the incision with silk sutures; the sponge was then removed; the colon, which was at once found, was drawn out of the wound and stitched to the sides by means of silk inserted through partial thickness of bowel; the colon was left unopened. No deep sutures were inserted to form a spur as in the following case.

In the evening the temperature reached 99.6°; on the following day it came down to 98 6°, and remained thus till he left the hospital. The bowel was opened on the fifth day after the operation; the colon was covered with lymph, to which the inner dressings were adherent. The stitches were removed at intervals, and the case progressed without a bad symptom, although no deep sutures had been inserted through the meso-colon to bring forward the back part of the bowel; the bowel was flush with the abdominal wall, no fæces passing to lower part of the colon beyond the opening.

He left the hospital on March 29th, wearing a form of truss made to cover the opening.

June 10th. He came up for examination to-day; he was extremely grateful for what had been done for him; he said the opening caused him but slight inconvenience.

W. K., aged 30, first came to the hospital on November 3rd, 1887, suffering from malignant disease of the rectum. As the growth did not extend far up, and considering his age, excision was performed, but this growth having returned he came into the hospital again on March 9th, to have colotomy done.

The operation took place on March 13th, being done exactly in the same manner as the former one, except that two sutures were put through the meso-colon, in the following manner. The colon being drawn out so that the finger and thumb could reach behind it; the suture was passed through the abdominal wall at the centre of the incision, then through the meso-colon and out through the skin on the opposite side of the incision; two were thus inserted and tied tightly together on either side.

After the operation he complained of pain in the wound, so was given opium: during the following few days he suffered some slight pain; the colon was opened four days after the operation, fæces passing through at once.

On March 19th, six days after the operation, his temperature rose to 103.4° F., and he complained of severe pain on either side of the incision, the deep sutures were dragging very much on the skin, causing some suppuration around; they were removed and the wound poulticed; in a few days the temperature became normal, and he recovered without any further bad symptoms, though he still complained of occasional pain and tenderness where the deep suture had been. No motion can pass to bowel below the incision, though the spur of bowel does not appear more prominent than in the former case, in which no deep suture had been inserted. He left the hospital for the seaside on April 28th.

June 31st. He says he can attend to the opening perfectly easily himself, and does not suffer much discomfort from it; he has gained weight, and is in every way benefited greatly by the operation.

A. T., aged 58, a clerk, whose rectum had been excised eighteen months previously, by Mr. Cooper, for malignant disease, came in on March 15th, to have colotomy performed, owing to the growth having returned accompanied with severe pain in the rectum, especially at night.

The operation was done on March 20th; the colon was found at once, and brought to the front. The operation was performed in the same manner as the first; no deep sutures being inserted, as they seemed to cause pain and the spur of bowel was sufficiently prominent without them. The temperature the same evening was 99.6° F. No pain.

The bowel was opened on the third day following. As the colon was found in the former cases to have become so adherent to the dressings, a small piece of oiled silk, thoroughly carbolised, was laid over the colon; this much facilitated the opening of the bowel, as the parts could be so much more easily made out. His old pain in the rectum having returned he has morphine at night, otherwise he is quite comfortable.

On March 29th his temperature rose to 101.4° F. No cause could be discovered, except that the bowels had not acted; it came down to normal on the following day, and remained so till he left the hospital; he complained of no pain in the wound at any time since the operation. He left on April 4th.

REMARKS.—Mr. Cooper finds in all his excisions of the rectum the after-trouble is the great contraction, which nothing seems to prevent; he has tried bougies from the beginning, but to no good result, showing that early inguinal colotomy is the best treatment for malignant disease of the rectum, and not excision.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, NOVEMBER 13TH, 1888.

Sir EDWARD SIEVEKING, President, in the Chair.

Arthrectomy; Erasion of Joints.—Mr. EDMUND OWEN read a paper on this subject. Though the operation of scraping a diseased tissue was not a new procedure, yet its adoption in the treatment of pulpy or of chronic suppurative disease of a joint was of comparatively recent adoption. The first account of it and the success which attended it was by Mr. Wright, Surgeon to the Children's Hospital, Manchester. It appeared in the *Lancet* of 1881. This he supplemented by a review of sixteen cases of arthrectomy in the *Medical Chronicle* of July, 1885. The construction of the hip-joint rendered it unsuited for treatment by arthrectomy in chronic disease, but as a supplementary measure to resection of the head of the femur it was likely to prove of great value. The epiphyses might often escape mutilation whilst the whole of the pulpy synovial membrane and all other diseased tissue was cleared out of the articulation. The cartilage joining the epiphysis with the shaft was neither disturbed nor trenched upon, and thus the risk of the patient recovering with a greatly shortened limb was obviated. Indeed, it was even possible that the patient might recover not only with a limb of normal length, but with a joint in which the movements were but little if at all interfered with. Such a result, however, was neither to be expected nor aimed at. After the operation, the limb was to be kept absolutely stiff, and fixed in splints for many months, and if at the end of that time a certain range of movement were discovered, the joint might be left to shake itself free, no manipulations being resorted to. In all probability the knee would be synostosed and straight. In the case of pulpy or chronic suppurative disease of the knee-joint the operation was admirably adapted, provided that the disease was not too far advanced, so that the bones were extensively implicated, and that the patient was the subject neither of general tuberculosis nor of albuminoid degeneration. In short, arthrectomy was the proper operation in most of those cases in which resection had hitherto been performed. Over resection it held this great advantage, that it took away from the articular surfaces only such tissues as were actually diseased. On several occasions it had been noticed that after the joint had been thus thoroughly cleared of elements which were of a diseased or suspicious nature, the health of the patient had shown an immediate and marked improvement, appetite and general health altering for the better, and permanent convalescence being at once established. Speculations were made upon the possible influence of the bacilli tuberculosis. The improvement which followed upon the clearing out of all the diseased tissues was as notable as that which often followed the amputation of a sarcomatous limb or a scirrhous mamma.—Mr. BRYANT was glad to observe that the paper showed a large class of cases of diseases of the joints for which Nature could provide no cure, but for which it was unnecessary to resort to the extreme method of amputation. The principle on which action could be taken was by no means new; it was that the surgeon should take away merely the diseased structure, and leave the rest to take care of itself. That was a practice to which he had himself adhered for some five and twenty years. In cases where there was diseased bone, that part of the bone, and only that, should be taken away. In the earlier days of the practice of excision it was discussed and set aside; the earlier operators took away all the structures forming the joint. Such treatment was easily applied to the knee and elbow, but not to the hip. But in his own practice, in 1866, he had treated a case of chronic suppuration of the knee by scraping away the diseased bone only, and there had been excellent healing; again, in a diseased elbow he had removed only the head and neck of the radius, and good result with free movement had followed; and on the same plan in a third case, in disease of the knee, he had removed only the head of the tibia, with very good results. In the operation for which Mr. Owen had adopted the rather unfortunate name of arthrectomy, the same principle was applied to diseases of the synovial membrane. The treatment of pulpy disease of the joint had always been found difficult. Sir William Fergusson had discountenanced resection, and had, as a rule, left his cases without active treatment until amputation became necessary. As for the difference which might have arisen from bacillary theories, he was not inclined himself to enter into any discussion; he looked at the disease clinically only, and the bacilli were only the accompaniment or result of the disease and not its cause. He should be very glad to hear from Mr. Owen in what stage of the disease he considered this operation of erasion advisable. Not, he imagined, in the first stage, for then and even later, natural processes were able to bring about a cure. Nor could he think it desirable to delay all active treatment until the whole joint was thoroughly disorganised. For his own part he was inclined to be less heroic than Mr. Owen, and to base his practice on his experience of the fact that partial scraping does lead to good results. He must certainly admit that he had never laid open a joint in the way Mr. Owen had described.—Mr. C. MACNAMARA reminded the Society, in a few words, of a patient whom he had brought up to their last meeting, after treating him for pulpy disease of the knee-joint, in Westminster Hospital. At first pressure, and the other gentle methods were applied without improvement; pain was found over the inner condyle of the femur, and guided by that he cut down upon the bone and trephined it. The pain was relieved, and the recovery was complete and rapid. In six weeks the patient was up and walking. In his belief the pulpy disease of the joint, so-called, began in the ends of the bones, and that was an important point, for it led us to understand that the end of the bone was generally found to be greatly indurated, and requiring perforation either by Nature or the surgeon. In the case he had just mentioned there was no scraping, but only the trephining of the bone, which had probably been the seat of tubercular disease. It was very important also to put the limb in a splint and in plaster-of-Paris, so as to ensure complete quiet. Such an operation he admitted was practically impossible with the hip-joint, and in those cases he considered Croft's plan of excision the wisest and most satisfactory in its results. The earlier it was applied the better, and the wounds involved healed admirably under Lister's treatment.—Mr. BARWELL ventured to think that Mr. Owen had been a little too severe in his condemnatory description of the ordinary practice of excision, for he had represented the surgeons as leaving all the parts of the joint except the bone. That mistake might possibly have been made sometimes in the earlier days of excision, but he believed others had for long agreed in what had been his own practice of removing the diseased structures as suited each case. The full operation of excision was wanted when the disease had begun in the bone underneath the cartilage, as by this means both bone and synovial membrane were removed. As to removing every bit of diseased tissue, he thought it would not often be possible to do it completely, especially if bacilli had to be sought out from all folds of the synovial membrane. In his own practice, he cleared out membrane as much as bone, and drained the joint from the back. Useful as arthrectomy might be, he could not admit that it would suit all diseases of the joint.—Mr. PARKER regarded arthrectomy as one of the most useful operations that had been introduced lately, though it was not well suited as an operation on children. It was suited best for those cases in which there was no bone disease and no sinuses, for if there were sinuses it was practically impossible to get it aseptic. Mr. Owen had said he had in these operations divided the crucial ligaments, and that he could not help thinking would lead to an insufficient stability of the femur. As to the operation of scraping, as Mr. Owen had phrased it, he imagined it to be essentially the same as what he found easier by dissection with a scalpel. He had also found the use of an Esmarch's bandage of advantage, as doing no harm to the patient, and enabling the operator to see his work much more clearly. He would ask Mr. Owen to try to approach some favourable cases by two horse-shoe incisions, one above and one below the joint, which made it unnecessary to stitch together the ends of the ligamentum patellæ.—Mr. HAWARD begged to be allowed to read a short description from Mr. Page of a patient who was in attendance. He was a boy, aged 17, who had been a patient two years ago at St. Mary's under Mr. Page's care with pulpy disease of the right knee-joint. The joint had been opened, a carious spot in the tibia had been gouged out, and the internal condyle of the femur sawn off to make the joint straight, and since then the boy had had an excellent and useful stiff leg with no further disease.—Mr. EDMUND OWEN, in reply, thanked Mr. Haward for his clear reading of the paper; and, in answer to Mr. Bryant, said that he had not meant to confine his removal of diseased structure to the synovial membranes alone. He wished also, when necessary, to include bone, and he read notes of two cases where the bone had been the starting point of the joint disease, and in which he had operated

with complete success. The question as to the presence and influence of bacilli tuberculosis he had hoped would have been discussed by others. He was inclined himself to think that, in the healing of such cases as these, they died a natural death. The operation was one suited to cases in middle stages of progress; it was hard to be more precise. He felt no doubt that, in the first rush of enthusiasm, it was being done to death, like the operation of suprapubic lithotomy. Mr. Wright's first operations had been in 1865; he had not recorded his failures, and did not remember any. For himself he was gradually coming to agree more and more with Mr. Macnamara that the origin of the disease was in the bone, and he felt bound to be specially careful in removing what was diseased in the bones concerned. If any movement was obtained in the joint after his operation, he considered it very fortunate. The patient of Mr. Page, who was in attendance, had been considered both by Mr. Page and himself as too weak, in too advanced a stage of disease, for such treatment, and amputation had been advised. But this was refused by the patient, and arthrectomy consequently performed, and the excellence of the result was a genuine surprise. He admitted that he had made some severe criticism on the old fashion of operation in excision of the joint; but, he ventured to think, not without justification. As to the point of cutting the crucial ligaments, to which Mr. Parker had referred, he should certainly prefer to leave them intact; but he had found that, under those conditions, careful dissection of the back of the joint was practically impossible.

CLINICAL SOCIETY OF LONDON.

FRIDAY, NOVEMBER 9TH, 1888.

W. H. BROADBENT, M.D., F.R.C.P., President, in the Chair.

Encysted Stone; Suprapubic Cystotomy; Successful Removal by Means of Chisel and Mallet.—Mr. E. H. FENWICK read notes of this case. The patient had been under the care of Dr. Hine, of Leytonstone, and the symptoms had lasted eight years. The calculus could be felt bimanually, and was subsequently discovered to be hour-glass in shape. The smaller piece (one ounce and a half) was found projecting into the bladder at the level of the left ureteral orifice, and the larger portion (four ounces and a half, the size and shape of a large hen's egg) lying in a diverticulum outside the back and base of the bladder. These two portions were connected by a very slender neck. The vesical piece was easily snapped off, leaving the neck protruding from the threepenny-piece-sized orifice of the diverticulum. The position of the opening rendered much dilatation of it dangerous. It was impossible, therefore, to extract the encysted portion entire. Attempts to crush it, by means of lithotrite or forceps, failed. A chisel was guided through the orifice of the diverticulum and laid upon the stone; elastic counter-pressure was afforded by Petersen's rectal balloon. The calculus was then cut through by repeated blows with a mallet. After many shiftings of the pieces and sections in every direction, the stone was chiselled into sufficiently small fragments to allow of their being extracted through the orifice. The wound rapidly healed, and the patient left for the country in six weeks without an untoward symptom.

An Encysted Calculus Successfully Removed by Suprapubic Lithotomy.—Mr. G. BUCKSTON BROWNE read an account of this case, on which he had recently operated. The patient was a gentleman, aged 68, seen for the first time last June, with the following history. Lithotrity had been performed five times in less than two years; the first operation was in August, 1886, the last in April, 1888. The earlier operations had only given temporary relief from very distressing symptoms, and the last one had not been followed by any improvement. All the urine was passed by catheter hourly night and day, and there was constantly recurring intense vesical spasm. On sounding the bladder a stone was detected lying apparently on the floor of the neck of the bladder; it was found very easy to pass over this stone, or rather, stony surface, into the vesical cavity which lay beyond without noticing any calculous matter. The cavity of the bladder was entirely free from stone. Nothing could be felt by the rectum, except a moderately enlarged prostate. The history of the case, the feebleness of the patient, and the need for free drainage of the bladder, determined the choice of operation, and on July 3rd Mr. Buckston Browne opened the bladder above the pubes. Directly the finger entered the bladder it encountered, immediately underneath the opening, a stony surface lying level with the surrounding tissues. It was evidently a stone firmly embedded in the floor of the bladder, immediately behind the prostate. The calculus was lifted out by a long and narrow scoop; the finger then passed into a pocket, which went downwards and forwards towards the rectum, and the right forefinger introduced into the rectum was only separated by a thin septum from the left forefinger passed into the vesical pocket. The stone was apparently phosphatic throughout, and weighed a little over a quarter of an ounce. The wound healed in twenty-one days, and the patient went home perfectly well, and able to hold his urine five hours. He continued entirely free from pain for two months, when a slight return of vesical spasm was complained of. This was found to be due to a small phosphatic concretion, which was removed by lithotrity. During the operation the patient coughed violently, and the concretion was entirely lost, and was not recovered until the bladder behind the prostate had been firmly pressed upon by the finger in the rectum. At the present moment the patient was perfectly well. The interest of the case lay in the fact that it illustrated a condition of vesical calculus where lithotrity was powerless, and perineal lithotomy fraught with mechanical difficulties which might easily prove insurmountable, while all difficulties vanished if the bladder was opened above the pubes.—Mr. CLUTTON mentioned the case of a man under his care, aged 41, who for ten or fifteen years had had symptoms of stone when taking exercise. When he was quiet he could retain his water for four or five hours. The lithotrite showed that the stone was two inches in diameter. Mr. Clutton decided to do lithotrity if it were possible, or suprapubic lithotomy if that should prove necessary. Lithotrity was found to be impossible, as the instrument slipped. On opening the bladder above the pubes the stone lay just beneath the incision, in the anterior pouch of the bladder. The central mass of the stone was hard, large, and composed of oxalates. Yet that man felt no symptoms as long as he kept quiet.—Mr. C. HEATH had done the lithotrity mentioned in Mr. Buckston Browne's case, and congratulated him on removing the last fragments. As the stone, in these cases with cysts, was sometimes in the bladder, sometimes in the cyst, it was possible for one surgeon to find it, and for another not to do so, according to its position at the time of the sounding. Not to find it in such a case was clearly not the surgeon's fault. He remembered a case under the late Sir W. Fergusson, who performed lithotomy, the patient subsequently dying. There had been much local excitement about the case in the country, some practitioners affirming that there was a stone, others that there was none. At the operation it was found to be encysted. Mr. Cadge, he knew, considered that stones were more often encysted than was generally thought to be the case.—Mr. FENWICK, in reply, stated that Mr. Rivington had first suggested the plan of cutting up an encysted calculus with a chisel and hammer.—Mr. B. BROWNE said that it was the easiest thing possible to miss a stone when examining for it; and in some cases, as in subprostatic pouches, it was impossible to detect the stone. He had found such a stone in the dead body, although upon opening the bladder just before laterally from the perineum he had been quite unable to detect it. Some months ago he had sounded a patient, but could not detect a stone; a surgeon subsequently performed cystotomy to drain the bladder, and could not with his finger find a stone, but no sooner was the operation performed than a stone came down into the wound.

Paralytic Rabies.—Dr. BRISTOWE and Mr. HORSLEY contributed this paper, which was read by the latter. The case was that of a patient who was bitten by a rabid cat, and who died of rabies of an extremely paralytic form. The patient was taken ill six weeks after the bite. He was treated locally at the time of the accident, and sent to Paris for treatment by M. Pasteur, but on his return developed symptoms of an obscure kind, suggesting perityphlitis, etc. The following day he had pain in the back, and the day after commenced acute ascending paralysis, from which he died within three days. Inoculation from his spinal cord proved that the disease was rabies. Further researches and experiments were described in the paper, from which it appeared that the virus of the rabid cat is especially virulent, the incubation period showing that its latency (under these circumstances) is as short as that of a pure virus isolated by M. Pasteur. The probability that Landry's paralysis is in some instances paralytic rabies, and that idiopathic myelitis is also an acute specific disease, was strongly suggested.—The PRESIDENT thought the important question was, whether the paralysis was due to the original bite, or the treatment adopted by M. Pasteur.—Dr. BRISTOWE said the point was whether the case was one of hydrophobia or of Landry's paralysis. It was thought in the hospital to be a case of rabies; and the inoculations carried out upon lower animals after the patient's death

completely settled the question. There was no mental defect, no aberration, no dread of water; simply the water could not be swallowed. He believed the disease was derived from the cat, and not from M. Pasteur's inoculations. It commenced at the proper time to coincide with that view of the case.—Dr. ANGEL MONEY said it was a question why ordinarily the poison of rabies should chiefly develop itself about the medulla oblongata and the neighbouring parts. And he would suggest that possibly the disease in this case assumed the paralytic character because it was driven to other parts of the nervous system by the influence of cold and alcohol.—Dr. BALL asked why the inoculation in this case did not prevent the occurrence of hydrophobia.—Mr. THOMAS SMITH inquired of Mr. Horsley in what estimation M. Pasteur's method of treatment was now held by scientific persons capable of judging.—Dr. MONEY asked as to the reaction of the muscles to faradisation in Mr. Horsley's case. It was said that in Landry's paralysis there was no difference from the state of health in the faradic reaction.—Dr. HALE WHITE said that in a case he had recently examined the condition of the nervous centres was as in Mr. Horsley's specimen. It was doubtless part of the disease, as was the rash in scarlatina.—The PRESIDENT inquired what was the published experience of the last two years, since Mr. Horsley's patient had died, as to the efficacy of Pasteur's treatment. As to Landry's paralysis, he himself had seen one case in which he thought that any and every suspicion of rabies might be excluded. He had also related to that Society two years ago a case in which apparently rabies was recovered from. A boy, who at first denied that he had been bitten, and then said that a dog had bitten him, had an indurated cicatrix on his finger. The treatment adopted was that of soothing the symptoms by chloral and brandy; and ultimately he had recovered. Nothing in his case resembled the symptoms found in cases of Landry's paralysis.—Mr. HORSLEY, in reply, said that the latest evidence went to show that the paralytic form of the disease did not follow inoculation, if the animal had been previously inoculated with non-virulent material. Very large quantities of virulent cords could be injected into a dog without producing rabies after it had undergone inoculation by non-virulent cords. As to the value of M. Pasteur's method, the patients had now been divided into three classes: 1. Those bitten by animals known to be rabid by the fact that they had bitten and killed other animals; 2, those bitten by animals presumed to be rabid, and certified as such by veterinary surgeons; 3, those bitten by animals only supposed to be rabid. Pasteur's statistics now showed a death-rate amongst his patients, ranked in the first of these classes of only 2 per cent., whereas in Lancashire, which he considered to be the home of rabies in England, 16 per cent. of those bitten by undoubtedly mad dogs died, a comparison which was very favourable for M. Pasteur's method. As to the part of the nervous system on which the poison chiefly fell, it was curious that it should be the motor side that was affected. In man there were subjective symptoms, but in lower animals (the rabbit, for instance) the motor centres were chiefly affected, the sensory system scarcely at all. He related a curious case. A boy was bitten by a dog suspected to be mad. The boy's wound healed, but in three weeks he contracted scarlatina, was removed to Stockwell Hospital, and was recovering from that illness when hydrophobia developed itself, and he died. The speaker proved the existence of rabies in that case by inoculation. The case was almost unique of its kind, for there were two specific animal poisons circulating within the boy at the same time. It had been asked why the inoculations had not protected his patient. It might be replied that he was an individual whom it was impossible to protect. In regard to the lower animals, the degree of protection that was possible varied greatly. Thus, it was found impossible to protect the rabbit and other rodents, whereas the dog seemed to be almost on the same level with man, the dog, perhaps, being a little more liable than his master to have the disease. He suggested, also, that the cooling of the patient's body might have rendered it impossible to protect him from the disease. Grounds for this view of the case existed. Possibly, also, the original virus from the cat was so strong that the patient should from the first have been protected with stronger virus, or more of it in each day, so as to bring him sooner under its influence. No observations as to the faradic reaction of the muscles had been made. It had been suggested that the paralytic form of rabies and Landry's disease were identical. He would remark in regard to that that the statement that the patients had never been bitten was usually worthless. He mentioned a case of rabies, supposed to be sporadic, that occurred a little while ago at Salisbury. The patient died, and it was chronicled in the newspapers as a death from rabies without a bite. But Dr. Wilkes, of Salisbury, upon making a searching inquiry, had discovered that the man had been bitten some months before, whilst intoxicated, and had, therefore, known nothing of the accident when questioned.

Living Specimens.—The following were exhibited:—Dr. A. H. ROBINSON showed a case of Primary Sarcoma of the Neck in a Man. Dr. PRINGLE: A case of Xeroderma Pigmentosum in a Girl. Mr. GODLEE: A case of Eversion of the Foot from Chronic Osteitis. Mr. ROTH: A case of Disease of the Ankle-Joint cured by Rest.

MEDICAL SOCIETY OF LONDON.

MONDAY, NOVEMBER 12TH, 1888.

SIR WILLIAM MAC CORMAC, President, in the Chair.

Case of Ascites simulating Ovarian Tumour.—Dr. GULLIVER read the notes of a case of ascites simulating ovarian tumour in a patient aged 63. She was admitted on August 24th, and died on October 4th. Her symptoms previous to admission were pain in the back and inability to retain her urine. There was, however, nothing to indicate renal disease. One month before admission the legs and abdomen began to sweli, and she was subject to attacks of vomiting. When admitted she was very emaciated. The thorax was normal, but the abdomen was prominent. The whole front of the abdomen was dull on percussion, the dulness being more marked on the right side, which was bulged. The dulness extended from the ensiform cartilage to the pubes. There was a zone of resonance over the left flank. At this time the diagnosis was in favour of an ovarian tumour. On the right side the thrill of fluid was obtainable. On September 8th, ten days after admission, she was tapped, and seven or eight pints of fluid was drawn off; the fluid resembled ascitic fluid, presenting none of the characteristics of ovarian fluid. Immediately after the withdrawal of the fluid the dulness became more unilateral, disappearing from above and to the left side. The dulness, however, remained over the lower two-thirds of the abdomen on the right side, and later on resumed its original extent. There was vomiting, but no signs of obstruction of the bowels. Albumen was now found in the urine, and this, together with the age of the patient, precluded the idea of operative interference. The diagnosis at that time lay between ovarian tumour and ascites shut off by vertical adhesions. She died on October 4th. On opening the abdomen a considerable quantity of ordinary ascitic fluid escaped. The whole interior of the abdomen was lined by a smooth thickened membrane extending from the under-surface of the diaphragm down to the pubes. On the right side it formed a continuous sheet across the front of the abdomen, with a free border on the left side; it covered in most of the abdominal viscera. On the left side were coils of small intestine fixed down by adhesions. The organs themselves were apparently healthy. Many of the appearances simulated horizontal localised ascites.—The PRESIDENT asked why an exploratory incision had not been made.—Dr. THOROWGOOD asked whether the foramen of Winslow was occluded or patent.—Dr. GULLIVER, in reply, said that the condition of the foramen of Winslow had not been remarked. The case was tapped because the age and debility of the patient rendered any more serious operation undesirable.

The Voyage to the Cape and Climate of South Africa.—Dr. E. SYMES THOMPSON read this paper, the first part of which showed the facility with which the voyage to the Cape and back could be accomplished, in two months, during the customary summer holiday, so that no discomfort need be anticipated from sea-sickness, from excessive heat in the tropics, or from the "dangers of the deep." Whilst the voyage to Madeira or New York was sufficient for discomfort, it was hardly long enough to do good as a voyage in cases requiring rest, or the renovating influence of the sea; whereas the voyage to Australia or New Zealand was apt to prove tedious, and in the last part of the voyage from Africa to Australia the winds and low temperature were apt to prove trying and injurious. The advantages of Madeira and of Teneriffe were discussed. St. Helena received a few words of description; the characteristics of the north-east and south-east trade winds, of the equatorial currents, and the heat of the tropical zone were given in detail. The cases for which the voyage was recommended were first patients suffering from chest affections, for whom the soothing effect of the warm, moist tonic air of the ocean was needed, who required rest and quiescence, as contrasted with the class of cases specially suited

for Alpine winter treatment, in which the great point is to encourage active exertion in a dry, stimulating, and very exhilarating air. In each case much of the benefit is due to the number of hours spent in the open air, in which respect the ocean bears the palm. Cases of degenerative disease, of dyspepsia, hypochondriasis, asthma, etc., were referred to as having been watched during the recent voyages taken by the author. The second part of the paper dealt with the climate of South Africa, which was shown to vary with the elevation above the sea; the coast regions being rather too hot, but equable and relaxing; the middle terrace (elevation from 1,500 to 3,000 feet) dry, bright, clear, and of striking benefit in ordinary cases of phthisis; and third, the high central plateau (from 3,000 to 6,000 feet), still more bracing and invigorating, and of service in cases of pulmonary collapse, when dilatation of contracted lung was needed. The great districts of the Karoo, comprising the central and northern part of Cape Colony, was declared to be, so far as climate is concerned, nearly all that can be desired; but until better hotels and boarding houses are provided, until the interests and conveniences of life have increased, and until occupation is provided, it is not possible to commend this region to health seekers who need the comforts of modern civilisation. Details were given of the best health-resorts. The suburbs of Cape Town and Ceres being commended for a few weeks in summer. Graham's Town (the Winchester of South Africa) being specially praised as a quiet cathedral town, in which many do well. In the health-giving Karoo, Tarkastadt, Cradock, and Beaufort West were praised, and the high lands of Bechuanaland, now a Crown colony, were regarded as likely in the future to prove invaluable to English colonists and health seekers. Natal was spoken of as being specially useful in cases of laryngeal and bronchial irritation, though somewhat too hot and relaxing in ordinary cases of early phthisis.—Dr. J. A. Ross bore testimony to the value of residence in the high level districts in the treatment of phthisis, cases of which were met with along the coast. These cases, however, recovered on removing to the high altitudes for awhile. Veterinary surgeons had remarked that while tuberculosis was tolerably frequent among cattle in the low-lying districts, it was very rare among the cattle in the highlands. He said the relatively cold nights rendered the climate less enervating than in many other climates with the same mean temperature, but in which the heat was more constant. The rainfall was no criterion of the humidity of the atmosphere, since in months during which the rainfall had been four inches, the humidity had not exceeded 57 per cent. The humidity was less at 8 P.M. than at 8 A.M. He urged that in choosing a high altitude care should be taken to select a mountainous district.—Mr. LENNOX BROWNE criticised Dr. Thompson's remarks as to the voyage, and said that travellers would do well not to change their underclothing, that is, so far as their quantity was concerned. He remarked on the large number of residents at the Cape who were total abstainers, abstinence being due in most cases to the desire to set a good example. The soil there was very porous, and rapidly passed from mud to dust.—Dr. RUTHERFOORD pointed out that whatever the advantages of the Cape climate might be, much still remained to be done in the matter of drainage, which was in most places simply deplorable.—Dr. THOMPSON, in reply, regretted that, so far, they had been unable to repeat the experiment they had made some years ago, of sending a number of typical cases to try the effect of the climate. The results obtained from the patients sent to Madeira had been very useful. He alluded to the ravages that were made by alcohol among the lower races of natives. He observed that it would be necessary to provide better accommodation for the health and comfort of visitors before they could send delicate patients to winter in the Karoo.—Mr. LENNOX BROWNE showed a large number of water-colour sketches of the scenery on the voyage, which excited general admiration.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, NOVEMBER 7TH, 1888.

JOHN WILLIAMS, M.D., President, in the Chair.

Specimens.—Dr. CULLINGWORTH: Localised Sloughing of Fundus Uteri, due to Acute Septicæmia after Abdominal Section.—Dr. H. SPENCER: (1) Sloughing Fibroid of Uterus; (2) An Anencephalous Monster with Hernia of the Intestines in the Left Loin and Hernia of the Liver (which presented at birth) in front of the Abdomen.—Dr. WILLIAM DUNCAN: (1) Placenta from a Case of Porro's Operation: (2) Ruptured Extra-uterine Fœtation.

On Myoma and Fibro-myoma of the Uterus and Allied Tumours of the Ovary.—This communication was read by Mr. ALBAN DORAN.—Myoma of the uterus was very common, fibroma of the ovary rare. The study and comparison of these tumours involved the much-disputed distinction between true muscle-cells and certain cells found in fibrous tissue and in sarcomata. Certain recognised types, such as the plain muscle-cells of the walls of blood-vessels, and the muscle-cells of the pregnant, non-pregnant, and fœtal uterus, were compared in the memoir with the cells of tumours evidently made up of fibrous tissue, or evidently sarcomatous, or otherwise malignant. Each type was illustrated by microscopic slides and also by accurate drawings. The histology of the uterine wall was not very complicated. Plain muscle-cells mixed with more or less connective tissue, and arranged in bundles, were the chief constituents of the wall, and extended not only to the tube but also to the round ligament and the ovarian ligament, true processes of the uterus. Hence the origin of myoma in those parts. From the uterine connective tissue white fibre might be developed, hence the origin of fibro-myoma of the uterus. The muscle-cells of a myoma were usually larger than those of the uterus in which it grew. Hence in a myoma removed during pregnancy they appeared very large. The comparison of the muscle-cells with the smaller cells of similar appearance found in the white fibrous tissue in a fibro-myoma was important, especially in relation to suspected cases of myoma of the ovary. The histology of the ovarian stroma was, on the other hand, very unsettled. Ideas on the subject were often gleaned from the study of animals' ovaries; and this study might lead to grave fallacies. True fibrous tissue was naturally abundant in the tissue of the hilum (paroöphoron); this fact was enough to account for fibroma of the ovary. Muscular tissue was found amidst the parenchyma of the ovary in the coats of its vessels, and also in free bundles derived from the ovarian ligament, a process of the uterus. The connective tissue of the ovary around the follicles (stroma of the parenchyma, as distinguished from the tissue of the hilum) was variable in character, but as a rule of a young type. Common changes due to inflammation must be borne in mind. Fibroma of the ovary was a well-known but rather rare disease. Sarcoma of the ovary was not so rare, owing probably to the frequent abundance of "young" connective tissue. Specific spindle-cells of a sarcoma were compared with the connective-tissue cells in fibroma. The existence of fibro-myoma of the ovary had been disputed. As muscular tissue naturally existed in the ovary, the development of myoma could be accounted for. The difficulty of distinguishing muscle-cells from certain cells in the other tumours described in the memoir was admitted, yet by comparing a fibro-myoma of the uterus with a tumour of similar character growing in the ovary it appeared that this distinction could be made, and hence there was little doubt that a fibro-myoma might develop in the ovary. At least, plain muscle-cells, the fusiform cells of fibrous tissue, and the specific spindle-cells of a sarcoma might in many cases be distinguished from each other.—Dr. HERMAN observed that Mr. Doran had looked upon Gusserow's aphorism as philosophical rather than scientific. Gusserow had insisted that the more a uterine tumour was a simple hypertrophy of uterine tissue, as in pregnancy but localised, the more would plain muscle-cells predominate. The more fibrous induration of the interstitial connective tissue took a share in the process, the more nearly would the tumour resemble a pure fibroma. Was this aphorism true?—Dr. HORROCKS doubted that the cells could be distinguished from each other in all cases of solid fibroid tumours of the ovary and uterus. Puzzling microscopical appearances were occasioned by the intricate arrangement of the fibres and groups of cells in these tumours.—Dr. W. S. A. GRIFFITH noted how the mixed connective tissue of the normal ovary strongly resembled spindle-celled sarcoma when inspected under the microscope. He asked if what had been described as sarcoma of the ovary was sarcoma at all. It appeared to be rather a general enlargement of the stroma. On account of the doubtful nature of the question, the clinical history of every case of solid ovarian tumour should be carefully noted by pathologists.—Mr. ALBAN DORAN held that Gusserow's aphorism was a self-evident proposition. The smallest interstitial fibroids were the purest myomata. He agreed with Dr. Horrocks, but he had appealed from the known to the unknown throughout his memoir. He had compared sections of different tumours where the fibres ran in the same direction. In reply to Dr. Griffith, he recognised the resemblance of ovarian connective tissue to spindle-celled sarcoma. He distrusted the theory that some ovarian tumours were composed of connective tissue which had remained embryonic from fœtal life.

These tumours were hardly malignant, but a specimen which he exhibited at the Pathological Society in October tended to prove that arrest of development of the connective tissue caused the formation of a very malignant growth. Mr. Doran had carefully noted the clinical history of the cases which he described. It was hard to distinguish normal ovarian tissue in adults, owing to the cicatrices of corpora lutea and other sources of confusion.

On Locking, Retroversion, and Strangulation of Uterine Fibroids in the Pelvic Excavation.—Dr. J. MATTHEWS DUNCAN, the author of this paper, stated that locking in the pelvic excavation implied impaction not the result of adhesions. Its effects might be produced by pressure into the pelvic brim of a tumour too large to pass into the excavation. Retroversion of a fibroid closely resembled the retroversion of the gravid uterus in its characteristic form. The symptoms and treatment of the two conditions were nearly alike. Strangulation, with locking, of a fibroid, with or without retroversion, was a rare accident; a case was described. Dr. Duncan had not seen a similar case of strangulation of or by a gravid uterus.

A Case of Locked Fibroid, treated by Supra-vaginal Hysterectomy.—Mr. MEREDITH read this case. A single woman, aged 36, was admitted into hospital under Dr. Percy Boulton last May. A uterine tumour was firmly impacted in the pelvic cavity. For nine months the pressure of the growth on the neck of the bladder had led to frequent attacks of complete retention. The recurrence of these attacks had latterly been avoided only by relieving the bladder at regular intervals of not less than two hours, both by night and by day. After unsuccessful attempts to dislodge the tumour from the pelvis by vaginal taxis, the case was transferred to Mr. Meredith's care, with a view to abdominal section. At the operation, performed by him on June 2nd, considerable difficulty was experienced in extracting the impacted mass, which, together with the uterine body and its appendages, was subsequently removed by supra-vaginal hysterectomy. The tumour weighed two pounds, and was of the size of a large cocoanut, and consisted of a densely-packed mass of fibro-myomatous growths developed in the posterior wall of the uterus. The after-progress of the case was uninterrupted, and the patient made an excellent recovery, leaving the hospital exactly six weeks from the date of operation with the abdominal incision soundly healed throughout.—In the discussion on the above papers, Dr. GERVIS drew attention to the usefulness of a suitable pessary in preventing a recurrence of the downward displacement of a fibroid after it had been pushed up out of the pelvic cavity. He felt satisfied with hydrostatic pressure in cases where the taxis had failed, noting a case in his own practice resembling Mr. Meredith's.—Dr. GRAILY HEWITT found that upward pressure and properly adapted vaginal support often proved sufficient to relieve impaction. In some cases impaction of a large fibroid was slow to cause difficulty in micturition; in others that trouble rapidly set in when the impacted tumour was small. In a very marked case a fibroid growth at the back of the uterus occasioned sudden impaction with retroversion, and enormous distension of the bladder. Dr. Hewitt thought that cases of anteversion with hypertrophy of the uterus were sometimes mistaken for fibroids. In one instance proper diagnosis and appropriate treatment cured a case of this kind after several years of suffering. In another case, where an egg-shaped tumour grew anteriorly, a little to the right side, a well-adjusted pessary was very successfully used and the tumour raised out of the brim. Its pressure had rendered the patient a complete invalid.—Dr. LEWERS referred to a case where a uterus retroverted by fibroids caused retention of urine in a woman, aged 49. The urine was drawn off, and the uterus replaced bimanually; then a large ring pessary was introduced. This was done two months ago. Dr. Lewers had seen the case recently, and found the uterus in good position; the patient had no trouble with her water. He mentioned this case because he gathered from Dr. Duncan's paper that, in similar instances, replacement, even when possible, was usually followed by recurrence of the malposition.—Dr. AUST LAWRENCE (Clifton) found that in one case of retroflexed gravid uterus and in two of "locked fibroids" he was enabled to effect reduction by keeping the patient in bed in the semiprone posture for twenty-four hours. Without this kind of treatment, repeated attempts at replacement should never be made.—Dr. CHAMPNEYS advocated hydrostatic pressure exerted by gravitation. He had found it succeed where taxis had failed, and he always used it after the failure of taxis before proceeding further. The mode of using it had been described in the *Lancet* some years back. It was conveniently employed by means of a child's air-ball connected with an irrigator. Any desired amount of even and continuous pressure could be applied and removed at will. A fibroid might be impacted for many reasons, such as bulk, œdema, adhesions, and expansion of the broad ligament. An air-tight adaptation was an obstacle to replacement: in raising a tumour in abdominal section a loud sucking noise was often heard. Hydrostatic pressure got rid of some of the œdema, adhesions could not be rudely torn, as by taxis, and the broad ligaments would be unaffected. Thus the method furnished a valuable differential prognosis as to the possibility of replacement. He did not say that the tumour was replaceable in Mr. Meredith's case, but he should himself have tried hydrostatic pressure before resorting to abdominal section.—Dr. PRIESTLEY remarked that Dr. Duncan's experience proved that, whether the pressure were made with the fingers or with hydrostatic bags as Dr. Champneys had suggested, and aided by the genu-pectoral position, difficult cases of impacted fibroid might be overcome provided that th pressure was made in the right direction for a sufficient period. Dr. Priestley thought that the alleged frequency of absolute impaction was overrated. The symptoms produced by pressure almost amounting to impaction were more frequent: these were retention of urine in certain cases, incontinence of urine in others. He had recently seen a patient who had a bulky fibroid, and was constantly losing large quantities of limpid fluid, supposed, at first, to be from the uterus, but ultimately proved to come from the bladder. Not only retroversion of a uterus bearing a fibroid could cause impaction, but also some forms of fibroid without backward displacement, particularly those ovoid forms in which the lower segment fitted closely into the brim and cavity of the pelvis. He had sometimes been surprised how small a degree of force exercised in pushing up the tumour from below would bring at least temporary relief. Prolonged and persistent efforts, with every precaution, should always be made to reduce the tumour, as Dr. Duncan advocated, before so grave a step as abdominal section was undertaken, although Mr. Meredith's case had proved so signally successful.—After some observations in reply by Dr. MATTHEWS DUNCAN, Mr. MEREDITH stated that the absolute fixation of the pelvic tumour in his case, resisting all the repeated attempts to displace it, afforded ample justification for abdominal section as the only means of relieving the patient. In his case atmospheric pressure had not much to do with the difficulties which he encountered. After partial dislodgement of the firm, incompressible tumour from the pelvic cavity, extraction was found to be impossible until some amount of enucleation had been practised on the left side. This fact alone proved conclusively that nothing short of operation could have proved successful in affording even temporary relief to the patient's sufferings.

HARVEIAN SOCIETY OF LONDON.

THURSDAY, NOVEMBER 1ST, 1888.

L. W. SEDGWICK, M.D., President, in the Chair.

Arthrectomy versus Excision of Knee.—A paper was read by Mr. PAGE on arthrectomy *versus* excision of the knee. After reference to the reintroduction of the operation of excision of the knee by Sir Wm. Fergusson in 1850, and the success which attended it in the hands of many surgeons soon afterwards, the reader pointed out that the operation had subsequently fallen somewhat into disfavour because of the shortening which was found to result when the operation had been undertaken in early life. At the same time the propagation of the principles advocated by his text was leading surgeons to open and examine the insides of joints at a much earlier period in cases of disease, and they had thus been induced to remove diseased structures alone rather than perform the old excision. This had largely tended to make excisions of the knee much rarer than they had been, and the object of the paper was to point out the advantages and the importance of arthrectomy or excision of diseased structures at a sufficiently early period, so as to render any true excision unnecessary. An endeavour was made to point out the kind of cases suitable for operation—those which are more often seen amongst the poor than the well-to-do—but that there should be no indiscriminate arthrectomy in all cases, but only in those where rest was impracticable or had already been tried and found wanting. The use of Thomas's splints had vastly improved the non-operative treatment of joint diseases, but nevertheless there were cases where the greatest benefit would be derived from an early excision and

examination of the joint, so as to remove diseased structures only, whether in synovial membranes, cartilages, ligaments, or bone. By this plan not only were the parts about the joint placed in such a position that repair was possible, but there was also this advantage, that the tissues no longer provided a suitable nidus for the tubercle bacillus, even if that organism were not the real cause of the disease or were not already present in the joint. Remarks were also directed towards the result which it was desired to obtain—ankylosis, or a movable joint—and the reader spoke strongly in favour of ankylosis as being the best thing to be attained. It seemed a bad thing to attempt to gain movement by early manipulation, and before the parts were soundly healed, a practice not hitherto rewarded with much success, and in itself not free from risk. When movement was sought to be obtained, it was feared that the cavity of the joint might not be as thoroughly inspected as it ought to be, and diseased tissues might therefore be left behind. The object of the operation was thus not attained. Cases of Sendler and of Tilling were referred to in connection with this question of ankylosis or mobility. Mobility could only be expected in cases where the amount of disease was limited in extent, the very cases where there was difficulty in diagnosis, and where there would be hesitation to operate early. It would come to this, therefore, that in the great majority of cases which came to operation ankylosis would be the thing to aim at. The removal of diseased structures alone rendered it quite unnecessary to encroach on the growing ends of the bones, and there would be no shortening of the limb afterwards. In this respect arthrectomy was clearly a great improvement on excision, an operation which would have to be reserved for cases where there was ankylosis in a false position, or where, on opening the joint, the disease was found to have passed beyond the stage in which a mere arthrectomy would suffice. This again pointed to the advisability of early operation, unless there were the most distinct evidence of improvement of rest, for it was most desirable not to have to undertake in early life an operation at all like that of the old excision. At the close of the paper several cases were shown, and it was pointed out that some flexion which had occurred in two of them was really due to the plaster-of-Paris splint having been left off too soon, and how necessary it was in all cases to maintain support to the limb until ankylosis was secure.—Mr. EDMUND OWEN remarked that in operating it was necessary to make such an opening into the joint that every synovial crevice could be inspected and thoroughly dealt with, and for this purpose nothing in his opinion served better than the horse-shoe incision traversing the patellar ligament. In the knees on which he had operated, and which were nearly all in an advanced stage of the disease, he had taken away the crucial ligaments, and only by doing this could one reach that part of the capsule which covered the upper and back part of the condyles. He agreed with Mr. Page that in the present state of knowledge it was better not to think of securing future movement for the joint; that if the surgeon's mind were occupied with such thoughts, he was apt to deal less thoroughly with the articular cavity than he would do if his object were to secure a straight and rigid limb. Certainly to advise that movements be imparted to the joint before healing was complete, as some seemed tempted to do, looked like courting disaster. And not only should the limb be kept rigidly extended for months, or even years if necessary, but the patient should also be under prolonged and careful supervision. The cases which Mr. Page showed were indeed a promising group, and some had borne the test of time extremely well; one must not flatter oneself that because a child went out of hospital with a straight limb after arthrectomy that the case must be written down in the notebook as "cured." Unfortunately this was not so, and his (Mr. Owen's) experience had been that in certain unhappy cases amputation had, after hesitation and regret, to be resorted to at last. The practical surgeon was anxious to know precisely which were the cases best suited for arthrectomy; children with chronic abscess and displacement at the joint, though generally deserving of trial, were those least suited for the procedure. But on the other hand, if one operated only in the early stages of the disease there was a risk of resorting to active interference where no such measure was needed. To admit that the slight cases gave the best results was not to pay the highest tribute to the operation; and if arthrectomy were too lavishly resorted to it would be expedient or even necessary to invite the attendance of Mr. H. O. Thomas at the Society to call attention to the fact that absolute and continuous rest for a joint, together with the adoption of constitutional measures, was a well-tried means of successfully dealing with chronic disease of the knee in children.—Mr. SHEILD agreed with most of the opinions expressed by Mr. Page. Absolute immobility after operation was the main factor in success after either excision or arthrectomy. He had found actual cautery useful in the treatment of oozing from cavities.—Mr. BARKER hoped that ultimately, by means of arthrectomy, movable joints might be obtained. However, at present it seemed advisable to keep the limb at rest for a long time. The question of movement seemed to depend upon the choice of cases; in those which now presented themselves there was so much destruction of the cartilage, that movement could not be hoped for. Contrary to the opinion of Mr. Page, suture of the patellar ligament ought to be practised. He had found that shock, due to prolonged operations, was diminished by the use of hot water instead of the ordinary cool carbolic douche, which had also other disadvantages.—Mr. PICK had been in the habit of performing a modified arthrectomy for fifteen years. He removed a thin layer of bone and cartilage, and all the synovial membrane. His actual arthrecd tomies had given him trouble because of flexion. The whole cartilage and crucial ligaments had not been removed in these cases. It was important to preserve the crucial ligaments unless they were diseased. The tendency to flexion lasted for years. Mr. Page had got the best result in the case in which he had removed the cartilages. The other cases still required supports, and he wished to know how long this must be continued.—Mr. PAGE replied.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THURSDAY, NOVEMBER 8TH, 1888.

J. W. HULKE, F.R.S., President, in the Chair.

Congenital Lateral Deviation of the Eyes.—Mr. SWANZY (Dublin) narrated a case of conjugate lateral deviation of the eyes, probably due to a congenital lesion. The patient was a healthy child one year old. Both eyes were turned to the right, but could be turned to the left with an effort, yet not as far as the canthi, and when they passed the middle line the effort was attended with nystagmic motions. The associated action of the interni for the purpose of convergence was unimpaired. The vision was good, and the ophthalmoscopic appearances normal. After birth, the labour being natural, the child had not opened its eyes for four days, and from that time until it was two months old there was marked nystagmus in all positions of the eyes. From that age the relations, including the father, noticed the condition described, but the mother did not do so until the child was six months old, and after it had had a fall on the right side of its head, which produced a bruise. This fall was not followed by any head symptoms. Mr. Swanzy regarded the case as due to an intra-uterine lesion situated in the pons and implicating the nucleus common to the sixth and third nerves on the left side. The symptoms might have been caused by the fall producing a cortical lesion in the right cerebral hemisphere, but experience caused doubt whether a conjugate deviation due to a cortical lesion would be so permanent a symptom, while its permanence as the result of nuclear disease was in consonance with experience of nuclear paralysis in general. The evidence of all the relations except the mother was in favour of the deviation having been present before the fall. Probably the lesion was at first an irritative one and caused the nystagmus for the first two months, and then it passed on to be destructive, but destructive only in such a degree as to lame without absolutely paralysing the left nuclear centre for the third and sixth nerves. This seemed to be the only recorded case of congenital conjugate lateral deviation.—Mr. DOYNE had seen an almost exactly similar case in a boy aged 9. It was found on examination by test types that the head, which was at first straight, gradually turned to one side. On close inspection it was seen that shortly after the attention was directed to the object nystagmus began, and then the head turned to the left, the eyes remaining fixed. There had been lagging of one leg in walking for two years, but it was not known if the ocular condition was congenital.—Mr. LAWFORD mentioned that there was at least one case on record which seemed to bear upon the case just narrated. The case was that of a man who all his life had conjugate deviation of the eyes to the right. After his death it was found that the left internal rectus was absent, and that the right was exceedingly ill-developed. It was possible that a similar condition existed in Mr. Swanzy's patient.

The Ciliary Processes and the Suspensory Ligament.—Mr. LANG read a communication on this subject, in which he said that with one exception, so far as he had been able to ascertain, all the drawings and description of the zonule of Zinn had been made from prepared specimens. The exception was that of a case recorded in the *Klinische Monatsblatter* (1887, p. 205), by Professor Hjort, of Christiania. In that case the iris was completely torn away by an accident, which left an otherwise normal eye, in which the action of myotics on the ciliary processes could be readily observed. Hjort's drawing did not, however, give a representation of the insertion of the suspensory ligament in the capsule, because of the presence of the lens. In the case which he had brought before the Society the lens and iris of the left eye had been completely removed by an accident, which the patient sustained eight months previously. The injured eye had become quiet, and presented the following appearance; the lower part of the cornea was quite opaque, and adherent to it posteriorly was a thin membrane, the lens capsule, which contained between its layers a few *débris* of the lens, as well as some proliferating lens fibres, similar to those shown to the society last session by Mr. Gunn. Behind the periphery of the cornea were seen the ciliary processes, between each of which lay a bundle of fibres. About 1 mm. or 1.25 mm. from the tips of the ciliary processes, was seen the margin of the lens capsule; before reaching the capsule the suspensory ligament was grouped in separate bundles between each pair of these there was a clear space which gave room for the ciliary muscle. In his patient some of the processes filled these spaces more than others. On reaching the capsule the fibres spread out in a radiating manner for a distance of 2 or 3 mm. from the margin before they were lost to sight. The appearance just described was only seen on looking directly at the eye. On looking obliquely, each bundle of fibres forming the suspensory ligament was seen to consist of many fibres placed behind one another some being inserted at the back and some in the front of the lens capsule. On applying eserine, and again homatropine, no change could be observed, either in the size or position of the ciliary processes, although the eserine produced its characteristic pain in the eye. This absence of change in the ciliary processes was not to be wondered at, since in all probability it was brought about partially by the lens changing its shape when the ciliary muscles relaxed the ligament, and not entirely by the contraction of the muscles.—Dr. HILL GRIFFITHS considered that Mr. Lang's specimens showed that the suspensory ligament appeared to consist of a set of fibres with spaces between them, and not, as usually described, of a membrane formed of plications of the suspensory ligament. Last year he had read before the Society an account of some cases of choroiditis associated with descemetitis. If Mr. Lang's view was correct, that the suspensory ligament was a permeable structure, the explanation of such cases did not seem so impossible.—Mr. BRAILEY wrote a paper some time ago stating that the ligament was a series of fibres running from the ciliary processes and from the spaces between them to the lens margin. Behind this there was undoubtedly a continuation forward of the hyaloid membrane behind the lens capsule. If there were no membrane closing the anterior surface of the space, there would be no obstruction other than the hyaloid to the passage of fluid from the vitreous to the posterior chamber.—The PRESIDENT observed that Sir W. Bowman had many years ago described the fibres which formed part of the suspensory ligament. The general belief was that there was an extremely delicate membrane occupying the interstices between the bundles of fibres. If such a membrane did not exist how was it that the space behind the suspensory ligament could be injected without the injection fluid passing through the ligament?

On a Point in Connection with Retinal Hæmorrhage.—Mr. LANG remarked that the circular appearance seen in cases of hæmorrhage at the yellow spot was probably due to the hæmorrhage separating the hyaloid from the retina in a centrifugal manner, in the same way as a stone thrown into a pond produced a circular wave. He considered this to be the case rather than that it should be due to any particular anatomical arrangement of the hyaloid at the yellow spot, since he had seen a similar circular hæmorrhage far forward at the equator of the eye at the temporal side.—Mr. GUNN remarked that if the hæmorrhage were between the vitreous and the retina, it must have detached the hyaloid membrane.

Prince's Operation.—Mr. G. A. BERRY communicated this paper, in which he advocated certain departures in minor points from the operation as originally described. He used the so-called pulley suture, which was run two or three times out and in over a large extent of the circumcorneal tissue; this suture was thus able to bear a considerable strain, and there was no danger of its cutting its way out. The other suture he used single, and not double, and before introducing the suture he freed the muscle for some distance back, and the muscle was then perforated by the suture further back than the conjunctiva; before the ends of the suture were tied the patient was directed to look at a distant object, so as to produce a slight degree of over-correction. He thought that the advantages of Prince's method over the other operations were: 1. That as there was only one knot to tie in bringing the muscle forward, it was much easier to regulate at the time the effect required. 2. That it secured an advancement, not only of the direct, but also of the indirect, attachments of the muscle; and 3. That it obviated any vertical displacement of the tendon, and that there was less tendency for the thread to slip through the muscle.—Mr. ADAMS FROST said the object of the double suture was to regulate the amount of correction, the first, if necessary, being cut through, and the second adjusted as required.—Mr. EDGAR BROWNE considered Prince's operation had a tendency to ruck the muscle, whereas he liked to spread it out as much as possible, and therefore preferred the old double suture which could be fastened with a bow to facilitate untying.—The PRESIDENT thought that the agglutination that would take place in the first two or three days would render any loosening or tightening of the suture impossible.—Mr. LANG said that Dr. Prince altered the bow in a few hours, not days, his object being to see if the muscle had recovered its tone. To avoid the rucking, he had picked up the muscle only, and avoided the conjunctiva, transfixing only the subconjunctival tissue; there was then no rucking and no scarring; the conjunctiva was sutured separately. He had found Dr. Prince's forceps were the best for keeping the muscle flat.—Mr. MACKINLAY had found Prince's operation a good one, the only fault being the liability of the muscle to ruck up. He agreed that the suture must be regulated at the time of operation.—Mr. SWANZY used Schweigger's method; the only objection was that sometimes a swelling was left close to the cornea, resulting in a red unsightly lump, which did not disappear.

Card Specimens.—Mr. FROST: (1) Case of Double Proptosis; (2) Peculiar Changes at Yellow Spot; (3) Bifurcation of a Retinal Vein. Mr. LANG: (1) Case of Excision of Corneal Staphyloma; (2) Case of Anophthalmos. Mr. W. J. COLLINS: Section of Melanotic Conjunctiva.

MIDLAND MEDICAL SOCIETY.

WEDNESDAY, OCTOBER 17TH, 1888.

HUGH KER, F.R.C.S.ED., President, in the Chair.

Purpura.—Dr. SAUNDBY read a paper on the etiology, pathology, symptoms, and treatment of purpura, illustrated by numerous cases. The origin of the paper was a curious series of cases chiefly of the hæmorrhagic form, which had been under his care at the General Hospital during the past summer. While purpura might be broadly distinguished from hæmophilia, by the latter being always congenital and persistent, cases were quoted to show that not uncommonly some trace of a hæmorrhagic diathesis might be discovered in purpuric patients, such as a tendency to bruise easily, a liability to epistaxis, etc. Its association with erythematous eruption was illustrated by three cases. On the other hand it was known to occur at times in persons in previous good health, without assignable cause. The various pathological doctrines were discussed. In all these cases search for micro-organisms had proved fruitless, except in one fatal case where organisms were found in the tissues by Dr. Crooke, but were believed by him to be putrefactive. Dr. Suckling was inclined to believe that the disease was dependent on a toxic dyscrasia, due to some poisons produced in the body, either in the intestines, the tissues, or the blood. A case was related of purpura following an injury, when the rash spread from the seat of a hæmatoma at the end of one finger, caused by a contusion. In the only fatal case there was fatty degeneration of the heart and microscopic foci of necrosis in the liver. The temperature was raised in all the hæmorrhagic cases, in one to 104° F. The blood showed diminution of leucocytes, and hæmoglobin only when there was hæmorrhage. Epistaxis was the common form of bleeding, but free hæmaturia occurred in one case; no retinal hæmorrhages were present. Ergotin subcutaneously proved most efficient in checking bleeding; turpentine failed completely. No drug had shown itself to be of decided value in checking the eruption when this showed a disposition to persist.

Paralysis of the Fifth, Sixth, and Third Cranial Nerves.—Dr. SUCKLING showed a case in which the paralysis of the fifth was almost complete; both motor and sensory divisions were paralysed. The muscles of mastication were completely paralysed, the lower jaw, when depressed, projecting to the right side. The skin of the right side of the face exactly up to the middle line was anæsthetic, as was also the scalp as far as a line drawn vertically at the level of the external auditory meatus. There was anæsthesia of the right half of the mouth and tongue, and of the right half of the soft palate, of the right conjunctiva, and external auditory meatus. The sense of taste was impaired on the right side of the tongue from tip to root (that half of the tongue being slightly furred), smell was also impaired in the right nostril, irritating odours being scarcely perceived at all. Hearing was a little dull on the right side. There was almost complete immobility of the right eye, and the only direction in which it could be moved was downwards and inwards; ptosis was almost complete; the internal muscles of the eye had escaped, the pupil being small and responding normally to light and accommodation. There was no change in either fundus oculi. The man had contracted a chancre four and a half years before, and the right testicle was much enlarged and had lost all feeling. There was no sign of inflammatory mischief in the right eye. The lesion was evidently syphilitic, and Dr. Suckling considered that the fifth nerve was damaged outside the pons in the posterior fossa between its superficial origin and the Casserian ganglion. The sixth and third nerves being close to the fifth might be affected by the same lesion, which was probably a gumma. The absence of ophthalmia on the right side was attributed partly to the presence of ptosis on that side, but he also considered that it showed that the nerve was damaged behind the ganglion, the fact that both motor and sensory roots were injured showing that the trunk of the nerve and not its nucleus was the seat of the mischief. The escape of the intra-ocular branches of the third nerve suggested an affection of the nucleus, but might occur from pressure on the trunk of the nerve. The contraction of the pupil on the right side might be explained by injury to the sympathetic dilating fibres which pass to the orbit of the fifth nerve. The man had improved under iodide of potassium and mercury internally, with inunction of blue ointment daily. Dr. Suckling also pointed out that neuralgia in all three divisions of the fifth nerve was the first symptom in the case, and he laid stress on the importance of searching for anæsthesia in such cases, which if present would be a certain indication of organic mischief.

Lamp for Medical Purposes.—Mr. EALES showed a new lamp suitable for the reading table and for ophthalmoscopic and laryngoscopic examinations. It was made by the Corporation Gas Department and was moderate in cost.

Symmetrical Caries.—Mr. EALES also showed a case of symmetrical caries of the malar bones in a child.

Spastic Hemiplegia.—Dr. SUCKLING showed a case of bilateral spastic hemiplegia in a child; other members of the family suffered from allied disorders.

Addison's Disease.—Dr. KIRBY showed the kidneys and suprarenal bodies from a case of Addison's disease. The kidneys were large, and the adrenals broken down by suppurative changes. The patient was a young woman, and had been ill for four months; the leading symptoms were mental delusions, headache, constipation, enlarged spleen, and bronzing of the skin during the last two months of life. Two years before she had a similar attack, from which she had completely recovered.

Macewen's Instruments.—Mr. JORDAN LLOYD showed Macewen's instruments for spinal operations, also his hernia needles and periosteal raspatory.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

WEDNESDAY, NOVEMBER 7TH, 1888.

JOHN SMITH, M.D., F.R.C.S.E., President, in the Chair.

Unusual Form of Laryngeal Neurosis.—Dr. M'BRIDE showed a young man suffering from what he believed to be paresis of the crico-thyroid muscle. The patient's voice approached the *falsetto*, but when proper tension was restored to the cords by mechanical adjustment from without of the thyroid and cricoid cartilages, imitating the action of the crico-thyroid muscle, normal voice resulted. The condition was rare, and in the present instance was probably due to neurasthenia.

Osseous Cysts of the Middle Turbinated Bodies.—Dr. M'BRIDE also showed a patient who had suffered much from nasal obstruction. Examination revealed the presence of more than one tumour mass, which subsequent puncture proved to be osseous cysts of the middle turbinated bodies.

Alcoholic Paralysis recovered after Treatment by Massage.—Dr. AFFLECK showed a young woman who, on admission to the Royal Infirmary, had presented unmistakeable signs of alcoholic paralysis. The paralysed muscles were peculiarly sensitive to pain, the patient wincing under a very moderate degree of pressure on the belly of many muscles of the extremities. After some fruitless efforts, Dr. Affleck subjected her to a course of massage. This line of treatment was systematically carried out by Dr. Laing, a former resident, who had devoted especial attention to this department of study, with the happy results that the paralytic phenomena gradually disappeared. The patient could now make use of both upper and lower extremities with fair freedom.

Extensive Lupus Erythematosus.—Dr. ALLAN JAMIESON showed a woman with remarkably widespread lupus erythematosus; the face, neck, trunk, and extremities were all affected. Under treatment by means of a calamine lotion, with sulphur and boracic acid, the disease had begun to yield.

Paper.—Dr. PEEL RITCHIE, President of the Royal College of Physicians, Edinburgh, read a critical annotation on the Report of the Departmental Committee appointed to inquire into pleuro-pneumonia and tuberculosis in the United Kingdom, in so far as the report dealt with the latter subject. Dr. Ritchie thought the Committee's report most able, and their recommendations, subject to some slight modifications, satisfactory.

REVIEWS AND NOTICES.

ON THE TREATMENT OF RUPTURE OF THE FEMALE PERINEUM IMMEDIATE AND REMOTE. By GEORGE GRANVILLE BANTOCK, M.D., F.R.C.S.Ed., Surgeon, Samaritan Free Hospital for Women and Children; Ex-President, British Gynæcological Society, etc. Second Edition. With Twelve Illustrations. London: H. K. Lewis. 1888.

DR. BANTOCK'S work on rupture of the perineum first appeared in 1878. The author states that, by discarding certain appliances which experience has shown him to be prejudicial rather than advantageous, and by reducing the operation to its simplest possible form, his modification of that operation has stood the test of twenty years' practice. He claims success in every case, excepting that in one instance a small fistulous track was left; but this complication, he affirms, caused no inconvenience to the patient.

The author still prefers silkworm gut to any other substance for sutures, which he now introduces by the aid of Hagedorn's needle holder. The chief special features of the author's operation and the after-treatment of the patient are—avoidance of rapid manipulation, the discarding of all dressings ("unless the patient be very stout, when a piece of simple absorbent gauze is placed between the opposing parts. This absorbs any perspiration, and keeps the wound dry"), and the rejection of opium, alcohol, and milk diet. The deep sutures are passed completely under the raw surface, and not made to bridge over it. Dr. Bantock objects to rapid operating, for he finds that when the raw surface is exposed for some time there is less risk of after-hæmorrhage. Operations dexterously performed and concluded in ten minutes have frequently failed, as the bleeding has been imperfectly arrested. The author gives no opium, partly because the pain is usually so slight, partly because that drug promotes sickness and constipation. He never gives alcohol, believing that all cases are better without it. The dietary after operation should be much the same as after abdominal section. No doubt too low a diet does harm, and too much milk induces a troublesome form of constipation.

The present edition is adorned with an instructive series of woodcuts, far superior to the plates in the first issue.

CREMATION.—The remains of Mr. Edward Mason, a well-known Kentish brewer, were removed from Maidstone to Woking on October 29th for cremation, according to his expressed wish.

THE SANITARY INSTITUTE.—At a meeting of the Council of this Institute, held on October 25th, Sir Douglas Galton, K.C.B., F.R.S., in the chair, thirty-eight Members and Associates were enrolled.

NOTES ON BOOKS.

Annual Meteorological Review of the State of California for 1887. By JAMES A. BARWICK. 8vo., pp. 232. (Sacramento: 1888.)—In noticing this work, which supplies ample material for the study of the meteorology of California, we shall confine ourselves to an abstract of Dr. J. W. Robertson's short account of its climate and health-resorts. We regret that it is not more extended. The climate of California may be divided into coast, valley, and mountain. The coast climate extends several hundred miles south and north, and reaches from five to twenty-five miles inland. The valley belt beyond the coast range is characterised by rainless summers and dryness of air. Climatically speaking, the therapeutic area of Southern California is small. It is limited to those localities which are directly influenced by the ocean breeze, and only extends a few miles inland. In the valleys back from the coast the summer heat becomes unbearable; there is but slight vegetation, and good water is not easily got. The winters are said to be mild, dry, and wonderfully invigorating. The climate of Los Angeles is mild and delightful, and it is the new Mecca to the majority of invalids. But the climate of San Francisco makes a poor impression on the invalid. During the early morning, and ordinarily until near noon, the bright sky, the mild and bracing atmosphere, produce almost a delightful state of intoxication. But in the course of an hour all is changed. It is no longer a breeze, it is a hurricane bearing a swaying cloud of dust, fine sand, and rubbish. Strange to say, the inhabitants soon become accustomed to this. But there is another climate a few miles inland at the foot of the hills, protected from the full force of the breeze. Here are many valleys with climate equal to that of South California, and they are fast being occupied as health-resorts. Still further inland among the hills there are various promising stations of moderate elevation. Mineral springs, both hot and cold, rise in great numbers among the hills. They are mostly in Central California. Perhaps Lake County has the most abundant supply, and in this region alone some thirty locations have been made, buildings erected, and health-resorts established. Dr. Robertson gives a word of caution, and says that he cannot unreservedly praise the climate of the valley belt. Many cases of malaria, diphtheria, and other epidemic diseases here rankly flourish, especially in those localities along the Sacramento and San Joaquin rivers that are annually overflowed. As to the influence of the climate on disease, rheumatic cases and persons of bilious temperament should avoid the coast and seek the interior and some of the springs. Dr. Robertson says that consumption is supposed to be favourably influenced by the modified coast climate, especially when there are no bronchial complications, but he does not speak confidently. On the whole, he thinks consumptives should choose the region south of St. Barbara. Certain portions of the mountain belt may be recommended for them. Mineral waters are specially to be avoided.

Landmarks, Medical and Surgical. By LUTHER HOLDEN. Ex-President of the Royal College of Surgeons of England, Consulting Surgeon to St. Bartholomew's and the Foundling Hospitals. Fourth Edition. (London: J. and A. Churchill. 1888.)—This admirable publication still maintains its popularity amongst students. Mr. Holden, in the preface to the new edition, emphasises his decision not to introduce diagrams. Experience, he says, more than ever convinces him that they would frustrate his main object, which is to urge students to acquire the habit of making the eye and the hand work together, and to educate the touch upon the normal living body. He maintains that without such practical training we cannot reasonably expect to form a correct diagnosis when called upon to examine an injury or to detect a disease. The nature and method of *Landmarks* is well known to every anatomical teacher and to most British surgeons, so that we need not dwell on the subject. The book is written by one of the few British anatomists who can make a manual of anatomy actually readable in a literary sense. Mr. Holden states that he has been assisted in the task of preparing the present edition by Mr. Bowlby, the Surgical Registrar of St. Bartholomew's Hospital, who has added additional landmarks concerning the principal nerve-trunks of the limbs.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

A NEW SURGICAL ELECTRIC LAMP.

DR. TH. STEIN (Frankfort-on-the Main) has described (*Therap. Monatshefte* ii, 9) an electric lamp apparatus which presents some novel features. Fig. 1 is a diagrammatic representation of

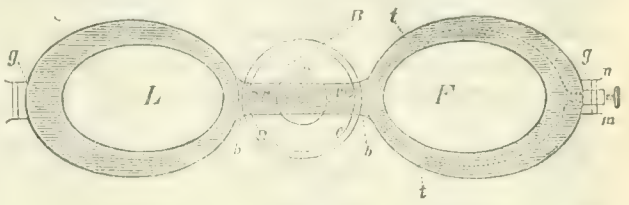


Fig. 1.

the construction of this apparatus. *L* and *F* are two spectacle rings of vulcanite connected by an ivory isolating band, *b b*. These spectacle rings can, if necessary, be fitted with lenses to correct any abnormality of vision in the observer. The ivory band carries two small metal rods, *r* and r^1 (r^1 in Fig. 2), to which a

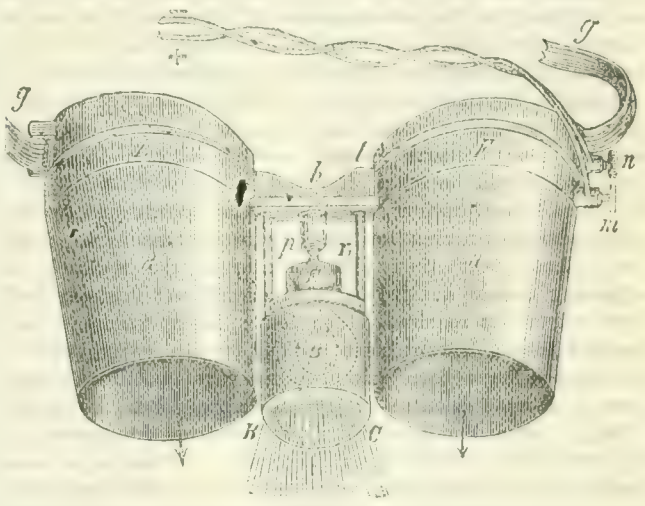


Fig. 2.

light metal cylinder, *B*, containing a glow lamp, is attached; in front of the glow lamp is a hemispherical lense *R C*. Each of the spectacle rings carries a black cylinder of stiff cardboard, *a* a^1, which shades the eye of the observer from the glare of the lamp and from extraneous lights. The wires from the battery supplying the current are connected with the apparatus by the screws *n m*. The spectacle ring *F* (Fig. 1) contains the two isolated wires connected on the one side with these screws and on the other with the rod r^1 and with the knob *p*, and through these two connections with the glow lamp. The apparatus as shown in Fig. 2 weighs 48 grammes, about 1¾ ounce. It is adjusted in situation by the elastic band *g g*. The size of the field of light can be altered by shifting the lens *R C*.

Among the advantages claimed for this apparatus are that the line of light and of sight are always in the same plane, that the apparatus is not heavy, and that its construction is so simple that it can be made by any workman. The current is obtained from eight chromic acid cells. Dr. Stein thinks that the apparatus will be useful, not only to the laryngologist but also to the gynæcologist, and to the general surgeon for the illumination of wounds, the apparatus permitting the light to be brought close to the object to be examined. It is manufactured by R. Blansdorf, of Frankfort-on-Main.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st; and notice is hereby given, in accordance with by-law 5, that Branch Secretaries' subscription-accounts close on October 31st, and all unpaid subscriptions must be forwarded, after that date, to the General Secretary, 429, Strand, London. Post Office Orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, NOVEMBER 17TH, 1888.

THE ROYAL COLLEGE OF SURGEONS.
II.

SINCE the article which we published in our last issue was in type, we learned with regret that the governing body had accepted, at their meeting on the afternoon of the 8th, a resolution which we can only characterise as a declaration of war. We deeply regret this rash and reckless action, and we fail to see anything in the circumstances of the case which could warrant so precipitate and absolute a refusal to meet the very reasonable and moderate proposals put forward as a basis of negotiation by the large majority of the Members of the College. It cannot be denied that the attitude of the majority at the recent annual meeting was conciliatory. If any objection should be taken, it would be rather that on this, as on all the previous occasions, the spokesmen of the party who are pressing for reform were so anxious to avoid any offence that they almost incurred the reproach of appearing to take a more timid position than the strength of their arguments required. The few speakers who have attempted to put forward some apology for the contentions of the Council have been driven, by the very weakness of their case, to assume a more or less moderate tone. Even the "reply" which the governing body submitted in answer to the statement of the Fellows' Association at the commencement of the present year, was couched in modest language, and did not appear to be at variance with the remark made by Surgeon-Major Ince at the recent meeting, to the effect that there was, after all, a "strong desire" on the part of the Council to meet the wishes of the Fellows and Members of the College. Yet within a week after the adoption by the great majority of that meeting of a series of resolutions declaring their demand for a further consideration of the grave questions at issue, the Council resolved, without further parley, to refuse all the requests preferred, and added, with a pleasant irony, the observation that they deemed it best in the interests of the College that the discussion on the subjects which have been in dispute should close with the grant of the supplemental charter, and that, "on behalf of the College," they trusted that these questions would now be allowed to rest. Seeing that "the College" had by decisive majorities in the previous week declared that it was necessary for the interests of the College that immediate steps should be taken to proceed to a settlement of the matters in question in accordance with the general sense of the Corporation, the resolution of the Council might well suggest to a hostile critic the trite remark about adding insult to injury. It is clear, however, that notwithstanding the unwisdom of the governing body, the world and the College must go on; and we proceed accordingly to carry out the promise which was made at the conclusion of the article which appeared in our last issue.

For the due consideration of the matters which are now in controversy, it is manifest that the questions to which the highest importance ought to attach are those which relate to public policy, and to the advantage of the whole community, the medical profession, and the College itself, under the conditions of the present time. At the same time, since England is above all things a country in which the present is inextricably interwoven with the past, it is in truth impossible, as those who have followed the course of this discussion will be already aware, to appreciate the true meaning of the debate without remembering in the first place something of the history, constitution, and inherent character of the College, as bearing upon the position and rights of the Members of that body. Without entering upon legal technicalities, it is beyond doubt that the corporation now known as the Royal College of Surgeons in England has had a continuous life for some five hundred years, as one of those powerful craft-guilds or fellowships by which in earlier times the principle of self-government was applied to all the skilled employments throughout Europe. It was, like other guilds, not only in name but in fact, a "fraternity." Its Members were a self-governing body, bound to mutual help, and having each an equal share in the privileges and the powers of the community. By the very nature of a guild, its affairs were conducted by annual and other meetings, at which all Members were not only permitted, but compelled, to attend, that the common interest might not suffer by default. The "Masters" were elected by these meetings freely. The "ordinances" were made and altered there, by free discussion and open vote, and the officers were sworn to preserve them. The property of the guild was so evidently the property of all the Members, that it was customary to bring in the chest which contained their corporate wealth, and have it physically before the annual moot, that public accounting might be made. The Company of Surgeons was in those days as democratic an institution as the wit of English citizens could devise.

With the change of political and social circumstances the guilds changed also. At the end of the Tudor and beginning of the Stuart times the governing body of this, as of all guilds, is found to have gathered to itself powers of control which the original fraternities would never have tolerated. And the usurpation went so far that, under charters of that period, the "Court of Assistants" came to be a self-elected and autocratic body, and was found to be as corrupt and inefficient as such bodies are too often apt to become. By their flagrant abuse of their power and disgraceful neglect of their duty, the College underwent a partial dissolution at the close of the last century; but its continuity was not really broken, for all its rights and franchises were restored, with sundry new provisions as to government, by the Charter of 1800, from which the charters of the present century follow on. By these it is undoubted that large executive powers are given to the "Council," and although they are not entitled to

be so autocratic as in the former evil times, the authority vested in them is infinitely wider than any legislator of the present time would dream of conceding to such a body. But the important constitutional point is this—that in all these charters, and, indeed, by the very nature and character of the Corporation itself, the Members necessarily retain every right which has not been validly taken away by some express provision. This, of course, is what the Fellows and Members feel, and what the Council cannot be induced to see.

It is only necessary to realise what the original and inherent nature of the College is, to understand at once what a travesty is the Council's theory of its present constitution. According to them, the executive has swallowed the whole community. They, the junta of practically irresponsible governors, are the proprietors of the College, or, indeed, they are the College itself. To Mr. Heath, for example, it seems just that they should, without the consent of the commonalty, give the President a purse of sovereigns out of the common stock as a token of their esteem. To all of them, apparently, it seems to be self-evident that their constituents, whether Fellows or Members, have no more to do with the accounts and expenditure than the general public who may read about it in the newspapers. They have even the courage to assert and to maintain, following the evil precedent of the days when important meetings of the College were suppressed by force, that none of the Members have any right to meet in their own hall, and that if by special grace they do meet, they have no right of free discussion. Finally, they have not hesitated first to arrange a charter in flat defiance of the opinion of a constitutional meeting convened and consulted by themselves, and then administer to the College a round refusal with an added snub, when they venture to express a desire for further negotiation.

The humour of the thing comes out in their own communication to the Privy Council. In correcting, with an air of injured innocence, the suggestion that the Members had practically no privileges within the College, they remark that "the Members have the privileges of admission to the Museum, to the Library, and to all lectures delivered within the College walls, of competing for the College prizes, and of being eligible for certain examinerships and lectureships." What more could the members of any commonwealth desire? And yet of the 17,000 names in the Calendar there have been found hardly any who are satisfied.

The truth is that even after the long period of misrule and more or less qualified autocracy, the inherent instinct of self-government has broken out anew. The College feels that it is not the property of any Council, however personally eminent. It not only denies this, but it insists that the executive power shall be limited by due criticism, and shall act within some constitutional limits. Exception, as we all know, is taken to particular points of the Council's policy; as, for example, to their defiance of all reason in the matter of the negotiations with the Apothecaries' Company, and to their aimless method of expending the late munificent bequest. But these, however serious, are matters of detail. The main point is that the College has reaffirmed its right to some kind of self-government, and is seeking to resume its true character, so far as at this time it may. If the Council persists in its defiance, it will be of vital consequence to ascertain the legal aspect of the case. With this, therefore, as with other more general questions, we shall deal later.

THE BOWMAN LECTURE.

Mr. Swanzy was singularly happy in the subject he chose for the Bowman Lecture, before the Ophthalmological Society. It would be impossible to find any subject possessing a more general interest to the members of the Society than that of the localising value of the eye-symptoms in cerebral disease. The lecturer did not aim at telling his hearers anything very novel, but he certainly succeeded in presenting all the known facts bearing on his subject in a most instructive form.

Eye-symptoms may be either direct or indirect, or, as Mr. Swanzy, with good reason, prefers to class them, direct or distant. A symptom is held to be direct when it is due to the destruction of the part concerned; distant when it is the result of some vascular, molecular, or possibly inhibitory disturbance of the part; it is not always possible to say at once whether a symptom is a direct or a distant one. His subject naturally divided itself into two parts, quite distinct and differing from each other in important respects, the first relating to the symptoms referable to disturbance of the motor apparatus of the eyeball, whether external or internal, and the second to disorders of the visual apparatus. In the former case the assistance of the patient is for the most part unnecessary, and the majority of the symptoms can be investigated even when the patient is unconscious; in the latter case the intelligent aid of the patient is absolutely essential.

The most common form of disturbance of the oculo-motor apparatus is undoubtedly conjugate lateral deviation. The exact area in the cortex which corresponds to this associated movement of the internal and external recti is unknown at present, and this is not a matter of much importance, seeing that it is probable that conjugate deviation is very readily produced as a distant symptom, and further that there is reason to believe that when the centre for this combination is damaged on one side, the centre on the opposite side soon learns to replace it; so that whether it is a direct or a distant symptom, is of very little practical bearing. It has long been known that in paralysis with conjugate deviation from cortical lesion the eyes are turned towards the lesion, and away from the paralysed limbs, and the same is true of the internal capsule, so that in a case of cerebral haemorrhage, when this symptom is present, a rough diagnosis as to which cerebral hemisphere has been damaged is easy. If the haemorrhage is into the pons, the opposite condition obtains, and the deviation of the eyes is towards the paralysed limbs and away from the side of the lesion. If the patient is capable of making the effort, it will be found that he can turn the eyes away as far as the middle line but no further. The nucleus for the associated lateral movements of the eyes is believed to reside in the superior olivary nucleus. Further details as to the exact situation of the lesion in the pons may be made out by investigating the condition of the other cranial nerves. Thus ptosis or paralysis of the sixth nerve may coincide; in the latter case the affected eye will remain permanently deviated, whilst the patient can turn the other eye as far as the middle line. A lesion lower down in the pons will result in paralysis of the sixth nerve without any conjugate deviation. Paralysis

of the other associated movements of the eyes is very rare, and generally coincides with lesion of the corpora quadrigemina, though this perhaps is only owing to their proximity to the third-nerve nucleus. Ptosis is not uncommon by itself as a cerebral lesion, though the two levators act more or less in common: when present with paralysis of the opposite side of the body, it would show disease of the crus cerebri. If both paralyses did not come on at the same time, the probabilities would be strongly in favour of two separate lesions, neither of them necessarily in the pons. Complete paralysis of the whole of the third nerve may almost certainly be regarded as evidence of a basal lesion, and the same may be said of isolated paralysis of the fourth or sixth nerves. But when the sixth nerve is paralysed from disease of the pons, there will be also hemiplegia of the opposite side of the body, whilst sixth-nerve paralysis on the same side as the hemiplegia must be considered as pointing to a cortical lesion, and it must then be regarded as a distant symptom. Nystagmus has no localising value.

The information that can be derived from an examination of the pupils is, excepting in one condition, disappointing. They may afford evidence of some service in the differential diagnosis of the various states of coma, but they are not very reliable guides for purposes of localisation; thus it is commonly taught that in hæmorrhage into the pons the pupils are contracted, but they are not infrequently normal, and they have been found contracted in lesions of the corpora striata and lateral ventricles. Persistent dilatation of one pupil would indicate paralysis of the third nerve.

In regard to the second portion of this subject—the investigation of visual defects—it is essential that the patient should possess and be able to exercise some degree of intelligence. The most common form of visual defect, and it is of great localising value, is hemianopsia, that is to say, loss of the inner half of the field of vision of one eye and the outer half of the corresponding eye, the defect in each instance extending up to, but not beyond, the middle line. When this defect exists equally for colour, form, and light perception, the patient is said to suffer from complete absolute lateral homonymous hemianopsia, and the lesion may be situated anywhere between the cortical area of the visual centre and the optic chiasma. From pathological experience we learn that in the cortex it is the occipital lobe in which this function resides, and more particularly in the cuneus, superior occipital convolution, and posterior part of the superior and inferior occipito-temporal convolutions, and when the hemianopsia is unaccompanied by other cerebral symptoms, such as hemiplegia, aphasia, hemianæsthesia, or paralysis of a cranial nerve, the lesion may be confidently assumed to be either in these convolutions or in the optic radiations immediately beneath them. But it is to be noted that hemianopsia is occasionally met with as a distant symptom at the commencement of a cerebral attack. In a few instances the patient has retained his light-sense, whilst the other two are lost, and sometimes the colour-sense alone is lost, a condition—to give it its full professional title—known as hemiachromatopsia. The exact relative positions of the separate centres for colour, form, and light-sense are not yet known, but the fact of the isolated loss of any one of them would be almost conclusive evidence of a cortical lesion. Hemianopsia may be due to a lesion of the posterior third of the internal capsule, but if so it would be accompanied by hemianæsthesia of the opposite side of the body, and, in the case of a left-sided brain lesion, by aphasia as well, whilst if due to a lesion of the optic tract we have a certain means of diagnosis ready to hand in the condition of the pupil. If when the light is concentrated on the blind side of the field the pupil does not react, the lesion must be in the optic tract, whereas if the pupil does react the lesion cannot be in the tract, and Mr. Swanzy quoted a most interesting case of blindness from loss of the field of vision of both halves of the eyes, due to a cortical lesion on one side and to destruction of the other optic tract, so that if this condition of the pupil had been carefully tested, an absolutely accurate and exceedingly brilliant diagnosis might have been made.

The value and significance of hemianopsia and other objective symptoms were then considered. The mere mention of a few of these shows how recent is our knowledge on this subject: "Alexia," or word-blindness, a condition in which the subject of it appears to have forgotten the meaning of printed symbols, although he sees them perfectly; "dyslexia," or a disinclination amounting almost to an inability to continue reading after a few minutes; "mind-blindness," in which external objects are clearly seen, but their significance is forgotten, the instance being given in which a man was unable to distinguish his wife from his mother-in-law by their faces, although he recognised the latter immediately by her voice. The very nature of these symptoms shows how the whole subject bristles with difficulties. Their purely subjective character would render it almost impossible to discriminate between them except in the case of very intelligent patients, and even with such the observer would require to be exceedingly careful, and to spend much time in the investigation. The lecture contained a very exhaustive abstract of the foreign writers on the subject; but did not the labours of our own countrymen, such as Hughlings Jackson, Gowers, and Ferrier, deserve more than a passing mention?

Mr. Swanzy concluded with a very eloquent tribute to the value of the work of Sir William Bowman both to the profession at large and to the science of ophthalmic surgery. The foundation of the Ophthalmological Society is due in a very large measure to his liberality, while his able occupancy of the presidential chair for the first three years of its existence did much to ensure that successful career which it has pursued ever since.

EXAMINATIONS IN OPERATIVE SURGERY.

The College of Surgeons is too often associated with disputes between its Council and its licentiates. On that account it is pleasant to turn from disregarded petitions of Members, and from large expenditures for building museums and libraries, to a feature in the meeting of the Council on November 8th. On that occasion Mr. Macnamara moved that it be referred to a committee to consider and report to Council whether it be desirable, and, if so, practicable, that candidates for the Membership of the College be examined in operative surgery on the dead body. This motion was seconded by Mr. Pemberton, and a committee was at once nominated, to consist of the Presi-

dent and Vice-Presidents, Sir W. Mac Cormac and Messrs. Bryant, Macnamara, and Berkeley Hill.

A large proportion of those who pass the final Membership examination set up as practitioners in the Colonies, or in distant parts of the United Kingdom, where consulting surgeons are not at hand. The practitioner may be called upon at any moment to perform an operation, and he may undertake to operate under less urgent circumstances. The College is bound not to let loose on society men who are incapable of being up to the occasion in emergencies, or who attempt to get large fees by gaining from the public a confidence which may be undeserved. The present "practical" examination is ludicrously insufficient. The candidate is asked the names of knives and other instruments, as if knowing names and perhaps sawing the air or twisting handles about could prove his operative abilities. Greatly in contrast to the Membership examination, in this respect, is the final test for the diploma of Fellow, where the candidate has to perform a major operation on the dead subject. The conditions of actual practice are fairly imitated, for his nerve is well tried, not, it is true, by the weight of responsibility to the patient, nor by the fear of hæmorrhage, but by the presence of examiners accustomed to operate, and by the never-absent fear of being "plucked." Hence the value and feasibility of a practical test in operative surgery is proved by the experience of the College itself, as well as by that of surgical examinations elsewhere.

Unfortunately there is a great obstacle in the way. Subjects are scarce, even for the medical schools. The College may be able to arrange matters with the Government Inspector of Anatomy, but, if not, some steps for an increased supply of subjects should be gravely considered. The College must not allow the public to be supplied with half-educated and imperfectly examined men, who are legally created surgeons by the College diploma, yet may in many cases be unable to perform the most serious and most purely technical duties of their branch of the medical profession. If Members have to operate as well as Fellows, and such is the case, the Council must see that they can operate, just as is done in the case of the Fellows.

THE President of the Royal Statistical Society will deliver his inaugural address on Tuesday, November 20th, in the Society's rooms, the Royal School of Mines, Jermyn Street, at 8 o'clock.

THE annual course of the Brown Institution lectures (open to the public) will be delivered by Mr. Victor Horsley, at the University of London, on November 28th and 30th, and December 3rd, 5th, and 7th, at 5 P.M., on the subject of "Epilepsy."

THE METHOD OF RAISING THE EPIGLOTTIS.

THE adjourned discussion at the Medical Society of London on the paper read at a previous meeting by Dr. Benjamin Howard, of New York, and published in the JOURNAL this week (p. 1103), will be held on Monday next. The paper contains much new matter of importance, and a thorough discussion of the true value of the facts alleged and treatment proposed would be a great advantage. It is a subject upon which not only anatomists and surgeons ought to be able to throw light, but is one of great interest to chloroformists.

DR. TIDY'S LECTURES TO BARRISTERS.

IN continuation of his previous course, Dr. Tidy is lecturing at the Middle Temple during the Michaelmas Term on "Toxicology." He groups the poisons under the head of corrosives, irritants, and neurotics, drawing the attention of his hearers in reference to symptoms especially to the fact that with certain poisons the mind remains unaffected to the last, while in the case of other poisons mental disturbances occur more or less rapidly after the drug has been absorbed, these facts, of course, having a special bearing on death-bed evidence and testamentary capacity, and further pointing out that the precise order of symptoms may prove of importance in a medico-legal inquiry. The circumstances modifying the action of poisons and the diseases that may simulate poisoning, or may be simulated by poisoning, come in for a due share of attention. The treatment of poisoning is next dealt with, as also the duties of the medical practitioner where he suspects that a person is being or has been poisoned, and the circumstances that would lead to the suspicion of a person having taken poison. The last lecture will treat of the method of making a *post-mortem* examination and the appearances indicative of poisoning.

REGINA V. CLARENCE.

FOR a man to give his wife syphilis may be an unlawful act in the sense of being cruel, but it is not an offence which justifies a conviction upon a criminal charge. Such is the verdict of the Court of Appeal in a full court of judges by the decisive majority of nine to four. Horrible as the disease is in itself, and terrible as its far-reaching effects are, we nevertheless recognise the strength of the legal grounds on which the majority of the judges declined to consider that the existing statutes can be construed to apply to the transmission of syphilis from husband to wife. Perhaps the chief point in the case was the question as to the woman's consent to the act, which was undoubted. Those who were in favour of a conviction urged with much truth that had the woman known what would be the full consequences of the act, she would have resisted, and would have been legally justified in resisting, that the act she had consented to was an innocent and lawful one, and that consent to one act which was innocent was no consent to another which was different. But on the other side it was argued that the doctrine that fraud vitiates consent was not applicable in this instance, and that mere suppression of a fact did not render criminal an act in itself lawful. A case which was decided some few years ago by the late Mr. Justice Willes in an opposite sense presented this very important difference in that there the parties were not husband and wife. The language used by the judges in reference to the act as abominable, cruel, wicked, foul, and atrocious barbarity, and a most malignant injury, is not one whit too strong. The question remains how far this decision calls for a revision of the law. To communicate scarlatina knowingly is an offence against the law. Why not, then, to communicate syphilis? Such a law would, of course, apply alike to both sexes. At present, this dire disease may be propagated with impunity; the innocent are the sufferers, and their case calls for relief.

THE TZE-TZE FLY AND MAN.

ALL who have read works of travel in Central Africa must be aware that the country is infested with the tze-tze fly, the bite of which insect is fatal to beasts of burden. Hence, amongst many tribes men ride on the backs of their slaves for lack of horses, a custom which, according to Sir Richard Burton, accounts for the tale of Sindbad and the Old Man of the Sea. That the tze-tze is a grave impediment to efficacious transport in equatorial Africa has long been known. The question as to whether it is noxious to man is much disputed. Father Leroy, a Catholic mis-

sionary, has recently been enabled to forward a number of specimens of the fly to M. A. Laboulbène, who is about to make a series of inoculations, together with Professor Straus, in order to investigate the nature of its poison. In making his way towards Zanzibar, Father Leroy crossed a barren plain, where buffaloes, zebras, giraffes, and antelopes abounded. From sunrise to sunset the tze-tze let him have no rest. After receiving 200 bites, he began to suffer from a disease which he likened to urticaria; it lasted two days. During a previous expedition he suffered from the same affection, and, as the itching was intense at night, preventing all sleep, and the fly attacked him all night, the reverend missionary must have suffered fearful discomfort and much consequent exhaustion. Shortly before the passage of the caravan with which he travelled on his second journey a warlike tribe had encamped on the desert plain with 300 oxen. The neighbouring tribes, on the alert, suddenly lost sight of the enemy. It transpired that the tze-tze fly had worried the oxen so that the aggressors had to retreat. M. Laboulbène considers, in a communication recently made to the Académie de Médecine, that Father Leroy's evidence proves that the tze-tze's bite cannot be venomous to man. Whilst it is known to kill cattle, and in this case scattered a large herd, a human being bore 200 bites with no other result than a kind of urticaria, such as frequently follows the bite of small flies in Europe. There is no proof that the poison of the tze-tze is simply conveyed to cattle and horses from carrion.

AUSTRIAN JUVENILE INEBRIETY.

THE temperance of Austrian women has long been proverbial; but, if the accounts recently published respecting the intemperance of boys and girls in that country are reliable, we fear that Austria will not long continue to sustain its former good character for feminine sobriety. So serious and widespread has inebriety been of recent years among school children that the Vienna School Board have, though hitherto ineffectually, been making strenuous efforts for the prohibition of the sale of intoxicating drinks to children. The Board has just resolved to invoke the intervention of the Government, and a Bill is to be laid before Parliament during the present session to prohibit the selling of intoxicants to boys and girls under 15 years of age. So alarming is the present state of matters that the appearance of a boy at school in a state of drunkenness is by no means a rare sight. During the winter poor children are often sent to school with only a glass of the cheapest spirits for breakfast, partly to allay hunger and partly to "keep out the cold"—that venerable delusion which still lingers in England. Slav children of the tender age of 5 and 6 years are so "seasoned" to alcohol from infancy by the administration of small quantities in milk that these youthful scholars can take a liberal dram without showing any symptoms of intoxication.

POLYANDRY.

THE form of polygamy with which we are most familiar is that where the husband has more wives than one. Amongst some nations, in a more or less uncivilised state, it is, indeed, as much the custom as monogamy is in civilised countries. Another form of polygamy, where the woman has more than one husband, called polyandry, exists in several parts of the world widely separated from each other. Thus, it has been found among the people inhabiting the centre of Ceylon; among the Todas and Nairs of Southern India; among the Iroquois Indians of America; among the aboriginal inhabitants of Tasmania, before they became extinct; and it is found to be especially prevalent among the inhabitants of Tibet. As practised in the latter country, it seems to differ from the custom in other countries where it occurs, in that the husbands are brothers or nearly related kinsmen, so that the woman becomes the wife of a whole family. Instances, where as many as five or six brothers have one wife in common to all of them, have been recorded; but in most cases a woman has not more than two or three husbands. The choice of a wife for the family is the right of the eldest brother, whose marriage contract involves contracts with all his brothers. The children are regarded as the common property of the house, and all the husbands are treated as their fathers without distinction. The custom appears to work peaceably and well, and is practised by all classes of the community. The effect of its existence is that there is a large surplus female population, who are provided for in nunneries, where they learn to read and copy the Tibetan Scriptures, and are otherwise engaged in religious services. It seems to prevail wherever the Tibetan language is spoken, even in districts on the Indian side of the mountain boundaries of the country, though, in places where the people have come much in contact with Hindus and Mahomedans, the reverse form—plurality of wives—is also to be found. The system is said to have existed since pre-historic times, so that the cause of its origin is speculative. It seems to be in no way connected with the Tibetan religion. The suggestion has been made that it arose in troubled times, when men were forced to be absent from home for long periods, and the defence of their wives and families devolved on the younger brothers left behind. The view which most travellers seem to adopt is that it owes its origin to the poverty of the country and the desire to limit the population. The custom may possibly be another form of that which existed in Biblical times, where it was the duty of the younger brother, in the event of his elder brother leaving children, to marry the wife of his deceased brother.

THE PASTEUR INSTITUTE.

THE new Pasteur Institute at Paris was opened on Wednesday, November 14th, by the President of the Republic, who was accompanied by M. Floquet, M. Goblet, M. Lockroy, M. Jules Ferry, the Presidents of the two Chambers, the Turkish Ambassador, and several other political notabilities. A large number of Members of the Institute, including the Duc de Broglie, M. Léon Say, M. Jules Simon, M. Duruy, M. Berthelot, and Baron Alphonse de Rothschild. The large library in which the ceremony took place was filled to overflowing. The President of the Republic took his seat shortly after one o'clock, having M. Pasteur on his right. The proceedings opened with a brief speech by M. Bertrand, the Secretary of the Academy of Sciences, who eulogised M. Pasteur and his manifold researches in the domain of science. Dr. Grancher followed with an interesting statement in which he spoke rather strongly of the systematic opponents of the Pasteurian method, who, instead of meeting him in fair argument, denounced him as a charlatan. He contrasted this with the action taken by the Committee of investigation appointed by the English Government, and he quoted with pride the report of this Committee, which, including eminent men of science, like Sir Henry Roscoe and Sir James Paget, had, after long and patient investigation and experiments, come to the conclusion that M. Pasteur had discovered a preventive against hydrophobia comparable to that of vaccination against small-pox. Dr. Grancher went on to state that since the middle of 1885, when the first two human beings were inoculated, 5,384 persons had passed through the laboratories in the Rue d'Ulm and the Rue Vauquelin, and that the rate of mortality, which had been 1.34 per cent. in the first year, had been reduced to 0.77 per cent. in the first six months of this year. This rate of mortality, be it observed, comprises the deaths of persons who had the poison already established in their systems when they come to be inoculated, so that to get at a really precise estimate of what the effect of the inoculations has been they ought to be omitted from the calculations. If this were done the rate of mortality would be still lower. But

the figures, even as they stand, are very striking, for the estimated mortality previous to the discovery of the inoculation method was about 16 per cent. of the persons bitten. Dr. Grancher stated that twenty laboratories altogether have been established for preventive inoculation, seven in Russia, five in Italy, and one each in Roumania, Austria, Brazil, Cuba, and the Argentine Republic; one will shortly be opened at Chicago, and one in Malta, the last named being the only one on British soil. Statistics from all these places were read by which it was sought to show the great reduction of mortality, the proportion of fatal cases being higher in Russia than elsewhere, as most of the victims had been bitten by wolves, the virus of which is so much more deadly than that of the dog. M. Christophle, the treasurer of the fund, reported that the subscriptions, which included handsome sums given by the Czar, the Emperor of Brazil, and the Sultan, amounted to over £100,000, of which just three-fifths had been spent in building and equipping the Institute, leaving only £40,000 as capital for an endowment fund. The grants made by the Government have hitherto been about £5,000 a year; but the desire of M. Pasteur and of his Committee was to obtain further private subscriptions, which will render the Institute independent of the State. M. Pasteur experienced so much emotion, that he did not feel equal to delivering the speech he had prepared, and this was read by his son, who is an *attaché* to the French Embassy at Rome. It consisted of a brief review of his past work, and of the various researches he intended to prosecute in the new building. The President of the Republic, without making a speech, decorated with the Officer's Legion of Honour Dr. Grancher and Mr. Duclaux, and conferred minor distinctions upon two other of M. Pasteur's assistants. Upon the conclusion of the ceremony, M. Pasteur conducted the President of the Republic and his other distinguished visitors over the new building.

EPIDEMIC DIPHTHERIA.

THE epidemic of diphtheria which is still spreading in the metropolis is one of the most serious visitations of recent years, and it will set men's minds very seriously to consider the ultimate causes which produce this terrible pestilence. There is a theory to which modern observation has lent a good deal of probability, and in the investigation of which the medical profession might be greatly assisted if an intelligent public interest could be aroused. While it will not be denied that diphtheria is a disease produced by a neglect of sanitary precautions, using that phrase in a wide sense, there is good reason to suspect that it is not always, or indeed often, produced by ill-laid drains or bad sanitary appliances within a house. It spreads probably generally by infection, but there are clearly other causes at work. Several physicians, who have studied the subject under very different circumstances, have formed the opinion that diphtheria is in some way connected with the moulds which grow in damp places, and especially in accumulations of vegetable matter. Dr. Michael W. Taylor, formerly of Penrith, suggested, in a paper published in these columns some years ago, that the disease was probably in some way connected with the moulds which grew on walls of damp rooms. He supported his theory by many remarkable instances of this association. Quite recently an American physician (Dr. Early, of Ridgeway, in Pennsylvania) has stated that he has observed that outbreaks of diphtheria in country districts are often associated with the introduction of the custom of storing vegetables for winter use in cellars under the farmhouses, the air of these cellars, containing large masses of vegetables, often decaying or covered with mould, is, owing to defective flooring, frequently in direct communication with that of the dwelling rooms. Another observation that has been made is that outbreaks of diphtheria sometimes coincide with the disturbance of the huge collections of decaying vegetable matter which form the dungheaps seen in mews and farmyards. Now it is, we believe, the fact, though as to this it would be interesting to have more precise information, that during the last six weeks or two months—since, that is, the corn harvest and the second hay crop have been got, and farmers have begun to manure arable land and meadows—there has been an amount of stable manure moved out of London in excess of what is removed at other times of the year. We have not got to the bottom of the matter yet, but it ought to be recognised that there is good reason to believe that the accumulation of large masses of decomposing vegetable material in the neighbourhood of houses, and the neglect to keep the damp walls and corners of cellars and disused passages clean, may be in some way responsible for the epidemics of diphtheria which are now so frequent both in town and country.

HYDROXYLAMINE.

THE action of this body has been recently investigated by several experimenters. Its chemical formula is NH_2OH, and it may be considered as ammonia in which one atom of hydrogen is replaced by the monatomic radical hydroxyl (OH). Raimondi and Bertoni have found that, when injected into the blood of living animals (in the proportion of one centigramme to every kilogramme of body weight in rabbits) it transforms the hæmoglobin into methæmoglobin, and this is confirmed by all subsequent observers. With larger doses than the one mentioned the urine becomes bloody owing to the destruction of the red corpuscles. In frogs, rabbits, and dogs, hydroxylamine, moreover, causes a general paralysis of the nerve-centres; and in the latter animals it causes convulsions as well. The presence of methæmoglobin has nothing to do with the paralysis; it is still noticed when the narcosis has quite disappeared. The formation of methæmoglobin was ascribed by the Italian observers to the formation of a nitrite in the blood; it is well known that the readiest way of making methæmoglobin is by adding a few drops of amyl nitrite to blood or a solution of hæmoglobin. This statement of the Italians has been contradicted by Löw, but is confirmed by Bing, who found that if the blood be taken from an animal poisoned by hydroxylamine, defibrinated, and then dialysed, the dialysate gave the reaction of a nitrite. A similar result was obtained after simply adding the poison to a quantity of freshly drawn ox-blood. It is possible that hydroxylamine may, in cases of skin disease, be utilised instead of pyrogallic acid and chrysarobin. It does not stain the skin or the linen, and thus possesses an advantage over those two bodies.

DIGESTION IN INFANTS.

THERE is no doubt much yet to be learnt from the analysis of the fæces, not only in adults, but in children. If such analysis were systematically prosecuted in cases of disease, much light would be thrown on obscure cases of malnutrition. Very little, however, has been done on the subject, owing partly to the difficulty and partly to the unpleasant nature of the investigation. In a given case of disease, for example, it is not sufficient for the physician to know what nitrogen percentage is present in the fæces, but what amount of proteid matter is found, and of what nature, whether undigested albumen or peptone. A knowledge of the amount of carbohydrates and of fatty matter is also very important. A research lately prosecuted by Tschernoff deals with these points in infants. This observer first states that it is a great mistake to suppose that the milk taken by suckling children or those fed by the bottle is completely assimilated. A great deal of the albuminous matter of the milk is found in the fæces, and in the form of a body not soluble in dilute hydrochloric acid (half per cent.), but entering into solution under the prolonged action of pepsin. Moreover, in healthy children at the breast, leucin, tyrosin, and the other decomposition products of albumen are not found in the fæces, or

if at all, only in very small quantities. The analyses given by Tschernoff are very interesting. He reckons the whole of the nitrogen of the fæces as proteid, and finds that this forms 32 per cent. of the dried weight (equals 5.2 per cent. nitrogen), 10 per cent. being ash, and 25 to 30 per cent. being fat. These results are from the normal fæces of children at the breast. In those brought up on cow's milk the proportion of nitrogen found is higher, namely, 6 to 7 per cent., showing that the digestion of the proteid is not so complete. The amount of carbo-hydrate in the fæces of children is usually stated as varying from 58 to 60 per cent.; but it was proved that in this was reckoned some of the proteid; so that, according to the Russian observer, the real amount is between 28 and 30 per cent. Curiously enough, it was proved that in disorders of the digestive organs the percentage of nitrogen in the fæces diminished (being, on the average, 3.1 per cent.). This apparent paradox is, however, explained by the fact that in these dyspeptic sucklings the amount of fat was greatly increased, being about 48 per cent.

LOCAL ANÆSTHETIC ACTION OF ANTIPYRIN.

ALTHOUGH antipyrin has been very warmly recommended for the relief of pain by Sée and others when subcutaneously injected, its administration by this method has not come into general use in this country. Sée considers that it rivals morphine in the extent of its action, and that it has not the unpleasant after-effects of that drug, since it does not interfere with nutrition nor lead to a "craving." Even by the mouth, antipyrin in ten and fifteen-grain doses is used extensively now in this country for all kinds of functional headaches and neuralgia; and it has been found a g eat adjunct in the treatment of these almost universal ailments. Berdach has lately been using antipyrin hypodermically in Professor Bamberger's clinic in Vienna. He gives the drug in a 50 per cent. solution, in distilled water, and has experienced nothing but favourable results. All kinds of painful conditions were so treated, the injection being made at the most painful spot. For a few seconds after administration there is local pain and burning, but this soon passes off, and is followed by analgesia over an area of more than a centimètre round the point of injection. Fränkel and others had previously noticed this. The most important point in Berdach's observations is that the pain is relieved in a few seconds after the injection, the relief lasting for at least six hours. No disagreeable effects such as vomiting, sweating, rash on the skin, or depression of the heart or pulse, were noticed, and in those patients that were febrile the temperature remained uninfluenced. Berdach thinks it probable that the analgesic action of antipyrin is produced by a local effect on the nerve-endings in the skin. Reflex excitability, as has been shown by Sée and Demme, is greatly diminished; the nerve-centres may also be affected.

DEFICIENCY OF THE DIAPHRAGM.

DR. KORN read before the Gynæcological Society of Dresden in May the case of a child which was born at term. It gasped violently at birth, the heart's action was strong but slow, and it was felt quite to the right of the thorax. The child could not be made to breathe quickly and regularly; it died half an hour after birth. Dr. Korn performed a necropsy, as the asphyxia was difficult to explain during life. He found that the diaphragm was entirely deficient on the left side, posteriorly and anteriorly, though a few fibres arose from the ensiform cartilage. On the other hand, the muscle had an unusually extensive origin to the right, being attached to no less than eight ribs. The peritoneal and left pleural cavities were continuous. The greater part of the stomach, several coils of small intestine, the ascending colon, cæcum, and vermiform appendix, with the much hypertrophied left lobe of the liver, were found in the left thorax; the left lung was pushed upwards and backwards, it was atrophied, but still capable of holding air. The left kidney lay very low and across the middle line, immediately over the promontory of the sacrum No other malformations or anomalies were found. The mother had borne several other children, all anatomically perfect. That congenital deficiency of the diaphragm is commonly found in diaphragmatic hernia is a well-known fact. In an extreme case, like that of Dr. Korn's, life could not be long maintained, hence it is not so much as an instance of a rare form of hernia that the above clinical history is of interest, but rather as a possible explanation of the cause of asphyxia in newborn children in other cases where the subject has not been examined after death.

GLUTEN BREAD.

DR. WOLTERING, of Münster, in Westphalia, who writes from personal experience, gives[1] the following receipts for preparing gluten bread; he recommends the gluten meal manufactured by Dr. Joh. Hundhausen, of Hamm, in Westphalia, which contains 76 per cent. of albuminoids, and 2 per cent. of carbo-hydrates. The bread is, he says, most conveniently and easily made with baking powder. Mix one and a half heaped tablespoonful of baking powder with 500 grammes (1 lb. 2 oz. nearly) of gluten meal and rub the mixture through a sieve; rub up well in a bowl till thoroughly mixed, and work into a dough with a quarter of a litre (half a pint nearly) of lukewarm water; it is now ready to be put in baking tins and baked in a hot oven. It may also be made with yeast. Mix the same quantity of gluten meal with one halfpennyworth of "German" yeast dissolved in a few tablespoonfuls of warm water, and work into a dough with a quarter of a litre of lukewarm water. Put the dough, which is as sticky as glue, in warmed and buttered baking tins; it will rise in from one and a half to two hours. Bake for from one and a half to three hours in a hot oven; turn every hour. The bread ought to have a hard, brittle, brown crust and a light grey crumb. Like all gluten bread, it has a sour taste, which is not altered by the addition of egg, milk, butter, or bicarbonate of soda to the dough. Saccharin gives an unpleasant sweet taste. Cream corrects it better than anything else, but it is not noticed if the bread is buttered and eaten with some savoury, such as a sardine. After one or two days the bread remaining grows tough, and should be toasted or cut into fingers and baked in the oven until brittle. This toasted bread is palatable with butter, or may be crushed and used for making puddings. The bread made with yeast contains 53.9 per cent. albuminoids, 0.2 per cent. fat, and 2.6 per cent. carbo-hydrates.

SCOTLAND.

GLASGOW UNIVERSITY GENERAL COUNCIL.

A PETITION has been sent to the House of Commons by the General Council of the University of Glasgow cordially approving of the Scotch Universities Bill, and suggesting certain amendments.

GLASGOW UNIVERSITY.

THE public opening of the University on November 6th was merely formal. The Lord Rector, Lord Lytton, was installed on November 9th. The degree of LL.D. was conferred upon him, and thereafter he delivered an inaugural address on "National and Individual Morality Compared." The Principal has decided this year to give no address himself, that of the Lord Rector serving the same purpose. The matriculation at the University threatens to be behind that of last year, through a decrease in the number of art students. The number of medical students will be greater

[1] *Therapeutische Monatshefte*, II, 10.

than last year. In the junior anatomy classes 154 have enrolled in the senior 210, and in physiology 164, the junior classes being very slightly smaller than last year, but the senior classes being in advance. But for the very large amount of failures in the preliminary examination, and especially in mechanics, the junior classes would also have been ahead. The passes in mechanics amounted to only 40 per cent. of the candidates. Professor Charteris has appointed William McLennan, M.B., C.M., as assistant, in succession to Dr. Napier, now of Anderson's College Medical School.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

THE second meeting of the session of this Society was held on October 12th. The specimens shown included microscopic sections of a carcinoma of the tongue by Dr. Rutherfurd; sarcomatous tumour of the chest from the case of a child, by Dr. R. S. Thomson; tropical abscess of liver and ulceration of the large intestine, by Dr. Coats; and diffuse malignant disease of the stomach, by Dr. J. L. Steven. Dr. Hector Cameron showed a case of excision of the wrist.

PROFESSOR RUTHERFORD AND DR. ASHDOWN.

THE dispute between Professor Rutherford and r. Ashdown has, we observe, again been re-opened, and the matters at issue are being investigated before the University Court. Both parties are represented by counsel—Professor Rutherford by Mr. Asher, Q.C., and Mr. C. J. Guthrie, instructed by Mr. Donald Beith, W.S.; and Mr. Ashdown by Mr. J. B. Balfour, Q.C., and Mr. Graham Murray, instructed by Messrs. Tods, Murray, and Jamieson, W.S.

THE ROYAL BOTANIC GARDENS AND EDINBURGH UNIVERSITY.

THE President of the Botanical Society of Edinburgh, in his opening address to the Society, spoke in strong terms against the transference of the Royal Botanic Gardens from the Crown to the University. He held that it would be unfortunate for the Botanical Society, unfortunate for horticulture, and even more for botanical science in Scotland. If London has a Kew and Dublin a Glasnevin, Edinburgh ought not to be deprived of her Botanic Garden. Professor Bayley Balfour, in moving a vote of thanks to the President, hoped that the public would show their disapproval of the proposed transference.

SIR MORELL MACKENZIE AND THE EDINBURGH STUDENTS.

THE Edinburgh students are making a strenuous endeavour to realise funds sufficient to enable them to inaugurate the Students' Union free of all debt. They have had recourse to a variety of schemes, bazaars, theatrical entertainments, balls, recitals of various kinds, etc. Their latest move, which has been described in the "students' column" as "brilliant" and "satisfactory," was to ask Sir Morell Mackenzie to address them early in December. The invitation has been accepted, and the lecture, which is expected to draw a full house, with corresponding benefit to the funds of the Union, will be given on December 5th. In medical circles in the city the idea is not generally viewed with favour.

DR. BATTY TUKE ON THE WHITECHAPEL MURDERS.

DR. BATTY TUKE contributes an article to the *Scotsman* in which he combats the view that the perpetrator of the Whitechapel murders is an insane person. He concludes "it would not be hard to imagine the commission of an isolated act of this character by an insane person, but the whole circumstances of the commission of these crimes, save one, are outside insanity. If they have been committed by a lunatic, his is a case which, in this country, is without parallel or precedent. I have said the circumstances of these crimes are outside insanity, save one; that circumstance is, of course, the horrible nature of the act; but are we to deduce insanity from the revolting nature of the crime alone when all the other circumstances point away from it? Why should we underestimate the power of strong human wickedness and overestimate that of weak human insanity? For my own part, I can more easily conceive these crimes being the result of savage wickedness than of insane mental action. There is a consciousness in the first idea which there is not in the second. Moreover, there is an incentive to wickedness productive of crime analogous to those now under consideration, which only those very intimately acquainted with the dark records of medical jurisprudence know of. This is not the place to speak of it, and I only allude to it in order to indicate that there are incentives to crime unappreciable by the great mass of the community."

CLOSE OF THE GLASGOW EXHIBITION.

THE Glasgow International Exhibition was closed on November 10th. It was opened on May 8th by the Prince and Princess of Wales, and from first to last it has been a great success. On the closing day the record of admissions showed a total of 117,901. Since its opening 5,748,379 visits have been paid to it. In all the sum of £113,266 has been drawn at the gates, and that, with the amount derived from the sale of season tickets, brings up the total receipts from admissions to £162,654. It is estimated that the surplus of revenue over expenditure will be upwards of £40,000. The Exhibition Executive have handed over the buildings to the town, and considerable difference of opinion exists as to what should be done with them. It is suggested that the picture galleries might remain, and that the grand dome, with the north and south transepts, should alone be preserved, and should be converted into winter gardens and concert halls. Others would retain the entire building for the instruction and amusement of the people.

CASE AGAINST THE EDINBURGH SCHOOL OF MEDICINE FOR WOMEN.

THE Record has just been closed in the Court of Session in an action at the instance of Miss Grace Ross Cadell and Miss Martha Georgina Isabella Cadell against the Executive Committee of the Edinburgh School of Medicine for Women, to have it declared that the pursuers are entitled to readmission as professional students of the Edinburgh School of Medicine for Women, and to complete their course of study there on payment of their fees, otherwise payment to each of £500 damages is asked. It appears that the Executive Committee of the School found it necessary to exclude the pursuers from readmission on account of certain breaches of regulations for attendance at the Leith Hospital. The pursuers hold that their misconduct has been exaggerated, and as they will incur serious loss in consequence of their exclusion from the School, they have raised the present action.

PREVENTION OF BLINDNESS.

A PAPER on this subject has been sent to the Secretary of the Royal Commission on the Blind of the Scottish Out-Door Blind Teachers' Union, giving statistics of the number and nature of accidents resulting in blindness. The inquiry was confined to males, and to such accidents as occurred after fifteen years of age, and also whether one eye or both were injured, that it might be ascertained how many lost the sight of the uninjured eye through sympathy. Of 1,454 males on the roll, 1,095 lost their sight after school age, and of these 219, or 20 per cent., from preventable causes. The largest number of accidents are among ironworkers, miners, and quarrymen, these two classes together contributing 65 per cent of such accidents; 75 or 34 per cent. of these received

injury to one eye only, the sight of the other having been impaired apparently through sympathy. With regard to the prevention of such accidents, it is believed that most might be averted by the wearing of suitable protecting glasses. The difficulty is to obtain a substance for their manufacture, perfectly transparent, and yet of sufficient strength to resist the force of an ordinary chip of iron or stone. This subject has been brought under the notice of Sir William Thomson, and he has expressed the opinion that goggles could be made of such a substance. The Union, therefore, suggest that workmen engaged at such hazardous occupations as riveters, caulkers, ironturners, irondressers, stonedressers, etc., should be required to wear these protecting glasses.

IRELAND.

ROYAL ACADEMY OF MEDICINE.

THE Surgical Section was opened on Friday evening, November 9th, when the President of the College, Dr. H. Fitzgibbon, gave an address on syphilis. An interesting paper was read by Dr. Robert McDonnell on pulsating tumours of bones. He related a case which was cured by rest and pressure, the rest being enforced by prolonged illness of another character. The tumour had been regarded as malignant, and amputation was delayed owing to the pregnancy of the patient. There has been no trace of the growth for three years.

THE "EQUITABLE" INSURANCE FRAUDS.

THE sentence of six months' imprisonment which was passed upon Dr. J. C. Smyth at the recent Wicklow assizes for complicity in the Belfast insurance frauds, and from which an appeal on a point of law was allowed by Judge O'Brien, who tried the case, has been confirmed by the Court of Appeal.

CORK WORKHOUSE.

COLONEL SPAIGHT, Local Government Board Inspector, in his recent half yearly report of the condition of this institution, states that the day-room accommodation of the female lunatic wards is wholly inadequate. The inmates of these wards are crowded together in a cruel manner, and the overcrowding is very bad. He suggests an arrangement to remedy this state of things, which it is to be hoped the guardians will carry out without delay.

RICHMOND HOSPITAL.

THE Under-Secretary has written to the Governors of this hospital, who had determined to fill up on Thursday last the vacancy caused by the resignation of Sir William Stokes, that they are not at present to make any appointment. The grounds stated are that the recent Commission reported strongly that the Dublin hospitals are over-officered.

VACANCY AT THE BELFAST ROYAL HOSPITAL.

DR. LINDSAY, the assistant-physician, has resigned his post in order to become a candidate for the position of staff-physician, left vacant by the resignation of Dr. J. W. T. Smith. For the post of assistant-physician thus vacant Dr. Strafford Smith has issued an address. No opposition to either candidate has appeared.

THE LATE DR. MAURICE SPOTSWOOD.

AT a recent meeting of the Cahirciveen Board of Guardians the following resolution was unanimously adopted: "That we, the Board of Guardians of the Cahirciveen Union, desire to place on record our sense of extreme regret at the death of the late Dr. Maurice Spotswood, M.D., who for upwards of forty-five years discharged the duties of workhouse medical officer with marked courtesy, kindness, and efficiency; and we beg to tender expressions of our heartfelt sympathy and condolence to Mrs. Spotswood and family in their sad affliction." The Board afterwards adjourned without transacting any business.

THE McGOVERN "CURE" OF HYDROPHOBIA.

ANOTHER case has occurred showing the inefficacy of this method of treatment in averting this disease. A boy named McGeary was bitten by a rabid dog on July 17th, 1888, and he was sent for treatment to McGovern. He remained with this man for some time, and was sent home to his family as cured. Recently, however, the symptoms of hydrophobia appeared. He became ill on October 30th. He was treated by Dr. Samuel Fergus, of Blackwatertown, Co. Tyrone, but died of hydrophobia on November 2nd. McGovern, it appears, sent in a bill to the Armagh Board of Guardians for treating the boy, and the Board passed a resolution allowing him £2 subject to the sanction of the Local Government Board, which was refused.

BANGOR COTTAGE HOSPITAL.

THE annual report of this useful little institution shows that during the year, forty-nine patients were under treatment, the largest number on record. The income for the year amounted to £154 14s. 7d., and the expenditure to £150 17s. 2d., leaving a considerable balance in hand. This hospital, which is mainly for convalescents, admits patients from the neighbourhood at the very low charge of 5s. weekly, 7s. being charged to those who come from a distance. These sums do not nearly meet the cost of maintenance, the balance being made up by subscriptions. Dr. Bolton, J.P., is the attending medical officer.

ULSTER MEDICAL SOCIETY: OPENING MEETING.

THE opening meeting of the present session of the Society was held in the Museum, Belfast, on November 7th, the President, Dr. Henry Burden, in the chair. There was a large attendance of members. After the transaction of some preliminary business, the President proceeded to deliver his inaugural address, choosing as his subject "Bacteriology." He subjected to an exhaustive analysis the most recent advances in this important department of research, and dwelt especially upon the relation of bacteriology to cholera and phthisis. The address, which was eminently scientific and comprehensive in character, was listened to with deep attention, and warmly applanded at its close. A cordial vote of thanks to the President was moved by Professor Dill, seconded by Dr. Harkin, J.P., and passed by acclamation. The following are the officers of the Society for the present session:—*President:* Dr. Burden. *Ex-President:* Dr. Esler. *Vice-Presidents:* Dr. Byers and Dr. Lindsay. *Treasurer:* Dr. O'Neill. *Pathological Secretary:* Professor Sinclair. *Honorary Librarian:* Dr. Strafford Smith. *Council Members:* Dr. O'Connell, Professor Dill, Dr. Dempsey, J.P., Dr. Bigger, Dr. Mackenzie, and Dr. Calwell. *Honorary Secretary:* Dr. McCaw. The annual dinner will take place on November 21st.

COLECTOMY AND INTESTINAL SUTURE, WITH REMOVAL OF SIX INCHES OF COLON.

ON October 30th, at the Adelaide Hospital, Mr. Kendal Franks excised a large epithelioma, together with about six inches of the colon, from a man, aged 58. The growth, which was the size of a large orange, completely surrounded the colon at its hepatic flexure, and, previous to operation, was remarkable for its extreme mobility. The portion of the intestine from which it sprang was divided on each side, and the whole mass excised, together with some small but hard glands lying in the layers of the meso-colon. The ends of the divided colon were then brought together and carefully sutured with fine silk. The patient has up to the present made a good recovery. There was a large fæcal evacuation on the fifth day, and the bowels have been acting normally since. Microscopical examination shows that the structure of the growth is that of a columnar-celled epithelioma.

THE AMALGAMATION OF MEDICAL SCHOOLS IN DUBLIN.

THE few active opponents of this most important measure are working assiduously to prevent the carrying of it into effect. The proprietors of the Carmichael School have received notice that should they proceed with the scheme an injunction will be applied for. The daily newspapers contain letters from anonymous persons protesting against amalgamation because it may affect certain interests. The students have also been called in to aid in the outcry, and they have held two meetings, at which they have discussed the "scheme" with characteristic confidence. The class known as the "night men" have made special claims, not only that their own interests shall be cared for—and they are protected—but that the system of "night lectures" shall be continued for the advantage of all who may in future desire to attend them. The promoters of amalgamation have, therefore, to overcome various and very numerous obstructions, but unless some legal difficulties arise the opposition cannot stand. The College has declared for the scheme, and the Council must now carry it out if the title of the Carmichael and Ledwich Schools is good, and if they have the power to join the College school. It is not a little pitiful to observe how much a few can do to delay a great reform; but it is to be hoped that the supporters of amalgamation will not flinch in their determination to overturn all unreasoning opposition. In an introductory lecture at St. Vincent's Hospital, on Tuesday last, Dr. McHugh discussed the question of amalgamation with great fairness, and he made a considerable impression by the following: "The necessity for this reform has long been felt, and, speaking at a meeting of the Dublin Branch of the British Medical Association in 1884, Dr. Hamilton, Professor of Surgery in the College of Surgeons, made use of the following words. 'Recent events should warn us that existing conditions are fast bringing about a dearth of teaching power in Dublin. This must eventually be provided for by judicious concentration. There are departments in which all the students in this city would not provide a class yielding sufficient emolument for a single lecturer—now distributed among five—at least, if such departments are to be worked properly, and brought up to the standard of knowledge of the present day.'" Dr. Hamilton was, however, one of the most determined opponents of the proposal in May last, and again at the meeting of the Fellows, called to consider the scheme last month.

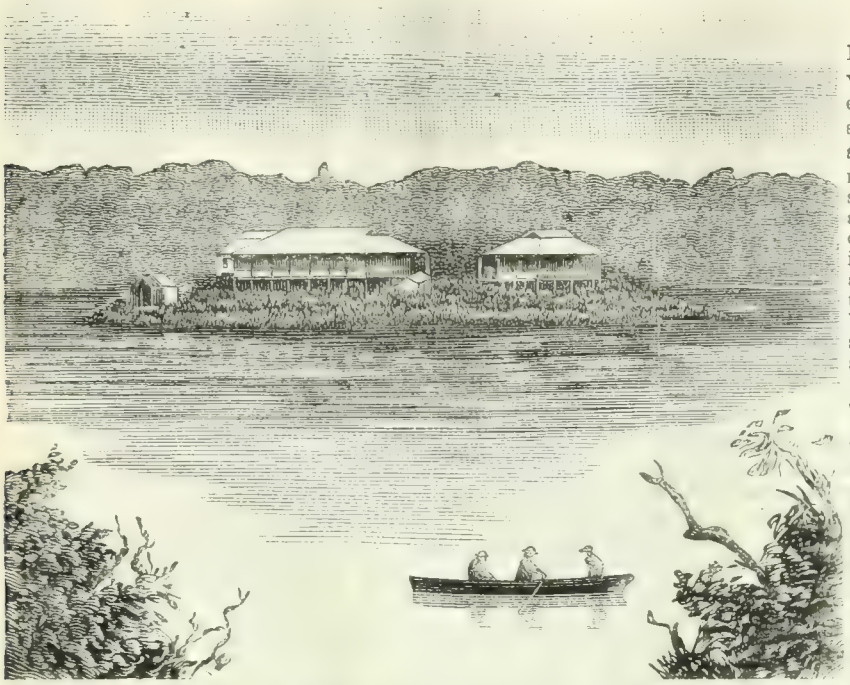
THE STUDENTS AND THE AMALGAMATION OF SCHOOLS.

THE excitement among the students on the subject of the amalgamation of medical schools still continues. A large meeting was held on Monday night, at which strong speeches were delivered, and resolutions were come to protesting against the scheme, and appealing to the Lord Lieutenant to prevent the amalgamation. It is probable that the question as to the power of the Carmichael School to join, having regard to the terms of the trust, will be discussed in one of the law courts. The attitude of the students causes much amusement; and it is suggested that the interest taken in matters which do not concern them, and which are outside their legitimate work, may account for the numerous rejections at the late examinations.

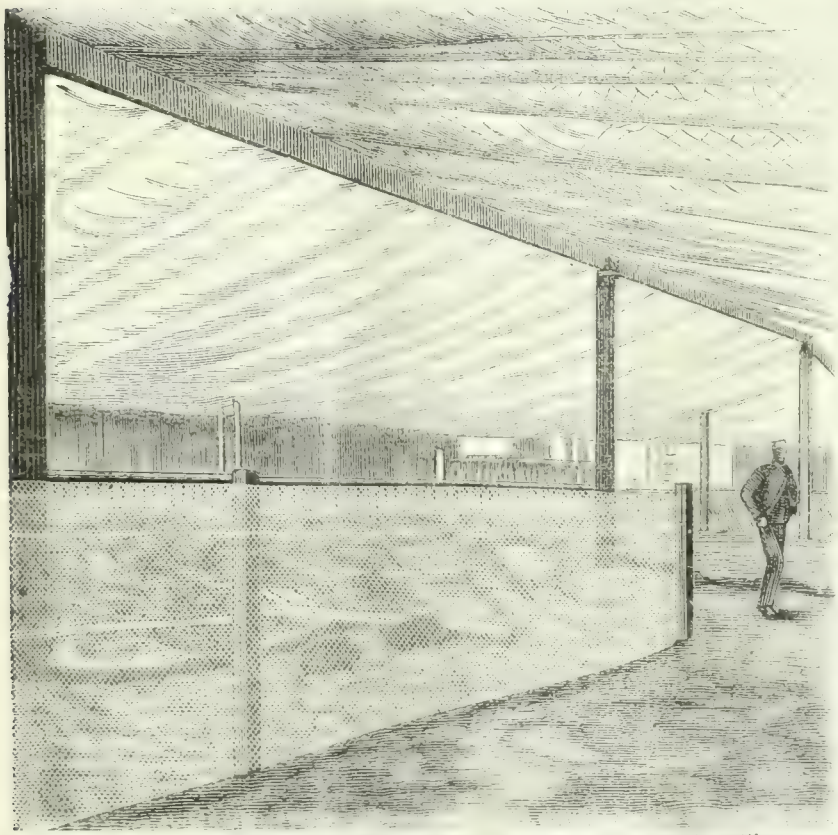
MUNIFICENT BEQUESTS.—Among the forty-five different hospitals and charitable institutions which have benefited by the provisions of the will of the late Miss Louisa McKellar, of Argyll Lodge, Clapham Park, are the following, with the several amounts apportioned to each: *Hospitals.*—Guy's Hospital, £2,000; King's College Hospital, £1,000; Middlesex Hospital, £1,000; University College Hospital, £1,000; Royal Free Hospital, £1,000; Great Northern Hospital, £1,000; West London Hospital, £400; East London Hospital (Shadwell), £400; Metropolitan Hospital, £400; Richmond Hospital, £250; St. Bartholomew's Hospital, £400; Bethlem Hospital, £400; North-Eastern Hospital for Children, £400; Hospital for Women, Soho Square, £250; Queen Charlotte's Lying-in Hospital, £150; Lying-in Hospital (City of London), £150; General Lying-in Hospital, York Road, £100; New Hospital for Women, £100; Chelsea Hospital for Women, £200; Samaritan Free Hospital, £200; Royal Maternity Hospital, £100; City of London Chest Hospital, Victoria Park, £250; North London Consumption Hospital, £250; Royal Hospital for Diseases of the Chest, City Road, £250; London Hospital, £250; Cottage Hospitals (various), £200; French Hospital, Leicester Square, £400; German Hospital, Dalston, £400; Dental Hospital, Leicester Square, £100; National Dental Hospital, £100; Temperance Hospital, Hampstead, £150; Poplar Hospital, £150; Hospital for Diseases of the Throat, Golden Square, £150; London Homœopathic Hospital, £150; Lock Hospital, £150; St. Mark's Hospital for Fistula, £150; Royal Hospital for Consumption, etc., Ventnor, £200; St. Peter's Hospital for Stone, £250; Seamen's Hospital (Dreadnought), £250; Royal Westminster Ophthalmic Hospital, £150; Royal London Hospital, £150; Royal Orthopædic Hospital, £150; Hospital for Children, Great Ormond Street, £250; Hospital for Incurable Children, Maida Vale, £100; Hospital for Children, Paddington, £250; Evelina Children's Hospital, £250; Alexandra Hospital for Children (Hip-joint), £100; Victoria Hospital for Children, Chelsea, £150; Royal Hospital for Children and Women, £150; Belgrave Hospital for Children, £250; National Hospital for Diseases of the Heart and Paralysis, £100. *Surgical Aid.*—Provident Surgical Appliance Society, £100; Surgical Aid Society, £100; City of London Truss Society, £250; National Industrial Home for Crippled Boys, £250; Cripples' Home and Industrial Schools for Girls, £250; Home for Poor Crippled and Orphan Boys, Moore Street, £100. *Dispensaries.*—Western General, Marylebone, £150; St. George's and St. James's, King Street, Regent Street, £150; Westbourne Provident, £100; Finsbury Dispensary, £100; Surrey Dispensary, £250; South London Dispensary, £250. *Convalescent.*—Bournemouth National Sanatorium, £250; Metropolitan Convalescent Institutions, Walton £200, Kingston £200, Bexhill £200; Mary Wardell's Home for Scarlet Fever, £250; Princess Frederica's, East Moulsey, £100; St. Mary's, Broadstairs, £250; St. John's House of Rest, Mentone, £200; St. Andrew's, Folkestone, £100. In addition to the above, bequests have also been made to a number of institutions connected with the blind, asylums, schools, etc.

THE ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

THE annual meeting was held on Wednesday, November 7th, in the library of St. Thomas's Hospital. There was a good number of members and visitors present, and the following were elected officers for the ensuing year. *President:* George Murray Humphry, F.R.S. *Vice-Presidents:* Sir William Turner, F.R.S.; Daniel John Cunningham, M.D.; J. D. Thane. *Treasurer:* Charles Stewart. *Secretaries:* C. B. Lockwood (England), David Hepburn, M.D. (Scotland), H. St. John Brooks, M.D. (Ireland). *Council* William Mitchell Banks, M.D.; John Curnow, M.D.; J. N. C. Davies-Colley; John Struthers, M.D.; Frank Beddard; John Cleland, M.D., F.R.S.; G. B. Howes; John Langton; John Wood, F.R.S.; A. M. Paterson, M.D.; Thomas Pickering Pick; Johnson Symington, M.D.; R. W. Reid; Rickman J. Godlee; Peter Redfern, M.D.; Frederick Treves; Alexander Macalister, F.R.S.; Bertram Windle; Alfred H. Young; Arthur Thomson. It was announced that the position of the Society, both as regards the number of its members and its finances, was most prosperous. Professor Humphry read a paper on the "Angle of the Neck of the Thigh-bone with the Shaft at Various Ages and under Various Circumstances." His conclusions, which were decidedly contrary to the usual belief, were that the angle varied in different persons at the same age, smallest in short bones and where the pelvis is wider, that it decreases during growth, but afterwards becomes permanent; also that when the body weight is not borne by the femur the angle may become wider. Mr. Sutton's paper on the "Nature of the Vocal Cord, True and False," was well discussed; as was also Professor Howes's communication on the interesting subject of the intranarial epiglottis. Mr. R. W. Reid read a paper on the "Relation of the Superficial Origins of the Spinal Nerves and the Spinous Processes of the Vertebral," in which the variability of those relations was clearly demonstrated. Lastly, Mr. Gordon Brodie showed an abnormal aortic arch. Other papers by Mr. W. Anderson, Mr. G. H. Makins, and Mr. L. S. Sherrington, were deferred until the next meeting.



View of Rodd Island, Sydney Harbour, where the rabbit experiments are being carried out.



View of the interior of the Rodd Island rabbit experiment shed, showing the close wire netting pens, with artificial burrows covered with boards for ready examination: also the wire netting roof; the whole roof and shed being also surrounded with fly-proof gauze to prevent the possibility of flies spreading the germs of the chicken-cholera, or other microbes experimented with to the mainland

THE RABBIT PEST AND PASTEURISM IN AUSTRALIA.

DR. BANCROFT has furnished the *Queenslander* with the following interesting particulars of the experiments made at Rodd Island, Port Jackson, New South Wales, by the Commission specially appointed for the extermination of rabbits. Rodd Island, of which we present a sketch, is a rocky inlet opposite the lunatic asylum, Callan Park, with less than half an acre of building space available. It has erected on it an enclosure for rabbits, made of wire net and covered with wire gauze. On the sides of the enclosure are the laboratory (the smaller building) and the dwelling rooms of the persons in charge. The wire tent-like enclosure stands between and behind the buildings.

The first experiments made were those indicated by M. Pasteur; namely, to confine in an enclosure of a square mètre of area, five rabbits, fed with vegetables on which a liquid containing germs of chicken-cholera had been sprinkled, together with fifteen rabbits that had received no germs. This experiment was repeated in several ways, as well as a control experiment of twenty rabbits so enclosed unfed with cholera microbes. All rabbits fed with chicken-cholera died and a few others, but the greater number lived through the experiment, though detained in contact with the dead rabbits during several days. Some rabbits died in the mètre-square enclosure where no microbes were used, apparently from overcrowding. These experiments of M. Pasteur being so unsatisfactory, it was decided by the Commission to make sub-divisions of the large enclosure in which artificial burrows were constructed. In these were placed a few rabbits, and two or three inoculated or fed with cultivations of chicken-cholera. With one exception all the rabbits treated with chicken-cholera have died; the exception being a wild rabbit, which seems none the worse for having eaten three strong doses of the chicken-cholera cultivation. Hares are found to die like rabbits from chicken-cholera. The cholera microbes used in the experiments are descended from those imported by M. Pasteur's representatives. Fowls supposed to suffer from cholera, obtained both in living and dead state from various parts of Australia, have not, in the hands of Dr. Katz, yielded the microbe in question. It is therefore probable that the disease does not exist in Australian fowl yards, and the necessity of the wire gauze netting through which flies cannot pass from the experimental enclosure is so far justified.

Dr. Katz shows the chicken-cholera microbe in solid gelatine, and in infusions of animal matter. It appears in the tubes containing gelatin as minute white mouldy-looking points. These when suitably stained and highly magnified show the spherical micrococci of chicken-cholera. Rabbits die of chicken-cholera in from eight to thirty-six hours, according to dose, rather suddenly, and are found lying on one side with the head thrown back. On *post-mortem* inspection the lungs are found marbled with dark red active congestion; on section frothy. The spleen is slightly enlarged. Spots of inflammation are seen in the stomach and intestines. The heart is filled with blood. On opening the distended right ride the blood is found on microscopic examination mixed with the microbe. The minutest point of this blood will fatally inoculate another rabbit, or, if added to suitable gelatine or broth and kept at

a temperature of 100° F., will convert the whole mass into a cultivation of chicken-cholera.

In the latter experiments with the artificial burrows the disease gives some indications of being of a contagious nature among rabbits, as it is known to be among fowls; one rabbit unfed with microbes having died from contagion afterwards, proved to be so by microscopical examination; but as the experiments at the time of writing (September 15th) had only been in progress a few days, little can be said of the contagious property so much to be desired if the disease is to be of use in exterminating rabbits in the open country. The action of chicken-cholera on horses, goats, and other animals experimented on at Rodd Island showed no harmful powers.

Dr. Fisher, recently arrived from Germany, brought with him tubes containing chicken-cholera, and a second disease—rabbit septicæmia. The former was found by Dr. Katz to be an impure cultivation, and the second had lost its vitality.

Rabbits brought from one of the back stations with a skin-affection believed to be the same as that found at Tintinallogy, after having been well-fed at Rodd Island, recovered, and now are to be seen in good health.

Dr. Bancroft has made observations on tame rabbits for many years, and recognises the chief disease that afflicts them to be the coccidium parasite. This was demonstrated to be present in the first diseased rabbit killed by Dr. Ellis for the inspection of the Commission. Coccidium injures the working of the liver, which is figured by yellow lines that look like abscesses. These tracks yield myriads of the coccidia, which pass with the bile into the excreta. The coccidia are living egg-like bodies, not much unlike the form and size of potato-starch. They gain access to the stomachs of young rabbits, pass into the livers, which then become so disorganised as to interfere with growth. This is to be observed in domesticated rabbits, and wild rabbits examined by the Commission were found similarly affected. Dr. Bancroft thinks there would be no great difficulty in infecting rabbit colonies with coccidia, a parasite that has not been shown to be of much danger to other forms of animal life, and which, unlike the bladder-fluke, requires no carnivora to assist in its propagation. With regard to the dissemination of zymotic diseases among rabbits of the nature of chicken-cholera and rabbit septicæmia, Dr. Bancroft is of opinion that such forms of disease are to be looked upon as possessing unknown powers of inflicting injury, and requiring the most thorough investigation before introduction into Australia.

THE CORRECTION OF THE "MEDICAL REGISTER."

We have received from the Honorary Secretary of the Medical Alliance (Dr. R. H. S. Carpenter) a copy of a letter which he has addressed to the General Medical Council. Dr. Carpenter requested the Council to remove from the *Register* the names of certain practitioners, on the ground that the addresses of these persons given in the *Register* were incorrect. He contended that by Section 26 of the Medical Act, the Council was empowered to remove from the *Register* any entry which may be proved to it to be incorrect, and that it had no discretionary power to retain such names on the *Register*. He stated that grave abuses existed, and related several instances. In one case, a practitioner registered as living in one part of England practised in another district upwards of a hundred miles away. A chemist, the nephew of a deceased practitioner, obtained the dead man's diplomas, and practised for nearly two years, during which time the uncle's name was retained on the *Register*. A practitioner in London started a practice in the country seventy miles a way; his London address remained on the *Register*, and his London practice was conducted for some years by an unqualified assistant. The address of a practitioner, who for some years has had dispensaries in the metropolitan district, is given as a village in Ireland. Other instances also were given.

The letter includes a copy of a short correspondence between the honorary secretary of the Medical Alliance and the Registrar of the General Medical Council, with regard to an assistant of Dr. J. McW. Bourke; it was stated that Dr. Bourke owned twenty dispensaries conducted by assistants, and it was complained to the Alliance that some of these assistants were not qualified. Dr. Carpenter satisfied himself that, in one instance at least, the entry in the *Register* was incorrect as to address, and he asked in particular that the Council would address a letter to Dr. Bourke, requesting him to furnish it, with the names, addresses, and qualifications of his twenty assistants; in reply Dr. Carpenter received the following letter:

Medical Council Office, 299, Oxford Street, W.,
May 31st, 1888.

Dear Sir,—In answer to your letter of the 26th instant, the President of the Medical Council directs me to inform you that a letter was some time ago sent to Dr. Bourke, inquiring whether his assistants were all registered, and that he ultimately, after a good deal of correspondence, asserted that they were all registered practitioners. It was not considered advisable that the Council should press for the names and qualifications of Dr. Bourke's assistants.

In regard to your request that a certain entry should be erased from the *Medical Register*, I have to inform you that it has been considered that, in some exceptional cases—such, for example, as when a registered person may be travelling, or otherwise frequently changing his address—he may be allowed to have inserted in the address column of the *Register* any address whereby he may be reached through the post.—Yours faithfully, W. J. C. Miller.

R. H. S. Carpenter, Esq.

We may express the hope that one result of Dr. Carpenter's energetically worded application to the General Medical Council will be to impress upon practitioners the great importance of assisting the Council in keeping the *Register* accurate. The *Register* was designed primarily in the interests of the public, in order that it might know qualified from unqualified practitioners, but also in the interests of the profession, as a protection against the latter class.

We frequently receive complaints of the hardship suffered by practitioners who have changed their address, but have failed to notify one of the Registrars of the General Medical Council (Mr. W. J. C. Miller, B.A., 299, Oxford Street, London; Mr. James Robertson, 1, George Square, Edinburgh; Dr. R. L. Heard, 35, Dawson Street, Dublin). The facts brought forward by Dr. R. H. S. Carpenter will perhaps put the matter in a new light, for he complains, not that the Registrar is too vigilant, but that he is not vigilant enough. It is important for every registered practitioner to remember that, if he fails to answer any letter of inquiry with regard to any change in his address by one of the Registrars of the General Medical Council, the Council has the power to erase the name of such practitioner from the *Medical Register*; and, if in future the Council exercises this power more extensively than heretofore, it will be to the advantage of the profession, although it may possibly entail some inconvenience on individuals.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS FOR 1889. ELECTION OF MEMBERS.

Meetings of the Council will be held on January 16th, April 17th, July 10th, and October 16th, 1889. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 27th, 1888, March 28th, June 20th, and September 26th, 1889.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

Francis Fowke, *General Secretary*.

COLLECTIVE INVESTIGATION OF DISEASE.

Reports upon the two remaining inquiries, namely, that into Diphtheria, and that into the Geographical Distribution of certain Diseases, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the Etiology of Phthisis.

A fresh inquiry into the Origin and Mode of Propagation of Epidemics of Diphtheria has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.—The inaugural meeting of the session will take place on Thursday, November 29th, at the Hackney Town Hall at 8.30 P.M. The chair will be taken by the President of the Branch. A paper on Chronic Metritis will be read by H. Gervis, M.D. All medical practitioners will receive a cordial welcome.—J. W. HUNT, Honorary Secretary, 101, Queen's Road, Dalston.

SOUTH-EASTERN BRANCH: EAST KENT DISTRICT.—The next meeting of the above District will take place at Canterbury on Thursday, November 29th. Anyone wishing to send papers, etc., should communicate at once with the Honorary Secretary, W. J. TYSON, 10, Langhorne Gardens, Folkestone.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—A meeting of the above District will be held at the Queen's Hotel, Eastbourne, on Friday, November 23rd. Dr. Roberts in the chair. Meeting at 3.30 P.M. Dinner at 5.30 P.M.; charge 6s., exclusive of wine. The following papers are promised:—The Chairman: Short Notes on Current Medical Cases. Dr. Downes: Some Points in the Treatment of Chronic Sinus. It is requested that members and others able to show patients, or read short notes of cases suggestive for discussion, will do so.—T. JENNER VERRALL, Honorary Secretary, 97, Montpellier Road, Brighton.

SOUTH-EASTERN BRANCH: WEST KENT DISTRICT.—The next meeting of this District will take place at the West Kent Hospital, Maidstone, on Thursday, December 13th, Dr. Shaw in the chair. Gentlemen desirous of reading papers or exhibiting patients or specimens are requested to inform the Honorary Secretary of the District, A. W. Nankivell, F.R.C.S., St. Bartholomew's Hospital, Chatham, not later than November 24th. Further particulars will be duly announced.—A. W. NANKIVELL, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The first general meeting of the present session will be held at the Railway Hotel, Stoke-on-Trent, on Friday, November 30th. The President, Mr. F. Baldero, will take the chair at 3.30 in the afternoon. —GEORGE REID, M.D., Honorary Secretary, Stafford.

GLOUCESTERSHIRE BRANCH.—The annual meeting will be held under the presidency of Dr. Currie, in the Board Room of the County Infirmary, Gloucester, on Tuesday, November 20th, 1888, at 6.30 P.M. The supper will be at 8.15 P.M. (tickets, 3s. 6d. each, exclusive of wine), at the Bell Hotel. Agenda:—1. Scrutiny of the Voting Papers, and declaration of the result. 2. Election of two Scrutineers. 3. Presentation of Balance Sheet. 4. The discussion of two resolutions from the Council of the Branch. 5. Thrombosis of the Longitudinal Sinuses: Dr. Batten (Gloucester).—G. ARTHUR CARDEW, Honorary Secretary, Cheltenham.

ABERDEEN, BANFF, AND KINCARDINE BRANCH.—An ordinary meeting of this Branch will be held at 198, Union Street, Aberdeen, on Wednesday, November 21st, 1888, at 8 P.M. Business:—1. Minutes, Nomination of Members, etc. 2. Ballot for the admission of Dr. J. Hutchison Walker, British Borneo, as a member of the Branch. 3. Paper on the Treatment of Severe Compound Fractures and Dislocations, by Professor Ogston. 4. Case of Aphasia, with exhibition of the patient, by Dr. Blaikie Smith. 5. Further notes on case of Cerebral Tumour, with Pathological Specimens, by Dr MacGregor. 6. Exhibition of patient showing the late result of Club-foot treated by Excision of the Tarsus, by Dr. Garden.—ROBERT JOHN GARDEN, J. MACKENZIE BOOTH, Honorary Secretaries.

METROPOLITAN COUNTIES BRANCH: HERTFORDSHIRE DISTRICT.

A MEETING was held at the Clarendon Hotel, Watford, on Friday, November 2nd, at 5.30 P.M. The chair was taken by Dr. BRODIE SEWELL, President of the Branch.

Election of Officers.—The following were elected:—Vice-President: Dr. Brett, of Watford. Representative of District on the Council: F. Fisher, Esq., King's Langley. On the Committee: Drs. Blake, Steele, Shelley, Batterbury, Murray, and Welstey.

Orthopædic Apparatus.—Mr. NOBLE SMITH demonstrated the application of apparatus in the treatment of various orthopædic deformities. He showed how by gradual modifications he had made the instruments lighter, less expensive, and often more efficacious. When possible he dispensed with steel apparatus and used wood and gutta-percha. When instruments of any kind were required, he always decided as to their construction, and in all instances applied them to the individual cases himself. Every steel instrument was made of a metal so tempered that with wrenches he could bend them to the required shape and alter them as necessity arose. By means of a lay figure the application of many of the apparatus was demonstrated, and a great many appliances were shown and their use explained. Mr. Noble Smith also discussed the benefits to be derived from the use of plaster-of-Paris in the treatment of some forms of club-foot, massage and exercises in the treatment of curvatures of the spine, and simplified methods of operation for contracted tissues.

Votes of Thanks.—The meeting terminated with votes of thanks to the President and Mr. Noble Smith.

Dinner.—After the meeting the members present dined together at the Clarendon Hotel.

SOUTH-EASTERN BRANCH: WEST SURREY DISTRICT.

THE autumn meeting of this Branch was held at the Royal Surrey County Hospital, Guildford, on October 25th, ALBERT NAPPER, Esq., of Guildford, in the chair.

Eczema.—Dr. H. J. STOWERS read a paper on the causes and treatment of eczema, and showed a number of new preparations of various kinds which had been found useful by him in dealing with this disease.

Joint Disease in Children.—Mr. BILTON POLLARD read a paper on the treatment of tubercular joint disease in children, illustrating it by short accounts of a number of cases of disease of the hip and knee-joints which he had operated upon. He insisted specially upon the importance of removing the whole of the diseased structures as soon as there was evidence of the tissue breaking down, the wound to be kept thoroughly aseptic, all bleeding to be stopped as far as possible before dressing, dry dressings used, and not changed until the lapse of two to three weeks, when the wounds were found to be healed.

Dinner.—Twelve members and friends afterwards dined together at the White Lion Hotel.

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

Sudden Deaths in Chronic Diseases.—Fertility of Marriages in France.—Statistics of the Pasteur Institute.

THE *Revue Générale de Clinique et de Thérapeutique* contains some interesting cases of sudden death resulting from affections of the liver and pancreas, from tubercular peritonitis, and from operations in the hepatic region. Dr. Cénas met with a case of sudden death in a patient of 56 suffering from primary carcinoma of the bile duct, which had existed for three years. It was only when the tumour invaded the pylorus that disturbance in the digestive organs appeared, and that the general condition became affected. M. Cénas considers that death was due to reflex action proceeding from the duct wall, and reacting on a dilated heart. He bases this belief on the experiments made by MM. Brown-Séquard, Goll, and Tarchanoff (who arrested the action of the heart during diastole by irritating the semilunar ganglia), and on clinical observations which demonstrate the existence of syncope, diminished action of the pulse, and coldness in violent hepatic colic, and in different forms of irritation of the bile duct. MM. Roussel and Jacquemard describe a case of cancer of the pancreas with dilatation of the stomach, followed by sudden death. The patient was a man, aged 45, who had suffered from bronchial catarrh and pulmonary emphysema for ten years, and who died suddenly. The necropsy revealed cancer of the pancreas. The head of the organ was completely destroyed; the body contained carcinomatous nodules. The other organs were healthy. M. Roussel cites an almost analogous case, observed by M. Chavanis, and considers that all these observations indicate the existence of a special zone of sensibility, and that a traumatic or other lesion in this zone may cause death by depression. The following case of general tubercular peritonitis, resulting in sudden death, was reported by M. Alamartine. The patient was a man, aged 25. Three weeks after entering the hospital, on attempting to get up he fell suddenly to the ground, and died in a few minutes. At the necropsy 7 or 8 litres of fluid were found in the abdomen. The peritoneum, over which numerous granulations were scattered, was lined with false membranes, which covered and matted together all the viscera. The liver was inflamed, but contained no tubercles. The lungs contained a few tubercles, with some caseous nodules. The brain and meninges were healthy.

At a recent meeting of the Académie de Médecine, M. Chervin made the following communication concerning the number of children per family in France according to the last census taken. Twenty married couples per cent. have no children, 24 per cent. have 1 child, 22 per cent. have 2 children, 15 per cent. have 3 children, 9 per cent. have 4 children, 5 per cent. have 5 children, 3 per cent. have 6 children, 2 per cent. have 7 or more children. On an average there are 259 children to 100 fertile marriages. This small proportion would explain the small increase of population in France. The departments in which the fewest children are born may be classed in four groups: in the north-west, the Orne, the Calvados, Eure, Seine-et-Oise, and Seine; in the north-

east, the Aube and Côte-d'Or; in the south-west, the Charente-Inférieure, Gironde, Lot, Lot-et-Garonne, Gers and Tarn-et-Garonne; in the south-east, the Gard and Bouches-du-Rhône; in the centre, the Indre-et-Loire and Rhône. The number of children in these departments is from 200 to 228 per 100 families. The greatest number of children are born in Brittany, Poitou, Savoy, etc. The proportion is about 285 to 340 per 100 families.

During last September 121 persons were treated for rabies at the Pasteur Institute; of this number 16 were bitten by animals in which the existence of rabies was experimentally proved, 75 were bitten by animals in which the affection was proved by veterinary examination, 30 were bitten by animals which were supposed to be attacked by rabies. In the following case the patient, a man of 65, succumbed after the treatment. He was bitten by a dog on September 12th above the right eyebrow; a piece of the skin, measuring 1 centimètre by 4 centimètres, was torn off. Two other bites were inflicted on the forehead, a scratch on the left forearm, and one on the right leg. The patient was treated from September 12th to October 3rd. On October 6th he complained of pain in the cicatrix on the eyebrow, and headache. On the 8th there was formication, especially in the right portion of the skin of the cranium and face. The patient could not sleep, and complained of pains in the limbs. On the 10th slight hydrophobia and aërophobia appeared, and increased in intensity until the 11th. The patient was greatly excited. He expired on October 11th at the Hôpital Broussais. The rabic symptoms appeared three days after the treatment was suspended. Inoculations were made with the medulla oblongata of the dog which had inflicted the bites; these inoculations, introduced into the eye, determined rabies in twelve animals.

LIVERPOOL.

[FROM OUR OWN CORRESPONDENT.]

Mr. Samuel Smith, M.P., on the Economics of Charity.—St. Paul's Eye and Ear Infirmary.—Stanley Hospital.—Donation to University College.—Hospital Sunday Fund.—Dr. Barr.—Home for Epileptics.—Hypertrophy of Epiglottis.—Election of Dr. Marsh as City Councillor.

An address on the economics of charity was lately delivered by Mr. Samuel Smith, M.P., at University College. He pointed out that two factors united in determining the wise application of charity, namely, the principles of political economy on the one hand, and the teaching of religion and the promptings of benevolence on the other. We must, in trying to help the poor, consult economics as well as ethics if we would do the minimum of harm with the maximum of good. As an example of the failure of indiscriminate almsgiving to effect the end desired, the lecturer instanced a street in Liverpool where much relief was distributed, and the competition to get houses there was in consequence so great that it was said to have raised the rents. He believed the immense city populations of this country were improvident to a degree almost without parallel, and that, consequently, with a larger average income, there was much more distress in this than in other countries. The kind of charity which tended to strengthen character was, therefore, far more to be desired than that which aimed merely at relieving temporary distress. The Post Office Savings Bank, the temperance coffee-room, the ragged school, and the city missionary had done more to reduce poverty than all the eleemosynary charities put together. The lecturer trusted for amelioration in the future chiefly to the spread of education combined with the principles of morality and religion, and to the consequent formation of a sounder public opinion. He recommended relieving the congested population by extensive emigration, and showed that there was a wide field for the exercise of private benevolence in establishing colleges and schools, and in providing healthy amusements, libraries, parks, and playgrounds for the poor.

The annual meeting of the subscribers to the St. Paul's Eye and Ear Infirmary was held on November 6th. The report showed that 3,583 patients had received treatment during the year, 481 being indoor patients; and that the total number of attendances was 19,156.

At the quarterly meeting of the Stanley Hospital Committee, held in the Town Hall, it was stated that the deficiency in funds now amounts to £3,688, and it was resolved that some energetic steps should be taken to pay off the debt.

Mr. Henry Tate has given a donation of £16,000 for the completion of the library block of University College. The Council have resolved to associate Mr. Tate's name with the library, and have accepted an offer, made by Mr. William Rathbone, to place in it a bust of Mr. Henry Tate.

The annual meeting of the supporters of the Hospital Sunday and Saturday Fund was held in the Town Hall on November 6th. The gross receipts for the year amounted to £9,553 15s.; the expenses amounted to £282 5s.; and the sum of £9,250 was divided among the hospitals, leaving a balance of £21 10s. The Committee have resolved to adhere to the usual practice of holding the Sunday collections some time during the winter.

Dr. Barr has so far recovered from the effects of his recent accident, that he was able to be present at the meeting of the Medical Institution on November 8th. His entrance was the signal for an ovation from the members, and the President, in a few well-chosen words, expressed the gratification felt by those present at seeing Dr. Barr again amongst them.

A home for epileptics has been opened at Maghull, about seven miles from Liverpool. The objects of the institution are to provide sufferers of this kind with skilled medical attention, supervision by specially trained nurses, and healthy and appropriate employment for body and mind. The following gentlemen will form the honorary medical staff:—Dr. Wm. Carter, Consulting Physician; Mr. E. R. Bickersteth, Consulting Surgeon; Dr. Wm. Alexander, Acting Consulting Medical Officer; and Dr. J. F. Gordon, Local Honorary Medical Officer. It is hoped that, besides the immediate benefit accruing to the inmates, the establishment of the home may lead to some valuable results with regard to the diagnosis and treatment of convulsive disorders.

An unusual case has occurred in the practice of Dr. Alex. Stookes, Senior Medical Officer to the South Dispensary. A child, one year old, had suffered from six months from spasmodic obstruction of the larynx. Cough was present, but there were no physical signs to account for it. Various drugs had been tried without relief. Death ensued in one of the suffocative attacks. At the necropsy the appearances usual in death from asphyxia were found, and the only condition that seemed capable of causing it was the existence of an abnormally large epiglottis, which was, as far as could be judged, a-third or a-half as long again as it should be, and thick in proportion. The trachea was rather narrower than usual; no other lesion or abnormality was found.

At the election of city councillors for the ensuing year, Dr. N. K. Marsh was re-elected to represent Abercromby Ward.

CORRESPONDENCE.

REFORM AT THE ROYAL COLLEGE OF SURGEONS.

Sir,—I am instructed by the Central Committee of the Association of Members of the Royal College of Surgeons, England, to inform you that they have directed me to forward to the Lord President of the Privy Council copies of the resolutions passed at the meeting of the College on November 1st, as also of the resolutions which the President of the College refused to put to that meeting.

I would take this occasion also to express our disapproval of the high-handed manner in which the College Council has, while the ink in which the resolutions were written was scarcely dry, set them aside. This act on their part has come as no surprise, for we are by now accustomed to the autocratic action of the Council; yet it seems scarcely decent that motions carried almost unanimously at a full meeting of the Corporation should be overruled after what can at the most have been but a hurried discussion on the part of the Council, seeing the amount of business crowded by them into the work of the afternoon of November 8th.

The College Council "trust that these questions will now be allowed to rest," for "they deem it best, in the interests of the College, that the discussion on the subjects which have been in dispute should close with the grant of the Supplemental Charter." Truly an impotent conclusion; the subjects are still in dispute, unless the Council agree that the Members have convinced them of the justice of their claims, for the Members have not been silenced by any of the frothy occasional utterances of the Council. The dispute cannot close with the grant of the Charter, seeing that it has already been extended beyond that ideal landmark of

the Council, and the Council have not yet proved that they have the remotest idea of the best interests of the College, or they would not so lightly have sent up to the Privy Council a draft charter, from which the latter body insisted upon some most important excisions. The Council may think that it has now before it a long period of undisturbed repose, but, as yet, the storm has but been brewing. We have not only Lord Randolph Churchill and Sir Guyer Hunter on our side in Parliament, but an exceedingly strong body of members belonging to both political parties in the House, and action will immediately be taken to gain at the hands of the representatives of the people that representation which must find its justification and precedent in the very constitution of the House of Commons itself.—I am, etc.,

WM. ASHTON ELLIS,
14, Grosvenor Road, S.W. Joint Hon. Sec. Assoc. M.R.C.S.

THE REGISTRATION OF MIDWIVES.

SIR,—In the JOURNAL of November 10th, there is a report of a meeting respecting the registration of midwives, held at Oxford on October 25th. In your concluding remarks, the double advantage resulting from the proper education of midwives to which you call attention is (1) "that the educated midwife will relieve the hard-worked practitioner of drudgery as unprofitable as it is fatiguing;" and (2) "the encouragement to a form of competition disastrous to himself and to the profession at large."

May I venture to point out that, however desirable, the object of our labours is neither (1) to relieve the practitioners of labours undoubtedly irksome, nor to assist him to preserve professional *morale*, but rather to alleviate the sufferings and minimise the dangers of a large number of poor lying-in women?—I am, etc.,

T. WILSON, Honorary Secretary,
Workhouse Infirmary Nursing Association.

PUERPERAL FEVER A PREVENTABLE DISEASE.

SIR,—I cannot but express my appreciation for Dr. Cullingworth's line of argument; as an example of scientific special pleading it is excellent; but I am still "outside the pale," and, as briefly as possible, I would state why. At the outset I venture to differ with the gist of Dr. Cullingworth's postcript. Surely, if non-pathogenic bacteria, which admittedly exist in puerperæ, may, in consequence of certain depraved constitutional conditions, become pathogenic and infective, the argument in favour of more than heterogenetic-microbe influence is enormously strengthened.

If we had any clear proof that bacteria only exist in puerperal women after they have contracted septicæmia, that their presence in the utero-vaginal tract is synonymous with the clinical state called puerperal fever, and, further, that the whole pathology of the disease depends on the vaginal introduction of a given quantity or number of any indefinite pathogenic microbes, then we would recognise a pathological fact as simple as it would be valuable. I do not, however, think that this view is tenable. We cannot compare the genetic conditions of scarlet and puerperal fevers. Does Dr. Parvin or anyone else know for certain how scarlatina originated; or can any of us tell whether it is due to a separate microbe or not? Is it really due to certain bovine affections, or does Edington's bacillus float unceasingly yet warily round in everlasting watch for the first suitable victim?

I thoroughly agree with Dr. Cullingworth that scarlet fever is scarlet fever, and that it, as well as measles, typhoid, etc., may be justly said to "breed true."

I fear my letter was not so clear in convincing Dr. Cullingworth of my belief in contagion as one of the causes as I would have wished.

If only certain women are affected, why is this? "Because," says Dr. Cullingworth, "only certain are susceptible." Here again we agree; but why are some liable and others not so? Are we to regard the definite poison, the directly generated poison of hydrophobia as precisely analogous to the poison of puerperal septicæmia? If Dr. Cullingworth will say as much, he is in (with all respect) still better company than Parvin's—in that of Fordyce Barker. But there exists this point—only a limited number of dogs affected with rabies bite a limited number of people; if there is but one form of septicæmia in the puerpera, if this is caused by microbes entering the utero-vaginal tract, if the great majority of women have no antiseptic prophylaxis, and if microbes are in such quantity as the germ theory suggests, why then almost every puerperal woman is exposed to the risk of septicæmia, and, after all, but an infinitesimal percentage are affected.

I agree in many, I might add in most things, that Dr. Cullingworth has written on this subject; but on nothing do I more heartily endorse his views than: "It is only in private practice that such observations are possible; puerperal illness, as seen in hospital practice, either takes the form of a malignant epidemic, or of chronic illness, following an acute attack. In the former case the type of disease is very different; in the latter case the history of the earlier stages of the illness is necessarily imperfect."[1] Why, then, pin our faith on reports from great foreign lying-in hospitals? May we not find material in England as reliable and worthy of consideration?

Dr. Madge writes: "I have attended upwards of 3,000 cases and had eight deaths; two being from puerperal fever, one from puerperal pyæmia. Many of my medical friends have attended 2,000 or 3,000 cases without a death. The meeting with bad cases seems to be a mere lottery, a mere chapter of accidents, following no law whatever, not even the law of probability." Madge had a total mortality of 0.266 per cent., against 1.2 per cent. in Dresden; from septicæmia, Madge lost 1 per 1,000; in Dresden, the proportion was 1 per 700. Then let us look at a series of 1,000 cases by Mr. Legge, of Derby.[2] He had 7 deaths, one from metria, 0.10 per cent. Clearly, one may regard these as wonderfully good results. I anticipate possible objections—that hospital cases are more liable to metria from probable severity of parturition, from traumatism, and nosocomial malaria, yet, as the records of Dr. Madge and Mr. Legge are those of private practice before the introduction of antiseptics in obstetrics, they are, I submit, quite comparable to the excellent report from Dresden.

Dr. Cullingworth asks me to cite a case of transmission through other channels than the genital tract. I much dislike the *tu quoque* argument, but I hope to make it with moderation and respect. Can any one of us prove undoubted transmission of bacteria, and bacteria only, to be the cause of puerperal fever? We believe, from ample clinical observation, that septicæmia is produced by manual contact in many cases; but are there not many other cases regarding which many of us hold markedly different views? May I briefly quote Dr. Cullingworth's paper again? "The child was born before my arrival, and the placenta was removed without the introduction of the fingers into the vagina, so that I can scarcely reproach myself with having carried contamination by touch;" and, under Case 1: "I am not able to throw any light on the origin of the attack." These cases are models of clinical observation, and yet Parvin would persuade us that they were due to an unascertained external cause, and, if I clearly understand Dr. Cullingworth, he now holds these were due to hetero-genetic-microbe poisoning.

Were I as sceptical about bacterial heterogenesis as I am believing, I might request proof that certain microbes had actually been introduced into the vagina, and also clear proof that the conditions and symptoms produced could, each one of them, be traced in progressive sequence as the result of the said introduction. But I rest content meantime with an evident clinical, if not scientifically proved, fact. A positive proof is worth a thousand negatives; but, if positivism is impossible, circumstantial evidence is next best.

Heiberg,[3] in 1875, recognised bacterial infection from manual conveyance and aërial conveyance. He believed that other mucous membranes than the vagina—for example, the lining of the nose, etc.—might afford entrance for the bacteria.

As I write I have beside me a record of 31 cases of puerperal fever, which happened in the hands of ten different attendants.[4] I venture to ask anyone interested to read my paper with unbiassed mind, and form a judgment whether about 58 per cent. of the cases were not due to other than vaginal-microbe or septic-manual transference.

I think Dr. Cullingworth is perfectly entitled to an explanation of my term "ordinary" septic poisoning. At the risk of exposing my views to misrepresentation from brevity, I will attempt to give it. I believe that there is a condition in certain patients which is practically a specific septicæmia; in a sense it is a specific disease, inasmuch as it is much more infectious, much less amenable to treatment, than surgical septicæmia or ordinary puerperal septicæmia. Introduce bacteria into healthy living blood, and they

[1] *Obstetrical Journal*, vol. xxviii, p. 221. *Ibid*, vol. xxx, p. 378.
[2] *Ibid*, vol. xci, p. 534.
[3] *Ibid*, vol. xxvi.
[4] Clinical Experiences of Puerperal Fever, *Obst. Jour.*, vols. lxxxix. to xciv.

will either die, or perhaps, if specific, produce a specific disease. Let micro-organisms enter the blood when it is undergoing certain as yet imperfectly understood chemical changes, and one of two things happen: the patient suffers severely from intense septicæmia, mayhap dying without a pathological trace of disease; or a form of disease is produced which is not associated with the multiplication of bacteria within the system, and, if the patient can be tided over a certain time, she will recover.

I see no reason why future observers may not be able to show that, in certain forms of puerperal septicæmia, there is either a special poison produced in the blood, from the chemical changes caused therein by certain specific bacteria; and that, in other septicæmias, the now recognised septic bacteria will produce a blood-poisoning which, under certain conditions, may pass into the former; or, on the other hand, demonstrate that the condition of the blood acting on non-pathogenic bacteria may actually originate a septic bacterial disease which is capable of propagation in various ways.

I fear I have already transgressed on the editorial indulgence: so that, feeling I have left much unsaid, I conclude by expressing the sincere hope that my remarks will be received in the same spirit as they are offered. Although we differ on certain theoretical points, on the ground of all Dr. Cullingworth's clinical recommendations, we fight under the same flag.—I am, etc.,

A. D. LEITH NAPIER.

3, Beaufort Gardens, S.W.

JUDICIAL EXECUTIONS.

SIR,—Dr. Marshall's letter in the JOURNAL of November 10th demands from me a brief reply, which I hope may be my final contribution on the above subject, at least for some time. He seems to attribute to me some personal animus, which I must at once disclaim, and, so far from treating his work with contempt, I considered it worthy of a criticism which occupied two columns of the JOURNAL. But, on the erroneous supposition that I am the legal adviser of the Capital Sentences Committee, Dr. Marshall at once proceeds to "abuse the plaintiff's attorney."

Dr. Marshall now says that "death by suffocation happens in nine out of ten executions." In the fifteen executions which I have recorded there were only three of the deaths by suffocation, and Dr. Marshall previously stated that of his four cases there were only two of death by asphyxia. There could not be much objection to Dr. Marshall trying his chin-trough in an execution, but I maintain that it is physically impossible that it could effect the results claimed for it. Even with the addition of this trough a hempen rope would make a very inefficient lever, the first quality of which should be rigidity, and any slight leverage action which it could accomplish would be expended in stretching the occipito-atlantoid ligaments, whereas dislocation takes place at the point of constriction, and always below this joint.

"Notwithstanding Dr. Barr's sneer at my knowledge of mechanics, I contend that my proposition to increase the angle to which the trough could be thrown back by standing the culprit sideways on the drop, away from the overhead attachment of the rope, is perfectly sound. If you allow a six-foot man (roughly speaking) six feet of rope from an eight-foot high beam, and stand him exactly under the attachment of the rope, he falls four feet, and the floor of the trough is forced into the perpendicular. If he is placed sideways, one of his feet on each leaf of the drop (floor of the scaffold), and three feet to the left or right, his back being, of course towards the attachment of the rope, he only has a vertical fall of about three feet, the check of the rope jerking the trough's floor about the third of the right angle (30°) back, which is to be added to the despised 15° at the other side of the vertical, making 45° of a wrench backwards altogether over and above what we can do willingly." Without any "sneer," this statement almost makes me exclaim, metaphorically, of course, "give Dr. Marshall rope enough and he will hang himself." The only fulcrum for this imaginary lever-jack of 30° would be the atmosphere. In the drop from this assumed position there would be two forces at work, namely, gravity, and the tension of the rope drawing the body into the perpendicular line of the overhead attachment, and the resultant would be the diagonal of a parallelogam whose sides are represented by the component forces. This parallelogram is very easily constructed, and in every case it will be found that the diagonal is the perpendicular line to the overhead attachment; therefore the result will be the same wherever the culprit is placed on the scaffold.

"Lord Aberdare also remarked, on Dr. Barr contemptuously saying that 'it would slip up over the face:' 'We don't care where it goes after giving the blow on the chin.'" Dr. Marshall has evidently not been favourably impressed with my manner, though it may have had a stimulating effect, as in another paragraph he tells us "that the real reason of my perseverance in this matter is chiefly due to the contemptuous manner in which he, without a moment's examination, condemned before the Committee the work upon which I (a professional brother!) had spent so much thought and time, and on which I naturally prided myself." A man is not always the best judge of his own actions, but certainly I am not aware of having treated Dr. Marshall's work contemptuously, either by word or action, or in any way exceeded the bounds of legitimate criticism, and I do not think that such an impression was left on the mind of anyone except Dr. Marshall; at any rate, my manner could have had no effect on the decision of the Committee. I must confess that it did not take me long to find out the defects in Dr. Marshall's invention, but as I had not previously seen or heard of it, it must have taken more than a moment's examination to minutely criticise its details. It is with great reluctance that I refer to any private conversation which took place in the Committee room, but I may be allowed to say that the statement attributed to Lord Aberdare was that of another member. I may also remind Dr. Marshall that, since my criticism, he has altered his chin-trough to prevent it slipping up over the face. Although I have not such an impression of "the deadliness of the chin-trough" as Professor Yeo, who "declared that he would not fall six inches with the contrivance *in situ*," I would not care to be suspended by the neck without any fall. It is some years since I saw Professor Yeo, but, judging from my recollection of his dimensions, I should say that, if he really wants to try the apparatus, he may safely take a drop of eight feet, so far as the continuity of his skin is concerned, but I would not be accountable for any of the more important structures.

Dr. Morgan's sphygmographic tracings of Currell, of Lipski, and of King, are still in my possession, and I can assure Dr. Marshall that there is no mistake whatever. Currell's pulse did not fall to 80 till about the eleventh minute. I cannot find any reflection by the Committee in their report about "the doctors giving misleading hints to reporters as to instantaneous deaths at executions," nor do I think that there are sufficient grounds for Dr. Marshall making such a statement. In my experience I should say, on the contrary, reporters are prone to draw on their imagination, and rather overstate any flaw in the details of an execution. For my own part, I am not likely to be accused of any reticence, as it was chiefly through my representations of the bungling operations of Binns that he was dismissed.

In conclusion, I have to thank Dr. Marshall for his kind reference to my recent injury, which, as he may infer, does not prevent my dictating a letter. Although my critical faculty is not likely to be thus in any way affected, I can assure Dr. Marshall that I never had the slightest intention of pointing "the finger of scorn" at him or any other honest worker.—I am, etc.,

Liverpool, November 10th. JAMES BARR.

TREATMENT OF OBESITY.

SIR,—The Spartan diet that Mr. Towers-Smith recommends will, I fear, please but few sufferers, and is needlessly severe; in fact, it appears to me that the third course he recommends would be quite severe enough, if persevered in, to safely and surely reduce corpulency.

This third course is an approach to what Mr. Banting, of famous memory, recommended, and I should say ought to have come first, for to throw upon the kidneys suddenly the elimination of such a vast amount of undiluted nitrogenous matter as the first course of Mr. Towers-Smith's diet entails cannot be free from danger unless combined with a great amount of exercise, which Mr. Towers-Smith says nothing about. It is an axiom, I believe uncontroverted, that sudden and violent changes in diet are not free from danger, and the fault I find—or rather one fault—is this sudden change. Further, can it be safe to debar a person for fourteen days of the various salts, necessary to the economy, that are contained in non-nitrogenous food?

I cannot help thinking that the safer and proper way to reduce obesity is to find a choice of foods for the sufferer, but to eliminate from them those articles that cause obesity—starch, sugar, and fat—and to increase the oxidation of fat in the system by a larger but not improper amount of nitrogenous foods.—I am, etc.,

Sherborne, Dorset. NATHANIEL EDWARD DAVIES.

DILATATION OF THE CERVIX UTERI.

SIR,—I beg to state, in connection with the subject of dilatation of the cervix uteri now brought so prominently forward on account of the diverse plans recommended for its production, and also in more special connection with the recent article of Mr. Taylor, of Birmingham, in your columns on the same subject, that some years ago I suggested a means of dilating the cervical canal which to my thinking is the most rational, because it is the safest.

Messrs. Arnold made an instrument for me which was at the time figured and described, but which was not pushed to perfection. It consisted of a hollow sound (useful for ordinary purposes) perforated at each extremity, and through which air or water could be pumped. Over the uterine end strong oblong bags, thickened at each end, were to be tightly drawn when required. They were of different sizes, and made of gutta percha. These, when dilated by an air pump, formed an efficient means of dilatation. Surely the cervix uteri, though seemingly greatly nonsensitive and tolerant of irritation, is not a thing to be attacked with immunity in the way that one reads of now; and in the absence of cicatricial contraction should be dilated by other means than those afforded by screws and naked steel blades. It is elastic, therefore the dilating force ought to be more or less elastic. Further, the cervical canal ought to be evenly dilated, and any dilating force applied ought to aim at parallel expansion. These indications are, I think, best fulfilled by such an instrument as I suggested, and which I shall, as soon as I can find time, send a description of to your JOURNAL, if you will be good enough to insert it.—I am, etc., JAMES MACMUNN, L.R.C.P.L., etc.

Hornsey, November 13th.

CANCER IN ANIMALS.

SIR,—Mr. McFadyean, in a letter to the JOURNAL, criticises the following statement: Dr. Clifford Allbutt has been equally misinformed regarding the occurrence of carcinomatous new formations in the lower animals; the letter then goes on to this effect: "All varieties of epithelial tumours met with in the human subject occur in the lower animals." This statement, if allowed to pass unnoticed, is calculated to give rise to misimpressions. In discussing questions of comparative pathology, care must be exercised in using the expression "lower animals," for it is applicable to slugs, crocodiles, jackdaws, or asses. Tumours in domesticated animals are common enough, but in wild animals in confinement extremely rare.

Cancer in wild animals is practically unknown. The term cancer is used in veterinary pathology in the same loose way it was employed in human pathology fifty years ago, and even Mr. McFadyean is cautious, and uses an adjective expression—"carcinomatous new formation"—for fear of mistake. It is so easy to confound sarcomata, adenomata, infective granulomata, and papillomata in horses with cancer, used in its definite and restricted sense. The facts stand thus: cancer in animals other than man and those domesticated is practically unknown. I would suggest that Mr. McFadyean publish details of his cases of cancer; they will be very acceptable to many, especially if carefully illustrated by drawings.—I am, etc., J. BLAND SUTTON.

Gordon Street, W.C.

THE GALEN CLUB.

SIR,—This club having been closed in consequence of the proprietor not finding it remunerative, it would be much to be regretted if the members, numbering some 240, for the most part medical men, should be scattered abroad. Most of these gentlemen have become members of the club for the purpose of social intercourse with others in the same profession, and it will be probably some time before the same opportunity will be offered them by the formation of another medical club. I should like to suggest, through the medium of your columns, that the members of the late club should put themselves in correspondence with one another with a view to holding a meeting to discuss what steps can be taken for their mutual advantage. It appears to me that it is very desirable that there should be a medical club, or, as an alternative, the members of the late Galen might arrange with some other club for their reception in a body. I sincerely hope this opportunity will not be allowed to slip.—I am, etc.,

HENRY F. WINSLOW, M.D.

14, York Place, Portman Square, November 14th.

NAVAL AND MILITARY MEDICAL SERVICES.

PRIMARY MEDICAL EXAMINATION OF RECRUITS.

AN Army Order has been published, taking full effect from April 1st, 1889, by which the primary medical examination hitherto conducted by accredited civil practitioners will be done away with. If there is no military medical officer within two miles, the recruiting sergeant will himself measure the recruit, and make a rough sort of medical inspection; the man will then be attested, and sent to the station at which the final approval is carried out, where he will be medically inspected and passed, or sent back to his home if found unfit. The effect of this will be the saving of the fees for primary medical examination, against which will be the cost of transit and maintenance of all the rejected recruits. Time will show whether the public will gain or lose by this arrangement; it will be a serious loss to many accredited militia surgeons and civil practitioners who now conduct the primary examination of recruits in outlying districts.

SOLDIERS' RATIONS.

SIR STAFFORD NORTHCOTE will be the Chairman of the Committee to inquire into soldiers' rations; among the other members of the Committee will be General Sir Redvers Buller; General Goldsworthy, M.P.; Colonel Blundell, M.P.; and Sir Arthur Haliburton.

A QUESTION OF PRECEDENCE.

VOLUNTEER SURGEON writes: I am senior surgeon of the volunteer battalion here, having been so for thirteen years. My junior surgeon by ten years has lately joined the Army Medical Reserve, and there ranks as captain. In the volunteers he was acting surgeon. He now considers himself my superior in the volunteers, and claims that all communications should come through him. Is he correct; or do I still hold the senior position in the battalion?

Is it not rather incongruous for one man to hold one position in the Army Reserve and another in the volunteers—one departmental, the other regimental?

*** We are necessarily not in a position authoritatively to answer our correspondent's question. If he finds himself, or believes he is, superseded by his junior and subordinate officer, he should officially request a decision through his commanding officer. The absurd incongruity of his junior's position must be apparent to the veriest civilian mind.

ST. JOHN AMBULANCE LECTURES.

N.A., who has been asked to give a series of nursing lectures in connection with the St. John Ambulance Association, asks what are the most suitable books on the subject.

*** *Nursing Handbook*, by Cosgrave, St. John Ambulance Association, St. John's Gate.

C. L. writes: It is my intention to deliver a course of lectures on first aid to the injured, the funds derived from which are to be given to a local medical provident club. The Committee of the club wish to advertise the lectures by posters, and in the local paper—my name to appear in the advertisement.

Is there anything in this which could be called unprofessional or derogatory to the profession?

*** There is no objection to the public announcement of ambulance lectures, as proposed.

THE MEDICAL SERVICES.

SEVERN BRIGADE writes that he hopes the medical officers of the regular services will meet with due recognition of their just claims; he recalls the fact how the medical schools assisted them some twenty years ago. He would like to know how his fellow medical volunteers get on in their battalions, especially in the training of men in ambulance work, and in keeping up a due proportion of trained stretcher bearers; whether they, like him, furnish medicines and surgical appliances for camp work at their own expense. He thinks an allowance should be granted for medicines, etc., and for the removal of sick from camps. He considers such matters will have to be adjusted when the new "brigade camps" are instituted. He says the regimental system continues to work well in the volunteers, and hopes it may be partially revived in the regular army. He hopes everything possible will be done to enable medical officers of the regular and auxiliary forces to work together harmoniously, for their own and the good of the service.

THE SERVICE EXAMINATIONS.

N. M. S. wants to know whether, having been once rejected on the grounds of physical disability, he could present himself as a candidate for the same branch of the service again. We should say that entirely depended upon the nature of the disability, and whether it still existed. He would, no doubt, find his rejection duly recorded, and, in any fresh application, should state the fact that he had been a candidate before.

THE NAVY.

THE following appointments have been made at the Admiralty:—MAXWELL RODGERS, M.D., Deputy Inspector-General of Hospitals, to Haslar Hospital; R. W. ANDERSON, Surgeon, to Plymouth Hospital; W. G. C. SMITH, Surgeon, to the *Asia*.

THE MEDICAL STAFF.

Surgeon-Major W. H. Garde is granted retired pay. His commissions are dated: Assistant-Surgeon, March 31st, 1868; Surgeon, March 1st, 1873; and Surgeon-Major, October 14th, 1880. He was engaged in the expedition to the Nile in 1884-85, and has received the medal with clasp and the Egyptian bronze star granted for the campaign.

The leave to Canada on private affairs granted to Surgeon F. D. Elderton, who is borne on the Bengal Establishment, has been extended to January 23rd.

Surgeons J. W. H. Flanagan and R. W. Barnes are brought on the strength of the British forces in the Bombay command from October 15th, the date of their arrival at Bombay.

Surgeon-Major F. Lyons, M.D., who is serving in the Bombay command, is posted to general duty in the Poona District.

Surgeon-General H. G. Gordon, M.D., formerly of the 95th and 89th Regiments, died on the 8th instant at Arundel Gardens, at the age of 67. He entered the service as Assistant-Surgeon, December 31st, 1841; became Surgeon, April 22nd, 1853; Surgeon-Major, December 31st, 1861; Deputy Surgeon-General, March 9th, 1867; and Surgeon-General, April 28th, 1875. He was granted retired pay August 2nd, 1880. He does not appear to have had any war experience.

Surgeon-Major G. B. Childs, late of the 4th Battalion Royal Fusiliers (better known as the Royal London Militia), and for over forty years Surgeon-in-Chief to the City Police Force, died at Westbourne Park on the 8th instant.

ARMY MEDICAL RESERVE.

Surgeon and Honorary Surgeon-Major C. S. Hall, 1st Volunteer Battalion Border Regiment (late the 1st Cumberland), is appointed Surgeon-Major, ranking as Lieutenant-Colonel.

INDIAN MEDICAL SERVICE.

Surgeon-Major H. Hamilton, M.D., Bengal Establishment, is appointed to the officiating medical charge of the 5th Native Cavalry, *vice* Surgeon A. E. Roberts, who has been detailed for field service.

Surgeon J. Hoey, Madras Establishment, has leave for one year on medical certificate.

Brigade-Surgeon J. M'D. Houston, M.D., Madras Establishment, Physician to the Maharajah of Travancore, and who entered the service July 23rd, 1858, is placed on the retired list from October 12th on a pension of £550 per annum. He has no war record.

The services of Surgeon-Major F. H. Blenkinsop, Madras Establishment, are placed at the disposal of the Public Department.

The services of Surgeon-Major J. North, Madras Establishment, are placed at the disposal of the Commander-in-Chief.

The Government of India having found that great diversity exists in the administration of gaols in different Provinces, and even in the same Province, has deputed Dr. W. Walker, Surgeon-General with the Government of India, and Surgeon-Major A. L. Lethbridge, Inspector-General of Gaols, Bengal, to inspect and report on the gaols in the Madras and Bombay Presidencies, Bengal, North-West Provinces and Oudh, and the Punjab.

THE VOLUNTEERS.

Surgeon P. B. Smith, 1st Volunteer Battalion Gordon Highlanders (late the 1st Aberdeen), is granted the honorary rank of Surgeon-Major.

Lieutenant C. K. Morris, 2nd Volunteer Battalion West Kent Regiment (late the 3rd Kent), is appointed Acting Surgeon to the same corps. Surgeon Morris joined as Lieutenant January 9th, 1886, and had obtained the Subaltern's Certificate of Proficiency.

Surgeon M. Benny, M.D., 4th Volunteer Battalion Argyll and Sutherland Highlanders (late the 1st Stirling), is granted the honorary rank of Surgeon-Major.

MEDICO-LEGAL AND MEDICO-ETHICAL.

REGINA *v.* CLARENCE.

Queen's Bench Division.

Court for the Consideration of Crown Cases Reserved.

(Before the Lord Chief Justice, Mr. Baron Pollock, Mr. Justice Field, Mr. Baron Huddleston, and Justices Manisty, Hawkins, Stephen, Mathew, A. L. Smith, and Wills.)

In this case the prisoner was charged under the Offences against the Person Act, 24 and 25 Vict., cap. 100, on two counts, with inflicting grievous bodily harm upon his wife, and with an assault, he having communicated to her a disease. He was convicted at the Central Criminal Court, but the question of whether he could be properly convicted under the statute was reserved for the consideration of this Court, and was argued last term, the judges not being unanimous.

Mr. Justice Wills, the junior judge, first delivered judgment. He said that he was of opinion that the conviction should be quashed. No mention was made in the statute of this class of offences, and the alteration of the criminal law involved, if the conviction were affirmed, would have very widespread consequences. A wide door would be opened to inquiries, not of a wholesome kind, in which the difficulties in the way of arriving at the truth were enormous, and a new field of extortion, and perhaps oppression, would be opened. Such an extension of the criminal law should be made by the Legislature, and by the Legislature only. If the conviction were upheld it raised a question as to persons communicating small-pox or scarlet fever, whereas it was clear that what the Act contemplated was personal violence.

Justices Smith, Mathew, and Grantham also were in favour of the conviction being quashed.

Mr. Justice Stephen said that if the principle involved in a conviction was right, it must apply to women as well as men, and unmarried women as well as wives, and to diseases of any kind communicated by one person to another, and a man who had scarlet fever and shook hands with another might be indicted under these sections. He did not think there was grievous bodily harm or an assault of the nature contemplated by the statute. The abominable nature of prisoner's conduct could not, however, be exaggerated, but the question should be dealt with by statute. He was, therefore, of opinion that the conviction should be quashed.

Mr. Justice Hawkins was of opinion that the conviction should be affirmed. Prosecutions for injuries caused by a kiss or a shake of the hand where it was not done maliciously would not be tolerated in any criminal court, but he could conceive cases where these acts were done maliciously, and where proceedings might be taken. He did not think the consequences shadowed forth by his learned brothers would follow if the conviction were upheld, and he could not be a party to a judgment which would proclaim to the world that, under the law of England, in the year 1888, a man might maliciously be guilty of such barbarity and not be punished. He though the conviction should be confirmed.

Mr. Justice Day, who was absent, concurred, it was said, in this judgment.

Mr. Justice Manisty, Mr. Baron Huddleston, and Mr. Baron Pollock were in favour of quashing the conviction: while Mr. Justice Field thought it should be affirmed, as did also Mr. Justice Charles, who was absent.

The Lord Chief Justice said that for some time he thought the conviction should be affirmed, which he was sure everyone would desire if it could be done without violating the principles of sound law and construction. It seemed, however, impossible in that event to deny that a conviction could be sustained if a father or a relative infected a child with small-pox by kissing it if they knew they had the disease and the child had not. There being nine judges in favour of quashing the conviction, and four only supporting it, the conviction was quashed, in accordance with the view of the majority. Conviction quashed accordingly.

UNFOUNDED CHARGE AGAINST A MEDICAL PRACTITIONER.

The case of Alice Ann Adams *v.* Dr. Robert James Cook, was heard at the Rochester County Court, before His Honour Judge Homersham Cox and a jury, on Wednesday afternoon. It was an action brought by the plaintiff, a barmaid, against the defendant, for £50 damages, for an assault by an alleged improper medical examination.

The facts were virtually undisputed. The plaintiff was in the service of Mr. R. Pott, a Chatham hotel keeper, and was 21 years of age. In September she was indisposed and appeared to become delirious. Dr. Cook was sent for; he asked the plaintiff what was the matter, and felt her pulse. Her bodice was slightly open, and defendant proceeded to make an examination of her body. The women who were there then retired at the defendant's request, as he said he wanted to ask her a few questions. Some two or three minutes afterwards defendant entered the sitting room, and on being asked what was the matter, said she was four or five months pregnant. Plaintiff was then removed to her parent's house.

Dr. E. C. Warren, of New Brompton, who was called in by the parents, and a midwife, both stated that, as a matter of fact, the plaintiff was not pregnant.

Mr. Norman submitted that the defendant had committed a breach of professional etiquette, a breach of honour, and unquestionably an assault. The examination was not made at the request of the plaintiff, nor with her consent. It was made simply in the interest of her employer.

In reply to the judge, Dr. Warren (called by the plaintiff) stated that the young woman was in a highly nervous state, approaching hysteria.

Mr. Steavenson, barrister, who appeared for the defendant, submitted that there was no case for his client to answer.

The jury said they were convinced that the examination was thoroughly justifiable; and so, without Dr. Cook being called upon

for his defence, a verdict in his favour was recorded. He did not, however, ask for the costs to which he was entitled. The learned judge said Dr. Cook had behaved very handsomely.

PAYMENT FOR DEATH-CERTIFICATES.

H. H. writes: Will you kindly inform me, through the JOURNAL, whether it is justifiable for a medical man to charge for a death-certificate? Is it legal or illegal? Could such a charge be recovered in a court of law? If a patient refused to pay such a charge, and a medical man refused to give a certificate without receiving payment, what would be the consequence?

*** The Registration of Births and Deaths Act, 1874, which requires death-certificates to be given, is silent as to fees chargeable by medical practitioners. There seems to be nothing to prevent such fees being claimed, even for certificates required by the registrar; and there is certainly nothing to prevent them being claimed in cases where the certificate is required for the purpose of recovering insurance money. We do not know of any case in which such fees have been recovered in a court of law; and the expense and trouble attendant on an action for the recovery of one fee would be more than the fee was worth. It is always safer in cases of doubt to require payment before parting with the certificate. The practitioner need not fear any unpleasant legal consequences; though probably the person who requires the certificate might be involved in difficulties through failure to get it.

THE RISKS OF A *LOCUM TENENS*.

F. B., who is qualified and registered, was engaged by E. B. to act as his *locum tenens* for two weeks, with a remuneration of £3 3s. per week, commencing on September 15th. On September 24th F. B. was taken ill with scarlet fever, and on September 25th was removed to the Fever Hospital, where he was detained for at least six weeks. F. B. had not attended a single case of scarlet fever for some months until taking charge of E. B.'s practice, when he attended one from the commencement, September 15th. What remuneration should F. B. receive from E. B.?

*** F. B. has no legal claim for anything beyond the two weeks' remuneration; but as the second week had commenced before he became incapacitated, we think he is entitled to the payment for that week. His illness is unfortunate, but he must be considered as having taken the risk of infection when he accepted the situation.

A DELAYED PRESENTATION.

A MEMBER successfully defended a spurious action, eliciting the sympathy of his colleagues and the profession, from whom a committee was formed to present a testimonial. A part of the sum subscribed was sent to defray law expenses, a balance remaining on hand for cost of presentation. Matters have remained thus for more than a year, through the apparent apathy of the committee. How would you advise to bring matters to a close?

*** The not unnatural desire of "A Member" will probably be achieved by the above insertion of his note in the columns of the JOURNAL, as a gentle reminder to the apparently apathetic committee that it will be well "to bring matters to a close."

PAYMENT OF FEES TO CONSULTANTS.

FESTINA LENTE writes: Two years ago, a neighbouring practitioner asked me, on three occasions, to see patients with him, and promised fees. Having heard things said about him which I do not like, I have not had anything to do with him for nearly a year. I have sent him a bill for the amount of fees on two occasions during the last three months, and he has taken no notice of it. Would you kindly say what more I can do?

*** Unless our correspondent has distinct proof that the practitioner alluded to holds himself personally responsible for the fees in question, he ("Festina Lente") has no legal redress against him; for, as is clearly laid down in the ethical code, and traditionally recognised by the profession, in cases of consultation, the duty which ordinarily devolves on the family medical adviser is simply to intimate to the patient, where necessary, and, as far as possible, to see it be paid at the time—unless, for financial or other valid reasons, deferred payment be deemed expedient; but there is no professional obligation on the family doctor to do so out of his own pocket.

THE IRREPRESSIBLE FEMALE.

P. B. T. S. writes: My partner and I have been in constant attendance for the past twelve days on a case of puerperal fever. On the eleventh day (October 31st) an officious and garrulous female friend presents herself, asking if we have any objection to meet a retired fleet-surgeon, R.N., in consultation. He has been lodging in her house for "the past three weeks," and offered to charge no fee. We declined, for the following reasons: (1) having already seen a local man in consultation, and (2) preferring the assistance of a more experienced and better known practitioner; but promised that if the case presented any symptoms on which we might require the advice and assistance of a retired fleet-surgeon, we would let him know.

To-day, November 1st, after our seeing the patient twice, we have received the following letter:

"November 1st.—Dear Sir,—I was requested by the friends of Mrs. M. to see her. Of course, I would not do so except in consultation with you. I am now informed that your attendance is discontinued. If such is the case, I will see her. I write for information. Is your attendance discontinued?—Yours faithfully, W. G. H., F.R.C.S.I., M.K.Q.C.I., Lic. Mid. (Coombe), Fleet-Surgeon R.N."

It was left at my partner's house at 4 P.M., and the following message was written by the brother of the husband, who signed it only:

"Dear Sir,—As you declined to hold a consultation with Dr. G. H. as to Mrs. M.'s illness, I decline your services. I have left a note from Dr. G. H. at Mrs. C.'s.—(Signed) G. M."

We replied: "If you think that taking a case in the way you suggest from brother professionals is conduct befitting a gentleman holding Her Majesty's commission, you may take what action you please. The Royal Colleges of Ireland may differ from you.—Yours faithfully, W. H. C., P. B. T. S."

The following came to hand on November 2nd:

"November 1st.—Dear Sirs,—I am not aware that I have acted in any way improperly towards you as members of the profession, nor yet as a gentleman holding Her Majesty's commission. I was called on by Mrs. B. to see your patient, Mrs. M. I refused to go unless in consultation with you. I was yesterday morning informed that your further attendance was declined, and your fees paid. I was shown the copy of this letter, but I still refused to go until I had written to you. This I did, and waited for an answer till evening, and then I went, as I was informed the case was critical. You are at perfect liberty to refer the case to the Royal College of Surgeons, Ireland.—I am, Sir, yours faithfully, W. G. H."

*** Need we remind our correspondent that the "officious and garrulous female friend" is one of the traditional and inevitable nuisances of professional life, and can only be successfully met by tact and sound judgment on the part of the family doctor, otherwise he will at times be subjected to no little worry, and, as in the present instance, his ejectment eventually effected by such meddlers.

In any future case of a like character, we would counsel our correspondent, and others, to bear in mind that a patient has an indisputable right to have "further advice" if he or she wish it; and the practitioner in attendance will do well for his own sake, as well as that of the patient and friends, to courteously assent thereto, unless there be good cause for declining to meet the suggested consultant.

In the case in question, we are of opinion that Messrs. C. and S., notwithstanding the somewhat doubtful—though not distinctly unethical—procedure of Mr. H., acted unwisely in refusing to meet him, and especially so with regard to the implied threat of an appeal to the College authorities, who, under the circumstances, would not, we apprehend, be justified in taking official cognisance of the alleged irregularity. The real delinquent in the matter is, we take it, the irrepressible "officious female friend."

MISTAKEN CHARGE OF BOYCOTTING.

WITH reference to the absurd charge of "trade-unionism" and "professional boycotting" made by an untutored writer in the *Warrington Guardian* against the local profession, consequent on their alleged line of procedure toward certain past and present medical officers of the Medical Aid Society, located in Friars Green, we would merely observe that, ere giving public expression to his personal views on the subject, he would have acted wisely in acquiring a knowledge of the real facts of the case; for if, as he himself affirms, "the best of the local medical men have lent themselves to the (alleged) social and professional ostracism," there cannot, we apprehend, be a doubt but that the ostracised members have, in some way or other, seriously deviated from the universally recognised moral obligations devolving on the profession in relation to each other, the faculty, and the public. Further comment on such a gross imputation is unnecessary.

PRIVATE DISPENSARIES.

IN reference to the printed circular issued by the medical proprietor of the so-named "Penge and Anerley Dispensary, late Messrs. Smith and Warriner, Surgeons, etc., registered," we deem it well to remark that the modern practice of assuming, for the purely selfish purpose of personal advancement, the distinctive titles and status of our public institutions, and parading private speculations as *bonâ fide* hospitals and dispensaries, is extremely objectionable. Such pseudo-institutions, it need scarcely be added, are not only derogatory to the profession, but injurious to the true interest of the public. We would, therefore, advise our correspondent to forward a copy of the circular, together with the omitted name of the practitioner in question, to the President and Council of the College of which he is a member, and solicit their attention thereto, as the one effective mode of checking the discreditable system.

VACCINATORS AND POOR-LAW MEDICAL OFFICERS AS COUNTY COUNCILLORS.

A CANDIDATE writes: Can I become a member, if elected, of the new County Council? I am a poor-law medical officer, and paid by the guardians for public vaccinations.

*** As regards election, any person otherwise qualified may be a candidate and accept the office of councillor if elected, because no one can at present have any "share or interest in any contract or employment with, by, or on behalf of" the—as yet nonexistent—Council. If elected, it may, however, be necessary for him to give up his position. As we read Sections 24 and 26 of the Local Government Act, neither poor-law medical officers nor public vaccinators will be appointed by or have any contract with the County Councils; and consequently, though part of their pay will be derived indirectly from the county fund, they will not be disqualified for the position of councillors. The matter, however, is by no means clear.

BROCKWELL *v.* BULLOCK AND ANOTHER.

WE have received a letter from Dr. Brockwell, in which, after recapitulating the facts of the case (briefly reported in the JOURNAL of November 10th, p. 1077), he states that he intends to appeal, and continues: The principal object of my letter is to point out the difficult position in which all medical practitioners are at present placed. To the non-legal mind I contend we are certainly entitled to suppose that since the Lords Justices (acting for the Lord Chancellor) have granted a sum of money towards the expenses of the defence, they have (for the Lord Chancellor) virtually given their consent. Under subpœna we can be called to any distance, at any time (in this case at forty-eight hours notice in the depth of winter, with many serious cases under treatment), detained several days, and now so far we are told we can-

not recover our fees because we ought first to obtain the consent of the Lord Chancellor. If this be the law, surely it is time we called on the Medical Council to take steps to obtain an alteration of the law.

INDIA AND THE COLONIES.

INDIA.

A ZENANA hospital was opened at Quetta, in Beloochistan, on November 2nd, a fresh result of Lady Dufferin's labours.

CHOLERA FROM MILK.—Dr. Simpson, the health officer of Calcutta, has made a searching investigation into a recent outbreak of cholera in the Alipur gaol, and, after careful examination into every conceivable source of contamination, he has arrived at the conclusion that the milk-supply of the gaol, adulterated with contaminated water, was mainly responsible for the outbreak. The details of the report show that of 144 prisoners who had their food from the hospital kitchen, 39 were on milk diet and 105 on other diets. Eight milk-diet prisoners were attacked with cholera, and 7 died, while 3 non-milk-diet prisoners were affected, and only 1 died. In the course of his investigation, Dr. Simpson discovered that the wife of one of the warders of the gaol, who lived on the banks of Tolly's Nullah, opposite the gaol, was attacked with cholera, and died on March 15th, that is, three days before the first outbreak. Six warders of the gaol carried her body to the burning ghat, but none of them were attacked with cholera. It may be a question whether they brought any contagion into the gaol. The milk supplied by the "gowalla" had frequently been found mixed with water, and he had on several occasions been fined. The water used for the adulteration of the milk was taken from Tolly's Nullah. Along the banks of the nullah, for three miles, is a crowded population of the usual suburban type, and the water is defiled, we are told, by latrines, by stabling and cowhouse drainage, by cattle, and by the washing of clothes. It appears that cases of cholera along the banks of the nullah had occurred some time previous to the outbreak, and were attributed to the use of the water.

MEDICO-PARLIAMENTARY.

HOUSE OF COMMONS.—Friday, November 9th.

Burgh Police and Health (Scotland) Bill.—The LORD ADVOCATE, in reply to Mr. D. Crawford, said the Government would be glad to proceed with the measure this session if possible, but no undertaking could at present be given on the subject.

UNIVERSITY INTELLIGENCE.

OXFORD.

DEPUTY-PROFESSOR OF HUMAN AND COMPARATIVE ANATOMY.—The Visitatorial Board having declared the Linacre Professor of Human and Comparative Anatomy to have become disabled for the performance of the duties of his office, a deputy-professor to perform those duties will be appointed on some day after November 28th. The appointment will be made for one year from January 1st, 1889, and the salary will be at the rate of £500 a year. Candidates for the office of deputy-professor are requested to send in their applications, together with such other papers as they desire, to the Registrar of the University, by or before December 1st.

ROLLESTON MEMORIAL PRIZE.—This prize, which is of the value of about £60, will be awarded in Hilary term, 1890. The prize is open to such members of the Universities of Oxford or Cambridge as shall not have exceeded ten years from the date of matriculation on March 31st, 1890, and is to be awarded for original research in any subject comprised under the following heads: Animal and Vegetable Morphology, Physiology and Pathology, and Anthropology, to be selected by the candidates themselves. Candidates wishing to compete are requested to forward their memoirs to the Registrar of the University of Oxford before March 31st, 1890. Memoirs should be inscribed "Rolleston Memorial Essay," and should bear the name and address of the author. They may be printed or in manuscript, memoirs already published being admitted to the competition.

CAMBRIDGE.

EXAMINATION IN STATE MEDICINE.—The State Medicine Syndicate, who manage the examination for the Cambridge diploma in Public Health, report that thirty-six candidates presented themselves for examination in October last, including four in Part I only. Twenty-four passed in both parts, three in Part I only, two in Part II only. Twenty-five, having completed the examination in both parts, have received diplomas in Public Health. The number of candidates at the recent examination much exceeds that at any previous examination. The Syndicate think this increase may be in some measure due to the fact that a qualification in State Medicine is now required of candidates for the appointment of medical officer of health by the Local Government Act of this year, except in the case of those who have previously held such appointments. The proportion of failures this year is not nearly so great as it was last year.

READER OF BOTANY.—Mr. Francis Darwin, M.A., M.B., of Trinity College, has been appointed Reader of Botany, in succession to Dr. Vines, now Sherardian Professor at Oxford.

ALTERATION IN REGULATIONS FOR FIRST M.B. EXAMINATION.—The Special Board for Medicine have reported that the regulation permitting Pharmaceutical Chemistry to be taken with the Chemistry of the First M.B. Examination has not worked well in practice, and they recommend that it be rescinded. Next year, therefore, candidates must pass the First Examination before taking any part of the Second.

DEMONSTRATORS OF ANATOMY.—The following have been appointed Demonstrators of Anatomy under the new regulations: E. H. Douty, M.A., M.R.C.S., L.R.C.P., of King's College (Senior); W. S. Melsome, B.A., Fellow of Queens'; and R. W. Michell, B.A., of Caius College (Junior).

HOSPITAL AND DISPENSARY MANAGEMENT.

BRITISH HOME FOR INCURABLES.

AT the half-yearly general meeting of this charity it was stated that the Board had decided to build a new home on the present site, at a cost of £15,000, with every modern improvement. Already two ladies had promised £1,000 to endow a bed in the new home. It was thought that the home would receive several hundred pounds from the Anglo-Danish Exhibition.

BELFAST DISTRICT LUNATIC ASYLUM.

AT a meeting of the governors of this institution, held upon November 12th, it was resolved to request the Government to become the purchasers of the building and grounds for military purposes, with the view of the erection of a larger building elsewhere; some increase of accommodation having become indispensable for the wants of the district.

QUEEN STREET HOSPITAL, BELFAST: CONVALESCENT HOME.

THE money for the proposed convalescent home in connection with this institution has now been raised, and a site has been secured at Newtonbreda, one of the healthiest of the Belfast suburbs. The committee in charge of this excellent scheme deserve credit for having refused to take any decisive steps until all the requisite funds had been secured. There is now no fear that the new home will be crippled for want of funds, or allowed to become a burden upon the parent institution in Queen Street.

OBITUARY.

PROFESSOR HEINRICH VON BAMBERGER, M.D., Vienna.

THE Vienna medical faculty has just sustained another heavy loss by the death of Professor von Bamberger, who died on November 9th, from an affection of the chest. A worthy disciple of his great master Oppolzer, Bamberger was one of the most distinguished clinicians of modern times, and was looked upon as one of the greatest celebrities of the Vienna School, which has been made famous by the genius of Hyrtl, Rokitansky, Skoda, Oppolzer, and many other illustrious teachers. His diagnostic skill was extraordinary, and astonished all who had the opportunity of observing him in his clinical work. Bamberger was not only an earnest investigator and a practitioner of great experience and resource, but an eminent teacher. His lectures were remarkable for their clearness and accuracy, and equally attracted students and practitioners.

Heinrich von Bamberger was born in 1822 at Prague, where he received his preliminary education, and where he also began the study of medicine. At the age of 25 he took his M.D. degree in that university, becoming later on assistant to Professor Oppolzer, who at that time had charge of the clinic for internal diseases at Prague. In 1850 he went in the same capacity to Vienna, together with Oppolzer, who had been invited to occupy the corresponding chair in the University of Vienna.

Bamberger soon made himself known by several important works, and in 1854 he was appointed an ordinary professor at Würzburg, which at that time was looked upon as being the leading medical faculty in Germany. At Würzburg, Bamberger remained as ordinary professor of Internal Medicine for eighteen years; among his colleagues there were Schönlein, Virchow, and Scanzoni. There he published his chief works, *Diseases of the Heart* (1857), and *Diseases of the Chyliferous System* (1864). The latter has been translated into Dutch and Italian. Among his other writings may be mentioned his work on *Bacon of Verulam* (1865). In 1872, Bamberger was called to Vienna to fill the Chair of Internal Medicine, which had become vacant by the death of Oppolzer; he continued to discharge the duties of this post till the beginning of the present semester. Bamberger was the recipient of many honorary distinctions; he was an Austrian and Bavarian "Hofrath," a Knight of the Leopold Order, and President of the Imperial-Royal Society of Physicians of Vienna. In 1885, he was elected Rector Magnificus of the University of Vienna. The funeral procession, which took place on November 11th, was one of the most splendid which the Imperial city has ever seen. Among the numerous distinguished persons present were the Prime Minister of Austria, Count Taaffe, and the Minister of Education, Dr. v. Gautsch.

J. S. LAVIES M.D.Edin., M.R.C.S., L.S.A.

Dr. Lavies, whose death was announced last week, was in his 65th year. He was educated at King's College, and took the diplomas of M.R.C.S. and L.S.A., in 1846, and the degree of M.D.Edin., in 1847. He succeeded his father as medical officer of Her Majesty's Prisons, Westminster, in 1867. He was for many years an examiner at the Apothecaries' Hall, staff-surgeon of the households of War Office and Horse Guards, medical officer Palmer's Charity, Westminster, and medical examiner Post Office Assurance, Accident Assurance Company, and London, Edinburgh and Glasgow Accident Company. During the earlier part of his life he was surgeon of the 4th Royal South Middlesex Militia. When the Westminster Prison was pulled down he was transferred to Millbank, which appointment he held at the time of his death. He was an Honorary Fellow and Associate of King's College, and F.R.C.S.Ed. Dr. Lavies was at work until within a week of his death, which was due to aortic disease and pulmonary congestion.

Dr. Lavies was born at Westminster, and subsequently lived at 5, Great George Street, with his father, who was in large general practice. His first intention was to adopt the bar as his profession, but this idea was given up at the wish of his grandfather. Having taken his degree, he married Mary, the second daughter of Dr. Young Howison, of Edinburgh. She died in 1869. About a year after his marriage, he settled in the neighbourhood of London, where he continued to practise until his death. He was a good musician and singer, and was for many years a member of the Westminster Abbey Sunday evening choir, and until his death of the St. Gabriel's choir, Warwick Square. He was a most devoted and highly respected Freemason, a past-master and founder of two lodges, and past grand senior warden of the province of Westminster. He leaves a family consisting of two daughters and six sons. A busy man in his profession, he yet found time to assist in social, musical, and amateur theatrical entertainments, and in this respect was always ready to help his own and other parishes, and was never happier than when doing his best to entertain others, especially the poor. As a whist player, in former days he was well known, and his love for the game never ceased.

JOHN LEIGH, M.R.C.S.

We have to announce the death of Mr. John Leigh, who had for a period of twenty years held the post of medical officer of health to the city of Manchester. His medical studies were carried on at the Medical School of Manchester and at the Royal Infirmary, and completed at Guy's Hospital. After receiving his diploma of M.R.C.S. he acted as one of the resident medical officers of the Manchester Royal Infirmary. Before the days of Owens College, and when there were two schools of medicine in Manchester, Mr. Leigh lectured on chemistry and forensic medicine when the School of Anatomy was situated in Marsden Street, and the Manchester School of Medicine was located in Pine Street.

Mr. Leigh conducted private practice in Manchester up to 1868, when he was appointed medical officer of health for the city. During Mr. Leigh's tenure of office numerous defects in the sanitary administration of the city have been removed,, and his best memorial is the record of his achievements effected by the Corporation during his *régime* in the improvement of the sanitary condition of the city.

Mr. Leigh was an enthusiastic and accomplished naturalist, and was possessed of a refined literary taste. He was the author of *Lays and Legends of Cheshire*. While experimenting on the illuminating power of coal-gas he discovered that, by passing coal-gas through nitric acid, nitro-benzole and oxalic acid were formed. The former of these substances—the basis of the aniline colours—had been previously discovered by him, and he communicated his discovery to the British Association at its meeting in Manchester in 1842.

Mr. Leigh had been ailing for some time, but his death occurred unexpectedly on November 11th, at his residence at Hale, near Bowdon, in Cheshire.

ALEXANDER FLOOD, M.D.Glas.

We have to announce the death of Dr. Flood, which occurred at his residence, Danesfort House, Blacklion, on October 26th, in his 73rd year, frem angina pectoris. He graduated M.D.Glas. in 1843, and took the L.S.A.Dub. in the same year. For thirty-four years he held the post of medical officer for the Holywell Dispensary and sanitary officer for the district, the duties of which he discharged with great credit till his retirement on a pension in 1880. On that occasion he was presented by friends and patients with an illuminated address and handsome testimonial. The deceased held the appointment of medical examiner of recruits and medical officer of the Royal Irish Constabulary, and was at one time medical officer of the Killinagh Fever Hospital.

In the year 1847, when famine and sickness were rife in this part of Ireland, Dr. Flood rendered great and signal services to the distressed. In business matters he was highly successful, and owned considerable landed property in the counties of Fermanagh and Sligo. He was a staunch member of the Church of Ireland, in the welfare of which he took a lively interest.

The deceased leaves two sons, Dr. A. Flood, late Royal Navy, Bundoran, and Surgeon S. J. Flood, A.M.D.

GEORGE BORLASE CHILDS, F.R.C.S.Eng.

Mr. Borlase Childs, whose death we regret to have to record, was born in Cornwall in 1814, and was apprenticed in the mining districts of his native country, where he had many opportunities of assisting in the treatment of the accidents which so frequently happen in that class of practice. He attended the practice of the Westminster Hospital and the lectures at the Aldersgate School of Medicine under the Grangers. He became Member of the College of Surgeons in 1838, and was appointed house-surgeon of the Margate Sea-Bathing Infirmary. Eight years after this he became Fellow of the College, and came to London, where he attracted the attention of Mr. Coulson, whom he frequently assisted in his larger operations. At this period he laid the foundation of his fame as a lithotomist.

He became surgeon to the Metropolitan Hospital, in Devonshire Square, and was one of the earliest English surgeons to employ tenotomy, even suggesting the advisability of dividing the muscles of the spine for spinal curvature, which treatment did not receive the approval of his colleagues in the profession. In 1860 he was a warm advocate of the operation of ovariotomy, which at that period was considered by many an unwarrantable operation. For over thirty years he was surgeon to the City of London Militia (4th Battalion of the Royal Fusiliers), and retired with the rank of Surgeon-Major. For many years he was surgeon to the Great Northern Railway.

But he will best be remembered as surgeon of the City of London Police, which appointment he held for over forty years, succeeding Mr. Brand, the first surgeon to the then recently-created force. He introduced the present police helmet, and established the City Police Hospital, which at first met with much opposition on all sides, but now is so highly valued and the envy of all other constabularies. Mr. Childs took a warm interest in the dramatic profession, and was one of the founders of the Royal Dramatic College. His open and cheerful disposition won the regard and

esteem of his patients and friends; but, owing to an accident, he became deaf, and he retired into private life.

He leaves a widow, one son, and two daughters to mourn his loss.

ERNEST GEORGE FRANCIS, L.R.C.P.Lond., M.R.C.S.E.

We regret to have to record the death, at the early age of 36, of Dr. E. G. Francis, late district medical officer in Kroonstadt, Orange Free State, South Africa. After completing his professional studies at University College, and acquiring a double qualification, he went on a voyage to Penang, in medical charge of a telegraph ship, on board of which he caught a cold, developing an inherited tendency to pulmonic mischief, which laid the foundation of his future illness and death. In 1878, in order to avoid the damp climate of England, he went to South Africa, and settled in the remote village of Kroonstadt, and soon acquired a reputation for surgical skill amongst the Boers. Dr. Francis's first operation, that of tracheotomy performed on a child almost *in extremis* from croup, with no other instruments than those which accidental circumstances furnished, namely, a penknife and a needle, excited a good deal of astonishment among the natives, and increased considerably his surgical reputation among them. His practice increased rapidly, and within a few months of his arrival he was obliged to send home for a partner, who is now well established at Kroonstadt.

Towards the end of last year Dr. Francis returned home to enjoy a well-earned rest, but the adverse climate, and the sudden accession of cold weather at the commencement of the past autumn increased the lung trouble, from which he subsequently died.

His genial manner and many sterling qualities of head and heart endeared him to all who were brought into close relation with him, and the many friends he formed during his student career will hear of his untimely death with keen regret.

PUBLIC HEALTH
AND
POOR LAW MEDICAL SERVICES.

THE PROPER NUMBER OF VACCINATION MARKS.

A public vaccinator has made to us a complaint as to the practice of a private practitioner in his neighbourhood vaccinating children in a smaller number of places than the Local Government Board requires from every vaccinator under contract; the practitioner publicly notifies that he will vaccinate infants in one place only, and by this means he draws to himself cases which otherwise would be taken to the public station.

A letter addressed to the Home Secretary has, we are informed, led to the expression of the opinion that there is no legal means by which this procedure can be checked; but the subject is of so much importance in relation to the protection of the public against small-pox, that it may be well to state the grounds upon which the demand is made for the production of a larger number of vesicles than the private practitioner holds to be necessary.

It is now many years since Marson showed that the number of vesicles produced in infancy was in inverse proportion to the mortality from small-pox, if these individuals subsequently came to suffer from this disease. His well-known figures deserve to be given here.

Cases of Small-Pox classified according to Vaccination Marks.	Mortality per cent. in each Class.
Unvaccinated	35½
1. Stated to have been vaccinated, but having no cicatrix	21¾
2. Having one cicatrix	7⅓
3. „ two cicatrices	4⅕
4. „ three cicatrices	1⅝
5. „ four or more cicatrices	⅝

This conclusion was arrived at as the result of his experience at the London Small-pox Hospital at Highgate, and has since been amply confirmed by the statistics of every small-pox hospital where the question has been studied. Dr. Gayton's statistics, dealing with some 10,000 cases, teach exactly the same lesson, and are as follows:

Having good vaccine cicatrices ...	3	per cent. mortality.
„ imperfect vaccine cicatrices ...	9	„ „
Stated to have been vaccinated, but having no vaccine cicatrices ...	27	„ „
Unvaccinated	43	„ „

When the subject of the severity of attack by small-pox comes to be considered, hospital statistics point to the same conclusion. The advantage to the public through the procedure of the public vaccinator may be well instanced by Dr. Stevens's inquiries in regard to the children under 10 years of age who died from small-pox in 1881; the total number of children who died in that year from this disease was 125, a number which has to be reduced to 117 by deduction of those who were discovered on his personal inquiry not to have been vaccinated at all, or to have been unsuccessfully vaccinated.

This number 117 may be divided, Dr. Buchanan states, into 82 vaccinated by private practitioners and 35 vaccinated by public vaccinators. He further states that the number of vaccinated children under ten years of age in London is made up in almost equal numbers of those vaccinated by private practitioners and of those vaccinated at the public stations. Dr. Buchanan's comments on these figures deserve to be stated, as they bear directly upon the point we are discussing. He says:

"From these figures we may deduce the fact, creditable to public vaccination in London, that it protects against small-pox much more than private vaccination. The difference between the two, however, deserves a little more consideration. Children privately vaccinated comprise most of the children of the upper classes, who certainly run less risk of small-pox infection than the poor. The comparatively large mortality among those privately vaccinated therefore becomes more striking. Some of such children are doubtless vaccinated efficiently enough, and are protected from small-pox as completely as any of those vaccinated at public stations; but we who have much to do with the total vaccination of London know of a particular source of inefficiency in private vaccination, of a sort to be responsible for a relatively high mortality from small-pox. It consists in a form of private vaccination that offers itself in competition with public vaccination, and which parades its inefficiency as a reason for its acceptance by ignorant people. Its professors say to young mothers: 'Do you come to me, and I won't hurt your baby; I'll make only one place on its arm—not four, like those public vaccinators do.' And undoubtedly there are medical men to be found who, having formed some opinion of their own about the sufficiency of one vesicle, cannot be induced to set aside that opinion in deference to the indisputable evidence to the contrary that every small-pox hospital holds up to them."

In conclusion we have no hesitation in expressing the opinion that every practitioner, public or private, who vaccinates in fewer places than is required by the public vaccinator, is wanting in his duty to his patient. We may sympathise with the public vaccinator for the loss of fees, but the injury inflicted upon the public is much greater. We hope, however, that the practice to which our correspondent directs our attention will be diminished as a better knowledge both on the part of the public and the profession prevails. The teaching of vaccination in England is still lamentably deficient, and until it is placed upon a better footing we fear we shall still hear of sham vaccination.

THE INFLUENCE OF BUILDING LEASES ON THE PUBLIC HEALTH.

Mr. Hugh Alexander, the Chairman of the Council of the Association of Public Sanitary Inspectors of Great Britain, in an address on "The Land Laws and the Operation of Building Leases on the Public Health," said that the report of the Royal Commission on the Housing of the Working Classes attributed overcrowding, insanitary buildings, and excessive rents to the system of building on leasehold land. Enfranchisement of leaseholds would, of course, lessen the existing evils, but cities and towns were still growing, and the evil was growing with them. The necessity for legislative prohibition of the entire leasehold system, in so far as it related to new buildings and to renewal of the leases of house property, was urgent. The considerations which had weight under present conditions in dealing with a piece of building land were: how many houses could be packed on it, that ground rents might be augmented; and secondly, how cheaply could the houses be built? There were defective drains and damp walls, which caused the people to be stricken down by disease; small rooms, unfitted for family life, and improper offices

demoralising the people, were all matters calling loudly for legislative action in the interests of public health. In the evidence before the Royal Commission, it was said that in the suburbs of certain towns visited and in some of the open country districts the land was in the hands of individuals from whom it was impossible to purchase for the purpose of erecting artisans' dwellings at less rates than from £1,089 to £2,420 per acre, for land of the agricultural value of 30s. to 40s. per acre. The proposition to empower local authorities to purchase both land and dwellings was attractive from a ratepayer's point of view, and would probably be a full remedy for the evils complained of, given clear-headed and incorruptible town councilmen; but unfortunately the experience of the tolerance and sanction given by local authorities throughout the country to the retention and construction of houses of the very worst description was not encouraging. What was required was a beneficent code of laws relating to town lands, to leaseholders, and to construction of dwelling-houses directed to secure powers to leaseholders to acquire on equitable terms the freehold interest in their property. Other necessary conditions were that land required for extending the boundaries of a township should be declared town lands, and should be subject to a rating of 4 per cent. on its selling value, which would serve to induce competition amongst owners, and bring land into the market; that land should not be leased for building purposes; that all dwellings should be constructed on sanitary principles, and calculated to ensure the physical and moral well-being of their occupiers. These regulations and restrictions, he submitted, should be made to apply to the whole country, with no exceptions.

THE EPIDEMIC OF DIPHTHERIA AT WALTHAMSTOW.

Dr. Airey's report to the Local Government Board shows that in the West Ham Registration District, which includes Stratford, West Ham, Leyton, and Walthamstow, the mortality from diphtheria has undergone an almost uniform rise since the year 1873. In that year the annual death-rate was 0.02 per 1,000; in 1887 it was 0.42 per 1,000—a more than twentyfold increase. In this period of fifteen years the population has trebled itself, and must now number little short of 300,000. The housing of this enormous population has been left almost entirely in the hands of the speculative builder, with the result of rows of dull, unattractive houses being erected, with hardly a feature to raise them above the dead level of dull monotony which now distinguishes so many London suburbs inhabited by the working classes. The accommodation is no doubt superior and the density far less than in central London, but the houses are, almost without exception, of the type designated "jerry."

In Walthamstow itself there has been something more than a steady increase in the prevalence and fatality of diphtheria. There has been an epidemic outburst extending over the last quarter of 1887 and the first two quarters of the present year, the death-rate for the year ending June 30th, 1888, being given as 2.1 per 1,000 from this disease alone. As is usual, the result of the Local Government Board inquiry is to show that school attendance and personal infection were the chief factors in propagating the disease; but there was also much complaint of bad drainage in the eastern part of the town, and it was noticed that some of the worst cases of diphtheria occurred in close relation with nuisances from that cause. The incidence of the disease on various streets was very irregular. Whereas many escaped altogether, in others a number of households were attacked. In one short street in the western outskirts of the town, in which all the houses had been recently erected by the same builder, thirteen households were attacked. Apparently the houses in this street differed from those in the vicinity as regards drainage arrangements, mainly in that they had bell-traps to their yard gullies. These bell-traps were frequently displaced, and gave means of escape to the sewer-air, with danger to the health of the inhabitants.

The Walthamstow Sanitary Authority has no hospital for isolation of infectious cases, and no arrangements exist by which it can make use of a hospital outside the district. Disinfection of dwellings is attempted by evaporating "Sanitas" fluid in the infected rooms, and the medical officer of health receives little or no assistance from medical practitioners in the district in his endeavour to get information of fresh cases of infectious disease as they arise. Under these circumstances it is not to be wondered at that zymotic diseases spread rapidly and without check. The proportion of fatal to non-fatal cases of diphtheria Dr. Airey estimates at about one to four or five, which would give a total of some 400 cases in Walthamstow (population 41,760) in twelve months.

In conclusion, Dr. Airey recommends that the sewers of the district should be carefully examined, and, where found defective, repaired, and that they should be more effectually flushed; that hospital accommodation for isolation purposes should be provided, and that more effectual measures should be adopted for distinfecting dwellings, furniture, bedding, clothes, and other articles.

Health of English Towns.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 6,025 births and 3,430 deaths were registered during the week ending Saturday, November 10th. The annual rate of mortality, which had been 21.8 and 19.6 per 1,000 in the two preceding weeks, further declined to 19.0 during the week under notice. The rates in the several towns ranged from 12.2 in Nottingham, 12.9 in Hull, 14.0 in Wolverhampton, and 14.6 in Leicester to 24.8 in Bolton, 25.0 in Blackburn, 25.5 in Manchester, and 25.6 in Newcastle-upon-Tyne. In the twenty-seven provincial towns the mean death-rate was 19.5 per 1,000, and exceeded by 1.0 the rate recorded in London, which was 18.5 per 1,000. The 3,430 deaths registered during the week under notice in the twenty-eight towns included 188 which were referred to measles, 57 to diarrhœa, 56 to scarlet fever, 45 to diphtheria, 44 to "fever" (principally enteric), 40 to whooping-cough, and 2 to small-pox; in all, 432 deaths resulted from these principle zymotic diseases, against 473 and 466 in the two preceding weeks. These 432 deaths were equal to an annual rate of 2.4 per 1,000; in London the zymotic death-rate was 2.5, while it averaged 2.3 per 1,000 in the twenty-seven provincial towns, and ranged from 0.0 and 0.5 in Plymouth and Brighton to 4.0 in Leeds, 4.8 in Blackburn, and 6.7 in Salford. Measles caused the highest proportional fatality in Blackburn, Portsmouth, Leeds, and Cardiff; scarlet fever in Manchester, Salford, and Blackburn; whooping-cough in Birkenhead; "fever" in Oldham, Newcastle-upon-Tyne, and Salford; and diarrhœa in Bolton, Cardiff, and Derby. Of the 45 deaths from diphtheria recorded during the week under notice in the twenty-eight towns, 34 occurred in London, 6 in Salford, and 2 in Liverpool. Small-pox caused 1 death in Preston and 1 in Hull, but not one in London or in any of the twenty-five other great towns. There were no small-pox patients under treatment in any of the Metropolitan Asylum Hospitals on Saturday, November 10th; these hospitals contained, however, 901 scarlet fever patients on the same date, against 954 and 941 at the end of the two preceding weeks; 75 cases were admitted during the week, against numbers declining from 110 to 59 in the four preceding weeks. The death-rate from diseases of the respiratory organs in London was equal to 4.5 per 1,000, and was below the average.

Health of Scotch Towns.—During the week ending Saturday, November 10th, 753 births and 484 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had declined from 20.4 to 18.7 in the four preceding weeks, rose again to 19.1 during the week under notice, and almost corresponded with the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Perth and Edinburgh, and the highest in Greenock and Paisley. The 484 deaths in these towns during the week included 70 which were referred to the principal zymotic diseases, equal to an annual rate of 2.8 per 1,000, which exceeded by 0.4 the mean zymotic rate during the same period in the large English towns. The highest zymotic rates were recorded in Greenock and Paisley. The 226 deaths registered in Glasgow during the week under notice included 9 from scarlet fever, 7 from whooping-cough, 5 from diarrhœa, 4 from measles, 3 from diphtheria, and 3 from "fever." Twenty fatal cases of measles were recorded in Paisley, against 23 and 14 in the two preceding weeks. The death-rate from diseases of the respiratory organs in these Scotch towns was equal to 3.7 per 1,000, against 4.5 in London.

Health of Irish Towns.—During the week ending Saturday, November 10th, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 23.7 per 1,000. The lowest rates were recorded in Wexford and Sligo, and the highest in Waterford and Lurgan. The death-rate from the principal zymotic diseases averaged 3.0 per 1,000. The 186 deaths registered in Dublin during the week under notice were equal to an annual rate of 27.5 per 1,000, against 21.9 and

24.4 in the two preceding weeks. These 186 deaths included 21 which were referred to the principal zymotic diseases (equal to an annual rate of 3.1 per 1,000), of which 10 resulted from "fever," 4 from whooping-cough, 3 from diarrhœa, 3 from measles, and 1 from diphtheria.

REGISTRATION OF PLUMBERS.—The Princess Louise, when on a visit to Newcastle recently, inspected at the new Durham College of Science specimens of the work of the apprenticed plumbers. The Master of the City Company of Plumbers (Mr. Bishop) explained to Her Royal Highness the work of the Company in connection with the technical education of plumbers, observing that the Corporations of Newcastle and Gateshead, as well as the plumbers of those towns, were among the first supporters of the movement for the registration of competent plumbers; and by the joint action of those bodies practical classes had been carried on during the past two years under the personal direction of a committee of plumbers and the gifted principal of the College. He mentioned as a fact of historical interest that exactly 300 years ago, a coat of arms was granted to the Company by Queen Elizabeth.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS, ENGLAND.—The following gentlemen passed the First Professional Examination for the Diploma of Fellow, at a meeting of the Board of Examiners, on November 12th.

J. M. H. Martin, of Liverpool and Edinburgh University; W. T. Freeman, of St. Bartholomew's Hospital; R. Caldwell, of Westminster Hospital; W. M. Barclay, of Bristol; and J. Edwards, of Dublin and Yorkshire College, Leeds.

Eleven candidates were referred.

Passed on November 13th.

C. S. Spong and F. F. Burghard, of Guy's Hospital; M. L. Jones, W. McA. Eccles, W. A. Clark and J. H. Edwards, of St. Bartholomew's Hospital; D. S. Gunn and C. D. Marshall, of University College; A. J. Macnab, of King's College; and J. R. Earle, of Oxford and St. Bartholomew's Hospital.

Six candidates were referred.

Passed on November 14th.

W. W. Kennedy, of Glasgow and St. Bartholomew's Hospital; E. P. S. Gane, of Leeds and St. Bartholomew's Hospital; H. S. Sandifer, of King's College; M. E. Paul, of London Hospital; J. H. Nicoll, of Glasgow and London Hospital; G. C. Rennie, of Melbourne University; C. Gibbs, of Charing Cross Hospital; H. E. Tracey, of St. Bartholomew's Hospital; and H. G. Turney, of St. Thomas's Hospital.

Eleven candidates were referred.

THE following are the arrangements for the Final Examination for the Diploma of Fellow, for which thirty-seven candidates have entered their names, namely: Tuesday, November 20th: Written Examination, 1.30 to 5.30 P.M. Wednesday, November 21st: Clinical Examination, 2.15 to about 5.45 P.M. Thursday, November 22nd: Operations and Surgical Anatomy, 1.15 to about 7.45 P.M. at the Examination Hall. The *vivâ voce* (Pathology) part of the Examination will be held at the Royal College of Surgeons from 5 to 9 P.M. Candidates will be required to attend on each of the above-mentioned days.

ERRATUM.—In the Pass List of the Royal College of Surgeons in the JOURNAL of November 10th Mr. Herbert Arthur Smith should have been described as L.R.C.P.Lond.

CONJOINT EXAMINATIONS OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS IN IRELAND, October and November, 1888.—The following candidates have passed the First Professional Examination.

H. B. Ludlow, C. Skelly, F. H. Macnamara, M. S. Byrne, J. M. O'Callaghan, F. H. Moynahan, H. J. M'Cormack, E. Cairns, J. Dowling, P. J. Fagan, W. J. Greer, R. Moynahan, E. R. Cotter.

Thirty-one were stopped.

The following candidates have passed the Second Professional Examination.

S. M. Kelly, H. M. Cullinan, J. J. M. Dowzer, P. Flanagan, Miss M. J. Hannan, A. R. R. Hudson, A. H. Jacob, jun., J. A. Thompson, D. E. Williams, D. W. Wright, J. A. Phillips, G. F. Lennane, R. J. Perkins, F. H. Foott.

Thirty-two were stopped.

The following candidates have passed the Third Professional Examination.

H. B. Hayes, T. J. Connolly, D. M. Ffrench, M. B. Savage, E. M. H. O'Connor, E. L. Tuthill, J. H. Pim, C. V. Vereker, J. M. Falkiner, G. J. Smyth, R. M. Smyth, W. A. R. Seymour, E. F. Stephenson, E. S. Hawthorne, G. J. A. Han, G. M. Laing, R. S. Wayland.

Eighteen were stopped.

The following candidates have passed the Fourth or Final Professional Examination, and will be immediately admitted as Licentiates of the King and Queen's College of Physicians and of the Royal College of Surgeons in Ireland.

T. M. Bentley, 8, Charlemont Mall, Dublin; J. H. Bogan, Taghmon, Co. Wexford; W. W. Gourlay, Strabane, Co. Donegal; J. E. Halpin, Ashford, Co. Wicklow; A. G. T. Hanks, 60, South Richmond Street, Dublin; F. W. Henderson, Belvidere, Bray; R. Hudson, Avoca, Co. Wicklow; F. Jubb, Halifax, Yorkshire; L. E. Keegan, 43, Britain Street, Dublin; E. J. Lee, 3, Garville Avenue, Rathgar, Co. Dublin; J. Lundie, Virginia, Co. Cavan; J. A. Magee, 95, Haddington Road, Dublin; T. A. Sheahan, 93, Shandon Street, Cork; E. W. Stoker, Foxrock, Co. Dublin; W. J. Thompson, Fivemiletown, Co. Tyrone.

Fourteen were stopped.

KING AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND.—At the usual monthly examinations for the Licences of the College, held on Monday, Tuesday, Wednesday, and Thursday, November 5th, 6th, 7th, and 8th, 1888, the following Registered Medical Practitioners were successful.

For the Licence to Practise Medicine.—A. H. Burns, L.S.A.Lond., St. Leonard's-on-Sea; H. C. Earl, M.B.Univ.Dub., Dublin; W. K. Tomlinson, L.R.C.S.I., Brisbane, Queensland, Australia.

For the Licence to Practise Midwifery.—G. L. Mullins, M.B.Univ.Dubl., Sydney, N.S.W., Australia; W. R. Tomlinson, L.R.C.S.I., Brisbane, Queensland, Australia.

The undermentioned Licentiates in Medicine of the College, having complied with the by-laws relating to membership, pursuant to the provisions of the Supplemental Charter of Victoria, dated December 12th, 1878, have been duly enrolled as members.

T. Canton, Lic. Med., 1875, Kells, Co. Meath; W. G. Hill, Lic. Med., 1860, Fermoy, Co. Cork; D. O'Sullivan, Lic. Med., 1877, Surgeon Army Medical Staff; W. H. Ryan, Lic. Med., 1877, Hanslope, Bucks; A. M. Roberts, Lic. Med., 1873, London; W. Warren, Lic. Med., 1872, Richmond, Victoria, Australia.

MEDICAL VACANCIES.

The following Vacancies are announced:

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House-Surgeon. Salary, £30 per annum, with board, lodging, etc. Applications by November 27th to the Secretary.

BRADFORD INFIRMARY AND DISPENSARY.—House-Physician. Salary, £100 per annum, with board. Applications by November 24th to William Maw, Esq., Secretary.

DOVER HOSPITAL AND DISPENSARY.—House-Surgeon. Salary, £100 per annum, with furnished apartments, etc. Applications to the Secretary, Mr. E. Elwin, Castle Street, Dover.

GRANTHAM FRIENDLY AND TRADES SOCIETIES' MEDICAL INSTITUTION.—Resident Medical Officer. Salary, £150 per annum, with fees and residence, etc. Applications by November 21st to Mr. F. Hullott, Stanton Street, Grantham.

HOSPITAL FOR EPILEPSY AND PARALYSIS, etc., 32, Portland Terrace, Regent's Park, N.W.—Physician to Out-patients. Applications by December 3rd to the Secretary.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street. — Surgeon. Election on November 21st.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street. — Assistant-Surgeon. Applications by November 27th to the Secretary.

KENSINGTON DISPENSARY.—Honorary Surgeon. Applications to F. Leach, Esq., Honorary Secretary, 7, Stanford Road, Kensington Square, by November 30th.

KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon and Dispenser. Salary, £50 per annum, with board, lodging, etc. Applications by November 26th to the Secretary.

LANCASHIRE COUNTY ASYLUM, Rainhill, near Liverpool. — Resident Medical Superintendent. Salary, £1,000 per annum, with certain allowances. Applications by November 21st, to W. Swift, Esq., Clerk to the Committee, 11, Dale Street, Liverpool.

LOCK HOSPITAL, Dean Street, Soho.—Surgeon to Out-patient Department. Applications by November 26th to the Secretary.

LONDON TEMPERANCE HOSPITAL, Hampstead Road.—Junior House-Surgeon. Board and residence. Applications by November 17th to the Secretary.

MANCHESTER FRIENDLY SOCIETIES MEDICAL ASSOCIATION.—Surgeons to various Districts. Salary, £150 per annum, with house, etc., and fees. Applications by November 27th to the Chairman, 9, Berwick Street, Brook Street, Manchester.

NATIONAL DENTAL HOSPITAL, 149, Great Portland Street, W.—Assistant Dental Surgeon. Applications by November 30th to the Secretary.

NATIONAL DENTAL HOSPITAL, 149, Great Portland Street, W.—Lecturer on Dental Anatomy and Physiology. Applications by November 30th to the Secretary.

ROYAL HANTS COUNTY HOSPIEAL, Winchester.—House-Surgeon. Salary, £100 per annum, with board and lodging. Applications by December 1st to the Secretary.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Surgeon. Applications by November 24th to the Secretary.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Assistant Surgeon. Applications by November 24th to the Secretary.

STROUD GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum, with board, lodging, etc. Applications by November 30th to John Libbey, Esq., Honorary Secretary, New Mills Court, Stroud.

VICTORIA UNIVERSITY.—Joint Lecturer on Forensic Medicine. Applications to the Registrar of the Yorkshire College.

MEDICAL APPOINTMENTS.

BEAVER, R. A., M.R.C.S.Eng., L.R.C.P.Lond., L.S.A., appointed House-Surgeon to the Bootle Borough Hospital, *vice* F. H. Barendt, M.B.Lond., M.R.C.S.Eng., L.R.C.P.Lond., resigned.

BULLEN, John, appointed Assistant House-Surgeon to the Female Lock Hospital, Harrow Road, *vice* J. C. Barr, resigned.

HANSON, Alfred, M.R.C.S., L.R.C.P., appointed Medical Officer and Public Vaccinator of the Mablethorpe District of the Louth Union, *vice* W. Anderson, M.R.C.S., L.S.A., deceased.

HARRIS, J. Russell, M.D. (Brux.), M.R.C.S., appointed Public Vaccinator for the Strand Union, and Medical Officer of the Western District of the Strand Union, *vice* R. W. Dunn, M.R.C.S., L.S.A., deceased.

LEIGH, Randle, B.Sc.Lond., M.R.C.S.Eng., appointed Chloroformist to the Liverpool Royal Infirmary, *vice* A. W. Collins, M.B., M.R.C.S., resigned.

ROBINSON, Arthur, M.B., C.M., appointed Senior Demonstrator of Anatomy to Owens College, Manchester, *vice* Dr. Paterson, resigned.

SMITH, J. W., M.B., C.M., appointed Junior Demonstrator of Anatomy to Owens College, Manchester, *vice* A. Robinson, M.B., C.M., resigned.

CORRECTION.—Dr. T. WARDROP GRIFFITH has been appointed Honorary Physician to the Leeds Public Dispensary, and not to the General Infirmary as previously stated.

INSURANCE OF INFANT LIVES AND MEDICAL CERTIFICATES.—A woman named Mary Boyd, 60 years of age, has been sentenced to death for the murder, on September 4th last, of the illegitimate child of her daughter. The child, who was 2½ years old, was in delicate health, and never walked. While it lay in the cradle the prisoner stabbed it in the breast with the scissors, piercing the lungs and heart. Death was almost instantaneous. The prisoner subsequently procured a certificate of death from the medical attendant of the child, and received 30s. insurance money from the agent of a society in which it had been insured. The suspicions of the medical attendant having been aroused, the body was examined, and the prisoner was given into custody.

FEVER AND DRUNKENNESS.—Dr. Shee, of Fethard, at a meeting of the New Ross Board of Guardians on Saturday, November 3rd, reported that a boy dangerously ill with typhoid fever was being conveyed in a hospital van from Churchtown to the workhouse infirmary, the driver of the vehicle being at the time so helplessly intoxicated that he had to ride inside the van and a nurse had to take charge of the vehicle, driving it to New Ross, a distance of sixteen miles, and that at Poulfour the drunken driver and delirious lad were seen lying in the road. It is not surprising to hear that the lad died shortly after admission to the hospital. Dr. Shee asked for an inquiry into what he termed the criminal conduct of the driver. A most searching inquiry ought to be held.

VERDI'S HOSPITAL.—A hospital has been entirely built by Verdi, the composer. It occupies a commanding site overlooking the Po at Villanova, with a distant view of the Apennines. There are two wings, one for women, the other for men, and a separate ward is set aside for contagious cases; there is also a hydropathic establishment, and most elaborate arrangements have been made for the disinfection of linen and other sanitary purposes. An efficient staff of nurses and attendants is also provided, and Signora Verdi has made the housekeeping department her special care. Verdi himself has deposited sufficient funds for the future maintenance of the hospital. It was opened on November 6th, without ceremony, only Verdi and his family, the physician, and the Sindaco of Villanova being present. The Sindaco proposed that the new building should be called "Verdi Hospital," but to this the donor objected, and the name Hospital of Villanova was finally adopted.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—A quarterly meeting of this Association was held in the Hall of the Royal College of Physicians, Edinburgh, on November 8th. The President, Dr. Clouston, occupied the chair, and there was a good attendance of members. Four new members were elected, and the Secretary for Scotland was instructed to express the sympathy of the meeting with Dr. Rayner, the General Secretary, in his retirement from the post he had so long occupied. Arrangements were made for the next examination for the certificate in psychological medicine in Edinburgh, Glasgow, and Aberdeen, on December 17th, 19th, and 21st respectively. Dr. Robertson read, for Dr. Macpherson, a paper on "A Case of Raynaud's Disease with Acute Mania." Dr. Yellowlees introduced a discussion on restraint in the treatment of the insane, which was joined in by most of those present.

BEQUESTS.—The late Mrs. Hastie, of Carnock, who died on September 30th, and who was the eldest daughter of the late Robert Napier, of West Shandon, and widow of an ex-Lord Provost of Glasgow, and M.P. for the city, has bequeathed numerous legacies to Glasgow charities. The two Infirmaries receive £1,000 each, the Glasgow Asylum for the Blind, House of Shelter for Females, City Mission, and Sailors' Home receive each £500, as also does the Association for the Relief of Incurables for Glasgow and the West of Scotland and the National Bible Society of Scotland, while £100 have been bequeathed to the Glasgow Society for the Prevention of Cruelty to Animals.

POLICE CONVALESCENT FUND.—A sum of £10,085 has been collected on behalf of this fund. At a meeting of the committees, held last week, it was resolved to hand the funds over in trust to the Commissioners of Police, and that the income should be applied for convalescent purposes for the injured and sick members of the two police forces as occasion may require, and at the discretion of the trustees. It was stated that the Commissioners had already all the necessary staff and machinery for the efficient working of such a fund. It was further resolved that the trustees should report annually to the Lord Mayor for the time being as to the distribution of the fund, which is expected to be increased by the receipt of annual donations.

MEDICAL MAYORS.—Among the list of provincial mayors elected on November 9th to serve for the ensuing year we find the following members of the medical profession:—Bath, H. W. Freeman, F.R.C.S.I., L.R.C.P.Lond.; Calne, John Dommett Bishop, M.R.C.S.; Congleton, Hugh Moss, M.D.; Godalming, John Buck Steadman, F.R.C.S.; Hull, John Sherburn, M.B.; Liskeard, William Mettle, M.R.C.S.; Marlborough, James Blake Maurice, M.D.; Morpeth, William Clarkson, L.R.C.P.; New Romney, Alderman Richard Rothwell Daglish, M.R.C.S.; Wolverhampton, Frederick Edward Manby, F.R.C.S.; Yeovil, Ptolemy Samuel Henry Colmer, M.D.

TREATMENT OF CHOLERA INFANTUM.—Tedeschi recommends the following mixture as the best substitute for cow's milk in infantile cholera: White of eggs, 15 grammes; oil of sweet almond, 35 grammes; sugar of milk, 40 grammes; carbonate of soda, 0.40 gramme; chloride of sodium, 0.20 gramme; phosphate of lime (neutral), 2.50 grammes; water, 1 litre. To be made into an emulsion. This has been used in 51 cases of infantile cholera, of which 44 were cured, 3 died. The result in 3 cases was unknown.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.—At the first meeting for the session of the Medico-Chirurgical Society of Edinburgh, held on November 7th, the following office-bearers were elected for the ensuing twelve months:—*President:* Dr. John Smith. *Vice-Presidents:* Professor Chiene, Dr. Clouston, Mr. A. G. Miller. *Councillors:* Professor Grainger Stewart, Dr. J. Connell, Dr. George Leslie, Dr. Maxwell Ross, Dr. Ireland, Dr. Matthew, Dr. A. H. F. Barbour, Mr. Charles W. Cathcart. *Treasurer:* Dr. Francis Troup. *Secretaries:* Dr. James Ritchie, Mr. F. M. Caird. *Editor of Transactions:* Dr. William Craig.

ROYAL MEDICAL SOCIETY, EDINBURGH.—At the annual election of office-bearers of the Royal Medical Society, the following were appointed for the year 1888-89:—*Presidents:* Harvey Littlejohn, M.A., M.B.; A. L. Gillespie, M.B.; R. Abernethy, M.B.; E. C. Carter, M.B. *Secretaries:* P. B. Haig, A. L. Turner. *Chairman of Finance:* R. E. Horseley, M.B. *Library Curator:* J. Ritchie, M.B. *Museum Curator:* F. H. Traquair, M.B.

THE ST. JOHN AMBULANCE ASSOCIATION: BELFAST CENTRE.—Dr. Calwell, the newly-appointed secretary of the Belfast Centre, has succeeded in organising a ladies' committee to co-operate with the committee already in existence. Their function will be to superintend the operations of the female classes, which have hitherto been highly successful.

PRESENTATION.—At Neath, Glamorganshire, after the presentation of certificates to sixty-seven successful candidates, which comprised the whole class, a beautifully-illuminated address, subscribed for by the members of the St. John Ambulance class, was presented to Dr. D. Ll. Davies, the lecturer, in recognition of his valuable services.

BEEF WINE.—A chemist at Cardiff was summoned recently by the Excise authorities for selling without a licence "Pearson's Liebig's beef wine." The evidence of a Somerset House analyst was that the specimen produced contained 32 per cent. of proof spirit and one grain of quinine to the ounce. In cross-examination, however, he admitted that he had found 8 per cent. of essence of beef in the sample examined, and he agreed with Sir Charles Cameron's analysis, which stated that one quart of Pearson's Liebig's beef wine contained the expressed juice of five pounds of beef. The magistrates dismissed the case on the ground that the wine was a properly medicated article, and consequently free and exempt from duty.

A SITE for the new Hospital for Women, hitherto located at 222 and 224, Marylebone Road, has been acquired in the Euston Road, nearly opposite St. Pancras Church, upon which a carefully-planned hospital is to be built.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 8.30 P.M.—Adjourned discussion on Dr. Howard's paper on a New Method of Raising the Epiglottis. Mr. Knowsley Thornton: Some additional Cases Illustrating Hepatic Surgery.

TUESDAY.

ROYAL STATISTICAL SOCIETY, London, 8 P.M.—At the Royal School of Mines, 28, Jermyn Street, S.W., Dr. T. Graham Balfour, F.R.S.: President's Inaugural Address.

PATHOLOGICAL SOCIETY OF LONDON, 8.30 P.M.—Mr. Lockwood: Hernial Sacs and their Contents. Mr. D'Arcy Power and Mr. C. Evill: Dislocation of Shoulder without Rupture of Capsule. Dr. Ralfe: Aortic Aneurysm after Galvano-Puncture. Mr. W. H. Kesteven: Primary Cancer of Pancreas. Dr. F. H. Hawkins: Aortic Valvular Disease. Dr. Perry: Acute Intestinal Obstruction. Card Specimens.—Mr. Bland Sutton: 1, Spina Bifida; 2, Supernumerary Legs in Frogs; 3, Supernumerary Mammæ in Monkeys. Mr. Targett: Dermoid Cyst near Knee. Dr. A. H. Robinson: Phosphatic Concretion from a Recto-Vaginal Fistula.

FRIDAY.

CLINICAL SOCIETY OF LONDON, 8.30 P.M.—Dr. Thomas Oliver: On a Cause of Speedy Death in Heart Disease, with case. Dr. W. H. Dickinson: Case of Purulent Pericarditis successfully treated by Aspiration and Free Incision. Mr. R. W. Parker: Case of Extensive Pyopericardium associated with Osteo-myelitis: Free Incision: Irrigation: Death. Dr. Arkle and Dr. Bradford: Case of Aortic Aneurysm Rupturing into Descending Vena Cava. Living Specimens.—Mr. H. H. Clutton: Complete Compound Dislocation of Elbow: Perfect Recovery of Joint. Dr. Payne: Case of Molluscum Fibrosum. Mr. H. T. Baker: Case of Genu Recurvatum.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

BLENKARNE.—On "Lord Mayor's Day," at 335, Humberstone Road, Leicester, the wife of W. L'Heureux Blenkarne, L.S.A., M.R.C.S.—a daughter (Ada Marion).

MACINTIRE.—On the 20th of September, at Palmerston North, New Zealand, the wife of John Henry Lee Macintire, of a daughter.

MARRIAGES.

COCKEY—GILLOTT.—On November 12th, at the Parish Church of St. Mary and Eanswythe, Folkestone, by the Vicar, the Rev. M. Woodward, Edmund Percival Cockey, M.D.Lond., eldest son of Edmund Cockey, Surgeon, of Frome, Somerset, to Ellen Hortense, youngest daughter of the late George Gillott, of Boulogne-sur-Mer. No cards.

NICHOL—GORDON.—On the 8th October, at Christ Church, Mussoorie, N. W. P. India, by the Rev. A. G. A. Robarts, Chaplain, Surgeon C. E. Nichol, Medical Staff, youngest son of the late T. Dale Nichol, Esq., of Newcastle-on-Tyne, to Emmeline Caroline Kingscote, fourth daughter of Major Gordon, of Windermere, Mussoorie.

THIELE—LEVY.—On the 17th October, 1888, at the Cathedral, Spanish Town, Jamaica, W.I., by the Rev. W. Kemp-Bussell and the Rev. G. W. Downer, Surgeon C. W. Thiele, M.B., Army Medical Staff, eldest son of Charles Thiele, Esq., Bermuda, to Mabel Lucille, youngest daughter of the late Honourable Isaac Levy, of St. Jago Park, Spanish Town, Jamaica.

DEATHS.

FRANCIS.—At Brondesbury, London, October 30th, 1888, Dr. Ernest George Francis, late of Kroonstadt, Orange Free State, South Africa, aged 36.

OLIVER.—At Cowsett Hall, Co. Durham, on the 11th November, Edith Rosina, aged 36, wife of Thomas Oliver, M.D., Newcastle-upon-Tyne, eldest daughter of Wm. Jenkins, J.P.

O'MEARA.—On the 22nd September, at Colyton, Devon, Frederick Augustus O'Meara, L.R.C.P.Edin., L.R.C.S.Edin., L.A.H.Dub., etc., aged 43 years.

ROBSON.—On the 9th ult., in his 71st year, Robert Naisbit Robson, F.R.C.S., L.S.A., at his residence, 3, North Bailey, Durham.

THOMPSON.—November 12th, George Thompson, M.B., of Frizinghall, aged 44.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS respecting editorial matters should be addressed to the **Editor**, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the **Office**, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL, are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications, should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *Duplicate Copies*.

QUERIES.

F.R.S. writes: On page 186 of a book entitled *Frederick the Noble*, by Sir Morell Mackenzie, I find the following extraordinary Latin sentence, "*hæret lateri fatalis hirudo.*" Has the quotation any reference to the beautiful and celebrated line—Virgil, *Æneid* iv, 73, comparing Dido to a wounded deer—"*hæret lateri lethalis arundo?*"

HOME FOR CURE OF CEREBRAL DISEASE.

J. G. asks to be recommended a retreat or institution, under the care of a medical man, where a gentleman of good education and position, but of slender means, suffering from a, probably, curable cerebral lesion, with slight paralysis (not a case of insanity), could be received on payment. The neighbourhood of London preferred.

HERPES OR PSEUDO-CHANCROID.

M.D. writes: A case of syphilis treated regularly for over two years by one of our best men showed no symptoms after six months, until eight months back, since when there has been recurrent "herpes" at the base of the glans. I say "herpes," quoting the consultant's words; but to me it looks more like the pseudo-chancroid Bumstead describes (*Ven. Disease*, p. 342, 1874). On only one occasion has there been a preceding vesicle; generally it appears as a circular abrasion, which sloughs superficially, comes every five weeks with unfailing regularity, and goes in about two weeks with iodide of potassium and mercury, and locally calomel. This treatment fails as a prophylactic. The patient has religiously abstained from connection during the whole course, and is a model for strictly following treatment. It is difficult for me to persuade him that the consultant to whom I sent him has acted skilfully.

DECEASED MEDICAL MEN.

THANATOS asks if any readers of the JOURNAL can supply him with information concerning the professional career of Dr. Nicolas Parker, who died at Ramsgate on March 22nd, and Dr. C. T. Richardson, who departed this life on April 4th, apparently at the same place? Both were Fellows of the Royal Medical and Chirurgical Society.

MASSAGE IN TORTICOLLIS.

W. S. asks for experience with regard to massage in cases similar to the following. A lady, through fatigue and cold, has contracted wry-neck. This commenced about five years ago. Since then, the extent and severity of the contractions of the muscles has been considerably modified by both locality and weather. She objects to section of the muscular fibres, except other means fail. Is there any treatise on massage, and where is such to be obtained? Also, is there any institution where the treatment is carried on systematically?

TREATMENT OF POISONING.

A. S. V. G. asks to be directed to a schedule of treatment in poisoning by (1) iodoform, (2) cocaine, and (3) caffeine. He has been unable to find a comprehensive plan, comprising physiological antidotes.

ANSWERS.

W. R. WATSON.—We do not think any good purpose would be served by trying the case referred to over again in the columns of the JOURNAL, seeing that the jury have returned the very cautious verdict of "not proven."

F. T. UNDERHILL.—The Secretary of the Medical Sickness, Annuity, and Life Assurance Friendly Society is Mr. C. J. Radley, 26, Wynne Road, Brixton, S.W.

STUDENT.—Your letter affects the finding of the jury, but in no way affords us any reason for modifying the view already expressed. How a man can use the stomach-pump, and yet leave a pint of undigested food in the stomach, passes our comprehension.

A MEMBER OF TWENTY YEARS' STANDING.—We entirely concur in the general line of reasoning, but our correspondent is not in a position to know the facts and the data from which he starts, and the conclusions at which he arrives are, therefore, alike incorrect.

INSTITUTIONS FOR DEAF MUTES.

A MEMBER is anxious to know where there is an institution into which a child, aged 6, deaf and dumb, and unable to walk, could be admitted and educated for remuneration.

*** Our correspondent should apply to Mr. Van Praagh, 11, Fitzroy Square, London, W.

BOOKS ON VACCINATION.

S. W. C. and Dr. W. W.—Mr. Ernest Hart's *Truth about Vaccination* has long been out of print. A good recent book is *Vaccination Vindicated*, by Dr. J. C. McVail, published by Messrs. Cassell and Co., Belle Sauvage Yard, Ludgate Hill, E.C.

TREATMENT OF CORNS.

DR. C. MCDERMOTT (Ennistimon) writes: If "M.R.C.S." will try a saturated solution of salicylic acid in flexible collodion, he will find it excellent. I paint the corns twice a day. It takes about twelve days for their complete removal.

NOTES, LETTERS, ETC.

MESSRS. CLARK, BUNNETT, and Co., Limited, of Rathbone Place, are constructing three hydraulic lifts for the new addition to Guy's Hospital.

MEDICAL PROVISION AGAINST SICKNESS.

EIGHT members were reported on the sick list of the Medical Sickness Assurance Society, and payments of £171 7s. 6d. for the month of October on account of such sickness, at the meeting held at 38, Wimpole Street, on Wednesday, November 14th. The illnesses included cases of locomotor disease, lung disease (2), paralysis, diphtheria, erysipelas, two cases of accident (one from injury on a night visit in the dark, and the other from the smashing of a hackney cab). Investment was ordered of a sum of £2,000 in Natal Government 4 per Cent. Stock, leaving a current balance at the bank of upwards of £1,000. The total reserves were stated to amount to upwards of £26,000. The Secretary was instructed to proceed with the necessary preparations for the first quinquennial valuation, which will be made by Mr. Neeson. All the funds were shown to be in a condition of prosperity. Full particulars, copies of reports and tables, and proposal forms are forwarded free of cost on application to the Secretary, Mr. C. J. Radley, 26, Wynne Road, Brixton, London, S.W.

ALLEGED DANGER OF INUNCTION IN SCARLET FEVER.

DR. JOSHUA W. RENSHAW (Stretford) writing with reference to the practice of anointing the skin of patients suffering from scarlet fever with carbolic ointment—a practice which is objected to by many practitioners, who fear that the carbolic acid absorbed by the skin will act as a renal irritant—says: I have for nearly twenty years used a solution of two drachms of Calvert's medicinal carbolic acid in a pint of olive oil, as a disinfectant to the skin of scarlet fever patients, continuing the application from the fourth day of the rash until desquamation is complete. I have never seen any ill-effects from it, and am sure it has frequently prevented the spread of the fever to other members of the family. See JOURNAL, 1879, "On the Prevention of Scarlet Fever." If there is any fear of carbolic acid, why not use a solution of "salufer" in water?

THE NAIL-BRUSH SUPERSEDED.

D. H. G. writes: The "indispensable" nail-brush has been often mentioned in the JOURNAL; and an article by a German on the various germs found under dirty nails has led me to wish to give the other side of the question, after having discarded the use of the nail-brush for between forty and fifty years; with this experience, that my nails are always clean.

I simply, when I wash my hands, get a good quantity of soap under my nails, and clean them with the others, and so the skin beneath the nails is kept smooth, and not roughened by a brush into traps to catch dirt. I find when my hands are soiled from dusty knockers, etc., my nails are still clean.

COMMUNICATIONS, LETTERS, etc., have been received from:

Dr. J. W. Moore, Dublin; Mr. N. H. Turner, London; Mr. G. Meadows, Hastings; Mr. L. B. Willoughby, London; Dr. H. Lankester, London; Mr. E. Loveday, London; The Jeyes Sanitary Compound Company, London; Dr. C. M. McDermott, Ennistimon; Mr. J. Gay, London; Mr. T. Luson, Taunton; Mr. H. J. Tizard, Baycliffe; Mr. J. K. Irwin, Dublin; Mr. J. W. Roughton, London; Dr. E. J. Scott, West Brighton; Mr. F. Wilson, Ramsey; Mr. J. Hogg, London; Mr. F. J. Jackson, Sandycove; J. M. Clarke, M.B., Clifton; Dr. J. McCaw, Belfast; Mr. W. H. Sissons, Barton-on-Humber; Mr. G. Foy, Dublin; Dr. J. R. Thomson, Bournemouth; J. P. H. B.; Mr. C. T. Kingzett, London; Mr. F. T. Underhill, Tipton Green; Mr. L. Echenard, London; Dr. Myers, London; Mr. W. H. Ferrens, Durham; Mr. T. Williams, Briton Ferry; Dr. Ward Cousins, Southsea; Mr. W. D. Benham, London; Mr. J. H. Lavies, London; Dr. J. Irving, Leytonstone; Professor V. Horsley, London; Mr. C. F. Yates, Severnside; Mr. R. Towers-Smith, London; Mr. T. P. Harvey, St. Leonard's-on-Sea; Mr. J. E. Sinclair, London; E. Cresswell Baber, M.B., Brighton; Mr. H. B. Hewetson, Leeds; Surgeon Bartlett, Jubbulpore, India; Mr. N. E. Davies, Sherborne; Mr. P. L. de Montbrun, Trinidad; Mr. W. E. Barton, Hawkhurst; Dr. Norman Kerr, London; Dr. Louis Parkes, London; Miss Pressland, Clapham, Bedford; Our Glasgow Correspondent; Dr. H. T. Rutherfoord, London; Mr. J. H. T. Steinbruck, Paris; Dr. C. M. Jessop, London; Dr. R. Grieve, Georgetown, British Guiana; B. G. A. Moynihan, M.B., Horsforth; Mr. A. M. Vann, Durham; Dr. J. M. Granville, London; Mr. J. Limont, Newcastle-on-Tyne; Our Manchester Correspondent; Dr. A. Neale, Hounslow; Mr. A. G. P. Gipps, H.M.S. *Dreadnought*; The Secretary of St. Mary's Hospital, London; Mr. F. Farrow, Cleckheaton; G. M. Sympson, M.B., Lincoln; Dr. J. Barr, Liverpool; J. Gibson, M.B., West Vale; Mr. S. E. Barfoot, Birkenhead; Dr. E. J. Edwardes, London; Dr. T. Laffan, Cashel; Mr. G. Greene, Ferns; Miss T. Wilson, London; Mr. J. Atkinson, Crewe; Mr. Otto Hehner, London; Mr. W. Marriott, London; Mr. Sidney Plowman, London; Mr. J. G. Swayne, Clifton; Mr. E. G. Gearey, Warrington; Mr. G. H. Skinner, Bath; Dr. L. H. Ormsby, Dublin; Mr. G. F. E. Morgan, Hartlepool; Surgeon-General C. R. Francis, London; Dr. T. Smith, London; Mr. G. Neves, Chatham; Mr. Adams Frost, London; Dr. T. Partridge, Stroud; Mr. H. Bigg, London; Dr. M. Charteris, Glasgow; Mr. R. Leigh, Liverpool; Dr. G. Reid, Stafford; Mr. H. A. Smith, London; Mr. W. K. Curtis, Canterbury; Mr. J. G. Barns, Oxon; Mr. W. H. Ferens, Durham; Dr. J. L. Callaghan, Colyton; W. Scott, M.B., Bewdley; The Secretary of the Sanitary Institute, London; Mr. J. Bland Sutton, London; Dr. E. Berdoe, London; Mr. A. Basu, Memari, India; Mr. J. Hope, London; Mr. J. J. Vickers, London; Mr. E. Donaldson, Londonderry; Dr. A. Downes, Chelmsford; Messrs. Wyckoff, Seamans and Benedict, London; Brigade-Surgeon B. Waters, Quetta; Dr. Willoughby, London; Dr. J. W. Moore, Dublin; Mr. W. H. Plaister, Tottenham; Mr. J. Brockwell, London; Mr. L. U. Gill, London; Mr. P. Fraser, Treorky; Mr. W. Duncan, Bristol; Mr. J. Wilding, Bristol; Mr. J. MacMunn, London; F.R.C.S.; Mr. C. B. Lockwood, London; Dr. G. A. Atkinson, Newcastle-on-Tyne; The Secretary of the Society of Arts, London; Dr. Drysdale, London; Mr. A. Craske, London; Mr. R. A. Billiald, Kington; Messrs. Sumner and Co., Liverpool; Dr. R. Barnes, London; R. E. Horseley, M.B., Edinburgh; Dr. J. Mackenzie Booth, Aberdeen; Dr. Heron, London; Dr. B. Howard, London; Mr. C. A. Smith, Reigate; Mr. A. Berrill, Woodford; Mr. C. Sheather, London; Our Liverpool Correspondent; Dr. M. Thomson, Bradford-on-Avon; Dr. J. Lindsay Steven, Glasgow; Mr. S. Waterlow, London; Mrs. E. G. Anderson, London; Mr. G. F. Brown, London; Mr. A. Stewart, Leeds; Dr. T. B. Carlyon, Redruth; Dr. Norman Kerr, London; Mr. W. M. Courtney, Rathgar; Dr. Campbell, Garlands; Dr. A. C. Miller, Fortwilliam; Dr. J. A. Ross, London; Dr. A. R. Urquhart, Perth; The Secretaries of the Association of Members of the Royal College of Surgeons, London; Dr. W. Easby, Peterborough; Mr. J. P. Wilson, Motherwell; Mr. J. W. Smith, Edinburgh; Dr. Hopkirk, London; Dr. Rutherford, Edinburgh; Mr. E. Crockett, Wolverhampton; Mr. G. S. Johnson, London; Mr. H. G. Noakes, London; Mr. Mark Judge, London; The Secretary of the Laryngological and Rhinological Association, London; Dr. H. F. Winslow, London; Mr. J. Arthur, Llandaff; Dr. T. Oliver, Newcastle-on-Tyne; Dr. Curgenven, London; Dr. W. Cooper, Aberdeen; Mr. R. G. Bailey, London; Dr. L. Weigert, Berlin; Mr. H. James, Bradford; Mr. H. J. Tizard, Baycliffe; Madame de Plicque, Paris; Messrs. G. Mason and Co., London; Mr. A. B. Howse, London; Mr. Nichol, Preston; Dr. H. Philpots, Birkenhead; Mr. A. E. Poolman, London; Dr. H. Page, Redditch; Mr. W. F. Tronson, Budleigh; Mr. S. Fergus, Armagh; Our Oxford Correspondent; Mr. T. J. Verrall, Brighton; Mr. A. S. Bostock, Chichester; Mr. T. H. Puckle, Bishop Castle; Dr. Ferrier, London; Dr. R. Rentoul, Liverpool; Mr. W. Phillips, Tipton; Dr. G. Thin, London; Mr. A. H. Baines, Birkdale; Dr. T. S. Bulmer, Aberdeen; The President of the Statistical Society, London; A. Stewart, M.B., London, etc.

BOOKS, ETC., RECEIVED.

A Treatise on Surgery: its Principles and Practice. By T. Holmes, M.A Cantab. Fifth Edition. Edited by T. Pickering Pick. London: Smith, Elder and Co.

Modern Methuselahs. By J. B. Bailey. London: Chapman and Hall. 1888.

Three Small Diaries. Published for Letts Diary Company, Limited, by Cassell and Co., Limited.

One Letts's Medical Ledger. London: Letts, Son and Co., Limited.

One Pettit's Diaries. Griffith, Farran and Co.

One Blackwood's Medical Call-Book, 1889. London: Griffith, Farran and Co.

The Transactions of the Edinburgh Obstetrical Society. Vol. xiii. Session 1887-88. Edinburgh: Oliver and Boyd. 1888.

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NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-Offices letters addressed to initials only.

A DISCUSSION ON RICKETS,

In the Section of Diseases of Children at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

I.—INTRODUCTORY REMARKS ON ETIOLOGY; PREVENTION; CONNECTION WITH SYPHILIS AND SCURVY; NATURE OF THE ENLARGEMENT OF THE LIVER AND SPLEEN; TREATMENT.

By W. B. CHEADLE, M.D., F.R.C.P.,
President of the Section; Physician to St. Mary's Hospital; Senior Physician to the Hospital for Sick Children, Great Ormond Street.

Etiology.

The first point upon which I would venture to insist is that rickets is not to be regarded as a mere affection of the bones. This is so obvious and striking a feature of the rachitic state that it has assumed undue importance, and rickets has been in danger of being looked upon as simply a defective and perverted development of the osseous structures, and has indeed been thus defined quite recently by a leading medical authority; but it is something far more than this; the disease affects not only bones but muscles and ligaments, mucous membrane and skin, the blood and the nervous system. The implication of the muscles is clearly shown by the remarkable enfeeblement of muscular power, sometimes so great as to be mistaken for actual paralysis; the affection of ligaments by the yielding spine and relaxed knee- and ankle-joints; that of the mucous membrane by the tendency to catarrh, to croup, to bronchitis and to diarrhœa; the inclusion of the skin by the profuse sweating; that of the blood by marked anæmia; and the profound affection of the nervous system by its abnormal reflex excitability, leading to laryngismus, tetany, and convulsions.

If some of these other structures were examined with the same minute care as the bony skeleton, light might perhaps be thrown upon the pathology of the disease. Whatever the constitutional defect which is at the root of the rachitic state, it is general; it affects all structures, not merely bone alone, although the bone fault is in the nature of things the most obtrusive and obvious. Therefore no theory can be accepted as adequate which merely accounts for changes in the bones. This is the fallacy which underlies nearly all the theories of its etiology which have been propounded.

The cause of rickets, as everyone is agreed, is malnutrition, and with this most people are satisfied; yet it really explains nothing. The malnutrition is general, but the cause of it must be a very distinct and special one.

Many things have been put forward at one time or other as essential agents in the production of rickets, as (1) congenital syphilis; (2) inherited constitutional tendency; (3) defects of hygiene (such as want of light, of fresh air, of cleanliness, of warm clothing, of sufficient food; (4) certain special defects in food—as excess of starch, or deficiency of lime salts.

Now some of these may, I think, be put aside to begin with as untenable. The theory propounded by M. Parrot, for instance, that rickets is simply a manifestation of congenital syphilis, cannot be accepted. Most of us probably would allow that syphilis is concerned in certain cases of rickets as an occasional factor. That congenital syphilis is not a constant or sole factor is proved I think by two considerations: first, because in the majority of cases of rickets the history is absolutely free from any suspicion of syphilis; and the patients bear no marks of the disease, as such well-established signs as characteristic eruptions, snuffles, depressed nose, linear scars, pegged teeth, keratitis.

Secondly, because a large proportion of children suffering from congenital syphilis are not rickety, as witness the eleven children with craniotabes, noted by Dr. Barlow and Dr. Lees;[1] these, brought up exclusively at the breast, showed not the slightest sign of rickets, although exhibiting the bone fault which is now I think satisfactorily identified as a syphilitic, not a rachitic, change. Elsasser observed and was puzzled by the same phenomenon. We may, therefore, I think, put aside congenital syphilis as an essential factor; it modifies rickets, it does not create it.

Inherited constitutional taint, again, is a doubtful factor. It is certainly not a constant or essential one, and its pretensions are founded upon slender evidence. A certain proportion of rickety children have been found to have had parents who showed signs of previous rickets, and that is all. The disease passes with youth; and it is *primâ facie* improbable that it should be transmitted to offspring. I have seen nothing confirmatory of the view that the disease is inherited. The coincidence in parent and child probably means nothing more than that the parent had been exposed to similar conditions in infancy. Weakly parents may transmit feeble constitutions to their children, and thus favour the production of rickets, which would thus in a modified sense be inherited, but that is all. That direct inheritance is not a constant or essential factor in rickets is proved by the fact that perfectly healthy parents, who have never been rickety and show no trace of it, may have, and constantly do have, rickety children. We may, then, eliminate inherited tendency, at all events as an essential condition.

Taking, next, general mal-hygiene, such as want of light, fresh air, cleanliness, warm clothing, sufficient food, there can be no doubt that this influence is a potent one in the development of rickets in many cases. It is operative usually in extreme rickets; sunlight and pure air especially are powerful agents in aiding the vital processes of nutrition; want of them deteriorates and degrades it.

Yet that these defective hygienic conditions are not sole, constant, and absolutely essential factors is shown by two considerations. First, children may be brought up in the utmost squalor, and even be generally short of food, and yet not become rickety; and, conversely, children may be brought up under the most perfect hygienic conditions in all these respects, and yet become rachitic.

It is impossible to affirm in some cases that external conditions of mal-hygiene have anything to do with it—they do not exist. This is frequently seen in rickets occurring in children of the better classes; so that defective hygienic surroundings cannot be regarded as constant or essential.

The last of the causes enumerated—special defects of diet—has stronger claims. The evidence as to its connection with the development of rickets is, in my judgment, conclusive. The only question which can arise, I think, is with regard to the nature and extent of its influence.

In the first place, I would point out that it is a question of quality rather than of quantity. Mere general deficiency will not produce rickets. Many half-starved children do not become rickety; and, on the other hand, children with abundance of food do become rickety.

One of the first and best established facts with regard to the food connection is that rickets is almost entirely confined "to hand-fed" children; children at the breast escape, whatever the other hygienic conditions may be, at any rate until after weaning. In rare instances, if the mother is greatly enfeebled, rickets may develop; yet the only example which I can call to mind of rickets arising in a child suckled by a healthy mother is one in which the mother became pregnant while suckling. The fœtus *in utero* did not suffer; it was born robust and healthy, and remained so. The child at the breast developed marked rickets.

The question becomes, then, very much narrowed and simplified to one of diet. This food factor is the only factor which is anything like constant. It is, I believe, traceable in every instance; syphilis may be absent, hereditary taint may be absent, all external conditions of mal-hygiene may be absent; yet, in spite of this, a child brought up on artificial food may become rickety. This is amply proved by the cases of which I have spoken, where the disease arises in the children of well-to-do people, and the food fault is the only one to be detected; they throw a very significant light upon the etiology of the disease. Such cases are far more common than is generally supposed; they are often slight, and are constantly overlooked. It is by taking these simple cases, where the conditions are the least complex, that we may hope to discover the secret of causation. The fault must lie in some defect in the artificial food, in some quality in which it differs from the non-rachitic food of human milk. What is this defect? Most authori-

[1] *Path. Trans.*, 1881, vol. xxxii, p. 330.

ties, in this country at all events, are agreed that the condition of food most commonly associated with rickets is a farinaceous diet; and my own observations abundantly confirm this. The occasional association of scurvy with rickets is not only very suggestive of a food origin, but especially of a connection with farinaceous diet.

Now, the relation of this diet to the occurrence of rickets has given rise to several theories. One of the earliest is what may be styled the lactic acid theory. It has been held that lactic acid is generated in excess by the fermentation of starchy food imperfectly digested; this, uniting with the lime of the bones, removes it thence as a soluble salt, or, as Heitzman suggests, acts as an irritant on the cartilaginous tissue. To this theory there are several weighty objections. In the first place, it is inadequate—it has regard merely to bone changes, and does not explain the morbid condition of muscle, of mucous membrane, or of nervous system. In the second place, children become rickety on starchy food who never have fermentative dyspepsia; and on malted food, which they digest perfectly. In the third place, although Heitzman found lactic acid in the urine of rickety animals, and some animals developed rickets under its administration, I know of no satisfactory proof of its existence in excess. Moreover, if it were present in the blood, it could not exist in that alkaline fluid in a free state, but would be neutralised by soda or potash. And, lastly, lactic acid being more feeble chemically than phosphoric acid, it would not replace it in phosphate of lime, although it might remove some carbonate, if phosphoric acid were wanting.

That the evil effect of starchy food does not lie so much in any *positive* quality as in some *negative* property is shown by the fact that rickety children get well when the starchy food is continued, if ingredients such as milk or raw meat and cream be added to it—an experiment I have frequently made. It is not the presence of starch which does harm, it is the absence of other ingredients, as I shall endeavour to show presently.

Another theory which has been put forward is that a deficiency of earthy salts is at the root of the matter. Chossat and Milne-Edwards produced curvature of the bones in animals by privation of earthy salts; yet the later experiments of Friedleben show that the characteristic changes of rickety bone cannot be produced in this way, although atrophy sometimes follows.

Wegner claims to have produced rickets by withholding lime salts simultaneously with the administration of phosphorus. And it seems indisputable that if all lime salts are withheld, growing bones must be soft. And some foods on which the rickety state arises would appear to be short of lime, such as fine wheat flour and other farinaceous foods, which contain chiefly salts of potash and soda. Rickety bones are stated to be deficient in lime salts, containing, according to Friedleben, 33 to 53 per cent. only, as compared with 63 to 65 in normal bone; although Dr. Norman Moore found but little difference.[2]

Yet that privation of lime salts alone is not a sufficient cause is shown by the experiments of Friedleben before mentioned, by the fact that abundance of lime in food will not prevent rickets or cure it. Rickets occurs in limestone districts; in my native town, where the water was highly charged with lime, and goitre common, rickets was especially rife amongst the children. Many rickety children have been drenched with lime water added to food. Lime is useless in the form of hydrate, or carbonate, or sulphate. If it is essential, it must be in the form of phosphate.

Taking, again, the simple case of children who become rickety when brought up under perfect hygienic conditions in every point except in being fed by hand, it occurred to me that an examination of the different artificial foods might throw some light upon the nature of the diet fault. An analysis of these shows at once a grave defect common to all. The details are too lengthy to give here, but I hope to publish them elsewhere shortly. It will be sufficient if I say that they are remarkably deficient in two chief elements, namely, animal fat and animal proteid; probably also—although I have not ascertained this by actual analysis—in phosphate of lime.

But the two first elements are uniformly deficient in the diets of rickety children except in certain special cases where rickets has followed protracted vomiting and diarrhœa. In this case, although not wanting in the food, they are abstracted by being thus drained away. Are all three elements equally essential? The abundance of fat in milk, which contains 2.7 per cent., or one-fourth of the whole solids, and is, indeed, a rich emulsion of it, points to its extreme importance in the food of growing animals. If the milk is deprived of its fat, the child grows rickety. One of the most marked cases I ever saw was in an infant brought up on skim milk. The curative power of cod-liver oil is evidence in the same direction. The artificial farinaceous foods contain a mere trace of fat; instead of one-fourth of the whole solids, as in milk, one-twentieth, one-eightieth, one-two-hundredth only. Even with milk added they are usually far below the standard. That deficiency of proteid alone is not sufficient to cause rickets appears from the fact that animals grow rickety even when given proteids in excess, as in Guérin's experiments and the experience at the Zoological Gardens; yet, as a matter of clinical observation, rickety children get well much more quickly if animal proteid is supplied freely in addition to fat than on the latter alone. The results of feeding young animals at the Zoological Gardens strongly support the view that a deficiency of animal fat and earthy salts together are the most efficient agents in producing rickets. Through the kindness of Mr. Bland Sutton, the Honorary Pathologist to the Society, who has done so much to elucidate the morbid anatomy of animal rickets, and Mr. Bartlett, the Superintendent, I have gathered some very curious and significant facts. It appears that young animals are extremely liable to become rachitic there. The young monkeys, taken early from their mother and put solely on vegetable diet, chiefly fruits, become rachitic. Such diet would be destitute of animal fat, and also short of proteid and earthy salts. The most extreme case, however, was that of two young bears, who were fed upon rice, biscuits, and occasionally on a little lean meat, which they licked but rarely ate. In this case, fat, which ought to form one-fourth of the solids, was practically excluded from food, and proteid would be present in very small quantity. Salts of lime are absent from rice, and exist in certain biscuits in small quantity only. The bears died of the most extreme rickets long before reaching maturity.

Again, it has been found impossible to rear the young lions from this cause. With the exception of a single litter suckled by the dam some ten years ago, the cubs invariably died up to last year, the cause of death being extreme rickets. More than twenty litters have been lost in this way. That the condition is a true rachitis, there can, I think, be no doubt. There is the same bending of bones, muscular feebleness, and general debility, and the morbid changes in the bones have been shown by Mr. Sutton to be identical with those of child rickets.

Now, as a rule, the lioness cannot be trusted to suckle her cubs; she either injures them or neglects them, and they have to be fed by hand. In the solitary instance just mentioned the dam did suckle the cubs, and they were duly reared. All the rest have been fed upon the flesh of old horses. This is almost entirely destitute of fat. The bones were found to be proof against the teeth of adult lions even, and those of the cubs were powerless to deal with them, so that they got neither marrow fat, nor earthy phosphates from them. Once a week they were given goats' flesh, which is about the fatness of venison. So here, again, the diet would be especially deficient in fat and earthy phosphates. The feeding of the last litter of lion cubs was commenced in the same way. The dam had very little milk, which ceased entirely at the end of two weeks; and they were put on horseflesh as usual. They quickly developed marked rickets, and one died. Then, at Mr. Bland Sutton's suggestion, the diet was changed. The meat was continued, but, in addition to it, cod-liver oil and pounded bones were given with milk. No other alteration whatever was made in any way. They were kept in the same dens, with the same amount of air, of light, and of warmth as before, yet the change that followed was remarkable. In three months, Mr. Sutton informs me, all signs of rickets had disappeared; and now, at eighteen months' old, they are perfectly strong and healthy and well-developed—a unique event in the history of the Society. This experiment is in most respects a crucial one, and seems to me conclusive as to the chief points in the etiology of rickets; for no change was made in the conditions of existence except in food alone, and the change in this consisted practically in the simple addition of fat and bone salts.

The fact that rickets often follows prolonged food-vomiting and diarrhœa provoked by cows' milk supports the view of the importance of animal fat and proteid as compared with the carbohydrate element. For the fat requiring to be emulsified or saponified before it becomes capable of being absorbed, and the proteid in like manner requiring to be converted into peptone before fit for absorption, would be drained off rather than the

[2] *Path. Trans.*, vol. xxxii, p. 304.

sugar of milk, which is received in a form fitted for passing at once into the circulation. The result would be a disproportionate formation of fat and proteid.

The only constant condition, then, found to be associated with rickets is a food fault, which can be traced to the deficiency of certain special ingredients. Fat is found in all cells, and is probably essential to all cell life and growth, and fat formed in the body clearly cannot replace it for structural purposes. Phosphate of lime is equally essential to every tissue, and it is found to be deficient in rickets both in bones and in the viscera also. Proteid again is essential to the vitality of protoplasm, and, indeed, to the activity of all vital processes. So that a diet deficient in these elements—fat, earthy salts, proteid, would explain not only the bone fault of rickets, but the feebleness of muscle, the nervous instability, the debility of mucous membranes. All tissues, not merely bone-tissues, are ill-nourished for want of these elements. I would sum up the general pathology of ordinary rickets thus:—

1. It is primarily a diet disease, which can be caused at will by rachitic diet just as certainly as scurvy by a scorbutic diet, and which can be cured as certainly by antirachitic diet as scurvy by an antiscorbutic diet.

2. That the chief defect in diet which causes rickets is want of animal fat.

3. With this, probably, also deficiency of the earthy salts in form of phosphates.

4. A deficiency of animal proteid in conjunction with the preceding intensifies the condition.

5. The rickety state is accentuated by evil external hygienic conditions, such as foul air and want of light, although these are not essential to its production.

6. Rickets is modified in character by the concurrent existence of congenital syphilis and of scurvy.

In addition to ordinary rickets, there are certain aberrant forms the pathology of which is still doubtful, Most cases of so-called fœtal rickets appear not to be true rickets, but a condition allied to cretinism.[3] Yet there is, *primâ facie*, nothing improbable in the commencement of the rachitic state *in utero*. It is possible that, in certain conditions, the mother may be unable to supply the fœtus with the necessary elements.

As a matter of fact, I have never seen a case of rickets at birth: yet I have observed the disease in existence so early, that it seemed probable that it first arose during fœtal life. Dr. Gee,[4] too, has noted beading of the ribs at three or four weeks old.

A condition apparently analogous to mollities ossium in adults has been recorded in a child of eight months by Dr. Bury, of Manchester. No true rickety change could be made out in the bony structures.

There is, again, the well-known case observed by Dr. Rehn, of Frankfort,[5] in which the morbid changes correspond partly to those of mollities ossium, partly to those of rickets.

Another variety of rickets of which I have seen several examples is what is called *late rickets*. A most remarkable case of this kind, a boy of 10 years old, came under my care at the Children's Hospital a few years ago. The disease commenced at 9 years old, presented all the signs of ordinary rickets during life, and the morbid changes found in the bones after death resembled those met with in infantile disease. A full account of it is given by Dr. Drewitt in vol. xxxii of the *Pathological Transactions*. All I need say here is that these cases have not been traced to any food cause, that their pathology is still obscure, and any light which can be thrown upon it will be welcome.

Prevention.

The views which I have expressed as to the etiology of ordinary rickets indicate the means to be taken for its prevention. The disease cannot be stamped out until poverty is stamped out. Rickety diet is cheaper and less troublesome than non-rickety diet, in great cities at all events. But the disease can be absolutely prevented in most cases. The only essential condition is that infants should be placed upon diet which contains in digestible form an ample amount of animal fat with sufficient proteid salts and carbohydrate—that is, all elements in the proportions which obtain in human milk; on such a diet there is no rickets. If the food contains the elements in less proportions, the limited capacity of the child's stomach will not permit it to take a sufficient gross amount; if the food contains the elements in greater strength, it will disagree. With proper diet external conditions of good hygiene must be carefully combined.

Connection with Syphilis and Scurvy.

Connection with Congenital Syphilis.—This point I have already touched upon in speaking of the etiology of the disease, and I gave reasons for the belief that although congenital syphilis is sometimes concerned in the development of rickets, it is certainly not a constant, essential, or sole factor. These reasons are, first, the occurrence of rickets in a large number of cases in which the history is absolutely free from suspicion of syphilis, and in which the children have none of the well-known marks of the disease, even of the slightest kind; and, secondly, the number of cases of congenital syphilis which bear the established marks of that disease, but which are not rickety; and, thirdly, because the cases in which the syphilitic factor can be traced exhibit special characteristics, such as craniotabes, cranial bosses, and perhaps enlargement of the liver and spleen. Thus, as I have said, the syphilitic factor concurring with the diet factor modifies the disease, but does not alone create it.

Connection with Scurvy.—The connection of rickets with scurvy has a special interest for me, for I think I may fairly claim to have been the first in this country to recognise the real nature of what is now known as infantile scurvy, previously noted under different names by other observers, and to trace its source to a scorbutic diet. Dr. Barlow's exhaustive examination of the subject[6] has confirmed these conclusions, and identified the morbid anatomy with that of the true scurvy of adults. Similar cases have been observed and identified as scorbutic by Dr. Dickinson.[7] There can be no doubt about the nature of this scorbutic condition of infants. The spongy gums often bleeding and exhaling a carrion fœtor, the periosteal and muscular swellings and extensive tenderness, the hæmorrhages into the subcutaneous tissues, under the periosteum, from mucous membranes, into viscera, into muscles, the hæmaturia or albuminuria, the cachexia, the extreme muscular feebleness and tendency to syncope correspond to the symptoms of the scurvy of adults as exactly as the *post-mortem* changes. The cause lies in a diet of farinaceous, or desiccated, or condensed foods destitute of fresh element, just as in sea scurvy. Fresh milk is the great antiscorbutic food of infants. It possesses this property in addition to all other essentials of aliment. Potatoes are likewise a great protection in the diet of the poor, and no doubt prevent many children from becoming scorbutic for lack of fresh milk who become rachitic from that cause.

In all cases which I have seen the scurvy has been associated with rickets, although in some this has been of the slightest. Dr. Barlow's experience corresponds with mine on this point. Probably the connection is not absolutely essential, but in the nature of things the two conditions are likely to arise together. Both are results of artificial feeding. If it is rare for a child at the breast to become rickety, it never becomes scorbutic.

Rickets and scurvy each depend upon a deficiency of certain elements in food, but these are different in the two cases. Rickets as I have said is the result of want of sufficient animal fat especially, with, possibly, concurrent deficiency of phosphate of lime and of proteid; scurvy from the want of fresh element in food, from deficiency in the mysterious anti-scorbutic property. In Dr. Dickinson's cases, in Dr. Barlow's, and in my own this defect has always been present, and immediate cure of the scorbutic state has followed the addition of the fresh elements to food. That more rickety children do not become scorbutic is due, I think, to the fact that most of them get a little milk or potato, both excellent anti-scorbutics, of which a very small quantity seems sufficient. Yet the constant existence of bone-tenderness and muscle-tenderness in cases of severe rickets suggests the possibility of many of these being slightly scorbutic also, without the more advanced and recognised signs, such as spongy gums or hæmorrhages being developed. I know from practical experience that many cases of slight scurvy pass unnoticed, the rickety condition alone being recognised, even when spongy gums or periosteal swellings indicate the presence of the scorbutic state.

Nature of the Enlargement of the Liver and Spleen.

Although this condition is laid down in Sir William

[3] See Dr. Barlow's paper, *Path. Trans.*, vol. xxxii, p. 361.
[4] *St. Barth. Hosp. Rep.*, vol. iv.
[5] *Trans. Med. Cong.*, vol. iv, p. 59.
[6] *Med. Chir. Trans.*, vol. lxvi, p. 83.
[7] *Renal and Urinary Affections*, vol. iii, p. 1287.

Jenner's standard description as a regular feature of rickets, and Dr. Dickinson, who has specially investigated the nature of this enlargement, also considers it an essential part of the disease,[a] I have been unable to find it in the majority of cases. Dr. Fagge, Dr. Goodhart, and Mr. Clement Lucas have also failed to discover much enlargement of viscera in a great proportion of cases, while Dr. Gee regards it as a result of previous cachexia apart from rickets. The cases in which the spleen becomes enlarged can be distinguished, as Dr. Goodhart pointed out, by their special pallor. In a case of marked rickets which I have now under observation, in which the spleen and liver are both very large, there are marks of congenital syphilis in the form of bosses on the skull, linear scars at the angles of the lips. The change in the organs is a diffuse, often hyaline, fibrosis, in no way distinguished from the fibrous enlargement of ague or syphilis. I think it will probably turn out that the cases of rickets in which this change in the viscera is found are the cases of rickets modified by syphilis of which I have spoken. But this is a moot point on which further evidence is required, and I should be glad to hear the experience of others with regard to it.

Treatment.

This should be by food more than by drugs. Far too much dependence is placed on the latter, to the neglect of dietetic treatment. As a rule, children are overdosed and sickened by Parrish's Food and cod-liver oil, to the damage of appetite and digestion. I find that I have to stop these things more often than to order them. Parents have come to consider them as almost essential, and children are drugged with them on the least sign of languor or flagging health. But raw meat is better than iron, cream or fresh milk than cod-liver oil. The diet of a rickety child should be carefully examined to ascertain whether it contains a due proportion of fat, proteid, and salts. A sufficiently close estimate can be made with ease, since the composition of milk and of all foods used for children is accurately known. It will be found that it either is or has been defective, and it should be at once placed at the full standard, so that the amount of animal fat especially is equal to at least one-fourth of the total solids, proteid about one-third, the carbohydrates a little over one-third, the salts about one-tenth; and for a little infant these should be diluted to about the percentage which obtains in human milk. It is not enough to supply fat alone if proteid and salts are likewise deficient. These proportions can often be increased with advantage, care being taken not to overtax the child's digestive powers. A correct diet, with a full amount of the essential elements in digestible form, will cure rickets without medicine; but if cream or good milk cannot be obtained, or does not agree, cod-liver oil may be substituted. Iron is a most useful adjunct in many cases, and the salts of lime may be added in the form of lacto-phosphate. With these, sunlight, fresh air, warm clothing, are potent aids, which should not be undervalued; but an anti-rachitic diet is essential, and without it other hygienic measures are comparatively powerless for good.

II.—THE SURGICAL TREATMENT OF RICKETS.

By ALEXANDER OGSTON, M.D., C.M.,
Regius Professor of Surgery in the University of Aberdeen, and Surgeon to the Aberdeen Royal Infirmary.

Although the whole subject of rickets is under discussion by the Section, I intend limiting my remarks to the surgical treatment. They are, however, not limited to rickets as they occur in young children, or to the deformities that originate from the disease at this early age, but embrace as well a consideration of those that begin at adolescence, due to the form of the disease described, and, I think, first distinctly recognised by Mr. William Macewen, called by him the rachitis adolescentium. The disease being, at whichever of these ages it appears, due to disorders of digestion and the resulting imperfect assimilation and nutrition, any directly surgical treatment, to be rapid and effectual, must be accompanied by suitable diet and hygienic measures. Phosphorus, lime, and the like are admitted to be without influence on the disease, but general tonics, particularly cod-liver oil emulsion, are so potent, that, with the improved health due to their use, slight degrees of some of the deformities not uncommon, in young children, spontaneously disappear. Thus I have observed a knock-knee, where the leg deviated to an angle of ten degrees from the normal direction in a child of three years old, and a well-marked case of double flat-foot in a boy of four, completely disappear without any local treatment whatever in the course of eighteen months in the former and three years in the latter case. In the deformed curves which appear in the leg and thigh bones, and in knock-knee, the use of splints and bandages applied during the night may suffice to ensure a cure; but, unfortunately, their use is limited to those who belong to wealthy households, or, at least, those that are comfortably off, and they are inapplicable in the vast majority of cases, which occur among the poorest classes of the urban or unhealthy districts. In these, too, the deformity is seldom presented for treatment until it has attained a considerable degree.

Apparatus in the shape of iron or steel supports, with joints at the articulations, I confess I have no belief in, as its expense limits its applicability to a minute percentage of our patients, and even in these it is less useful than the nocturnal splints and bandages. In a few suitable cases, however, it can perfectly well bring about a cure. There are some forms of deformity, exactly the same as those caused by rickets, which are due in children to other causes. Thus pigeon-breast and hour-glass narrowing of the thorax at the diaphragmatic attachment may occur in badly enlarged tonsils, where their removal has been neglected; flat-foot may occur in very fat children whose body weight exceeds the toleration of the normal foot; and in young people of both sexes, during the years of active growth, valgus ankle is not uncommon, even where the rachitic tendency is certainly absent. Such conditions may be remedied by suitable measures, and generally disappear, without a trace, of their own accord, although their persistence is not uncommon. Rest is, as in all disease, a valuable therapeutic agent, but in rickets it should not be overdone. The normal shape of the bones is admittedly produced not so much by forces within themselves, as by the action on them of normally acting muscles, and such like external agents. Hence, in a deformed child, the entire disuse of exercise favours the persistence of the acquired deformity, while if it be permitted to select its own exercise in its sports and occupations, and to a degree always short of fatigue or uneasiness, the cure is accelerated.

The younger the patient the better is the prospect of recovery without special local treatment. I have never seen a case of deformity in rachitis adolescentium undergo a complete spontaneous cure, while in children it is not unusual for it to do so. In young children, the chief deformities of which I have had much experience are the curvatures of the leg bones, the tongs-like bendings of the thigh-bones, and knock-knee. In the curved leg bones I have seldom if ever found that any measure short of osteotomy is of use. The toughness and sword blade form of the tibia renders infraction or manual rectification by fracture exceedingly difficult, and hence osteotomy is required. Linear osteotomy will not do; the curve in the tibia renders the bone too long, even after a linear osteotomy, to assume the straight form, and the removal of a wedge with its base anteriorly is required. I find it best to make a longitudinal cut over the crest of the tibia at the site of greatest curvature, and, having separated the periosteum all around the bone, to cut out by a narrow saw a cuneiform portion, whose base, three-quarters of an inch broad, lies anteriorly, its apex, a quarter of an inch broad, lying to the back. The fibula can then be broken or infracted by manual force, and the wound healed by first intention under a plaster-of-Paris bandage. Oblique section of the tibia, which has been proposed instead of this, that the ends may pass and ride on one another, possesses no advantage and many disadvantages, such as the projection of the riding fragment and the greater difficulty of the operation. The cuneiform excision is not only easier, but is less severe. I ought, however, to say that my experience of such operative rectification is limited to fifteen cases, all of which were perfect cures. For thigh curvatures manual fracture is, I think, the best proceeding, the limb being immediately rectified and set in a plaster-of-Paris bandage, like an ordinary broken thigh. In three of my cases only were the bones so tough as to require osteotomy, and linear osteotomy was quite sufficient, the femur being devoid of the inextensible structures and companion bone that prevent this sufficing in the tibia. Knock-knee in young children is best treated by the *redressement brusque* or forcible rectification introduced by Delore, of Lyons. Delore believed that, when a knock-knee is forcibly straightened, the epiphyseal cartilages are detached. This,

[a] See Discussion on Rickets, vol. xxxii, *Path. Trans.*

I am convinced, is quite incorrect. I have had thirty-four such cases, and have observed with the greatest care where the solution of continuity occurs. I have frequently demonstrated these to my colleagues and others who were present, and commonly enough the matter admits of no doubt, although I am happy to say that I have not had occasion to verify it in the only absolutely conclusive way by a *post-mortem* dissection. The break usually occurs at the point where the shaft joins the epiphysis—that is, just where Macewen does his osteotomy for the cure of the same condition in adolescents. In a smaller number of cases, which I should guess at rather less than half of the whole, the rectification does not occur suddenly with the production of a fracture and the resulting mobility, but is obtained by slow degrees, and the internal condyle of the femur can be felt separating from the external, being forced inwards, the bone broadening, and the inner condyle projecting till it forms a palpable angle with the shaft, remaining connected with it, however, as it yields or bends, but does not break off. In one case only did I feel it broken off and loose. Now and then it happens, if the child be rather older, that the bones are too tough for Delore's rectification, and the treatment must then be the same as that where the deformity occurs in an adolescent—that is, osteotomy.

The most common deformities resulting from adolescent rickets are knock-knee, flat-foot, and lateral curvature of the spine. Knock-knee has been sufficiently written upon to make it needless to say anything more regarding it here. Flat-foot is almost exclusively a disease of adolescence; it now and then occurs in young children, or is due to caries or other inflammatory disease; but in rickety adolescents it is very common, as they are of necessity exposed, in earning their livelihood, to over-fatigue or overweighting, which their weak osseous structures cannot resist. I have elsewhere written upon flat-foot, and confine myself here to stating that, contrary to those who believe it to be caused by defective action of tendons, I am satisfied it is seldom due to anything else than rickets, nearly all those in whom it is seen during the period of its formation showing the characteristic beading of the ribs found in rickets. The inner portion of the arch of the foot yields at Chopart's joint, and the head of the astragalus slips downwards and inwards from behind the scaphoid bone. After a time this position becomes permanent, and the head of the astragalus altered in shape so that it cannot be replaced, and the deformity ceases to be reducible. Shampooing, electricity, gymnastic exercises of the foot, elastic bandages, mechanical supports, and the many other proposed cures are, in my opinion, nearly total failures; since, although among the wealthy and leisured classes much expense and unlimited time may be devoted to the cure; among the poor, who live from hand to mouth, time and money are just the things they cannot provide, and which in general town and country practice cannot be provided for them. I am convinced, too, that many of the alleged cures of flat-foot are not cures at all, but are due either to the patient tiring of the treatment and disappearing, or to the natural tendency observable in every rachitic disease for the bones and other structures to suit themselves to the deformity and to become strong and free from pain as the general condition disappears, and the new state of matters becomes habitual, even though the deformity remain as glaring as ever to the eye. Some time ago I ventured to recommend to the profession a new operation for the cure of flat-foot, and further experience leads me to think favourably of it still, although I will not assert that the reasons I have just assigned as explaining why many writers have deceived themselves regarding their cures for flat-foot, may not have, unknowingly to myself, led me into forming too sanguine an opinion of the value of my own proposal. I have endeavoured as much as possible to avoid being so deceived. My proposal, shortly stated, is the following: An incision is made along the inner side of the foot into the mediotarsal joint, the soft parts shelled off the bones, so as to expose the articulation sufficiently, and then by means of an ordinary chisel the head of the astragalus and the back of the scaphoid are denuded of their cartilage so as to be adapted for osseous ankylosis. In old cases of the deformity the head of the astragalus grown out of shape has to be rounded off so that it can be restored to its proper position before the arch of the foot can be replaced in its original shape. An assistant holds the arch in the right position, and then two pegs of carefully disinfected ivory three inches long are hammered into two holes drilled through the scaphoid and astragalus. This fixes the arch, and when the spare ends of the pegs have been nipped off and the wound sutured the joint heals by bony ankylosis under a plaster-of-Paris bandage.

I have had one occasion to verify the occurrence of complete bony ankylosis. The worst feature of the cure is that it usually needs three months in the plaster before ankylosis is complete and the patient can walk. I have shown the cures obtained to Mr. William Adams, of London, and many other surgical friends. Out of a total of forty-seven such operations, twenty-four of which were for double flat-foot, and therefore done in twelve patients, and the other twenty-three for single flat-foot, I have never seen any failure to heal aseptically by first intention. Most of the cases were cured, and the following are the only failures I have been able to see or hear of. I believe Mr. Joseph Bell removed an unabsorbed peg in one case, although even this patient was reported to me by those who saw it as being cured so far as the flat-foot and its symptoms went. One case operated upon by a colleague was a failure, and I repeated the operation and got a cure, and the same repetition and cure by reoperation happened in one of my own cases. One case complained of pain for a year after, but he was a young lad, and I think a malingerer, for he had such beautiful arches to his feet as the result of the operation that I had him photographed. I should also state that in very bad cases a perfect restoration of the arch is not generally obtained, only a great improvement is effected. In one case the disease seemed to be unimproved by the operation, as the patient still complained of the old uneasiness, but on cutting down it was found that the joint was perfectly united by bone, but that the articulation in front of it, between the scaphoid and cuneiform bones, had begun to give way in a similar fashion to that which affects Chopart's joint in this disease. I left it alone, being unprepared to fix all the joints on the inner border of the foot. Lastly, regarding the subject of lateral curvature, I think attention should be distinctly called to the incorrect way in which its treatment is usually spoken and written of. In spite of all the appliances and methods of so-called cure, so numerous and different that there seems an inexhaustible wealth of them to select among, I venture to say that there never yet, in my belief, was a case of scoliosis cured. I do not say so without good reason, and ample opportunities of judging. I have used in multitudes of cases all the plans of cure proposed—apparatus, gymnastics, sloping seats, traction beds, pressure beds, Barwell's and Busah's slings, etc., and the utmost that I have ever witnessed was an arrest of the disease. I have followed the progress of cases under treatment by the most famous London orthopædic surgeons, and which they pronounced as improving, and eventually as cured; have controlled by exact measurement the condition of such cases, and seen that during the whole treatment and alleged cure not a fraction of a millimètre of rectification was obtained.

I have also exhausted the possibilities of Sayre's methods, and found that they never effect a cure. The tendency of the disease on which scoliosis depends is almost invariably to a cure, and on this occurring the bones become consolidated in their distorted position, the patient ceases to complain of discomfort, and it is not unnatural that the surgeon should insensibly take an optimistic view of the case, and call the result a cure. It is in truth no slight gain that the disease has been arrested, but it is contrary to truth to call the result a cure; and I hope I may be pardoned, in the interests of science, for drawing attention to this as forcibly as it is in my power to do. If I am correct, it is time that our surgical writers cease to mislead the generations of students that are to be the surgeons of the future on so important a point. At all events, the subject of the surgical treatment of rachitic deformities would be markedly incomplete without its being mentioned here.

Dr. RANKE (Munich) said that, regarding the etiology of rickets, he was able to endorse very generally the remarks Dr. Cheadle had made in his excellent paper. Leaving the hereditary element out of sight, he believed rickets were principally caused by a faulty composition of the infant's food, particularly by a want of animal fat. Dr. Cheadle had raised the question, whether scurvy was a frequent cause of rickets. Now, scurvy was a most rare disease in Munich, whilst rickets were there very common indeed. He therefore thought that scurvy could only be considered as causing a disposition to rickets, like dyspepsia and enteritis, which latter generally preceded rickets in Munich. As to the connection of rickets with syphilis, he had already had the opportunity to oppose that theory of the late Professor Parrot's at the London International

Medical Congress in 1882. He thought that since that discussion, in which almost all men of experience expressed themselves against the supposed connection, Professor Parrot's thesis was almost universally given up, even in France. The syphilitic changes in bone show, as we long ago knew, a certain resemblance to rickets, but still are different; and, on the other hand, children with hereditary syphilis, if they grow up, sometimes, but certainly not always, become rickety, in the same way as after other exhausting diseases, but here the connection ends. There can be no doubt whatever that in Munich the vast majority of rickety children have no syphilitic taint. Now, in regard to the question: Is enlargement of the liver and the spleen always present, more or less, in rickets, or only in cases of syphilitic origin? He would first consider the liver. In regard to the same question, Dr. A. Bajinsky, of Berlin, in his treatise on Rachitis (Tübingen, 1882), searched in the *post-mortem* reports of Virchow's Pathological Institute, of the period between 1872-1880. He found there 34 *post-mortem* reports of rickety children, amongst whom 13 showed changes in the liver, mostly "parenchymatous fatty infiltration, combined with increase of volume." The speaker had the reports of the Munich Pathological Institute, under Professor Bollinger, searched in the same direction by one of his pupils, as the greater part of the *post-mortem* examinations of the Children's Hospital are made in the adjoining Pathological Institute. Amongst 482 *post-mortem* examination reports of children, from November, 1879, till the end of 1887, rickets are mentioned twenty-five times. In 9 of these 25 cases enlargement of the liver, varying in different degrees, is mentioned; in all the other cases the size of the liver seems to have been normal. In 6 of these 9 cases the phrase occurs: "On section, configuration of liver structure not well marked," or "like washed out," or "entirely indistinct." Independently from any existing enlargement of the liver, in 3 cases of the 25 no notice is taken about the configuration of the liver structure. Amongst the remaining 22 it is marked sixteen times, "configuration of acini not well marked," and only in 6 cases it was found well marked. Now, these changes may principally be due to anæmia. On the whole, we may come to the conclusion that enlargement of the liver is not directly dependent on rickets. The same seems to hold good in regard to the spleen. Amongst the 34 *post-mortem* reports of rickety children from Virchow's Institute, according to Bajinsky, the state of the spleen was mentioned only eleven times, and amongst these the spleen was put down nine times as enlarged and twice as small. In the remaining 23 cases, the spleen may be supposed to have been normal, as no mention is made of it. Von Ritter found enlargement of the spleen ten times amongst 35 cases. Dr. Goodhart stated that, under 800 to 1,000 cases of rickets, he found splenic tumours only thirty-seven times. Now, amongst the 25 cases of the Munich Pathological Institute, in 5 cases no mention is made of the relative size of the spleen, in 6 it is said to have been normal, in 13 it is put down as more or less enlarged, and only in one case it was found small. After all this, we must come to the conclusion that the enlargement of the spleen has nothing special to do with rickets; but that it is caused by different forms of anæmic cachexia. In regard to the question of the enlargement being due to syphilis, Dr. Ranke could, according to his clinical experience of the occurrence of syphilis in Munich, positively say that it is most unlikely, indeed, that, amongst those twenty-five children, who were, at their *post-mortem* examinations, marked as rickety, any at all considerable proportion can, during any time of their life, have shown syphilitic symptoms.—Dr. A. JACOBI (New York): In addition to what had been said on the etiology of rachitis, there was in a certain sense heredity. Rachitical parents would or might have rachitical children, but in all of them its appearance might be the result of the same causes—poverty, bad food, digestive diseases, etc. Besides, it seemed that rachitis was but one of the forms in which constitutional disorder in general would develop. Rachitis, with the frequency of tumefaction of the tracheal and bronchial glands—producing the usual chronic bronchitis, or produced by it—was often but the precursor of scrofula and tuberculosis. Syphilitic parents who had been sufficiently cured not to transmit syphilis would still be sufficiently disordered to give the child rachitis or scrofula. There was nobody beside Parrot who believed that every case of rachitis was syphilis, though the cartilages of the ribs in the rachitical and in the syphilitic newborn, and the chronic changes in the viscera of both, resembled each other very closely. Digestive diseases were frequent causes of rachitis: cow's milk undiluted, or diluted with water only, was apt to produce it; every improper food did, even wet nurses' milk, when the wet nurse was in ill-health; chronic diseases of the lungs and the organs of circulation caused it. Beneke found the arteries large in rachitis; that resulted in lowered blood-pressure and ill-nutrition, and congestion of viscera. The peculiar condition of the liver described by Professor Ranke was congestion, with œdematous suffusion. Still the liver was not always large, sometimes fatty; sometimes it looked very large, either because of its changing its position through pressure from the varying shape and fulness of the intestines, or because it descended as the result of narrowness of the chest (triangular shape, diaphragmal groove). The "scurvy" of acute rachitis he took for the result of ill-nutrition of the blood-vessel walls. Most—not all—he would call purpura rather than scurvy. Referring to treatment, he would speak of phosphorus only. Phosphates were absolutely useless. Phosphorus he gave nearly twenty years, since the experiments of Wegner on its effects on fractured bones, in a large number of cases of subacute and chronic bone diseases. He also suggested its use in rachitis,[2] but the credit of its introduction was due to Kassowitz. There was no doubt in his mind, after an experience of years, that cranial rachitis changed for the better in three or four weeks, instead of six or eight in other modes of treatment, the hygienic attendance being the same under both medications. The dose was $\frac{1}{100}$th to $\frac{1}{150}$th grain of phosphorus twice or three times a day. More than $\frac{1}{60}$th daily was not required.—Dr. CARMICHAEL substantially agreed with the opinions already expressed as to anti-hygienic and unfavourable dietetic conditions being the main factors in the causation of rickets. It was no doubt rare to see rachitis in breast-babies; but the poor women who frequented the out-patient hospital room, many of whom were badly fed and whose milk was defective in quality, sometimes had rachitic children. In the artificial feeding of children, as commonly carried out, there could be no doubt that one of the main faults was the deficiency of the fatty element. When cow's milk was simply diluted with water and sugar added, the fat was deficient; in condensed milk, which was largely used, the same nutritive defect obtained. In his opinion, the faults in the system of artificially rearing children were due to ignorance on the part of the public of the real wants of the child as regards a proper substitute for mother's milk. He felt grieved to say that the profession was partly to blame for not sufficiently inculcating the necessity of due attention to the subject. He was glad that the President had alluded to the great need of systematic instruction on diseases in children in medical schools, and felt sure that the improved education of students in this direction would have good effects. As to treatment, there should be careful attention to diet and hygiene, and avoidance of dyspepsia and indigestion by the use of suitable stomachic remedies. Cod-liver oil he had found useful, but it was generally given in too large doses. Phosphorus he thought undoubtedly had a good effect. In those cases where it was not desirable to give it with cod-liver oil he had found a combination with maltine excellent. He would only refer to a method of administration of cod-liver oil not alluded to, that of inunction. He had used it largely with the best results.—Dr. H. ASHBY, while agreeing with all that had been said by the President as regards the production of rickets through improper feeding, thought that it should not be forgotten that the infants of weakly mothers, who were brought up on cow's milk, often became rickety in spite of the greatest care being taken to give them the milk pure and in suitable quantities. It was a common experience to find the younger children in a family become rickety while the elder ones were healthy, even though all had been brought up alike, the rickets in the younger children being due apparently to the mother's health having suffered through excessive child-bearing, and, in consequence, the younger children were born weakly, and prone to dyspeptic derangements, and unable to digest the curd of cow's milk as strong and healthy infants usually do. It was one of the commonest experiences of practice to find that weakly children vomited fresh cow's milk, and were in consequence fed on condensed milk or some of the patent foods, the rickets which followed in such cases being due to the weak digestive powers of the child quite as much as to the quality of the food which it had taken. Premature infants and those weakly from other causes were extremely likely, if they lived, to become rickety, if, unfortunately, they had to be brought up on the bottle. Cow's milk was, after all, a poor substitute for the milk of the mother. The enlargement of the spleen to which Dr.

[2] *Archives of Med.*, New York, February, 1881, and *Trans. Med. Soc.* New York, 1880.

Cheadle had referred as sometimes accompanying rickets was, in his experience, due rather to the cachexia often present than to syphilis.—Mr. EDMUND OWEN, on being called upon by the President, remarked that much harm was done by the almost careless manner in which the medical man was apt to recommend the administration of "condensed milk," for the child who was not flourishing at the breast, or upon cow's milk. In his experience the worst cases of rickets were those of children who were being brought up on artificial food. Fresh cow's milk and water was the second best food for rickety children: the worst was that which was the most widely advertised. As regarded the administration of cod-liver oil, it was generally resorted to in excess. Half a teaspoonful two or three times a day was far too large a dose for a child; it gave rise to sickness and diarrhœa; minute doses were of the greatest therapeutic value. But in the hot weather, even small doses could not always be taken. Then the oil should be administered as an inunction. This had the double advantage, that it involved the regular washing of the child. In connection with the surgical treatment of crooked limbs, Mr. Owen urged that no small proportion of them could be successfully dealt with by the method of forcible straightening. He never used a mechanical osteoclast, preferring, when he failed with the force of his hands, to straighten the limb by osteotomy. Having prepared the limb, he cut straight down upon the bone and effected its division, in about two-thirds of its extent, by a small saw, breaking through the remaining tissue. In operating on bent leg-bones he fractured the fibula after dealing with the tibia, and then divided, almost as a matter of routine, the tendo Achillis. In the case of knock-knee, he attacked the femur above the outer condyle with a narrow-bladed saw upon a trustworthy and rigid stalk; he did not employ the chisel—Dr. FINLAYSON said he had not intended to take part in this discussion; he did not know of anything different from what was well enough recognised. It occurred to him, however, that some remarks of a local character might have interest. It used to be recognised that rickets was singularly rare, not only in Glasgow but in Scotland generally, so that, say thirty years ago, this disease was far from common in Glasgow, but he was sorry to say the same could not be said now. How then could the change be accounted for? He believed it was due to the enormous growth of the population, and especially of the female factory population. This had acted injuriously in several ways. There had been a greater difficulty in obtaining milk for children, not only because the cost of it had been absolutely increased, but especially because the much cheaper butter-milk, which was formerly carted into town in enormous quantity from adjoining farms, had now become scarce, because of the greatly increased population using up the new milk from the farms, without the trouble of churning being required. Hence, the use of oatmeal, which required milk, had fallen off very much, and the children had been deprived to a great extent both of oatmeal and of milk. Another explanation of the prevalence of rickets in Glasgow was to be sought in the growth of the city, making it more and more difficult for the mothers of the poor to send them out into the open air, so that they were cooped up in the flats of the large tenements. These causes, he thought, had a very potent influence in leading to an increase of rickets in Glasgow, much more than the change to the soft Loch Katrine water introduced about that time.—Mr. E. L. FREER was pleased to find greater prominence given to the hygienic and dietetic causes of rickets from a large experience of rachitic condition. He was inclined to pay less attention to the family histories, especially so far as syphilis was concerned, unless there were other signs present, than to the conditions under which the child had been living. He had met with numbers of cases where the breast-milk had been given solely, and where the mothers had been also in good health, but by far the greatest factor, in his opinion, was improper feeding. In those children where the digestive powers were so imperfect he had had the best results from treating the milk with Benger's liq. pancreaticus first, and afterwards giving Benger's food; by this means the milk had been continued throughout, the sickness had ceased, and in many cases where other hand-fed members of the family had suffered from rickets, the children thus treated had been entirely free. He did not think it well to continue the treatment any length of time, gradually leaving it off when the digestive functions were re-established. He was accustomed to order patients who were unable to take even small quantities of cod-liver oil mutton suet boiled with the milk, and the cod-liver oil used as an inunction. Anterior tibial curves he preferred to straighten by removal of a wedge, simple osteotomy, though almost always satisfactory in lateral, being insufficient in these cases even after the tendo Achillis had been divided, to rectify the deformity. In genu valgum he preferred Macewen's operation. Children under 3 should not be operated on until splints or instruments had been applied for at least twelve months. In the majority of the cases it was necessary to let the children wear instruments for some time afterwards. He had several cases brought to him at the Birmingham Orthopædic Hospital where bones had again become bent after having been operated on and left unsupported. He preferred an osteotome shaped like a painter's putty knife, as suggested by his colleague, Mr. William Thomas. He had never had suppuration or non-union in any of his cases, which he thought often due to imperfect fixation, and deprecated treating these cases as out-patients. In pes valgus he preferred forcible redressment, and the foot kept in condition of extreme varus, afterwards properly conducted exercises, which had been extremely satisfactory in one of his own children. In lateral curvature very few cases were rachitic, though those cases were most incurable, and almost always in children under 12, whereas scoliosis, from bad position and weak muscles, was most numerous between 12 and 18. The treatment should be by exercises properly conducted under the surgeon's supervision. Breathing exercises had certainly had some good effect on rib-deformity of rachitic scoliosis.—Mr. R. W. PARKER regretted that he had not heard the opening papers. He would, however, offer some observations under the headings proposed in the programme of the Section. Before speaking of etiology, the first point raised, it was necessary to define rickets. He himself regarded rickets as an inherited constitutional condition predisposing to disease of systems, manifesting itself in infants as a tendency to catarrh of the pulmonary and intestinal tracts, and of the ventricles of the brain; in young children, as a tendency to disease at the epiphyseal junctions; in older children, in curvature of the long bones; in young adolescents, as a relaxed condition of ligaments, which favoured the onset of genu valgum, flat-foot, angular curvatures of the spine, etc. In this sense rickets was a condition which might last from birth up to the 15th or 17th year of life. It was a condition which nothing so well explained as hereditary idiosyncrasy. Diet, in his opinion, had little or nothing to do with strict etiology, though deficient and improper diet might aggravate the condition. Moreover, rickets occurred in all classes; among the poor, poverty and its attendant evils; among the better classes, the exactions of social life tended to debilitate the expectant mothers, and render their offspring weakly—constitutionally weak—and this weakness manifested itself as rickets. Dr. Finlayson had referred to the occurrence of rickets in Glasgow as synchronous with the employment of women in the factories. This supported his (Mr. Parker's) contention fully, for no one would gainsay the statement that factory life was very inimical to general health, and that factory women became too weakly to be able to bring forth healthy, strong children. As regarded the connection of rickets and scurvy, he (Mr. Parker) could not persuade himself that this was classical scurvy as seen among sailors, or, indeed, hardly allied to it. If one hundred men were fed on a scurvy diet, all would get scurvy; on the other hand, this so-called "scurvy-rickets" was a very exceptional disease, notwithstanding the fact that thousands of children were fed on the diet said to produce it. As regarded treatment, he thought that plenty of fresh air, bathing the body in sea-salt water, with subsequent rubbing and massage, the use of fresh food as opposed to the prepared foods, would effect a cure, and that drug remedies might be given up. If it could be had, he would recommend a basin of good Scotch oatmeal porridge every morning for breakfast. He concluded by congratulating Dr. Cheadle, the President of the Section, on the very interesting debate he had initiated.—Dr. CHEADLE, in reply, expressed his satisfaction at having the support of Professor Ranke, with regard to the views he had ventured to put forward as to the etiology of rickets; and thanked him for the valuable pathological evidence he had furnished as to the visceral changes met with in this disease. He could accept Professor Jacobi's views as to the influence of inheritance in the production of rickets, so far as they implied merely the transmission of an enfeebled constitution, favourable to the development of the rachitic state, which was immediately due to faults of diet and hygiene. He could endorse Professor Jacobi's experience as to the evil effect of cow's milk given merely diluted with water. It required preparation by boiling, and mixing with barley water, or some other preparation which would ensure the minute subdi-

vision of curd masses. Given without such precaution, the massive curd clots produced too often vomiting and diarrhœa, which were so constantly the first step in the development of rickets. His experience, however, did not lead him to place so high a value as Professor Jacobi upon the therapeutic value of phosphorus. But his use of it had been limited, and he was prepared to give the drug further trial. Dr. Carmichael had drawn attention to a point which had been raised in his introduction of the subject, namely, the prevalence of rickets amongst the children of the better classes, and the fact that in such cases the children, being fat and apparently well nourished, the coexistent rickets was often overlooked. The remark of Dr. Ashby that inheritance often told by the transmission of dyspepsia, was borne out in some degree by the fact that in some families an inability to digest cow's milk appeared to be common to all the children. He agreed that the condition of the liver and spleen was not constant, and must for the present be regarded as cachectic, and not specific in character. Mr. Owen's remarks on the efficacy of patent foods in exciting rickets were true; the explanation lay in the fact which he had demonstrated, namely, that such foods were largely deficient in animal fat, and in proteid. The facts supplied by Dr. Finlayson as to the increase of rickets in Glasgow were most interesting and instructive. Mr. Freer's statement as to the value of peptonised preparations in feeding children must be received with some qualification. Digested foods were of great value in gastro-intestinal irritation; but they should be used temporarily only; given continuously, they caused enfeeblement of digestive power, by superseding the natural function, and appeared to be liable to cause rickets and scurvy. Cases of the kind had come within his knowledge, for which no other cause could be found. Mr. Parker's views upon etiology had, he thought, been sufficiently answered beforehand in his introductory exposition. He must also take exception entirely to the statement that spongy gums and fœtor of the breath did not occur in infantile scurvy. This was not so; these signs were usually present; his own researches and those of Dr. Barlow had unquestionably established the identity of the condition with the sea-scurvy of adults, both in clinical signs, in morbid anatomy, and in causation.

INTRODUCTION TO A DISCUSSION
ON THE
TREATMENT OF SENILE CATARACT,

In the Section of Ophthalmology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By R. BRUDENELL CARTER, F.R.C.S.,
Ophthalmic Surgeon to St. George's Hospital, and to the National Hospital for the Paralysed and Epileptic, Queen Square.

I MUST, in the first place, express my gratitude for the honour which has been conferred upon me by the Committee of this Section, by their invitation to me to open the discussion on the treatment of senile cataract. I have accepted that invitation with peculiar pleasure, because, among other reasons, my experience as an operator covers the whole period which has elapsed since the possibility of improving upon Daviel's method was suggested, and because circumstances compelled me for many years to devote close attention as well to the literature as to the practical aspects of the questions which are involved. My first cataract extraction was performed thirty years ago; and, with the exception of two periods of two or three months each, I have ever since been surgeon to an eye hospital. For the first ten years, however, my eye hospital was a provincial one, and therefore, as my only opportunities of seeing what was being done elsewhere were such as were afforded by brief visits to London, or to some other great centre of activity, it was necessary that I should read everything which was written upon the subject. Partly for this reason, partly because for a considerable portion of the time I compiled the record of ophthalmology for the Yearbook of the New Sydenham Society, and partly from my connection with the original *Ophthalmic Review*, I read for many years everything relating to cataract which appeared in any European language. It was also my endeavour, whenever a suggestion appeared to be feasible, or even justifiable, to bring it as soon as possible to the test of practical experience, and thus to arrive at a definite and final conclusion upon its merits.

With regard to the literary aspects of the question, I should like to lay down a broad principle, which to many of my hearers will seem obvious, but which some persons are certainly liable to forget. It is this, that a printed book is indebted for its origin to manuscript, and that the value of the book cannot be correctly estimated as long as the value of the manuscript remains an unknown quantity. We all recognise this when we are considering the productions of our own countrymen, and there are sources from which a narrative of marvels would receive but a moderate degree of credence or of attention. It is necessary to be at least equally cautious, equally prepared to maintain an attitude of suspended judgment, equally ready to limit our assent to Faraday's cautious formula "It may be so," when the novelties which we are asked to receive come to us from foreign sources—from Berlin or from Paris, from New York or from Timbuctoo. Few things are more remarkable to witness, generally at that period of life when enthusiasm has not yet had time to be on the wane, than the not infrequent falling-down-deadness of the intellect before the assertions contained in a pamphlet which may have for its only merit that it is badly written in a foreign language. When any such pamphlet comes before me, I try first of all to ask myself, "What do I know of the writer?" "What is his character, in the estimation of those who know him well, for sagacity, for dexterity, for truthfulness?" "What is the extent of his experience?" "What are his claims to be received as a guide and instructor in the matters with which he attempts to deal?" If these questions are fairly answered, the answers will sometimes relegate the pamphlet to the waste-paper basket.

I would ask to lay down yet another principle, which is this, that small modifications of an operative procedure may often be of importance to the surgeon who employs them, while at the same time they may not be of equal importance to anyone else. They may be strictly individual matters, depending for their value on what is called, in some other departments of knowledge, the personal equation of the operator. A surgeon may find that he can produce a given result most easily in some particular way, and he will be quite right to adhere to that way in practice, although he would possibly be quite wrong if he were to consider that it was therefore entitled to universal acceptance. It does not follow that the way which is most easy to one person will be most easy to all others; nay, the very reverse of this will more frequently be true. Every man is justified, I think, in following the method of operating which is most easy to himself; for I have no doubt that, other things being equal, the percentage of failures in any method will stand in very close relation to its difficulty. If a thing is difficult to do, either in its own nature, or merely to the individual who attempts it, the chances are so many the more against it being done correctly; and every difficulty, like every complication in a machine, is at least a possible source of defeat or failure. On this ground alone, if there were no other, I should object to the general adoption of certain methods which have yielded good results to the surgeons who in the first place contrived them. If an example be necessary, I would select Dr. Bell Taylor's plan of pressing out the lens through a peripheral buttonhole in the iris, corresponding in position and extent to the external section.

It is not my intention to invite my hearers to regard any questions relating to cataract through the hazy medium of the numerical statements which are sometimes dignified by the name of statistics. Few more profound observations have been made in modern times than that of the late Sir Robert Peel, to the effect that there is nothing so misleading as facts, except figures. In the circumstances which we are called upon to consider, the points of difference between individual cases, differences sometimes affecting the patient, sometimes the surgeon, are too great to be corrected by any figures which are not of enormous magnitude; and I am indebted to my friend Mr. Teale for the felicitous expression of the idea that the intellectual convictions of an experienced and capable operator must always possess a much greater value than any merely numerical expression of the events upon which those convictions have been founded. From my own practice I have no figures to give, for I have never kept a record of sufficient completeness; and I must therefore be content to set forth the opinions to which my experience has guided me, together with such a commentary as circumstances will allow me to make.

With these preliminary observations, I pass on to the main sub-

ject which we have in hand; and I fear it must be conceded that the "treatment" of senile cataract must be limited to the methods by which it can be removed from the eye. The various plans which have from time to time been advocated as likely to bring about a restoration of the transparency of the lens, have all, as far as I have been made acquainted with them, led to the disappointment which a moderate acquaintance with anatomy and physiology would probably induce us to anticipate. The instances of spontaneous cure by absorption or dislocation have been too few in number and too slow in accomplishment to have any bearing upon the demands of ordinary practice. What we have to consider is the removal of the cataract, and the removal only.

Admitting this to be so, the first question which we must take into account is the period of development of cataract at which its removal may be safely undertaken; and here we are met by the difficulty of so employing words as to present a precise picture of the different physical conditions with which we may have to deal. I can remember the time when it was thought inexpedient to extract an opaque lens so long as any layer of transparent tissue intervened between the opacity and the anterior capsule, so long, that is, as the iris, in oblique illumination, would cast a crescentic shadow, no matter how narrow, upon the opacity. The observance of this rule led, indeed, to brilliantly successful results, but it also condemned patients to long periods of waiting which were exceedingly depressing, which meant to the poor the loss of comforts, and, sometimes even to those who were not poor, serious impairment of the general health; and the tendency of my own work, as well as of that of others during the last few years, has been greatly towards operating at a somewhat earlier date. The first step in this direction was probably taken by von Graefe, when he advised that, in cases where one lens was more advanced than the other, and when the first had been successfully extracted as soon as it was mature, the surgeon should "proceed boldly" with the second. Since then, however, great progress has been made. I tried, several years ago, the method of hastening maturation by a needle puncture of the anterior capsule, performed about six weeks after a preliminary iridectomy; but the results of this course were not sufficiently encouraging to induce me to continue it; and I have had no experience of the effect of the more recent practice of hastening maturation by something which may be called massage. I find that, after a preliminary iridectomy, made sufficiently long before the final operation to allow the cut edges of the iris to be completely healed, it is possible to extract with safety almost any lens which is sufficiently opaque to involve practical loss of vision; and that, while it is not always possible completely to clear away the cortex in such cases, yet that the resulting iritis, if any should occur, is usually quite controllable, so that perfectly good ultimate results may in this way be attained. I am disposed to think that the disastrous effects of the iritis which so often follows the extraction of an immature lens were mainly due to the fact that, until quite recently, no sufficient care was taken to exclude septic influences; and that it was the character, rather than the fact, of the inflammation to which it was indebted for its too common consequences. To this part of the question it will be necessary for me to return.

I was for many years accustomed to perform the extraction of cataract under profound anæsthesia from chloroform or ether, and during this time I had no sympathy with those who advocated the abandonment of these agents. No doubt their use was sometimes attended by hurtful consequences, as when the return of consciousness was followed by severe vomiting, or when, in the course of recovery, reflex spasm of the external muscles was produced prior to the completion of the dressing. Notwithstanding this, I am convinced that the balance of advantage was definitely in their favour, and that the accidents which occurred under their employment were largely due to imperfect administration. All this, however, since the introduction of cocaine, has been relegated to the domain of ancient history; for I presume that cocaine is now used by every operator, and that the only question to be discussed with regard to it has reference to the best method of application. I have used solutions of various strengths, and wafers, and have finally settled down upon the latter. The wafers which I find best are those prepared by Messrs. Savory and Moore, which contain a fiftieth of a grain of the alkaloid in each, and which are made with gelatine and glycerine, combined in such just proportions as neither to be sticky in damp weather nor brittle in hot weather. Cocaine has the single disadvantage of causing dilatation of the pupil, by which the iris may be brought somewhat into the way of the knife; and I barely counteract this influence by the use of a single wafer of eserine. The nurse is directed to apply the eserine wafer, in the lower conjunctival sac, an hour before the time of operation. Half an hour later, she applies a cocaine wafer in the same position, and then, after the lapse of ten minutes, by which time general superficial anæsthesia is obtained, she applies a cocaine wafer every five minutes, lifting the upper lid while the patient looks down, and placing each successive wafer upon the region of the incision, just above the margin of the cornea. By the time that five wafers have been thus applied, and by the time that the instruments have been placed in readiness, the operation will always be comparatively painless, and often absolutely so. It is generally prudent to tell the patient of the moment of puncture, and also of the moment when the iris is to be cut, because, if not warned, and if he felt anything, he might suddenly start, or make some other embarrassing movement.

We arrive now at the consideration of antiseptics, the employment of which is calculated, I feel sure, to remove from the operation many conditions which were frequent sources of failure in former times. My experience leads me to the conviction that the asepticism which is useful and necessary in eye operations may be adequately expressed by the one word cleanliness, and that the septic inflammations of an earlier period were mainly due to the introduction into the anterior chamber of albuminous matter in a state of change, often, no doubt, by means of dirty instruments. Of atmospheric air and its contained microbes, even of the air of the operating theatre of a hospital, I have absolutely no fear; for I have seen, not once or twice, but times without number under general anæsthetics, and with greater proportionate frequency under the complete abolition of reflex muscular action which we obtain from cocaine, the entrance of a large or small bubble of air into the anterior chamber. Sometimes this bubble can be quickly coaxed out again, sometimes it is obstinately adherent to its new quarters, but I have never seen any harm follow from its entrance, whether it was removed or left behind; and now, if it does not escape quite easily, I take no heed of it. The sources of septic inoculation which I chiefly fear are the notch between the teeth of the iris forceps, and the shoulder of the cystitome, both of them places in which the material remnants of former operations are likely to remain. When this idea first occurred to me, I made it a practice to examine these portions of the instruments in question, when they were supposed to be clean, with a sufficiently powerful lens, and I have in this way seen enough dried blood, or dried lens cortex, adhering to them to explain the prompt destruction of any eye into which they were introduced. My present practice, after returning from an operation, is to wash these instruments with hot soap and water and a soft badger's hair tooth brush, and to examine them with a magnifier before they are put away. Then, immediately prior to an operation, they are dipped into absolute alcohol, and dried upon a piece of suitable soft tissue. The knives, scissors, and other instruments which offer no similar coigns of vantage for the lodgment of dirt, after a preliminary cleansing in the ordinary way, are also dipped into absolute alcohol before being used.

Not less important than the instruments are the sponges. No other absorbent material will adequately replace a small piece of soft sponge as a means of quickly removing blood or fluid or soft cortex from the conjunctival surface or from the vicinity of the wound; but the absolute cleanliness of what is thus employed is a matter of the first necessity. After a thorough preliminary washing in cold or lukewarm water, in order to remove all traces of blood without coagulating its albumen, my sponges are prepared by soaking them for a few minutes in a mixture of Condy's fluid and water, which must not be too strong, as the permanganate rots the sponge tissue, and this effect, which is valuable as a source of softness if not carried too far, might easily proceed to complete disintegration. After being rinsed in clean water to free them from the Condy, they are next thrown into a mixture of equal parts of the sulphurous acid of the *Pharmacopœia* and water, and they remain in this for a few minutes until they are completely bleached. They then receive a final rinse in water, and are ready for use. They must, of course, be moist at the time of operation, and they may be moistened either with water or with the antiseptic solution of which I have next to speak.

During the last year or two, especially in Paris, much use has been made of real or supposed mercurial antiseptics in the extraction of cataract. I say real or supposed, because one of these preparations—the formula for which was published in a medical journal—was said to be an aqueous solution of biniodide of

mercury. As biniodide of mercury, in my younger days, was insoluble in water, I had the curiosity to have the liquid made according to the directions given, and then tested for mercury, of which it was found to contain none. This was probably an advantage, because mercurial solutions, unless so weak as to have no promise of any kind of potency, are active irritants; and I have quite convinced myself that the amount of swelling which sometimes follows Dr. Mules's operation for the insertion of an artificial vitreous is largely attributable to the use of mercuric perchloride as an antiseptic. Carbolic acid will often greatly disturb and irritate the corneal epithelium; and, after many trials of various preparations, I have come to the conclusion that the boroglyceride, first suggested by Professor Barff, is at once the least irritating and the most efficacious. I use it in a solution of 15 per cent. in distilled water.

As the eye, in cataract extraction, is scarcely at all touched by the fingers of the surgeon, and as I have already stated that I have no fear of the entrance of air, it follows that the only septic influence to be removed must be sought in the secretions of the conjunctiva and lachrymal passages, and, above all, in the gelatine of the dissolved cocaine wafers. Especially on account of the latter I should fear to introduce into the anterior chamber even a knife which had come into contact with the uncleansed surface of the eyeball. My first step is to wash the whole of the conjunctiva carefully with the solution of boroglyceride, which is suffered to fall upon the eye from a pipette, and is distributed over the surface by closure and gentle friction of the lids. This washing is twice or thrice repeated, until I am sure that all gelatine is cleared away or disinfected; and then the margins and surfaces of the lids are themselves washed with the same solution applied by a morsel of sponge. If a cocaine solution has been employed, and if this is saturated, as it should be, with salicylic acid, the washing of the conjunctival sac is unnecessary; but the action of the wafers is, I think, more trustworthy, and the complete removal of their gelatine should never be omitted.

The surface of the conjunctiva having been thus prepared, the next step is the elevation of the lid. For this purpose I have abandoned the use of the spring speculum from the time of the introduction of cocaine, and use a slight modification of Dr. Noyes's well known retractor. In the original instrument the groove is straight, and, as the eyelid is curved and somewhat stiff, it is uncomfortable within the groove, and is sometimes released by involuntary muscular effort. I have had the groove curved, and with this alteration the lid lies in it without movement. I commit the handle of the retractor to a nurse or assistant, who stands on my right, using the left hand for the right eye, and on my left using the right hand for the left eye. The hand holding the retractor passes between mine, and does not in the least interfere with their freedom of movement. My instruction to the assistant thus employed is simply to lock up the eyelid under the brow without exerting any pressure upon, or even without permitting any contact with, the eyeball, and the lid can be released in a moment whenever occasion to do so may arise. I then draw down the lower lid with one finger, and fix the eye by pinching up a vertical fold of conjunctiva and subconjunctival tissue, exactly on the vertical meridian, and as near to the lower margin of the cornea as will afford sufficient subconjunctival tissue to the grasp of the forceps. My fixation forceps have interlocking teeth, three on one blade and four on the other, and they present to the eyeball, when these teeth are closed, a smooth round, flat surface, at least two millimètres in diameter.

Mr. Critchett has lately recommended a method of elevating the upper lid by the ring finger of the operator, while the fixation is accomplished by forceps held between the thumb and index finger of the same hand. With great respect for him, and with due regard to what I have already said about the personal element in all such questions, I think his method is mechanically inferior to that which I have described, and that it is, therefore, of less general applicability. By it the freedom of movement of the fixing hand, and the freedom of choice of the point of fixation, are both, to some extent, diminished. The operator who thus elevates the lid would find it impossible, I conjecture, to fix below the cornea exactly in the vertical meridian, and to this I attach importance, because it is only in this way that the line of section can be made to lie precisely parallel to the horizontal meridian. Unless this object is secured, any astigmatism which may follow the operation is almost certain to have oblique chief meridians, by which the difficulty of obtaining perfect correction by lenses is increased, while in the few cases in which, if an adequate amount of subconjunctival tissue is picked up, the conjunctiva nevertheless tears, and a fresh and different hold has to be taken, the operator whose hand was also employed in elevating the lid would, I imagine, find himself placed at a decided disadvantage.

In the method of fixation which I have described, the margin of the lower lid is held down, and kept out of the way by the forceps themselves.

It has been said that any text in the Bible will serve the turn of a preacher who has something to preach about; and, in the same way, almost any cutting implement would allow a skilful surgeon to divide the tunics of the eye in such a manner as to give exit to the lens. Nevertheless, the form of the knife deserves consideration, and my own requirements are best fulfilled when it is as small as it can be made. My friend Dr. Randall, of Philadelphia, has lately written in such eulogistic terms of the concave knife which was contrived by Jaeger some years ago, that I have been induced to try it, with the result that I have gone into the very opposite extreme; and, instead of merely feeling a fondness for old knives of Linnhardt's pattern which have been reduced in size by grinding, I have requested Messrs. Weiss to make the smallest blades possible. The object of Jaeger's knife is that it should make a certain definite incision, by virtue of its own peculiarities, when it is pushed straight on in a mechanical way by the operator; and the object of mine is that it should require the volitional direction of the operator from the beginning to the end of its course, and that its small bulk should allow its edge to be turned forward as much as may be required, without any pressure being exerted upon the iris, or through the iris upon the periphery of the lens, by its back.

The fault of these very small blades is that they are prone to permit escape of the aqueous humour, especially in the hands of an operator who is very deliberate in introducing them, and that in this way the iris may fall over the edge. It is necessary, as soon as the point appears within the anterior chamber, to carry it across and to accomplish the counter-puncture quickly; at the same time pressing the back of the blade against the corneal tissue, so that the opening may not be enlarged by the cutting edge. A further security may be obtained by oiling the blade, a plan which I now adopt with every form of knife which I introduce into the eye, and by which not only is resistance much diminished, but the course of the blade, in cutler's phraseology, is materially "sweetened." I use a mixture of equal parts of castor and olive oil, to which 5 per cent. of eucalyptus oil is added, a mixture much in favour at St. George's Hospital as a general surgical lubricant. A drop of this oil may be placed on the tip of a finger, and the knife drawn through it immediately prior to the introduction. When once the counter-puncture is made, and the iris is sufficiently held back by the knife to be in no danger of falling forward or of being injured, the edge of the knife may be turned forward to any required extent in the wound, so that its direction between the punctures is absolutely at the command of the operator, and the section may be placed exactly as he may desire. The best position for it, I think, speaking generally—the position which affords the easiest exit to the lens—is that in which the puncture and counter-puncture are barely in front of the iris, and in which the centre of the incision is just behind the junction beween the visible cornea and the conjunctiva, the knife being carried a little backwards, after the more resisting structures are divided, so as to form a conjunctival flap. The profile of such a section bends forward in a slight curve; and, with the narrow knife of which I have spoken, the character and amount of the curve may be determined as the operator may desire. With regard to the length of the incision, I fear I am unable to speak in millimètres, and must confess that I follow a sort of rule of thumb. I make my incision longer or shorter, according to my estimate of the bulk of the nucleus of the lens. I strive always to keep its base line parallel to a tangent with the upper corneal margin, but place this base line a little higher or lower as I wish the total length to be more or less.

I much regret that I have had no opportunity of witnessing what I hope we shall hear fully described in the course of the coming discussion, namely, the section made by Mr. Teale, and which, as I understand the description of it, is brought almost directly forwards through the upper part of the cornea, and provides, by its shape and direction, for the perfect apposition of the cut surfaces. I am not in a position to speak of its merits; but I am bound to say that I have regarded all previous forms of section through the true cornea with great disfavour. I think they

are all of them apt to produce, in the contraction incidental to healing, some distortion of the corneal surface which renders it no longer a surface of revolution, and which is therefore liable to entail a defect of vision which lenses are unable to correct. This applies very strongly, as I have often witnessed, not only to the proposal of Dr. Kuchler to divide the cornea on its horizontal meridian, but also to the sections above or below the horizontal meridian, which were at one time advocated by Dr. Liebreich and by Mr. Bader.

We now approach the question which, more than any other, has been discussed of late years—the question of iridectomy as part of the operation of extraction; and, at the outset, I must express myself as being decidedly in favour of it. In order to state reasons, it is expedient to go back and to glance at the history of the matter. Iridectomy was first practised by Mooren, as a preliminary measure to flap extraction, and it at once enormously reduced the percentage of his losses. Its beneficial operation was explained by him and by von Graefe, on the twofold ground that, by removal of the portion of iris which was otherwise most liable to be compressed and bruised in the exit of the lens, it took away one active cause of subsequent iritis, and that, by facilitating the exit of the lens, and thus permitting the length of the corneal wound to be diminished, it diminished in a corresponding degree the risks of necrosis of the cornea. Operators whose experience goes back for only fifteen or twenty years can hardly realise that, thirty or thirty-five years ago, 15 per cent. of all the eyes operated upon were totally lost by general suppuration, which usually commenced on the second day as iritis, or by sloughing of the cornea. No doubt the iritis, although then commonly attributed to bruising, was frequently septic, and would not nowadays be permitted to occur; but we do see iritis in spite of all precautions, and I feel sure that iritis occurring after extraction in an eye which has been iridectomised may generally be regarded as a comparatively harmless complication, while iritis occurring in the same conditions in an eye which has not been iridectomised is a very threatening one. No one who has had experience of both methods can doubt that the iridectomy removes what must otherwise be an impediment, in a greater or less degree, to the exit of the lens, or that it fulfils the condition to which von Graefe attached so much importance, that of preventing the iris tissue from being bruised, or its circular fibres from being injured by rapid and forcible dilatation. Nor can there be any doubt that it greatly facilitates the complete removal of cortex, not only by direct pressure, but also by the introduction of a curette, which could not, of course, be carried into the space lying behind the uncut iris in the proximity of the wound. Another point which I would urge in favour of iridectomy is that it minimises the ill-consequences of loss of vitreous. When vitreous escapes from an iridectomised eye, any further small amount which may be lost after the application of the dressings does not add in an appreciable degree to the attendant risks; but if the iris be entire, the immediate effect of the loss is to lift the iris into the section, and thus to produce, even in favourable cases, entanglement, delayed healing, and distortion of the corneal curvature. Against these advantages, what is there to be said on the other side? I am, perhaps, hardly a competent judge, for I was, I believe, the first surgeon in England to perform iridectomy as a preliminary to extraction. This was in 1862, soon after Mooren sent me his pamphlet on the subject. I have never since performed extraction without iridectomy, either as a preliminary measure or as part of the operation, and I have never seen a single case in which I could say, if this eye had not been iridectomised, the result would have been better than it is. In my first cases, twenty-five years ago, I selected patients upon whom I had previously performed flap-extraction on the other eye with good results, and I satisfied myself that, in these persons, the vision of the second eye, which was iridectomised, was as good as that of the first, which was not. In eyes which, apart from cataract, are healthy, I very often obtain normal vision, and I therefore fail to see why the iridectomy should not be performed in every instance. In fact, I think that those who object to iridectomy surrender their whole case when they say, as they generally do, that they would reserve the procedure for cases in which there was some unusual risk. They confess by this that iridectomy increases safety, or, as I should prefer to put it, that it increases the percentage of success; and, if so, why should any patient be deprived of this advantage? I am quite certain that I have seen iridectomised eyes recover from accidents and complications which, but for the iridectomy, would, I believe, have been fatal to them; and such accidents or complications cannot always be foreseen. I would cite as an example an accidental blow, three or four days after the operation, which produced considerable intraocular hæmorrhage. That was five years ago, and the recovery was protracted, but the patient has now normal vision. I fully admit that admirable results may be obtained without iridectomy; but I take my stand upon the position that the surgeon might frequently have occasion to regret having omitted iridectomy, while I believe that he will never have occasion to regret having performed it. In the cases of a special kind, in which it is generally advocated even by those surgeons who have abandoned it in normal conditions, in cases of diabetic cataract, in very marasmic subjects, and the like, my own practice is still to make a rather large iridectomy as a preliminary measure, so as to obtain firm healing of the cut edges of the iris before they are exposed to the possibilities of irritation from residual cortex, whereas, in otherwise healthy eyes, I make my iridectomy smaller, and make it as a part of the general operation.

The iridectomy having been accomplished in the ordinary way, the next steps have reference to the capsule. In a very aged patient I always make a large iridectomy, followed by a gentle endeavour to coax out the lens in its unbroken capsule, and when this succeeds the result is usually extremely satisfactory. Except in the very aged, such an endeavour would be attended by risk of rupturing the hyaloid, and whenever the attempt is either not made or is abandoned, I divide the capsule as freely as possible, first vertically, beginning at a point well below the lower margin of the pupil, and then peripherally. In pressing out the lens I aim at the definite object of causing it to turn upon its horizontal axis, so as to present its upper edge to the section, and for this purpose make my pressure, in the first instance, directly backwards over the lower portion of the cornea, using sometimes the back of the silver curette, sometimes that of the shell spoon, and following the lens up the cornea as it advances, until its diameter is fairly outside the edges of the wound, when the pressure may be relaxed, and the exit left to be completed by the resiliency of the tissues.

Mr. Tweedy has lately advocated a simple peripheral division of the capsule in cases of immature cataract, with the idea that the lower part of the capsule is thus left as a sort of pocket, which retains residual cortex until it is dissolved, without permitting it to be at large in the anterior chamber, and a source of general irritation to the eye. I am afraid that this pocket will be found difficult to empty, that it will sometimes retain a good deal more than is desirable, and that its contents may often become sources of prolonged trouble. Even in immature cataracts I much prefer a thorough division of the capsule, and a sedulous endeavour to coax out as much as possible from the eye. Under cocaine this may be done without risk of exciting reflex spasm of the recti, and consequent loss of vitreous; and by the devotion of sufficient time may always, I think, be so effectually accomplished that any small portion which is necessarily left behind is not likely to occasion more than temporary difficulty. In immature cataracts, however, it must be remembered that the vision test cannot be relied upon as a proof of the complete removal of cortex. When this is still transparent it may, even when present in considerable quantity, permit the patient to recognise the different fingers of the surgeon, and the appearance of the pupil under focal illumination furnishes indications which are much more trustworthy. After the fingers can be recognised, continued careful and dexterous manipulation will often expel quite a considerable quantity of viscous cortex. The manipulation required is not only very difficult to describe, but is too familiar to such an audience as this to require description. It consists of gentle upward stroking of the corneal surface with the back of the customary shell spoon, alternating with careful rotatory friction through the closed lids, and the cortex may often be assisted to escape by separating the edges of the wound with a curette, or by pressing back the posterior edge with Pagenstecher's spoon. I may, perhaps, be permitted to say that the perfect manipulation of the eye for the expulsion of the bulk of the lens, and afterwards for the expulsion of residual cortex, appears to me to be quite the last attainment of the finished operator, and to be of infinitely greater difficulty and importance than any of the steps previously described, and by which it must of necessity be preceded.

With reference to clearing the capsule, we have to consider the question of "washing out," whether this be done, as by Dr. McKeown, for the purpose of completely removing the cortex, or, as more recently by other operators, for the purpose of introduc-

ing an antiseptic. The idea of washing out must, I think, have occurred to many people. I practised it myself, on one occasion, before the appearance of Dr. McKeown's paper. I was removing by suction, from the eye of a young lady, a lens which had been rendered opaque by an accidental blow, without any wound of the external tunics of the eye, and was removing it merely to restore the blackness of the pupil. Certain fragments did not fall readily into the suction tube, and I gently injected the lenticular space with water, using for the purpose an ordinary hypodermic syringe fitted with a blunt nozzle instead of a needle. The proceeding was effectual; but, whether in consequence of it I cannot say, the eye passed into a state of chronic inflammation and ultimate wasting. After the appearance of Dr. McKeown's paper I obtained his syringe and used it in one or two cases, but I did not derive from the practice any advantage which encouraged me to persevere. I have not used it for a considerable time, and, as far as I can foresee, am not likely to use it again.

Of the method employed by some operators, of washing out the capsule and the aqueous chamber with an antiseptic solution, I have at present no experience, and do not think it likely that I shall acquire any. I do not see that such a proceeding is likely to be attended with any good results which may not equally well be obtained without it; and it is certainly a complication which must entail additional risks in some directions, as, for example, of loss of vitreous. From descriptions which I have read, the injection of an antiseptic appears frequently to be followed by severe and long-continued pain; and I should regard this fact alone as sufficient to condemn it. Pain should, I think, as far as possible, be banished from surgery; and it is certainly, more especially in old and feeble people, like the majority of cataract patients, highly detrimental to repair. I have also read of the use of a squirt for the purpose of displacing iris from the angles of the wound; but such displacement, when it is called for, seems to me to require only the careful manipulation of a whalebone spatula.

We come now to the question of dressing, on which we have lately been invited to return, as to a novelty, to the method which was universal thirty years ago, or, indeed, until von Graefe introduced his pressure bandage, and which had then held uninterrupted possession of the field for a century. We are invited to fasten the lids together with bits of sticking plaster, and to abstain from the use of a compress. I find it difficult to criticise the proposal in any words more fitting than those which were applied, to a very different subject, by Lord Macaulay: "We are sick, it seems, like the children of Israel, of the objects of our old and legitimate worship. We pine for a new idolatry. All that is costly and all that is ornamental in our intellectual treasures must be delivered up, and cast into the furnace—and there comes out this Calf!" If there be any established fact in surgery, I think it is that gentle uniform support promotes the healing of a wound; and I had too much experience of plaster, thirty years ago, to have any inclination to return to so primitive a material. After carefully removing all shreds of coagula from the conjunctival sac, after liberating the iris, if entangled, from the extremities of the wound, and after obtaining the best possible apposition of the wound edges by means of a spatula, I permit a few final drops of the boroglyceride solution to fall upon the eye from a pipette, and then place over the closed lids of both eyes, whether or not only one has been operated upon, a piece of old pockethandkerchief, about an inch and a half square, smeared with Sanitas vaseline. I then take a portion of common non-absorbent cotton-wool, soak it in water, mould it into a shape like that of a meniscus lens, press out superfluous moisture, and place it in such a way that its concavity receives the projection of the eyeball. Both eyes being thus covered, I place horizontally over the wool pads the bandage which was, I believe, introduced by Dr. Liebreich, and which consists of a strip of knitted cotton; but I have three pairs of tape strings attached to it, one pair in continuation of its length, the other two pairs at right angles to the former. The horizontal pair being first tied with a proper degree of tightness, one of the other pairs is tied over the top of the head, the other under the chin. This bandage never slips nor becomes displaced, and the degree of pressure which it exerts may be exactly regulated in accordance with the comfort of the patient. I usually renew the dressing twice a day, but without opening either eye, until forty-eight hours have elapsed; and the effect of the Sanitas vaseline is that the pads are never rendered adherent to the eyelids or eyelashes by secretion. When it is necessary to remove them, they drop off at a touch.

After forty-eight hours, I open the eye operated on, when, if all be well, I feel justified in assuring the patient that the ultimate result is secure, and I release the eye which has not been operated upon. The bandage is then placed obliquely, and it retains its position as well as before. After this time, the vaseline is no longer required, and the pad is only wetted. After the lapse of a week, the pad itself may usually be discontinued, and the eye protected only by a shade.

If any cortical matter has been left within the eye, I commence about the fourth or fifth day the instillation of atropine; using it in weak solution, say, of half a grain to the ounce, and combining with it two grains of cocaine. This may be continued, without fear of surface irritation, until all soluble matters are absorbed.

In a considerable proportion of instances it will be found, when vision is accurately tested in about six weeks after the operation, that it is diminished by the presence of delicate films in the pupil. When the iris is perfectly free and movable, and when the films are only shreds of the anterior capsule, or are formed by the unbroken posterior capsule, I think the best practice is to divide them with two needles, after the manner first contrived and recommended by Sir William Bowman. The needles for this purpose should be new and carefully selected, so that their points make a sufficient opening to allow free play to their shafts; and, if they are oiled in the manner already described when speaking of the knife, there will be scarcely any escape of aqueous humour, even when they are withdrawn. If pupillary obstructions are more dense, if they are the results of iritis subsequent to the operation, and especially if the lower margin of the pupil be at all drawn up towards the wound, I am no longer satisfied with needles, but prefer to divide the films; and, in the case last mentioned, the iris tissue also by the capsule scissors. For this purpose I use scissors of the pattern which I designed some time ago. I make the necessary small incision in the centre of the cicatrix of the extraction wound and divide the films, and, when necessary, the iris, in a direction vertically downwards. By this proceeding all dragging is at once relieved. I have heard of such operations being followed by disastrous consequences, but I have never seen an example; and, on the whole, I think that an eye in which capsule has been divided, so that free communication exists between the aqueous and vitreous chambers, is left in a better position than one in which this procedure has not been required. It is quite conceivable that a pectous condition of the lens capsule, by which the transudation of nutritive fluid is diminished, may be at least one among the causes of cataract, and such a condition, after extraction of the lens, might in the same way promote increase of tension. If an eye from which the lens had been removed were threatened with glaucoma, the first thing to do would be to make a free opening in the posterior capsule, and I never regret having to do this as part of the original operation.

It is almost superfluous to mention that the gradual contraction of the cicatrix of the extraction wound will tend to modify the curvature of the cornea, and that hence, after the lapse of a few months, the glasses first prescribed may frequently be improved. Mr. Baker, of 244, High Holborn, has been very successful in fitting patients of mine with Franklin cataract glasses formed by cementing two small plano-spherical half lenses upon a piece of plane glass of the ordinary size of a spectacle lens; and, when there is astigmatism to correct, the plane glass may be replaced by a plano-cylinder, which will serve equally well for both the near and the distance spherical lens which is added to it.

It only remains for me to express my grateful sense of the patience and courtesy with which this long paper has been received, and my conviction that, in the discussion which it will unworthily inaugurate, I at least shall learn much which will enable me to improve my own practice to the advantage of my patients.

Dr. T. S. MEIGHAN said it was difficult to lay down any hard-and-fast rule to determine exactly when an operation for cataract should be performed. On the one hand, they had the social position and requirements of the patient; on the other, the question whether the cataract was sufficiently matured for operation. When the cataract was more advanced in one eye than the other, and when the patient, even with the artificially dilated pupil, was unable to follow his or her usual occupation, he thought they might endeavour to restore sight without longer delay. The success which so far he had had he ascribed entirely to the method of operation which he had adopted in these cases. He performed

an iridectomy downwards some time varying from three to six weeks before proceeding to extract the cataract. He did the iridectomy because in such cases it expedited the maturing of the lens and made the risk of iritis less than when the iris was freshly wounded at the time of extraction, and also allowed the lens *débris* to escape from the capsule more readily. He ruptured the capsule freely anteriorly, and subsequently extracted by a downward section because he found it was much safer and easier to perform. The section was made with a triangular knife, which was 5 millimètres in width 30 millimètres behind its point. With this knife he found he could almost complete the section in its onward movement, leaving but a small bridge of tissue to be divided by the return stroke. From the regularity of this section very little disturbance of the corneal curvature was produced. Strict antiseptic precautions were observed both before and during the operation. The conjunctival sulci were washed carefully with a 1 to 5,000 perchloride solution, and a few drops of 4 per cent. solution of cocaine used before operation. During the operation *débris* and small clots were cleaned away by small pieces of cotton wadding soaked in the bichloride solution. He might state also that he used a knitted cotton bandage applied over both eyes. As regarded extraction without iridectomy, it exposed the eye to the serious danger of prolapse of the iris into the wound. Operators dreaded such an accident; so much so, that in all cases after delivery of the lens, should the iris not be satisfactorily replaced, they excised the portion prolapsed rather than allow it to heal in the wound, for it was found that when the prolapsed iris healed in the wound more or less bulging was produced, causing displacement of the pupil and irregular curvature of the cornea, with deterioration of vision. The circular pupil, no doubt, had a good appearance, but until they were able to operate by this method without prolapse of the iris, extraction of cataract without iridectomy could not, he thought, be recommended.—Mr. D. C. Lloyd Owen thought it was most important to wash out the conjunctival sac carefully. This was very satisfactorily done by using a saturated solution of boracic acid in boiling water. This, freshly made and used lukewarm, gave no pain. He carefully avoided sponges, and always used damp boracicised cotton-wool. This, twisted into light conical masses, answered completely in removing fluids and avoided all danger of septic infection. The great importance in the incision lay in its size being ample, and in the assurance of accurate apposition and quick union of its edges. This might be effectually accomplished by turning up the edge of the knife when finishing the incision, so as to get what he called a trapdoor opening. Dipping the point of the knife in oil (freshly boiled olive-oil, for example) facilitated incision. The form of dressing he preferred was that of a layer of boracicised Gamgee tissue, damped and carefully fitted over both eyes, and retained in its place by a bandage. This bandaging ought to be kept up for a few days, changed daily, and afterwards a strip of plaster, or a shade only. His own experience led him to believe that, except in cases of posterior synechia, or increased tension of eyeball, preliminary iridectomy offered no advantage over iridectomy performed at the time of extraction.—Mr. Hewetson agreed with extreme antiseptic precautions in hospital practice, adding to these precautions the use of dry eucalyptus in spray, introduced by Mr. Mayo Robson, and the cutting short the eyelashes. He opposed iridectomy on the grounds that, in ordinary simple senile cataract, an iridectomy was a superfluous operation, as was shown by the high percentage of success attained by those who, like himself, practised it. Professor Roosa, of New York, and Dr. Knapp practised it; Mr. Teale, of Leeds, had taught and practised this mode of treatment for the last fifteen years, from whom he learnt it, and it had been practised by him in the Leeds General Infirmary and in his own private practice with undiminished success for the last fourteen years, and the more he saw of the results, the more he was convinced that a circular pupil was important, and that not only did it accommodate itself to light, but this proceeding caused less traumatic astigmatism, and it was usual with a clear or divided capsule to obtain vision $\frac{2}{3}\frac{0}{0}$ to $\frac{2}{2}\frac{0}{0}$. He dressed all his cases with a pad of salufer wool, that is, absorbent wool saturated with a weak solution of silico-fluoride of sodium, and this was invariably not removed for a week, unless there was some particular reason why the eye should be disturbed. He also insisted on the necessity of not talking over the patient. There was danger of the breath possibly being a septic medium through the state of the teeth of the operator, and then, possibly, of small specks of saliva, and it would be found more convenient to breathe through the nostrils, as a natural respirator. The "trapdoor" corneal incision described by Mr. Owen was the one he practised, and it fitted at the time of operation so perfectly that the patient could wink freely over it, immediately at the time of the operation. The iris at once returned to its proper place, and a large number of simple cases were actually ready and frequently did leave the hospital from the fifth to the seventh day, quite as many on the fifth as on the seventh. The duration of tenderness after an extraction varied a good deal with the individual healing power of the patient. Suppuration of the eye was gradually becoming rarer. The operation without iridectomy was not fraught with the danger with which those who did not practise it imagined it was surrounded. Traumatic iritis did not follow the supposed stretching of the pupil. Prolapse of the iris was a rare complication, and in cases where the base of the iris adhered to the wound, diminution of the result arose besides a hardly so central pupil. In conclusion, he hoped that the operation of preliminary iridectomy would be discarded as a *sine quâ non* of ordinary senile cataract, in favour of the really excellent results yielded by the straightforward method of operation. And finally, he would join with those who felt "that we are sick, it seems, of our old idolatrous service."—Dr. Karl Grossmann considered that antisepsis in eye operations required, first, complete absence of conjunctivitic and dacryocystitic secretion; and secondly, the most scrupulous cleanliness. What antiseptic to apply was a question of very little importance; he himself used perchloride of mercury with the most satisfactory results. The principal point for discussion was, however, the question; Iridectomy or not? During the last year he had completely abandoned iridectomy. Brought up in the orthodox German school, he said, he could approach this question without fear of violating the memory of von Graefe, who, had he lived up to now, would probably be the first to leave off iridectomy. The results obtained by Dr. Grossmann were highly favourable, and, as it happened, without any loss whatever. He could not see the logic in Mr. Carter's remark that iridectomy should be the rule without exception for uncomplicated cases, because in complicated cases iridectomy was resorted to. Also the best way of preventing the escape of vitreous was to leave the iris intact. Besides, iridectomy, especially downwards, did not prevent cortical masses remaining, and afterwards coming down into the pupil. Traumatic iritis by stretching of the pupil had not yet been proved, and the dilatation of the pupil was hardly greater or more violent than by a strong mydriatic. The movable pupil gave a great deal of comfort to the operated eye by its adaptability to and reaction against light. The question of astigmatism depended partly on the individual mode of operation, and comparisons of the results of different operators were easily misleading. He made his incision upwards, quite corneal, and applied cocaine only, no eserine nor atropine. Should there be any tendency to prolapse of iris after the expulsion of the lens, it was time enough to make an iridectomy, for which eventually everything was ready beforehand. Cases had to be taken on their individual merits; and to extract without iridectomy in all cases would be just as indiscriminating and injudicious as to lay down the sacred rule, "no extraction without iridectomy."—Mr. Simeon Snell (Sheffield) said that notwithstanding Mr. Carter's remarks, he saw no reason to doubt the value of the after-treatment of cataract cases by the plaster method. His experience of it in a large number of cases during the last two years had convinced him of its utility. He thought the need of iridectomy was less than some asserted, and the majority of his extractions were performed without it. He generally washed out the conjunctiva with some antiseptic, dipped the instruments in alcohol, and took every precaution for cleanliness.—Dr. J. R. Wolfe said that the Section was to be congratulated on obtaining the assistance of Mr. Brudenell Carter in opening that important discussion. He agreed with Mr. Carter with regard to the performing of iridectomy in extraction of cataract. The advantage to be derived from iridectomy was by enabling them to clear out the *débris* of the lens. He considered this was the principal cause of failure in cataract extraction. He performed iridectomy downwards, a fortnight before the extraction. The coloboma iridis was made in such a manner as not to disfigure the eye In most cases the pupil looked round as if shifted downwards. In the performing of extraction, the size of the corneal flap was regulated according to the nature and size of the lens to be dealt with. He left a small corneal bridge, and withdrew the speculum. His left index finger or thumb served the purpose of the speculum. He then introduced a probe-pointed Graefe's knife,

and the corneal section was complete. The lens was then removed by pressure upon the cornea through the eyelid. He seldom used cocaine or chloroform. He had yesterday operated in eleven cases by this method with perfectly satisfactory results.—Mr. HENRY POWER said they had to thank Mr. Carter for giving such an exposition of the operation for extraction of cataract as to enable them to discuss the subject in an orderly fashion. He then spoke of the difficulty of obtaining accurate statistics in England; the constant change of the officials who took notes of cases rendered it extremely difficult to obtain them in a consecutive manner, and he was obliged to rely on general impressions; but when statements were made that such a measure of success had been obtained as to give only one per cent. of failure, he was compelled to think that either few cases had been operated on, or that some unfavourable cases had been excluded. He would venture to think that no one, however skilful, would undertake that he should have only one lost eye if he operated on the next hundred cases that presented themselves at St. Bartholomew's or St. George's Hospital, without selection; especially if he were to include the results of secondary operations. He should not take up the time of the Section by discussing the shape of the knife, nor the precise form of the section that should be given. His experience went back to the time of Lawrence and Guthrie, and he had seen and had obtained admirable results with knives of all shapes; with the old Bevis knife, with Graefe's knife, and with the triangular keratome, and with the flap section, the linear, and the modified linear section; but as a general rule he thought it might be laid down that the wound should be large enough to allow the lens to escape easily. He had rarely seen bad results from too large, often from too small, a section. He invariably used cocaine, dropping in a four per cent. solution every five minutes, for half an hour before operating. The instruments used were thoroughly cleansed in a saturated solution of boracic acid. The lids were separated with the spring speculum, an assistant holding it off the eye. The section was made upwards, and carried through the sclero-corneal junction. The cystotome was used, and gentle pressure applied above and below the cornea, till the lens was delivered. Four or five years ago he said he should never do an extraction again without an iridectomy. He had altered his opinion and his practice, partly owing, he had no doubt, to the introduction of cocaine, which enabled one to perform the operation so much more deliberately, and preserved the patient from the danger of sudden and violent movements. The cocaine slightly dilated the pupil, and permitted the lens to be pressed out with very little bruising or damage to the eye. He conceived the main object of the iridectomy to be, first, that it greatly lessened, or almost entirely abolished, the danger of prolapse of the iris; and secondly, that it enabled the cortical substance of the lens to be in great part removed. Now, in regard to the first point, he found that by careful management and replacement of the iris after the extraction of the lens, prolapse of the iris had become exceedingly rare, but if from some peculiarity of the vitreous or globe the iris could not be satisfactorily replaced, he had no hesitation in doing an iridectomy, and in regard to the second point if the iridectomy certainly did away with the necessity of a secondary operation, he should undoubtedly continue to adopt it, but did it do so? Had not Mr. Carter, at the close of his paper, told them that he used two needles to divide the capsule. Nay, more, he had actually invented a pair of scissors for the purpose. If that was necessary, then the main advantage claimed for iridectomy was yielded, for that was, he admitted, generally required after extraction without iridectomy. Mr. Carter stated his results had been excellent after an iridectomy, but he (Mr. Power), must continue to believe that the pupil would not have been round in the healthy man if an oblong one would have been as serviceable, and must conclude by saying that with his present experience he should, unless he saw special reasons for interference with the iris, continue to do his extractions without the performance of an iridectomy, either antecedent or immediate.—Mr. TEALE stated that on reviewing his operations for hard cataract, he found that up to the year 1863 he performed the old semilunar flap exclusively; from 1863 to 1873 he adopted chiefly some of the modification introduced by von Graefe and the Berlin school, with occasional use of the old flap operation. Since 1873 he had abandoned iridectomy, except in rare instances in which the health or vigour of the patient, or the condition of the eye, were unsatisfactory. He had, therefore, during the last fourteen years operated without iridectomy in about 90 per cent. of his cases. He considered that an iridectomy lessened the risk of failure in eyes of doubtful vigour, but that in 90 per cent. of cases it was not only unnecessary, but would give an inferior average of quality of result, both as regarded vision, and as regarded appearance. The operation he had employed was described as a shallow flap made by a narrow Sichel's (wedge-shaped) knife. The knife entered the horizontal meridian of the cornea, and then, when the counterpuncture had been well established, the edge was turned rapidly forward, and the section was completed by a straight cut vertically to the curve of the cornea, at a point opposite to the edge of the semidilated pupil.

ABSTRACT OF AN ADDRESS
ON
PLASTIC OPERATIONS AND THEIR PLACE IN SURGERY.

Delivered at the Inaugural Meeting of the Midland Medical Society, held in Birmingham, November 14th, 1888.

BY SIR WILLIAM MAC CORMAC, F.R.C.S.,
Surgeon to St. Thomas's Hospital.

SIR WILLIAM MAC CORMAC commenced his address by defining plastic surgery as that branch of the art which has as its object the relief of deformity or the restoration of a lost function by transplantation of healthy tissue obtained from the same individual or another, as well as to replace parts destroyed by accident or disease.

He quoted Dieffenbach's statement that plastic surgery is one of the highest achievements of the art, as an apology, if one were needed, for his choice of the subject, and mentioned the names of the many famous surgeons who had devoted their best attention to the matter.

The history of the art could be traced back to remote ages, rhinoplasty having been practised by the ancient Egyptian priests, according to Galen, and as a hereditary monopoly by the "Kooma" caste in India from the earliest times.

In Europe, Tagliacozzi, of Bologna, in the sixteenth century, was best known as having placed the art on a scientific basis, though it appeared that rhinoplasty had been practised in Europe with success as early as the fourteenth century.

In Tagliacozzi's method, known as the "Italian," the new nose is formed from a flap of skin taken from over the biceps, the arm being fixed to the head during the process of union by a special apparatus; and this method appears to have been the only one known or practised in Europe till the end of the eighteenth century; then the operation now known as "Indian rhinoplasty" was introduced, in which the new nose is obtained by the dissection of a flap of skin from the forehead, the flap being turned down and fixed in position over some supporting substance to prevent it from falling in.

The first operation performed in England was in 1803, the "Indian" method being employed unsuccessfully. But in 1814 Carpue employed the same method with perfect success in two cases, and since then rhinoplasty by various methods and plastic surgery in general has been practised and developed by many surgeons, so that hardly any portion of the external structure of the body remains to which the art has not been applied.

External deformity naturally affords the greatest scope for the practice of plastic surgery, but as success in this seems to have almost attained its limits, attention has for some time been directed to internal structures, and though certain complicated tissues, such as muscles, arteries, and veins are as yet beyond the reach of the surgeon, successful operations for the repair of divided bones, tendons, and nerves have become comparatively common.

Sir William Mac Cormac then referred to the various ways of obtaining the new tissue required, by formation of flaps of healthy skin or the removal of portions of deeper structures from the neighbourhood, or from distant parts of the body of the same individual or of another (as, for instance, from freshly amputated limbs) or even from animals, and quoted cases showing the relative advantages of different methods in the treatment of various deformities.

The methods of operation were next discussed, stress being laid

upon the points requiring special attention in order to ensure success. Speaking generally, the two most important matters were gentleness in handling the tissue to be transplanted, perfect fixation in an easy position, and the maintenance of aseptic conditions during the process of union.

In "flap" operations the flap might be obtained from the neighbouring skin, and simply twisted into position, or by the formation of either a tongue-shaped flap or bridge of tissue elsewhere. In either case two methods of implantation were open to the operator, namely, (1) to implant the flap immediately upon the freshened surface prepared to receive it, and (2) to defer implantation for a time, to allow the flap to become thick and vascular and covered with granulation upon its under surface. The latter plan was, in the opinion of the lecturer, by far the better one; indeed, he considered that the introduction of the method of operation with granulating flaps was one of the greatest importance in the development of successful plastic surgery, and it was the method invariably employed by himself, except in certain cases (for example, restoration of the lip or eyelid). The flap it was desired to employ was first marked out, the most convenient position on the body being selected and the best shape and direction of the flap carefully planned. It was now separated from the subjacent fascia, leaving it attached at both extremities. Presently it became very thick and vascular, and might be safely separated at one extremity, the other remaining undivided till the flap had firmly united in its new position. The time for its final separation varied in different cases and circumstances, but a delay of from ten to fourteen days or rather longer was usually advisable, and during this period the flap was surrounded by aseptic dressings, and in the first stage a layer of protective oil-silk was placed between it and the surface from which it was detached to prevent it from reuniting.

In the process of freshening a surface for implantation, the chief point was to thoroughly divide or excise all scar tissue. Where "bridge flaps" were used and at once applied to the gap made in the scar, it was usually best, after the needful interval, to separate one end first, a second period of from two to three weeks being allowed to elapse before finally separating the flap from its original connection.

In some cases where there might be a doubt as to the complete vitality of the transplant, it would be better even after this interval to effect a gradual division of the "pedicle." This was accomplished by the use of an india-rubber band to partially obstruct the circulation a day or two previous to the section of the pedicle, or by dividing it in sections.

Certain special classes of cases were then alluded to, such as those demanding repair of mucous membrane; and of these, cases of defects in the buccal cavity and extroversion of bladder were taken as instances. The use of skin flaps was frequently resorted to, and a difficulty was formerly encountered when inversion of the flaps was considered necessary by the growth of hair, leading in bladder cases especially to phosphatic deposits. This difficulty was now overcome by fixing the raw or granulating surface of the flaps inwards, in which cases a smooth layer of epithelium, without any of the characteristic structure of skin, was gradually formed on the internal surface of the flap.

In special reference to the case of extroversion of bladder, it was recommended that a urethra should be formed first, and the bladder then closed by successive operations from below upwards. Trendelenburg's method of approximating the divergent pubic bones after section of the posterior sacro-iliac ligaments was also mentioned.

Finally, the operative treatment for repair of nerves was alluded to, the points chiefly considered being the various methods of repair to be employed in different cases, of which the following were described, the choice of method being decided by the special circumstances of each individual case:

1. Transplantation into the gap of a piece of nerve taken from the same or another species of animal.

2. Uniting the peripheral end of the injured nerve to an adjacent uninjured nerve.

3. Cross union of two different adjacent nerves cut at different levels where union of the two portions of the same nerve was impossible.

4. Formation of a single or double pedunculated nerve-flap to bridge over the interval between the ends.

5. Encasing the two ends of the divided nerve in a bone drain which served as a means of fixation and also as a conducting medium for new nerve-fibres.

6. Sub-periosteal resection of a portion of the long bones of a limb to allow approximation and suture of the nerve-ends.

Return of sensation was obtained in favourable cases much earlier than formerly was thought possible, instances being given in which it had commenced after a very brief interval; the paths by which the impulses travelled being obviously along the old nerve-fibres in these cases, though for the most part, at any rate in case of long-standing separation of the nerve-ends, a development of new fibres was necessary for a successful result.

The lecture was illustrated by the presence of several patients successfully operated upon, and by the exhibition of a number of photographs and drawings of other cases.

SURGICAL MEMORANDA.

COMPARATIVE VALUE OF RIVAL METHODS OF REDUCING SUBCORACOID DISLOCATIONS.

As a contrast to Dr. Purdy's experience of subcoracoid dislocation of the humerus, may I relate another case? In June last, I was called in to see a muscular young corporal of artillery, who had sustained the same injury through throwing a cricket-ball. The old method was at first tried, with very much pain and discomfort to the patient. I then directed an assistant to make right-angle traction, and I myself manipulated the head of the humerus. It almost immediately slipped, when I pressed with both hands on the head of the bone, in the direction of the glenoid cavity, which I take to be the most important point of the procedure. The patient was delighted with the little pain and discomfort it caused.

E. J. ERSKINE RISK, L.R.C.P.Ed., M.R.C.S.Eng.,
Surgeon M.S.

Hawthorne House, Sandown, I.W.

A CASE OF TRACHEOTOMY FOR FOREIGN BODY.

ON June 25th, 1888, at 1 A.M., I was called up by the father of a boy, aged 4 years, who said his boy was suffocating, and had not breathed properly since 8 o'clock the previous night, when they thought he had swallowed some peas. I took tracheotomy instruments with me and went off at once.

I found the boy completely prostrate, cyanosed, breathing spasmodically (using extraordinary muscles of respiration). On nipping the trachea between finger and thumb I could feel something shoot up and down at each inspiration, between the vocal cords and the bifurcation of the trachea (like the valve in a Higginson's syringe). As the child was obviously dying fast from asphyxia, having tried to dislodge the foreign body by inversion and other means, I promptly performed tracheotomy, in the usual site, held the trachea open for some time with a nasal speculum, when a pea was expelled through the wound. The child, though so far gone as not to need holding even, began to show signs of returning animation, and in a few hours was able to swallow fluids. The wound healed by first intention, and there is now only a small scar (about the size of a pea) to be seen.

MAITLAND THOMPSON, M.R.C.S., etc.

Metheringham, Lincoln.

THERAPEUTIC MEMORANDA.

ELASTIC LIGATURE AS A SUBSTITUTE FOR VENESECTION.

IN your impression for October 6th you give a notification, under the head of "Switzerland," regarding the experiments of Dr. Haffter, extending over two years, as to the value of employing elastic ligatures to the limbs as a substitute for venesection in cases of pulmonary congestion, hæmoptysis, carditis, etc., and that a similar procedure is highly recommended by Dr. Sweetman, of Toronto. I may say that I have been in the habit of adopting this method more than twenty years, and can speak most highly of its value.

By this means you are enabled in a few moments to relieve the right side of the heart, and to maintain this relief for three or four days, and that, too, without abstracting a drop of blood from the body.

I have often wondered that this valuable plan was not better known, for I have never seen anyone else adopt it. I have found it as well to explain to the patients and their friends the reason

for this somewhat strange treatment, or one will not otherwise get it satisfactorily carried out or understood. On one occasion, for want of a better ligature to hand, I placed a garter round the patient's arm. Another medical man was called to meet me in consultation over the case. By an accident, I was unable to meet him at the proper time—in fact, not till an hour or so after he had examined the patient. He told me he had noticed the garter, had heard that I laid great stress upon it, but, not understanding its purpose, thought that I had placed it there as a charm.

WALTER G. WALFORD, M.D.Dunelm.
Finchley New Road.

REPORTS
ON
HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

GYNÆCOLOGICAL CASES.

(Under the care of Dr. OLIVER.)

CASE I. *Absence of Vagina, Uterus, and Ovaries.*—A pale and rather undersized young woman, aged 21, was brought to the infirmary, complaining of pain in the hypogastric and lumbar regions. She stated that she had never menstruated. On examination, heart and lungs were found to be healthy, the breasts were not developed, tonsils were absent, and on searching for a vagina, only one small opening was found, that of the meatus urinarius. The patient was admitted into the infirmary, and under chloroform a more complete examination was made. The opening already referred to as if in the vagina, led only into the bladder. For a short distance below and around it the mucous membrane was rough and granular. No vagina existed. Dr. Oliver passed his finger into the bladder, but nothing was felt save the wall of that viscus. Another finger was passed into the rectum; this came at once into close and immediate contact with that in the bladder, nothing separating them but the walls of bladder and rectum. As far as the fingers could reach no trace of ovary was felt. The amenorrhœa was thus due to complete absence of ovaries, uterus, and vagina.

CASE II. *Imperforate Hymen.*—A domestic servant, aged 18, was admitted into the infirmary complaining of amenorrhœa, epigastric pain, and of a swelling in the abdomen. She was healthy-looking, had never menstruated, but had had headache, backache, mammary and epigastric pains for some time past, regularly every month, no sickness. Chest: mammæ well developed, lungs healthy, heart-sounds are normal, second is reduplicated over aortic area. Abdomen: a tumour, globular in shape, occupies two-thirds in middle line; it is very prominent and extends quite two inches above the umbilicus; the tumour is of firm consistence, is elastic and painless to the touch, dull on percussion and not freely movable; it measures 8½ inches longitudinally. Examination *per vaginam:* labia well developed, projecting through them is a tumid mass of soft consistence, covered by a thin bluish and somewhat transparent membrane, which is seen to be firmly incorporated with the sides of the vaginal orifice. A small incision was made into this projecting tense membrane, and immediately there gushed out a stream of thin black liquid. A drainage tube was inserted; a few pints of liquid in a short time thus escaped. Oakum and iodoform dressings were applied. The fluid which escaped was neutral, and had a specific gravity of 1023; under the microscope it was found to contain numerous broken-down red blood cells, leucocytes, a few large coloured corpuscles, thrice the size of ordinary blood discs, and a few still larger cells showing a distinct nucleus and what seemed like a vacuole. Shortly after this the vaginal incision was enlarged. The patient made a good recovery, and now menstruates regularly. The reduplication of the second sound over the base of the heart has now, disappeared. Professor Bedson, of the College of Physical Science, kindly made a physical and chemical examination of some of the dark fluid submitted to him for analysis. It gave the spectrum of reduced hæmatin, and contained 0.6 per cent. of urea; 100 cubic centimètres contained total solids 7.65 grammes, organic compounds 6.93 grammes, mineral compounds 0.72 gramme. In the solids were found salts; for example, chlorides, sulphates, and phosphates, and such bases as iron, calcium, magnesium, and sodium.

ST. MARY'S HOSPITAL.

(Cases under the care of Mr. EDMUND OWEN.)

I. RENAL CALCULUS: NEPHRO-LITHOTOMY: RECOVERY.

[Reported by Messrs. G. K. MAURICE and BRIND, Dressers.]

THE patient was a rather sickly-looking man, aged 22, a carpenter, who was admitted on March 20th with dull pains in the left lumbar region, to which he had been subject for eleven years, though sometimes he was free from them for months together. There was a doubtful fulness in the left renal region, and when pressure was made from the front and back at the same time, the examination caused pain. There had been no retraction of, nor pains in, the testis; the lumbar pain was not increased by exercise. The urine (specific gravity 1010) contained albumen and pus. The diagnosis was made of renal calculus with secondary abscess.

On March 27th a free incision was made from the outer border of the erector spinæ, parallel with and a little below the last rib; the kidney being reached, an abscess was discovered in its posterior part. This was incised, and a few ounces of pus were allowed to escape; on the introduction of the finger, a calculus was found loose in the cavity. The stone was extracted, and the entire wound was washed out with a mercuric solution (1 in 1,000), after which the abscess cavity contracted to the size of a small walnut. Sutures and a drainage-tube were adjusted, and the wound was dressed by a bulky pad of mercuric wool.

The man passed a restless night, vomiting several times, and in the morning he complained of griping pains across the belly; he was severely purged, moreover, the evacuations being mixed with blood and mucus. His breath had the fœtid and characteristic odour of mercurialism; the gums were spongy, and saliva flowed constantly and in abundance. It was evident that he had been poisoned by the irrigation, but, though he was very ill in consequence, the wound closed rapidly, and when he left the hospital (May 3rd) he was well and happy, and the wound was completely healed.

(Six months after this report was written the man was again in hospital on account of recurrence of his trouble, and on October 30th the wound was reopened and explored, several other calculi being discovered in the kidney. Nephrectomy was, therefore, performed by a lumbar incision. The man is progressing favourably.)

REMARKS.—Since by his operation in the autumn of 1880, Mr. Henry Morris brought the treatment of renal calculus within the range of practical surgery, many patients have had the advantage of the surgical treatment; still, for the present, individual cases are worthy of record. The chief points of interest in this report are the length of time during which the symptoms persisted, and the complete absence of many signs which are usually associated with renal calculus. The man had but three signs—lumbar pains, doubtful renal fulness, and pus in the urine. These, however, taken together, afforded ample justification for operation. The rapidity with which the mercuric salt was absorbed, and the appearance of acute salivation within twenty-four hours of a single irrigation, are deserving of attention. It is certainly a misfortune that so valuable an irrigation-fluid as that of the mercuric perchloride should have been originally introduced for employment at the needless and dangerous strength of 1 in 1,000.

Dr. Luff, who has kindly examined the stone, reports that it weighs 13½ grains, that it is built up of three pyramidal sections, with their axes at right angles to each other, that it contains no uric acid, and that it is probably composed entirely of oxalate of lime.

II. SUTURE OF A LOOSE SEMILUNAR CARTILAGE.

[Reported by Mr. G. K. MAURICE, Dresser.]

R. H., a policeman, came to the hospital at the end of last December, complaining of there being "something loose" in the right knee-joint. On being asked the exact spot, he placed his finger over the inner fibro-cartilage, which, on his bending and straightening the joint, could be clearly felt to slip from its proper position. He said that sometimes, when he was walking, the "slip" was so serious that the knee became "locked," that he suffered much, and that after the occurrence the knee swelled up, and that he had been temporarily invalided by the divisional surgeon. The

patient was admitted on January 16th, at which time he had a considerable amount of effusion in the joint.

On January 31st, the limb having been duly prepared, a two-inch incision was made a little in front of, and parallel with, the vertical axis of the joint, and, on the synovial membrane being opened, a large quantity of sero-synovial fluid escaped, and the front end of the semilunar disc was found to be loose, and curled into the gap between the condyle of the femur and the tuberosity of the tibia. The displacement was rectified, and the border of the cartilage was secured in position by a stout wire suture, which traversed the dense fibrous tissue around the margin of the head of the tibia. The joint was then washed out with mercuric solution, drained by a few strands of silk, and dressed with mercuric wool, the wound being closed by a continuous gut suture, and the limb being encased in a gypsum splint, which had been previously moulded for the purpose. Next day the temperature reached 100.6°, but higher than this it never ascended, and during the chief part of his convalescence it remained at normal. At the end of six weeks he was discharged, but was advised to keep his knee stiff for a little while longer; a fortnight later, however, the limb was gently but fully flexed under an anæsthetic. He now uses the knee freely, has no pain nor inconvenience with it, and is about to resume his duty.

REPORTS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, NOVEMBER 20TH, 1888.

Sir JAMES PAGET, Bart., F.R.S., President, in the Chair.

Hernial Sacs and their Contents.—Mr. LOCKWOOD showed a number of specimens to illustrate peculiarities in the construction and contents of hernial sacs. Two of the specimens showed conditions which predisposed to the formation of infantile herniæ. In one, which was obtained from an adult, whilst the tunica vaginalis had formed in the usual way, the rest of the processus vaginalis had remained patent as far as the internal ring, where it was occluded. Immediately behind its upper part, however, there was a small peritoneal pouch, similar to, but smaller than, the true sac of an infantile hernia. The second specimen was of the same nature, except that the true hernial sac was longer than in the preceding case, and inextricably confounded with the fibres of the internal cremaster. An interesting point in the history of this specimen was, that the infant from which it had been obtained had been operated on by Mr. Cripps, and the front sac—that formed from the upper part of the processus vaginalis—opened. No hernia was found although some fluid was evacuated, and the patient died, as it subsequently appeared, from an intussusception of the small intestines. In neither of these cases was any gut found in the hernial sac.—Retro-Peritoneal Hernia of Vermiform Appendix in an Isolated Sac by the side of the Pouch of an Inguinal Hernia. The third specimen demonstrated a number of rare and interesting facts. After the abdomen had been opened great difficulty was experienced in finding the vermiform appendix, and it was thought to be absent. However, it was discovered hidden away in a serous pouch which lay behind the cæcum, thus constituting a retro-peritoneal hernia of the vermiform appendix, clearly a very rare and unusual condition. In addition, there was an ordinary hernial sac of considerable dimensions, whose mouth was external to the deep epigastric artery, whilst its fundus lay upon the tunica vaginalis, which was quite normal. Towards the inner side of the hernial sac there was a second serous sac, larger than the tunica vaginalis itself, and quite isolated and cut off from the rest of the peritoneum. It seemed comparable to the sac of a hydrocele of the cord, but, of course, contained no fluid. The hernial sac had, when found, nothing within its mouth. A very large plica vascularis ran upwards from it to unite with the end of the mesentery, close to the cæcum. The plica was joined by another fold which ran transversely across the fundus of the bladder. The isolated pouch found in this instance seemed similar to one recently described by Professors Bennett and Cunningham, which they consider to have been drawn down by the gubernaculum at the time of the formation of the processus vaginalis. The persistence of the plica vascularis and the relations of the vessels to the hernial sac indicated that the anomalies were due to a developmental effect.—Ventral Hernia Formed by Appendix Epiploica. This hernia was situated in the left linea semilunaris, a little below the level of the umbilicus. At first it seemed merely a subperitoneal lipoma, but it was in reality one of the appendices which protruded through an opening in the peritoneum, in an excessively thin hernial sac, to which it was adherent. Where this sac pierced the linea semilunaris there was a distinct ring, like the umbilical ring. The mode of formation of this protrusion seemed quite inexplicable. There was no sign of any previous wound, and the appendices appear so late, that it could hardly have been due to developmental defect.—Calcareous body in the Sac of a Femoral Hernia. This specimen was found in a very old woman. The sac was excessively thin, and contained a laminated calcareous mass more than half an inch long, and more than a quarter of an inch thick, and very hard. It consisted of calcareous matter, with some fibrous material. It had probably originated in the peritoneal cavity in a fibrinous concretion, which had afterwards calcified. — Cæcocele, Appendix Vermiforis incorporated with the Back of the Sac. In this specimen, a very long vermiform appendix ran down the centre of the hinder wall of the sac of the hernia. The mouth of the sac was very capacious, and contained the cæcum. Upon the outside of the back of the sac the spermatic vessels ran exactly parallel to, and opposite to, the vermiform appendix. The latter had no mesentery except below. The hernial sac and tunica vaginalis were separate and distinct. The vermiform appendix had been dragged down in the formation of the sac, probably by the small intestines, and the cæcum had followed. Mr. Lockwood showed these specimens because of their rarity, and in the hope that light might be thrown upon their peculiarities.—Mr. JONATHAN HUTCHINSON, jun., referring to the calcareous mass which Mr. Lockwood had found in the sac of a femoral hernia, considered that it was probably a calcified epiploic appendage, as he had seen in the dissecting room a calcareous body nearly as large as a walnut, lying loose in the peritoneal cavity, and a second similar ball, in the position of an epiploic appendage, adherent to the bowel by a peduncle. He thought that isolated hernial sacs occasionally found at the bottom of existing hernial sacs were produced by a very chronic localised peritonitis. —Mr. TREVES stated that, whenever the cæcum or vermiform appendix occupied a hernia, there was almost always a complete hernial sac, and that Mr. Lockwood's case was very interesting as being an exception to this rule; that they generally occurred in cases where there was a very long vermiform appendix with small cæcum; there being, to a certain extent, an inverse ratio between the length of the appendix and the size of the cæcum; that it was only in cases where the hernial sac was very large that the peritoneum was stripped up from off the cæcum to a greater or less extent. That sometimes there was a diverticulum of the colon into an epiploic appendage; this might become hernia, or become adherent to the intestine. In the last case mentioned by Mr. Lockwood, the appendix had passed into a retro-cæcal fossa, and was due to some movement of the cæcum from its normal position.—Mr. GODLEE, with reference to secondary sacs below existing sacs, mentioned two cases, one where an undescended testicle, on being brought down, was followed by a hernia; another where the tunica vaginalis communicated by a valvular opening with a hernial sac. —Dr. MOTT showed a specimen from a man, aged 51, in which there was a vermiform appendix, 6¾ inches in length, the end of the appendix lying in the "infra-cæcal" pouch, at the anterior part of the iliac fossa.—Mr. BERNARD PITTS referred to the great length of the vermiform appendix in children; he mentioned a case where a long vermiform appendix in a hernial sac had been mistaken for a hydrocele, and tapped.—Mr. TREVES spoke of the extraordinary length of the vermiform appendix in Dr. Mott's specimen; he said that there were several fossæ in the neighbourhood of the cæcum, and that in this case the fossa was that known as the "fossa iliaca subfascialis;" that in children the vermiform appendix was known to be relatively longer than in adults.—Mr. LOCKWOOD said that he had not previously been satisfied with the evidence that the calcareous masses were derived from appendices epiploicæ; but he thought that Mr. Hutchinson's case settled the point that some hernial sacs were undoubtedly drawn down by muscular fibres; that the secondary sacs were closed by local chronic peritonitis was as yet an assumption.

Dislocation of Shoulder without Rupture of Capsule.—Mr. D'ARCY POWER showed, for Mr. CLAUDE EVILL, an interesting case of dislocation of the shoulder without rupture of the capsule. A man aged 69, fell a distance of 18 feet on to his right elbow and side, sustaining thereby a T-shaped fracture into his elbow and a dislocation of his shoulder. The dislocation was

reduced, but the patient died of broncho-pneumonia twelve days after admission to the hospital. At the necropsy the head of the bone was found to be in position, but the capsule of the joint was intact. It was lax, and its attachment to the anterior border of the glenoid cavity was slightly raised, but was still quite continuous with the periosteum. On opening the capsule there was a well-marked groove on the posterior surface of the head of the humerus.—Mr. Power drew attention to the fact that Mr. Eve had shown an almost identical case before the Royal Medical and Chirurgical Society in 1880, and he agreed with him in believing that the groove on the articular surface was produced by the forcible impact of the humerus against the anterior margin of the glenoid cavity. He had no doubt that the dislocation had been complete, and that the case could not be looked upon as an instance of subluxation.—Mr. WILLIAM ADAMS thought that dislocations of the shoulder-joint without rupture of the capsule could only occur in subcoracoid dislocations, that this was probably due to the flatness of the glenoid cavity; that traumatic dislocation of the hip-joint could probably not occur without rupture of the capsule. In congenital dislocations (or as they should be more properly called displacements) of the hip joint there might be no rupture of the capsule, and in these cases the acetabulum was abnormally flat. In dislocations of the hip after fever, from effusion into the joint, the capsule might not be, but was generally, lacerated. —Mr. BOWLBY said that he had seen Mr. D'Arcy Power's cases during life, and that clinically they were ordinary examples of subcoracoid dislocation.—Mr. D'ARCY POWER said there were only four specimens on record, and that they were all subcoracoid or subclavicular.

Aortic Aneurysm after Galvano-Puncture.—Dr. RALFE exhibited a specimen, showing the effect of galvano-puncture on the sac of an aortic aneurysm. The patient was admitted under Dr. Ralfe's care in September, 1887, into the London Hospital, and died in August, 1888. When admitted, the aneurysm had already made its way through the cartilages attached to the sternum, and the skin was already assuming a deep livid hue, whilst the pulsation was extreme. It was considered that the aneurysm would shortly rupture externally. To relieve the extreme pulsation, Dr. Ralfe suggested galvano-puncture, which was performed by Mr. Mansell-Moullin. Improvement followed the operation, the swelling subsided and became harder, and the skin lost its livid hue. This improvement lasted some time, but presently the pulsation returned, and the patient was troubled with a violent paroxysmal cough. Galvano-puncture was again resorted to, and again the pulsation diminished and the tumour became harder, whilst the cough disappeared. In all, galvano-puncture was resorted to thirteen times, and always had the effect of giving relief to the patient. Finally, after nine months of treatment, a pustule appeared over the seat of an old puncture, and from that time adhesion took place between the skin and the tumour, and perforation slowly ensued; but, instead of a violent hæmorrhage, comparatively slow oozing took place, and the patient gradually sank from weakness, without experiencing shock or pain. Dr. Ralfe claimed for galvano-puncture, in suitable cases, (*a*) prolongation of life in rapidly progressive cases; (*b*) relief of pain, undue pulsation, and of paroxysmal cough; (*c*) the probability of an almost painless death, owing to the slow oozing from the thickened sac, instead of sudden rupture, which, if it occurred internally, must be for a short while extremely painful.

Primary Cancer of the Pancreas.—Mr. W. H. KESTEVEN gave an account of the clinical history and *post-mortem* appearances of a case of this disease, which had been under his care. The patient became jaundiced nine months before death; the liver was enlarged; there was abdominal pain; no bile in the fæces; bile and sugar in the urine, but no albumen until ten weeks before death. At the *post-mortem* examination, the head of the pancreas was found to be the seat of a cancerous growth; the common bile-duct was partially but not absolutely obstructed. There were no secondary deposits of cancer in any other organ. One of the points of interest in the case was the presence of sugar in the urine.—Dr. COUPLAND said that primary cancer of the pancreas was much more frequent than secondary cancer.—Mr. ROGER WILLIAMS said that he had collected the statistics of about 8,000 cases of cancer, and the pancreas was the seat of primary disease in 1 in 500.

Acute Intestinal Obstruction caused by Adhesions of Appendices Epiploicæ.—Dr. PERRY showed two cases of intestinal obstruction. In one specimen a loop of small intestine, a few inches above the ileo-cæcal valve, had passed through a ring formed by an adhesion between the tips of two adjacent appendices epiploicæ, arising from the sigmoid flexure of the colon. In the other case the evidence was circumstantial. The patient had signs of intestinal obstruction; laparotomy was done, and at the operation the surgeon tore through a "band" low down on the left side of the pelvis, which he was unable to bring into view. On *post-mortem* examination a piece of ileum, thirty inches in length, was found slackened and with marks of constriction upon it at either end, and two adjacent appendices from the sigmoid flexure were seen to have their contiguous margins much congested, while their tips showed signs of laceration. Dr. Perry remarked that it was rare for intestinal obstruction to be occasioned by appendices epiploicæ, and still more rare for it to be produced by appendices coherent to each other. The only case exactly resembling the present cases, which Mr. Treves had mentioned in his monograph on Intestinal Obstruction, was one reported to the Society in 1861 by Mr. Holmes. In discussing the pathology of such obstructions, Dr. Perry said that it might possibly be a normal condition for appendices epiploicæ to be united along their adjacent edges. They might also become adherent by inflammation, and whether naturally coherent or cohering as the effect of inflammation, the thin membrane which united them might become perforated, and a piece of intestine find its way through the opening so made. On the other hand, the tips only of the appendices might have become attached to each other as the result of a slight degree of adhesive peritonitis. As bearing upon this point, Dr. Perry observed that the adherent appendices sprang in each case from the sigmoid flexure of the colon, and were therefore in the immediate neighbourhood of the pelvis; that the specimens shown were from women, in one of whom the adhesion of the omentum to the abdominal wall was good evidence of old peritonitis; and that in Mr. Holmes's case, where the patient was a man, he had suffered from double inguinal hernia. It had been suggested that, as small, false diverticula might project into appendices epiploicæ, and were apt to lodge irritating matters of various kinds, inflammation might thus be set up in the pouch and spread to the appendix, causing a limited peritonitis and an isolated adhesion; but this explanation would not apply to the present cases, in which no "distension" diverticula were found.

Card Specimens.—Mr. BLAND SUTTON: 1. Spina Bifida; 2. Supernumerary Legs in Frogs; 3. Supernumerary Mammæ in Monkeys. —Mr. TARGETT: Dermoid Cyst near Knee-joint.—Dr. A. H. ROBINSON: Phosphatic Concretion from a Recto-vaginal Fistula.—Dr. MOTT: Anomalous Appendix Cæci.

MEDICAL SOCIETY OF LONDON.

MONDAY, NOVEMBER 19TH, 1888.

SIR WILLIAM MAC CORMAC, F.R.C.S., President, in the Chair.

ADJOURNED DISCUSSION ON DR. HOWARD'S PAPER ON A NEW METHOD OF RAISING THE EPIGLOTTIS.

DR. HOWARD recapitulated the principal points of the paper which he read before the Society on October 22nd.

Mr. BRYANT said that some years ago, when Dr. Howard was pursuing his investigations on the subject, he had an opportunity of observing the thoroughness and conscientiousness of his work, and was therefore quite prepared for the valuable nature of the information contained in his paper. They saw very clearly illustrated upon the dead body the facts as brought forward by Dr. Howard, and especially the facts as to the impossibility of raising the epiglottis by means of traction on the tongue. He quite endorsed Dr. Howard's remarks, or most of them. Mr. Clover had always relied on the tilting up of the chin to facilitate respiration. They must not, however, forget that traction on the tongue was often of use. Dr. Howard himself explained the fact in the paragraph in which he showed that they pulled away the tongue from the posterior wall of the pharynx. They did not think that in every case of embarrassed respiration the epiglottis was at fault. As often as not it was due to the simple falling of the tongue backwards. He alluded to the practice of tilting the head backwards, and he thought this heretofore empirical proceeding was explained by Dr. Howard's paper. He thought that the position of the head suggested by Dr. Howard was very suitable for a certain class of cases, though he himself preferred the usual position in operations for the removal of the upper jaw, for example. This was, however, because he was more used to it, and younger men, who had not yet got into bad habits, would doubtless do well to adopt his suggestion.

Mr. KNOWSLEY THORNTON said that as the occupant of the presidential chair when the paper was read, he had received two letters from friends of his bearing on the subject of the paper, in which they complained that their own work on the subject had been overlooked. One was from Dr. Foulis, of Edinburgh, a passage from whose letter he read, to the effect that ten years ago he had himself employed a special form of instrument, by means of which he pressed forward the base of the tongue and the hyoid bone in apnœa. A diagram was shown illustrating the method of employing the instrument. Mr. Thornton said that it appeared to him a misfortune that Dr. Howard should have made no allusion to Dr. Foulis's paper on the subject in the *Edinburgh Medical Journal*. That paper, however, did not cover all the ground covered by Dr. Howard, so that the latter had a perfect right to speak of his method as a "new method." He added that Dr. Foulis did not recognise the impossibility of the posterior air-passage through the nose as Dr Howard did. Another great point claimed by Dr. Howard was the fact that his method required no instruments, and, so far, was an improvement on that of Dr. Foulis.

Dr. SANSOM said the procedure recommended itself to him many years ago as by far the best position in which to place the subject when about to perform artificial respiration. He thought Dr. Howard's way gave the best and most direct air-passage into the lungs in cases of chloroform narcosis. He had early discoverd that traction on the tip of the tongue was not by any means the best method, and was distinctly inferior to pushing forward the base of the tongue with the finger or spatula. He asked the Society to emphasise one thing in particular, namely, that the question was less how to get air into the lungs than how to get the air saturated with chloroform out. As Dr. Howard's method afforded the best inlet for air, it would, of course, afford the best outlet; but it was, in his opinion, essential to recognise the necessity of commencing by an inspiration. He did not wish to be understood as endorsing Dr. Howard's whole system of treatment for the drowned, for he thought there was serious risk of violence being done to the thorax.

Mr. T. PICKERING PICK said there was no explanation in Dr. Howard's paper of the combined action of the sterno-hyoid and the sterno-thyroid, the action of which appeared to him to be antagonistic.

Dr. HEWITT criticised the conclusions arrived at by Dr. Howard, as derived from the examination of dead bodies, in which the conditions were necessarily very different from those which obtained in the living subject. Under an anæsthetic there was frequently a condition of spasm which affected the mouth, tongue, etc. Under ether, for instance, there was a degree of spasm which often rendered it very difficult to get the mouth open. Under these circumstances it was impossible to adopt the method without danger; in other words, it was neither possible by tilting forward the jaw, to admit air to the lungs, nor by extension of the head, to attain the same ends. With nitrous oxide there was often a considerable amount of respiratory embarrassment towards the conclusion of the administration, dependent upon a sudden elevation of the larynx to the epiglottis, in common with other clonic movements over the body. In this case Dr. Howard's method would be quite inadequate to restore respiration. He asked Dr. Howard whether he considered that his method was applicable to all cases of apnœa.

Mr. LENNOX BROWNE said that it was important to bear in mind some of the physiological and clinical facts bearing on the matter. He was rather surprised to see that Dr. Howard closed the mouth in the act of extension. He mentioned that by putting the head very far back they could often get an elevation of the epiglottis allowing of a good view of the larynx. He thought that this fact was in favour of Dr. Howard's contention.

Mr. MARMADUKE SHEILD asked whether, in carrying out the experiments on drawing out the tongue, the traction was exercised only on the tip. He urged that if the tip were drawn upon, the anterior fibres of the genio-hyo-glossi were put on the stretch, which prevented further movement, whereas if they seized the tongue further back they could certainly raise the epiglottis. He mentioned that in cases in which the anterior part of the tongue was removed, there was a great tendency on the part of the remainder to fall back with the epiglottis over the larynx, a contingency which led many surgeons to pass a ligature through the stump beforehand.

Dr. STOKER observed that the remarks of the last speaker would only apply to patients in the ordinary position, and not when placed in the position advocated by Dr. Howard.

Mr. SHEILD replied that he had noticed the same tendency even when the neck was extended.

The PRESIDENT thought that if the base of the tongue were pressed forward the epiglottis was got out of the way. The question was as to which was the best way of effecting this. He mentioned a case in which, after considerable difficulty, respiration had been restored by placing the head in extreme extension, and as soon as the head was allowed to resume the usual position respiration ceased, to recur only on being placed once again in extension.

Dr. HOWARD, in reply, said that Mr. Clover was about the second person to whom he communicated his views on the subject, and Mr. Clover had expressed himself as very much surprised that for years he had been in the habit of propping up the chin without knowing how or why relief was afforded. He confessed that he had totally overlooked the paper of Dr. Foulis, and nothing was further from his idea than to rob anyone of the credit which was due to them. He objected, however, to the employment of any instrument, and said that Dr. Foulis's plan necessitated the mouth being forced open before the "glossotilt" could be applied, a proceeding which was often difficult and brutal. He said that Dr. Foulis began by lowering the jaw, thus facilitating the descent of the epiglottis. The object of his instrument could as well be attained by the finger of the surgeon. He had purposely avoided the subject of artificial respiration, confining his attention to the subject of his paper. He said the antagonism of the sterno-hyoid and sterno-thyroid was indispensable to the effect which it was desired to obtain. He claimed that the condition of impending apnœa was very comparable to that found in the cadaver. He complained that in talking and writing of apnœa he had been struck by the utter want of nice discrimination as regards the exact stage alluded to, a point of very great importance.

The Society then adjourned, after a vote of thanks to Dr. Howard for his valuable paper.

HUNTERIAN SOCIETY.

WEDNESDAY, NOVEMBER 14TH, 1888.

R. CLEMENT LUCAS, B.S., F.R.C.S., President, in the Chair.

CLINICAL EVENING.

Honorary Fellows.—Sir William Jenner, Bart., and Sir Joseph Lister, Bart., were elected honorary Fellows of the Society.

Library.—The PRESIDENT announced a long list of books recently presented to the library of the Society.

Nephrectomy.—The PRESIDENT showed a contracted puckered kidney, removed on the previous day from a boy, aged 11. The kidney had suppurated, and was opened through the loin twelve months before; a calculus was removed three months ago; the suppuration continuing, the relic of the organ was removed, leaving the capsule behind.

Case of Exaggerated Wrist- and Elbow-Jerks.—Dr. HINGSTON FOX showed a woman, aged 58, with ataxic gait, failing memory and general powers, and weakness of the left arm and leg. She had suffered from lightning pains, and two attacks like gastric crises; also left hemiplegia twice, if the imperfect history were reliable. Some ptosis was present; the pupils were contracted, but moderately active. The knee-jerks were exaggerated, and all the superficial muscles of the arm and forearm could be similarly excited by tapping on the left side; to a less extent on the right. There was a doubtful syphilitic history.

Case of Syphilitic Disease of the Nervous System.—Dr. HINGSTON FOX showed a woman, aged 43. Twelve years ago she had secondary symptoms. Eight years ago paralysis of the right arm and left leg occurred; three years after paralysis of both legs. She soon recovered after each attack. A year and a half ago she was mentally affected for three weeks; ten weeks later atrophic paralysis of the extensors of the right knee set in, and had persisted, followed by passive effusion into the joint. The knee-jerks were lost. The case illustrated the erratic nature of syphilitic nervous disease and its multiple lesions. Gummata were suspected to exist in the cord.

Epithelioma of Gum.—Dr. HINGSTON FOX showed a man, aged 64, with a rounded tumour, two inches in diameter, ulcerated on the surface, occupying the gum and hard palate on the right side.

Case of Recovery from Complete Paralysis following Spinal Injury.—Mr. TATHAM showed a man, aged 38, who had fallen in a fit in a public-house, striking his head against the counter, and

forcibly flexing the neck. He was unconscious until the next day; there was complete paralysis of motion and sensation below the neck. Respiration and deglutition were difficult, and there was incontinence of urine and fæces. He remained in this state for over three months, taking only liquid nourishment, when movement and sensation began to appear in the right fingers and toes, and steadily increased, so that at the end of fourteen months he he was able to stand. When exhibited he could walk from ten to twelve miles, but could not follow his occupation. There was still some irregularity and thickening about the third cervical vertebra. —The PRESIDENT, Mr. JOHN POLAND, Mr. BROWNFIELD, and Mr. BOWKETT took part in the discussion.—Mr. TATHAM replied.

Acute Transitory Universal Dermatitis.—Mr. COTMAN showed two cases. Both patients had suffered from a bright red rash, commencing on the back and buttocks, and spreading symmetrically over the entire surface of the body, preceded and accompanied by severe burning and itching, and followed by desquamation and exfoliation of cuticle, leaving a soreness and discoloration of the skin. In one case there was cramp and lumbago, in the other severe neuralgia. The cases occurred simultaneously in January, and again in October, within two days of one another. There was no sore throat, strawberry appearance of the tongue, or any rise of temperature.

Spasmodic Wry-neck.—Dr. G. A. CARPENTER showed a boy, aged 17, in whom torticollis had existed for two years. There was some spasm of the facial muscles, and marked deficiency in his mental condition, probably congenital. Treatment was of no avail.

Sporadic Cretinism.—Dr. TURNER exhibited a child, aged 13, who presented the typical appearance of sporadic cretinism, with characteristic fatty tumours about the neck, and absence of thyroid gland, etc.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

FRIDAY, NOVEMBER 9TH, 1888.

HENRY FITZGIBBON, M.D., President of the Royal College of Surgeons, Ireland, in the Chair.

President's Address.—The PRESIDENT delivered an address on Syphilis, outlining its history from a period over 2,000 B.C., refuting the suggestion that it was introduced into Europe after the discovery of America; describing the nature of the disease as a specific one produced by the presence of a morbid virus transmissible by contact; noting its early stages in the period of incubation during which the virus was latent; secondly, the periods of eruption of varying severity, and yet with a degree of order and regularity; and finally, emphasising as an ascertained fact that one attack of the disease generally conferred immunity against a second. The President quoted statistics showing the successful operation of the Contagious Diseases Act in garrison towns, and advocated its extension.

Pulsating Tumours of Bone.—Dr. ROBERT MACDONNELL read a paper on pulsating tumours of bone. He detailed the case of a lady who had been sent to him by Mr. Erichsen, nearly five years before. She then suffered from a pulsating tumour over the upper part of the fibula, which he and Mr. Erichsen agreed in regarding as probably a hæmatoid sarcoma of the bone. It continued for some time to increase in size. Operation was delayed on account of the lady's pregnancy, but she was directed to wear an elastic stocking. She suffered after delivery from phlegmasia of the other limb, which caused her to remain in bed for nearly six months, still, however, wearing the elastic stocking. When she came again under his observation, some time after her parturition, the tumour had disappeared. The case, which the result showed to have been probably an osteo-aneurysm, was of much interest as pointing to the difficulty of diagnosticating between osteo-sarcomata and osteo-aneurysm. In this case the resemblance to the former disease was so marked, that but for the delay caused by the pregnancy of the patient, an operation (which the result showed was not necessary) would probably have been performed. —Dr. MAPOTHER said his case (to which Dr. MacDonnell had referred) arose some twenty-six years ago, and there was a previous one treated by Mr. Bickersteth, of Liverpool. In his own, the patient, aged 28, got a knock on the shin, and four months afterwards a tumour as large as a walnut formed, half of it projecting beyond the level of the tibia without discolouring the skin, while the corresponding portion went into the substance of the bone. There was a distinct distensile pulsation, thrill, and *bruit*. Aided by Dr. Hutton, he removed the cuticle by potassa fusa, and then applied a cautery. After ten days intense hæmorrhage occurred, as of a nævus suddenly wounded. In a few days the nævus matter came away, leaving a granulated surface, and rapid cure took place. Sixteen years subsequent to the operation he had heard of the patient as being alive and well in New Zealand. There was only a slight cicatrix, and thick bone around.—Mr. WHEELER had seen two cases of pulsating tumours of bone, both sarcomata—one in the practice of Mr. Butcher, the other was in his own. In his own case, the seat of disease seemed to be the lower end of the tibia, which was distended. There was distinct *bruit*. He amputated at the knee-joint, revealing a tumour which Dr. Barker described as an osteo-sarcoma. Eighteen months later the patient died of tumour in the liver, and he believed also in the spleen. He regarded Dr. MacDonnell's case as one of aneurysm by anastomosis. He asked whether Dr. MacDonnell attributed cure to the rest and pressure the patient had while suffering from phlegmasia dolens.—Mr. WILLIAM STOKER said he had had a case of pulsating tumour started from the fibula, in a boy, aged 12. At first the tumour seemed localised to the shaft of the fibula so distinctly that he determined to remove the upper part; but the child's mother would not consent. Rapid distension having taken place, the child was brought back in a month, and the pulsation was notable, while the circumference of the limb had increased two inches in the interval. Although the rapidity of the distension made the result doubtful, yet he amputated above the knee, and the patient was now a young man alive and well. Dr. Phineas Abraham had pronounced the tumour to be a giant-celled sarcoma. There had been no recurrence.—Mr. H. G. CROLY called attention to the fact that the discussion had extended both to the subject of osteo-aneurysm and that of malignant disease attacking the bone, while Dr. MacDonnell's paper referred to a case which was not malignant. So, too, was Dr. Mapother's case. Osteo-aneurysm, it was agreed, was a disease that was not malignant, and the great interest in Dr. MacDonnell's case was the cure of the aneurysm. He did not understand how phlegmasia dolens, even occurring in the same limb, could effect the cure. He had had a case of osteo-sarcoma in a girl, aged 18, with a growth involving the lower end of the femur. Dr. MacDonnell concurred with him that her only chance was by amputation below the trochanter. The operation was performed, and she made a good recovery. After four or five years, however, she was attacked at the upper extremity at the opposite side by the same disease, which rapidly proved fatal.—Dr. BALL said they had at present a case in Sir Patrick Dun's Hospital in which the difficulty of diagnosis suggested by Mr. Croly presented itself, namely, of distinguishing between pulsating sarcoma of bone and pure angioma. On admission the patient complained of a small tumour on the top of the head, with intense pain in the back of his head and neck. The tumour was soft, and no pain could be detected in it; but very soon it enlarged, and the pulsation became marked, a train of cerebral symptoms developing apparently from pressure. He had periodical attacks of vomiting. Double optic neuritis and loss of sight ensued. Believing that if they arrested the blood-supply they might be able to retard the rapid progress of the tumour, he ligatured simultaneously the two external carotid arteries above the facial artery. The result was an amelioration of the symptoms; the vomiting entirely disappeared, the pulsation ceased, and the tumour decreased in size till it became imperceptible. However, now, at the end of a month, the symptoms were again developing—slight pulsation and severe pain in the head. There were veins as big as the little finger radiating round the skull, and the blood could be squeezed out, and a small hole detected where the communication existed. The case was one of angioma perforating the skull.—Dr. MYLES also spoke.—Dr. MACDONNELL replied.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

MONDAY, NOVEMBER 12TH, 1888.

Professor W. T. GAIRDNER, M.D., President, in the Chair.

Athetosis.—Dr. ALEXANDER ROBERTSON showed a patient suffering from very striking mobile spasms especially affecting the face, neck, and upper extremities. The patient was 36 years of age, and the disorders of movement had been present since he was a boy. He could walk, but with obvious stiffness and weakness; and, although his condition seemed very degraded, he showed a considerable amount of intelligence, playing the game

of draughts well. Dr. Robertson regarded the case as one of athetosis.

Scrofulous Tubercle of the Brain, with Tubercles in the Lungs.—Dr. JOSEPH COATS showed a brain in which there were twelve tubercular masses, caseous in the centre, with a transparent zone of fresh tubercles at the margin. In the lungs were numerous miliary tubercles, with a remarkable relationship to the branches of the pulmonary artery, the tubercles looking like the foliage of a tree, of which the radiating pulmonary arteries were the branches. In this case the virus had obviously been carried by the blood, and distributed by the finer arterioles.

Nephrectomy.—Dr. HECTOR C. CAMERON showed a kidney, removed by him the same morning, from a girl, in whom he had performed nephrotomy last March, for the evacuation of a large renal abscess. She then made an excellent recovery, but a urinary fistula persisted, from which a very large quantity of urine daily escaped.

Comminuted Fracture of the Head of the Tibia.—Mr. A. E. MAYLARD showed a specimen in which the fissure passed through the articular cartilage. The semilunar cartilages and the fibula were uninjured. The injury appeared to have been indirect.

Carcinoma of the Tongue.—Dr. HENRY RUTHERFURD showed microscopic sections from a case in which the appearances in many respects were strikingly suggestive of scirrhous cancer of the tongue. Dr. Rutherfurd alluded to the extreme rarity of such a condition in the tongue, and a committee, consisting of Mr. Maylard, Dr. Joseph Coats, Dr. David Newman, and Dr. Rutherfurd was appointed to examine and report upon the case.

Large Sarcomatous Tumour of the Chest in a Child.—Dr. R. S. THOMSON showed a large fibro-sarcoma of the mediastinum, which had been removed from the body of a child who had been a patient in Dr. James Finlayson's wards, while Dr. Thomson was on duty. As the physical signs were at first rather suggestive of pleuritic effusion, paracentesis thoracis had been performed without result. Dr. Thomson alluded to the circumstances in the case which finally led him to the diagnosis of mediastinal tumour. As the *post-mortem* examination had been made by a private practitioner, after the child had left the hospital, the precise relationships of the tumour were not apparent.—Dr. JOSEPH COATS thought that, as the tumour was entirely covered with pleura, it must have originated either in an organ lying free in the cavity of the pleura (the thymus gland), or else behind the pleura, in the subpleural tissue. He was inclined to take the latter view.

Tropical Abscess of Liver.—Dr. JOSEPH COATS showed a specimen from the body of a Coolie who had been removed from his ship to the hospital in a moribund condition, after having been ill for three weeks. No further clinical history could be obtained. There was one large abscess-cavity, and two smaller ones, and there were dysenteric ulcers in the large intestine.—A discussion on the pathology of tropical abscess followed, in the course of which the PRESIDENT drew attention to the fact that Murchison described tropical abscess as single and pyæmic abscess as multiple. In this respect the case shown by Dr. Coats differed from the description of Murchison, a circumstance which might prove of some importance when the question of tapping was raised.

Ulceration of the Large Intestine.—Dr. COATS also showed specimens in which numerous intercommunicating ulcers were present in the large intestine, apparently the result of long-standing diarrhœa, which had been started by the incautious administration of purgative medicine by the patient's husband.

Diffuse Colloid Cancer of the Stomach.—Dr. JOHN LINDSAY STEVEN showed specimens from the body of a patient who had been under his observation since April, 1887. The patient was a mason, aged 33, and his illness commenced at the date mentioned with symptoms of acute gastric catarrh. Soon afterwards he began to suffer from pain and difficulty in swallowing food, the pain being deeply seated in the pit of the stomach. In May, 1888, a small, firm, slightly nodulated mass, movable with the respiration, was discovered beneath the edge of the left ribs. The obstruction never amounted to absolute stenosis, and the patient slowly sank. At the *post-mortem* examination, a large malignant mass was found surrounding the entrance of the gullet, grasping the finger when introduced, and involving both the anterior and posterior walls, chiefly the latter. The pylorus was not involved, though nearly the whole of the lesser curvature was. Secondary tumours were present in the omentum, diaphragm, spleen, thoracic glands, and lungs, but not in the liver. Microscopic examination of the primary and secondary growths showed the tumour to be a cylinder-, or columnar-celled epithelioma. The primary tumour had undergone wipespread colloid degeneration, which to a limited extent was also present in the pulmonary nodules.—The PRESIDENT remarked that the situation of this tumour was quite exceptional.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

THURSDAY, NOVEMBER 8TH, 1888.

JAMES MURPHY, M.D., President, in the Chair.

Anterior Colotomy.—Dr. ARNISON showed two men on whom the operation had been performed some time previously. He demonstrated the upper and lower openings in the colon, and showed the copper pad by which the patients could control the escape of fæces.—Remarks were made by Dr. D. DRUMMOND, Mr. JESSOP, of Leeds, and Dr. GALLOWAY.

Suprapubic Lithotomy.—Mr. F. PAGE showed a boy, aged 8, on whom he had operated by this method. The unsutured wound in the bladder united by first intention, without the escape of a single drop of urine from the wound.

Closure of Jaws successfully treated by Excision of a Condyle.—Mr. PAGE showed a girl, aged 9. When two years old she had an attack of measles, followed by profuse and prolonged discharge from the right ear. Within six months there was gradual closure of the mouth, and for six years the jaw had been fixed. Mr. Page cut down on the right temporo-maxillary joint, and found the condyle absorbed and the jaw welded to the skull. The bone was removed by chisel and mallet; the girl could now open her mouth widely. Mr. Page also showed a boy on whom he had performed the same operation, with a similar result, about two years ago.

Alcoholic Paralysis.—Dr. J. DRUMMOND showed a man who had almost recovered from this affection. There had been more or less loss of power and sensation in the arms and legs, with affection of the reflexes and electrical reactions. There was a history of great alcoholic excess, and marked cardiac lesions were present.—Drs. PHILIPSON, D. DRUMMOND, EMBLETON, and GOWANS made remarks on this and similar cases.

Specimens.—Dr. HUME showed (1) Flat Oxalate of Lime Calculus weighing 3 ounces, removed by suprapubic method from a patient with enlarged prostate. Rapid recovery. (2) Tumour of Testes from a man aged 30. It consisted partly of nodules of cartilage, partly of spindle-celled sarcomatous material. (3) Cystic Sarcoma from Scarpa's Triangle.—Mr. JESSOP showed (1) Calculus from Bladder, removed suprapubically. Symptoms had been present for many years. (2) Uric Acid Calculus, which had been present eight years. (3) Thirten small Stones, removed suprapubically, a prostatic enlargement being removed at the same time. (4) Renal Calculus, weighing 11 ounces, removed by nephrotomy from a man aged 54. Symptoms had been present only six months. A large abscess formed round it. The calculus took the shape of a cast of the expanded pelvis and calices. The man made an excellent recovery, but a small fistula remained. (5) Gall-stones from three cases in which the gall-bladder had been opened. In one case the stone was removed from a point about the commencement of the common bile-duct.—Mr. HEATH showed concretions removed from the bladder by the median incision, and a Periosteal Sarcoma of the Femur from a case where he had divided the femur below the trochanters, and then dissected out the head of the bone.—Dr. LIMONT showed casts from a case of Plastic Bronchitis. The patient was a sailor, aged 36. Acute febrile symptoms were present. Numerous casts were coughed up, but the patient eventually died of asphyxia. After death the trachea and the large and small bronchi were all found lined by a fibrinous deposit, slightly laminated. Dr. Limont also showed a marked example of "Button-hole" Mitral.—Mr. RUTHERFORD MORISON showed a Fibroid Tumour, removed with part of the uterus. The tumour had been regarded as cystic ovary. It was adherent to the uterus; the latter was therefore secured by Keith's clamp and divided. The patient died on the sixth day. There was no peritonitis, but there were fœtid purulent clots in the uterine veins, and no doubt death resulted by pyæmia.

The PRESIDENT described Palan's Morcellement.

Communications.—The following papers were taken as read:—Mr. PAGE: Operative Treatment of Closure of Jaws.—Dr. GEORGE TAYLOR: Cervical Hæmatomyelia.—Dr. W. ROBERTSON: Nasal Obstruction.—Dr. D. DRUMMOND: Lessons from the *Post-mortem* Room.

Honorary Member.—On the motion of the PRESIDENT, seconded by Mr. HEATH, Mr. Jessop was elected an honorary member of

the Society, and a cordial vote of thanks was accorded him for his interesting demonstrations.

BRIGHTON MEDICO-CHIRURGICAL SOCIETY.

THURSDAY, NOVEMBER 1ST, 1888.

W. H. NICHOLLS, M.R.C.S., President, in the Chair.

Glandular Disease.—Dr. MACKEY related a case of glandular disease in a child, with chronic pneumonia and ulceration into the pulmonary artery and bronchus. The case was very unusual, but allied to a few already recorded by Dr. Gee in the *St. Bartholomew's Hospital Reports*, vol. xiii.

Professional Cramp.—Dr. DOUGLAS ROSS showed a case of professional cramp. The patient (a clarionet-player for twenty-nine years), aged 42, about three months ago first noticed inability to perform with the middle finger of the right hand the delicate movements required in playing his instrument, the finger being frequently jerked. The extensor muscles of the forearm were evidently affected. The treatment adopted was absolute rest from his employment; subcutaneous injections of atropine over the extensor muscles of the forearm; the regular use of the continuous current along these muscles and nerves; voluntary rhythmical movements of these muscles, with massage. After one month of this treatment there was marked improvement.

LIVERPOOL MEDICAL INSTITUTION.

THURSDAY, NOVEMBER 8TH, 1888.

WM. CARTER, M.D., F.R.C.P., President, in the Chair.

Dangers of Ear Disease.—Mr. RICHARD WILLIAMS read a paper on three cases illustrating the dangers of ear disease. He pointed out that patients and medical men too often neglected chronic discharge from the ear, trusting to it ceasing in time. As a matter of fact, 50 per cent. of the cases of cerebral abscess were due to old-standing ear disease. Mr. Williams's first case was one of otorrhœa and polypus, with disease of the mastoid cells, producing septicæmic symptoms. The second was a case of abscess of the temporo-sphenoidal lobe, following chronic otorrhœa. In the third, thrombosis of the lateral sinus took place, with probably basilar meningitis. In all three the mastoid process was trephined. The first and third recovered, the second died, owing to the bursting of the abscess into the lateral ventricle just before it was intended to trephine over its seat. The diagnosis between abscess and other cerebral affections was difficult. Optic neuritis was not a reliable symptom for this purpose, as it was absent in the above case of abscess and present in the case of thrombosis. The diagnosis of cerebral abscess was obscure. When once made surgical interference presented no difficulty. In cases such as the foregoing, early trephining of the mastoid cells was to be insisted on, so that the whole cavity might be syringed out, and the infection cut off at its source.—A discussion then took place upon the surgical aspect of cerebral disease and injury.—Mr. DAMER HARRISSON showed the patient in whom he opened an abscess in the brain,[1] and after some observations by Mr. PUGHE, Mr. HAMILTON described a case under the care of his colleague Mr. Puzey, in which the symptoms pointed to a lesion in the cortical face centre, but on trephining at the point indicated no lesion was found, and the patient died unrelieved. The lesion was then found to be in what is generally regarded as the arm centre.—The PRESIDENT feared lest a few brilliant successes might beget rashness in trephining. Before operating for any given lesion it was necessary to determine its nature, its locality, and the corresponding point on the skull, and its singleness or multiplicity. To show the difficulty arising from multiple lesions, he related the case of a man who injured his right parietal region and suffered from headache, vertigo, vomiting, and convulsions, trembling of the right side of the face followed by anæsthesia, and later by right facial palsy and anæsthesia. After some months these symptoms were overshadowed by agonising pain over the right parietal bone and left hemiplegia. He was trephined over the old parietal scar, and a large intracranial abscess was evacuated. On the patient dying a month later, a large cyst, quite independent of the abscess, was found in the pons.—Mr. R. JONES related the case of a man who injured his parietal region and had unilateral convulsions. He apparently recovered, but two years later the symptoms returned, and pointed to a lesion about the middle of the fissure of Rolando. Mr. Jones trephined in the region indicated, and when the disc of bone removed was examined it was found to have adherent to it at right angles a blade of bone half an inch wide and three-quarters long, which had evidently been imbedded in the brain for two years.—Dr. ALEXANDER doubted whether preventive trephining of the mastoid cells was ever justifiable for chronic otorrhœa without symptoms. The popular opinion was quite true that "most cases grew out of the disease." The time to act was when grave symptoms first appeared. In operating on the brain he was accustomed to enlarge the trephine hole by scoring the outer table with a Hey's saw to the desired extent, and completing the division with bone-forceps.—Mr. GEORGE STONE said that if the profession would only recognise the dangers incidental to otorrhœa, the necessity for trephining the skull or the mastoid cells would be reduced to a minimum.—Mr. C. G. LEE described a case of otorrhœa with head symptoms in which trephining the mastoid cells gave complete relief. In another case in which the operation was performed late, the relief was only temporary. In a third case the discharge had gone on for fifty years, being kept up by the presence of a small sequestrum. The patient procrastinated and died suddenly. Mr. Lee considered that when chronic otorrhœa had resisted ordinary treatment the mastoid cells should be explored.

[1] *British Medical Journal*, 1888, vol. i, p. 818.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

THURSDAY, NOVEMBER 8TH, 1888.

J. W. MARTIN, M.D., President, in the Chair.

Specimens.—Dr. HARGREAVES exhibited a Sarcoma of Breast from a married woman, aged 42.—Dr. HUNT exhibited a Hæmatocele removed from the scrotum of a man, aged 72.

Coloboma of Iris.—Mr. SNELL showed two children, boys, aged 8 and 5, with this defect. The father and a sister were similarly affected, and the father's mother was stated to be so as well. The cleft in each of the four cases was large, and was situated downwards and outwards.

Sinus of Orbit connected with Diseased Tooth.—Mr. SNELL related this case. The sinus was situated under the left lower eyelid. Extraction of the right central incisor resulted in a speedy cure. This tooth had been fractured through a fall some years before.

Cancer of Cæcum.—Mr. J. B. LYTH showed specimens from a case of cancer of the cæcum, which had caused death by perforation before any serious mischief was suspected, the symptoms not compelling the patient (a married woman, aged 45, with a family of six children, and in straitened circumstances) to seek advice. There was a cancerous stricture at the junction of the cæcum with the ascending colon, and a perforating ulcer opposite the ileo-cæcal valve. There were numerous secondary deposits in the liver, a microscopical section from which presented the appearances of columnar epithelioma.

Piece of Cartilage Removed from the Side of the Knee.—Mr. W. F. FAVELL related particulars of this case. The patient was a collier, aged 60; on the inner side of the knee, and movable over the femur, was a loose foreign body. On cutting down a perfectly loose piece of bone, capped with cartilage, was removed from a cavity, having no communication with the joint; the cavity contained no fluid. As to the origin of this specimen, was it an exostosis broken off the femur, or a case of quiet necrosis from repeated injuries to the bone incurred in the way of the man's work?—Remarks were made by Mr. JACKSON, Mr. BANHAM and Mr. KNIGHT.—This specimen, as well as Mr. LYTH's, were referred to the Pathological Committee.

Rickets.—Dr. GWYNNE read a paper, in which he maintained that rickets could not reasonably be assigned to errors of diet, or to the character of the water or to insanitation, but to all these more or less combined, added to certain influences of locality not yet understood. In this respect rickets somewhat resembled goitre and cretinism. The distortions of the limbs he referred to irregular ossification, such as produced an abnormally large internal condyle in the case of the femur, in conjunction with the influence of weight. In the treatment of knock-knee he preferred Macewen's operation through the shaft of the femur to Ogston's section through the internal condyle. The operation in itself was less dangerous, and a straighter limb was left.—The following joined in the discussion: Mr. E. SKINNER, Dr. PORTER, Mr. KNIGHT, Mr. JACKSON, Dr. CLEAVER, the PRESIDENT, Dr. S. WHITE and Mr. W. F. FAVELL.

SUNDERLAND AND NORTH DURHAM MEDICAL SOCIETY.

THURSDAY, NOVEMBER 15TH, 1888.

G. S. BRADY, M.D., F.R.S., President, in the Chair.

New Members.—Dr. H. Blyth Allan (Sunderland), and Dr. A. J. Campbell (West Boldon), were elected members of the Society.

Pigmentary Nævi.—Mr. LEGAT showed an infant whose head, body, and upper extremities were the seat of numerous elevated growths of a dark, in some places almost black, colour, varying in size from that of a sixpence to that of a florin. The greater part of the back was covered with a red, squamous eruption, and there were several patches of a like nature on the arms. The child was very well nourished, and extremely lively. There was no history of syphilis.—Dr. SQUANCE thought these growths might possibly develop into melanotic sarcoma of the skin.—Dr. PEARCEY thought that there were two factors in the case, one due to syphilis, and that the more elevated patches were nævi.

Hæmatoma.—Mr. W. H. MALING showed, for Mr. HOPWOOD, a boy with a large hæmatoma of the forehead, the result of a fall three months before. It was gradually diminishing in size.

Spina Bifida.—Dr. PEARCEY exhibited a case in which he had effected a cure by Morton's treatment. The spinal cord evidently did not pass through the tumour, and there was no paralysis.—Mr. ROBINSON also showed a case, but the child was too weakly to hope for treatment being successful.

Hydrocephalus.—A well-marked case of this disease was shown by Dr. PEARCEY, on which Mr. MORGAN and Dr. SQUANCE made remarks.

Polypus of the Vulva.—Mr. MORGAN showed a polypus about the size of an orange, which he had removed from the vulva of a young married woman. He had been urgently summoned to the case as one of strangulated hernia.

Ventral Hernia.—Dr. PEARCEY showed a photograph of a case of this affection.

Brain Surgery.—Mr. WHITEHOUSE read a paper on the recent advances in brain surgery, illustrating his remarks by diagrams showing the position of the various centres in the brain, and the landmarks on the skull indicating the position of those centres.—A discussion followed, in which the PRESIDENT, Messrs. MORGAN, ROBINSON, and SEVILLE, and Drs. PEARCEY, SQUANCE, and LOW took part.

PATHOLOGICAL SOCIETY OF MANCHESTER.

WEDNESDAY, NOVEMBER 14TH, 1888.

A. H. YOUNG, F.R.C.S., President, in the Chair.

Fracture of Skull.—Mr. STOCKS showed a section of the skull of a man who had sustained a small vertical fracture of the frontal bone immediately in front of and parallel to the coronal suture, about three-quarters of an inch above the level of the wing of the sphenoid; it extended diagonally backwards and inwards to the coronal suture, without any displacements except one spot where a small, triangular, sharp-pointed piece had sprung, as it were, out of its bed immediately over one of the branches of the middle meningeal artery. This had punctured apparently by friction, and the man died in about eleven hours from compression.

Orbital Tumours.—Dr. HILL GRIFFITH showed preparations and microscopic sections of orbital tumours, an adeno-sarcoma, an adenoma, a carcinoma, and a cavernous angioma; and made some remarks on the diagnosis and removal of orbital growths.

Intussusception.—Dr. J. HILTON THOMPSON mentioned a case of ileo-cæcal intussusception in a child eleven months old. The symptoms extended over three weeks. A sausage-shaped tumour was felt in the left iliac region. The abdomen was distended, but there was no rigidity of its walls. The stools consisted of blood, mucus, and a little fæcal matter. The intussusceptum was felt *per rectum*. At the *post-mortem* examination, general peritonitis was found. The intussusception, which was hidden by distended bowel, occupied the left ileo-lumbar region, and curved across the abdomen just above the level of the umbilicus. The intussuscipiens was adherent at its upper port to the intussusceptum; the latter was pervious. Perforation of the bowel had taken place just below the intussusceptum.

Double Uterus.—Dr. DONALD exhibited a double uterus. The cervix was single, but a septum extended from the fundus to the level of the os internum, thus giving rise to the malformation known as uterus bicornis semiduplex, or unicollis. The specimen was obtained from an unmarried girl, aged 17, who died from pneumonia, following excessive uterine hæmorrhage. During life, a uterine sound was passed into the left horn, and the other horn was mapped out bimanually, but was mistaken for a myoma of the uterus.

Multiple Sarcomata.—Dr. YATES showed preparations and sections from a case of multiple sarcoma. The prominent symptoms during life were persistent vomiting, headache (upper occipital region), great emaciation, slight bronzing of the skin, and bright petechiæ over the abdomen and chest. The *post-mortem* examination revealed a large tumour involving the base and upper part of the left lung; three firm, whitish tumours, about the size of horse-chestnuts, in the body of the pancreas; a white somewhat firm mass of new growth as large as an orange, replacing each suprarenal capsule; another mass occupying the position of the left ovary, and a small cyst in connection with the right ovary. In the cerebellum at its junction with the pons, was a soft gelatinous tumour about the size of a pigeon's egg, which extended to the surface at the under part of the left lobe. Both lobes of the thyroid were also enlarged by new growth. About the centre of the left clavicle was found a rounded tumour, about the size of a hazel nut, apparently springing from the periosteum, having no connection with the bone, and a similar growth on the pleural aspect of the left second rib. All these tumours were found to be large round-celled sarcomata.

LEICESTER MEDICAL SOCIETY.

FRIDAY, NOVEMBER 2ND, 1888.

C. W. COOPER, M.B., President, in the Chair.

President's Address.—The PRESIDENT delivered an address on Rheumatic Fever. During an experience of eighteen years at the Leicester Infirmary, he had seen about six hundred cases, and had had the advantage of comparing the alkaline treatment with that by the salicylates. He expressed the belief that the cause of the disease would be found to be a micro-organism. He considered that acute rheumatism was not due to the same causes as chronic rheumatism. Males were more liable than females in the proportion of three to one; it was most common between the ages of 20 and 30, and not so common in children or in persons over 30. Winter and spring were the seasons at which it was most prevalent. The mortality of the disease in his experience, including only cases which proved fatal at the time of attack and, excluding those due to sequelæ, was about 1 per cent. He considered the knee to be the joint most frequently affected. About 75 per cent. of his cases had done well, by which he meant that they had lost all acute symptoms in about fourteen days from admission. If the pulse was at all full, he did not allow his patient to get up, as a relapse in such a case was very likely to occur. Endocarditis occurred in from 20 to 30 per cent. of all cases, and, if a patient had escaped this complication in his first attack, he was not likely to be troubled by it in subsequent ones. The mitral valve was attacked three times more frequently than the aortic. He had only had one case of hyperpyrexia. With regard to treatment, he advised salicylic acid gr. xv., bicarbonate of potassium gr. xv., every three hours, which he decreased to three times a day as the symptoms abated. He thought the general adoption of treatment by salicylates had reduced the average duration of the disease from fourteen to ten days. The diet he advised in the acute stage was milk, and he only gave stimulants in cases where heart complications were present.

Surgery of the Parotid Gland.—Mr. BOND gave notes of two cases in which sarcomata had been successfully removed from the parotid. The first was that of a man, aged 68, on whom an operation had been performed for a tumour of the parotid four years previously; this had recurred, and at the time of the second operation the growth had implicated the skin, leading to ulceration and hæmorrhage. The whole growth, with the parotid gland, was removed by Mr. Bond on June 10th, 1888, the external carotid, internal maxillary, facial, and temporal arteries being doubly ligatured and portions excised. Steno's duct, which was implicated, was removed, together with the facial nerve. The growth proved to be a myxo-sarcoma, and a specimen was shown under the microscope. The patient was now alive and well, there had been no recurrence, and the facial paralysis, though persistent, did not lead to any great inconvenience, there being no ulceration of cornea or accumulation of food in the cheek. The second case was that of a man, aged 70, in whom a similar but smaller growth was removed, together with a portion of healthy parotid tissue

Convalescence was retarded by an attack of acute parotitis, but the man ultimately made a good recovery. There was no recurrence seven months later. Mr. Bond considered that the growths in these cases formed a class intermediate in malignancy between the benign cartilaginous growths or so-called "parotid tumours" and the malignant round and oval-celled sarcomata. They were characterised by having an investment of fibrous tissue and by containing myxoid tissue with areas of oval-celled growth.

Facial Paralysis from Disease of Temporal Bone.—Dr. BENNETT showed a boy who had had caries of the bony meatus and complete facial paralysis. There was a sinuous opening below the auricle, extending to the external auditory canal, which was blocked by granulations. The mastoid process was trephined, but found healthy; necrosed bone was found in the bony meatus. After the continued use of cotton-wool plugs on small pieces of wire, inserted daily, the granulations disappeared completely. The paralysis had nearly disappeared. Both membranes were destroyed, and the inner ear on each side much affected by carious ulceration.

Malignant Disease of Stomach and Liver.—Dr. POPE showed specimens from a case. The liver disease was secondary to that in the stomach. The patient was a lunatic, and his first symptoms were melæna and hæmatemesis. These got well, but were followed by ascites in a few months. The disease in the stomach was limited to the lesser curvature, and formed a mass adherent to neighbouring organs. The secondary deposits in the liver, which were very numerous and of all sizes from a pin's head to that of a small orange, showed the appearance of medullary cancer on microscopical examination.

REVIEWS AND NOTICES.

THE "MORE EXCELLENT WAY" IN THE PRACTICE OF MEDICINE By JOHN CLIMENSON DAY, M.D.Lond., etc. London: Gould and Son.

THIS pamphlet of 45 pages is remarkable as containing more claptrap, twaddle, mock sentiment, and rhodomontade than any pseudo-medical work which we ever had the misfortune to read. So loose is the style, so pretentious the claims on our intelligence, that were we not assured to the contrary by the author's name and title on the first page, we should have attributed its production to some member of the literary staff connected with another "more excellent way"—the Mother Siegel's syrup school of medicine. Dr. DAY in one passage says "The ignorance of young men just emerged from their hospital course.....is something appalling." Possibly; but we confess that the ignorance displayed by some who have "emerged from their hospital course" for many years impresses us still more forcibly. The book is a plea for homœopathy, and particularly for the treatment of cholera, hydrophobia, typhus, rheumatic, and other fevers by "doses of the third decimal trituration of arsenious acid." Dr. Day, it appears, was converted to homœopathy by witnessing "the marvellous curative effects of fractional doses of ipecacuanha wine in a case of bronchitis." By whom administered, the remarkable English of the pamphlet precludes us from ascertaining. The author's style is very irritating, and in places is scarcely up to the Siegel syrup school of letters. Here are two specimens from amongst many: "In another case, one afflicted with common fever and inflammatory sore throat was treated, etc.;" "And when attending a certain patient many years ago advised 'Tell your son,' etc." Evidently the author has yet to learn "the more excellent way" in grammar. We do not expect common sense in connection with homœopathy, but we do look for English when bidden to revolutionise our therapeutics, But perhaps Dr. Day devotes his principal attention to the classics and the English poets. He begins with a quotation from Horace, and scatters up and down his pages some twenty-six quotations from the Latin Delectus and the "foreign phrase" columns of Webster's Dictionary. We have long extracts from Milton and many texts of Scripture, and about 25 per cent. of the matter has to be emphasised by italics. And all to prove the ignorant incompetence of the allopath for the greater glory of "the more excellent way."

Dr. Day is not an over-modest man; he says: "I, who have for many years investigated every form of medical treatment, and most carefully studied Nature in all her aspects (here's a philosopher for you!), joyfully bear my testimony," etc., "that the night of medicine is passing away—'Watchman, what of the night? The morning breaks, and the shadows flee away,'"—and all because of Hahnemann and Dr. Day. The author once had a very remarkable cure; it was one of "malignant diphtheria associated with typhoid rheumatic fever." This occurred when he was "on the anxious benches," before he was fully initiated into the *similia similibus* system, so he asked himself if he should try the expectant treatment, or administer bark and ammonia, which he calls "filthy compounds," or should he try "the similia?" Now it would appear that the homœopathic remedy for yellow fever, dysentery, Asiatic cholera, plague, and other trifling complaints of that sort, is something that the doctor "knew beforehand would act with mathematic certainty," and that remedy—stay your laughter, friends—(we forbear the Delectus) is, the third decimal trituration of arsenious acid. Dr. Day does not see why it should not cure hydrophobia, and naïvely adds, "It is possible M. Pasteur may be led to read these suggestions," and use "this internal weapon of magnificent power." Dr. Day is liberal with his adjectives.

We hope this pamphlet may have a wide circulation, especially amongst young medical men who think that "there may be something in homœopathy after all." Nothing could tend more certainly to dispel any such illusion than the perusal of this treatise.

THE FORMATION AND EXCRETION OF URIC ACID CONSIDERED WITH REFERENCE TO GOUT AND ALLIED DISEASES. By A HAIG, M.A., M.D.Oxon., M.R.C.P. Being a Thesis for the Degree of M.D. in the University of Oxford. London: John Bale and Sons. 1888.

THE author of this interesting and clever thesis was from his childhood a martyr to a form of headache which he identifies with migraine, and holds to be dependent upon the uric acid dyscrasia. He described his case in the *Practitioner* for August, 1884, and in a paper in the *Transactions of the Royal Medical and Chirurgical Society*, vol. lxx, he gave an account of the analysis of his urine, with his deductions therefrom.

Dr. HAIG believes that the formation of uric acid always bears a definite proportion to the amount of urea, being 1 to 33, but its elimination from the body depends upon the degree of alkalinity of the blood. When this is diminished the uric acid remains stored up in the liver and spleen, whence it is washed out into the blood whenever the alkalinity becomes normal, and in greater quantity if this is increased. When a large quantity of uric acid is poured out suddenly into the blood it causes headache, epilepsy, hypochondriasis, gout, or rheumatism, in accordance with constitutional predisposition.

It may be temporarily driven back by the administration of acids, and the headache cured in an hour or two by nitro-hydrochloric acid. As the headache does not recur when the effect of the acid passes off, he thinks the uric acid may be, under certain conditions, transformed into urea.

The most practical part of the paper, though it is throughout pregnant with practical suggestions, is that the accumulation of uric acid may be prevented by a dietary from which butcher's meat, beer, wine, spirits, and cheese are excluded. On this *régime* he succeeded in warding off his own attacks, though he can bring on a headache at will by neglecting these precautions. He attributes the effects of these articles of diet to the acid they contain.

Suppression of the functions of the skin caused by chilling of the surface diminishes the alkalinity of the blood, while, conversely, free exercise, by stimulating the skin, increases it, and thereby favours elimination. Lead and iron lead to retention of uric acid, probably by forming insoluble urates. Iodide of potassium appears to act simply as an alkali, and is not superior to the citrate. The salicylates are very powerful solvents of uric acid. Phosphate of sodium does not decompose alkaline urates, but other phosphates and sulphates and chlorides act just as acids do. He cannot explain the action of colchicum except as a purgative, which checks absorption of food and eliminates by the bowel. He suggests that cases of headache, epilepsy, etc., due to this cause may be recognised by the high-tension pulse.

Dr. Haig's observations have been carefully made, and deserve the attention of the profession as a promising contribution to the therapeutics of a group of cases often presenting great practical difficulties.

A Descriptive Catalogue of the Pathological Museum of Charing Cross Hospital. By John H. Morgan, M.A.Oxon., F.R.C.S., Curator of the Museum. London: Harrison and Sons.

One of the most favourable signs of progress in our medical schools is the frequent appearance of good printed catalogues for museums. It proves that the museum is made available for visitors and students, for without a catalogue a museum is worthless. It further proves that the curator, at least, is doing real work, for catalogues cannot be prepared without sound scientific labour. A catalogue of the barest description can never be made up like an auctioneer's or bookseller's list; and it is ever more than a purely literary composition. To write down the description of each specimen, or even to name it, requires careful scientific analysis. Mr. Morgan has proved that Charing Cross Hospital possesses no mean collection. The only catalogue already in existence "was a manuscript copy prepared many years ago by Mr. Canton, to which some dozen or less descriptions had subsequently been added by others." This was itself a copy of a catalogue made up by the celebrated Mr. Howship. Through the energy of Mr. Morgan nearly 250 new specimens have been added to the previously neglected pathological collection during the past six years. The compiler has followed the excellent example set by the catalogues of the College of Surgeons, St. Bartholomew's, and Middlesex Hospital museums. In some instances the descriptions have been mixed up with the small print lines which should be reserved for clinical history and for references, if any, to papers on the specimen. This is the case, for example, in the notes on No. 684, where, indeed, nothing but the name of the disease is given in ordinary print. This arrangement is quite contrary to the principles and system of the College of Surgeons' catalogue. Nevertheless, it is at least a fair guide to the specimen. The description of No. 156, illustrating sarcoma of the femur, is a model for curators to imitate when preparing catalogues. No. 157 is not described in the same good fashion; indeed, once more we find the name of the disease, instead of an account of what is to be seen. The clinical history, however, is remarkably good, and nothing is printed which can mislead. Only those who have assisted in preparing a catalogue can realise the amount of drudgery which is necessary for the compilation of so valuable a guide as the present volume. Whether making out a badly dissected specimen or hunting up clinical references is the most difficult, it would be hard to say. Mr. Morgan has gone through both these thankless tasks with credit. There remain such things, unfortunately, as museums to London medical schools devoid of catalogues. Let us hope that in a very few years this will no longer be the case. The curators of the defaulting institutions must imitate Mr. Morgan. Lastly, we must express a hope that printed supplements will be issued whenever necessary, as is done at the College of Surgeons and St. Bartholomew's Hospital.

Ophthalmic Practice. By Charles Higgens. London: H. K. Lewis. 1888.

We must confess to a feeling of disappointment after having carefully perused this little book. Mr. Higgens has had long experience as a teacher, and, knowing this, we struggled through his book, undeterred by the extraordinary arrangement which he has adopted. This consists in a division into two parts, the first dealing with affections that require operative treatment, and the second with those that do not. To be consistent the author should have given us a third part to include affections the treatment of which depends upon their stage, their severity, and various other circumstances. Had this been done the present first part might have been reduced to very small dimensions, and the second omitted altogether. It is obvious that the arrangement adopted involves the separating of matters which ought to be described together, and often necessitates needless repetition.

Nor can we consider this book an altogether safe guide. We are certain that no one would suspect that ophthalmia neonatorum involved great risk to the sight from the short description given of it, and the directions for its treatment are dangerously inadequate. The making of a false passage through the bony walls of the nasal duct is spoken of as "a little accident which is of no particular moment." Familiarity breeds contempt, but most ophthalmic surgeons would, we believe, look upon such an accident as decidedly unfortunate, and would consider that it would modify the after-treatment and progress of the case. But, whatever the author's own views may be on the subject, he is not justified in leading students to underate the evils of careless operating.

Glaucoma is well described (why it is placed in Part I we do not understand). The usual caution about atropine is given, but its force is weakened by the statement that its use is recommended in some "works on ophthalmic subjects."

In the chapter on squint (which, together with hysterical amblyopia, is placed under "Operations") no reference is made to the possibility of the amblyopia preceding the squint.

On page 274 it is stated that convex 13 D are the distance glasses usually required (after extraction) by a previously emmetropic eye. We should say that 10 was nearer the mark.

Neither Mules's operation of putting a glass sphere into the sclerotic after evisceration, nor the plan of putting the sphere into Tenon's capsule, is even mentioned, although the former is now pretty generally adopted, and the latter is the routine practice of several surgeons.

Mr. Higgens's description is not always as lucid as it might be. We are told that "by linear incision is generally understood an incision made in the same direction as a straight line drawn from the centre of the cornea to its circumference (one of its radii)."

In places the book shows evidence of having been written ten years ago. Liebreich's ophthalmoscope is described, and in one place commended; the modification described as "recent" was certainly not very recent ten years ago. No doubt at that time this instrument was on a level with others, but it is hopelessly inferior to those now in use. Indeed, in speaking of testing refraction this is practically admitted, and Oldham's is recommended. No reference is made to the advantages of an oblique mirror, or to the relative merits of the direct and indirect methods, except that the latter is stated to be far the easier, a statement which is, at least, open to serious question.

NOTES ON BOOKS.

A Handbook of the Theory and Practice of Medicine. By Frederick T. Roberts, M.D., B.Sc., F.R.C.P., Professor of Materia Medica and Therapeutics, and of Clinical Medicine at University College, etc. Seventh Edition. (London: H. K. Lewis. 1888.)—The seventh edition of this well-known textbook will be as useful to the present race of students as its predecessors have been to earlier generations. Dr. Roberts has taken care that his teaching shall advance with the times, and has again availed himself of the assistance of Dr. C. E. Beevor, who has revised the chapters on diseases of the nervous system. The volume now contains descriptions of diseases such as actinomycosis and Thomsen's disease, which have only been carefully studied for the first time within recent years. The great merit of the book—the admirably systematic manner in which each subject is treated—still remains unimpaired, and renders it one of the most useful handbooks which the student who already possesses some practical acquaintance with medicine can use in preparing for his final examinations; the better read and the more experienced the student the more will he be able to appreciate the author's industry, and take advantage of his excellent method of placing the facts before his readers.

Our Duty to our Filthy Neighbours in South India. By Surgeon-General G. Bidie. 8vo., pp. 16. (Ooty. 1888.)—The title of this lecture, delivered in the Neilgherries, is not a savoury one, but its intention is excellent, and it contains admirable advice. For the present, while the native members of municipal councils show such an unwillingness to expend money for sanitary purposes, we have no great hope that the good seed sown will fructify.

Elements of Practical Medicine. By Alfred H. Carter, M.D.Lond., etc., Physician to the Queen's Hospital, Birmingham, etc. Fifth Edition (London: H. K. Lewis. 1888.)—When an author is in the proud position of being able to say that four large editions have been sold in eight years, the duty of the reviewer in dealing with the fifth is simple. The book is intended to serve as an introductory textbook for the use of students, and its success shows that it has met a want. This success, however, would not have been attained unless Dr. Carter had honestly done his best

to make the work trustworthy and complete within the limits which had been set. The therapeutic index which has been added to the book since its first appearance is a useful feature.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

SOZOIODOL.

New chemical compounds are now being frequently introduced for therapeutical purposes, and before many years are over the *Pharmacopœia* will without a doubt undergo great changes in a chemical direction. From the vast number of new compounds prepared in the laboratory not one tithe has been tested physiologically, although the field offers great attraction both from a scientific and a financial point of view.

The latest product, manufactured by Mr. H. Trommsdorff in Erfurt, consisting of di-iodo paraphenol sulphonic acid and its salts, for brevity called sozoiodol, claims to be an odourless substitute for iodoform. The compound contains three of the most efficacious antiseptics—namely, iodine (to the extent of 54 per cent.), carbolic acid, and sulphur. It has already received a good deal of attention on the Continent, and the reports made by a number of competent investigators are certainly most favourable, warranting the hope that sozoiodol will receive careful attention at the hands of English medical men. The compound, in the form of its sodium salt, has been given in twenty-two-grain doses thrice a day without any injurious effects manifesting themselves, and externally it is tolerated in the most concentrated state without creating artificial inflammation.

Various salts—the sodium, potassium, zinc, and mercury salts—have been submitted to us. They proved to be pure and well crystallised, free from impurities that might produce irritating effects. The English agent for sozoiodol is Mr. F. Boehm, 27, Billiter Buildings, E.C.

ALPINE MILK BISCUITS (POWDERED).

These biscuits are intended as food for children above the age of 4 months up to that of 2 years. Their ingredients are milk solids (fat, casein and albumen, milk sugar, and phosphates), wheat extract (soluble albuminoids, maltose, and dextrin), and wheat flour, the whole being baked, with a small proportion of flavouring, into a biscuit. More than 25 per cent. of its substance consists of milk constituents. The food is prepared by boiling 1 part of the powder with 10 parts of water. The advantages are, palatability, digestibility, high nourishing value, and freedom from cane sugar; the latter, as is well known, is apt to produce lactic acidity. There is no doubt that "Alpine milk biscuits" constitute an excellent and carefully prepared food of the greatest value. The manufacturers are Messrs. Loeflund and Co., Fenchurch Street, London.

WOOD WOOL.

The Wood Wool Company, of Bridgeman Place, Bolton, have submitted to our notice specimens of their manufacture. Their wood wool may, perhaps, be described as very fine and narrow shavings of pine wood. It is not used as a dressing for wounds, but amongst the many purposes to which it may be applied, we notice that it is recommended as a material with which to fill mattresses in the army and in hospitals, and as bedding in stables, etc. It is elastic and pliable, it is very light, and has the advantage over hay and straw in being entirely free from any dampness.

SCOTCH OATMEAL BREAD.

We appreciate this attempt to extend the use of oatmeal, in a form other than porridge. The oatmeal itself cannot be readily baked into bread, but must be mixed with a proportion of wheat flour, which supplies the necessary glutin. Messrs. Henderson and Sons (West Hill, Wandsworth) have chosen a very judicious mixture, one which yields bread of good consistency, yet exhibits the flavour of oatmeal in a high degree.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1888.

Subscriptions to the Association for 1888 became due on January 1st; and notice is hereby given, in accordance with by-law 5, that Branch Secretaries' subscription-accounts close on October 31st, and all unpaid subscriptions must be forwarded, after that date, to the General Secretary, 429, Strand, London. Post Office Orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, NOVEMBER 24th, 1888.

THE ROYAL COLLEGE OF SURGEONS.
III.

Before passing to the technical legal aspects of the discussion, it may be well at this point to call attention to some of the broad issues of public policy which are at stake in the controversy between the Members of the College and the governing body. We have called attention to the fact that by its very nature and constitution such a "College" is, or ought to be, a self-governing fraternity. Membership of it is not merely a diploma, or an admission pass to a museum. It means that the surgeon who is admitted a Member becomes one of the community whose common property is held, and whose common interests are administered in the name of the corporation. That those who happen to be charged with executive powers should turn round on their fellow Members and claim to expel them from their own hall would be utter injustice, even if it were not also bad law. That those who have authority to speak in the name of the whole corporation should defy the obvious ruling of those in whose name they speak would be at once set down as a flagrant abuse, if it were not that people had become habituated to still worse abuses in the good old times, when all corporations were unreformed. If the claim of the Council were carried out to its logical conclusions, it would no doubt shock even their few supporters. But not many yards away from Lincoln's Inn Fields they will find other halls of other corporations, such as the Inns of Chancery and Serjeant's Inn, in which the theory that the governing body is the college has worked out to the practice of selling the corporate property and dividing the proceeds. We do not doubt that the Council of the Royal College of Surgeons would regard any suggestion of analogy as an insult; and yet, if they are not responsible in any way to their constituents for their expenditure of money, and if they are entitled to vote it away to the Curator, or to Examiners, or to the President, or to anyone, to any extent they please, without recognising any right in anybody to call for an account, where do they suggest that we should draw the line?

We say therefore that, as a matter not only of constitutional right but of public policy, it is self-evident that no such governing body should be suffered to claim irresponsibility in finance. They may be, in fact, beyond reproach. If everything they do is defensible, they need not be afraid to defend it. They are men of high character and prominent position. But no such plea is an answer. Our public servants are honour-

able men also, yet we debate their accounts. If the Council were elected by the whole constituency, they might say it was convenient to rely on that form of check; but so long as they are elected only by a small and special section of the community, so long will it be necessary to insist on a general right in College meeting, if not elsewhere, to criticise, and, if necessary, to veto special expenditure.

When the question is one not of finance but of the broad lines of policy affecting the common interest or collective action of the College, we confess that we cannot understand on what intelligible ground the Council for the time being can claim to defy the many clear and reasonable declarations of policy which have emanated from the College meetings. They made some pretence in their statement to the Privy Council of having actually *had* the authority of a College meeting for their reckless and arbitrary action in the matter of the scheme for joint examinations. But the singular hollowness (to use no stronger term) of this suggestion, which was admirably exposed by Mr. Pollock's rejoinder, drives us to the conclusion that they felt the force of the argument against legislating in the teeth of their College so keenly, that they were driven to any shift to escape it. And that is only one case out of many, though by reason of its vital importance, not only to the Members generally but to the whole profession, it may serve to bring into bolder relief the absurdity of allowing a junta to override public opinion.

No one suggests that an Executive Council should not have all reasonable powers. The question is simply whether it should or should not be autocratic and irresponsible. The present Council acknowledges no accountability of any kind. Mr. Heath did, indeed, at the recent meeting, use a form of words which seemed to imply a desire to detach the Fellows from the ordinary Members, by allowing it to be inferred that the Council held themselves in some undefined way responsible to the former as their "constituents." Happily, the Fellows have not allowed themselves to be led into an attitude of antagonism, nor have the Members ever been slow to recognise in the amplest way the claim of the Fellows to special privileges. But the theory, if it anywhere exists, that the Fellows are one community and the Members another is altogether untenable. The Fellows are simply Members who have taken a higher degree. By reason of that fact they are granted large advantages, but it would be wholly unreasonable to exclude the Members from all voice in the College merely because they have not passed this special test. It is notorious that to great numbers of the surgeons it is practically impossible, even though they may be persons of great knowledge and skill, to take that step at the period of their career when they would naturally do so. The Council themselves have negatived this very unjust suggestion of "want of education;" for, if high skill is required for any College purpose, it is for examination, and the Council strained a point to assure the Lord President that the Members were "eligible for certain examinerships and lectureships." If they are capable of these things, why are they wholly incapable of being eligible for the Council, or of having any voice in electing it?

The preservation of a high standard of scientific attainment as the distinction of the Fellowship is in the interest of the Members as much as any; and they have been fully in sympathy with every effort in that direction, when the Council's policy was of a contrary tendency. But this very fact involves that with their special attainments the Fellows must, to a certain extent, have special interests also. There need not be the least antagonism between the great hospital surgeons and consultants and the main body of their colleagues; but the unrepresented must, in the nature of things, suffer to some extent, as the history of parliamentary institutions has abundantly shown. The whole body of the profession have been admitted to direct representation on the General Medical Council. No one denies that the concession is a safe and valuable reform. We cannot see on what principle the like redress should be refused, where the very nature of the College involves it.

Probably a large part of the confusion in the minds of the Council is due to the fact that the "fraternity" is called a "College." They seem to argue in their own minds from the analogy of a university. If that line of argument were worked out, it would hardly help the contention of the governing body, because, wherever in the existing universities irresponsible governing committees exist, there is an obvious tendency and necessity to correct the evil. But the College of Surgeons is not, and never was, analogous to a university. The Council say with scorn that it is not a "political" body. If they mean that it is not concerned with the party politics of Whigs and Tories, it is an irrelevant proposition. But if they mean that it has no duties to the profession and the public beyond keeping its museum and managing its examinations, the proposition is amazingly untrue. The College of Surgeons always was, and must be, one of the organisations for the consideration and safeguarding of their interests. That its duties in that respect cannot be fitly discharged until some element of self-government can be introduced must be obvious to every impartial man.

THE CONTAGIOUS NATURE OF LEPROSY.

THE *Times* of November 8th, 1887, published a letter from Archdeacon Wright on the spread of leprosy, in which the writer, commenting on the well-known paper by M. Besnier, expressed strong views regarding contagion in this terrible pest. In calling the attention of our readers, in the JOURNAL of November 12th of the same year, to the Archdeacon's letter, we remarked that the long period of incubation in leprosy made it difficult to trace the source of contagion in any given case, but in the JOURNAL of the following week, November 19th, 1887, we gave a brief summary of a number of cases which had been published in recent years, which tended to show that in certain circumstances the disease does spread by contagion.

It has been well known in medical circles for a considerable time that Dr. Arning, before he left Honolulu, had obtained the consent of the Government to inoculate a healthy man with leprosy, the person experimented upon being under sentence of death, and the sentence being remitted on condition that he submitted to the inoculation. Up till quite recently any reports which we have been able to gather concerning this individual were to the effect that no symptoms of leprosy had

developed, and, if we are not mistaken, the anti-contagionists had already begun to attach considerable importance to this negative result. We find, however, in the *Times* of November 10th a letter from Archdeacon Wright, enclosing a document from Honolulu, which seems to establish beyond all doubt the fact that leprosy can be communicated from one individual to another. The Archdeacon had written to Major Wodehouse, Her Britannic Majesty's Consul-General in Honolulu, requesting positive information regarding Keanu, the prisoner confined in Oahu Gaol, who was inoculated with leprosy by Dr. Arning. The Consul-General applied to the authorities, and the President of the Board of Health, Dr. Emerson, supplied the following certificate (signed by himself and another physician) to His Excellency the Minister of Foreign Affairs at Honolulu :

Office of the Board of Health, Honolulu, September 25th.

This is to certify that we, the undersigned, have this day carefully examined one Keanu, a Hawaiian man, in confinement at the Oahu Gaol, who was inoculated with leprosy by Dr. Arning on November 5th, 1885, and we find his condition to be as follows: Ears tubercular and considerably hypertrophied; forehead the same; face, nose, and chin show flattened tubercular infiltration; mouth clean, no tubercles; face generally presents a leonine aspect. Hands puffed, fingers swollen at proximal phalanges, tapering to distal phalanges; tips of forefinger and thumb of left hand are ulcerated from handling hot tin cups of tea or coffee, indicating anæsthesia. Body: Back thickly mottled with flattened tubercles and the surface uneven to feel, colour of the same a yellowish-brown; front of the body, chest, and abdomen presents plaques of tubercular infiltration of larger size than back, separated from each other by wider intervals and of a brighter colour, in some cases a ruddy pink, especially over upper part of sternum. Legs: The infiltration thins out as far down as the knees, there being one large bright patch on the inside of the left thigh; legs below knees quite clean and skin smooth and even to touch. Feet, œdematous, have poor circulation; bluish colour; soles of feet clean. Seat of inoculation, outer aspect of left forearm, upper third, shows a dark purplish scar about 1½ in. long by ⅝ in. wide, irregular in shape, keloid in aspect, dense, and inelastic. The tests for anæsthesia were not made. Eyes with sclerotitis, muddy, and injected. No signs of palsy about muscles of face, orbiculares palpebrarum, hands or forearms. It is our decided opinion that this man is a tubercular leper.—N. B. Emerson, M.D., President of the Board of Health; J. H. Kimball, Government Physician, Honolulu.

This report establishes unequivocally the fact that the inoculated man has become leprous; and as he had been inoculated three years previously, there is every reason to believe that the disease is the result of the inoculation. This is very much borne out by the fact that at the seat of inoculation there is what is described as a dark, purplish scar of about one inch and a half long by five-eighths of an inch wide, keloid in aspect, dense, and inelastic.

The importance of a positive result like this cannot be outweighed by a considerable number of negative experiments, although, so far as we know, this is as yet the only direct experiment that has been made from a leper to a sound individual, and we do not believe that its importance is lessened by the fact that inoculations made from a diseased part of the body to an apparently unaffected part of the body of the same person have, in some cases, not led to development of the disease in the inoculated part within a comparatively short lapse of time.

The communication of leprosy in this case confirms the views generally entertained by those who hold that the disease is contagious, the idea being that it can only be conveyed from one person to another by a direct communication of leprous tissue into the moist, living tissue of the person infected; in short, that when it is contagious, it is contagious in the same way that syphilis is understood to be contagious. It may well be, however, that the susceptibility to the development of the disease, even by contagion, is not universal, although this is a point that cannot be soon determined.

THE EXAMINATION INCUBUS.

We recently made some comments on the evils produced by over-examination, and the protest which has appeared in the *Nineteenth Century*, backed by the signatures of a number of eminent men, sufficient to command respectful consideration for the questions which are thus brought prominently before the public. Thus far the question is supported by the expression of opinions of men well qualified to speak on the matter, and this will doubtless be followed by collections of facts or statistics bearing on the subject, to be arranged by the committees which it is proposed to form for the purpose of obtaining direct evidence. The concern of our profession with the matter is mainly as to the effects of frequent examinations upon the body, and particularly on the brain, of the examinee.

It will doubtless be the work of one of the proposed committees to conduct an inquiry, on scientific principles, as to the physical effects of examinations—say in a certain number of public schools, or among the successful candidates for certain Government appointments—to determine what visible effects may be seen after the conclusion of the test. It is quite possible for a physician to examine and report upon the physical condition, and brain state, of a body of recent candidates, noting conditions of nutrition, any signs of mental wear, excitement, exhaustion, etc., and classifying them: this might be supplemented, if advisable, by recording the signs indicating the probable intellectual condition, as tested by the usual methods of physiologico-psychological inquiry.

Useful facts might also be accumulated on other lines. An inquiry might be instituted as to the social success or failure of graduates of different standing, a certain number of years after graduation; and a list might be made of Bachelors of Arts who, subsequent to graduation, have registered as medical students, showing the percentage of those who qualified in medicine at the completion of their four years of medical study.

The protestants desire the appointment of a Royal Commission to consider the whole subject of official appointments by examination. All who have any knowledge of the processes of education will condemn a system of cramming; the result of this, and of the system of examination, has been that we often see in public offices, and the great universities, men who are unfitted for the positions they obtain, men who have not the breadth of view, the qualities of commanding, the powers of administration, the force of brain power, and other essentials which they ought to possess. It is also proposed to inquire into the methods of appointment by corporations, hospitals, etc. With regard to hospital appointments, it may be asssumed that the resident officers are referred to; such appointments are made in various ways in the different schools, from among

students who have faithfully discharged the duties of minor offices; the selection from among candidates being determined in different ways at the various hospitals, in some by examination only, in others by the selection of a committee, while a third method, which is perhaps the best, is by examination among those candidates who are nominated as fit for preferment by the teachers who know them, and are acquainted with their personal character.

Referring to the general question of the good or evil resulting from certain examinations, it may be remarked that though it be amply shown that a peril exists, it does not necessarily impose a danger to candidates. It is not the fault of an examination that unsuitable candidates attempt to pass it; in some cases, as in the professions, entrance examinations have been instituted to prevent men of feeble brain power from entering, as a protection alike to the public and the profession; if injury occurs in the attempt to win a position, that is often the result of a man attempting what he is not fitted for; the same remark may often be applied to those who try to win pecuniary prizes. In a strictly educational course, or in a professional career, examinations may be taken by the way, as tests of the training obtained, but should never be looked upon as the final goal to be aimed at in the course of study. The diversities and inequalities of men as to brain power and mental faculties are very great, and it is the duty of parents and guardians in the case of children, or the student himself and his tutorial advisers, to consider, before entering upon preparation for an examination, what may be his best interests in the matter, and his mental fitness for the course proposed. In many cases it would be to the interest of parents to seek an opinion from some member of our profession, before submitting the child, or the young man, to the necessary strains involved in preparing for a severe examination.

It is an undoubted fact that in many cases young people do suffer in their general health, and may receive mental damage, during severe study, especially if it involves work for which they are constitutionally unfitted. Much the same statement might be made with regard to young men undergoing severe athletic training, or young ladies following the exhausting excitement of a London season. Education by examination, and examination after education, are very different matters. The object of examination should be to test and assess the mental capacity and knowledge of the candidate, and this may probably best be carried out where the teachers have a large share in framing and conducting the examinations.

This leads to the consideration of a financial question, at any rate as regards medical examinations—the relative fees paid for examinations and diplomas in comparison with those paid for the whole course of education. The tendency in London appears to be to raise the fees for examination, and to lower or remit the fees paid for education, although the demands made upon the schools and the teachers are ever increasing. As regards the public services, it might be possible to give the managers of departments some voice in selecting the fittest candidates for their employment, in addition to the tests imposed by the professional examiner.

The Speaker of the House of Commons, in a recent address at Leamington, spoke truly when he said: "There is a class of persons who play into the examiners' hands, and I am sorry to say the examiners play into their hands. It is known what kind of examination is to be held, and the class of people known as crammers cram boys up to this special examination, and the result is an artificial system throughout." Here we have one of the great evils complained of—examinations lead to cramming; but the evil would be much lessened if examiners would seek to ascertain the general knowledge and capacity of candidates, rather than to obtain answers to formal questions only.

A physician of experience in teaching and examining has said that more candidates fail through want of mental training and ability to think correctly and quickly than from mere ignorance.

In the case of primary schools, the general evidence that has been collected appears to show that stress should be laid upon the examination of classes rather than individuals, and upon the methods employed and the teacher's knowledge of his pupils.

The proper place of examination is as an accessory to teaching; it is a good servant, but a bad master. Where it fails is in providing for special aptitudes, which it tends to smother with artificial methods.

THE PATHOLOGY OF SYMPATHETIC OPHTHALMITIS.

Among the many theories which have been advanced to explain the mode in which an injury of one eye causes an inflammation of the uveal tract of the other, after an interval of several weeks, none has in recent times met with such general acceptance as that advanced by Deutschmann, and supported by Leber and others. This theory looks upon sympathetic inflammation as being of septic origin, and as being caused by the direct migration of micro-organisms from one eye to the other along the optic nerves, their sheaths, and the chiasma.

The wide acceptance accorded to this theory was, no doubt, in part owing to its being consistent with views of pathological processes which are at present in vogue, and confirmation seemed to be given to it by the very definite results arrived at by Deutschmann in his experiments on animals.

It will be remembered that he injected cultures from pus-cocci into the vitreous of rabbits, and succeeded in nearly every instance in setting up neuro-retinitis in the other eye. The animals experimented on generally died shortly after the appearance of this symptom, and to this was attributed the fact that the uveal tract, which in the human subject is chiefly affected, remained free. Some support seemed to be given to this explanation by the fact that, when the injection was made into the optic nerve itself, and a ligature applied on the proximal side, a purulent iritis was set up. On the parts being examined, Deutschmann believed that he discovered micrococci in both the sheaths of both optic nerves, and cultures made from the vitreous of the second eye (and, in one instance at least, from the sympathising eye of the human subject) acted precisely as the material originally inoculated. Cultures were made from eyes which had been enucleated, because they had caused, or seemed likely to cause, sympathetic inflammation,

and identical organisms were reared. This latter observation has since been confirmed by Story, Mules, and others.

These experiments have never been fully confirmed. Gifford[1] repeated them, and, although he succeeded in setting up a neuro-retinitis in the other eye, the micrococci themselves could not be traced beyond the lamina cribosa of the eye operated on. As far as we are aware, this is the only instance (except that with which we are now about to deal) in which these experiments have been repeated on a large scale.

The exception to which we refer is furnished by a very large series of experiments on dogs and rabbits, made by Dr. Randolph, of Baltimore, U.S.A., the results of which are published in the June number of Knapp's *Archives of Ophthalmology*. Those results are entirely opposed to Deutschmann's, and to some extent to Gifford's. He failed in every instance to produce any affection of the second eye, except in one doubtful case. He failed also to raise micrococci from eyes enucleated for injury, one of which had actually set up sympathetic inflammation. He plainly implies that Deutschmann had mistaken the normal condition of the optic nerves in rabbits for a condition of increased nucleation, and that the culture experiments were vitiated by inefficient precautions against external contamination. It would be almost impossible for anyone who is not accustomed to such experiments, and difficult even for such, unless he has actually witnessed the experiments, to form a sound judgment on such a point. But it is evident that the matter cannot rest where it is. Deutschmann's results have been so generally accepted, and the allegations now made are so definite, that he is bound to reply to them. Some of the points in dispute are capable of ready solution; and it is to be hoped that, before long, some entirely unbiassed and authoritative statement may be made with regard to them. Other points are less easy of solution; but we trust, now that the subject has again been brought prominently forward, active investigation will be set on foot.

CONSULTATION BY TELEGRAPH.

In regard to an alleged novel medical consultation supposed to have been held between physicians at Vancouver's Island and Sir Andrew Clark, as related in the *Times* of Tuesday last, we have the best authority for stating that no such consultation ever took place. The only ground for the allegation consists in this, that Sir Donald Smith having asked Sir Andrew Clark by what questions he might best learn from the doctors in Vancouver's Island the state of the patient, Sir Andrew Clark furnished him with a copy of questions whereby his purpose might be fulfilled.

CHRONIC ALCOHOLISM.

We are asked to remind our readers that the debate on Chronic Alcoholism will take place at the meetings of the Pathological Society, on Tuesday, December 4th, and Tuesday, December 18th. Members are invited to show specimens of morbid changes attributable to alcohol in organs of the (1) Digestive, (2) Circulatory, (3) Genito-urinary systems at the meeting on December 4th; and of (4) Nervous, (5) Respiratory, (6) Cutaneous systems at the meeting on December 18th. Notice of specimens to be exhibited at the meeting on December 4th, should reach Dr. Coupland not later than December 1st. The discussion will range over the whole subject at both meetings.

[1] Knapp's *Archives*, September, 1886.

THE MALTA AND MEDITERRANEAN BRANCH.

The first annual general meeting of the Malta and Mediterranean Branch was summoned to meet on November 19th, at the Station Hospital, Valletta. The office-bearers for the year 1888-89 proposed by the Council were: *President:* Surgeon-General A. C. Fraser, M.S., P.M.O. *Vice-Presidents:* Deputy Inspector-General A. B. Messer, R.N.; Chief Government Medical Officer Pisani, M.D. *Secretaries and Treasurers:* Surgeon-Major Manché, M.D., Royal Malta Fencible Artillery: Surgeon Gipps, R.N.

THE CASE OF THE LATE EMPEROR FREDERICK.

It has come to our knowledge that a document has been circulated for signature, for presentation to the Council of the Association, blaming the publication, in a recent number of the Journal, of a script relating to the illness of the late Emperor Frederick. The Council will, we understand, at an early date meet to consider this document, and till then it cannot, of course, be published. Meantime, we feel it necessary to say that the document appears to us, editorially, to be based on incomplete information, and that an answer which we consider adequate will be laid before the Council.

BOARD SCHOOL PLAYGROUNDS.

The Earl of Meath, in his capacity as chairman of the Metropolitan Public Gardens Association, has addressed a letter to all the candidates for election to the new School Board for London, bringing to their notice the subject of Board school playgrounds. These playgrounds, attached to some 400 schools, and forming, it is said over 70 acres of open space, are, under the present regulations of the Board, closed on Saturdays—that is to say, they are shut on the very day on which, being a whole holiday, they would be of the greatest possible benefit to the children. The letter points out that the cost incurred would be comparatively trifling, and that for about £4,000 per annum the playgrounds of the metropolis could be thrown open to all children on Saturdays.

TWO RESINS USED BY THE ANCIENT EGYPTIANS.

Among the minor incidents of recent explorations in Egypt is the unearthing of two resins which were not previously known to have been included in the materia medica of the ancient Egyptians. The first of these was found in a small jar that was disinterred in a perfect state from a heap of rubbish among the ruins of Naucratia, the site of a Greek colony, and attributed to the sixth century B.C. This resin, of which there was about eight ounces, was opaque, and of a brown colour on the surface, but underneath was partly of a clear golden yellow colour, and partly of a darker tint, though still transparent. When chewed, it softened in the mouth, and tasted like mastic, but it had also the peculiar flavour of Chian turpentine, and gave off the elemi or fennel-like odour of that drug when rubbed between the fingers. It also resembled Chian turpentine, but not mastic, in solubility in alcohol. For these and other considerations, this ancient resin has been pronounced by Mr. Holmes, the Curator to the Museum of the Pharmaceutical Society, to be identical with Chian turpentine, although there does not appear to have been any previous evidence that the drug was known to the ancient Egyptians. The earliest extant mention of Chian turpentine is by Theophrastus, who lived from 370 to 285 B.C. The discovery of this pot therefore, if the identification be correct, carries the history of the drug back another two centuries. The second resin, which has also been reported on by Mr. Holmes, occurs on a mummy cloth found in a cemetery, in the Fayum province of Lower Egypt, and supposed to date from the second century. When burnt it gave off vapours of benzoic acid, with the vanilla odour peculiar to Siam

benzoin. There is no direct evidence that benzoin was known to the ancient Egyptians, but lignum aloes, which is frequently mentioned together with it in later records, was known to the Jews in the time of Solomon, and it may be that benzoin is identical with an Indian frankincense mentioned by Dioscorides. But Mr. Holmes seems to favour the identification of benzoin with the onyx or onycha of the ancients, partly on account of the resemblance of the tint and opacity of the white tears of benzoin to the human finger nail. At any rate, in Ecclesiasticus, wisdom is compared to the "pleasant odour yielded by galbanum, onyx, and sweet storax," but it is quite certain that the opercula of certain shell-fish with which onycha has generally been identified, cannot be said either to possess a sweet odour, or to give off fragrance while burning.

PROPOSED NATIONAL BACTERIOLOGICAL LABORATORY AT WASHINGTON.

It is stated that a Bill will shortly be laid before the Congress of the United States to provide for the establishment of a national laboratory for investigation and teaching in the field of experimental etiology and cognate matters relating to the public health. The laboratory would consist of two departments, human and veterinary, under the direction of superintendents skilled in the study of the communicable diseases of man and animals respectively; to both departments of the laboratory a competent chemist would be attached, and both superintendents would have an assistant. The text of the Bill, which is published in the *New York Medical Journal*, further provides for the admission of volunteer workers to the laboratories and of pupils. It is estimated that a sum amounting to over one hundred thousand pounds sterling would be required to purchase the necessary land at Washington and to erect the buildings. This scheme for a "Patho-Biological Laboratory" would further entail a heavy yearly charge for maintenance and salaries, as it is proposed to pay the superintendents and chemists £1,000 a year each, and the assistants half that sum. Though such a laboratory would fulfil a great want in the arrangements for investigating and stamping out epidemic and epizootic diseases in this country, we are unable to do more than admire the courage of American pathologists and sanitarians, and to express the hope that private munificence may eventually supply what Parliament dare not give.

SMALL-POX ASSURANCE FUNDS.

Last winter, when small-pox was so rife in Sheffield, it was felt among the workpeople of Messrs. James Dixon and Sons that some organised attempt should be made to assist those who were stricken with the disease, and to prevent infection, as far as possible, by requiring workmen, who had any suffering from the malady in their houses, to abstain from work. A fund was raised by a levy of sixpence in the pound on their average earnings, and the sufferer received full compensation whilst absent from his employment. The annual meeting has been just held, and it appeared that there had been 21 direct and 53 indirect cases, and compensation to the extent of £169 9s. 9d. had been distributed. The firm contributed a third of this amount, and expressed their willingness to continue to contribute in like manner, if the fund were made a permanent one, for any cases that might in the future arise, as well as those of scarlet fever, etc. This suggestion has been acted upon. The action of the men at these works was immediately followed by those employed elsewhere in the town. The following particulars give an idea of the extent of the movement and its usefulness: Number of assurance funds formed in the various manufactories, 132; number of assured members, 33,477; number of direct cases, 667; number of indirect cases, 1,369: total, 2,036. The amount paid in compensation, as loss of wages, was £6,371 17s. 6d.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

The quarterly meeting of the Medico-Psychological Association was held at Bethlem Royal Hospital on Friday, November 16th, at 4 P.M., Dr. Clouston, of Edinburgh, President, in the chair. The Council reported that owing to the resignation of Dr. Rayner through ill-health, it had been arranged that Dr. Savage should act as temporary secretary till the next annual meeting. Dr. R. Percy Smith exhibited a specimen of pachymeningitis of the spinal cord, in which the blood was on the outer surface of the dura mater. A good discussion followed on the nature and pathology of pachymeningitis; and a paper by Dr. Plaxton, on a case of ordinary pachymeningitis occurring in a negro in the Jamaica Asylum was read. Dr. Plaxton was convinced that the hæmorrhage in these cases was due to shrinkage of the convolutions, and not to any primary inflammatory disease. Dr. Hack Tuke read a paper on a recent visit paid to the village of Kennoway in Fifeshire, and described the working of the system of boarding out of chronic lunatics as seen there. A discussion as to the advantages of this system followed, in which the Scotch members took an active part. The members dined together in the evening.

MILK SCARLET FEVER.

A report on eruptive diseases of the teats and udders of cows in relation to scarlet fever in man, by Professor Brown, C.B., Professional Officer to the Agricultural Department of the Privy Council, has been presented to both Houses of Parliament, and may now be obtained through any bookseller, or direct from Messrs. Eyre and Spottiswoode, London; Messrs. A. and C. Black, Edinburgh; or Messrs. Hodges and Figgis, Dublin. Appended to this document are reports by Professors Crookshank and McFadyean, Mr. Villars, M.R.C.V.S., and by travelling inspectors of the department. The whole fill more than a hundred pages, and the various macroscopical and microscopical appearances are illustrated by twenty-one lithographed plates. Professor Brown contends that "the theory that the specific poison of scarlatina may originate in the system of the cow rests mainly on the single outbreak at Hendon in 1885-6," and that "in that case, it was based on the presumption that the milk had not acquired the ability to cause scarlatina by the agency of persons carrying scarlatina infection;" whereas there was "a possible source of infection of the milk by human agency, as scarlatina existed in the Mead, between which and Mr. Panter's sheds constant communication was kept up." Professor Brown attaches great value to the fact that another epizootic affecting cows occurred at Hendon and elsewhere in 1887-8; it presented symptoms which leave little doubt in his mind that it was the same disease as had occurred in the previous year, but there was no coincident outbreak of scarlatina.

PUBLIC EXHIBITIONS OF HYPNOTISM.

The phenomena of hypnotism are among those that can never be shown to advantage upon a public stage by an operator and subjects who are not thoroughly well known to the spectators. They may be made use of for a boisterous burlesque, which may fairly enough amuse the pit, but the critical faculties of the front benches cannot be fully satisfied; for criticism is the first and most natural frame of mind to the observer when he is brought in contact with anything that is called "new hypnotism," and his critical attitude is not easy to overthrow when he sees the fatal word "magnetism" added to it, for though that is merely the survival of an old world terminology, yet it is most distasteful to the pupil of modern science, who is very well aware of the many deceptions it has been used to cover, and can fully appreciate its essential inaccuracy. M. Milo de Meyer, who styles himself a "Belgian professor," gave an entertainment on these subjects at St. James's Hall last Monday, and specially invited many critics.

When he came forward to call subjects from the audience to come up on to the stage and submit themselves to his operations, some twenty young men presented themselves with surprising readiness, and he found no difficulty in making a majority of them go through the ordinary display of hypnotic infatuation. They were "fascinated" by his eyes; they fell at his feet when he told them their knees were weak; their jaws were stiffened for three or four minutes when their mouths were gaping; they held out their arms like sign-posts, or whirled them round like windmills at command; they acted with restless haste on the suggestion first that there was summer heat, and then that it was an Arctic winter; they would take up any other hallucination, and follow a finger as if it was a glowing point, or stand petrified with horror round a prostrate body, which they regarded as a corpse; and, finally, one acted on what was described as a post-hypnotic suggestion, and whilst taking his neighbour for his father enjoyed killing him in cold blood. It was the regular round of burlesque experiments designed to represent the hypnotic states that are better known and more seriously studied in France than in England. Such things cannot be made attractive to a critical audience, when there is so little opportunity for criticism. Some of the subjects came from abroad, and had avowedly been practised upon for years before. M. de Meyer admitted that he knew a minority among them; some of his audience would not have been surprised if he had said he knew all on whom he was successful, all, that is, except the five or six who were not obviously his slaves from the outset. It is the great defect of these public *séances* that to all observers seriously interested in the difficult psychical and physiological problems of the hypnotic state, they offer little or no material of value, and to the best critic, who is most just when he is most rigorous, most abundant weak places for attack. The first opportunity that most critics would care to make use of will be when they provide the subjects and order the experiments themselves.

WINTER DINNERS FOR SCHOOL CHILDREN.

WINTER and the cold weather are before us, and we are glad to find that efforts are once more being made to provide cheap and substantial dinners for school children. It is a good omen to know that the teachers of our primary schools are among the foremost in such good work, for they have detailed knowledge as to who among their charges most need feeding. We have been told by members of the Committee of the British Medical Association appointed to investigate the brain condition of children in primary schools, that among Board schools visited in London they have already seen much starvation, and they find that the teachers highly value the forty or fifty dinner tickets given them each day for distribution among cases of real necessity. The promoters of the South London Dinner Fund, encouraged by last year's success, are making another appeal. The total number of free dinners and breakfasts given last winter to children in South London through this fund and through local agencies is estimated at 456,915, as against 251,613 in the winter of 1886-87. The fund is administered in each division by a subcommittee of teachers and managers of Board and voluntary schools, and of other persons interested in the subject, on the following principles: 1. Support of existing dinner agencies by purchase of tickets. 2. Giving tickets only to elementary school children. 3. Giving solely on the ground of poverty and hunger. 4. Giving without distinction of creed. 5. Discouragement as far as possible of improvident parents by no tickets being given or promised except for the day. 6. Intrusting distribution of tickets to the teachers, who, by their daily observation of the children, know their wants as no other persons can. No paid officers are employed. These dinners for school children have been shown to do much good; improvement in nutrition, in growth and development, in mental power, in behaviour and in regularity of attendance, have followed their establishment both in England and in Scotland. Intermittent feeding is better than continuous starvation, and in dinners for destitute children society makes some compensation for compulsory school attendance. This work ought not to flag from want of funds.

ADOPTION OF CHILDREN.

A CASE was recently investigated at Edinburgh, which shows that this form of baby-farming is the most criminal, and leads more surely to the wilful murder of the children than that in which the children are received for a weekly payment. These adopted infants, for whom a sum of money is received in one payment, are very shortly despatched by strangulation, by suffocation under feather beds, by drowning in canals and rivers, and various other methods well known to the police who find their bodies. It appears that in this case Jessie King, living with Thomas Pearson, carried on a baby-farming business in Stockbridge, Edinburgh. On a search of the premises being made, the body of a female child, which had been dead about six weeks, and bore evidence of strangulation, was found in the cellar, and the body of a male child was found at the back of the premises, which also bore marks of strangulation. It was stated that the accused woman had received £2 for the adoption of the female child, but the history of the other could not yet be traced. The prisoners were remanded on the charge of murder.

QUANTITATIVE ESTIMATION OF ALBUMEN IN THE URINE.

THE possibility of estimating the amount of albumen in fluid by the difference in specific gravity before and after the coagulation of the albumen has been experimentally investigated by Huppert and Zahor, and the last-named has attempted to apply the method to the urine. He recommends that the proportion of acetic acid required to coagulate the whole of the albumen on boiling should be ascertained by a preliminary experiment. A specimen of the urine after filtration is then treated with the necessary amount of acetic acid and divided into two parts; one part is put into a bottle which must be stoppered with an india-rubber cork, and kept in a water bath at a temperature of 100° C. for ten minutes or a quarter of an hour. The urine is then cooled and filtered, care being taken to prevent loss by evaporation during this process. The filtrate and the portion of acidified urine originally reserved are then brought to the same temperature, in a water bath, and the specific gravity of both very carefully taken. The difference between the two figures thus obtained multiplied by 400, the average coefficient ascertained by experiment, gives the amount of albumen in grammes, in 100 cubic centimètres. The average error is stated to be + or − 0.0175 gramme, but may amount to 0.05.

A NEW EPIDEMIC IN VIRGINIA.

DR. W. C. DABNEY, a Professor in the University of Virginia, describes, in the *American Journal of the Medical Sciences*, an epidemic resembling dengue. The disease occurred in and around Charlottesville and the University of Virginia in June, 1888. The onset was invariably sudden. Sharp, lancinating pains attacked the left side of the chest, just below the nipple, or the right side, the shoulder, or abdomen. The pains sometimes shifted from their original seat. The pain caused the disease to be called "devil's grip" in Rappahannock County. The pulse rose high, the respirations were shallow, as a deep breath aggravated the pains. No pulmonary complication occurred in any of the twenty-nine cases observed during the first ten days of the epidemic by Dr. Dabney himself. Neither marked anorexia, vomiting, diarrhœa, nor constipation were constant or even frequent. The fever

usually ranged from 102° to 104°. In every case it attained its maximum within an hour of the time that the pain was felt, and in only three cases did it last more than twenty-four hours. The skin was pungently hot, more so than in scarlet fever, and dry at first. Twelve hours after the onset perspiration, or even profuse sweat, set in. The epidemic did not appear to be very infectious. The patients were all children or young adults, mostly university students. In some cases it lasted but twelve hours, in two as long as three weeks; no patient died. The violent pains in the limbs, inflamed joints, and eruption distinguishing dengue were all absent in the Virginian epidemic. Dengue also attacks elderly people, who were spared by this apparently new disease. Antipyrin to relieve the pain, calomel to overcome the constipation, and quinine to prevent a recurrence of the paroxysm were the measures which gave the best results.

THE MISSION TO DEEP SEA FISHERMEN.

It would be a matter for great regret if the work of this institution, which has done so much towards mitigating the evils incidental to the hard and toilsome life of the deep sea smacksmen, were to languish for lack of adequate support. In an appeal signed by the officers of the Society (among them Mr. Frederick Treves, chairman of the Hospital Committee), we are told that, while large sums have been subscribed to the general fund, many have preferred to give "towards a new mission ship," so that there is serious disproportion between available income and the necessary expenditure involved in maintaining the Society's vessels. The *Queen Victoria*, specially furnished with ten hospital cots, and quarters for a resident surgeon, is nearly ready for sea; her sister smack, the *Albert* (generously given at a cost of £3,500 by an anonymous donor), is on the stocks. So low, it is added, are the general receipts that even the pioneer hospital ship cannot be despatched on her beneficent errand unless additional funds be speedily forthcoming, while, for the same reason, it may prove needful to delay the completion of the *Albert*; and the officers of the institution feel that they ought not to accept the proposed gift of other vessels until there is reasonable prospect of maintaining those they already have. Meanwhile, the winter is creeping on, and illness and accident abound, as proved by the fact that no fewer than 6,575 smacksmen, 96 of whom were in-patients, have received treatment during the present year on board their dispensary mission smacks, while three surgeons have been almost constantly afloat since the spring, and, by their valuable efforts, even with the crude resources at their command, have demonstrated at once the great need and the practicability of a more elaborate hospital scheme. As yet, they add, "we have merely touched the fringe of this keen distress, and we feel it to be essential that suitable cruising hospitals should accompany the fleets, in order that this hard-working and most deserving class may benefit by the professional skill and careful nursing secured to the very poorest on shore, but of which, by reason of the conditions of their life, they have hitherto been entirely deprived." The Secretary of the institution is Mr. Alexander Gordon, 181, Queen Victoria Street, E.C.

THE GENERAL MEDICAL COUNCIL.

The Executive Committee will meet on Monday next, November 26th, at 1.30 P.M. The greater part of the business which it will have to transact will be of a formal kind preparatory to the meeting of the Council on the following day. It will have before it an unusually large crop of applications from foreign universities and colleges for the recognition of their preliminary examinations, and one from the University of New Zealand with regard to the registration of degrees granted by it. The most important business will be the receipt of a report on the replies sent by various universities and corporations in the United Kingdom in reply to a circular asking for their opinion as to the advisability of strengthening or otherwise modifying the disciplinary powers assigned by statute to the General Medical Council. The Council itself will have before it the reports of the inspectors of the final examinations, the remarks which the bodies inspected have made upon these reports, and, finally, the report of the Examination Committee upon the reports and remarks. The Rev. Dr. Haughton intends, we understand, to make an attempt to induce the Council to appoint inspectors to visit the examinations held for the diploma in Public Health, and it will be generally felt that the County Government Act, having rendered it necessary that all medical officers of health should possess such a diploma, has altered the status of the examination in a material respect. Several cases of covering will be investigated. During the last session Mr. Rawdon Macnamara moved a resolution to the effect that the fee paid for registration should in future be paid over to the Branch Council of the division of the kingdom in which the qualification was obtained; the opinion of the legal advisers of the Council will, we understand, be submitted; but it is hardly probable, in view of the wording of the Act of 1858, that this opinion will be found to be favourable to Mr. Macnamara's contention. A report from the Pharmacopœia Committee may be expected, and we even hear a rumour that the Council will have to consider the necessity of reprinting the last edition of the *British Pharmacopœia*. It will thus be seen that the session will not be wanting in topics of general interest, which, it may be hoped, will be discussed in a broad and liberal spirit, and without undue expenditure of time in mere wrangling about the relative merits of the examinations of rival corporations and universities, with which, after all, the Council has nothing to do, its one duty in this connection being to see that no examining body falls below the minimum standard which it is empowered to fix.

THE SPREAD OF LEPROSY.

Dr. Henry W. Blanc has published, in the *New Orleans Medical and Surgical Journal*, an important series of notes on forty-two cases of leprosy, observed in New Orleans; all the cases have been seen for the first time within the last five years, and the large majority apparently since the beginning of 1886. It is known that the disease has long been endemic in Louisiana, but we were not prepared to be told that so large a number of cases, amounting to no less than 1.7 per 10,000 of the population of New Orleans, could be collected by a single physician, and even when full allowance is made for the facts that Dr. Blanc is in charge of the skin department of the Charity Hospital, and that the majority of lepers in Louisiana gravitate to New Orleans, the numbers still appear to be large; he himself admits that no previous writer has ever reported half as many cases in New Orleans. Leprosy, he says, is undoubtedly increasing in the city, slowly but steadily; whether the same might not be said of the whole civilised world is a serious question, which will surely engage the serious attention of sanitarians and public authorities before many years are passed. Of Dr. Blanc's forty-two cases, twenty-nine were natives of Louisiana, and twenty-two of New Orleans; seven were born in Germany, one in Austria, one in England, one in Ireland, one in France, and one in Italy. The length of time these people had been resident in Louisiana is not in all cases stated, but the shortest period actually given is twenty years. Further analysis shows that of the remaining thirty cases, nine, or 30 per cent., had one or both parents European. It was ascertained that ten of the patients had relatives who were suffering from the same disease. In a few cases there was presumptive evidence that the disease had been contracted by accidental inoculation; in others, the patients had resided in localities where there was reason to believe that the disease was unusually prevalent, and altogether the evidence of these cases, so far as it goes, is in favour of the view that the

disease is acquired rather than hereditary. Dr. Blanc, like most other observers who have been brought into direct contact with the disease, says that the only plan that seems likely to prove of permanent benefit to all concerned, is complete and permanent isolation of the lepers.

SCOTLAND.

EDINBURGH SCHOOL OF MEDICINE.

A NEW departure has been made in the clinical side of the Edinburgh Medical School. Several special courses of a practical nature, open to a limited number of students, have been begun. Dr. Byrom Bramwell treats of neurology, with reference to the examination of the spinal cord; Dr. R. W. Philip, of diseases of the chest and throat; and Dr. George Mackay, of practical ophthalmoscopy. The courses are also limited in time, so that advanced students and young graduates are able to vary the subject of study more freely than the ordinary curriculum permits. Their institution is a further attempt to develop the clinical possibilities of Edinburgh, and to supply the increasing demand for fuller opportunity of practical study.

GLASGOW UNIVERSITY.

PROFESSOR MAX MÜLLER is now delivering his course of lectures on Natural Theology, in accordance with the terms of the chair founded by the late Lord Gifford. The lectures are given in the Bute Hall of the University; the attendance, not only of students but also of the general public, is large, and much public interest is being aroused by the course.

GLASGOW UNIVERSITY MEDICAL INSTITUTE.

A DEFECT in the system of education of university medical students—in so far as there was no provision made for attendance on outdoor patients at their own homes by senior students—has been remedied by the institution, by Professors Charteris and Cleland, of an outdoor dispensary in Cranston Hill, under their own direct supervision. The whole cost, including the medicines, etc., supplied to the patients, is borne by those two gentlemen. The institute is largely taken advantage of by the students, and the University Medico-Chirurgical Society has shown its appreciation of their efforts by unanimously passing a vote of thanks to Professors Charteris and Cleland.

PROFESSOR RUTHERFORD AND DR. ASHDOWN.

THE Edinburgh University Court has concluded the hearing of evidence in connection with the appeal for a full investigation into the grave difference existing between Professor Rutherford, of Edinburgh University, and Dr. Ashdown, lately Senior Demonstrator of Physiology at Edinburgh University. The Court was addressed by the Right Honourable J. B. Balfour, Q.C., M.P., on behalf of Dr. Ashdown; and by Mr. Asher, Q.C., M.P., on behalf of Professor Rutherford. The Court resolved to withhold judgment till the evidence had been reviewed at leisure. All the members of the Court have attended its sittings in connection with the case, except the Marquis of Lothian (Lord Rector) and the recently appointed Lord Provost of the city.

THE FASTING MAN IN EDINBURGH.

ALEX. JACQUES completes a thirty-day fast at the Douglas Hotel, Edinburgh, on Saturday. He has become pinched and worn in body, and much less active. He has lost some twenty pounds of weight, and he has proved, so far as an outsider is able to judge, very little. He professes to be sustained by a marvellous powder—the only substance, apart from water, which is allowed to pass his lips—extracted from a herb, whose marvellous virtue he learned from an aged relative. He will sell his secret for £20,000. Failing this his fast has been valueless. So far, no purchaser of this "elixir vitæ" has appeared.

PROPOSED EDINBURGH MICROSCOPICAL SOCIETY.

A NEW scientific society is projected in Edinburgh. Already preliminary steps have been taken for the institution of the Microscopical Society of Edinburgh. Professor Bayley Balfour, who has interested himself considerably in the matter, has been asked to draft a constitution and scheme of work, on the model of similar existing societies. The fear has been expressed that the Society will not be so successful as it ought to be, unless the attempt be made to merge within it one or other of the present societies, where the attendance is already too small to preserve healthy activity.

"THE SCOTS OBSERVER."

UNDER the name of *The Scots Observer* a fresh weekly is to be begun in Edinburgh on Saturday. It is proposed that the journal should take the form of a record and review, very much after the fashion of the London weeklies. It is to be national in the sense of being "distinctly Scottish," the publishers being of opinion that "the London weeklies not only fail to treat adequately of Scottish affairs, but rather pride themselves that they are not well informed on matters so provincial." In respect of politics the paper is to occupy "a perfectly independent standpoint," and the promise is given that "science will be treated in a manner worthy of the theme, its different branches being dealt with by first-class writers." Considerable interest is felt in the birthday of the *Observer*, for several predecessors, more or less closely allied, were found, unhappily, to be prematurely born. It is sincerely to be hoped that the environment may prove more favourable to their successor.

PREVENTION OF CRUELTY TO CHILDREN.

THE annual meeting of the Glasgow Society for the Prevention of Cruelty to Children was held on November 14th, Sir J. Neilson Cuthbertson presiding. The report showed that during the past year 1,063 cases, involving the welfare of 1,436 children, had been inquired into; 979 children had been sheltered, 341 children had been clothed, 1,161 had been sent to industrial schools or otherwise cared for, and 48 convictions had been obtained against parents or guardians for cruel neglect or inhuman treatment of children. The total income had been £1,455, and the expenditure £896. The Chairman said the report lifted the veil from one of the saddest features of Glasgow life—the neglected children. But the cases were not quite so numerous now as they were two or three years ago, and that seemed to show that the work of the Society was having its effect on the population. It had begun to be known that a parent could not illuse his or her child with impunity, and that, as he took it, was one of the chief objects of the Society. He congratulated the public of Glasgow and the subscribers on having a Society able to lay such a report before them.

GLASGOW NATURAL HISTORY SOCIETY.

THE first of the series of lectures, arranged by the Natural History Society, already noted in the JOURNAL of November 3rd, was delivered on November 13th, by Professor Cossar Ewart, in the rooms of the Philosophical Society. Sir Michael Connal occupied the chair. Professor Ewart took as his subject "The Electric Organs of Fishes. He described the malapterurus and gymnotus, and devoted special attention to the electric organ of the torpedo. Speaking of the difficulty of accounting for the development of the electric organ, Professor Ewart proceeded to show the light cast on the subject by the discovery of the electric organ of the skate, by Dr. Stark, of Edinburgh, in 1844. He explained their

resemblance to that of the torpedo in the similarity of action and in development from muscular tissue. The lecture was illustrated by diagrams and preparations, and, at the close, a vote of thanks was awarded on the motion of Professor McKendrick.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

At a meeting of the Pathological Section of this Society, held on November 16th, Dr. Hector C. Cameron showed two sarcomatous tumours, both removed from children. One was ovarian, and the child was 3½ years of age; the other was from the neck of an infant six months old, and had been congenital. Sections of both were shown under the microscope. Dr. Henry Rutherfurd showed a large unilocular cyst of the ovary. No trace of the ovary could be found connected with it, and on the suggestion of Dr. Knox, a committee, consisting of Drs. Coats, Newman, and Rutherfurd, was appointed to examine and report upon it. Dr. Knox was also added to the committee. Dr. Rutherfurd also showed a specimen of oblique inguinal hernia with a direct hernia commencing on the same side. Dr. C. Fred Pollock exhibited microscopical sections of an eyeball, enucleated after wound of cornea, iris, and lens. A case of sarcoma of the skull in a girl was shown by Dr. Thomas Reid. The tumour had begun above the right eyebrow and in the tissue of the right eyelid. It now was of great size, extending across the middle line, and the right eye was completely obscured by the growth of the tumour. Dr. Dalziel showed a specimen of carcinoma of the os calcis, the bone being almost completely eroded.

STORM AT GLASGOW.

Glasgow and its neighbourhood were on November 16th visited by what Professor Grant describes as one of the most considerable gales which has visited the city for several years. The storm reached its height at 10.30 A.M. on Friday, when the barometer registered 29.199 inches; the wind was travelling at a velocity of 68 miles per hour, and the pressure registered 29 pounds on the square foot. The gale moderated towards evening, but since then rainy, gusty weather has more or less continued. Much damage was done to property: many people were injured by falling barricades, chimney-pots, etc.; and, unfortunately, two men were killed—one by the fall of coping of a chimney-stack through the roof of a workroom, and another by being blown from a window at which he was attempting to secure a signboard. The Exhibition buildings suffered serious damage by the corrugated zinc ventilator being bodily lifted from the roof of the Grand Hall and blown on to the roof of one of the sections, through which it crashed, doing much damage to exhibits, but practically none to those engaged in dismantling the cases.

IRELAND.

CLINICAL INSTRUCTION AT CORK NORTH INFIRMARY.

Arrangements have now been completed at this institution by which students can attend a course of systematic instruction in pathology, and obtain certificates for the various examining boards. The lectures at the Cork North Infirmary will be delivered by Dr. J. Cotter, pathologist to the hospital.

DR. PYE V. THE QUEEN.

In the Exchequer Division (Ireland) last Monday, judgment was given in the case of Dr. Pye, of Queen's College, Galway, who sought compensation for a decrease in his fees consequent on the dissolution of the Queen's University in Ireland. The effect of the dissolution was that he ceased to be professor of the University; and as attendance on the lectures of professors of the Queen's College was not necessary for obtaining a degree in the Royal University, he contended that his fees decreased in amount. Counsel for Dr. Pye handed in letters to show that he had been induced by the Crown to institute proceedings; but counsel for the Crown submitted that it appeared from those letters that Dr. Pye was informed in the first instance that he had no legal claim, and that nothing had taken place that should have led to the institution of the suit. The Lord Chief Baron said that in his opinion the office which Dr. Pye had held in the Queen's University was distinct from that which he held in the Queen's College. In respect of his office in the University, he received certain emoluments amounting to £20 per annum, and he now received in the Royal University a larger remuneration for similar work. Judgment for the Crown should be given, with costs.

THE RECENT CONJOINT EXAMINATIONS.

The recent examinations held under the conjoint scheme have been attended by the most disastrous results to candidates. About one-half—in some stages a larger proportion—failed to pass. The Committee of Management have inquired into the causes, and have been in communication with the two Colleges. As failure to pass means loss of one year, the students are in a serious position; but the Committee will, it is believed, recommend that a certain number shall be allowed to proceed with their studies. The examination courses require revision. Physics ought to be referred to the entrance examination, and other changes might be made so as to more evenly distribute the subjects for each year.

BELFAST ROYAL HOSPITAL: ANNUAL MEETING.

The annual meeting of the Belfast Royal Hospital was held on November 19th, under the presidency of the mayor, Sir James Haslett. The staff report showed that 2,236 intern patients had been treated during the year, and 13,140 extern patients. The average daily attendance in the extern department was 120, and the total attendances for the year numbered about 40,000; 326 surgical operations were performed, with a mortality of 12, representing a death-rate of 5.8. The death-rate in the medical wards was 7 per cent. Clinical instruction had been given in the wards to 137 students during the winter and to 75 during the summer session. The general report showed a balance of £1,406 14s. 3d., which had been invested. Mr. R. W. Murray, J.P., who has filled the post of honorary secretary to the institution with great acceptance for the last eight years, declined to allow his name to be proposed for re-election. Mr. John Marsh was elected in his place, and a cordial vote of thanks was passed to Mr. Murray for his services. The usual complimentary votes terminated the proceedings.

Dr. Moorhead, who suggested that the Queen's Jubilee memorial at Weymouth should take the form of an illuminated clock, has had the satisfaction of seeing his proposal carried into effect; he gave an address at the inaugural ceremony.

Irregular Sale of Laudanum.—A chemist of Lower Sydenham, who was found to have sold laudanum served in a bottle marked "Poison," but not bearing the name and address, has been fined £1 and costs.

St. George's Hospital.—The following scholarships have recently been awarded at this hospital: £125 scholarship for the sons of medical men, to Mr. A. R. Rendle; £65 scholarship for Cambridge men, to Mr. G. E. Hale; £50 (open) to Mr. E. Little.

Dr. Joseph O'Dwyer, the originator of intubation of the larynx, has been appointed Professor of Diseases of Children in the New York Post-Graduate Medical School and Hospital.

Increase of Salary.—The salary of Dr. Donovan, medical superintendent officer of health for Cork, has been increased from £160 to £200 per annum.

VICTORIA INFIRMARY AT GLASGOW.

[FROM A CORRESPONDENT.]

Now that the Victoria Infirmary of Glasgow has become a reality instead of an imaginary institution, a few words regarding it may not be amiss. Until now, Glasgow and its suburbs, with their ever-increasing population of over three-quarters of a million, only possessed two public hospitals, with a total of 900 beds, so that these, with a few smaller hospitals confined to special ailments, only provided a bed for every 800 inhabitants. In the year 1794 the Royal Infirmary was opened, and then consisted of eight wards, which, including the sea-side rooms in connection with them, were capable of accommodating 136 patients. At present this infirmary has increased to such an extent that it possesses a total of 542 beds. In 1874 the Western Infirmary was opened, in order to provide clinical instruction for the University members. The accommodation provided by those two infirmaries was soon found to be totally inadequate for such a population, which year by year was rapidly increasing. This was especially seen during epidemics of disease, and hundreds of fit patients were refused admittance into the already existing hospitals, simply for want of room. In 1871 Dr. Ebenezer Duncan brought this fact before the Southern Medical Society of Glasgow; and, as he was supported by the medical men of the district, a movement was set on foot to promote a scheme of hospital extension, in order to meet the wants of the city. The south side of the city contains a population of over 250,000, chiefly of the working classes; and as the already existing hospitals were both in the further end of the town, it was deemed advisable to have the new hospital erected in the south side, to benefit the southern inhabitants. A Committee was appointed by the Southern Medical Society, in order to set the movement a-going; and Dr. Scott, of Rutherglen, headed a subscription list with a donation of £500, an offer which he has since greatly increased. A sum of £6,000 was soon subscribed, and many promises given of more whenever the movement was recognised by the citizens of Glasgow. In the spring of 1881 a public meeting was accordingly held, and it was then resolved that the hospital, which had been so long talked about, should be erected in the south side of the city. A new committee was appointed, subscriptions begun, and overtures made to the Town Council regarding the proposed infirmary site; the result being that a site of four acres and a half was granted in the vicinity of the Queen's Park. The ground granted belongs to the Queen's Park, although not included within it, and lies about one mile and a half from the centre of the city, and as yet outside the municipal boundary. It is, however, comparatively near to several rapidly increasing centres, and will be included within the city should the scheme of annexation and extension receive the sanction of Parliament. The site is on the spot where, three centuries ago, the battle of Langside was fought, and close to the memorial pillar which was erected by the inhabitants. The site having been obtained, designs were asked for, the result being that the plans submitted by Messrs. Douglas and Seller, architects, were approved of, and arrangements were made for at once proceeding with the building. At this stage of the proceedings, however, Mr. Robert Couper, of Cathcart, died, leaving by his will the residue of his estate to build a south side hospital. This, of course, delayed matters for a time, but latterly all was arranged, and the infirmary in the meantime receives £10,000, with a reversion of other £40,000 on the expiry of certain life interests. Her Majesty the Queen was then approached regarding the name of the new hospital, and graciously granted that it should be called the "Victoria Infirmary," in commemoration of her jubilee. A second public meeting was held in 1887, the Queen's decision announced, and subscriptions begun. Up till now the handsome sum of £27,000 had been obtained, including the £10,000 left by the late Mr. Couper; while the Committee have also the reversion of £40,000 of his estate after the expiry of the life interests, as already mentioned. Meetings were then held by the workmen in several of the large works on the south side of Glasgow, and a scheme drawn up whereby the working men who subscribed to the funds of the hospital have the privilege of electing representatives to the Board of Management. A clause was therefore inserted in the Infirmary Constitution giving effect to this scheme. The Act of Incorporation which was obtained from Parliament also provides for the teaching of medicine in the new hospital. The building is now in course of construction, and is designed in accordance with the latest improvements in the methods of ventilation, sanitation, and hospital accommodation. It overlooks the Queen's Park, is situated in a healthy part of the country, and is built upon a rising ground, where it never can be built in. It will consist, when completed, of four main blocks, each three storeys in height, and each block being complete in itself and connected with its neighbours by a wide corridor. Not only are the blocks thus isolated, but each ward is practically isolated from the others in the same block by means of a well-ventilated hall between the ward and the common stair. Each ward will also be provided with a thorough system of cross ventilation for itself. The administrative block and the kitchens, etc., are also separate from the main blocks of the infirmary, and are also connected by corridors. In the meantime only two blocks are to be constructed—one the administrative block, the other a ward block with three wards, each provided with eighteen beds for free patients. Part of the administrative block, which at present will not be required, will be utilised temporarily as a sick ward for paying patients, accommodation being thus provided for about eighty beds in all. The hospital will be gradually completed as necessity arises and as the funds permit. The institution has so far been pretty successful since the movement assumed a practical shape, and we trust that, once its gates are open and the wards ready for the accommodation of the sick and injured, the public of Glasgow will see to it that nothing is left undone to enable it to continue as a beneficial public institution. The working classes have the matter in their own hands; and, as the hospital has been erected for their especial benefit, it is their duty to see that it will not turn out a failure. That the institution is a necessity is only too evident to the medical practitioners of the city, and we hope that the directors will never be troubled by any lack of funds. The Royal Infirmary has been able to accumulate a capital of £115,000, and has an annual revenue of £18,670, exclusive of donations and legacies. The Western Infirmary, although as yet only a few years in existence, has accumulated a capital of £48,000, and we sincerely hope that nothing will be wanting to make the new hospital financially as successful as its elder sisters.

MEASLES IN THE POTTERIES.

[FROM A CORRESPONDENT.]

THE epidemic of measles in the Potteries and surrrounding district has been unusually severe and widespread, but, as the results have proved, not of the malignant character represented in some of the accounts in the daily press. It appears to be now steadily declining in most parts of the district. It is, of course, difficult to estimate very exactly the number of cases which have occurred, except perhaps in Hanley, where most of the medical men report them voluntarily to the sanitary authority. The following figures may, however, be taken as approximately correct:—

From October 1st to November 20th, in the borough of Hanley, with an estimated population of 54,000, there have been 104 deaths among about 1,000 cases attacked. From a census taken on October 29th it was found there were 425 cases of measles then existing in the borough, nearly all children. The disease appears to have spread from Stoke, where it previously was rife, as all the early cases were in that vicinity; thence through the schools where these children attended to other parts of the borough, the upper part of Hanley being the last to suffer. It can be clearly traced through certain schools, while other schools have entirely escaped. For the last ten years the highest number of fatal cases recorded in one year was in 1879, when there were 78 deaths, and in 1883 and 1885 there were 52 and 54 respectively, most of them occurring in the spring quarter. The average for the last ten years has been 25.1 per annum.

Some of the voluntary schools were closed early in the epidemic, but considerable difference of opinion has existed among the authorities, the result of which has been to delay in many instances the closure of the public schools until it was too late to be of any real use. Some school managers would seem to think the maintenance of a school of more importance than the suppression of an epidemic, and by this course valuable time is lost, and the disease rapidly propagated. The lesson this epidemic has taught seems clearly to point to the fact that unless a school is closed early it is of little use to close it at all. In Hanley vigorous steps have been taken to check the spread of the disease by a systematic visitation of houses, and investigation by specially appointed inspectors of the sanitary condition of the houses where the disease is reported to exist, with power to supply disinfectants, etc., and to immediately remedy any sanitary defects. But while the crass ignorance of parents and others prevails with regard to the mix-

ing of children, their exposure during convalescence, and, in many instances it is to be feared, the reckless disregard of infant life, all efforts in this direction are rendered more or less futile in materially lessening the proportionate mortality from this disease.

The writer has been repeatedly asked recently by small tradesmen what they should do to protect their customers, as children frequently come to their shops with the rash upon them, or only just recovering from it. And the serious danger to the public health which undoubtedly exists by careless and even reckless exposure of persons suffering from infectious disease was strikingly shown in a case which came before the Stoke Police Court recently. The medical officer of Stoke, travelling in a tramway car, observed a fellow passenger, a woman, to have with her a child suffering from measles in the eruptive stage. The woman was, on his information, summoned, and her excuse was that as the child seemed hearty and could run about, the attack was not a serious one.

As might be expected, a large proportion of the deaths are returned as pneumonia, bronchitis, and other secondary complications, such as convulsions. A significant commentary upon this is the circumstance that almost all the recorded deaths have been in the houses of the poor, especially those whose homes are dirty and the inmates careless. Many of the cases have been returned as rötheln. In some instances, however, the cases have assumed a true malignant type; but, as far as can be learned, these have been quite exceptional, and have occurred where there has been some defective sanitation to impress this character on the disease. There can be no doubt that much evil has arisen from permitting —even inviting—other children to look at their departed young friends, and from the practice of allowing a number of young persons, decked out in hired mourning finery, to attend the funerals. This practice might well be suppressed in the case of all infectious diseases.

In Burslem the medical officer of health reports that there have been about 900 cases in that borough, "the majority of cases amongst families of operatives, and nearly all insured in benefit clubs." There are not so many cases prevailing now, but many of them are of a severe type. The deaths have been, during September, 2; in October, 52; and from November 1st to 17th, 51—a total of 105 deaths since the epidemic began, all occurring in children under 11 years of age, and 93 of them being under 5 years.

In Longton, the medical officer of health, Mr. J. W. Dawes, states that during October only three deaths were recorded from measles, though a considerable number of cases of the disease are known to have existed. The disease appears to be subsiding; and it has not been any other than an ordinary invasion of measles, with low mortality, very few adult cases, and the type of the disease very mild, and not at all malignant. It has not been considered necessary to close the schools, nor to institute a house-to-house visitation; but it is intended at once to adopt this course if the epidemic spreads. The managers of schools have been advised to be very stringent in the case of absentees; and the sanitation of the town has had extra care.

At Fenton, on the other hand, which lies between Longton and Stoke, the epidemic is stated to have been severe and widespread, and the mortality rate has been high. The medical officer at Fenton attributes the large number to the fact that the district has been entirely free from any serious outbreak for the last eleven years, and the large number of children consequently unprotected by a previous attack of the disease.

In the town of Stoke-on-Trent the number of cases is estimated, since the beginning of September, at about 200. It has been almost entirely confined to children, as elsewhere, and has attacked all classes; but the fatal cases have been wholly among the poor. Some localities have escaped almost entirely, while in other parts of the town it has been rife. Two of the schools were closed for a fortnight, and the sanitary inspector has been busy with disinfectants, etc. The epidemic is fast declining, and there have been very few cases during the last fortnight. The deaths have been, in July, 1; August, 2; September, 14, and during October, 22; a total of 39 since the epidemic began.

In the towns and villages in the neighbourhood numerous cases are reported, but they appear to be of the ordinary type, with a low rate of mortality.

SURGEON-MAJOR JOHN INCE, M.D., of the Mount House, Farningham, Kent, is a candidate for the representation of the Dartford No. 2 Division, on the Kent County Council.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS FOR 1889. ELECTION OF MEMBERS.

MEETINGS of the Council will be held on January 16th, April 17th, July 10th, and October 16th, 1889. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 27th, 1888, March 28th, June 20th, and September 26th, 1889.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary*.

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.—The inaugural meeting of the session will take place on Thursday, November 29th, at the Hackney Town Hall at 8.30 P.M. The chair will be taken by the President of the Branch. A paper on Chronic Metritis will be read by H. Gervis, M.D. All medical practitioners will receive a cordial welcome.—J. W. HUNT, Honorary Secretary, 101, Queen's Road, Dalston.

METROPOLITAN COUNTIES BRANCH: NORTH LONDON DISTRICT.—The first meeting of this District will be held at the Tottenham Hospital, The Green, Tottenham, on Thursday, December 6th, at 8 P.M., Dr. C. Brodie Sewell, President of the Branch, in the chair. Some interesting cases from the hospital will be exhibited. Dr. Goodhart will read a paper: Notes on the Value of Certain New Drugs. All members of the profession are welcome to attend this meeting. —GEORGE HENTY, M.D., Honorary Secretary, 302, Camden Road, N.W.

SOUTH-EASTERN BRANCH: EAST KENT DISTRICT.—The next meeting of this District will be held at the Kent and Canterbury Hospital, Canterbury, on Thursday, November 29th, at 3 P.M., Mr. J. E. Schön in the chair. Mr. Sadler will be pleased to see members and friends to luncheon at his residence, Oswald House, Watling Street, between 1 and 2 A.M. The dinner will take place at 5.15 A.M. at the Royal Fountain Hotel. Agenda:—Mr. Whitehead Reid: Five successful Ovariotomy Cases. Dr. FitzGerald: Massage, its Use and Abuse. Mr. Colville: A Case of Extra-uterine Pregnancy, with Specimen. Mr. C. H. Schön: Short Notes of a Case of Tetanus.—W. F. TYSON, Honorary Secretary, 10, Langhorne Gardens, Folkestone.

SOUTH-EASTERN BRANCH: WEST KENT DISTRICT.—The next meeting of this District will take place at the West Kent Hospital, Maidstone, on Thursday, December 13th, Dr. Shaw in the chair. Gentlemen desirous of reading papers or exhibiting patients or specimens are requested to inform the Honorary Secretary of the District, A. W. Nankivell, F.R.C.S., St. Bartholomew's Hospital, Chatham, not later than November 24th. Further particulars will be duly announced.—A. W. NANKIVELL, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The first general meeting of the present session will be held at the Railway Hotel, Stoke-on-Trent, on Friday, November 30th. The President, Mr. F. Boldero, will take the chair at 3.30 in the afternoon. —GEORGE REID, M.D., Honorary Secretary, Stafford.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

THE autumn meeting of this Branch was held at the County Asylum, Bridgend, on November 15th, C. T. VACHELL, M.D., President, in the chair, and twenty members present. A sumptuous lunch, provided by Dr. Pringle, the superintendent of the asylum, and accompanied by music admirably rendered by the asylum band, preceded the regular work of the meeting.

New Members.—Messrs. R. F. Thomas, Cymer; C. L. Worrall, Llanwrtyd Wells; A. J. Griffith, Treharris; David Thomas, Penarth; J. H. Turner, Cardiff.

Papers.—Dr. FRASER (Swansea): Axis Traction Forceps, illustrated by diagram. J. TATHAM THOMPSON, M.B. (Cardiff): Antiseptics in Ophthalmic Practice. P. R. GRIFFITHS, M.B. (Cardiff), handed round some photographs of Cretins and other cases.

Specimens, etc.—Dr. PRINGLE and his assistants, Drs. STEWART and FINLAY, showed some interesting specimens and microscopic slides of Spinal Disease; and Dr. MARSHALL showed an interesting living specimen of what appeared to be Chorea associated with Insanity. They afterwards conducted the members round the wards of the asylum. The thanks of the members were most heartily accorded for the trouble thus taken in entertaining and instructing them.

Dinner.—Dinner was subsequently partaken of at the Wyndham Arms Hotel, Bridgend.

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

Olive Oil in Hepatic Colic.—Malaria and Glycosuria.—Religious Delirium.—Hereditary Alcoholism.

AT a recent meeting of the Société Médicale des Hôpitaux, M. Chauffard stated that he had tried the olive oil treatment for hepatic colic with the following results. Four hundred grammes of pure oil were given in two doses, at an interval of a quarter of an hour. The patient then remained lying on his right side for three hours. M. Chauffard treated in this way several arthritic, obese women from 45 to 60 years of age, suffering from gall-stones. The symptoms improved, and in about seven or eight hours numerous half-solid, greenish concretions were evacuated. The size of these varied from a pin's head to a hazel nut. They were not, however, biliary calculi. Chemical analysis showed that they contained only a small quantity of cholesterin, and that they were principally composed of neutral fat and fatty acids. A cholesterin calculus does not undergo any modification by being immersed in olive oil. The oil absorbed cannot, therefore, dissolve the calculi in the bile ducts. During their experiments on animals, MM. Chauffard and Dupré observed that the oil introduced into the stomach never ascended above Vater's ampulla in the bile duct, and could not therefore soften and expel the calculi as had been supposed. When olive oil is introduced into the duodenum of the dead subject, between two ligatures, it never ascends into the bile ducts, even when the gall-bladder is half filled. Dr. Touatre's hypothesis that the oil ascends into the bile ducts as in the wick of a lamp is therefore erroneous. The remedy is, nevertheless, an efficient one. The dose of 400 grammes is absorbed without further inconvenience than nausea, and a slightly purgative effect. Observations reported by MM. Hayem and Bucquoy show that this remedy may be employed with advantage in cases of biliary lithiasis accompanied by chronic icterus.

At a recent meeting of the Académie de Médecine M. Verneuil referred to a communication by M. Mossé, lately read before the Académie, concerning the relations between malaria and glycosuria. M. Mossé's conclusions differed from those of M. Verneuil, who considers that the question is possibly one of medical geography. In warm countries, where diseases of the liver are endemic, it is possible that malaria may cause diabetes, but M. Verneuil thinks that the question cannot be decided until observations have been collected from different parts of the globe. He mentioned the curious fact that in Tunis malaria is usually accompanied by oxaluria, a complication which is not met with elsewhere.

M. Dupain, in a thesis on religious delirium, remarks that different religious ideas of delirious form may have such close relations to each other as to merit the name of religious delirium. These relations are sometimes so marked, and the different delirious religious ideas so intimately connected, that they may be suitably designated as systematised religious delirium. M. Dupain, however, does not consider that religious mania can be regarded as a pathological entity. Religious delirium may be met with in the various forms of mental disease. In idiotcy and imbecility delirious religious ideas, when they exist, are not very vivid. In mental debility and insanity religious delirium is childish, foolish, and sometimes incoherent. In chronic delirium, which develops systematically, and in mental degeneration, religious delirium is not uncommon; it is principally in these two forms of madness that systematised religious delirium develops. In mental degeneration religious delirium appears in sudden attacks and disappears as quickly; in chronic delirium its appearance is preceded by a period of psychical disturbance, and its particular form (persecution or ambition) is determined by the character of this period; it ends in insanity. The form of religious delirium, whether it is systematised or not, is polymorphic at the outset; its progress is more irregular than in chronic delirium, and it is frequently cured. In epilepsy religious delirium also appears suddenly, and often takes the form of mania; there is complete amnesia; ictus is invariably observed. In hysteria religious delirium sometimes replaces the attacks of convulsions, and assumes a mystical form. In intermittent circular or double lunacy, religious delirium presents much the same aspect as in mental degeneration. In mania and melancholia it has only a transitory significance, corresponding with the vesania of which mania and melancholia are the simple elements. In toxic lunacy religious delirium is intimately connected with and under the dependence of the delirious toxic attacks. Speaking generally it may be said that religious delirium takes the character of the particular morbid element, which has been determined by the period of vesania in which the religious mania participates.

In a thesis on inherited alcoholism, Dr. Combemale commences with the study of hereditary transmission, "which, in conjunction with the law of adaptation, explains the greater number of physical or psychical, physiological or pathological facts met with in the study of the generation of individuals, families, races, and species." The author then sums up the physiological and pathological effects of alcoholism on individuals, races, and species; whether the affection be acute or chronic, these are manifested by the diminution of vitality, and the premature age and deterioration of the organs, through steatosis of the parenchyma, or irritation of the serous membranes. Furthermore, the transitory or permanent symptoms presented by an occasional or habitual drunkard are transmitted to children conceived during the period of inebriation. These symptoms are manifested by nervous or psychical disturbance, or by mental or physical deterioration, according to the degree of alcoholism presented by the parent. The effect of alcoholism is explained by the lesions or morbid modifications which it determines in every stage in the generative organs. Dr. Combemale also investigates the hereditary effects of alcoholism. These may manifest themselves in the offspring by producing deformity, by modifying the character, by diminishing their power of resistance to disease, or by inducing sterility. It may also act on the intellectual faculties of the offspring, and determine morbid conditions such as idiotcy, mental alienation, delirium, etc.

VIENNA.

[FROM OUR OWN CORRESPONDENT.]

Friedländer's Bacillus as an Etiological Factor in Acute Inflammation of the Middle Ear.—Remarkable Case of Uterine Myofibroma.

AT a recent meeting of the "Verein Deutscher Aerzte," at Prague, Professor Zaufal made a communication on the bacillus "Friedländer," as an agent in the production of acute otitis media. In 1885 he had been able to prove the presence of the bacillus in question in the secretion discharged by paracentesis in a case of acute inflammation of the middle ear. In a case published by Weichselbaum, of Vienna, the bacillus of Friedländer was found to have first produced rhinitis and consecutive otitis media, besides periostitis of the mastoid process, diffuse cellulitis of the neck, and septic infection. Weichselbaum was also able to prove the presence of the microbe in the inflamed tissue of the membrana tympani. The question as to whether the bacillus of Friedländer could give origin to otitis media was thus answered in the affirmative. Professor Zaufal has recently inoculated this microorganism in the tympanic cavity of guinea-pigs, and the result was also a positive one; the pure culture, which was applied to the mucous membrane of the tympanic cavity, was followed by acute otitis media. Professor Zaufal then gave a description of the morphological and pathogenic properties of the bacillus of Friedländer, and showed several fresh cultures; namely, agar and

gelatine plate cultures, bouillon, and potato cultures, etc. He also showed the agar plate, and pure cultures obtained from the mucous secretion of the tympanic cavity of a guinea-pig, which had been inoculated with a pure culture in that part. The same animal afterwards developed lobar pneumonia in both lungs, which was also produced by the bacillus of Friedländer. The agar plate cultures which had been obtained from the pneumonia secretion only showed colonies of the microbe in question.

At a recent meeting of the Imperial Royal Society of Physicians of Vienna, Professor von Mosetig showed a case of myofibroma of the uterus, which was of particular interest, owing to the cause of the disease. The history of the case showed that the patient had suffered since February, 1888, from severe pains in the sacral and pelvic regions, as well as from constipation, difficulty in micturition, and severe metrorrhagia. Examination revealed the presence of a solid and elastic tumour, which was quite fixed, and filled the whole pelvis; the tumour filled the posterior *cul-de-sac*. At the request of the patient, who was anxious to have something done, exploratory laparotomy was performed on October 7th. On opening the abdomen, a solid, elastic tumour, as large as a man's head, and quite immovable, was found; it filled the large and the small pelvis, and was close to the sacrum. When the tumour was exposed, it presented a peculiar appearance; it became congested, assumed a dark-red colour, and spontaneous rupture of blood-vessels took place in some spots. As operation was not indicated under such conditions, the abdomen was closed. The abdominal wound healed without any trouble; and the patient said that the pain and discomfort were less than before. When she was examined a second time, fourteen days later, they were not a little astonished to find that the tumour had shrunk to half its former size, being scarcely as large as a child's head, while the posterior *cul-de-sac* was full, and the tumour had become movable. The tumour continued to diminish in size, so that when the patient was presented to the Society it was scarcely as large as a man's fist. Professor von Mosetig did not know of any similar case in medical literature. He explained the occurrence by the supposition that the disappearance of the myofibroma was due to the intense hyperæmia which had been observed during the operation, just in the same way as soft sarcomata may disappear under the influence of severe erysipelas, etc.

EGYPT.

[FROM OUR OWN CORRESPONDENT.]

The Effects of the Low Nile.—General Health and Absence of Dengue.—Drainage.—How to Provide Funds for Sanitation.—Annual Visitors.—The Weather.—Dr. Milton.

THE return of the European officials who annually fly the Egyptian summer has this year commenced rather earlier than usual, the visit of the Russian Princes having doubtless proved the incentive to this activity, though the abnormal lowness of the Nile may also have been a reason. As regards this latter most important point, I am happy to be able to say that though there will undoubtedly be some hardship, with loss of revenue, in a portion of Upper Egypt, there is no reason to dread anything approaching a famine; and as regards Lower Egypt, all that will be required will be a little more expenditure of fuel and labour in raising the water for irrigation.

The general health of Egypt is now excellent, and one hears nothing this year of the so-called dengue fever which was so prevalent last autumn. The published rates of mortality are still high in the principal towns, but the population is certainly underestimated in nearly all of them, many experienced people being inclined to think that a third, if not a half, should be added to the total number of inhabitants.

There is some reason to hope that at last an effort will be made to introduce a system of drainage into Cairo. Several of the Consuls-General are now alive to the necessity of attempting to do away with the present atrocious method of getting rid of sewage, and I understand that an official in the Sanitary Department has been requested to ascertain what it would cost to have a complete survey of the city made by some leading engineer, who would then send in a report with an estimate of the expenditure necessary to place the capital of Egypt in a satisfactory sanitary condition.

As the law of the country at present stands, the Government has not the power to enforce the collection of a tax for sanitary purposes; but if the Powers, represented by their Consuls-General, could be brought to agree to a slight abrogation of the "capitations," so that a sewer-rate could be imposed on every householder, every difficulty would at once disappear. A rate of thirty shillings per house per annum would suffice to establish and maintain a perfect system of pneumatic drainage, and no one would object to such a trifling addition to his rental if he knew that the money would be devoted to rendering his premises wholesome, and not be poured into the bottomless *caisse publique* for the benefit of the bondholders.

There are signs already that the number of visitors to Egypt this winter will be greater than ever. Hotel managers have beaming faces, and the proprietors of the various "pensions" that have lately sprung up are increasing their prices from 25 to 50 per cent. The number of medical men of various nationalities is also increasing in a remarkable manner; but as a ribald layman remarked, that is not to be wondered at, for where the carcass is there will the eagles be gathered together. The newcomers are chiefly Greeks, Germans, and Italians, the British contingent of private practitioners not having increased for many years.

The weather is at present almost perfect, the dregs of the hot season having completely departed, and we may now reasonably look forward to five or six months of splendid days and balmy nights. There may of course be a little rain now and again in December and January, but except at Alexandria, where it sometimes pours for days, the amount of rainfall, compared with that of England, need not be taken into estimation.

Dr. Milton, the chief medical officer of Kasr-el-Aini Hospital, has had to go to England on sick leave. He is a great loss to the Sanitary Department, and it is to be hoped that his absence will not be for long. Surgeon Laffan, of the Medical Staff (seconded for service with the Egyptian Government) superintends the hospital during Dr. Milton's absence.

GLASGOW.

[FROM OUR OWN CORRESPONDENT.]

The Housing of the Glasgow Poor.—The Health of Glasgow.—Royal Infirmary Dorcas Society.—Extension of University Teaching.—Glasgow Merchants' House.—The Benefit of Ambulance Classes.

"THE Housing of the Glasgow Poor" was the subject of Dr J. B. Russell's presidential address at the opening meeting of the Philosophical Society of Glasgow on November 7th. Dr. Russell's addresses are remarkable for dramatic presentation of statistics and unfolding of the story they tell, as well as for singular literary grace in dealing with subjects which yield themselves so unreadily to artistic dress. The present address was no exception to this rule. In showing the relation of house-room to death-rate, he marshalled a very striking array of figures. The gist of these figures was that, of the total population of Glasgow, 543,295 in 1885, 24.7 per cent. (that is, 134,728) lived in one-room houses, and contributed 27 per cent. of the deaths; 44.7 per cent. (243,691) lived in two-room houses, and contributed 47 per cent. of the deaths. Three-room houses contained 16 per cent. of the population (86,956) and contributed 13 per cent. of the deaths; four-room houses contained 6.1 per cent. (32,742), and contributed 4.3 per cent. of the deaths; while houses of five rooms and upwards contained 7.1 per cent. of the population (38,647), and contributed only 3.3 per cent. of the deaths. There remains 3.2 per cent. of deaths occurring in institutions, against 1.4 per cent. of the population, and 2.2 per cent. of deaths which occurred in unknown houses, against a population included among the inhabitants of small houses. Adding these two last classes to the two first, it is found that 70.8 per cent. of the population live in one or two-room houses, and contribute 79.4 per cent. of deaths, 8.6 more than their due proportion; while the remaining 29.2 per cent. of the population, living in three-room houses and upwards, contribute only 20.6 per cent of the deaths, or 8.6 less than their proportion. Thus, in round numbers, the death-rate per 1,000 per annum is; in inhabitants of one room 27, two-room houses 26, three-room houses 20, four-room houses 18, five-room houses and upwards only 11, the general rate of the city being 25. Dr. Russell next considered the comparative incidence of certain diseases upon these different classes; and found, per 100,000 inhabitants, the deaths from zymotic disease in one and two-room houses to be 478, in three and four-room houses 246, and in five-room houses 114. Diseases of the lung had 985, 689, and 328 victims in these three classes respectively; for dis-

eases of nutrition special to children under five years of age, the rate was 480, 235, and 91 in the same three classes; one from accident; syphilitic disease in children 32, 11, and none in the same three classes respectively. The death-rate from consumption is highest among the inmates of three-room houses, as it is also in Dundee, probably because the high infant mortality in the small houses cuts off those who are prone to this disease before they reach young adult life. The secret of the health of Glasgow lies within the one and two-room houses, where 70 per cent. of the deaths occur. In the various districts of the city there is a marked discrepancy between the death-rates among the inmates of the same class of houses; in one district, where 83 per cent. of the population lived in one and two-room houses, the rate was 23; and in another, where 84 per cent. lived in the same kind of houses the rate was 42. The difference Dr. Russell believed to be due to the kind of houses, as well as to the kind of people. He showed that 31 per cent. of the whole population of one-room houses, and 14 per cent. of the population of the two-room houses had their houses "ticketed," that is, the cubic space of the house and the number of people it will accommodate are marked on a ticket fixed on the door. These "ticketed" houses were mostly "made down houses," no plans being submitted to the Dean of Guild Court. This implies defective ventilation, lighting, and water-supply, and defective conveniences of other kinds. In these houses the average air space is 334 cubic feet per inmate, the average number of inmates being 3.17; while in the model buildings put up by the Corporation the average air space per inmate was 758 cubic feet. In the two-room ticketed houses the average air space per inmate was 370 cubic feet. The non-ticketed houses, on the other hand, were always far above the legal minimum. The ticketed houses were constantly subject to overcrowding. In the third place, the rents of these houses were high absolutely and high relatively to their quality. Better houses could be got for very little more money, but landlords of better houses would not have such a class of tenants, so they paid interest not only on their poverty, but also on their character, and were thus tied to their ticketed houses, and became the bond slaves of their landlords. Dr. Russell proceeded to urge that, to tackle this problem of house accommodation, it was the duty of the authorities to get the power to improve the dwellings which exist by reforming and weeding out the bad, and by seeing that the small houses which are being provided are up to a reasonable standard of wholesomeness. He urged that an owner of a house should be compelled to submit plans before he proceeded to make it down into smaller houses; that in Glasgow summary methods of dealing with unwholesome houses as in Edinburgh were required; and that the principle applied in America should be carried out—namely, that the Board of Health elected by the people shall be clothed with summary power to protect the health of the people. When all that public effort could do was done, there would still be the necessity for private endeavour. Private associations might attack the question of building new tenements of small houses, to be let at monthly rents, to return a modest interest on the outlay, and yet be within the means of those who could be tempted to try to lead orderly lives, if they had the chance of physical circumstances, which would help them up and not help them down, or keep them down.

In his latest report to the Town Council of Glasgow, Dr. Russell traces the history of the recent scarlet fever epidemic, which has already been noted in our columns. The evidence in favour of the view that milk was the means of dissemination was that the fever appeared among some of the best families of the West End, who had no community of influence likely to produce such an outbreak, save the milk-supply, that within the area attacked of 600 houses visited, 92 were supplied with milk from Dairy X, and 508 from other dairies, and, out of the 92, 14 were infected, out of the 508 only 2. Up to date 56 cases have been discovered, all with one exception being between October 15th and 31st. On Saturday, October 20th, 21 fell ill, and between October 18th and 20th 40 out of the total 56 cases sickened. The dairy in question was one of the oldest and most reputable businesses in the trade, and the infection prevailed throughout the business, being carried to those who received the milk indirectly from two shops supplied by the dairy, and to those also who were supplied direct by carts or carriers. Three farms from which the dairy obtained part of its milk-supply were inspected, and men, women, and cattle found sound. A like result attended the inspection of the dairy itself, but two young women belonging to the dairy, one a milker and the other a carrier, had had sore throats about the middle of October. Scarlet fever had, however, undoubtedly been present in the family of the son-in-law of the dairyman, who had taken it at Millport, and had returned to Glasgow, on September 18th, to the house attached to one of the shops, and in direct communication with it. An anonymous postcard directed the attention of the sanitary authorities to the facts. They closed the means of communication and disinfected the premises, the family having gone to Kilmalcolm, whence they returned on October 16th. The children were sent to school, and on October 23rd Dr. Russell found the skin on the feet of a boy still peeling. Suspicious sore throats had existed in the house of another daughter-in-law, who had during the day the services of a girl who slept at the dairy. Dr. Russell's theory is that the disease got transplanted to the dairy before September 25th, on which day the son-in-law ceased to have any communication between his business and his family, and transplanted in the form of sore throats, at any rate in a shape in which it might readily be recognised. Two girls belonging to the dairy admitted having sore throats between October 11th and 14th. The great lesson of the outbreak was the folly of mixing up milk business and family life; another lesson was that the most trifling illnesses both in man and beast should not be thought beneath attention where milk was concerned. Sore throat should especially be suspected.

The annual meeting of the Royal Infirmary Dorcas Society was held on November 7th, under the presidency of Lord-Provost Sir James King. The report is a record of much benefit conferred on the Royal Infirmary patients. An increase of 87 persons over last year had received gifts of clothing, while 1,582 soup and bread tickets had been given to dispensary patients, besides tickets of the Benevolent Society to the amount of £11 15s.; and £10 12s. had been given in small sums to assist with rents, and 7 persons had been sent to convalescent homes. Thanks were awarded to the Misses Watson, of Row, for flowers, of which no less than 6,882 small bouquets, and 167 large ones, had been sent to the Infirmary patients. The financial statement showed a balance of £104 17s. 1d. in hand.

An effort is being made at Greenock to make arrangements for securing the benefits of extension of University teaching. At a recent public meeting, Professors Caird and McKendrick, and Mr. Henry Dyer attended to make explanations; and at the close of the meeting an influential committee was appointed to mature arrangements. It is specially the courses on history and literature that are being sought after, and there is almost no request for lectures on science. It is thought that this is so because of the extent to which science of a kind is taught in schools, in consequence of the operations of the Combe Trust, and similar causes.

At a general meeting of the Glasgow Merchants House, held on November 6th, the following representatives to public institutions were appointed: Managers of Royal Infirmary, Dean of Guild Walls and Mr. Hugh Brown; Managers of Western Infirmary, Mr. Anthony Hannay and Mr. William Kerr; Managers of Royal Lunatic Asylum, Mr. Alexander Ferguson and Mr. David Ritchie; Managers of Asylum for Blind, Mr. Thomas Aitkman and Mr. George Younger; Manager of Lock Hospital, Mr. James H. Dickson; Director of Lying-in Hospital, Mr. Thomas Carlile; Manager of Convalescent Home, Sir William Collins; Governor of Victoria Infirmary, Sir William McOnie; Governor of Anderson's College Medical School, Mr. J. M. Cunningham.

On November 10th a man, in Perth, fell while carrying a bottle of paraffin oil. His left carotid artery was cut. He was at once attended to by Sergeant Scott, of the city police, till surgical aid arrived.

SHEFFIELD.

[FROM OUR OWN CORRESPONDENT.]

Testimonial to Dr. de Bartolomé.—Heavy Damages.—Boxes on the Ear.—Chloral Poisoning.

SOME time since a movement was set on foot to do honour to Dr. de Bartolomé, and to recognise in some way his long and valuable services to the profession and to the School of Medicine. It was decided that his portrait should be painted, to hang in the new Medical School. The project met with cordial approval, and has been liberally subscribed for. The artist, Mr. B. Cammell, has produced an excellent likeness, and a work of art which is at once highly creditable to himself and pleasing to Dr. de Bartolomé's friends. There was a large gathering of friends and old pupils on November 21st to witness the presentation, which was made by Mr. W. F. Favell, Senior Surgeon to the General Infirmary, who

said that he was not only an old friend and an old colleague, but also one of the oldest pupils of Dr. de Bartolomé. It had long been felt that the services of Dr. de Bartolomé demanded some manifestation on the part of the profession. He referred to his long tenure of office as physician to the General Infirmary, his connection as president and lecturer at the School of Medicine, and to his uprightness and integrity, and his professional morality. At a time when some might wish respose, he still identified himself with his professional brethren. Twelve years since, as president of the British Medical Association, he spared neither time, trouble, nor expense to make the meeting a success. It was his pleasing duty to present the portrait (a most excellent picture and likeness) not to Dr. de Bartolomé, but to the Medical School, and he knew it would be accepted as a token of the esteem and affection with which he was regarded. He expressed the hope that he might be spared for long yet to give the profession the advantage of his advice and countenance. The portrait would be also evidence of the esteem in which the first president of the new Medical School was held. Dr. de Bartolomé, who was received with much cheering, said it would be quite impossible for him to do justice to their kindness and affection. This was his jubilee year in Sheffield. He came as a stranger to the town, and the kindness of his professional brethren had ever been extended to him. It was a great pleasure and pride to him that his portrait should hang among the friends that he had loved so long. A vote of thanks to the chairman was proposed by Dr. Law. Mr. J. Hall seconded the proposal; it was cordially carried, and the meeting closed. In the evening a complimentary dinner was given to Dr. de Bartolomé. It was attended by between 40 and 50. Mr. Favell occupied the chair, and Mr. Jackson the vice-chair. The latter gentleman acted as secretary to the scheme throughout, and much is due to him for the success which has attended it.

In a former letter it was mentioned that, in a trial before the Under-Sheriff, one of the injured in the Hexthorpe railway accident secured damages to the extent of £4,500. He had sustained compound fracture of one leg, and amputation had been required on the other limb. The Manchester, Sheffield, and Lincolnshire Railway Company decided to take the case to a higher Court, on the plea that the damages were excessive. The case was argued before the Queen's Bench Division of the High Court of Justice last week, and, with the consent of the plaintiff, the damages were reduced from £4,500 to £4,000, and the motion to set aside the finding of the jury was dismissed with costs.

Recently, a head master at one of the local Board schools was charged before the Rotherham magistrates with assaulting one of the scholars, a boy, aged 8. It appeared that, after giving the boy five or six strokes on the palms of his hands with a cane, he fetched the boy again from his seat and gave him one or more boxes on the ear and face. The Bench inflicted the full penalty of 40s. and costs, or one month in default, and the Mayor said that blows on the face or head were unjustifiable as a mode of punishment for a young child, under any circumstances, and that six strokes with a cane for a mere omission to answer promptly to a number was, in such a little child, excessive and improper. Considering the damage to the hearing apparatus, not unfrequently resulting, it is high time teachers learnt that "boxes" on the ear are very objectionable as a mode of punishment.

The coroner has held an inquest in the case of a woman, aged 35, who died from an overdose of chloral. She was suffering from excessive drinking; chloral hydrate and bromide of potassium were prescribed. After one dose had been administered, she got the bottle herself, and afterwards it was found at the top of the bed.

CORRESPONDENCE.

THE AMALGAMATION OF MEDICAL SCHOOLS IN DUBLIN.

SIR,—In the article in the JOURNAL of November 17th, on the amalgamation of Dublin schools, I am by inference charged with inconsistency. Permit me to say that when I used the words quoted from my address to the Dublin Branch in 1884, the idea in my mind was the consolidation of the private medical schools of Dublin. I never for a moment contemplated their amalgamation with the school of the Royal College of Surgeons. To this latter project I have always been a most determined opponent, and have taken every opportunity of publicly stating the grounds of my opposition. In this action I am personally disinterested, inasmuch as amalgamation offers me double my present income with half my present work. It would be but waste of time to discuss an arrangement which must now be regarded as settled so far as it is a school question.—I am, etc., EDWARD HAMILTON.

120, Stephen's Green, Dublin, November 17th.

PROFESSOR GERHARDT'S CHARGE.

SIR,—I did not reply to Dr. Oswald Ziemssen's polite letter of last week until I could obtain the opinion of one of his own countrymen on the point in dispute between us. My authority is a German physician, a native of Saxony, who has been settled in practice in London for thirty years or thereabouts. He writes: "Any German, reading Dr. Gerhardt's remarks, understands that Dr. Gerhardt means to convey the idea that the doctor purposely tore away a piece from the healthy vocal cord; but he wishes to be rather sarcastic, and adds 'by mistake,'—that is what he means. Your translation is quite right, whilst the other translation of Dr. O. Ziemssen is quite wrong."

Dr. Ziemssen seems inclined to doubt if I am English. I may inform him that his doubt is well founded, for I am not; having been born on the north side of the Tweed, I fear I must confess to being a Scotchman.

I may also inform him that I am not entirely dependent on a dictionary for making translations from the German, as I studied medicine for two winter sessions in Vienna (where, though it is not in Germany, German, of a sort, is the language in general use), and for several months in Berlin, which is now the capital of Germany, so that I have had good opportunities of acquiring a knowledge of German, and I hope I profited by them.—I am, etc., R. E. DUDGEON, M.D.

November 17th.

THE EXAMINATION INCUBUS.

SIR,—When I addressed you on November 10th on "The Examination Incubus," it was with the hope of eliciting some other opinions on this subject, which I know is one of great interest to many. It must be admitted that the medical students of to-day are much better educated men than formerly entered our schools, the instruction they receive is better, and teachers find, as a rule, they work more earnestly and take greater pains to acquire a thorough knowledge of their profession. Why is it, therefore, that the rejections at the College are so much more numerous than formerly? Is it that the examinations are out of proportion to the teaching the students receive, or that they are submitted to unfair examinations? I incline to the latter opinion from the numerous cases in which the most industrious students, who were considered the best men in hospital, are rejected. Can hospital teachers say this is not the case?—I am, etc., MEDICUS.

November 21st.

ARTHRECTOMY OR ERASION.

SIR,—I much regret that I was unable to accept Mr. Owen's kind invitation to be present at the last meeting of the Royal Medical and Chirurgical Society, during the reading of his paper on Arthrectomy or Erasion. I should like to take this opportunity of thanking Mr. Owen and Mr. R. W. Parker for their kind references to myself in the matter. Though I have published brief accounts of the operation on three occasions,[1] I shall be glad if you will allow me to make a few remarks upon the subject, more particularly as some important errors have crept into the report of the meeting published in the JOURNAL of November 17th.

To correct these errors first. Mr. R. W. Parker is reported to have said that the operation is not well suited for children; in the official report he is represented as saying exactly the opposite, and it is obvious that it is especially well suited for children, since it abolishes the shortening which follows excision in the case of the knee. In Mr. Owen's reply he (in your report) states that my first operations were in 1865; that I have not recorded my failures, and do not remember any.

In 1865 I was hardly in a position to perform erasion, and my first case was performed and published in 1881. In my paper in the *Medical Chronicle* I published every case done up to 1885, and claimed that half my cases only were successful as regards the operation. I am only too conscious of many failures, though my later results and the results of those who have operated recently have shown a much better average than 50 per cent. Mr. Owen, of course, has been misreported. I am so much in agreement with

[1] *Lancet*, 1881; BRITISH MEDICAL JOURNAL, 1883; discussion at Liverpool Meeting and *Med. Chron.*, 1885.

what is put forward in Mr. Owen's excellent paper that I have not had to add to it, but if you will allow me I should like to make a few further remarks.

First, the operation is an entirely different thing to mere scrapings out of sinuses or gouging of bone. It aims at fully and freely exposing every crevice of a joint, and removing by dissection every particle of diseased tissue. The soft parts are cut away with scalpel or scissors, and the cartilage and bone scraped or gouged away till a healthy surface is left. Hence the operation is, I think, chiefly applicable to the knee-joint, thought it may be, and has been, successfully employed in the ankle and the elbow. For the knee I prefer the transpatellar incision for two reasons; first, that the joint is more fully exposed; and, secondly, that by suturing the patella there is no loss of extensor power over the limb, that is, the action of the rectus in carrying the limb forward is preserved.

As to preservation of the crucial ligaments, I have always kept them, if possible, on the ground that they steady the ends of the bones; and, should the joint become mobile, then junction is preserved. I have myself only once obtained a mobile limb, and that was my first case; but it no doubt will be sometimes possible to get such a result, and I think Mr. Owen's views well express our position on this point. As to shortening, my experience is that there is none, and there may even be some lengthening of the limb.

As far as I can gather (I speak with all deference) Mr. Bryant's operations were not at all erasions in any complete sense, and I think his mode of dealing with joints is applicable to a different class of case altogether. It, I should take it, is supplementary to a natural process of cure where the main mass of disease has disappeared, and only small local foci remain.

Mr. Macnamara, I would suggest, refers to a somewhat different class of case to that in which erasion is usually practised.

With Mr. Parker I am practically wholly in agreement, except as to the exact mode of operation, and this, I think, may well be adapted to the exigencies of each particular case. I have operated by the transpatellar method, and have been compelled to make a long vertical incision over the front of the limb to enable me to get wide of the disease.

In conclusion, I would suggest that erasion is applicable to cases of disease in which treatment by real rest has failed; but the disease is not so extensive nor the general health so bad that amputation is called for, nor is there such general disease of the bone that removal of the whole of the extremities of the bones forming the joint is demanded. Tubercular disease of the synovial and ligamentous tissues with or without local [2] lesions of bone and without extensive suppuration are the cases, I think, suitable for erasion, provided that treatment by fixation and rest (which, in my experience, cures the vast majority of cases of disease of the knee) has failed. Experience, however, must accumulate before any absolute rules can be laid down. With apologies for the length of my letter, I am, etc., G. A. WRIGHT.

St. John Street, Manchester.

CANCER IN ANIMALS.

SIR,—Mr. Bland Sutton's letter, p. 1134, purports to have been written with the object of removing certain misimpressions produced by a former letter of mine on that subject. Mr. Bland Sutton transgresses the first and most important law of fair criticism, which makes it incumbent upon a critic to quote correctly. In his first sentence he makes the curious blunder of saying that I had criticised a statement which he quotes, the fact being that I made the statement. He then goes on to say that I had stated that "all varieties of epithelial tumours met with in the human subject occur in the lower animals." If he will take the trouble to re-read my letter, he will find that he has very carelessly misquoted the passage.

In proceeding with his criticism Mr. Bland Sutton objects to the use of the expression "lower animals," which, he flippantly remarks, "is applicable to slugs, crocodiles, jackdaws, or asses." But if the expression is a bad one, I can at least claim to have improved it, for in the passage of Dr. Clifford Allbutt's address (JOURNAL of August 11th, p. 290), to which my criticism was directed, the following statements are made: "Vascular degenerations are practically unknown in animals;" "Syphilis is unknown in the animal world;" "Scirrhous cancer is very rare in animals; Sutton can quote but one mammary case. If such cancers are abortive glandular formations, how do animals escape?" I have quoted enough to show that Mr. Bland Sutton's comments are, to say the least, very disingenuous, for they are framed to make it appear that the original statements regarding the above-mentioned conditions were made with exclusive reference to wild animals. No such restriction was drawn, and, indeed, in the very paragraph in which the erroneous statements were made, both horses and cattle are specially mentioned.

Mr. Bland Sutton is again altogether wrong in supposing that I used the expression "carcinomatous new formations" in an ambiguous sense "for fear of mistake." I employed it with customary modern limitations, and it ought to be needless to say that I had not in my mind at the moment any tumour whose structure had not been determined by microscopic examination.

I think Mr. Bland Sutton is wrong when he says that "the term 'cancer' is used in the veterinary pathology in the same loose way it was employed in human pathology fifty years ago;" but the point has no material bearing on the question at issue, for I was careful to state that I spoke from facts within my own experience.

A favourite expression of Mr. Bland Sutton's appears to be that such and such morbid conditions are "practically unknown." I would venture to suggest that two classes, one for the known and another for the unknown, would be sufficient to include the whole series, but that if a third class for the "practically unknown" is to be retained, it must be understood to contain only such things as are unknown to Mr. Bland Sutton.

In conclusion, let me say that my letter was not written in any spirit of captious criticism, but simply because I observed that quite unwarrantable generalisations were being made regarding the occurrence or non-occurrence of certain diseases among the lower animals as distinguished from man. For this Mr. Bland Sutton appears to have been largely to blame, and in future he would do well to remember that all the lower animals are not confined in the Zoological Gardens, and to guard himself against the fallacy of supposing that a thing is non-existent because he has not seen it.—I am, etc., J. MCFADYEAN.

Edinburgh Veterinary College, November 17th.

THE TREATMENT OF OBESITY.

SIR,—The theories put forward by Dr. Davies, in the JOURNAL of November 17th, may possibly be correct, but I venture to say that any healthy obese man or woman may effect sudden changes in their diet for short periods without the evil consequences suggested.

Since the publication of my letter in the JOURNAL of October 6th, I have had several letters from people quite unknown to me, all stating that since they began the treatment they have felt exceedingly well. I think it will serve a useful purpose if I give a short quotation from two letters:

1. From a Medical Practitioner in the North of London.

"I commenced the diet and continued it for twelve days with good results. I lost six pounds in weight, and over three inches in girth." Further on he says: "Not only have I lost weight, but I also lost the flatulence and dyspeptic symptoms, which have troubled me for several years; and I may say I feel more comfortable than I have for many months."

2. From the Wife of a Medical Practitioner in Somersetshire.

"I was unable to carry out the diet accurately, but did so as nearly as possible. I was unable to get weighed until yesterday, which was the seventeenth day; I found I had lost eleven pounds in weight. When I began to treat myself my girth was 35 inches, now it is 32 inches. I feel perfectly well, and began walking exercise. I have walked five and a-half miles to-day without feeling over-tired."

These are the samples of several letters more or less equally satisfactory.

The case of Mr. Banting was a great success, and he was also known to me personally. But my experience of twenty years' practice, with occasional cases treated on the same lines were not encouraging. I am decidedly in favour of Spartan treatment and form my opinion on practical results.—I am, etc.

81, Chancery Lane, W.C. W. TOWERS-SMITH, M.R.C.S.

TREATMENT OF CERTAIN INJURIES AND DISEASES BY CONTINUED IRRIGATION.

SIR,—In the BRITISH MEDICAL JOURNAL of November 3rd (p. 1031), allusion is made to the published notes of a Chicago surgeon, Dr. D. A. K. Steele, on his visit to the General Hospital, Birmingham. Amongst the notes we are informed: "Suppurative joint affections are treated by incision and permanent irrigation, after the manner of Treves."

[2] Local may be taken to include "focal" and superficial lesions.

The mode of irrigation employed by Professor Treves at the London Hospital (described in his interesting paper in the BRITISH MEDICAL JOURNAL of July 7th, 1888), being essentially similar to one of the three plans I devised many years since for St. Mary's Hospital, London, at the request of Mr. Haynes Walton, on behalf of the committee of that hospital, I wrote to Professor Treves last July 7th, drawing his attention to the description and use of my irrigating apparatus in the BRITISH MEDICAL JOURNAL, September 24th, 1870. I exhibited a set of these irrigators with my other inventions in the Surgical Instruments Department of the London International Exhibition, 1873.—I am, etc.,

Plymouth, November 17th. HENRY GREENWAY.

JUDICIAL EXECUTIONS: A CORRECTION.

SIR,—For the sake of strict accuracy, I wish to make one or two verbal alterations in my letter in the JOURNAL of November 17th, which, however, will not affect my conclusions.

"Lever-jack" should be lever-jerk. The sentence, "This parallelogram is very easily constructed," etc., should read as follows: This parallelogram is very easily constructed, and in every case it will be found that the diagonal terminates at the perpendicular line to the overhead attachment; therefore, the result will be the same wherever the culprit is placed on the scaffold.—I am, etc.,

Liverpool, November 17th. JAMES BARR.

THE SYMBOL ℥.

SIR,—There is no doubt that many, if not most, of the older medical practitioners use the above symbol to represent an apothecaries' or troy ounce of 480 grains. The younger practitioners, on the other hand, more frequently use it to imply an avoirdupois ounce of 437.5 grains, the weight in grains of the pharmacopœial ounce.

When Demonstrator for Materia Medica in Edinburgh I always taught that the symbol stood for 437.5 grains, as also did my colleague, Dr. Stockman, our chief professor, J. R. Fraser, and our predecessor, Professor Matthew Hay, of Aberdeen. A similar confusion, but to a less extent, holds with the pound, whether pound troy or pound avoirdupois be meant; the former certainly is usually abbreviated ℔; the latter simple lb.

I presume the only authoritative settlement of the question could be through the General Medical Council, acting with the Council of the Pharmaceutical Society. Mr. Rutherford Hill deserves thanks for his important letter, which I trust may lead to something of a definite nature.—I am, etc.,

G. ARMSTRONG ATKINSON, M.D.

1, Eldon Square, Newcastle-upon-Tyne,
November 13th.

SIR,—In the JOURNAL of November 10th, Mr. J. Rutherford Hill calls attention to an old correspondence in the *Pharmaceutical Journal*, in which he says it was stated by Professor Redwood, as the opinion of the Pharmaceutical Committee of the Medical Council, that the symbol ℥ represents a troy or apothecaries' ounce of 480 grains. Mr. Hill remarks that many medical men understand that symbol as representing the avoirdupois ounce of 437.5 grains, and desires to elicit the general opinion on the subject.

From a therapeutical point of view the difference between the two ounces can hardly be considered material, being less than a tenth part of the smaller weight. Nevertheless, it is desirable that the question should, if possible, be settled, and uniformity of practice attained.

The view attributed to the Pharmacopœia Committee that the symbol ℥ represents a troy ounce, as baldly stated by Mr. Hill, is certainly liable to mislead. It might be taken to mean, and would, I think, by most persons be taken to mean, that the *British Pharmacopœia* sanctions the use of the troy ounce in preference to the avoirdupois ounce. The reverse is the fact. The *British Pharmacopœia* recognises no ounce but the avoirdupois ounce of 437.5 grains, and in the preface medical men are "strongly urged" to use no other.

The matter in dispute appears to me to involve two distinct questions.

First, are medical men justified in using the symbol ℥ to represent the avoirdupois (or *Pharmacopœia*) ounce of 437.5 grains? On the one hand, it may be said that the symbol ℥ is commonly understood as equivalent to the word "ounce," and that medical men (who must be always taken to mean by "ounce" the *Pharmacopœia* ounce, unless it is otherwise expressed) are at liberty to use the symbol in place of the word. On the other hand, it may be urged (I think with justice) that the symbol ℥ is not equivalent to the word "ounce" in its wider sense, but is rather equivalent to the particular troy ounce of 480 grains, being one of three symbols peculiar to the table of "Apothecaries' Weights" (in which the ounce is the troy ounce), and not conveniently admitting of use in any other sense. On the whole, it would seem advisable to abandon, in prescriptions, the use of a symbol which is and must remain open to a double interpretation. The abbreviation "oz.," suggested in the *Pharmacopœia*, will answer the purpose equally well.

The second question—and no doubt the one which chiefly interested the pharmaceutists—is this: When the symbol ℥ is used in prescriptions to denote a weight, how is it to be understood? For this, I doubt if any rule can be laid down. The dispenser must guess, as best he may, what the writer intended, consoling himself with the reflection that it probably matters very little either way, or, if it does, the fault is not his, but the doctor's.—I am, etc.,

Clifton, November 20th. GEORGE F. BURDER, M.D.

BRITISH LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION.

SIR,—Will you kindly insert the following list of original members of the British Laryngological and Rhinological Association who have resigned their membership: Mr. E. Cresswell Baber, Dr. R. A. Hayes, Dr. Prosser James, Dr. Coleman Jewell, Dr. P. McBride, Mr. W. R. H. Stewart, Mr. Spencer Watson, Dr. Thomas Whipham, Dr. W. McNeill Whistler, Dr. Edward Woakes, Mr. Arnold Woakes.—I am, etc., RICHARD A. HAYES, M.D.,

56, Merrion Square South, Dublin, late Hon. Sec. B.L. and R.A.
November 19th.

THE METHOD OF RAISING THE EPIGLOTTIS.

SIR,—In the JOURNAL for November 17th Dr. Benjamin Howard describes what he calls a "new" way of raising the epiglottis in cases of asphyxia. Will you allow me to say that I have repeatedly seen my friend, Mr. Porter, of Lindfield, use this method in cases of chloroform asphyxia with most satisfactory results; in one instance the man seemed quite dead.—I am, etc.,

Hayward's Heath, November 18th. A. H. NEWTH, M.D.

NAVAL AND MILITARY MEDICAL SERVICES.

BRIGADE-SURGEONS IN INDIA.

BRIGADE-SURGEON writes: Permit one who has served as a brigade-surgeon in India, and who is no longer personally interested in the disabilities of which they justly complain, to give an instance of how unfairly the present rules bear upon them.

Many years ago an officer of the Army Medical Department was in medical charge of a cavalry regiment at a large Indian station, and, in addition to the consolidated pay of his rank, he drew 90 rupees horse allowance per month, then nearly equivalent to £9. He was responsible only for the sick of his own regiment. About a dozen years after he happened to be in the same station, a brigade-surgeon of the medical staff, and had medical charge of all the British troops, and their sick, horse, foot, and artillery, in different hospitals far apart. He had necessarily to keep horses, and his duties were sufficient to ensure their not standing long idle in their stalls. Those duties were trebled, his responsibilities at least quadrupled, and the extra remuneration he received was—*more Hibernico*—the loss of the 90 rupees per month horse allowance.

He had two senior surgeons-major serving under him, whose duties consisted in carrying out his orders, without any official responsibility beyond, and who drew the same pay as he did; for his brigade-surgeon's rank was ignored by the financial authorities, and the only privilege he had was that of paying for a staff officer's coat. All other general staff and departmental staff officers had special allowances for their special duties, however petty in comparison they might be; the medical staff officer alone, the brigade-surgeon, in a position admitted on all hands to be one of the gravest responsibility, was considered to be sufficiently remunerated by the bare consolidated pay of a rank lower than his own. It might be added that for a considerable period the administrative medical work of the division fell to his lot, in the absence of a deputy surgeon-general, but without the addition of one rupee to his pay.

Comment on the foregoing disinterested statement of facts would be "painting the lily."

THE RETIREMENT OF MEDICAL OFFICERS.

J. P. H. B. writes: It is rumoured that medical officers will not in future be allowed to retire on the pension of their rank until they have served three years in such rank. This is no new thing. A regulation to the same effect will be found in the Warrants of October, 1854, October, 1858, April, 1867, March, 1873, and April, 1876; in fact, it was not until the Warrant of November, 1879, was issued that this rule ceased to be enforced. But the important point to which I now wish to draw attention is this: that *ten years' service abroad in any rank* was, in connection with the right of retirement,

considered the equivalent of three years' service in the rank from which the officer retired. You will find it so ruled in each of the five Warrants above mentioned.

THE MEDICAL SERVICE.

Dr. EDWIN H. ROE, late Surgeon-Major 4th Lancashire Rifle Volunteers (Eccles) writes: In answer to "Severn Brigade," I would say that I acted as surgeon to the 4th Lancashire Rifle Volunteers for many years. They annually went into camp, and on these occasions my custom was to prescribe, some local chemist dispensing the requisite medicine, and being paid out of the battalion funds. A few years ago we went to a neighbourhood where there was no chemist within a reasonable distance. I therefore obtained permission to procure a medical chest, containing both medicines and appliances likely to be required, about two feet square, or, rather, cube. This was also paid for by the battalion, and remained under my care when not required. I always saw to its refurnishing before any fresh camping out. These fresh supplies were paid for by the battalion.

THE REGIMENTAL SYSTEM.

SURGEON writes: Will you allow me to emphasise the danger which a return to the modified regimental system portends? It means that for the first five years surgeons will rank as subalterns (this I do not consider an unmixed evil); but they will most certainly only draw subaltern's allowances—probably regimental, which are much less than staff. This in itself is a serious consideration, to say nothing of the loss of *esprit de corps*, divided authority, and confusion generally that this change will engender.

I may say that in this change I am not self-interested (except in the repute of my corps), as I am probably too senior in my rank to be affected by it.

ARMY MEDICAL AFFAIRS.

A RETIRED SURGEON-MAJOR sends us a long letter on his quondam department. He says he had ceased to take any active interest in army medical matters, but the recent turn of events had again aroused him. He favours the adoption of the compound titles of Surgeon-Captain on to Surgeon-General, and considers the rank question cannot now be dropped or shelved, seeing that military titles and definite rank have been freely conferred on other departments of the army.

He thinks one medical officer should be appointed for a definite time—say five years—to each regiment. This is not only due to the sick of officers and men and their families, but of much importance to corps from a disciplinary point of view in the management of prisoners, defaulters, and schemers. He says "traditions are handed down," and one is an old and rooted aversion in the "combatant" mind to medical officers having any function of command. It may be an absurd one in this democratic age, but, nevertheless, there it is.

He thinks, from what he hears, the condition of the junior members of the medical staff in India is very unsatisfactory, and to be deplored. Debarred from the wholesome society of a mess and the healthy stimulus of companionship, and left to "pig it in their bungalows," is a cruel fate, leading with certainty to demoralisation and disease. Isolation at home is bad, but tenfold worse abroad.

He sincerely trusts all these matters will be duly considered by the powers that be, and the outcome—efficiency combined with contentment.

THE NAVY.

STAFF-SURGEON P. J. BARCROFT has been allowed to withdraw from the service with a gratuity. His commission as Surgeon bears date September 30th, 1876.

Staff-Surgeon HORACE HARRISON SMITH, M.D., has been awarded the Greenwich Hospital Pension of £50 a year, void by the death of Fleet-Surgeon R. C. Scott. Dr. Smith entered the service as Surgeon, August 2nd, 1848, and became Surgeon May 10th, 1856. He retired April 1st, 1870.

The following appointments have been made at the Admiralty: E. H. WILLIAMS, Surgeon, to the *Duke of Wellington;* F. J. BARNS, M.D., Surgeon, to the *Mariner;* JAMES BRADLEY, Surgeon, to the *Jackal;* R. B. WRIGHTSON, M.D., to be Surgeon and Agent at Aldeburgh, Sizewell, and Thorpe; A. T. RIMELL, Surgeon, to the *Canada;* B. C. E. F. GUNN, Surgeon, to the *Rattlesnake;* G. R. D. CHARLTON, Surgeon, to Chatham Hospital; W. H. O'MEARA, Surgeon, to the *Linnet;* P. B. BURY, Surgeon, to the *Cambridge;* J. L. BARRINGTON, to Portsmouth Division Royal Marines; J. O'B. WILLIAMS, Surgeon, to the *Asia;* J. JENKINS, Surgeon, to the *Duncan* (additional); C. BRADLEY, Surgeon, to the *Curlew*; J. ANDREWS, Surgeon, to the *Peacock*; H. R. OSBORNE, Surgeon, to the *Mistletoe.*

THE MEDICAL STAFF.

BRIGADE-SURGEON WILLIAM TANNER has retired on temporary half-pay, on account of ill-health. He entered the service as Assistant-Surgeon November 9th, 1857; became Surgeon March 1st, 1873; Surgeon-Major April 1st, 1873; and Brigade-Surgeon June 14th, 1883. He served in the Royal Navy with the Expedition to the Baltic in 1855, and was present at the bombardment of Sweaborg (medal); with the Royal Artillery throughout the campaign in China in 1860, and was present at the action of Sinho, actions near Tanchow, and surrender of Pekin (medal with two clasps); in the Egyptian war of 1882 (medal and Khedive's star); and in the Soudan campaign in 1885 (mentioned in despatches, clasp).

Surgeon A. L. H. DIXON, who is serving in the Madras command, doing duty in the Bangalore and Belgaum districts, is directed to do duty in the Madras district.

ARMY MEDICAL RESERVE.

ACTING-SURGEONS J. J. MARSHALL, of the 1st Cinque Ports Rifle Volunteers, and DAVID THOMSON, M.D., of the 3rd Volunteer Battalion Bedfordshire Regiment (late the 1st Bedfordshire Volunteers), have been appointed Surgeons, ranking as Captains.

INDIAN MEDICAL SERVICE.

CONSEQUENT on the expiry of the tenure of hill station duty of Surgeon J. Anderson, Surgeon-Major B. O'BRIEN, Bengal Establishment, is appointed to the civil medical duties of Mussoorie from the date of taking charge.

Surgeon J. ANDERSON, Bengal Establishment, will continue in medical charge of Mussoorie till relieved by Surgeon-Major B. O'Brien, with effect from the date on which he is relieved of the charge of civil medical duties of Mussoorie, his grade station will be Minpoorie.

Surgeon-Major H. K. MCKAY, Bengal Establishment, is, on return from furlough, posted to the Seonee district as civil surgeon and superintendent of the gaol.

Surgeon E. P. FRENCHMAN, Madras Establishment, is appointed Honorary Surgeon in the Thayetmyo Company of the Burmah State Railway Volunteers.

Surgeon-Major J. SMITH, Madras Establishment, whose services have been replaced at the disposal of the Military Department, is appointed to the medical charge of the 26th Native Infantry, *vice* Surgeon-Major F. H. BLENKINSOP, who exchanges.

Surgeons J. G. HOJEL, H. C. L. ARNIM, and G. S. THOMSON, are brought on the strength of the Bombay Establishment from October 24th, the date of their arrival at Bombay.

Surgeon-Major H. M. G. ARCHDALL, of the Madras Establishment, died at Madras on September 20th. He entered the service as Assistant-Surgeon April 1st, 1868, and became Surgeon-Major twelve months thereafter. He had no war record.

THE VOLUNTEERS.

THE undermentioned gentlemen are appointed Acting-Surgeons to the corps specified:—H. R. JONES, M.B., 2nd Lancashire Artillery; W. A. M'LACHLAN, M.B., 1st Renfrew and Dumbarton Artillery; EVAN EVANS, M.B., 1st Volunteer Battalion Welsh Regiment (late the 1st Pembroke).

Acting-Surgeon W. MEARNS, M. D., and F. W. GIBBON, are transferred from the 1st Newcastle and Durham Engineers, on its division into two corps, to the 1st Durham Engineers; their commissions will bear the same rank and date as those formerly held by them.

Acting-Surgeon R. BENNET, M.D., 2nd Volunteer Battalion Derbyshire Regiment (late the 2nd Derbyshire) has resigned his commission, which was dated May 31st, 1873.

Acting-Surgeon A. J. HUBBARD, M.B., City of London Rifle Volunteer Brigade, has also resigned his commission, dated Januaryrd 23, 1886.

Mr. HENRY HUXLEY is appointed Surgeon to the London Division of the Volunteer Medical Staff Corps.

MEDICO-LEGAL AND MEDICO-ETHICAL.

MEDICAL ADVERTISING.

IN reply to "Practitioner's" note of inquiry as to "what remedy he can apply" as the most effective treatment in the case to which he alludes, we would advise him to send a copy of the newspaper containing the derogatory advertisement to the governor and directors of the Apothecaries' Hall, Dublin, of which the offending practitioner is a Licentiate, and solicit their attention thereto through the medium of a note signed by two or three local practitioners.

With regard to the second advertisement, we deem it unnecessary to offer any comment thereon, inasmuch as it appears to have been issued in the interest of the widow by the solicitor, as executor of the deceased practitioner, and simply as a precautionary measure against the assumed pretensions of the late assistant.

ANTISEPTIC writes: My attention has been drawn to a letter in the JOURNAL of October 27th, from a correspondent asking for advice as to the treatment of a case of that infectious disease known as advertising. Thinking I have some acquaintance with the case in question, I beg to offer a suggestion.

In the first place, the disease was, I believe, contracted in courting a dangerous young woman whose name is Fortune, the daughter of an intriguing mother known as Fame. The affection is probably incurable, and our attention should be directed rather to the prevention of its spreading than the alleviation of its victim; for, if he be relieved, other men may be led by the apparently unalloyed pleasure derived from his debauch to follow in his footsteps; but if the disease be allowed to run its course, its foul discharging wounds and its hideous deformities will be a terrible warning to all neither to follow the habits of the sufferer nor yet to go near him. I would, then, advise that the patient be isolated, and Nature allowed to effect her own cure and be her own sanitary officer.

SOUTH WALES.—In response to our correspondent's suggestive request that we would accord "— — —— Esq., M.R.C.S., Surgeon to the late National Ear Institution, London, the most expert aural surgeon known" (*vide Western Mail*), a free advertisement in the columns of the JOURNAL, we may observe that, willingly as we would aid in suppressing all such questionable conduct, we can only regretfully reiterate the advice which has been repeatedly given thereon, to the effect that, inasmuch as the practitioners who have recourse to public advertisements in the lay papers are insensible to professional condemnation, no really effective remedy will be found for the evil so justly complained of until the several corporations can be induced by outside pressure to recognise and fulfil their duties to the profession and to the public by enforcing their disciplinary rules on all delinquents, and, if need be, in the last resort, to withdraw their diploma, temporarily or otherwise, according to the nature of the case.

RE ADVERTISEMENT FOR RESIDENTIAL PATIENTS.

MR. L. UPCOTT GILL (proprietor of the *Bazaar* and the *Exchange and Mart*, 170, Strand, W.C.) writes: As the question asked by "Senior Practitioner" in the JOURNAL of November 10th somewhat implies that an advertisement has been inserted in our paper, to the effect that a doctor had been advertising to receive "(*a*) an invalid patient to reside in his house, or (*b*) a lady for accouchement," I think it only right to say that no such advertisement has been tendered to us for insertion in our journal; and had one been sent us we should have declined it, for the same reason as you take exception to, namely, that the wording of it is such that the public might put a different construction upon the words "to receive in his house a lady for accouchement" to that intended by the doctor.

OBSTETRIC ETHICS.

OMEGA writes: A medical practitioner is consulted by a young unmarried woman, who does not suffer from anæmia, looks well in the face, but complains of indigestion and sometimes vomiting of food; her menses have ceased, say, for one or two periods, and she shows an anxiety to have them brought on, as she thinks their suppression is the cause of her ailments. Then, after being further questioned, she cannot give any reason for their cessation, and denies having had sexual connection. The practitioner cannot see any cause for their stoppage, and, to the best of his opinion, does not consider her pregnant. Now, if, after this denial of sexual intercourse, he should prescribe a mixture containing iron or any other emmenagogue which causes an abortion, how does he stand from a legal point of view if he should ever be accused of intentionally procuring abortion?

Again, a married woman has been regular for some months, but now misses one of her menstrual periods, when she consults a practitioner, complaining of neuralgia, which she attributes to the suppression of the menses, as she thinks she has "caught cold," but at the same time expresses a hope that she is not pregnant. The practitioner cannot state whether the neuralgia she is suffering from is due to the suppression of the menses or that the latter is caused by pregnancy. How, then, is the medical adviser to act in similar obscure cases as above mentioned? Is he justified in giving an emmenagogue? An answer to the above through the JOURNAL will confer a favour on one whose knowledge in medico-legal matters is indeed poor, especially in those puzzling if not dangerous cases.

*** If the signs of pregnancy, absolute or presumptive, are not sufficiently clear to justify a diagnosis, negative or positive, and the patient's condition does not present serious danger, the wise course in either of the cases put is to temporise; call in consultation Time, the solver of mysteries. Certainly abstain from emmenagogues until it is proved by objective evidence that she is not pregnant.

ASSISTANTS AND INQUEST FEES.

PHI. writes: When a qualified assistant makes a *post-mortem* examination and gives evidence at the inquest, is the principal justified in retaining all the fee?

*** The fee for making a *post-mortem* examination and attending to give evidence thereon is clearly payable to the practitioner who makes the examination, and not to his employer or partner. What is done with the fee after it has been paid is a matter for arrangement between the parties; but, unless this agreement provides for its appropriation, the fee belongs to the person who earns it.

EMPLOYERS AND PATIENTS.

B. writes: About a month ago Dr. C., of F——, was asked by a farmer to see his overseer, then and still under my care. Both knew I was in attendance. Dr. C. saw the case and gave his opinion. My patient refused to see Dr. C., being perfectly satisfied. Some time after, the farmer took Dr. C. to the patient without consulting him. When I heard of it I sent a letter to the farmer, who immediately called at my house and expressed his regret for what he had done, saying also he asked Dr. C., thinking there was no mistake. I wrote Dr. C., asking an explanation. His reply was that, as he believed he had acted honourably, he declined giving any explanation.

*** Assuming that the above statement conveys a correct representation of the facts, there cannot be a doubt that Dr. C., in declining to give any explanation of his conduct in the case, intensified the gravity of his regrettable procedure towards B.

"THE DOCTOR'S WIFE."

COSMOPOLITAN writes: Dr. A.'s wife is requested by mutual friends to call upon some new residents in the neighbourhood in which she lives. She does so, and a pleasant acquaintanceship ensues. Dr. B. is offended, and when asked why, declares that A. is guilty of a breach of medical etiquette, inasmuch as his wife, who represents himself, has called upon people other than her husband's patients.

Is Dr. B. justified in his opinion, and are all professional men's wives debarred from increasing and renewing their social circle for fear of being considered guilty of touting?

*** In response to "Cosmopolitan's" question of etiquette in the above case, we quote the following foot-note from the *Code of Medical Ethics*, page 52, as an apposite reply, and from it he can readily deduce the medico-ethical moral we would inculcate in relation thereto:—

"Closely akin to solicitation is that of calling upon new residents in the neighbourhood and leaving their card, ostensibly as a mark of respect, but in reality to seek for practice. It cannot, therefore, be too deeply impressed upon such that the true dignified practice, and the most consistent with a due respect for self and the faculty, is to wait until their professional or social acquaintance is sought; in such case, moreover, it is far more likely to be appreciated."

NIGHT VISITS.

J. G. writes: May I ask your opinion on the following case? I ha ca female patient suffering from pyæmia, living a mile and a half from my house. I saw her in the forenoon and she was no worse than usual. During the night a brother-in-law came for me to go and see her, but, as I do not go out at night, I refused, and, as he became abusive, I did not send my assistant. Next morning my assistant called, and was met at the door by the mother-in-law, who said, "We have sent for Dr. So-and-so (one of the town doctors). Will you go up and see her?" My assistant said, "No. You are quite right to send for whom you please; but you ought to have let us know first." This medical gentleman came down and took over the case, without letting me know that he had been requested to do so. This was the second time he had taken over cases of mine while I was in attendance.

*** The case submitted by "J. G." involves points other than those on which he more especially solicits advice. We deem it essential to note: first, that, inasmuch as he not only himself declined, but, for an assigned reason, also refused to allow his assistant to visit the case, we consider that the patient in question was fully justified in sending for another practitioner, without further reference to "J. G.;" secondly, that the superseding practitioner should, on being made acquainted with the facts of the case, have declined to renew his professional visit—which he should at once have notified to "J. G."—except in consultation with the one in immediate previous attendance; or, if the patient insisted on dispensing with the services of the latter, he should, ere assuming charge of the case, have satisfied himself that a communication to that effect had been made to the superseded practitioner.

SKILL, NOT DRUGS.

AT Dudley County Court a medical man recently sued the executor of a deceased farmer for an amount for consultation with the defendant. The deceased could not take any medicine. The judge, in giving judgment for the plaintiff, pointed out that many people of the better class hold the idea that it is medicine that doctors are paid for; it is, he said, for skill.

UNQUALIFIED ASSISTANTS.

PROBE.—The employment of unqualified assistants is never to be encouraged, and this case shows that it may be dangerous. There seems to have been great want of caution in transferring the practice, and every opportunity given to the former assistant for holding himself out as being qualified, or at any rate as employed by, or in partnership with, his former principal. It would certainly be advisable to announce as publicly as possible in the neighbourhood that all connection between the principal and assistant has ceased. Nothing further can be done at present; but if proceedings should be taken to make the principal liable for any acts of the assistant, it may be necessary to consider whether a defence can be set up successfully.

INDIA AND THE COLONIES.

INDIA.

REPORT OF THE HEALTH OFFICER OF CALCUTTA FOR 1887.—The health of Calcutta, as we have always maintained, is a matter of European importance, and this is the view taken of the subject on the Continent. In their well-founded dread of cholera invasion, continental people have always a suspicious eye on this "home of cholera," and are always ready on slight grounds to press on their Governments preventive measures, which, however futile they may be, would grievously hamper the commerce of India. The health officers of Calcutta, in the uphill battle they have to fight against prejudice and ignorance, have always had our warmest sympathy.

In the year under notice the fever mortality was the lowest on record. The number of deaths amounted to 3,253, the mean of the decade being 4,152. Dr. Simpson mentions a case illustrative of a tale often told, and as often forgotten. In a missionary school from October to March there were 82 cases of fever, being 71 per cent. of the scholars. This prevalence of fever was undoubtedly due to the undrained land, insanitary conditions of the surroundings of the school, and to a filthy, stagnant pool immediately on the south, from which the prevailing wind blows. An older missionary school, situated on the opposite side of the road, where the sanitary conditions were good, enjoyed entire immunity from fever. The fever cases in the unhealthy school assumed a severely "typhoidal type," a roundabout way of expressing the fact that they were cases of enteric fever traceable plainly enough to the "sewage polluted soil." Dr. Simpson gives another example where two "well-known young men in Calcutta suffered from enteric fever, one of whom died. Investigation brought to light the familiar fact that the bath-room pipe was untrapped, and was so connected with a foul latrine as to draw up sewer-gas into the bedroom." Yet in the face of innumerable examples of the same kind, and quite as conclusive, men write volumes to prove that enteric fever in India has not the same parentage as in England, but is traceable to endless fanciful "causes," not to those under their eyes and noses.

The cholera mortality for 1887, in Calcutta, fell below the decennial mean by 435. The registered deaths amounted to 1,198, against 1,633, the average number of the decade. It is noted that hut-dwellers suffer nearly three times as much from cholera as dwellers in brick houses. Newcomers are the most frequent victims, 17 per cent. of those attacked had not been a month in Calcutta, while in some wards 24 and 25 per cent. had not been over a month in the wards. In the greater number of cases a scarcity of water was noted. The water-supply in Calcutta is evidently very unequally distributed. The upper and middle classes receive a large, the poorer classes, the hut-dwellers, a

miserably small supply. Here, indeed, is a distinction between the "classes" and the "masses," much to the advantage of the former. If a more liberal supply can be extended to the masses, the "upper crust" of Calcutta would soon find the advantage of being in this matter less selfish, in the diminished number of cholera cases in the city in which they dwell. Dr. Simpson demonstrates once more that a contaminated milk-supply in Calcutta, as elsewhere, is a powerful factor in the propagation of cholera. The filthy condition of many of the Calcutta cowsheds is illustrated by a photograph, which amply explains the contamination of the milk-supply. Deaths from dysentery and diarrhœa numbered 1,197 in 1887, against a decennial mean of 1,485. The highest mortality was in the cold months, the lowest in May. In 1887 Calcutta enjoyed an unprecedented immunity from small-pox, there being only two deaths in twelve months. It may interest the wise men of Leicester to hear that in Calcutta "vaccination is systematically carried on in all sections of the town," and that the compulsory Vaccination Act has very materially helped to forward this preventive measure among the lower classes.

Into the admirable sanitary measures with which Dr. Simpson wages war against disease in the "home of cholera," we cannot enter; we wish he had a more enlightened body to deal with than we fear has fallen to his lot. But we bid him take courage, and, following Abraham Lincoln's famous advice, keep "pegging away;" success will in the end crown his efforts.

A TELEGRAM from Calcutta states that the Aitchison Hospital has been opened by Lady Dufferin. Lady Lansdowne will continue the good work initiated by Lady Dufferin.

OBITUARY.

ROBERT CHARLES SCOTT, FLEET-SURGEON R.N.

FLEET-SURGEON ROBERT CHARLES SCOTT, R.N., who died on October 22nd, at his residence, 28, Birkbeck Road, Acton, of angina pectoris, aged 62, entered the Royal Navy as surgeon in 1847. He served in Sir E. Belcher's Arctic expedition of 1852, for which he received the Arctic medal, and also in the Crimea in 1854 and 1855, receiving for his service the Crimea and Turkish medals. The deceased officer was in the ship *Fury* in the Chinese war, and was present at the boat action of Fatshan Creek, and at the three attacks on the Peiho forts, in which he was landed with the storming parties. For his services in the latter war he had received the China medal with the Fatshan and Taku clasps. His appointments bore date: Staff-Surgeon, 1854; and Fleet-Surgeon, 1869. He retired from the service in 1876, and by his death a Greenwich Hospital pension of £50 a year is placed at the disposal of the Admiralty.

REGINALD HARE COMBES, M.R.C.S., L.R.C.P.

WE have to announce the death on November 7th, from sarcoma, of Reginald Hare Combes, M.R.C.S., L.R.C.P., of Hampstead. His medical education was commenced in the infirmary at Sydney, New South Wales, his native country, where he studied for some months before coming to England to enter St. Bartholomew's Hospital. There he became well-known, not only for general ability, but especially for his great skill in drawing and dissecting. After leaving St. Bartholomew's he was appointed registrar and subsequently house-surgeon at the North West London Hospital. In January, 1887, he entered into partnership with Mr. W. H. Holman, of Adelaide Road, Hampstead. He was the inventor of a new stethoscope, and contributed a paper on Transposition of the Aortic Arch to the *St. Bartholomew's Hospital Reports*.

A few weeks before his death he had been elected for the second time honorary secretary to St. Luke's Guild, of which institution he had for some years been an enthusiastic supporter.

JOHN CHALMERS, M.D.

THE news of Dr. Chalmers's death will be received with deep regret. His character was upright and sincere, and his goodness and kindness won the hearts of all who knew him. The history of his illness and death is sad, but not, we regret to say, rare among medical men. Some time since, whilst attending a midwifery case, he acquired a disease which greatly impaired his health, and which resulted in an affection of the nervous system. He bore this misfortune with manly fortitude, and seemed at last to have partially recovered. Recently, however, a trivial lesion excited cellulitis and gangrene of the foot, to which his impaired vigour rapidly succumbed. Dr. Chalmers received his education at the University of Glasgow, and was a member of the Medical Council of that institution. He graduated under very difficult circumstances, and soon after went to Barnard Castle, in Yorkshire. He often spoke of the pleasure which his work and residence in that beautiful and romantic spot afforded him. After a while he came to London, and commenced practice in Stoke Newington. Whilst waiting for success, he was largely engaged in literary pursuits, to which, until his death, much of his leisure was devoted. As his career became more assured, he moved to Bloomsbury, and speedily secured an extensive practice. Dr. Chalmers was gifted with keen and accurate powers of observation. He contributed to the *Transactions of the Obstetric Society*, and the *Journal of the Gynæcological Society*, of which he was one of the vice-presidents. He was at the time of his death engaged in collecting material with reference to vaccination, which, we trust, may yet see the light. In addition to the societies which have been mentioned, Dr. Chalmers belonged to the Clinical Society and to the British Medical Association. Imbued with a keen appreciation of literature and art, and provided with a store of knowledge of many subjects, and accomplished in the exercise of his profession, John Chalmers was one we could ill afford to lose.

JAMES HALL, M.B., C.M.EDIN., L.R.C.S.

WE regret to have to record the death of Dr. James Hall, which took place at his residence, St. George's Road, Bolton, from phthisis, at the age of 43, on November 5th. The deceased gentleman was a native of Bolton, and acquired his medical education at the University of Edinburgh. At college he was one of the best men of his year, and carried away many of the class prizes and honours. Graduating when he was 22 years of age, he at once started practice in his native town, and speedily obtained an extensive connection. His impulsive warm-heartedness and unusual skill and tact caused him to be one of the most popular medical men in the district, and his services were always in great request. For several years he was one of the medical officers for the Bolton Union, in which capacity he was much beloved by the sick poor for his ready and generous sympathy. His interment took place at Walmsley cemetery on November 8th, and the large attendance on that occasion by his medical and masonic brethren and others testified to the universal respect in which the deceased gentleman was held. He leaves a widow and five children (one son and four daughters).

MEDICO-PARLIAMENTARY.

HOUSE OF COMMONS.—Thursday, November 15th.

Salaries of Medical Officers of Prisons.—On the vote of £311,180 for prisons in England and the colonies, Mr. CHILDERS called attention to the inequality in the rates of pay to prison doctors in England compared with those in Scotland and Ireland.—Dr. FARQUHARSON suggested that if the Scotch and Irish doctors were paid at the same rate at those in England, they would not be overpaid.—Mr. JACKSON said it was impossible to make hard-and-fast lines, and make a scale applicable to every case. There was no prison in Scotland with a population so large as some in England, where one prison contained 1,300 prisoners. The observations which had been made would, however, receive consideration.—Dr. CLARK moved to reduce the vote by £1,000 as a protest against the under-payment of the surgeons of the four largest Scotch prisons.—The proposed reduction was rejected by 161 to 101.

Broadmoor Criminal Lunatic Asylum.—On the vote of £32,802 for the Broadmoor Criminal Lunatic Asylum, Dr. FARQUHARSON said in this asylum there was a good deal of valuable clinical material wholly neglected. The connection of crime with lunacy might be studied with advantage, as had been suggested by Sir Crichton Browne.—Mr. STUART WORTLEY said there was an independent board of unpaid managers, and the Lunacy Commissioners always reported favourably upon the management of this asylum.

Friday, November 16th.

Inspection, Registration, and Overcrowding of Common Lodging

Houses.—Mr. MATTHEWS, in reply to Mr. HOWELL, who asked the Home Secretary whether he would consider the propriety of strengthening the law for regulating common lodging houses in the metropolis, replied that there were officers specially appointed, in every district of London, to inspect the common lodging houses and to enforce the existing regulations against overcrowding, and against insanitary conditions. The regulations had proved in the main sufficient to prevent overcrowding, and to secure cleanliness and order, but he thought they were capable of being strengthened as regards the inspection of sanitary improvements, and he would consider that question carefully with the assistance of the local authority. The reports, he thought, were not in a form to be laid on the table.

Monday, November 19th.

Saving Life at Sea Act.—Sir M. HICKS-BEACH, in reply to Mr. H. VINCENT, stated that a committee had been appointed under this Act, and had held its first sitting.

Victoria University Bill.—The Lords amendments to this Bill were considered and agreed to.

Tuesday, November 20th.

The Sanitary Condition of the Royal and Wellington Barracks, Dublin.—Mr. E. STANHOPE, in reply to a question put by Mr. ADDISON, said that four officers had suffered from enteric fever lately, which was believed to have been contracted in Dublin; no death had occurred since October 28th. Most of the recommendations of Sir Charles Cameron's Commission had been carried out, and nearly all the remainder were in course of execution. There were very serious difficulties at all the Dublin barracks as to the disposal of sewage, which could not be overcome till the sewage arrangements of the city were improved. Although not prepared to say that any reasonable step had been neglected, he had determined to institute a further wholly independent inquiry into the sanitary state of the Royal and Wellington Barracks, and had appointed a sanitary engineer of eminence, Mr. Roger Field, to undertake it.—In reply to Mr. CHAPLIN, he said that it might be desirable to extend the inquiry to all the barracks in Dublin; but he preferred to get the report with reference to the Wellington and Royal Barracks before doing so.

UNIVERSITY INTELLIGENCE.

BRUSSELS.

AT the examination for the M.D. degree, which commenced on November 6th, eleven candidates presented themselves, of whom six failed to satisfy the examiners, and the following five were admitted to the degree:—

Jehángir J. Cursetji, L.M.and S.Bomb.Univ., L.R.C.P., L.R.C.S., L.M.Edin., L.F.P.S.Glas., of Bombay (with great distinction); John Girling, M.R.C.S.Eng., L.R.C.P.Lond., L.S.A., of York (with distinction); Alexander L. Achard, M.R.C.S.Eng., L.R.C.P.Lond., L.S.A., of London; William Habgood, M.R.C.S.Eng., L.R.C.P.Lond., L.S.A., of London; Edgar Powell, M.R.C.S.Eng., L.R.C.P.Lond., of London.

HOSPITAL AND DISPENSARY MANAGEMENT.

THE WORK OF THE HOSPITAL SUNDAY FUND.

"SIXTEEN years of the Metropolitan Hospital Fund, and its Influence on the Medical Charities of the Metropolis," was the subject of an address delivered recently by Sir Sydney H. Waterlow at St. Bartholomew's Hospital; the Lord Mayor in the chair. The earliest suggestion in reference to a Hospital Sunday, Sir Sydney Waterlow stated, appeared to have been made in 1859 by Canon Miller in the *Midland Counties Herald*, and the first collection of the kind was made in Birmingham in November of that year. The proposal to set aside a Hospital Sunday for the metropolis was first considered at a meeting of the treasurers of the London hospitals in 1872, and for sixteen years each successive Lord Mayor has acted as President and Treasurer of the Fund. During the first fourteen years £432,976 was collected. Of the money collected, less than 10d. in 20s. is spent in collection and distribution, including all salaries, advertising, etc. The total sum collected this year is £40,379 9s. 6d., and for sixteen years £513,902, including legacies. Four per cent. of the total receipts is set aside for the purchase of surgical appliances for distribution to the poor, and all awards to hospitals are primarily based on the average total expenditure of each institution for the last three years after certain deductions on account of legacies and other items. It had been suggested that the money collected should be divided according to the average number of beds occupied, the number of out-patients treated, and the cost per head in each case. Sir Sydney Waterlow points out that this would in many cases be unfair, and produce very unsatisfactory results, the difference in the cost of out-patients ranging from 10¾d. for each patient at the Royal Free Hospital to 25s. 1d. at the Cancer Hospital, Brompton, where the patients frequently attend for many months. The cost of the maintenance of in-patients does not vary to the same extent. Taking seven large general hospitals, namely, London, Guy's, Charing Cross, King's College, Middlesex, University, and Westminster, it was found that in the Middlesex Hospital, where there were nearly fifty beds for cancer cases, the cost was the highest, being 42s. for each in-patient each week, and in the Westminster Hospital it was the lowest—24s. 5d. With the special hospitals the results were much the same. Sir Sydney Waterlow referred to the excessive cost of management of small hospitals, and thought that instead of multiplying hospitals, it would be better to fill the large number of empty beds in existing ones. There were now 2,031 empty beds in seventy-one hospitals in various parts of the metropolis.

The secretaries and managers of some of the hospitals objected to the Hospital Sunday collection on the ground that it drained the sources of their annual subscriptions. Against this it was stated that during ten years, 1876-86, the income of seventy-three hospitals increased 33 per cent., while the expenditure increased only 24 per cent.; that the population increased 21 per cent., while the hospital beds available increased 29 per cent.; and that the in-patients using the hospital increased 41 per cent., and the out-patients 27 per cent. It had been suggested that the local interest would be greater if the money subscribed were apportioned amongst the hospitals in the district in which it was collected. This it was pointed out, would be very unfair to the hospitals at the east of London.

He concluded by pointing out that nearly all general hospitals required an increase in their annual income if they were to be maintained in an efficient and progressive state.

THE ARGYLL AND BUTE ASYLUM AND THE SCOTCH LUNACY COMMISSIONERS.

IN the JOURNAL of October 27th we reviewed at some length the report of this asylum, and we commented on the action of the Scotch Lunacy Commissioners as being arbitrary and retrograde. Since then we have had brought under our notice a supplementary report of the District Board, from which we quote the following: "When the plans of the proposed infirmary were submitted to the General Board they in effect declined to consider them, and said to the District Board: 'You must part with all your out-country patients, board out as many harmless lunatics as you can, and then we will decide upon what shall be done. We give you three months to carry out this, after which the detention of all non-district patients in the asylum will be illegal.'

"Unfortunately, as it appears to them now, the District Board bowed to this ruling, very reluctantly, and gave notice to the responsible parties that these patients must be removed from the asylum by a certain date, but, on reconsideration, resolved by a majority to resist the policy of the General Board, on the ground that it was not in the interest of anyone concerned that they should throw away an income of £725 a year to save an outlay of £2,500, or say £3,000, without any other advantage, and without any guarantee that after they had made the sacrifice the General Board would not put pressure upon them either to build a new infirmary or to alter the existing building.

"Notwithstanding that the matter was under discussion, the General Board continued to force on their policy by direct communication with the Medical Superintendent, urging him to act without the instructions of the District Board and to a certain extent at variance with their views, and also by writing direct to one at least of the parties responsible for lunatics boarded in the asylum, ordering their removal. The result is that almost all the profitable patients have left the asylum, to the great pecuniary injury of the counties concerned, and to the actual benefit of no one.

"The District Board consider that the action of the General Board has been arbitrary and high-handed towards them, and injurious to the interests of the ratepayers concerned; and they are further of opinion that the removal of the out-county patients

should not have been pressed on, as it has been, while the matter was under discussion.

"It seems to the District Board that the powers of the General Board are too great, and the District Board would now submit to the Commissioners of Supply that, in the event of a Local Government Bill for Scotland being introduced in the next session of Parliament, the members for the two counties be asked to use their influence in the direction of restricting the powers of the General Board of Lunacy to matters affecting the curative and professional treatment of the insane; and that the administration of the house, the building or enlargement of the same, as well as the laying on of the lunacy assessment, be placed entirely in the hands of District Boards, who being well qualified, and who being ratepayers themselves, may be most properly entrusted with such duties. If all this cannot be attained, there should be a right of appeal to the Secretary for Scotland, who should be empowered to decide any questions which may arise between District Boards and the General Board."

We shall await with interest the termination of this difference between the Central and Local Board. A perusal of the Scotch Lunacy Blue Books for several years has shown us that the reports of the two Visiting Commissioners differ most materially. The report by one is evidently framed in a judicial spirit, and worded in a clear and accurate manner, giving an account of matters as they exist. We cannot say the same of the report of the other Commissioner. For certain periods asylums were reported on by one Commission, or in such a strain that one would think the beau-ideal of asylum management had there, and only there, been arrived at; this happened for a period at the Argyll Asylum, for another period at the Lenzie Asylum, while the hobbies of certain superintendents, such as unlocked doors, were so praised that we cannot wonder that some of the more youthful superintendents almost lost their heads over the subject, and really needed the wise and sensible disclaimer of such a course of conduct given so strongly and ably by Dr. Yellowlees, of Glasgow, in his last annual report, and which was so extensively quoted and commented on both at home and abroad.

VICTORIA EYE INFIRMARY, PAISLEY.

THE first report of this institution shows a total attendance of 1,042 patients, who made 4,000 visits, or a daily average of 45. During the year 22 patients had been in residence for treatment.

CHARING CROSS HOSPITAL.

THE triennial festival dinner of the Charing Cross Hospital took place on November 21st. There was a good attendance. The Earl of Derby, in submitting the toast of "Prosperity to Charing Cross Hospital," said that hospitals were less open to abuse than any other form of charity. The gratuitous treatment of patients perfectly well able to pay might, he thought, be avoided in part by the reception of paying patients, and also by making direct appeals to subscribers and others who sent their dependents to be taken care of, to send only those who were destitute of the means of paying for their own treatment. Their latest reports told them that much progress had been made. At the last festival three years ago their wants were: separate children's wards for medical and surgical cases, an accident ward, and an additional operating theatre. All these wants had been supplied. In the present year 8,800 cases of accidents had been treated, making an average of 28 per day. On the day of the riots in Trafalgar Square 75 cases were treated in three hours, and on Jubilee Day 95 cases were attended to. The theatre was now one of the best in existence. In the last three years 4,800 in-patients had been received, and 66,000 out-patients, and the number of in-patients this present year had exceeded that in any previous year. The income of the hospital during the year had been sufficient to pay for general expenses and for making improvements, and had enabled them to put by £6,000 against bad times. The medical school required extension, because the number of students had doubled in the last seven years. The nursing establishment was to be taken in as part of the institution almost directly, and it was not expected that this would add appreciably to the cost of this branch of the hospital. An increased amount of accommodation for the wants of the hospital was an absolute necessity, and the court hoped to get the £20,000 necessary for the extension before the next triennial meeting.

It was announced that the amount of donations received at the festival was £3,250.

VICTORIA HOSPITAL FOR CHILDREN.

AT the quarterly Court of Governors, held on November 21st, it was announced that the Silver Fête, held in July last at the Anglo-Danish Exhibition, had benefited the charity to the extent of £4,088 18s. 3d. With this large sum they had been enabled to pay for their new building, replace the endowment fund, and complete various structural alterations and improvements. £1,000 remained to be invested.

PUBLIC HEALTH AND POOR LAW MEDICAL SERVICES.

THE COMPARATIVE ANTISEPTIC VALUE OF VARIOUS CHEMICAL SUBSTANCES.

AT a recent meeting of the London section of the Society of Chemical Industry, Mr. C. T. Kingzett, F.I.C., F.C.S., read a paper on the above subject. The author began by expressing his belief that "in all probability" various antiseptic chemical agents act in a similar way upon all sorts of micro-organisms, either (1) by killing the organisms directly, or (2) by causing their death indirectly by altering the composition of the medium in which they live. He considers that this view receives support from a careful study of the chemical changes which are produced by various micro-organisms, all of which may be classed, according to Mr. Kingzett, under two heads—namely, hydration and oxidation Moreover, he believes that the most important chemical poisons (ptomaines, etc.), which are produced by certain pathogenic micro-organisms, are formed by a process of hydrolysis, set up by the organisms themselves.

Having thus stated his views as to the practical importance of studying the action of various "antiseptics" (germicide), he proceeds to describe three series of experiments bearing on this point.

In Series 1 the action of chlorides, nitrates, and sulphates of various metals was tried, with the general result that these salts of the metals of the alkalies and alkaline earths were found to be very deficient in antiseptic power, whilst the corresponding salts of manganese, zinc, tin, iron, lead, and aluminium have a decided value, whilst the metals, copper and mercury, are superior to all others in this respect, mercury being better than copper.

In Series 2 the antiseptic action of "sanitas," "salufer," and "bactericide" (three antiseptic solutions patented by Mr. Kingzett) are compared with solutions of the more potent antiseptic metallic solution of Series 1, with results which are favourable to the new solutions. Indeed, the author asserts that his solutions, which contain peroxide of hydrogen, possess an advantage over mercuric chloride, in that they act as oxidants, which the latter does not and cannot do.

In Series 3 a number of experiments are described in which mixed solutions were employed, some of the results being highly interesting; for example, chloroform is found by Kingzett an inferior antiseptic to chloral; boric acid he finds superior to borax, though borax is said to be superior to a mixture of borax with boric acid added to enact neutralisation; and, as a rule, acid solutions are found to be better antiseptics than alkaline ones.

The author has tabulated his results, and proposes that his tables shall be used for purposes of comparison in case of the introduction of any new antiseptic solutions.

TENURE OF OFFICE OF MEDICAL OFFICER OF HEALTH: "FORMAL RESIGNATION AND FORMAL ELECTION."

A SPECIAL meeting of the Birmingham and Midland Branch of the Society of Medical Officers of Health was called to consider and report what steps were deemed necessary to prevent injustice to the medical officers of health. Dr. A. Bostock Hill, who presided, said he wished to call attention and get an expression of opinion from the meeting respecting a case which had recently occurred in the borough of Ruthin, in Wales, where the governing body had deprived themselves of the services of Dr. Lloyd Roberts, who for twelve years had held the office of medical officer of health without a complaint. It appears he was asked to formally resign, in order that the appointment should be made under conditions which would secure the payment of half the salary by the Local Government Board. Dr. Roberts accordingly resigned, fully expecting to be re-elected. On the day of election two applications

were put in, and Dr. Jones, a local candidate, was elected. The following resolutions were passed: "(1) That the Midland Branch of the Society of Medical Officers of Health desires to call the attention of the Local Government Board to the case of Dr Lloyd Roberts, and at the same time to express a hope that the Board may in the near future use its influence to give security of tenure to medical officers of health; (2) that the Branch considers that, from the fact that the resignation of Dr. Lloyd Roberts's long tenure of office was only for a technical purpose, no other medical man should have applied for the post, and that such application on the part of Dr. Jones is a breach of professional etiquette." The third proposition mentioned that the foregoing resolutions should be forwarded to the gentlemen concerned and the press. Dr. Page (honorary secretary), in seconding the resolution, cited sixteen cases in which medical officers of health had been called upon to resign under circumstances of a more or less similar character. Dr. Fenton and Messrs. May and Berkes supported the resolutions, which were carried.

THE HIGH DEATH-RATE OF PAISLEY.

THE high death-rate of Paisley during the last two months has attracted much attention. It seems primarily to be due to a most severe epidemic of measles that began in July last, but did not give rise to any serious mortality till after the opening of the schools in September. For the five weeks in September the death-rates were 27.8, 21.9, 26.1, 27.0, and 26.1, and for the four weaks in October they were 28.7, 37.1, 43.8, and 47.2. This was an alarming increase, and even still there is but little abatement. For the week ending November 3rd it was 28.7, and for the week ending November 10th, 36.1. Since the beginning of the current year there have been altogether 114 deaths from measles in the burgh, being 8.97 per cent. of the total deaths, or at the rate of 2.19 per 1,000 of the estimated population per annum. During the last week alone, of 43 deaths 20 were from measles, which thus contributed 46.5 per cent. of the total death-rate for the week.

The epidemic is not confined to any particular locality, but has spread all over the town. The fatal cases, however, have occurred almost exclusively among the poor and ill-housed, who may be said to occupy the worst houses to be found in any of the large towns of Scotland. Paisley is, for the most part, built on a stiff clay subsoil, of itself difficult to drain, and many of the older houses have been built without any kind of drainage whatever, and with their flooring laid on the cold damp earth. Such houses are necessarily damp, ill-smelling, and ill-ventilated, and are potent predisposing causes of the growth and spread of tubercular and infectious diseases.

The local authority have of late years done much to remedy this state of things, and have built public sewers in most parts of the town. Some of the old-fashioned rubble or ditch drains still exist, and are invariably in a foul, offensive condition. The private drains are generally ill-ventilated and untrapped, and the houses are consequently polluted by sewer-gas. The general unwholesomeness is aggravated by the large open ashpits, with dry closets attached, that exist in almost every back court. Vigorous action on the part of all concerned is necessary to grapple successfully with the glaring insanitary defects of the town.

VACCINATION IN IRELAND.

ACCORDING to the returns of vaccination received for the third quarter of the present year, it appears that during that period there were 25,954 persons successfully vaccinated; while in 2,725 cases the operation was postponed, and 68 children were reported as insusceptible of vaccination. The deaths of 1,397 unvaccinated children under 3 months of age were registered during the quarter, making a total of 30,144 children with regard to whom particulars as to vaccination were ascertained.

DIPHTHERIA AT MILITARY COLLEGES.

FOR some time past diphtheria has prevailed more or less among the servants of the Royal Military College, Sandhurst, and it has now made its appearance among the servants of the Staff College, Camberley. Since November 15th it seems to have spread with great rapidity, and several deaths are reported. Two days before the outbreak in Camberley, the local authority decided on a house-to-house inspection of the entire district, with a view to averting another visitation as fatal as those of 1884 to 1886. The Roman Catholic school has been closed.

HEALTH OF ENGLISH TOWNS.—During the week ending Saturday, November 17th, 5,582 births and 3,553 deaths were registered in the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had declined from 21.8 to 19.0 in the three preceding weeks, rose again to 19.7 during the week under notice. The rates in the several towns ranged from 12.6 in Brighton, 14.1 in Bristol, 14.9 in Leicester, and 16.3 in Derby and in Nottingham to 24.3 in Wolverhampton, 24.7 in Manchester, 26.3 in Blackburn, and 29.3 in Cardiff. The mean death-rate in the twenty-seven provincial towns was 19.7 per 1,000, and corresponded with the rate recorded in London. The 3,553 deaths registered during the week under notice in the twenty-eight towns included 495 which were referred to the principal zymotic diseases, against numbers declining from 473 to 432 in the three preceding weeks; of these, 212 resulted from measles, 62 from scarlet fever, 62 from diphtheria, 55 from whooping-cough, 52 from diarrhœa, 51 from "fever" (principally enteric), and 1 from small-pox. These 495 deaths were equal to an annual rate of 2.8 per 1,000; in London the zymotic death-rate was 3.0, while in the twenty-seven provincial towns it averaged 2.5 per 1,000, and ranged from 0.0 in Halifax, 0.5 in Hull, and 0.6 in Norwich to 5.3 in Salford, 7.9 in Blackburn, and 8.6 in Cardiff. Measles caused the highest proportional fatality in Oldham, Wolverhampton, Blackburn, and Cardiff; scarlet fever in Salford and Blackburn; whooping-cough in Cardiff; and "fever" in Manchester, Salford, and Blackburn. The 62 deaths from diphtheria in the twenty-eight towns included 44 in London, 5 in Salford, 4 in Manchester, 4 in Nottingham, and 2 in Birmingham. Small-pox caused 1 death in Cardiff, but not one in London or in any of the twenty-six other great towns. No small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals on Saturday, November 17th; these hospitals contained, however, 1,007 scarlet fever patients on the same date, against 954 and 941 at the end of the two preceding weeks; there were 73 admissions during the week, against 59 and 75 in the two preceding weeks. The death-rate from diseases of the respiratory organs in London was equal to 4.5 per 1,000, and was below the average.

HEALTH OF SCOTCH TOWNS.—In the eight principal Scotch towns, 841 births and 484 deaths were registered during the week ending Saturday, November 17th. The annual rate of mortality in these towns, which had been 18.7 and 19.1 per 1,000 in the two preceding weeks, was again 19.1 during the week under notice, and was 0.6 per 1,000 below the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Edinburgh and Leith, and the highest in Dundee and Paisley. The 484 deaths in these Scotch towns during the week included 63 which were referred to the principal zymotic diseases, equal to an annual rate of 2.5 per 1,000, which was slightly below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Greenock and Paisley. The 185 deaths registered in Glasgow included 6 from scarlet fever, 6 from diphtheria, 4 from whooping-cough, 3 from measles, 3 from diarrhœa, and 1 from "fever." Eighteen fatal cases of measles occurred in Paisley, against 14 and 20 in the two preceding weeks. The death-rate from diseases of the respiratory organs in these Scotch towns was equal to 4.0 per 1,000, against 4.5 in London.

HEALTH OF IRISH TOWNS.—During the week ending Saturday, November 17th, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 21.8 per 1,000. The lowest rates were recorded in Wexford and Drogheda, and the highest in Armagh and Lisburn. The death-rate from the principal zymotic diseases in these towns averaged 3.3 per 1,000. The 159 deaths registered in Dublin during the week under notice were equal to an annual rate of 23.5 per 1,000, against 21.9, 24.4, and 27.5 in the three preceding weeks. These 159 deaths included 20 which were referred to the principal zymotic diseases (equal to an annual rate of 3.0 per 1,000), of which 6 resulted from whooping-cough, 5 from measles, 5 from diarrhœa, 3 from "fever," and 1 from scarlet fever.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

STOCKTON-ON-TEES. (Population, 46,000.)—*Reckless Spread of Infection: Need for Isolation Hospital.*—The deaths from the six

principal zymotic diseases during 1887 numbered, according to Dr. Clegg's annual report, 53, or at the rate of 1.15 per 1,000. The mortality from all causes was 637, or at the rate of 13.8 per 1,000. Fourteen cases of small-pox came under notice, 8 during the months of April and May, and 4 in June. In one case a patient disregarded all injunctions, and exposed herself in the public streets. A summons was at once served, and when convalescent a conviction was obtained and a penalty imposed. Dr. Clegg states that there were repeated instances of similar recklessness in cases of scarlet fever, little regard being paid to the instructions as to the isolation of infected patients. Fortunately the disease was of a very mild type, for during the whole year only 5 deaths were registered from this cause. A slight epidemic of typhoid fever occurred in September. On inquiry, it was found that a private sewer in a back street had been broken open by some children, and, as 4 out of 5 cases were in children who admitted that they had been playing in the locality, Dr. Clegg believes this to have been the origin of the infection. He again calls attention to the need for a hospital for the reception of cases of infectious disease, and urges this as a subject for the prompt consideration of his corporation.

BOOTLE-CUM-LINACRE. (Population, 44,500).—*Excessive Infantile Mortality, especially in consequence of Diarrhœa: Establishment of a "Crèche" suggested.*—Dr. Sprakeling reports that in 1887 the number of deaths from zymotic diseases was greater than in any year of the past decade, though the percentage to the total deaths was not so large as in 1878 and 1880. Of the 189 deaths recorded, 156 were of children under 5 years. The increase was mainly owing to the fatality from measles and whooping-cough, together with that from diarrhœa. A lamentable number of deaths occurred from this last-named infantile disease, no less than 80 being registered, or double the decennial average. Dr. Sprakeling considers that every effort should be made to remove or lessen the causes of the infantile mortality in Bootle, and seeing that insufficient and unsuitable food, want of proper care, breathing of impure atmosphere, etc., are too often associated therewith, he thinks the establishment of a "crèche" would materially aid the efforts of the authority. No death occurred from either small-pox or typhus fever, and indeed only one modified or doubtful case of the former was reported. The death-rate from all causes, corrected by the difference between deaths of persons within the district not inhabitants, and of inhabitants dying beyond its limits, was 21.12 per 1,000.

BATLEY (Population, 29,500).—*High Zymotic Mortality: Defective Sanitary Arrangements; No Infectious Diseases Hospital*—Dr. Swann reports that zymotic diseases prevailed during the whole of 1887 with varying severity. The death-rate from these causes, including erysipelas and puerperal fever, amounted to 4.84 per 1,000, and was never during any month less than 0.81 per 1,000. In August it reached to 10.5 per 1,000, when 17 deaths were caused by diarrhœa, and 8 were due to measles, scarlatina, and diphtheria. Dr. Swann acknowledges that little can be hoped for in the way of reduction while the sanitary arrangements of the borough remain in their present imperfect condition. There is no hospital for isolation purposes, and the houses of the poor are generally ill-ventilated and defective in matters of drainage, so that a disease once introduced has every chance of spreading. A considerable number of improvements in minor matters were effected during the year, and a destructor has been built for dealing with the town refuse; but Dr. Swann considers this only a very fractional part of what is to be done. He certainly loses no opportunity of impressing on his authority the need for reform, and it is to be hoped that, in future reports, there will be evidence that many of the defects now shown have been remedied.

KINGSTON-ON-THAMES (Population, 23,052).—*Diphtheria Mortality: also Measles and Scarlet Fever.*—Though recording a higher zymotic death-rate in 1887 than in the previous year, Dr. Shirtliff's report must be regarded as really more favourable under this head, inasmuch as he announces a marked decline in the prevalence of and mortality from diphtheria. For some years the death-rate has been excessive—more than double that of England and Wales. In 1886 Dr. Shirtliff, while remarking upon the probability of atmospheric humidity in low-lying places as causing a condition of throat favourable for diphtheritic development, also stated that if contamination by sewer gas could be prevented, this effect would be avoided. It is therefore a matter for congratulation that, coincidently with the efforts of the Sanitary Committee to exclude sewer gas by insisting on the disconnection of all house-pipes from drains, there has occurred a low death-rate from diphtheria. The advance in the zymotic rate and the continuation of a higher death-rate than usual are accounted for by the severe epidemic of measles which prevailed in the early part of the year. It necessitated the closing of all the public schools of the borough, and caused the death of 30 children. A few cases of scarlet fever occurred, but they were of mild type, and there was no spread. As yet no provision seems to have been made for the isolation of the infectious sick, nor does the town possess any disinfecting oven, so that its freedom from this and other infectious diseases was the more fortunate.

HANDSWORTH (STAFFORD) URBAN (Population, 28,800).—*Low Death-Rates: Diphtheria.*—It is satisfactory to find from Dr. J. B. Welch's report for 1887 that the health of the district has of late years been well maintained. The mortality in 1887 was as low as that of 1886, but although comparatively few deaths were registered, the district was by no means free from dangerous forms of disease. Information was received of a considerable number of cases of scarlet fever, typhoid fever, and diphtheria. The outbreaks were for the most part local, and occurred at intervals throughout the year. In a series of cases of diphtheria, a most careful investigation was made to ascertain, if possible, some common source of origin, but nothing very definite could be discovered. Dr. Welch thinks that the cases were probably connected with some temporary condition of the sewer, at a time when there were complaints that foul smells issued from it. Scarlatina and measles were slightly prevalent in a mild form, and seven deaths from measles alone were recorded. The deaths from diarrhœa were also below the average. The general death-rate was 12.6 per 1,000, corresponding with that of the previous year.

TONG (Population, 6,407).—*Infantile Diarrhœa: Hydrophobia.*—The report which Dr. Lodge presented to his authority at the close of 1887 is necessarily brief, as it deals only with the latter half of the year, he having been appointed in July, 1887. There is, however, sufficient to show that he has taken up his work in a most active spirit, and that within the first five months after his appointment he made himself well acquainted with the needs of his district. The most fatal disease is usually diarrhœa, and this Dr. Lodge attributes largely to unwholesome food and to the neglect of infants by their mothers, who work in the mills. Typhoid fever and diphtheria were not persistent diseases, only two cases of the former came under notice and none of the latter. Some interest was attached to a death from hydrophobia, more especially as there had been a number of cases in Bradford. Dr. Lodge kept a strict watch on animals suspected to have been bitten, and warned all the owners of dogs in the neighbourhood to keep them under surveillance. The death-rate for the half year compared very favourably with that of the surrounding districts, and was equal to 11.70 per 1,000.

SUNDERLAND (Population, 129,600).—*Condition of Town forty-five years ago: Great Improvements effected since then.*—Mr. Alfred E. Harris states that the year 1887 was for Sunderland very healthy, the deaths being 2,549, and the death-rate 19.67 per 1,000 of the estimated population. The rate is higher than that of 1886, when it was 19.45. The difference is, however, more than accounted for by the epidemic of measles which was so prevalent in the beginning of the year, causing 168 deaths. Had it not been for this outbreak, the zymotic death-rate, instead of being at the rate of 3.11 per 1,000, would have been as low as 1.82. A very interesting feature of the report is afforded by a summary of an old Government report published in 1843, and a comparison instituted between the sanitary condition of the borough then and its state now. An immense advance is shown to have taken place during the past forty-five years. In the worst parts of the town were then to be observed much filth, great poverty, and total absence of proper drainage and ventilation; there was also overcrowding, and a great want of necessary conveniences. Filthy and stagnant ditches were found as well as polluted water-courses, exhaling miasma and producing disease. The highest mortality, in the opinion of the then Registrar-General, that ought to exist in Sun-

derland, in common with other great towns, was 2.0 per cent., or 20.0 per 1,000, as it is always stated now, of the population. It is, therefore, satisfactory so far to find that this standard has been attained during the last two or three years. Locally at that period (1840-43) the people of the town considered the general condition of the borough healthy, as far as regards the prevalence of infectious diseases, although at the present day a rate of 3.98—practically 4.0 per 1,000 of the population—would be considered excessive, and, indeed, could only be attained by infection assuming an epidemic form.

York (Population, 75,327).—*Measles and Scarlet Fever: Inspection and Condition of Schools: Sanitary Deficiencies of City.*—Reporting on the health of this city during the quarters ending March and June, 1888, Mr. S. W. North describes a widespread prevalence of both scarlet fever and measles, but with the difference that the former was exceedingly mild, and the latter very severe in character. The deaths from measles numbered 15 and 19 respectively in the two quarters, against 2 and 4 deaths from scarlatina; and as the attendance at some schools was seriously disturbed by the epidemic, an inquiry was made into their sanitary condition. A large diminution is reported in the number of cases of typhoid fever as compared with 1887. There are, however, many sanitary defects existing in York, and of these, in the words of the health officer, "confined and ill-ventilated yards and courts, and the unwholesome atmosphere created by the retention of filth in privies and ashpits in the immediate vicinity of dwelling-houses are amongst the most prominent."

St. Giles (Population, 45,382).—*Clearing of Insanitary Property: Diphtheria Prevalence: Cases of Typhus.*—Mr. Lovett has presented a good and thoroughly practical report on the condition of this large metropolitan district at the close of 1887. The many local improvements effected since 1881 in the erection of large blocks of model buildings and the demolition of insanitary areas have rendered the estimate of population extremely difficult. Mr. Lovett therefore has based his calculations on the census returns of 1881, and produces a death-rate of 23.0 per 1,000. The number of zymotic deaths was 108, equal to a rate of 2.3 per 1,000, but lower than the rate for the metropolis as a whole. Small-pox caused one death, the only case known in the district since November, 1885. The fatality from scarlet fever and measles was also unusually low. On the other hand, diphtheria caused more deaths than in any previous year, 24 being registered as from this disease. Mr. Lovett thinks the excess may be partly explained by the diminution of deaths certified under the heading of croup. Four cases of typhus were reported, but there was no death. The children attacked resided in one of the houses in the Shelton Street area, already referred to. The disease was of mild type, and, upon proper isolation being resorted to, did not spread.

Towyn (Population, 3,460).—"*No Deaths from Zymotic Disease.*"—Dr. T. H. V. Grosholz may be pardoned for drawing special attention to the fact that during 1887 there was no death from zymotic disease in Towyn, and that, with the exception of three or four sporadic cases of scarlatina, the district was entirely free from epidemic disease. He, however, does well to direct the attention of his sanitary authority to the special risk to which watering-places, such as Towyn and Aberdovey, are always exposed as regards the introduction of infection, and to impress upon them the need for constant watchfulness. There are several important matters needing the early attention of the sanitary authority, especially the water-supply and drainage of Towyn, and also the water-supply of Aberdovey and Bryncrug. The death-rate from all causes was, for 1887, 17.3 per 1,000.

Willesden (Population, 49,080).—*Urgent Need for Mortuary and for Hospital: Infant Life Protection.*—Mr. Harrison Branthwaite makes a very satisfactory report for 1887. In spite of the somewhat severe epidemics of scarlet fever which passed over the district the death-rate (14.28 per 1,000) was 1.18 per 1,000 below the rate for 1886, and 3.53 lower than the mean rate for the decade 1876 to 1885. There was an appreciable reduction in the number of deaths from zymotic diseases, and the returns of infant mortality also showed a great improvement. Measles was prevalent throughout the year, and caused 29 deaths. Diarrhœa proved fatal in 45 cases; scarlet fever, 14; diphtheria, 6; and typhoid fever, 8. Special attention is drawn to the need for mortuary accommodation at Kilburn. "The want of this has," reports the medical officer of health, "on more than one occasion during the past year proved a serious cause of inconvenience and danger." The question of hospital accommodation for infectious cases is also pressing. It would seem that Willesden is a district in which the diligent enforcement of the provisions of the Infant Life Protection Act is necessary. The high infant mortality in 1885 and 1886 induced the health officer to inquire specially into the matter, with the result that he found that the exceptional mortality arose amongst children, mostly illegitimate, who were not born in the district, but were brought into it. Special supervision in 1887, however, and a few salutary prosecutions under the Infant Life Protection Act, have apparently had a beneficial effect.

REFORM OF POOR-LAW MEDICAL SYSTEM.

One Practising in the Byways writes: If not trespassing too much on your valuable space, I should like to call attention to the extremely unsatisfactory working of the existing system of medical relief to the poor.

From motives of economy, the parish doctor is, in most country districts, appointed to attend the poor over a very large area. He is ill-paid, his time is often almost entirely occupied with more profitable private practice, and after a few experiences of long journeys when summoned unnecessarily, and a growing conviction that the less bountiful he is with his services, the less he is called upon for his energies, he too often becomes perfunctory in the performance of his duties, and apt to put off a disagreeable journey by making a guess at what is amiss, and sending the unfortunate messengers away with some physic, a promise, often forgotten, to call next day, or instructions to come again if no improvement takes place.

This difficulty in obtaining help is a double evil; to the medical men practising at a distance from the parish official, it is an injustice, as, from motives of humanity, they find themselves frequently obliged to do parish work for no remuneration. To the poor it is always a hardship, often a calamity. I have just come from the bedside of a case which painfully illustrates this matter. The child of a labourer has been ill for the last week; the parents waited till Friday, the only day the relieving officer attends the village, to obtain a note. The father then walked five miles for the parish doctor, who sends him back with powders, and instructions to communicate with him if no improvement takes place. The child becoming worse, and the doctor not having called, the father comes to me late this evening, and implores me to go and see it. I found the child with advanced peritonitis, the peritoneal cavity full of fluid, its condition hopeless; during the week its treatment has consisted of every kind of purgative the ingenuity of neighbours could suggest.

Comment on a system which permits this kind of thing is needless. The labourer is hardly to be blamed if he does not appreciate the severity of the symptoms; to get a note, except upon the one day of the week on which the relieving officer attends, he would have to walk five miles in one direction, and afterwards five miles in another for the doctor. Is it to be wondered at that he hesitated to do this, entailing, as it would, the loss of a day's work? Again, the parish doctor can scarcely be harshly judged; he has been so frequently summoned to so-called urgent cases, when nothing particular has been the matter, that the cry of "wolf" has ceased to affect him. The system is wrong, and needs reform. It is always more easy to condemn than to construct; but I would suggest that the medical men in each village should attend their own paupers; they could render to the board of guardians, or the medical officer of health, reports of paupers attended by them, and be paid either so much a case or a small fixed sum, based upon the average number of paupers in the village. I imagine the fees men would be willing to attend paupers in their immediate neighbourhood for would be insignificant, seeing that as matters stand at present they have to attend a good many of them for nothing.

I only throw this out as a hasty suggestion, doubtless open to criticism; but if you would ventilate the question, I am sure something might be done towards rousing public opinion to a recognition of the present unsatisfactory condition of things.

*** The suggestions thrown out by our correspondent for the better administration of poor-law medical relief are well worthy of consideration; they would, however, entail a complete transformation of the present arrangements, and would cause two distinct systems of medical relief to be adopted, one for the country and one for towns. As the whole poor-law system must eventually come under the Local Government Act, then will be the time for these and other suggestions to be put into practicable shape.

ISOLATION OF INFECTIOUS DISEASES IN SUBURBAN DISTRICTS.

Dr. Travers Smith (Kilburn Dispensary) writes: It being such a well-recognised fact nowadays that an epidemic can be averted by preventing infection spreading from first cases, many of your readers will probably be surprised to learn that in one of our large and rapidly-increasing suburbs, in Willesden parish, namely, there is no provision whatever for isolating cases of infectious fevers, as in the other parts of London which are under the Asylums Board. The parish of Willesden forms the northern boundary of Paddington, and the western boundary of Hampstead; it contains at present between 53,000 and 54,000 inhabitants, an enormous proportion being very poor people, living closely packed in tenement houses, six and seven families often under one roof. The local sanitary authorities, however, are not totally inactive in the matter, but the means they employ to prevent the spread of infection will doubtless appear to you as ineffectual as they are heartless and unjust to the poor. To illustrate their *modus operandi*, allow me to give you the particulars of a case in point which recently occurred in my practice.

In one of the thickly populated parts of Kilburn, a poor but industrious woman, who takes in mangling, has been for more than a year past the sole support of her family, consisting of her husband, who is consumptive and now bedridden, and five young children. One of the latter gets scarlet fever. In such a contingency, with no possibility of even partial isolation in a home consisting of two small rooms, there is but one right course to adopt, namely,

to have the child promptly removed to a fever hospital. The case is accordingly at once notified to the sanitary authorities. Their officer calls the next morning, and informs the mother that her child must remain at home, as there is no hospital for it to be taken to, and that she must forthwith cease taking in any work, otherwise she may be prosecuted. When the unfortunate woman, seeing utter ruin staring her in the face, asks what she is to do for bread, she is answered that some parish relief will be allowed her while the child is ill. Here, then, as the result of due notification, we see a case of infectious fever left to form a nidus which may prove the commencement of an epidemic; the family in which it occurs forthwith deprived of their livelihood, and, by way of compensation, rendered paupers so long as illness remains in their midst, and only permitted to make a fresh start in business after the probable loss of all their old customers. Can we wonder if to escape from such hardships the poor seek a refuge in concealment? I would ask, What is the use of spending thousands of pounds of public money in protecting certain districts, while others are left without any protection whatever? Surely sanitation, to be of any use to the community, must no longer be restricted to parish boundaries. The Willesden Local Board Act, passed last year, had better never have become law if its power to compel the registration of infectious diseases is to result in such a dangerous anomaly as this.

BOILING DOWN HORSEFLESH.

A RURAL MEDICAL OFFICER OF HEALTH writes: Amongst the duties devolving upon medical officers of health, there is none that so frequently places him in difficulty as that of deciding when to interfere in the nuisance likely to arise from the boiling down of the carcases of animals. This is a branch of industry which must be carried on somewhere, but the precise distance from dwellings at which this operation can be allowed to go on is left to the individual opinion of each sanitary officer.

I should like to know the opinion of my brother medical officers of health upon this point. I apprehend that a certain distance from houses must intervene, and that unless the operation was carried on within the prescribed distance, some actual injury must be proved to the neighbours before the sanitary authority can interfere. Our sanitary literature is silent upon this point, and I am anxious to draw attention to it.

THE DUTIES OF A MEDICAL OFFICER OF HEALTH IN CASES OF INFECTIOUS DISEASE.

B.A. writes: Having under my care a patient who is suffering from an infectious disorder, has the medical officer of health for the district a right to demand to visit the said patient?

*** The duties and powers of a medical officer of health were laid down by general orders of the Local Government Board, dated March 8th, 1880. By Article 18, Clause 8, he is required, "on receiving information of the outbreak of any contagious, infectious, or epidemic disease, to visit the spot and inquire into the causes and circumstances of such outbreak, and, in case he is not satisfied that all due precautions are being taken, to advise the persons competent to act as to the measures required to prevent the extension of the disease, and (so far as he may be lawfully authorised) to assist in their execution." This clause does not appear to authorise him to interfere with a patient who is under the care of a competent medical adviser, though it undoubtedly authorises inquiry to ascertain whether the patient is being properly looked after. We know of no Act of Parliament or order which gives larger powers than those above quoted, but there may be some by-law in force in the district which relates to the subject; if so, its terms should be considered.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The undernamed gentlemen have been admitted Fellows of the College, namely:

W. M. Courtney, Indian Medical Department (Bengal), Licentiate of the Royal College of Surgeons, Ireland, and Licentiate, Apothecaries' Hall, Dublin; and W. Owen, Indian Medical Department (Bengal), Licentiate Royal College of Surgeons, Ireland, and M.B. University Dublin.

MEDICAL VACANCIES.

The following Vacancies are announced:

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Acting Surgeon. Applications by December 4th to the Medical Board, Children's Hospital, Steelhouse Lane, Birmingham.

BIRMINGHAM BOROUGH ASYLUM—Resident Clinical Assistant. No salary. Applications to the Superintendent.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House-Surgeon. Salary, £30 per annum, with board, lodging, etc. Applications by November 27th to the Secretary.

BRADFORD FEVER HOSPITAL.—Resident Medical Superintendent. Salary, £150 per annum, with board and residence. Applications by December 3rd to the Chairman of the Sanitary Committee, Town Clerk's Office, Bradford.

BRADFORD INFIRMARY AND DISPENSARY.—House-Physician. Salary, £100 per annum, with board. Applications by November 24th to William Maw, Esq., Secretary.

CAHIRCIVEEN UNION.—Medical Officer for the Workhouse and Fever Hospital. Salary, £80 per annum, and £15 per annum as Consulting Sanitary Officer. Applications to Mr. M. O'Driscoll, Clerk of the Union. Election on November 28th.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Senior Assistant Medical Officer. Salary, £250 per annum, with board, lodging, and washing. Applications by December 1st, to Dr. Rees Philipps, St. Ann's Heath, Egham.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Junior Assistant Medical Officer. Salary, £120 per annum, with board, lodging, and washing. Applications by December 1st, to Dr. Rees Philipps, St. Ann's Heath, Egham.

HOSPITAL FOR EPILEPSY AND PARALYSIS, etc., 32, Portland Terrace, Regent's Park, N.W.—Physician to Out-patients. Applications by December 3rd to the Secretary.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street.—Assistant-Surgeon. Applications by November 27th to the Secretary.

KENSINGTON DISPENSARY.—Honorary Surgeon. Applications to F. Leach, Esq., Honorary Secretary, 7, Stanford Road, Kensington Square, by November 30th.

KENT AND CANTERBURY HOSPITAL.—Assistant House-Surgeon and Dispenser. Salary, £50 per annum, with board, lodging, etc. Applications by November 26th to the Secretary.

LOCK HOSPITAL, Dean Street, Soho.—Surgeon to Out-patient Department. Applications by November 26th to the Secretary.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Registrar and Chloroformist. Salary, £50 per annum. Applications by December 15th to the Secretary.

LONDON THROAT HOSPITAL, Great Portland Street, W.—House-Surgeon. Applications by December 10th to the Secretary.

LUTON FRIENDLY SOCIETIES' MEDICAL INSTITUTE.—Medical Officer. Salary, £200 per annum, with residence. Applications to the Secretary, Mr. T. Keen, 12, Grove Road, Luton, Beds.

MANCHESTER FRIENDLY SOCIETIES MEDICAL ASSOCIATION.—Surgeons to various Districts. Salary, £150 per annum, with house, etc., and fees. Applications by November 27th to the Chairman, 9, Berwick Street, Brook Street, Manchester.

NATIONAL DENTAL HOSPITAL, 149, Great Portland Street, W.—Assistant Dental Surgeon. Applications by November 30th to the Secretary.

NATIONAL DENTAL HOSPITAL, 149, Great Portland Street, W.—Lecturer on Dental Anatomy and Physiology. Applications by November 30th to the Secretary.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road.—Junior House-Surgeon. Salary, £30 for six months. Applications by December 14th to A. Nixon, Esq., 27, Clement's Lane, E.C.

ROYAL HANTS COUNTY HOSPITAL, Winchester.—House-Surgeon. Salary, £100 per annum, with board and lodging. Applications by December 1st to the Secretary.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Surgeon. Applications by November 24th to the Secretary.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Assistant Surgeon. Applications by November 24th to the Secretary.

ST. GEORGE HANOVER SQUARE PROVIDENT DISPENSARY, Little Grosvenor Street, W.—Surgeon Dentist. Applications by December 8th to the Secretary, 73, Park Street, Grosvenor Square, W.

STAFFORDSHIRE GENERAL INFIRMARY.—Assistant to the House-Surgeon. Board and lodging. Applications by December 6th to the House-Surgeon.

STROUD GENERAL HOSPITAL.—House-Surgeon. Salary, £80 per annum, with board, lodging, etc. Applications by November 30th to John Libbey, Esq., Honorary Secretary, New Mills Court, Stroud.

SUNDERLAND INFIRMARY.—House-Physician. Salary, £80 per annum, rising £10 annually to £100, with board and residence. Applications by December 13th to the Chairman of the Medical Board.

UNIVERSITY OF EDINBURGH.—Examiner in Medical Jurisprudence. Salary, £75 per annum, with £10 expenses. Applications by January 14th, 1889, to J. Christison, Esq., Secretary.

WESTMINSTER HOSPITAL.—Curator of Museum. Salary, £40 per annum. Applications by December 8th to the Secretary.

MEDICAL APPOINTMENTS.

ALLINGHAM, Herbert W., appointed Assistant Surgeon to St. Mark's Hospital for Fistula, City Road, *vice* D. H. Goodsall, F.R.C.S., promoted.

BENNETT, W. C. Storer, F.R.C.S., L.R.C.P., L.D.S.Eng., appointed Lecturer on Dental Surgery and Pathology to the Dental Hospital of London, *vice* S. J. Hutchinson, M.R.C.S., L.D.S.Eng., resigned.

DALLEWY, John, M.R.C.S., appointed House-Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

HEPBURN, David, L.D.S.Eng., appointed Lecturer on Mechanical Dentistry at the Dental Hospital of London, Leicester Square, *vice* Joseph Walker, M.D.St. Andrews, L.D.S., resigned.

HUNT, A. J., M.D., appointed Medical Officer to the Coolaney Dispensary of the Tobercurry Union, *vice* M. A. Brennan, L.K.Q.C.P.I., resigned.

KITE, Edwin W. D., M.B.Durham, M.R.C.S., L.S.A., appointed Obstetric and Ophthalmic House-Surgeon to the Queen's Hospital, Birmingham, *vice* J. B. Burton, M.B.Durham, M.R.C.S., resigned.

MANNIX, J. F., L.K.Q.C.P.I., L.M., appointed Medical Officer to the Cahir Dispensary of the Cahirciveen Union, *vice* M. Spotswood, M.R.C.S.Eng., L.M.Dub., deceased.

MORRIS, C. A., M.B., B.Ch., appointed Pathologist to the Chelsea Hospital for Women, *vice* R. W. Burnet, M.D.Aberd., resigned.

POOLMAN, Arthur E., B.A., M.R.C.S., L.R.C.P., appointed Resident Medical Officer to the Private Home, Guy's Hospital.

RICKARDS, Miss, appointed Matron to the Sheffield General Infirmary.

SAMUELSON, G. S., M.B., C.M.Edin., appointed Second Assistant Medical Officer to the Wilts County Asylum, Devizes, *vice* E. S. Blaker, M.R.C.S. Eng., promoted.

WILLIAMS, Alfred, M.B., M.S., appointed House-Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

SHOP-WINDOW ANATOMY.—The morbid interest in anatomical details excited, in some illbalanced minds, by the horrible details of the barbarities committed by the Whitechapel murderer on his victims, has, it is reported, induced the police to request certain tradesmen who have been in the habit of exposing anatomical models or drawings in their windows to desist from the practice. There is, in fact, no justification for it, and if it is now discontinued, we may hope that it will never be revived; such drawings and models are entirely out of place in a shop-window; they can only be of use to students of anatomy, medical or artistic, who know very well where to go for such wares when they want them.

BRIGHTON.—The Brighton Hospital Sunday Fund amounted to £1,630 15s. 3d., the highest on record, £1,496 10s. 4d., in 1886, being the best total until now. The expenses of the Committee for printing, etc., were only £8 10s. 8d., leaving £1,622 4s. 7d. available for distribution, The Committee of the Brighton Dispensary have determined that in future all out-patients shall pay a fee of sixpence. A motion by Mr. Algernon Hodgson, to the effect that the statutes of the Brighton Hospital for Women should be so altered as to admit of the benefits of the lying-in institution being extended to unmarried as well as married women, was considered at a recent meeting, and rejected by a large majority.

THE METROPOLITAN ASYLUMS BOARD.—The report presented at the fortnightly meeting of this Board on November 17th showed that there were 988 cases of infectious diseases in the fever asylums (including 13 of diphtheria), while at this date of last year there were 2,693 cases of fever, a difference in favour of this year of 1,705; the number at present under treatment also showed a diminution of 45 upon the number a month ago. It was assumed that the maximum number this year had been reached, and that no further rise would occur before the summer of 1889.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.—At the annual meeting of this Society, held on November 15th, the following office-bearers were elected: *President:* Dr. James W. F. Smith Shand. *Vice-President:* Dr. Robert John Garden. *Secretary:* Dr. George M. Edmond. *Recording Secretary:* Dr. Alexander Macregor. *Treasurer:* Dr. John Gordon. *Librarian:* Dr. Thomas Best Gibson. *Council:* Drs. James Rodger, James M'Kenzie Booth, Henry Jackson, Angus Fraser, and T. Best Gibson.

GLASGOW BENEVOLENT SOCIETY.—This society has during its past year distributed £1,083 13s. 3d. in the shape of food and coals among the destitute poor of Glasgow. The society's aid is distributed by about 200 persons, chiefly missionaries and Bible women, and they have a choice of something like 50,000 destitute poor among whom to divide it. Even this moderate expenditure exceeded the income by £300.

HOSPITAL SATURDAY FUND.—At a special meeting of the delegates of this fund, a scheme for the registration of the fund under "The Companies Act" was well received; forty-two clauses of the scheme were passed unanimously. The meeting was adjourned till December 1st, when the remainining clauses will be considered. This step will, it is hoped, give confidence to subscribers, and add to the strength of the association.

YELLOW fever is officially declared to have broken out in Santa Cruz, the chief town in the island of Palma, the most westerly of the Canary group. The disease was imported by a vessel from Cuba. Communication has been completely cut off between Palma and the other islands. The public health in Grand Canary, it is said, continues excellent.

PRESENTATIONS.—Mr. Ralph S. Miller, M.B.Edin., on leaving the Tollerton district, where he has been practising during the last five years, was presented at a public meeting with a testimonial in the form of an address, a drawing-room timepiece, and a purse of sovereigns.—Dr. C. H. Willey, of Wostenholm, has on the occasion of his leaving the Borough Hospital, been presented by the staff of the institution with a handsome case of cutlery.

The organising committee of the International Congress of Otology and Laryngology, which will be held in Paris next year during the Universal Exhibition, has been nominated; it consists of MM. Boucheron, Calmettes, Duplay, Garel, Gellé, Gougenheim, Joal, Lannois, Ladreit de la Charrière, Loewenberg, Ménière, Miot, Moure, Noquet, Ruault, Terrier, and Tillaux.

A MEDICAL Congress will be held at Santiago, Chili, during March, 1889; it will consist of four sections—medicine, surgery, hygiene, and physical and natural sciences.

THE SANITARY INSTITUTE.—At a meeting of the the Council of this institute held on November 14th. Sir Douglas Galton, K.C.B., F.R.S., in the chair, Earl Fortescue, Dr. B. W. Richardson, F.R.S., Sir T. Spencer Wells, and eleven other members and associates, were enrolled, and further applications for membership were read.

MR. EDWARD NUNDY, L.R.C.S., L.S.A., barrister-at-law, and resident medical officer of the Royal South London Dispensary, Lambeth Road, is a candidate for the School Board Division of West Lambeth.

BEQUESTS.—Another legacy of £500 has fallen to the lot of each of the large infirmaries of Glasgow by the will of a merchant, Mr. J. B. McCulloch, who died at Bothwell a year ago.

A REPORT comes from Dallas, Texas, that a Mrs. George Hirsch, of Nevarro County, has given birth to six children, four boys and two girls, all of whom are said to be doing well.

THE epidemic of diphtheria in the Vyrnwy Valley, which at one time threatened to be serious, has now been stamped out by the precautions adopted by the Liverpool Corporation.

THE Royal Microscopical Society will give its next *conversazione* on November 28th, at King's College.

A CENTENARIAN.—Sarah Farley, a widow, has just died at Chichester at the reputed age of 102 years.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 8.30 P.M.—Mr. George Stoker: On a Case of Goître illustrating a Theory in Reference to the Function of the Thyroid Gland. Mr. J. Astley Bloxam: Two Cases after Excision of Goitre. Dr. Beevor: Case of Polio-myelitis from Injury. Dr. Hadden: Case of Neuro-muscular Irritability. Mr. H. Allingham: Case of Resection of Inferior Maxillary Joint for Ankylosis. Dr. Campbell: A Case of Erythema Gangrenosum. Mr. A. B. Barrow: Case of Ectopia Vesicæ after Operation; and others.

TUESDAY.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 8.30 P.M.—Dr. W. R. Smith: The Etiology of Puerperal Fever. Dr. S. West: Acetonuria and its Relation to Diabetic Coma.

WEDNESDAY.

BRITISH GYNÆCOLOGICAL SOCIETY, 8.30 P.M.—Specimens will be exhibited by the President, Dr. Granville Bantock, Dr. Mansell-Moullin, and others. Dr. James Oliver: Encysted Serous Peritonitis (Pelvic in Origin). Council, 8 P.M.

HUNTERIAN SOCIETY, 8 P.M.—Dr. Davies: A Case of Tumour of the Tongue. Mr. Jonathan Hutchinson: Affections Allied to Raynaud' Disease.

ROYAL MICROSCOPICAL SOCIETY, King's College, W.C., 8 P.M.—Conversazione.

BROWN INSTITUTION (University of London), 5 P.M.—Mr. Victor Horsley, F.R.S., Professor Superintendent: On Epilepsy. Lecture I.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, 8.30 P.M.—Dr. W. B. Cheadle: The Harveian Lectures on The Various Manifestations of the Rheumatic State as Exemplified in Childhood and Early Life. Lecture I.

ROYAL COLLEGE OF SURGEONS, 4 P.M.—Sir T. Spencer Wells, Bart.: The Morton Lecture on Cancer and the Cancerous Diseases.

FRIDAY.

BROWN INSTITUTION (University of London), 5 P.M.—Mr. Victor Horsley, F.R.S., Professor-Superintendent: On Epilepsy. Lecture II.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

BRAGA.—On November 16th, at Alexandra House, Shepherd's Bush Road, West Kensington Park, W., the wife of J. F. Braga, L.S.A., F.R.G.S., etc., of a daughter.

CLARK.—On November 14th, at Rahere, Brunswick Road, Gloucester, the wife of Oscar Clark, M.A., M.B.Oxon., of a daughter.

MARRIAGES.

LEIGH—WALES.—On November 20th, at St. Edmund's, Downham, Norfolk, by the Rev. A. S. Latter, assisted by the Rev. Canon Beechey, A. H. Leigh, of Shortlands, Kent, to Edith Mary, eldest daughter of Thos. Garneys Wales, of Downham.

SHEA—MENDUM.—On October 31st, at South Church, Portsmouth, New Hampshire, United States, by the Rev. Alfred Gooding, William Ker Shea, L.R.C.S.I., L.R.C.P.Edin., of Philadelphia, and formerly of Dublin, to Maud Blanche, youngest daughter of Charles H. Mendum, Esq., of Portsmouth, U.S.A.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour *us with Duplicate Copies.*

QUERIES.

ANTIPYRIN IN LABOUR.

MR. E. STANLEY WOOD (Pontypool) asks for information with regard to the utility of antipyrin in labour cases.

CHILBLAINS.

S. H. P. would be glad to learn the best remedy for chilblains, in the way of either internal or external medication. The sufferer is a perfectly healthy young lady in every respect, but a great sufferer in this particular way.

LOSS OF HAIR.

CAPUT writes: I am attending a family where there are three daughters, all over puberty, in whom the hair is steadily falling out. The younger members of the family are not affected. There is no specific history. What is the best treatment?

HÆMORRHAGE AFTER A GLYCERINE CLYSTER.

Q. writes: In a case of typhoid in a female aged 27 there was constipation and no movement of the bowels up to the thirteenth day, when a teaspoonful of glycerine was injected into the rectum, the immediate result being satisfactory. Hæmorrhage from the bowels set in on the fourteenth day, and proved uncontrollable, carrying off the patient on the twentieth day. He raises the question whether the enema was justifiable.

RHEUMATIC AFFECTION OF ELBOW.

P. W. S. describes the case of a patient, 63 years of age, who has suffered for more than twelve months, first with the left, and now acutely with the right shoulder-joint, and the disease has recently extended into the right elbow. There is much pain and stiffness on movement, more especially when the arm is raised at right-angles with the body, and when it is extended "backwards and downwards," the patient finding it difficult to put on or take off his coat or vest; all "forward and under" movements are scarcely interfered with. The patient is, and always has been, robust and healthy, never having been the subject of rheumatism (?) before. His habits are strictly temperate in all things. P. W. S. asks for suggestions as to pathology and treatment.

ANSWERS.

MR. A. G. P. GIPPS.—We think not. The student must obtain his own materials for study. Subsequently, when he has attained skill in research, he may obtain a grant to continue original research from the British Medical Association or the Royal Society.

PHOSPHATURIA.

M.A. writes: This is a subject strangely scamped in most works on kidney and bladder disease. "W. B." will obtain the best results by paying particular attention to the diet and beverage of the case in point, which looks suspiciously—indicating an overfed individual. He will also gain much information from Dr. Ralfe's work on the Kidney.

PREVENTION OF STYES.

MR. E. MANSEL SYMPSON, M.B., writes: In answer to "J. W. W.," I would suggest a course of treatment by sulphide of calcium. Both for styes and boils I have found this an admirable preventive. Half a grain in a pill, to be taken two or three times a day after meals, will be found to answer well. Also, while the patient is suffering from the stye or styes, the sulphide of calcium is very useful, either drying them up or, if too late for that, apparently hastening on suppuration.

NOTES, LETTERS, ETC.

ACCIDENTAL VACCINATION.

MR. S. HALE PUCKLE, M.B., C.M. (Bishop's Castle), writes: In connection with the case mentioned by Dr. Page in the JOURNAL of October 27th, the following circumstance may be of interest. While resident physician in the Royal Hospital for Sick Children, in Edinburgh, I had occasion to vaccinate a child aged 2. The little patient was a great plaything in the ward, and especially with one of the nursing staff, a native of Skye, who had never been vaccinated. As a result, the nurse in question became inoculated. The vesicle was situated as nearly as possible in the centre of the forehead. From the age of the subject (about 25), and the fact of its being the first time she had been subjected to vaccination, she suffered severely. There was great swelling all over the forehead and a great deal of general *malaise*. There was but one vesicle, and it was almost the circumference of a sixpenny-piece. It is needless to state that a "fringe," from being a luxury, came to be a matter of absolute necessity.

MR. W. L'HEUREUX BLENKARNE, L.S.A., M.R.C.S. (Leicester), writes: With reference to this question, I remember having a case of the kind when I was assistant to Dr. Leonard Buckell, of Chichester, in 1870. The father of a vaccinated child (about the twelfth day) "kissed the place to make it well." He, unfortunately, had happened to have cut his lip whilst shaving that same morning. Inoculation took place, only it differentiated into erysipelas of the face and head, with a very high degree of fever. Purgatives were first given, and I then prescribed that "sheet-anchor" for erysipelas, tincture of the perchloride of iron, and the man made a good recovery.

DR. W. EASBY (Peterborough) relates the following case: Mrs. M., aged 40, who has never been vaccinated, says she had a mild attack of small-pox when a child, which, the doctor who attended her said, rendered vaccination unnecessary. On October 18th she took her baby, aged 4 months, to the public vaccinator, and again on the 25th for inspection. There were four good vesicles, from which lymph was taken. On the 28th she noticed a pimple beginning to form on the left cheek, and on the 31st I was asked to see her. I found the left side of the face much swollen and inflamed, and over the left malar bone a large vaccine vesicle a little larger than a sixpence. At this date, November 14th, the crust is separating, and nearly all the swelling has gone. She does not remember touching her child's arm in any way.

VACCINATION AFTER SMALL-POX.

MR. YORK T. G. MOORE, L.R.C.P.Ed., M.R.C.S. (Torquay) writes: During an epidemic of small-pox, a boy, 14 or 15 years of age, who had suffered from an attack of this disease about ten years previously, was presented to me for vaccination. His face was considerably pitted, and he must have had a rather severe attack. I vaccinated him, anticipating a probably negative result; however, the following week two vesicles (characteristic of re-vaccination) had developed; *ergo*, he had previously been susceptible to a second attack of small-pox, and was now, at any rate, much less so. This incident will afford a proof, if such were necessary, that it is expedient for all persons to be revaccinated when liable to be much exposed to small-pox, even though they may have suffered from an attack of this disease at some more or less distant period of their lives.

SACCHARIN AND SACCHARINATE OF QUININE.

THOUGH a simple solution of saccharin has not been found so successful in masking the bitter taste of quinine as it does the taste of sodium salicylate and of cascara sagrada, we learn from a paper in the *New York Medical Record* that Dr. A. H. Smith and Mr. B. F. Hayes, a chemist of that city, have succeeded in effecting a definite combination of saccharin, which they would, therefore, propose should be called "saccharinic acid," with quinine, in the proportion of 36 per cent. of saccharin and 45 per cent. of quinine, the taste of which is certainly less disagreeable than that of other salts of quinine.

ANTIPYRIN AS A CUTANEOUS ANALGESIC.

DR. R. LOWTHER (Grange-over-Sands) writes: Reference is made in the JOURNAL of November 17th to the analgesia produced by the hypodermic use of a strong solution of antipyrin in painful local conditions. This remedy seems also to possess the power, when internally administered in full doses, of producing a general anæsthesia of the skin so long as it is continued, and generally for a few days afterwards; but the effect is only transitory, and the irritation invariably returns, often in increased severity, unless attention has been paid to the general constitutional treatment. Antipyrin probably acts, as stated by Sée, by diminishing reflex excitability, or it may temporarily affect the nerve-centres. According to my experience it has no lasting effect.

THE GALEN CLUB.

F.R.C.P. writes: I quite agree with Dr. H. F. Winslow as to the desirability of there being a medical club, and if one could be started in a more central position (for example, Charing Cross or Adelphi), and at a lower subscription, I feel sure the response to such a club would result in securing nearer 500 than 240 members, for it is not everyone who can afford the high figure required by the proprietor of the Galen Club. I was one of the original members of the Medical Club, in Spring Gardens, where, if I mistake not, the subscription was only a guinea, and everything was most comfortable, though the rooms were small.

Could not a house be secured which would not be pretentious, but comfortable and central, and where the guinea—or, at most, two guinea—subscription would suffice to carry it on? I am sure a high subscription keeps many away, whilst the figure suggested would, I believe, attract many members of our profession to join, resulting in many pleasant evenings of social intercourse. I shall be pleased to subscribe to any fund raised with the object of starting a club with these advantages.

SYPHILIS COMMUNICATED BY TATTOOING.

DR. A. DRYDEN MOFFAT (Glasgow) writes: In the JOURNAL of October 27th page 943, I notice a report of a case of syphilis inoculated in the operation of tattooing, which was brought before the South-East Hants Medical Society by Surgeon F. R. Barker. In the discussion which followed Dr. Ward Cousins said that he had never seen rupia before, unless in the secondary or tertiary stages. By that I suppose that Dr. Cousins means the late secondary or tertiary stages.

I had a case of syphilis two years ago, where I was much astonished to find a copious outbreak of rupia coexisting with the open chancre, which was on the lip. This turned out to be a case of exceptional severity, enormous tertiary rashes making their appearance on the limbs and trunk during the first year. Large gummata were also deposited in the tongue. The most remarkable feature of the case, however, was the fact that within one month from the period at which the primary sore made its appearance there was a copious eruption of rupial crusts coexisting with the open chancre and the ordinary eruption of roseola. It will be interesting to know if Surgeon Barker's case also turns out to be a severe one.

LIFE-ASSURANCE FEES.

HONESTAS writes: A representative of the "Universal" Assurance Company called upon me the other day and offered me the valuable post of medical referee for this district, at the tempting remuneration of *one shilling and*

threepence per report, and upwards, according to the amount of the assurance. I found on reading the prospectus that the company had its head-quarters at Leeds, and that their principal medical adviser was a well-known surgeon, a member of the General Medical Council. I declined the post, and told the agent that no respectable medical man could accept such terms. He replied that there would be no difficulty in getting someone else. Can it be a matter for surprise that poor struggling practitioners should accept such fees when they have the example before them of a member of the Medical Council doing so?

Puerperal Fever a Preventable Disease.

Dr. William Duncan (Bristol) writes: I, too, beg to accept Dr. Cullingworth's challenge, and to support the assertion of my friend, Dr. Napier, that puerperal fever may be accounted for by many causes other than the entrance of micro-organisms by the genital tract. The first case of puerperal fever I attended, in March, 1875, was one which probably Dr. Napier will remember well, as he mentions it in the first pamphlet he published, "Notes on Puerperal Fever." In a small country town at that time Dr. Napier was assistant to one practitioner and I to the other. Puerperal fever was brought to the place, and Dr. Napier and his principal and mine all had the credit of conveying the infection, and with disastrous results. I alone of the medical men in the town kept free from it for a time, and during that time I had a large midwifery practice without a single suspicious case.

At last one woman, Mrs. G. D., was delivered by me with the forceps. She was strong and healthy, a multipara, and in good circumstances. Every possible care was taken as to attendance and cleanliness; the terror of the fever made every parturient woman especially cautious. She progressed satisfactorily in every way until the fourth day, when she got out of bed against orders. Rigors and fever supervened, and death occurred, I think, on the tenth day. It was impossible to trace infection, and there was nothing to account for the attack, for there had been no communication with anyone to whom the slightest suspicion could attach.

I can also remember one other case in a West Indian Island, which occurred at a time when there was no epidemic of any kind in the colony, and in a place where nothing could possibly account for its origin, except the malaria from a neighbouring mangrove swamp, and where scarlet and enteric fevers were unknown.

A few cases like those mentioned by Dr. Day in the Journal of November 10th, and the above, may in time convince Dr. Cullingworth and others that the disease is not in every case heterogenetic.

Curriculum and Apprenticeship.

A Young M.B. of nearly Six Years' Standing writes: It will, perhaps, be interesting to many "housemen" and clinical clerks to read over my experience. This, Mr. Editor, I shall endeavour to give in as few words as possible.

While a student I was surgical dresser and clinical clerk in the medical and surgical departments. After graduating I was appointed in succession as house-surgeon, house-physician, and obstetric assistant to my hospital. During my residence the columns of the Journal and a well-known contemporary were well-nigh flooded with letters of complaint regarding the inadequacy of the younger members of the profession. Being influenced by those tirades, I determined to do my utmost to get a sound knowledge of private work.

The apprentice system, of course, was abolished. I therefore took an assistantship in a large Yorkshire town. When "Senex Adolescens" is told that my chief was a man in good society, a surgeon of local repute holding a hospital appointment, and whose general practice consisted of a large union appointment, several good clubs, and many private families, amongst the latter being some of the leading manufacturers of the district, he will agree with me in stating that here at least a freshman would have every chance of learning private practice.

On entering duty, I found that the pharmacopœia consisted of potass. nit., potass. chlorat., sodæ bicarb., morphine, powdered ipecac., ergot, tinct. ferri perchlor., liq. potassæ, acid. mur. dil., ess. rosæ, a large cask of mag. sulph., a small bottle of tinct. digitalis, ammon. carb., infus. quassiæ, some aperient pills, and a few mercurial preparations. On asking the unqualified assistant—who, I may say, was oftener drunk than sober—for the weighing apparatus, he stated in an offhand manner that "they were smashed long ago," and that "we always guessed things here." Some time after I found the rusty and useless remains of what had once been scales. My principal prided himself in being practical, and was never tired of praising the old apprenticeship system, in which he had been brought up by his father. Is this the kind of training "Senex Adolescens" advocates? It would be interesting to know if he considers a handful of mag. sulph. in six ounces of water containing a few drops of liq. potassæ a tasty aperient.

On making inquiry of many of my fellow students who were also anxious to learn private practice, I was astonished to find that mine was no exceptional case; that, in fact, so far as my inquiries went, it seemed to be almost the rule in many of the manufacturing towns of Yorkshire and Lancashire. One friend in London sent me the following prescription, which he regularly dispensed for his principal: R Acid. mur. dil. 5ss; sacch. ust. 5i; aq. ad 5vi liq.; 5i every four hours. Is this what "Senex Adolescens" would call a tasty tonic?

I think juniors would be, on the whole, safer to adhere to their hospital pharmacopœia, and carry out the teaching in prescribing, which any industrious man can easily obtain if he has a wish to, than run the risk of learning slovenly habits and a system of routine that is worse than quackery itself.

Medical Apprenticeship and Practical Training.

Dr. Thomas Laffan (Cashel) writes: It is now some twelve months since a committee of the Medical Council recommended such a change in medical training as would ensure on the part of the young idea a greater acquaintance with the details of practice, as well as a more complete clinical knowledge. The committee appears to have been led to this recommendation by the repeated statements made as to the incompetence of at least many of the young practitioners educated under the present system to take sole charge of the sick.

These allegations have been made over and over again by practitioners who have had to deal with assistants, and whose words are as reliable as those of any members of the profession. The committee must have felt that the charge rested upon very good evidence, when, notwithstanding their personal interest in the system, they gave it so much currency.

Then there was the further question of utilising the immense amount of clinical *materiel* now running to waste in the various union and other hospitals, and that at a time when even interested visitors were obliged to admit that the recognised *materiel* was in many places too scant. On this point something of the nature of an undertaking was given to the Privy Council that this unused *materiel* would no longer be allowed to run waste. Most distinctly an expectation, at all events, was held out to that effect by the General Medical Council. Well, the outcome of all this was the following resolution, which was carried by the Council at its meeting of May 26th, 1888:—

"That, in addition to the requirements at present in force with respect to hospital attendance and duties, all candidates for the final examination be required to produce evidence that they have, under proper supervision, taken part as pupils for six months in the practice of a recognised public dispensary, including the visitation of patients at their own homes, or in the out-patient practice of a recognised hospital, or have acted for six months as pupil to a registered practitioner either holding such a public appointment or having such opportunities of imparting practical knowledge as shall be satisfactory to the examining bodies."

This was the outcome of much labour on the part of that august and most expensive body, and I repeat here what I publicly stated before, that it is a perfectly illusory arrangement. It is illusory because, by placing the out-patient department athwart the new apprenticeship system, it so handicaps the latter as to practically prevent students adopting it. Why should a student become an apprentice when he need only present a certificate of attendance on that out-patient department which he always has been attending? How will the mere presentation of such a certificate supply that practical training which the attendance itself has heretofore failed to supply? Moreover, it is notorious that the conceit of the belectured student is such, and he is so utterly unconscious of his own ignorance, that nothing short of compulsion will make him serve an apprenticeship at the end of his course. I have myself had some experience in teaching, having been for six years a private teacher in a medical school, and, with every respect for the opinions on the other side, I venture to express the matured opinion that it is at the commencement and not at the end of the course this apprenticeship should be served. I would make it twelve months; would recognise only those masters who would furnish proof of the possession of the necessary capacity and means for teaching; and to prevent fraud I would require that each apprenticeship should be entered in the students' *Register* from the very date of its commencement.

Here I may be allowed to quote Carlyle: "Properly thou hast no other knowledge but what thou hast got by working; the rest is yet all a hypothesis of knowledge, a thing to be argued of in schools, a thing floating in the clouds in endless logic-vortices till we try it and fix it." The Chelsea philosopher had clearly in his mind's eye the difference between the apprentice and the poor bedazed and bewildered youth whose head is stuffed in the lecture room with that garbage which Carlyle so heartily despised. It is very suggestive that the opponents of early apprenticeship are almost in every instance persons who have a personal interest in opposing it. On the other hand, it is cheering to find a man like Sir James Paget urging home the lesson of early apprenticeship whenever an opportunity is afforded him. It is well known that the late Dublin scheme offered special inducements, or, at least, offered a clear stage, for the reintroduction of early apprenticeship; but the moment it was found likely to take the Dublin grinding interest strangled it.

The other day I urged Dr. Kidd to restore it, and in reply he informed me that there was not the least chance of doing so, adding the significant words, which every parent and every intending student ought to be made aware of: "I wish students and their friends could be induced to establish it for themselves." I am sadly afraid that there is a percentage of the professional masses to whom the term "professional rabble" would not be inapplicable; for in no other way can I account for the blindness and the apathy which they display in matters vitally affecting themselves.

Just look at the treatment the Privy Council the other day extended to the Members of the College of Surgeons. Would they for a moment treat the Licensed Victuallers, or the Trade Unionists, or the Association of Chimney-sweeps with like contumely. The fact is that medical men do not take that part in civic and political work which mere duty of itself requires of them, and hence one great reason why we are so helpless in Parliament. The privileged schools, hospitals, and licensing authorities, I hope, will be made to feel the power of the professional masses, expressed through their Parliamentary representatives, the first time that a general election shall place a democratic Government in office.

Syphilis Contracted through Striking a Blow.

T. H. writes: C., a labouring man, came in August last, complaining of weakness, *malaise*, sweating on slight exertion, not feeling up to his work. Tongue slightly furred, temperature 100°, previous health good in every way. I could find nothing to account for his state at first, but, noticing his left hand bandaged, he admitted there was a sore on the knuckle, which had been under treatment for some time by a "skilful woman," but was very slow in healing. Uncovering the hand, I found a perfectly circular sore, the size of a threepenny piece, with clean-cut edges, bright red, without discharge, and surrounded by a purple area of very well-marked induration. Suspecting a venereal inoculation, I questioned him closely, but he affirmed most positively that such could not be the case, as he had never "gone in the way" of it. As he was a married man, sober, and of good moral character, well known to me for a long time, and as his wife was perfectly healthy, and, like Cæsar's, "above suspicion." I felt compelled to believe his statement, and that my diagnosis must be at fault. I therefore ordered a tonic mixture, and simple dressing to sore, and to discontinue the "skilful woman," supposing that some irritant dressing of hers might have caused all the trouble.

After a week or so, finding no improvement whatever, but that, on the contrary, he had now an enlarged hard gland in the axilla, slight sore throat, and a few pimples about the scalp, I felt bound to tell him he had undoubtedly got syphilis in some way or another. It was a difficult matter to convince him of this; but, on a close cross-examination, it turned out that he had had a dispute with another man about three or four weeks before he came to me, and that this man, who was somewhat intoxicated, had angered my patient so much, that the latter had struck him a blow in the face with his left hand, scratching his knuckle in doing so by contact with the other's

teeth. There was no other probable source of infection that could be made out.

I put him on large doses of potassium iodide, and in a week or so there was marked improvement in all the symptoms. In brief, he was soon well, thus confirming the diagnosis.

Being curious to trace the origin of the infection to its source, I wrote to the surgeon of a distant mining settlement, to which my patient's antagonist had since gone, asking him to keep an eye upon the man, and report to me. After some weeks, I received a reply from him, to the effect that our man had turned up to consult him about well-marked secondary and tertiary symptoms of syphilis, contracted, as he admitted, two years before, and for which he had been under treatment by a medical man, with pills, which, however, he had discontinued, as it was "too much trouble" to go on taking them. This, of course, cleared up the mystery beyond all doubt.

I deem the case an interesting one, as such a mode of conveyance of syphilis must be very rare, especially in the advanced stages of the disease. It remains now to be seen whether my patient has unfortunately infected his wife, who is, moreover, pregnant. The chances are strongly on the affirmative side.

GOVERNMENT VACCINE.

A PUBLIC VACCINATOR writes: My experience, so different from that of "Twenty-five Years a Public Vaccinator," is briefly as follows:

I have used National Vaccine Establishment lymph on several occasions, and have never had a failure. Since being a public vaccinator, I have not had to apply to the National Vaccine Establishment, for every April and October my vaccinations are commenced with lymph stored from the previous vaccination period (six months) in hermetically sealed capillary tubes, and I have no anxiety as to its success. Such lymph has never yet failed with me.

I hold two tubes of lymph sufficient to vaccinate four persons, or produce sixteen vesicles. If, therefore, I attempted to vaccinate thirteen persons, or produce fifty-two vesicles with the same quantity of lymph, I should expect failure, and blame myself rather than the lymph.

COMMUNICATIONS, LETTERS, etc., have been received from:

Mr. R. E. Dudgeon, London; Mr. B. Walker, Kirkby Stephen; Mr. E. G. Wake, London; Mr. J. Beckton, London; Mr. A. Jackson, Shrewsbury; Dr. Sykes, Mexborough; Mr. E. H. Fenwick, London; Messrs. Cassell and Co., London; Mr. W. Buchanan, Chatham; Dr. Hünerfrauth, Bad Homburg; The Private Secretary of the Colonial Office, London; Mr. C. L. Fleming, Freshford; Dr. E. Symes Thompson, London; Dr. W. F. Haslam, Birmingham; Mr. W. P. Terry, Winchester; Dr. Mickle, London; Mr. H. Bate, London; Mr. H. N. Crouch, London; Dr. Maguire, London; Mr. M. Smith, Cheltenham; Mr. T. Jackson, Thornton Heath; Mr. H. W. Roberts, London; Professor C. Roy, Cambridge; Mr. M. De Meyer, London; Mr. Y. Moore, Torquay; Mr. A. C. MacLeory, Bath; Mr. C. B. Humphreys, Bournemouth; Mr. W. L'H. Blenkarne, Leicester; Mr. C. S. Wood, Pontypool; Mr. H. Forbes, Halifax; Mr. W. G. Eggleston, Chicago; Mr. T. Barclay, Birmingham; H. Cook, M.B., Conisbay; Dr. T. Robinson, London; Mr. F. R. Humphreys, London; The Secretary of the Intercolonial Publishing Company, London; Messrs. W. H. Collins, London; Mr. R. E. Horsley, Edinburgh; Dr. J. Ogilvie, Bolton; Mr. W. Aston, Birmingham; Dr. Savage, London; A. C. Dutt, M.B., Salford; Dr. G. Henty, London; Mr. S. Schottlaender, Breslau; Mr. James West, London; Mr. E. F. Neve, Kashmir; Dr. Macpherson, London; Mr. P. N. Patwardhana, Poona, India; Messrs. Street and Co., London; Dr. R. Rentoul, Liverpool; Mr. C. B. Lockwood, London; Mr. J. Hogg, London; Mrs. Thompson, Surbiton; Dr. Burchell, Epping; Mr. A. Kershaw, Farnworth; Mr. E. H. Roe, Eccles; Dr. R. Bowden, Ramsgate; Mr. F. Passmore, London; Mr. E. Child, Coombe; Mr. S. Nairne, Crosshill; Dr. W. Squire, London; Mr. A. N. Barnley, Wigston; Mr. W. H. Hayward, Middleton; Dr. E. G. Whittle, Brighton; Dr. J. Barr, Liverpool; Mr. T. Whipham, London; Mr. F. Page, Newcastle-on-Tyne; Surgeon; Messrs. J. Richardson and Co., Leicester; Dr. Spanton, Hanley; Mr. Towers-Smith, London; Dr. F. Roberts, London; Our Egyptian Correspondent, Cairo; Dr. H. Handford, Nottingham; Mr. A. H. Benson, Dublin; Dr. J. McFadyean, Leith; Mr. T. V. Jackson, Wolverhampton; J. S. R. Russell, M.B., London; Dr. J. Poland, London; F.R.C.P.; Jeyes Sanitary Compound Company, London; Mr. J. Thompson, Nottingham; Mr. H. Cripps, London; Mr. G. S. A. Wayler, Devizes; Mr. E. Hamilton, Dublin; Mr. G. Eastes, London; Probe; Professor Humphry, Cambridge; Dr. Edmond, Aberdeen; Mr. J. H. Thomas, Wellingborough; Dr. Newth, Hayward's Heath; Dr. Willoughby, London; L.R.C.P.Edin.; Messrs. G. Mason and Co., London; Mr. W. H. Allen, Stanmore; Mr. H. Greenway, Plymouth; Dr. Lowther, Grange-over-Sands; Mr. E. W. D. Kite, Birmingham; Dr. Lagos K. Hirichl, Bordighera, Italy; Mr. W. Adams Frost, London; Mr. B. Roth, London; Mr. A. F. Hopkirk, London; Dr. Russell, Glasgow; The Secretary of the Sanitary Institute, London; F. M. Pope, M.B., Leicester; Mr. W. Habgood, Banstead Downs; Dr. Symons, London; Dr. Tatham, Salford; Mr. F. M. Corner, London; Mr. J. C. Spurling, Wakefield; Mr. G. A. Wright, Manchester; The Honorary Secretary of the Irish Exhibition, London; Dr. Louis Parkes, London; Dr. A. H. N. Lewers, London; Dr. G. MacDonald, London; Mr. J. F. Milner, Godalming; Mr. W. F. MacDonagh, London; Mr. D. B. St. John, New York; Mr. C. Henderson, London; Messrs. Wilson and Whaley, Birmingham; Mr. J. S. Robertson, Shirley; Mr. S. Alexander, Northampton; Mr. W. H. Maling, Sunderland; Mr. H. E. H. Matthews, Levenshulme; Mr. A. G. Barrs, Leeds; Mr. J. Edwards, Leeds; Dr. J. Mason, Windermere; Dr. Railton, Manchester; Mr. G. T. Coleman, Cardiff; Dr. H. McClure, Cromer; J. Wheatley, M.B., Blackburn; Mr. T. E. Lovegrove, Nottingham; Mr. F. E. M. Biggs, Malmesbury; Dr. R. A. Hayes, Dublin; Mr. C. R. Straton, Wilton; Our Swiss Correspondent; G. F. Burder, M.D., Clifton; Mr. J. Wilson, Glasgow; Dr. G. A. Abrath, Sunderland; Dr. R. Stockman, Leith; Surgeon-Major J. Ince, M.D., London; Mr. S. H. Puckle, Bishops Castle; Mr. S. Murphy, London; Mr. P. Pope, Pinner; Dr. D. A. Shehan, London; Dr. Thin, London; Dr. Mackey, Brighton; Dr. H. J. Norman Anwyl, Chartham; Dr. W. D. Spanton, Hanley; Dr. J. J. De Z. Marshall, Hastings; Dr. Sheen, Cardiff; Mr. W. Gardner, London; Dr. M. Greenwood, Dalston; Mr. Samuel Benton, London; Mr. G. E. Coleman, Hemsworth; Dr. J. M. Miller, Largs; Dr. Charles C. Scott, Twickenham; Mr. S. Wood, Harrow; Mr. Laurence Humphry, Cambridge; M. Stewart, M.B., Kirkwall; Mr. C. R. C. Vigurs, Grampound Road; Mr. E. Nundy, London; Dr. J. W. Moore, Dublin; Bronsfield; etc.

BOOKS, ETC., RECEIVED.

Clinical Lectures on Diseases of the Urinary Organs. By Sir Henry Thompson. Fourth edition. London: J. and A. Churchill. 1888.

Hunterian Lectures on Tension as met with in Surgical Practice. By Thomas Bryant, F.R.C.S. London: J. and A. Churchill. 1888.

Studies in Pathological Anatomy, especially in Relation to Laryngeal Neoplasms. By R. Norris Wolfenden, M.D.Cantab., and Sidney Martin, M.D. Lond. London: J. and A. Churchill. 1888.

Following the Drum; Sketches of Soldiers' Life in Peace and War. The verses selected and illustrated by Richard Simkin. London: W. H. Allen and Co. 1888.

Rural Rambles. Selected from various Poets. Illustrated by A. Woodruff and S. B. Carlill. London: W. H. Allen and Co. 1888.

Masks and Faces; a Study in the Psychology of Acting. By William Archer. London: Longmans, Green, and Co. 1888.

Illustrated Lectures on Ambulance Work. By R. Lawton-Roberts, M.D. Third edition. London: H. K. Lewis. 1888.

2 Handy Diaries, 1889. London: W. Collins, Sons, and Co.

1 Calendar, 1889. London: W. Collins, Sons, and Co.

A Correlation Theory of Chemical Action and Affinity. By Thomas Wright Hall, M.D. London: Remington and Co. 1888.

Lectures on Ectopic Pregnancy and Pelvic Hæmatocele. By Lawson Tait, F.R.C.S., LL.D. Birmingham: The Journal Printing Works. 1888.

Store of Stories for Children. By Francis Clare. Second edition. London: Sheffington and Co. 1888.

Clinical Lectures and Essays on Diseases of the Nervous System. By John Syer Bristowe, M.D.Lond., LL.D.Edin., L.R.C.P., F.R.S. London: Smith, Elder, and Co. 1888.

Religious Tract Society, London:—

Sunday at Home; a Family Magazine. 1888.
Boy's Own Annual.
Girl's Own Annual.
Leisure Hour. 1888.
The Child's Companion and Juvenile Instructor.
Our Little Dots.
Irish Pictures drawn with Pen and Pencil. By Richard Lovett, M.A.

Swan Sonnenschein and Co., London:—

The Child Wife. By the late Captain Mayne Reid.
No Quarter. By the late Captain Mayne Reid.
Truth for its own Sake; the story of Charles Darwin. By M. Mawer, F.G.S.
Blackbirding in the South Pacific. By W. B. Churchward.
A King and Not a King. By M. Spring Rice.
An American Hero; the story of William Lloyd Garrison, written for young people. By Francis E. Cooke.
The Free Lances: a Romance of the Mexican Valley. By the late Captain Mayne Reid.

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THE MORTON LECTURE
ON
CANCER AND CANCEROUS DISEASES.

Delivered at the Royal College of Surgeons of England on Thursday, November 29th, 1888.

By Sir SPENCER WELLS, Bart., F.R.C.S.,
Surgeon to the Queen's Household.

Mr. President and Gentlemen,—Last year Sir James Paget delivered for the first time the Morton lecture on cancer and cancerous diseases. He dedicated his published lecture to Mr. John Thomas Morton, of Caterham Valley, "with sincere respect for his benevolence and generosity," and expressed the hope, which he believed Mr. Morton entertained, that this lectureship may lead to some practical utility, "perhaps even to the finding of a method for the prevention or the cure of these diseases."

No body of men can be more anxious to assist in the attainment of this philanthropic desire than are the Fellows and Members of this College. Not one of us needs to be reminded of the almost overwhelming importance of the subject. Cancerous diseases are as heartbreaking to the surgeon as they are mysterious and terrible to the public. And additional reasons for urging the importance of their study now may be found in the fact that, notwithstanding the great advance in sanitary science and the prolongation of the average length of human life—in spite of the shortening of the duration and the lowering of the mortality of some diseases, the prevention (almost the stamping out) of others—cancerous diseases, so far from being less prevalent or less fatal, are increasing among us. The increase in the number of deaths from cancer is now, and has been for many years past, greater than the proportional increase of population. Doubts have been expressed whether this increase is real or only apparent, and due to more complete and accurate registration of the causes of death. This is such an extremely important question, that I feel bound to ask for your attention for a few minutes while I lay before you some facts which may assist us in arriving at the truth.

The forty-seventh annual report of the Registrar-General of births, deaths, and marriages in England was presented to Parliament in 1886. It contains returns of the deaths in 1884, and we find that the mortality from cancer was higher in that than in any previous year. We also learn that in three successive periods of ten years from 1851 to 1880, and in the seven following years, to 1887, there has been a gradual increase of mortality from cancer, an increase common to both sexes, but considerably greater in males than in females. Up to the age of twenty-five, the cancer mortality is small in both sexes, but at all age-periods after the twenty-fifth year the mortality is much higher of females than of males, and in both sexes there is a rapid rise of cancer mortality at all ages after twenty-five years. I am very unwilling to trouble you with figures, and yet the story they tell of increased and increasing mortality from cancer in England and Wales is so full of interest, that I feel bound to ask you to glance at the tables before you, which I have prepared partly from published reports, and partly from information kindly supplied to me officially.

The first statement I wish to place before you is the fact that the number of deaths from cancer in England increased from 7,245 in 1861 to 17,113 in 1887. We know that the population increased largely during the same period: but, making the necessary correction for increase of population, and estimating the proportion of deaths from cancer to one million persons living, we arrive at remarkable results. This table shows the number of deaths from cancer in England to one million persons living in the last twenty-seven years, and I am able, through the kindness of Dr. Grimshaw, to compare the Irish and English returns for the last eleven years.

Year.	England.	Year.	England.
1861	360	1867	392
1862	361	1868	402
1863	361	1869	417
1864	386	1870	424
1865	372	1871	423
1866	385	1872	436
1873	444	1881	520
1874	461	1882	532
1875	—	1883	546
1876	—	1884	560
1877	350	1885	566
1878	360	1886	583
1879	340	1887	606
1880	34		

I think it hardly possible that this steady increase in twenty-six years from 360 to 606 deaths from cancer among each million persons in England and Wales during that period can be truly attributed to any great extent to better registration. You see that in some successive years the mortality is almost exactly the same; but, on the whole, the increase is much more steady and regular than any modification is likely to have been in the views or habits of those who certify and those who register the causes of death.

And if we arrange the figures in groups of years—three, five, and seven years—from 1858 to 1887, the same steady increase is even more manifest. Here is the annual death-rate from cancer to a million persons living from 1858 to 1887, with a comparison with Scotland for five of these periods:—

	England and Wales.	Scotland.
Three years (1858-60)	335	—
Five „ (1861-65)	368	404
Five „ (1866-70)	404	428
Five „ (1871-75)	446	468
Five „ (1876-80)	495	504
Five „ (1881-85)	545	540
Two „ (1886-87)	595	—

A glance at the first table shows that up to 1884 the mortality reached 560, and was 606 three years later. These are the returns for all ages. If we omit the earlier years of life, and examine the returns for those who have attained the age of 25 years and upwards, we are able to compare the period of thirty years before 1880 with the seven following years. Here is the comparison:—

	Both Sexes.	Males.	Females.
Thirty years (1851-80)	867	561	1144
Seven „ (1881-87)	1229	895	1533

Surely this great increase in recent years, both among males and females, suggests an urgent need both for inquiry and explanation. I should remind you, before passing on, that if the English population consisted of an equal number of males and females, the annual death-rate from cancer per million of persons of both sexes, aged upwards of 25 years, would be for the last seven years 1,214 instead of 1,229.

In order to compare England with Ireland I have examined the last report of Dr. Grimshaw, the Registrar-General for Ireland, and with his obliging assistance have prepared this table, which shows what the total deaths from cancer have been in Ireland in the eleven years 1877-1887 at all ages:—

Year.	Deaths in England and Wales.	Deaths in Ireland.
1877	12,061	1,873
1878	12,594	1,913
1879	12,722	1,782
1880	13,210	1,775
1881	13,542	1,909
1882	14,057	1,882
1883	14,614	1,995
1884	15,198	1,947
1885	15,560	1,925
1886	16,243	2,029
1887	17,113	2,067

On the whole, a smaller increase in eleven years than in England, and in some years a diminution. If we inquire how this is affected by the number of the population, we find that an increase of the number of cancer deaths from 1,873 to 2,067 corresponds with a diminution in population of nearly half a million.

If we calculate the death-rate from cancer, not in persons of all ages, but in those aged 25 years and upwards, we find that the deaths from cancer registered in Ireland during the seventeen years 1864-80 are equal to an average annual rate of 676 per million of the living above 25 years of age; while those registered during the seven years 1881-87 yielded an average rate of 873 per million. Pray observe—before 1880, 676 per million, and since 1880, 873—surely a remarkable increase, though not so great as in England.

The only years for which I have yet been able to compare Scot-

land with Ireland and England are 1883 and 1885, and the figures are:

Year.	England.	Scotland.	Ireland.
1883	546	550	400
1885	546	569	390

These figures represent the *proportionate* number of deaths from cancer to each million of living persons. If we ask for the *total* number of deaths from cancer, we find that in 1885 there were in Scotland 789 male and 1,384 female deaths—equal to 560 in each million living at all ages—slightly larger than in England, and much larger than in Ireland. In Scotland, with a population smaller by about one million than the Irish, there were some 200 more deaths from cancer. Dr. Cunynghame, in his Report to the Registrar-General for Scotland, remarks that the mortality is highest in Edinburgh and the large town districts, and the proportion varies very much: for while in Edinburgh 49 of every thousand specified deaths are from cancer, in Aberdeen there are 43; Perth, 35; Dundee, 28; Glasgow, in different districts, 21 to 19. Considering that there are large hospitals both in Glasgow and Edinburgh, the fact that deaths from cancer were in 1885 proportionately more than double in one than in the other is a matter for careful inquiry. By referring to the table of cancer mortality in groups of years from 1861 to 1885, a comparison may be made with the English returns for part of the time—the general result agreeing pretty closely with the Scotch—and both showing a considerable excess over Ireland.

In the United States the recent increase of mortality has been as great as in England. According to Dr. Fordyce Barker, whose reputation here is as deservedly high as among his own countrymen, the mortality from cancer in the city of New York has risen from 400 to the million in 1875, to 530 to the million in 1885. Discussing this increased frequency and mortality of cancerous diseases "in those nations which are the most advanced in civilisation," Dr. Barker says that in America these diseases are much less frequent in the coloured than in the white race. Hence the mortality is less in the Southern than in the Northern States. "It causes the greatest proportion of deaths where there is the greatest proportion of people of advanced age—that is to say, in the New England States. Hence, in any given locality, a large proportion of deaths from cancer indicates, to a certain extent, that the locality is a healthy and long settled one, and has a large proportion of inhabitants of advanced age." In this country it would appear that although the liability to death from cancer advances rapidly with age, as does the liability to death from other causes (in the words of our Registrar-General), "The characteristic feature of cancer mortality is not its increase with advance of years, for this it shares with other fatal affections, but its disproportionate increase in the middle periods of life."

The fact that these diseases destroy their victims during the most active and useful periods of life surely adds to the importance of studying their causes. When we learn more of their natural history, we shall know better how to avoid or prevent, perhaps to cure them—and we require more information, not only as to the geographical distribution of these diseases in general, as compared with the ages, sexes, and occupations of the populations of different areas, for a sufficient number of years; but it is of equal, perhaps of greater, importance to ascertain how they affect different organs according to locality, race, and habits. For example, cancer of the breast and of the womb may be more accurately recognised during life and after death than many other forms of cancer; and if increasing mortality of these seats of the disease were registered in any country or district, it could hardly be denied on the plea of erroneous diagnosis. I may mention a very remarkable fact which seems to prove that, in one city at least, deaths from these two forms of the disease are not increasing. The city of Frankfort-on-the-Maine is renowned for the completeness and accuracy of its statistics of population, and Hirsch says, in his valuable work on *Geographical and Historical Pathology* (translation for the New Sydenham Society, p. 508): "There has not only been no increase during the twenty-one years, 1863-83, in the frequency of those forms of cancer which can be most accurately diagnosed during life or after death, namely, mammary and uterine cancer, but indeed a considerable decrease when we allow for the fact that the population has almost doubled during that period." The British Medical Association addressed the Registrar-General last year, arguing that "the only means which offer a reasonable prospect of discovering how far the increase in the deaths from cancer is real or only apparent, lies in the tabulation, through a course of years of the cancers of each part of the body separately." In support of the application for such additional returns, the Association urged that they might lead to further knowledge of the causes of the disease, and said; "Your returns have already shown that the increase is greater among men than among women; you may further discover that men of certain trades and employments are more liable than others to the disease, that cancer of certain organs is increasing, while that of all other parts of the body remains stationary, with similar information of equal, or even greater, value" (British Medical Journal, November 12th, 1887).

The Registrar-General, in his reply, relied upon what he called "the great and regrettable lack of precision with which very many members of the medical profession state causes of death in their certificates," as one reason for not tabulating under any but "wide and general headings." Another plea, that he cannot entertain any proposal which would lead to the employment of additional clerks, is surely feeble. No government could refuse some slight addition to the Estimates for a really useful purpose. The opinion, as stated by Dr. Ogle, that some part of the increased mortality under the heading "Cancer," is due to "improved diagnosis and more precise statement of cause" may be quite true; but it is believed that more detailed statistical returns would assist us in determining whether these reasons account for little or for much of the increase, and for how much. I can hardly doubt that the required information for England and Wales will be obtained if the Registrar-General has sufficient funds placed at his disposal by the Government. Dr. Grimshaw, the Registrar-General for Ireland, has already begun to obtain and supply the needful information. In his report for the year 1887, he has published a table which shows the deaths from cancer registered during the year, by sexes and age-periods, arranged according to the part of the body affected by the disease, so far as that information was contained in the returns. In 406 cases, the organ or part of the body affected was not stated, and it is important to note that of the 1,661 cases where the required information was given, 507 (or nearly a third) were from cancer of the stomach, and as 29 cases are returned for the pylorus, the proportion is still larger. There were 203 (or about an eighth) from cancer of the breast, and 161 (about a tenth) from cancer of the uterus. Next in order follow the liver, tongue and lips, throat, intestines and rectum.

When we are able to compare such returns from Ireland with similar information from England, Wales, and Scotland, we may surely be assisted in our study of the causes and prevention of these diseases, and may be assisted by attention to the remarkable charts of Mr. Haviland, which show how very different is the geographical distribution of cancer and of phthisis in Great Britain.

It would be unjust to Dr. Ogle if I were not gratefully to acknowledge the value of much that he has already done, and accept it as a proof that more will follow. His observations on the varying mortality from cancer in the different counties of England, on the high cancer mortality in London and the surrounding counties, and in many of the counties on the eastern half of the kingdom, and his cautious examination of the truth of the widely-spread belief that "cancer mortality is lowest on the western side and highest on the eastern side of England," merits our hearty thanks. If the Registrar-General have power enough, and the expenditure of his department is not stinted, there is ample ground for hope that all required information will be obtained and given. But we must also do our own share of the work. Complaints, not altogether unfounded, are made that the profession does not supply the necessary data for accuracy of statement. It is said that not only country general practitioners, but men of high standing in London, and officials in our great hospitals, are very careless in the matter of filling up death-certificates, and yet are angry when they cannot find the precise detailed statistics they desire to obtain. All this is worthy of your careful consideration, and I cannot think I am wrong in the confident belief that hereafter members of our profession, in all parts of the country, as well as our associations and medical societies, will assist the Government by freely giving their careful attention to the accuracy of the returns they make as to the causes of death, and will assist willingly and to the best of their power in the attainment of an object of such national importance. Although some inquirers have not yet obtained all the statistical information they want, I do not think it can be denied that—in regard especially to cancer—there are no statistics in the whole range of medical literature which can be compared, for fulness or for accuracy, with those given in our Registrar-General's last annual report. Not

only are those returns founded on a far wider basis than any others, but they stand alone as the only statistics of cancer in which the necessary correction for age-distribution has been made—a correction without which all statistics as to the comparative frequency of cancer in the two sexes, or in different geographical areas, are comparatively valueless.

The time and attention you have given to these figures, and the inferences drawn from them, will not be lost if you are led by the belief that cancer and cancerous diseases are increasing to ask: Can the increase be checked; and what are our duties as surgeons in relation to these diseases in general, and to their surgical treatment when different organs or parts of the body are attacked by them?

Upon the general question of the nature and causes of these diseases, of their prevention or the means of checking their increase, I can only speak in the most hasty manner—partly because I could add very little to what Sir James Paget said last year and to the concluding sentence, Mr. President, of your own Bradshaw lecture in this place. You there said: "Before we shall ever be able to answer the question, Why or how do tumours form? we must be able to solve the problem of normal growth and development, and to answer the question, Why or how it is that these continue up to a certain point, and then suddenly cease?"

If I were to attempt to add to this, it would be necessary to review the progress of scientific pathology in our own time, and to criticise what is known, or believed, or taught in our schools, of the processes which lead to the formation of new growths, especially of those growths which are in their character infiltrating, spreading, invading, encroaching upon or supplanting surrounding structures, and which may secondarily affect distant parts of the body. The problem is how these growths take the place of normal tissues or structures, how their cellular elements appear in the interstices of normal textures, how the normal cells are altered or transformed, how the infecting cells are only misplaced and proliferating epithelium, not new elements, but imperfect or morbid epithelium which has acquired the power of infecting the neighbouring cells, or of impressing upon them an epithelial type



You see in this drawing "cancer-cells" arising interstitially from connective tissue-cells which had reassumed their embryonic plastic character. This is the teaching of Virchow, and though not easy to explain seems to be in accordance with what the microscope shows us. If we go a little further back and study the whole cycle of changes from the cellular rudiments of organs and tissues through their normal growth and development towards their natural decay or death, and bear in mind the liability of some of them to premature obsolescence, the occasional persistence of or return to embryonic form or powers, and the risk attending the survival in the body of rudimentary structures, we open a fruitful line of inquiry. These are problems which it would be hopeless to attempt to discuss in a single hour. And if we combine the study of this elemental or cellular pathology with that of the changes in the blood and blood-vessels and in the nervous system, modified or not by the influence of hereditary tendencies, and associated or not with the action of chemical or organic agents introduced from without, with the inoculation and multiplication of micro-organisms, and with the poisonous animal alkaloids or extractive compounds which they secrete and leave behind after their work has been done, we are only on the threshold of a new world, a boundless sphere for continuous research. I know of no path of original research where more advance is to be hoped for, and none where the assistance freely offered to earnest workers in the new laboratories of this College, which are the first-fruits of the bequest of Erasmus Wilson, is more likely to be rewarded by profitable discovery.

Although the hour is rapidly approaching its end, I must not pass over without remark recent discussions as to the supposed microbic origin of cancerous growths. Cases of acute cancerosis or miliary cancer, analogous to acute tuberculosis or miliary tubercle, have led to the search for a specific microbe or bacillus. Scheurlen believes he has found one, but nearly all those who have examined his statements have been led rather to negative than to confirm his conclusions. Senger, indeed, has almost proved that Scheurlen's cancer bacillus is nothing more than a potato bacillus—one which grows readily on slices of potato, and is often accidentally found there. So far as inoculation experiments, or grafting of portions of cancerous growths upon sound parts of the body, have hitherto gone, they are certainly against the microbic doctrine. We can only admit that any disease is caused by a microbe when the micro-organism has been isolated, has been cultivated outside the human body, and then, when the cultured organism has been introduced, it has led to an identical form of disease or growth. Unless these three things are done we have no positive proof that a disease is due to specific germs.

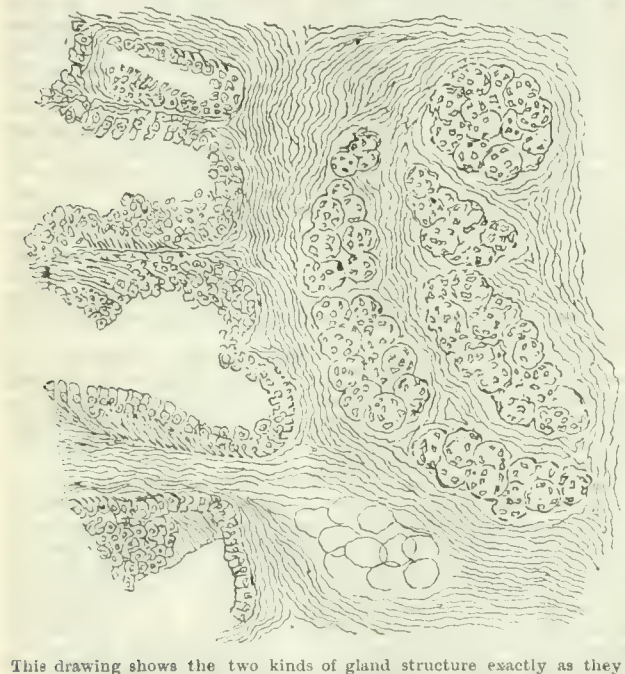
Knowing how keenly such questions as these are now discussed, I was anxious to know if the great leader of German pathologists has yet arrived at any definite conclusion regarding them. So I wrote to Professor Virchow, and he replied on October 25th last, sending me a paper published in his *Archives* on the "Diagnosis and Prognosis of Carcinoma," and adding: "Since I wrote that paper last December, the only progress in the knowledge of Scheurlen's bacillus was its detection growing on potato sections without cancerous origin." Professor Virchow also refers me especially to a part of his paper which expresses his present belief that "the most scrutinising investigations have not yet arrived at a convincing demonstration." But, with equal caution, he adds that the possibility of the existence of such a micro-organism cannot simply be denied; and that the discovery of a specific bacillus would be of the greatest importance in the diagnosis and prognosis of carcinoma—because, he says: "The attempt to explain all the stages of cancer proliferation with dissemination and metastasis by the dispersion of cancer cells is by no means so certainly supported by anatomical or experimental proof as to exclude any other mode of explanation. Nor, on the other hand, is the need for a cancer bacillus so great that without it we are deprived of the possibility of understanding the process. Animal or human cells, quite as well as bacteria, have the power of influencing metamorphosis, and of producing effective secreted matters of the most various kinds. Why, then, should such an influence be denied to cancer-cells, which in many, and especially in the worst, cases are in such a marked degree endowed with the character of gland-cells?"

The time at my disposal is so very short that I must at once pass on to the consideration of our duty as surgeons in treating sufferers from cancerous diseases, and I propose to ask you to reflect at your leisure upon certain questions about which the mind of the profession is still not definitely settled, rather than to accept any conclusions of mine.

The first of these questions is whether a cancerous growth alone, or the whole of the part or organ which it has invaded, should be removed; and I think the time has come to agree upon some general rule or principle of treatment. With regard to cancer of the breast, two very opposite opinions are held by men of high position as hospital surgeons. Mr. Nunn, after very large experience at the Middlesex Hospital, in his admirable treatise on *Cancer of the Breast*, says (p. 32), "When an operation has been decided upon, the removal of the entire mammary gland must be complete—any partial removal is not only useless but worse than useless; the occurrence of the slightest speck of cancer in a gland declares that the whole organ is more or less ready for special degeneration." Mr. Butlin, whose experience at St. Bartholomew's is also very large, and whose work on the operative surgery of malignant disease is rich in facts carefully tested and in conclusions drawn with remarkable judgment and freedom from prejudice, takes a very different position to that of Mr. Nunn. He says that in many cases the tumours are "at first of small size, limited to a part of the breast, often situated towards the margin of the gland" (p. 381), and he adds, "Just as good reason could, I am sure, be given for the removal of both breasts in every case of cancer of one of them as for the removal of the entire mammary gland in every instance." Time prevents me from entering further upon this important practical question than to say that my own practice, and what I have actually seen of the practice of others during the past thirty years, would lead me to remove the entire

breast in every case of cancer, except where the growths are small and close to the margin of the gland, or only affect outlying portions of the gland. And when such growths are found, not in the gland but in the axilla, I should strongly oppose removal of the breast, because I think such tumours may be neither of the breast itself nor of the axillary lymphatic glands, but of a certain class of sweat-glands which have been the subject of a paper by Dr. Creighton. I believe it is only necessary to direct more attention to this inquiry to lead to the recognition of a new and a large class of tumours of the axillary and pectoral regions.

The tumours to which I allude are found at the outer border of one or both breasts, and the surgeon is doubtful whether the breast itself is or is not involved in the new growth. When the growth is between the outer border of the mammary gland and the corresponding axilla, the fear is felt that the axillary glands are involved in the breast disease; and opinions are given that both the axillary tumours and the breast should be removed. Such a case came before me scarcely a month ago. On the 25th of last month, a married lady, who had never been pregnant, aged 46, came to me from Wales, having had a strong opinion that her right breast should be removed without delay. I found both breasts larger and harder than usual, both nipples unusually large and prominent, but the only distinct tumour to be felt was between the upper and outer border of the right mamma and the axilla. Extending from this border, below and behind the pectoral muscle, was a round, movable, tender tumour about three inches in lateral and two in vertical measurement. It was in close connection with the mammary gland, but I thought I could separate one from the other. The patient felt sure that a blow



This drawing shows the two kinds of gland structure exactly as they are seen in one of Dr. Creighton's preparations. To the right is seen a portion of a mammary lobule in a resting state; and, on the left, an aberrant deposit of the so-called sweat-glands, with muscular basement membrane.

from a tennis ball two years ago had been the cause of the swelling. I advised that neither of the breasts should be removed, but that the tumour or tumours, whatever they might be, should be removed without delay. Meeting Dr. Creighton later on the same day, I mentioned the case to him, and he at once suggested that the tumour might be neither of the breast nor of the axillary lymphatic glands, but of certain sweat-glands below the skin of the axilla which he had referred to in connection with tumours in a paper which was read at the Royal Medical and Chirurgical Society, six years ago, and may be found in the sixty-fifth volume of the *Transactions* of the Society. In that paper he shows that the special layer of glandular substance more or less developed in the human axilla corresponds to a conglobate form of gland not previously described, in one of the lowest mammalians, with an investment of unstriped muscular fibres in parallel order around each crypt, so as to constitute a basement membrane upon which the epithelial cells are seated. These sweat-glands differ in important respects from the ordinary skin-glands of man. They are not usually in the substance of the skin, but adhere to its under surface, lying between the skin and the axillary fascia, and sometimes extending to the lateral and anterior regions of the chest. They are variously developed in different individuals, and must be regarded as a sort of survival or rudimentary organ, and subject to all the risks of such survivals or rudiments. Dr. Creighton says: "I have, in one instance, found perfect examples of them in intimate association with the breast structure."

I show you here the tumour which I removed entire on October 30th, as well as the fragments of the other somewhat smaller tumour, and the tissue I removed in dissecting away the investing membrane after the interior had been cleared out. Dr. Creighton was present, and made a careful examination on the same day of all that I removed. The smaller or pectoral tumour was so closely connected with the breast, that I removed with it a small piece of the outer border of the gland, enough to show that the breast itself was quite healthy. In order to be sure of removing the whole of the tumours, I removed some of the surrounding fat also, and Dr. Creighton reported to me that he found embedded in the fat round reddish bodies about the size of a large pin-head. "One of these, easily extracted from the surrounding fat, proved to be a coil or cluster of the tubular axillary glands of perfectly normal structure, in which the characteristic palisade-like basement membrane of unstriped muscular fibres, the mosaic of polyhedric epithelium resting on the latter, and the conglobate windings and crypt-like recesses of the tubule were easily seen in a preparation of the fresh tissue. The capsule of the smaller and more friable new growth adhered along the axillary side of the piece of fat, the normal reddish cluster of glands lying in the fat about an eighth of an inch deeper. The capsule was everywhere infiltrated with blood; its inner surface was not uniform, but subdivided into a number of round areas or recesses of unequal size, one or two of which were specially marked by their black pigmentation. The examination of that capsular tissue, and of the friable tumour tissue which was removed from it by the finger during the operation, discovered satisfactory evidence of the same glandular structure as in the small reddish body embedded in the adjoining fat—namely, unstriped muscular fibres, spherical or polyhedric epithelium, with or without brown or black pigment, and, in sections, traces of the tubular glands themselves."

"The larger mass of tumour was situated deeper in the axilla, and was unconnected with the portion nearest to the breast, except by loose tissue. It was extracted by the fingers entire, an encapsuled lobulated oval body, about two and a half inches in its long axis, and an inch and a quarter across at its thicker end. The surface was everywhere dark red, giving it some resemblance to a small kidney. In its lobulation it looked like a packet of lymphatic glands. On section it proved to be a whitish medullary substance with a few small areas of pigmentation, and with a general foliaceous or lobulated arrangement of the stroma. In microscopic preparations of the fresh tissue, unmistakable examples of unstriped muscular fibres were found, as well as the same polyhedric and spherical epithelium, with and without pigment, as in the more friable tumour nearer to the breast. In sections the epithelial cells were found collected in alveolar heaps, generally of great extent. The dark colour of the capsule was from infiltration of blood."

The general structure of these tumours of the irregularly-scattered sweat-glands, including their hæmorrhagic capsule, appears to be the same that has been described for the puzzling class of cases known as "alveolar sarcoma of the breast," or "duct-cancer of the breast." It is noteworthy that these cases have sometimes been found to start from the areola around the nipple, a region which is known to be provided with the same kind of tubular glands as are found in the axilla. When such growths ulcerate, they resemble rodent ulcer. The so-called eczema of the nipple which has been observed in such cases would appear to be connected with the orifices of the gland, and, in its simpler forms, to be little more than the brownish secretion of the glands dried upon the skin. It seems probable that this case and Dr. Creighton's observations upon it, will be the beginning of a new classification, or of the separation of such cases from the class of mammary tumours, and their reference to the irregular deposits of sweat-glands of the axilla, and to the glands of the areola.

I may add that a tube draining away from the axilla was kept in for three days, and after its removal, union of the incision, about four inches long, was complete when the sutures were removed. The patient returned to Wales a few days after operation. I have arranged for a report as to any recurrence hereafter, but venture upon a favourable prognosis.

(To be continued.)

THE RESULT PRODUCED UPON THE MUSCLES, BONES, AND LIGAMENTS BY THE HABITUAL EXERCISE OF EXCESSIVE STRAIN.[1]

By W. ARBUTHNOT LANE, M.S.,

Assistant-Surgeon to Guy's Hospital, and to the Hospital for Sick Children, Great Ormond Street.

We may, I think, consider that the normal anatomy of the human skeleton has been developed to perform two distinct sets of functions, namely, to transmit weight and to sustain strain in the varying attitudes of the individual; or, in other words, that the form of the skeleton has been evolved in consequence of the habitual mechanical relationships which have existed and do exist between the organism and its surroundings. Since this relationship has not been constant in the same portion of the globe at different periods of time, nor is it constant in different portions of the globe at the same period of time, we get a considerable variation in what may be regarded as the typical anatomy of each of the several races which are scattered over the earth's surface.

Again, the reproductive function of the female entails the presence of a bulky mass which occupies her abdomen, and encroaches considerably upon the thoracic cavity for periods of several months at a time, and which causes her mechanical relationship to her surroundings to differ from that of the male, the fœtus in her abdomen being also regarded as an external relationship rather than as a portion of the mother. The form and size of the fœtal head, varying as it does in the same race as well as in the several races of man, may be considered as constituting a very varied and important mechanical relationship of the individual to its surroundings during the passage of the fœtal head through the true pelvis. Therefore, we find that very considerable differences exist between the male and female types in the same race, and also between the female types of the same race and of different races.

The first attempt to throw light upon this important question of the causation of the many racial differences in type was made, I believe, by Sir William Turner.[2] He has endeavoured to elucidate some of the mechanical factors which affect the anatomy of each race, or, in other words, to determine the peculiar relationship of the individuals of each race to its surroundings. The researches that I have made into the very remarkable and considerable alterations in character which the normal anatomy of our race undergoes when the mechanical relationship of the individual to its surroundings is altered from the normal in a definite and measurable manner, would lead me not only to support Professor Turner's views very strongly, but also to carry the same line of argument much further.

I think that much error has arisen and that little progress has been made because many observers have too often been satisfied to try to arrive at general laws from the aggregation of a large number of so-called indices, etc., instead of pursuing the more scientific course of attempting to define the factors that determine the presence of the so-called normal condition of the skeleton from a careful study of the variations in form which exist in the individuals of the same race, as well as between the individuals of different races.

I have been able to explain on the simplest mechanical principles a great number of the deviations from the normal type which are found in our own race, and, from a consideration of such, I think that we are perfectly at liberty to assume that the anatomical differences which exist in the various races of man are explicable as regards their causation upon the same basis. I believe that it is by working in this direction that progress is to be made, and that it is by a careful study of the factors that determine every deviation from the normal type presented by the subject which bears an abnormal relationship to its surroundings, that we will be in a position to ascertain the mode of development of every detail in the anatomy of the organism which bears to its surroundings what we may regard as a normal relationship; or, in other words, a non-specialised relationship, and to verify absolutely the problem of evolution.

Fortunately, in the present condition of society, we have an almost innumerable number of experiments upon the normal subject made for us, and, from a study of these, we ought to be able to obtain a vast amount of information, and to make generalisations of great importance. The natural experiments to which I refer are the changes in the anatomy of the individual which are produced by the pursuit of some laborious occupation. There are very many trades in which the labourer is engaged habitually in performing a definite series or sequence of movements, each event of the sequence leaving a permanent and unmistakable impress upon the anatomy of the organism, the bones being altered in form very materially, the muscles in structure, and the articulations in their character and anatomical details. I allude to such workmen as ships-trimmers, coalheavers, shoemakers, porters of various kinds, milkmen, washerwomen, etc.

I do not think that anything can be more full of interest, or possibly more productive of good results, than the careful study of these changes. In discussing the variations presented by the skeleton, we are but too ready to shelve their causation if it is not at once obvious, and to fancy that we are explaining the mode of their production satisfactorily by asserting that they are retrocessions to lower types, examples of deficient or abnormal development, or the product of some disease.

While writing this, I have before me a very interesting paper[3] on Variations of the Human Shoulder Girdle, by Professor Thomas Dwight, whose work is familiar to all of us. In that paper he has collected the varying indices of the scapula in many races of man and quadrumana. In discussing the lower angle of the scapula, he states that its form depends in part, though not wholly, upon the development of the surface to which the teres major is attached. He goes on to mention the usual slight projection from the axillary margin of this bone, which is occasionally very largely developed. He says that this process bears no direct ratio to the size of the teres major, and that the third trochanter on the femur is an analogous case, the occurrence of which, in his opinion, is quite uninfluenced by muscular development; also, that its existence in man is probably, as in the case of the third trochanter, the appearance of a peculiarity of a lower form. This quotation from Professor Dwight's paper brings me to the subject of mine, namely, the Result Produced by the Habitual Exercise of Considerable Strain upon Bones, Muscles, and Ligaments. In reference to the two conditions to which he calls attention, namely, the projection from the axillary border of the scapula and the third trochanter, my experience would lead me to conclude that the explanation which he gives of their presence is false, and that instead they have been developed as the result of excessive strain sustained habitually by the lower portion of the subscapularis, and by the psoas muscles respectively, bone extending along the tendinous attachments of these muscles, and in the direction in which traction is habitually exerted. I have never yet examined throughout the body which presented these or similar prominences in the attachments of muscles and ligaments without being able to satisfy myself completely that they are dependent for their presence upon the habitual transmission of excessive strain through these structures.

I need hardly remind you that in the normal subject, with advancing age, the abductor and extensor muscles cease to exert their functions fully before the flexors and adductors, and that, in consequence, the processes of bone upon which the former exerted strain during active adult life, and which were dependent upon the exercise of that habitual strain for their existence and continuance as prominences, disappear when that strain is no longer exerted. I would instance the atrophy of the tuberosities of the humerus, which takes place in feeble old age in association with the ascent of the head of the humerus[4] from its normal position in relation to the glenoid cavity.

Before proceeding further, I would point out that the process

[1] Read in the Section of Anatomy and Physiology at the Annual Meeting of the British Medical Association held at Glasgow, August, 1888.

[2] Report on the Human Crania and other Bones of the Skeleton Collected during the Voyage of H.M.S. *Challenger*, and other papers in the *Journal of Anatomy and Physiology*.

[3] *American Naturalist*, July, 1887.

[4] The Causation and Pathology of the so-called Disease Rheumatoid Arthritis and of Senile Changes. *Trans. Path. Soc., Guy's Hospital Reports*, etc.

of bone on the outer margin of scapula is produced by ossification extending along, and in the direction of traction exerted upon, the lowest intramuscular tendon of the subscapularis muscle, and that though the teres major arises by fleshy fibres from the surface of bone adjacent to the prolongation of the outer border, yet that muscle must obviously exert but a very slight influence upon its development. We must remember, at the same time, that the teres major is associated in its action with the lower portion of the subscapularis, and that, in consequence, the factors which determine the ossification of the lowest intra-muscular septum of the subscapularis muscle produce a similar ossification in the aponeurosis of the teres major, where it is attached to the inner limit of the flat surface of the scapula, from which its muscular fibres arise directly.

Here are the shoulder-girdles of a shoemaker, a sailor, and a porter, who carried moderately heavy loads upon his shoulder. The last example is not nearly as perfect as many I have examined, for the reason that the loads carried were not excessively heavy; it is, however, the best I can lay my hand upon at the present moment. They were all obtained from labourers who had been engaged during long lifetimes in the pursuit of very laborious occupations; and as they all died at a very mature old age, their skeletons presented varying degrees of degenerative changes.

A very superficial examination of these bones is sufficient to show that they differ among themselves in many particulars, as well as from the same bones in a subject which has never performed any heavy work. The scapula varies in its general form and size with the height of the individual, with the breadth of the chest and with the length of the clavicle. The details of its form vary in different subjects with the occupation, habits, or pursuit of the individual or his antecedents. Observe, for instance, the considerable breadth of the free outer margin of the acromion process in these three labourers, and notice that this abnormal breadth is most marked in the case of the shoemaker. This is produced by the great strain which is habitually maintained by the back part of the deltoid in these several occupations, and this is greatest in its constancy in the shoemaker, who is engaged in the heavy work of pulling waxed threads through holes in thick leather, for possibly twelve or fourteen hours a day, as in this subject. Therefore, we find that in the shoemaker the attachment to the scapula of the back parts of the centre of this muscle is extremely tendinous, and that the margin of the acromion is extended backwards, in order to afford a suitable purchase for its action, especially at the commencement of the sudden traction effort at which period the greatest strain is sustained.

For the same reason the humerus presents a very remarkable prominence in the seat of insertion of the deltoid, and particularly of the posterior tendinous attachment of that muscle. We must at once recognise the fact that the prominence of surfaces or of ridges in the attachments of muscles affords very little indication of the bulk of the muscle, or, in other words, of the muscularity of the individual, but that it varies directly as the amount of strain sustained habitually by the muscle, as does also the amount of tendinous tissue in its substance. A very little experience in the dissection of labourers and others will enable one to verify this statement.

I would call attention to the remarkable variations presented by the axillary borders of these three bones, as they demonstrate very clearly the factors which determine the extent of development of the projection referred to previously upon their outer margins.

The lowest of the tendinous intersections of the subscapularis is attached to the margin of bone which limits externally the lower portion of the surface to which the teres major is attached, and to the anterior of the two margins which are present on the rest of the outer or axillary border of the scapula. The smooth bone intervening between these margins or ridges attaches the fleshy fibres of the subscapularis, while the posterior of the two margins receives the attachment of the strong aponeurosis covering the teres minor and infra-spinatus muscles. This aponeurosis is attached lower down to the upper and inner margin of the smooth surface from which the teres major arises, and that muscle itself derives an extensive origin from this aponeurosis. In the shoemaker the lowest portion of the subscapularis sustains comparatively slight strain during the performance of the act of sewing, therefore we find that the anterior of the two ridges upon the axillary margin is but slightly developed, and lies internal to the posterior one in the whole of its length. For the same reason the tubercle on the lower portion of the axillary margin is very small and insignificant.

In the sailor, who is constantly engaged in climbing, pulling on ropes, or turning a heavy wheel, very considerable strain is thrown upon the outermost tendon of the subscapularis, and also upon the teres major; therefore we find that the anterior of the two ridges on the axillary border of the scapula is remarkably prominent, that its lower portion projects outwards beyond the posterior ridge, and that the tubercle, which is situated at its lowest limit, forms a very sharp projecting rough angle. Owing to the projection of the anterior edge externally beyond the posterior, the lower part of the groove between the two ridges looks directly backwards, so that a portion of the subscapularis arises from what is, in this subject, the dorsal aspect of the scapula. The surface attaching the fleshy fibres of the teres major is increased in area somewhat, and the ridge to which the aponeurotic origin of this muscle is attached is remarkably sharp and prominent.

The specimens afford many other instances of the result of excessive strain exerted habitually upon certain muscles, but since the time at my disposal is short, I will not delay to consider them at present. I will now pass on to a more conspicuous condition, which occurs not very uncommonly in the lower limb. It is an outgrowth from the tibia and fibula into the intramuscular tendons of the soleus. A considerable amount of prominent roughness in these bones in the attachment of these aponeurotic structures is seen not uncommonly in the bodies of such as have been engaged in laborious pursuits, in which the soleus is subjected habitually to very great strain. Still better examples of this condition can be observed in the bodies of those in whom the soleus has been exposed habitually to excessive strain by some interference with the normal mode of transmission of superjacent weight through the lower extremity either by injury or disease. I have examined several of the latter, two of which were very marked. One I found in a man, whose right hip-joint had become ankylosed by bone in early life from disease at a right angle to the trunk, and the other in a man whose tibia and fibula had been fractured low down, the foot and lower fragments having been rotated outwards. The former subject had evidently done a good deal of light carrying work during his lifetime, while the loads carried habitually by the latter were very great, and were borne upon the back.

In either case there projected from the fibular attachment of the outer intra-muscular rupture of the soleus a prominent mass of bone which was directed obliquely downwards and backwards for about an inch. In the case of the heavy labourer this process was shorter and of denser structure than in the subject with the ankylosed hip. There was also upon the oblique line of the tibia a shelf of bone about a third of an inch long. It ran in the direction of and attached by its surfaces and free margin the internal intra-muscular tendon of the soleus.

In both instances it was quite obvious that the mechanical conditions brought about by disease in one case, and by injury in the other, exposed the soleus habitually not only to the transmission of the normal superjacent weight of the trunk under unfavourable conditions, but also the added weight of the loads carried. Therefore the soleus was in the habit of sustaining an amount of strain which was greatly in excess of what is normal, or in other words, of that which evolved the condition of anatomy which the vast majority of human beings possess.

In a similar manner, when a constant and considerable strain in one direction is thrown upon a ligament, its fibrous structure shows a marked tendency to become converted into bone. This conversion takes place in one or both of two ways, namely, by the development of a separate piece of bone in its substance, which may subsequently articulate or fuse with the adjacent bone or bones, or by the growth of bone into the substance of the ligament from the bony surfaces to which it is attached. These processes of bone in some cases fuse with one another, or in others with the separate developments in the ligament. Both these processes are well exhibited in the labour changes that ensue in the supra-spinous and inter-spinous ligaments and in the ligamentum nuchæ, etc., of the coalheaver or other heavy porter who carries in a similar manner, and though these tension changes are not characterised by the same amount of bone formation and ankylosis as are those resulting from the direct transmission of pressure, and though the causation of the former is less obvious than that of the latter, they follow on the same very definite lines, forming, like them, an evolutionary process, which is up to a cer-

tain point advantageous to the individual in performing his particular form of labour.

When the normal mechanical condition of the body is altered, the transmission of the body weight alone may be sufficient to produce ossification of the ligaments, which sustain an abnormal amount of weight habitually. For instance, in more than one well-marked example of dorsal excurvation acquired early in life, I have found a good-sized piece of bone in the hypertrophied ligamentum nuchæ, as well as considerable prominence of the bony attachment of that ligament to the occiput.

THE POSITION OF THE MAMMALIAN LIMB, REGARDED IN THE LIGHT OF ITS INNERVATION AND DEVELOPMENT.[1]

By A. MELVILLE PATERSON, M.D.
Professor of Anatomy, University College, Dundee.

Introduction.—In its earliest condition the mammalian limb shows no signs of segmentation. The bones and joints, muscles, and vessels, are developed from mesoblast formed *in situ*, and are primarily distinct and separate from the segmented trunk. The nerves alone are segmental, and they moreover precede, in order of time, the development of muscle and skeleton. From a consideration of the nerves, we can form an estimate of the position of the limb and its relation to the trunk. The nerves in a sense represent segments. The limbs are outgrowths corresponding to the ventral and lateral portions of the cylindrical trunk, as seen by their innervation,—from the whole of the inferior primary divisions concerned, and not the lateral branches alone.

Position of the Fore Limb.—In mammals, the fore limb has a fairly constant position, and the exceptions are nearly all alike. The proximal end of its postaxial border corresponds to the first thoracic segment, and is innervated by the first thoracic nerve in nineteen out of twenty-five cases. In six cases the second thoracic segment is implicated. The latter cases point to a tendency on the part of the limb to shift backwards. The preaxial border varies in different cases, extending forwards more or less towards the head. This view is supported by abnormal cases in man, by cases like the manatee, with an abnormal number of cervical vertebræ, and by the condition of things met with in birds. In birds, Fürbringer shows there is a tendency towards a shifting of the fore limb in a caudal direction.

Position of the Hind Limb.—The position of the hind limb varies more in relation to the axial skeleton than that of the fore limb. The postaxial border, reckoned by the position of the last nerve entering the great sciatic nerve (*n. bigeminus* of Ihring), corresponds to one of four segments—second sacral, first sacral, last lumbar, or third sacral. In only two cases was the third sacral segment found—man and the ass. The adult position of the limb does not always correspond with the developmental position; for example, in the porcupine the last nerve to enter the sacral plexus is the last lumbar. In most cases the limb remains in direct connection with the segments with which it is developmentally connected. In these cases in which the limb girdle is articulated with segments behind those with which it is developmentally associated, the inference is that the limb has shifted backwards in process of development. In those cases in which, as in the ass, the number of sacral nerves entering the sacral plexus exceeds the number of "true" sacral vertebræ, the inference is that the limb has shifted forwards, so as to become attached to segments placed anteriorly. This view is supported by: 1. Cases of increase or diminution in the number of thoracico-lumbar vertebræ. 2. By the condition of things met with in reptiles, and birds (in which Gadow shows distinctly the tendency of the limb to shift backwards), and 3. By the cases met with of congenital scoliosis, in man and animals.

Conclusions.—1. That the segmental spinal nerves which enter and supply the limbs afford the most trustworthy guide to an estimation of the position of the limbs. 2. That from the evidence afforded by the nerves the position of the limbs is not constant. 3. That the position of the mammalian fore limb varies very slightly, but that it shows a tendency to shift backwards towards the hinder end of the body, from the point where it is developed. This conclusion is supported by Fürbringer's researches in birds. 4. That in mammals with an abnormal number of cervical vertebræ, the irregularity is to be explained, not by the omission or interpolation of vertebræ, but by a shifting of the limb, and a correlated difference in the development of associated parts. In the manatee, for example, the presence of six cervical vertebræ is explained by the condition of the brachial plexus, which shows that either the fore limb is developed in this case further forwards in the neck; or it represents an archaic condition. 5. That the position of the hind limb is less constant than that of the fore limb. It may remain opposite the segments with which it is embryonically connected: but in mammals it displays in most cases a tendency to move backwards, like the fore limb. This conclusion is strengthened by the work of Gegenbaur, Gadow, and Mivart, in birds and reptiles. 6. That in consequence of this process of shifting, other correlated and concomitant changes occur in associated parts. The "sacral" vertebræ, therefore, do not necessarily, from a developmental point of view, correspond to segments concerned in the origin and growth of the limb. They are merely those bones with which the ossa innominata are articulated, and may not be strictly homologous with the corresponding bones in another individual or species. They simply serve a similar purpose in supporting the limb girdle. 7. That in certain exceptional cases, as in man, there is a tendency for the limb girdle to shift forwards in relation to the axial skeleton, along with a concomitant shortening of the vertebral column.

[1] Read in the Section of Anatomy and Physiology, at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

ON CONGENITAL DIAPHRAGMATIC HERNIA.[1]

BY A. MELVILLE PATERSON, M.D.,
Professor of Anatomy, University College, Dundee.

Introduction.—Cases of diaphragmatic hernia, arising from whatever cause, are rare enough to make them objects of interest to both the anatomist and the surgeon. They are so seldom met with in practice, indeed, that our standard works on surgery either dismiss them with scant notice, or omit all mention of them. The best systematic account of the condition which I have been able to meet with is that by André Boursier.[2]

The forms of diaphragmatic hernia are three—traumatic, acquired (or spontaneous), and congenital. The traumatic variety, caused by wounds or lacerations, is generally fatal, either immediately from strangulation, or subsequently from inflammation of one of the serous membranes. The acquired or spontaneous form is due to the same causes as give rise to other ruptures, and may produce no symptoms, as it very frequently interferes in no way with the vital functions. The congenital form is without doubt the most interesting to the anatomist, chiefly on account of the light it throws on the mode of development of the diaphragm—a subject which, in spite of our recent advances in embryology, yet presents much difficulty.

These ruptures may be classified in diverse ways, according to the amount of interference with the vital functions to which they give rise; according to their position; or according to the mode in which the opening of the hernial sac is formed. Adopting the last-named classification, we find there are three principal varieties met with:

1. Due to defective formation of the diaphragm.
2. Occurring through one of the natural openings.
3. Due to distension of the fibres of the diaphragm.

1. *Defective formation of the Diaphragm.*—*a.* Total absence of the diaphragm is extremely rare. Cases are recorded by Meckel,[3] Bowditch,[4] Duguet,[5] and Diemerbroeck.[6] The last case must be regarded with suspicion, as it is stated to have occurred in a boy, aged 7. *b.* Partial absence of the diaphragm is the most frequent cause of congenital hernia. The rupture is generally placed laterally, and is on one side only. A few cases are recorded in which it occurred on both sides (Bowditch,[7] Willigh,[8] etc.) Duguet[9] denies that a congenital hernia can be placed mesially; one case, at least,[10] points rather towards the fact that this asser-

[1] Read in the Section of Anatomy and Physiology, at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

[2] *Dict. Encyclop. des Sci. Méd.*, Tome xxix, Art. Diaphragme.

[3] Meckel, *Anat.*, vol. iv.

[4] Treatise on Diaphragm. Hernia, *Charleston Med. Journ. and Review*, May, 1850.

[5] *De la Hernie Diaphragm. Congénitale*, Paris, 1886.

[6] Diemerbroeck, quoted by Boursier, *loc. cit.*

[7] *Loc. cit.*

[8] Willigh, *Journal Trimestriel de Prague*, 1856.

[9] *Loc. cit.*

[10] Bednar, Vienna, 1852.

tion is too absolute, although post-xiphoid herniæ are generally acquired. It is remarked by all writers on the subject (Richter,[11] Cooper,[12] Lawrence,[13] Bowditch,[14] Lacher,[15] Boursier,[16] etc.), that the left side of the diaphragm is most frequently affected.

The opening of the hernia is generally due to a deficiency in the formation of the diaphragm. In rare cases one-half of the diaphragm is entirely wanting. More frequently the muscle is left in a rudimentary condition as a crescentic fold attached to the ribs, and contracting the size of the opening. Sometimes one crus is wanting, or one or more costal attachments (in order of frequency from last to first). Duguet states that the most frequent seat of hernia is on one side of the vertebral column. The opening of the hernia in such cases is bounded laterally by the attachment of the diaphragm to the first lumbar vertebra and last rib, anteriorly by the muscle itself, and posteriorly by the parietes. In these cases there is no deficiency, properly speaking, in the diaphragm itself. In most other cases the opening is in the substance of the diaphragm, either in the central tendon or in the muscle behind it, either by deficiency or separation of the fibres of the septum. The last variety is not of necessity congenital.

2. *Hernia through the Natural Openings.*—This form of hernia is extremely rare. It generally occurs in the middle line. Three cases are quoted by Boursier of hernia through the œsophageal opening, and two (doubtful) cases in which the hernia took the course of the great splanchnic nerve.

3. *Hernia by Distension of the Diaphragm.*—These cases are very exceptional. Two cases are recorded[17] in which the diaphragm was distended in the left side, and formed a kind of pouch, in which the abdominal viscera were contained. It is not strictly a hernia, and may not be congenital.

The hernial sac is absent as such in most congenital herniæ. When present, that is, when pleura and peritoneum are intact, the two membranes are found closely adherent to one another.

The viscera naturally tend to pass up into the thorax. All the contents of the abdominal cavity have been found in different cases lodged within the thorax. In order of frequency the viscera contained are: stomach, small intestine, spleen, colon, liver, pancreas, great omentum, cæcum, and duodenum. In exceptional cases the urinary organs and even the rectum are present.

The alterations in the thorax vary with the size and extent of the hernia. The base of the cavity is generally enlarged, the pit of the stomach is a deep depression, the abdomen is flattened, and the costal cartilages depressed. The condition of the lungs depends on whether the infant has breathed or not. If it has not lived, the lungs present fœtal characters, and are squeezed up into the back and top part of the thoracic cavity. The heart and pericardium are displaced towards the opposite side.

Description of the Present Case.

1. *Clinical History.*—I am indebted to my friend Dr. Alexander Wilson for the following notes regarding the clinical history of this case:—

"The child was born at the full time, and labour was normal. After expulsion the body was bluish; the child did not breathe or cry, but the heart beat strongly, and with a heavy impulse on the right side of the chest. The cord pulsated strongly, and in compressing it the child made a few gasps, and then lay pale and quiet. Tying of the cord was delayed for some ten minutes, until the placenta was expelled. In the meantime efforts were made to excite respiration, but without success. By slapping the chest, etc., the only effect produced was a gasping and contortion of the face, along with a heaving movement of the chest as in inspiration, and some depression of the epigastrium. No air seemed to enter the lungs. After expulsion of the placenta, artificial respiration, passage of a catheter into the trachea, and faradisation of the phrenic nerves were all tried, but with no effect. The heart continued to beat vigorously for half an hour, and after that more and more feebly for another twenty minutes. For some minutes after it had apparently stopped beating it could be called into action by compression of the chest."

2. *Post-mortem Examination.*—The child was a male, fat, well-developed, and large. It presented no external lesion or abnormality to indicate the cause of death. The chest was well formed and prominent. The abdomen was flattened, and a well-marked depression existed below the xiphoid cartilage. On opening the thorax in the usual way the greater part of the cavity was seen filled with abdominal viscera. The small intestine, colon, and great intestine were found in front; the stomach, liver, and spleen behind. On turning these viscera aside it was noted that the left half of the diaphragm was entirely wanting, and that the left pleural sac was in consequence continuous with the abdominal cavity. The only other structure present in the space was the left lung, which was in a fœtal condition, solid, and attached by its stalk to the upper and back part of the chest cavity. The hernial opening was formed by the space usually occupied by the left half of the diaphragm. It was bounded on the left side by the ribs, over which a continuous membrane passed on to the deep surface of the abdominal muscles. It was bounded on the right by a strap-like band of muscle, stretching between the vertebral column behind and the sternum in front. This muscular slip represented both sternal and vertebral portions of the left half of the diaphragm. Round its left border the mediastinal pleura was continuous with the peritoneum on the under surface of the diaphragm. The pericardium was separated from the hernial cavity by the mediastinal pleura, and between the two membranes lay the left phrenic nerve, which took its usual course, and supplied the above-mentioned slip on the left side. The nerve was apparently as large as the right one. The right half of the diaphragm was developed in quite a normal manner, and consisted of muscular fibres peripherally, with a more or less circular tendon in the centre. In it lay the vena-caval opening in its usual position. Stretching between the xiphoid cartilage and vertebral column were two muscular bands (one of which has already been mentioned), representing the sternal and vertebral portions of the muscle. No tendon separated them, but between the two parts were the œsophageal opening in front, the aortic opening behind. The liver was curiously shaped; the left lobe was larger than usual, and was bent at right angles to the right lobe, so as to be lodged entirely in the thoracic cavity. The right lobe occupied its normal position. Through the substance of the liver passed the umbilical vein. The other abdominal viscera were developed in a normal manner, and no other coincident congenital deformities were present in this case.

Etiology.—As in other cases of deformity due to arrested development, we are provided in these cases of congenital diaphragmatic hernia with certain conditions which throw light on the process of development of the muscle. Putting aside those cases in which the hernia occurs through the natural openings, or behind the diaphragm proper, or by distension of the muscle, we are still left with such a variety of forms as may be regarded as representing different stages in its development. In the first place, then, the muscle, though rarely, may be entirely wanting. When only partially developed, it may be rudimentary on both sides, or (as is more usual) only on the left side. It is almost invariably deficient on one side and not in the middle line. Again, the opening varies in size. As in this case, there may be no vestige of the costal portion of the muscle; it may form a crescentic fold projecting into the cavity, or it may be more nearly complete, an interval, larger or smaller, being left either in the central tendon, or in the muscular substance behind it, or near the thoracic wall by deficiency of the posterior costal attachments.

From this, the teratological, point of view, one may infer that, as in normal conditions we describe sternal, and vertebral, and costal portions of the diaphragm, so in its development there are indications of its formation from at least three separate foci; one of these, mesially placed, may be called sterno-vertebral, and is rarely absent; the other two are costal or lateral, and by deficiency in one of these, generally the left half, a congenital hernia results.

Examining the comparative anatomy of the muscle, it is well-known that the diaphragm is only present in birds and mammals. Among birds it is best developed in struthionidæ.[18] It there consists of two lateral parts, attached to the ribs and the vertebral column, but not connected together in the middle line. In most other birds it consists merely of muscular fibres arising from the deep surfaces of the ribs, and inserted into the membrane stretching over the ventral surface of the lungs.[19] The mammalian diaphragm differs, then, from the highest condition of its development in birds, in having a mesial portion superadded, and thereby completely separating the body cavity into pleural, pericardial,

[11] *Traité des Hernies*, Cologne.
[12] Cooper, *Dict. of Surgery.*
[13] Lawrence, *On Hernia.*
[14] *Loc. cit.*
[15] *Deutsch. Arch. f. Klin. Medicin*, Bd. xxvii. Heft 3 to 4. 1880, p. 268.
[16] *Dict. Encyclop. des Sci. Med., loc. cit.*
[17] Meckel, *loc. cit.*, Zwanziger, Halle, 1819.
[18] Owen, Gegenbaur, *Comp. Anat.*
[19] Huxley, *Comp. Anat. of Vertebrates.*

and peritoneal parts. If, however, we look upon the lateral parts of the mammalian diaphragm as homologous with the more rudimentary diaphragm of birds, and the sterno-vertebral part as a later addition, we at once create a difficulty, in that the portion of the muscle last formed in process of evolution is the most constantly found, and is least variable; whereas one would rather expect it to present the most frequent abnormalities. It is, however, probable that the diaphragm of birds and that of mammals cannot be compared directly with one another. Each is formed for its own special purposes, and there is no definite ancestral muscle in the reptiles with which to compare them. To elucidate the development of the diaphragm, therefore, we are reduced to a consideration (1) of its teratology, and (2) of the accounts given of its embryology.

Development of the Diaphragm.

1. *Teratological Evidence.*—From the evidence derived from these cases of congenital hernia, there would appear to be two parts of the muscle, sterno-vertebral and costal. One judges from the relative frequency of the different degrees of deficiency of the diaphragm, that the mesial portion is the first formed, and that the lateral portions of the muscle develop as folds which grow from the mesial part, as well as from the costal wall, the focus or centre of development being placed anteriorly. The process of growth appears to be from the front towards the back of the body cavity, and from the periphery towards the centre—along the mesial part on the one hand, along the thoracic wall on the other. Growth occurring equally in all parts, stoppage of growth at any period will give rise to a congenital hernia. This would account for the great frequency of the form whose opening is placed posteriorly. As its growth extends, and the attachments or the muscle creep further and further back along the ribs, its breadth and length of attachment increase, and the opening gradually narrows, and finally disappears. The commonest form of congenital hernia will have its opening placed opposite the point which is ordinarily the last to be closed, that is, either in the centre of the muscle or near one of its posterior costal attachments.

While this explains the existence of the hernia, it does not account for the greater frequency of a deficiency in the left than the right side. For this various explanations have been from time to time advanced. Lockwood[20] has recently revived the notion of the older writers that the rarity of hernia in the right side was due to the larger size of the right lobe of the liver. He argues that the occlusion of the left omphalo-mesenteric vein causes a diminution in the growth of the left lobe of the liver; and so allows the abdominal viscera to squeeze their way up into the thorax. The left lobe of the liver has, however, as extensive relations with the primitive diaphragm during its formation as the right lobe; both are of equal size, are apparently forming at an equal rate, and the organ stretches right across the abdominal cavity, even after the diaphragm is completely formed. Pressure of the cardiac end of the stomach on the left side, weakness of the left pillar, and the presence of the openings of the œsophagus and aorta have been cited by different authors as the cause of the greater frequency of herniæ in the left side.

2. *Embryological Evidence.*—There have been two diametrically opposite theories advanced *a priori* to account for the development of the diaphragm, each of which is alone inadequate: *a*. The "centripetal" theory. This theory is advanced by Geoff. Saint Hilaire,[21] Kölliker,[22] etc.: and explains the formation of the diaphragm as two crescentic folds, which grow inwards from the costal margin, and meet in the centre. This ingrowth from the side is considered homologous with the diaphragm of birds. The absence of mesial congenital hernia has been explained by these authors as due to the presence of the heart and pericardium in the middle line. *b*. The "centrifugal" theory, advanced by Cruveilhier,[23] Duguet,[24] etc.

These writers maintain that the development of the diaphragm commences in the middle line, in the tissues surrounding the structures lying in the splanchnopleure, and that its further growth is due to the formation of two folds which grow out from this mesial part towards the periphery.

Von Baer[25] and His[26] have described certain points in the development of the diaphragm of the fowl; and Kölliker[27] has described the mesocardium laterale, which is concerned in the formation of the muscle, in the rabbit; but the most valuable researches on the subject are those of Cadiat,[28] Uskow,[29] and Lockwood,[30] as these authors have worked at it in a systematic manner, and with the most recent methods.

Cadiat's work has not received the attention from English authors which it deserves, owing partly perhaps to the scant consideration afforded to it by Balfour. He describes the development of the diaphragm as occurring in two parts—a pericardial and a pleural part. The pericardial portion is mesial, and at first placed vertically, extending from the ventral side of the trunk to the vertebral column. It is soon subdivided into a ventral and a dorsal part. The ventral part is gradually made horizontal, being pushed downwards by the increase in size of the heart and its passage into the thorax. The dorsal part remains vertical. The pleural parts of the diaphragm he associates with the formation of the liver, the mesoblastic tissue which surrounds the latter forming the lateral portions (as well as the capsule of Glisson, pleura, and peritoneum), and by the growth of the liver contracting adhesions with the side of the thorax.

Uskow's researches were made on the rabbit. He gives a careful and intelligible account of the development of the diaphragm, and his paper is particularly useful as a complement to Cadiat's work. He describes more clearly the development of the lateral portions of the muscle. After describing the formation of the mesial part, and its dorsal and ventral portions, he gives an account of the development of the lateral parts, which, like Cadiat, he closely associates with the mesoblastic tissue of the liver; in fact he calls the formative tissue of the diaphragm and the primitive liver mass by the one name, *massa transversa*. From this the lateral portions of the diaphragm are developed in the following way. Each forms a crescentic fold, with the horns of the crescent projecting backwards, and growing from the front and mesial part. The body cavity is thus gradually, from before backwards, and from the periphery towards the centre, divided by this growing crescent into thoracic and abdominal parts. While this is forming, the diaphragmatic tissue is gradually becoming separated from the hepatic portion of the *massa transversa*, so that before the partition is completely formed it is possible to distinguish the serous membranes in its surfaces. At the sixteenth day the separation of the body cavity into its several parts is complete.

Lockwood's account in his Hunterian lectures does not differ markedly from Cadiat's and Uskow's. He associates the development of the diaphragm especially with the growth of the large veins, heart, and liver. He describes the mesocardium laterale (Kölliker), and the septum transversum (His), and shows how the mesial part of the muscle is the first to be formed. The lateral parts he describes as formed by crescentic folds projecting inwards from the fore part of the somatopleure towards the mesentery.

These researches give us a much clearer notion of the development of the diaphragm, and of the separation of the body cavity into its component parts. We see that in mammals the mesial part is the most primitive, that it is at first vertical, and that the lateral portions are developed secondarily as outgrowths spreading towards the parietal wall of the body cavity from the front of this mesial septum.

There are still, however, important points in connection with the development and morphology of the muscle which require elucidation. For example, is the diaphragm as a whole to be regarded as a special development for a special purpose, or does it belong to other more elementary muscular strata? The dorsal part of the muscle, for example, may possibly belong morphologically to the hyposkeletal system of muscles, and it may not be the wildest notion to hint that the anterior (and lateral) parts of the muscle considered developmentally may be parts of muscular strata which form also the infra-hyoid muscles. This idea is strengthened by a consideration of the innervation of the muscle. Von Baer showed long ago that the phrenic nerve is developed at a very early date, at the same time as the nerves of the upper limb. It thus acquires connection with the primitive diaphragm, but long before the development of muscular fibres. At this time

[20] Journal, April 7th, 1888, p. 731.
[21] St. Hilaire.
[22] *Entwickelungsgeschicte des Menschen und der Thiere*, 1879.
[23] *Bull. de la Soc. d'Anat. de Paris*, T. xxii, p. 169.
[24] *Loc. cit.*
[25] *Uber die Entwickelungsgeschichte der Thiere*, I. Theil, 1828.
[26] *Die Entwickelung des Hühnchens im Ei*, 1868.
[27] *Loc. cit.*
[28] Du Développement de la Portion Cephalo-thoracique de l'Embryon de la Formation du Diaphragme des Plèvres, etc., *Journ. d'Anat. et de Phys.*, vol. xiv, 1878, p. 630.
[29] Uber die Entwickelung der Zwerchfells des Pericardiums und des Coeloms, *Arch. f. Mikroskop. Anat.*, Bd. xxii, Hft. 16, 1883.
[30] *Loc. cit.*

the diaphragm is adherent to the somatic wall just opposite the brachial plexus and developing limbs, and the backward course of the nerve is caused by the increased size of the heart and lungs, and the consequent pushing backwards of the diaphragm. It appears to me that from the nerve-supply of the muscle we are supplied with a hint that ontogenetically the diaphragm is related to the same muscular stratum as the infra-hyoid muscles.

ON THE MECHANISM OF THE NOSE AS REGARDS RESPIRATION, TASTE, AND SMELL.[1]

By GREVILLE MACDONALD, M.D.Lond.,
Physician to the Throat Hospital, Golden Square.

CERTAIN experiments I have lately been making on the functions of the nose as regards the raising of temperature and hygrometric condition of the inspired air, as well as certain deductions from clinical observation, have appeared to me of sufficient importance to bring under your notice and criticism.

By the simple device of connecting a tracheotomy cannula with one nostril, I have proved it possible for a tracheotomy patient to breathe through the nose, the inspired air passing in at one nostril and out at the other. By a valvular arrangement attached to the tracheal end of the connecting tube, the expired air is prevented from passing into the nose; while in the nasal termination a sensitive thermometer is placed which will indicate the temperature of the inspired air after traversing the nasal cavities.

Next it occurred to me that it would be a perfectly simple matter to connect the tracheal end with the mouth instead of to the trachea, and that so experiments might be made upon ordinary individuals. And it is in this manner that my experiments have been conducted. I find that the effort at drawing the air through the tube attached to the mouth is sufficient to close the post-nasal space completely, and so cut off the nasal from the buccal cavities. And this contraction of the soft palate is quite involuntary, or at least unconscious. But, to prevent all source of error, I have employed a valvular arrangement similar to that used on the tracheotomy patient.

The same method of passing the air through the nose was adopted in estimating the hygrometric condition. A measured bell jar was held over water by an assistant who allowed it to sink as the air was exhausted by the lungs. Connected with the upper opening of this was a vessel containing chloride of calcium, which in its turn carried tubing fastened in one nostril. Thus, a measured quantity of dry air would pass through the nose. The connection between the other nostril and the mouth contained in its course three chloride of calcium tubes, which abstracted the moisture contained in the air after passing through the nose. The whole of this circuit was weighed before and after the passage of a known quantity of dry air through the nose, the difference giving the hygrometric condition.

First, let me give you some results of my observations on temperature:

At − 7° C., the air was raised to 28.8° C.			
At 1.7° C.	,,	,,	35° C.
At 7° C.	,,	,,	34° C.
At 12° C.	,,	,,	35.6° C.
At 45° C. it was reduced to 33.6° C.			

These are but a few of a great number of experiments on different individuals. *Cæteris paribus* the robust raise the temperature two or three degrees higher than the anæmic. A noteworthy fact is that cocaine, by inducing collapse of the inferior turbinated bodies, will lessen the acquired temperature by two or three degrees. Doubtless this throws some light on the functions of these structures, although it would appear that they are not directly of much importance in imparting caloric.

In estimating the quantity of aqueous vapour absorbed, I find that it varies considerably according to the barometric pressure in the nose. For instance, I found that any alteration in the arrangement of the tubes causing respiration to be more difficult increased the amount of water, and *vice versâ*. Hence any degree of stenosis in the nose would result in an additional degree of saturation in the inspired air. In most of my experiments there has been more or less obstruction to easy respiration, and in some the weight of aqueous vapour has almost doubled that of saturated air at the temperature of the nose and the external barometric pressure. One may consequently assume that the air on passing through the nose is always saturated with water as well as raised to the temperature of the blood, and that the usual statements in the textbooks as to the quantity of moisture exhaled by the lungs are incorrect. Ordinarily, there must always be a *minus* pressure in the nose during inspiration and a *plus* during expiration, and one may even suppose a slight deposit of dew in the respiratory passages during expiration, this excess of moisture being reabsorbed by the next inspired air. Cocaine applied to the nasal mucous membrane has the effect of slightly lessening the amount of moisture absorbed.

Remembering the latent heat of aqueous vapour, and that it is when the external temperature is lowest that the most water is vaporised in the nose, one realises the enormous quantity of heat given up by the nose.

A consideration of the course pursued by the inspired current of air will bring me to those points in connection with the senses of smell and taste which I am venturing to bring under your notice. The orifice of the nostrils lies for the most part a quarter of an inch or so below the floor of the nasal fossæ. This arrangement obviously tends to give some of the indrawn current an upward as well as a backward direction, so that the middle as well as the inferior meatus is used for respiratory purposes. That such is the case we can readily satisfy ourselves by considering the changes in position of the alæ during olfaction. In the presence of an unpleasant smell, we instinctively "turn up the nose," in common parlance, or, in other words, contract the levatores labii superioris alæque nasi, and so bring the external opening of the nose on a level with the floor of the inferior meatus. Contrarily, when we wish to enjoy an agreeable odour, we sniff it up, or, in other words, depress the upper lip and with it the alæ, thus directing the inspired air more towards the olfactory region. The influence of these movements on the perception of smell can be submitted to very simple experiment.

I have frequently noticed in cases of obstruction in the middle meatus from the presence of nasal polypi, etc., a deepening in the furrow running from the angle of the nose to that of the mouth, and for a time I was much puzzled to account for it; but as it is obviously caused by a constant contraction of the levator labii superioris alæque nasi, we may consider it as a result of the effort to facilitate respiration through the inferior meatus. One might even classify the muscle as one of those accessory to inspiration.

The olfactory nerve is divided into two main divisions, an anterior and a posterior, the former being distributed over the middle turbinated body and septum, while the latter is consigned to the superior spongy body. This latter again is almost, if not quite, sheltered from the inspired air by the overshadowing middle turbinated, so that it can hardly take part in what is commonly designated as smell. With expiration, however, its position and importance is reversed. The expired air is driven vertically upwards, and odoriferous particles from the mouth, such as flavours, would take the same course. In each case the superior turbinated bone would lie exposed to their influence; so that I am venturing to ask the question, Mr. President, whether we might not aptly pay some consideration to the subjective distinction between smell and taste, that is, the perception of flavour, and assign to the superior spongy body the latter sense, reserving the middle spongy for simple olfaction?

Certain clinical observations have considerable weight in my argument. In inflammatory and other affections of the nose it is very frequently observed that smell is abolished without taste being deteriorated. Moreover, I have frequently heard such patients aver that, although they have altogether lost their sense of smell, they can sometimes *taste*, as they say, bad odours when forcibly inhaled through the nose. This last observation further suggests to me that on the superior spongy being reached either by inspiratory or expiratory efforts, in either case the nerve-stimulation is interpreted subjectively as taste rather than smell.

[1] Read in the Section of Anatomy and Physiology, at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

PRESENTATION.—Mr. Cecil G. Westropp, L.R.C.P., M.R.C.S.I., on resigning the post of medical officer of the Derrylin Dispensary District to practise at Monkstown, has received several farewell addresses from local bodies, together with a handsome timepiece and salver.

PROFESSOR SCHAFER'S textbook of histology has been translated into German by Professor W. Krause.

THE INTERNAL AND EXTERNAL TEMPERATURE OF THE HUMAN BODY AS MODIFIED BY MUSCLE-KNEADING: WITH SPHYGMOGRAPHIC AND SPHYGMOMANOMETRIC RECORDS.[1]

By A. SYMONS ECCLES, M.B.

The observations on the internal and external temperature of the human body which I have ventured to offer for the consideration of this Section are based upon a series of experiments extending over a period of nearly eighteen months, but the examples selected for their illustration are derived for the most part from the records obtained during the past five months, before and after subjecting healthy individuals to the process of kneading the muscles of the trunk and limbs on the one hand and the abdomen with its contents on the other. The results afforded by these examples are identical with those which were noted in the earlier experiments, differing from them only in their elaboration by the addition of syphygmographic and sphygmomanometric readings taken under the same circumstances as the thermometric records.

In order to avoid as far as possible any sources of error in the investigations referred to, the individuals dealt with were carefully examined as to the state of their organs, secretions, habits, and mode of life; and any conditions which might tend to modify the uniformity of the circumstances under which the observations were made have been noted. Briefly, the subjects were all healthy persons who had not taken food for four hours prior to the hour appointed for experiments, which were carried out in a room whose temperature, as registered by an ordinary thermometer placed at the head of the couch, was maintained at 65° F. The subjects were divested of their clothing and placed in the recumbent position on a couch or bench, and covered with a Turkey towel sheet and a warm rug. The thermometers were then applied in the situations indicated—an ordinary magnified index clinical thermometer for the axilla, three Immisch's for the surface, and a strong clinical thermometer of the ordinary pattern for the rectum (this last being encased in metal to avoid any untoward accident). As soon as the thermometers had been adjusted, sphygmographic tracings and sphygmomanometric readings were taken of the radial artery on the right side, the pulse being also taken by the finger. In every case Richardson's modification of Dudgeon's pocket sphygmograph was employed, the clockwork being wound up before each application, and the length of the band necessary to enclose the wrist and retain the instrument firmly in position having been ascertained, a distinguishing mark was made on the ends of the band exactly where the clamp was first secured, so that it might be adjusted accurately in the same position on each subsequent occasion of its use for the same individual. The same pressure was always used for all the tracings taken from the artery of a given individual throughout the experiments to which he was subjected, but varying pressures were employed in different individuals. In regard to the manometric records, they were taken with von Basch's pocket sphygmomanometer, care being taken to avoid any error through slow leakage by refilling the tube whenever the drum (or "pelotte") appeared to contain any air; and in each case the compression of the artery was repeated, the reading recorded by the pointer being taken at the moment of perceptible disappearance and again of first perceptible reappearance of pulsation.

The conditions of temperature and circulation having been thus noted, kneading of the lower extremities, trunk (excluding the abdomen), and upper extremities, in the order here set down, was employed for a period varying from half to three-quarters of an hour, according to the time required in order to thoroughly carry out the manipulations, necessarily varying with the muscular development of the individual; but in each case the character and extent of the kneading were rendered as uniform as possible.

At the conclusion of muscle-kneading the instruments were reapplied, and, the readings having been taken, abdominal massage was then employed, the stomach and liver being first dealt with, then the small intestines, and finally the colon and sigmoid flexure, the course of the large intestine being carefully followed, its gaseous or solid contents being propelled as far as possible towards the commencement of the sigmoid flexure. Abdominal kneading, as a rule, occupied from fifteen to twenty minutes, but occasionally, as in the case of Example H, the process was prolonged.

The records were again taken, and the experiment thus concluded, save in the cases of certain individuals who submitted themselves to further thermometric investigation with a view to show the length of time during which the effect of the manipulations appeared to be maintained.

The first example to which I desire to draw your attention may be taken as typical of a series in which the effects on the circulation described by me in a paper on the physiological effects of massage, read before the Royal Medical and Chirurgical Society of London in January, 1887, are produced, and further investigated and confirmed by the sphygmographic and sphygmomanometric records. So, also, with the thermometry, previous observations have received confirmation, but an additional inquiry into the internal temperature as indicated by rectal thermometry has been included in the experiments made, with the unvarying result shown in the tables of temperature, that as the axillary and surface temperatures rise under the influence of muscle-kneading the rectal temperature falls, while exactly the opposite effect is produced by kneading the abdomen. The subject of this experiment was a healthy male, aged 25, whose height was 5 feet 8 inches and weight 10 stone 12 pounds, with good muscular development, free from organic disease of any kind, and leading an active life.

Table of External and Internal Temperatures in Example H.

Before Muscle-Kneading.	After Muscle-Kneading.	After Abdominal Kneading for 15 mins.	20 mins.	30 mins.	Situation of Thermometer.
98.0° F.	99.4°	98.8°	98.0°	97.4°	Axilla.
90.0	97.0	93.0	89.0	84.0	Palm.
91.0	95.0	93.0	90.0	88.0	Calf.
87.0	90.0	87.0	84.0	81.0	Sole.
100.4	99.6	99.8	100.6	101.8	Rectum.

It will be noticed in this example that the initial axillary temperature is only 98° F., somewhat lower than that which is indicated on the scale of clinical thermometers as representing the average normal; but I attribute this to the unclothing of the patient, rather than to any inaccuracy in the record, as the thermometers for each reading were kept *in situ* for ten minutes, so as to avoid any error arising out of hurry in taking the note. The surface temperatures having in each case been taken by means of an Immisch thermometer, fractions of a degree are not noted. The effects of muscle-kneading are well seen in this example in regard to the internal and external temperatures; for whereas there is a difference of 2.4° F. between the axillary and rectal temperature, as much as 13.4° F. between the temperature of the foot-sole and the rectum, 9° and 10° respectively between the calf and palmar temperature and that of the rectum, and a corresponding difference between the axillary and surface temperature, it is found, on reference to the next column, that the axillary temperature has been raised 1.4° F., the surface records more nearly approach the axillary degree, while the rectal temperature shows a declination of 0.8° or ½°.

After abdominal kneading only, practised on the same occasion as soon as the temperature and pulse records had been made after muscle-kneading, one finds a gradual decrease in the axillary and superficial temperature, with a steady rise of rectal temperature, until at the close of half an hour's abdominal manipulation (excluding the necessary intervals for the observations recorded at the close of fifteen and twenty minutes), the axillary temperature stands at 97.4° F., a decrease of 2° F. below the post muscle-kneading record, with a much more marked reduction of surface temperature, and a gain in the rectum of 2.2° F. above the degree noted before abdominal kneading, and of 1.2° F. above that which was registered by the rectal thermometer before the muscle-kneading had been carried out. It will, I think, be interesting to compare with these alternations of temperature the condition of the circulation so far as observations on the radial pulse will allow.

First, in regard to the pulse rate, it was found to vary as follows:

Before Muscle-Kneading.	After Muscle-Kneading.	After Abdominal Kneading for 15 mins.	for 20 mins.	for 30 mins.
78	70	72	66	64

The sphygmomanometric readings were:

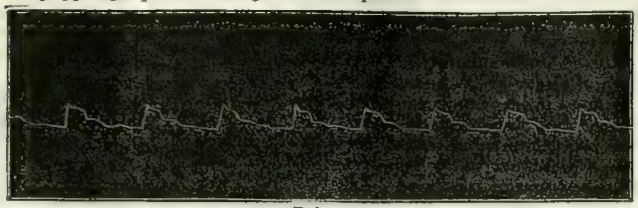
Before Muscle-Kneading.	After Muscle-Kneading.	After Abdominal Kneading for 15 mins.	for 20 mins.	for 30 mins.
130 mm. Hg.	170	140	120	120

The sphygmographic tracings were taken under a pressure of

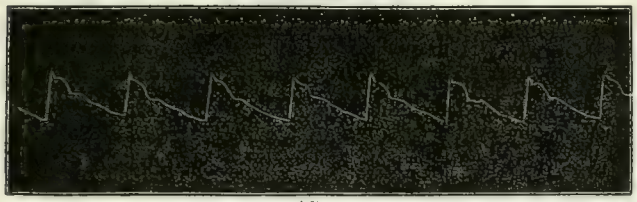
[1] Read in the Section of Anatomy and Physiology at the Annual Meeting of the British Medical Association held in Glasgow, August, 1888.

three ounces, the precautions previously referred to having been taken to ensure accuracy.

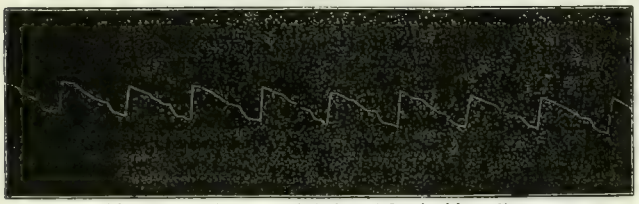
Sphygmographic Tracings in Example H. Pressure 3 ounces.



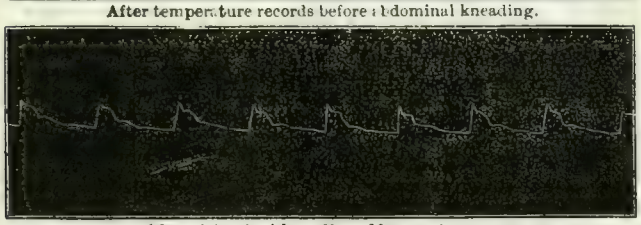
Before.



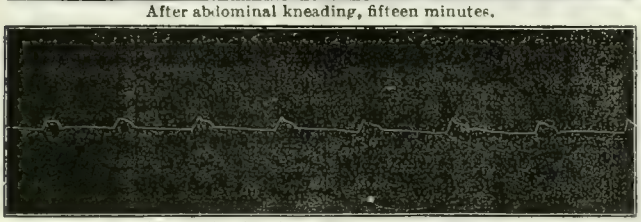
After.



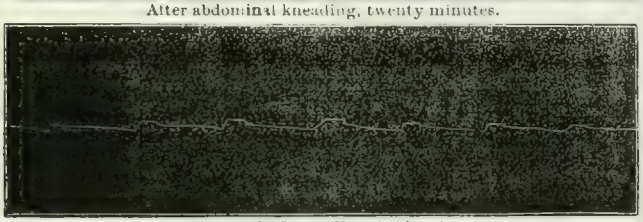
After temperature records before abdominal kneading.



After abdominal kneading, fifteen minutes.



After abdominal kneading, twenty minutes.



After abdominal kneading, half an hour.

I will not here attempt to analyse the characters of these readings, except in reference to those which appear to be common to all the experiments, for it will be found that, although one sometimes notes a diminution in the pulse rate after general kneading, excluding the abdomen, occasionally, especially if the kneading is not prolonged, the pulse rate is rather accelerated than diminished, and this (which has occurred more frequently in my practice since the conclusion of the experiments, of which my previous paper on the physiological effects of massage was the record, than before) I attribute to a modification of the reflex action following stimulation of the cutaneous and muscle sensory nerves, which I believe depends not only on the vigour or intensity of the stimulus applied, but also in a great measure on the varying irritability of the general nervous system to which the irritability of the cutaneous sensory nerves is a valuable index. But in regard to the modifying influence of abdominal kneading on the pulse rate, it will always be found, so far as my experience hitherto goes to show, that this is in the direction of retardation, even in cases of what, for want of a more clearly recognised condition, are termed abdominal neuroses, in which the pulse rate is already diminished.

It will be seen on reference to the temperature records, tracings, and manometric readings, which I have brought with me to-day for your inspection in addition to the examples quoted in this paper, that the records just referred to are by no means the most remarkable, as some of the others afford better examples of the pulse-rate variations; but I have selected this experiment rather with a view to demonstrate the effect of abdominal kneading as compared with muscle-kneading on the temperature topography than on the pulse.

Now allow me to refer to an example in which, while the majority of effects produced by the different manipulations are similar to those occurring in Example H, it will be seen that here muscle-kneading was followed by acceleration of the pulse rate, other effects undergoing no apparent variation from those noted with a diminished pulse rate.

Table of External and Internal Temperatures in Example B.

Before Muscle-Kneading.	After Muscle-Kneading.	After Abdominal Kneading.	Situation of Thermometer.
98.4° F.	99.8°	98.6°	Axilla
94.0	97.0	96.0	Palm
95.0	97.0	94.0	Calf
93.0	95.0	92.0	Sole
99.0	99.0	100.4	Rectum

The maintenance of the rectal temperature after muscle-kneading alone constitutes the only deviation from the usual condition, and does not occur in the other cases wherein the effects have been noted in dealing with healthy persons under ordinary conditions of activity; but it is not so infrequent in cases of persons whose surface temperature appears to be improved by a course of massage pursued during a period in which the patient is kept at rest in bed.

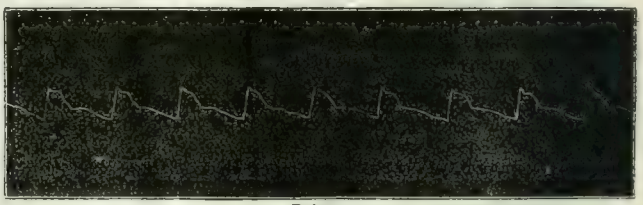
In this case the pulse rate varied as follows:

Before Muscle-Kneading.	After Muscle-Kneading.	After Abdominal Kneading.
84	102	60

The sphygmo-manometric readings were:

Before Muscle-Kneading.	After Muscle-Kneading.	After Abdominal Kneading.
140 mm. Hg.	160	140

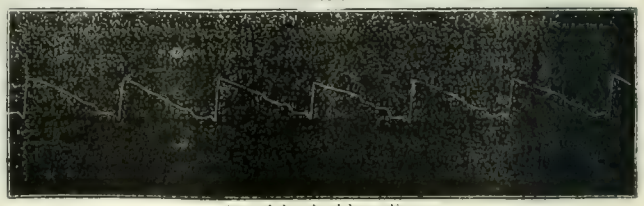
Sphygmographic Tracings in Example B. Pressure 2½ ounces.



Before.



After.



After abdominal kneading.

Under a pressure of two ounces and a half the sphygmographic tracings show an increase of amplitude of the ascending limb with a more rapid fall after muscle-kneading, the amplitude of the trace, even after abdominal kneading, being in excess of the first tracing taken before any manipulations had been practised, while the retardation of the pulse after the abdominal kneading amounts to 42 beats per minute. The subject was a man, aged 40, of somewhat spare habit of body, who appeared to be free from disease; but he was a little inclined to be afraid of the instruments on this occasion, the first of several experiments to which he subsequently submitted without alarm.

It appears, therefore, that the effect produced on the rate of the circulation by muscle-kneading varies from not a very marked reduction of rapidity in the majority of cases to an increase in celerity sometimes amounting to twenty beats or more in a comparatively few cases; but clinical experience teaches that the effect on rate alone is not a reliable guide as to whether or not treatment by mechano-therapy is likely to prove valuable; the effects on temperature, however, are very significant, and have been found useful by me in helping to decide as to what dosage of the various manipulations should be employed in different cases. Moreover, it is found that under a course of muscle-kneading extending from three weeks to two months, the temperature topography, which in feeble persons, and notably in dyspeptics and persons suffering from malassimilation, assumes much greater disproportions as between axillary, surface, and rectal temperatures than in health, will be modified very considerably, internal and external temperatures being more nearly approximated and less easily influenced than before the treatment, which of course consists also in careful dieting and rest.

If I have transgressed in referring to these clinical matters before this Section, I have done so because the question may arise in regard to these observations, *Cui bono?* To those who do not regard this method of treating disease by mechanical rather than pharmaceutical means as a fad unworthy of serious investigation, it may possibly impart an interest to these observations on healthy persons undertaken in order to test certain phenomena previously noticed at the bedside, and I would venture to hope that these records, imperfect though they be, may induce some who are inclined to deny the efficacy of mechano-therapy to see whether the failures they have met with are not rather due to its unskilful application by persons who, if they knew how to perform the ordinary manipulations, are not to be entrusted with the administration of the remedy save under the most rigid supervision of one who is conversant with the subject.

It will be seen from the temperature records before you that the immediate effects of muscle-kneading are to raise the external temperature, and at the same time to approximate the external and internal temperatures, the rectum apparently losing heat while the surface of the body gains it, and in some instances the axillary temperature has been found to be higher by a fraction of a degree after muscle-kneading than the rectal temperature; this may be an error in the thermometry, but as it has occurred with different thermometers and on various occasions, I have thought that possibly it may be accounted for by an actual loss of heat in the abdominal organs owing to the abstraction of blood from them towards the periphery, where not only are the vessels dilated and the blood current increased in volume, but, as I think we may infer, greater activity of interchange between the blood and the tissues has been brought about by the mechanical stimulation of the local nerves. The increased blood-pressure following muscle-kneading is followed by a marked fall on the substitution of abdominal kneading; it would therefore appear that, as abdominal kneading causes a diminution in the volume of the radial pulse, previously enhanced by muscle-kneading, we should not be guilty of unfair theorising if we believe that the loss of rectal heat is due to a diminution in the calibre and contents of the abdominal vessels with a synchronous cooling of the internal temperature, and this is the obvious conclusion to be arrived at if, on the other hand, the rise in rectal temperature is to be attributed to the altered conditions of abdominal circulation, which it is probable exist in a modified degree, as Goltz proved them to occur in his tapping experiment on the frog. Certainly the characters of the peripheral circulation, as shown by the sphygmomanometer and the sphygmograph, are somewhat akin to those which have been noted when, as it is said, "the animal was as it were bled into its own belly."

The gain in surface-temperature following the muscle-kneading will be lost by radiation if the subject is not kept well covered both during and after manipulation; and it may not be uninteresting to note here that where these precautions are omitted the whole body temperature will be reduced if the surface, with its greatly-dilated vessels, is not protected from the effects of exposure. I have known the axillary temperature, after having been raised to 99.8° F., fall to barely 97° F., and the rectal temperature to below 98° F., the thermometers having both been shaken down to 95° F. before being placed in position. Now this loss of heat does not follow either the one form of kneading or the other if the surface of the body is kept covered. The immediate effects of the process do not maintain their intensity for a longer period than an hour, so far as my observations serve; but for three hours after a noticeable effect exists, in that the temperature will remain more nearly equalised, and the amplitude of the pulse-tracing remains increased above the record taken prior to the muscle-kneading for over two hours after the conclusion of the experiment.

The effect of manipulating the muscles on the circulation, as shown by the sphygmograph, is invariably that the amplitude of the ascending portion of the trace is increased, and with this it is also rendered more vertical; dicrotism as a rule appears to be less marked, and sometimes a systolic plateau is developed to a greater extent than it was prior to the kneading; but with the exception of the increase in amplitude and verticality, there is no constant feature common to all the tracings taken. This greater amplitude and verticality of the systolic wave must, I suppose, denote a more sudden and forcible contraction of the ventricle, though, as some of the traces show, this does not always imply a short, sharp systole, for in certain of the subjects the contraction appeared to be prolonged, a long vertical upstroke being followed by an almost horizontal short line terminating in a more or less well-defined notch.

Burdon Sanderson has attributed the sharp expansion of the artery to reflex influences on the heart, and has described what he calls "the shock sound" heard at the impulse preceding or inaugurating the first sound of the heart; this sharp sound I have only been able to recognise in the cases where the pulse rate was reduced after muscle-kneading in patients suffering from chronic Bright's disease or gouty symptoms with arcus senilis and other signs of arterial degeneration, and in one case after a month's kneading the sound appeared to be less easily distinguishable. The greater verticality and amplitude of the wave in the tracings appears to be associated with an increased quantity of blood sent through the vessel, which is obviously dilated; it may be that on the conclusion of the kneading the vessels of the limbs are almost over full, and thus give rise to the sudden and more forcible contraction of the heart, in order to send the blood through the distended vessels; the manometric records point to a greater fulness of the vessel, and this also is usually apparent to the finger. The conclusions I have ventured to arrive at from the results obtained by these experiments and clinical observations are that after general kneading, excluding the abdomen, the amount of blood sent out by each systole is increased, the quantity of blood sent to the right side of the heart being increased by the centripetal squeezing of the veins, the circulation through these vessels being by this process aided and accelerated, thus providing a greater volume of blood for distribution by the pulmonary system, and so supplying a larger quantity of blood to the left side of the heart, the increased pressure so produced within the ventricle stimulating it to more forcible contractions. The force of the cardiac systole, I believe, is increased, whether the pulse rate is accelerated or retarded by muscle-kneading, the influence on rhythm being of a reflex character, depending on the degree of stimulation of the sensory nerves, the slighter stimuli afforded by moderate kneading[2] affecting the accelerator centre, which we are told that "it is more than probable exists in the medulla oblongata,"[3] while the stronger stimulation of vigorous kneading affects the vagus centre.

My reason for believing that the increase in pressure recorded by the manometer after muscle-kneading depends on the action of the heart equally in the cases of accelerated and retarded pulse rate, rather than on the condition of the peripheral vessels, are based on the fact that the manometric pressure was estimated at the moment when the pulse ceased to be felt by the testing finger on the distal side of the drum or "pelotte." I am aware that, unless the greatest care is taken to avoid too long compression of the vessel, an erroneous reading will result, as one will obtain a

[2] Effleurage or friction of the skin accelerates pulse rate, *Practitioner*, June, 1887.

[3] Landois *Physiology*, p. 887.

record of the centripetal *plus* the centrifugal wave, if practice has not rendered the tactile sense more keen than it is at first when commencing to employ von Basch's little instrument; and, unless I had been warned against this source of error, and had been careful to obviate mistakes arising out of it, I should not have ventured to draw your attention to this phenomenon of apparent independence between pulse rate and pressure, or rather, as I would prefer to state it, with great diffidence, as the result of these observations, the apparent independence of the force of the ventricular contractions on their number.

Marey has shown that the effect of muscular action, as tested by his experiment on the horse, in which he applied his compensating manometer to the carotid before and after making the animal canter for ten minutes, is to increase the frequency of the pulse and to decrease arterial tension, exactly opposite conditions arising after the animal had been allowed to rest; from which he argues that the first effect of muscular exercise is to accelerate the course of the blood in the vessels of the limbs, the acceleration of the heart's rhythm being a secondary effect, and depending on the decrease of arterial tension which follows on the dilatation of the peripheral vessels. Within the limits of this paper it is not possible to detail further the deductions drawn by so great an authority on this subject, but he sums up his views thus:—

"So, then, one of two conditions exists; either the force of the heart is first increased, and under some exciting influence the beats of the heart are accelerated; or the first effect is a more easy flow of blood through the small vessels, from which arises lowering of arterial tension and secondary acceleration of the heart. One way of settling the question is to gauge the arterial tension by means of a manometer. In fact, in the first case, if it is an excess of impulsion which constitutes the initial phenomenon, there ought to follow an elevation of arterial tension. In the second case, the tension will be diminished. The enormous increase of energy in the heart's beat under these circumstances would tend to make us believe that the heart really expended greater force after violent muscular exercise. It is not so. The fall of arterial tension increases the force of the pulsations of the heart and arteries."[4]

It was a source of great perplexity to me when I found, both under the circumstances of increased and decreased rapidity of pulse after muscular kneading, that, with what one believes to be a condition of dilated vessels as shown by the greater warmth and redness of the surface, and the visibly greater fulness of superficial vessels, one also obtained from von Basch's sphygmomanometer a rise of pressure; and if careful search for a source of error and constant repetition had not confirmed the result of the earlier experiments, I should have felt still greater hesitation than that which I feel to-day in drawing your attention to this unexpected and unlooked for condition, which is apparently the result of kneading the muscles of the limbs and trunk.

I much regret that I have not been able to institute control experiments with a schema which doubtless would have helped to clear up this difficulty; but, failing this, the fact remains that, unless some fatal inaccuracy has crept into the observations made, the sphygmomanometric pressure is increased independently of the increase or decrease in the number of the heart's beats, and in spite of the dilatation of the vessels; so that, in default of a better explanation of this phenomenon, one ventures to suggest that the effects of muscle-kneading, as shown by thermometric, sphygmographic, and manometric readings, is to increase the force of the heart's action, the quantity of blood passing through the external organs (muscles and skin), and the interchange between these tissues and the nutritive fluids, whose passage through them is thus facilitated.

On the other hand, judging from the results obtained by similar tests in their application to the effects produced by abdominal kneading, one believes that by this process the rhythm of the heart is influenced uniformly in the direction of retardation, the vessels of the external tissues, probably also of the brain,[5] are contracted and unloaded, the circulation through these parts, as also their warmth, being diminished; while, judging from the increase of rectal temperature arising during and after the process, it is probable that the abdominal organs undergo a modification of their circulatory conditions similar to that shown to exist in the skeletal tissues after muscle-kneading.

[4] Marey, *La Circulation du Sang*, p. 343.

[5] *Vide* The Treatment of Sleeplessness, *Practitioner*, March, 1888.

SECTION OF ANATOMY.

WEDNESDAY, THURSDAY, FRIDAY, AUGUST 8TH, 9TH, AND 10TH.

Development of the Heart.—Mr. LOCKWOOD showed a series of histological specimens to illustrate the early development of the pericardium, diaphragm, great veins, and organs of respiration. The series began with sections showing that the mammalian heart was developed in splanchnopleure and in two separate parts, situated on either side of the situation of the future pharynx. The gradual approximation of the halves of the heart was illustrated, until at last it became a single median organ attached to the ventral wall of the pharynx by the mesocardium posterius. From its commencement the splanchnic heart protruded into the foremost part of the cardio-pleuro-peritoneal sac. Numerous specimens were shown to illustrate this point, and to demonstrate that the cardiac division of the cœlom was demarked from the pleuro-peritoneal by the passage of the vitelline veins across its ventral boundary. The fixation of these vessels by the mesocardium laterale, and the conversion of their cardiac ends into the sinus reuniens was also shown. A series of specimens to trace the order of the appearance of the somatic veins showed that the umbilical veins developed first, and made their way through the mesocardium laterale into the sinus reuniens; later, the anterior cardinals originated and opened into the umbilical, and themselves received the posterior cardinals, when they had formed. The portion of the anterior cardinal vein which carried the combined blood of the anterior and posterior cardinals was the Cuvierian duct, which was shown to run through the body wall, past the side of the passage leading from the cardiac into the pleuro-peritoneal part of the cœlom (iter venosum); and specimens were shown to prove that that passage was occluded by the gradual approximation of the Cuvierian ducts to the sides of the pharynx. The development of the ventral and dorsal diaphragms and of the lungs and pulmonary veins was also illustrated, and also the early stages of the portal system.—Dr. PATERSON (Manchester) called attention to Mr. Lockwood's statement that the ventral part of the diaphragm was of earlier formation than the dorsal part; and stated that they should be considered as parts of one and the same fold; and instanced Cadiat's and Uskow's researches on the development of the diaphragm to prove this.—Mr. LOCKWOOD, in reply, agreed that the splanchnopleure might be said to take a share in the dorsal diaphragm, and adhered to his assertion that the crescentic downgrowth of mesoblast which completed the dorsal diaphragm originated later than, and separate from, the ventral part.

Craniometry and Cephalometry.—Professor BENEDIKT explained and demonstrated his methods of craniometry and cephalometry. One of these was executed only with the compass; but, as all median measurements were taken from two points (the basion and the radix nasi), and all measurements of lateral points from three points (the basion, the radix nasi, and the spina nasalis), the diagram of each skull could be at any time reconstructed, and in such a diagram many other measurements could be deduced from those already determined. A variety of this trigonometrical method could be employed for the measurement of the skull and of the living head. With this object, instead of taking the measurements from the basion, they should be taken from two terminal points of an auricular diameter; the median point of this diameter represented the basion. In relation to this method, we could also apply the system of projection with the help of a good cranio-fixator and of beam-compasses. But, in order to make precise measurements in every variety of skull, to determine the actual curves, and to deduce therefrom the laws of construction, it was necessary to use an exact cathetometrical apparatus and a delicate instrument for the mechanical reproduction of the curves. Professor Benedikt demonstrated some of the mechanical reproductions made by means of his instrument; also the method of analysing the geometrical composition of these curves, and the general laws deducible from his methods.

The Construction of the Cardiac Ventricles in the Mammal's Heart.—Dr. J. MACDONALD BROWN read a paper, in which he said that in the development of the ventricles, the formation of the septum took place in such a manner that, by subsequent growth, the right cavity became practically an accessory ventricle. It might be regarded as consisting of a single crescentic wall adherent to the left ventricle, and along its line of attachment to the latter there was a marked increase of connective tissue in the myocardium. The probable functions of the trabeculæ carneæ and the precise condition of the papillary muscles in the ventricle

and their characters were discussed. The moderator band was said to be a constant quantity in the human heart; its position and nature in man, and in the hearts of various mammals, were described. The probable reasons why the existence of this band in the human heart was generally overlooked were indicated. The double function of the anterior papillary muscle and the functions of the moderator band were discussed. In conclusion, the author dealt with physiological and pathological over-distension of the right ventricle.—Professor STRUTHERS complimented Dr. Brown on having called attention to what was too commonly overlooked. He suggested that some other name should be found for the structure, as the name "moderator" was teleological and misleading. It did not follow that it had any function at all. The relief of the right ventricle when distended was accomplished by regurgitation, as long ago shown by the late Dr. King, of Guy's Hospital, in a most able research, which he published under the title of the "*Safety-Valve Action*" *in the Heart.*

Morphology of the Epitrochleo-anconeus or Anconeus Sextus (Gruber).—Dr. H. ST. JOHN BROOKS read a paper in which he expressed the belief that he had been able to throw a new light on the morphology of the muscle by the examination of amphibians and reptiles, and by comparing the muscles of these animals with the corresponding muscles in mammals. It had been generally assumed that the epitrochleo-anconeus was a portion of the triceps; this was implied by the name. The following "anconei" had been enumerated: anconeus longus, or scapular head of triceps: anconeus externus v. brevis, or outer head of triceps; anconeus internus v. profundus, or inner head of triceps; anconeus quartus; anconeus quintus, or dorsi-epitrochlearis and epitrochleo-anconeus. Gruber, however, stated that he named the muscle "epitrochleo-anconeus" on account of its position, origin, and insertion.[1] Moreover, he said (p. 35) that the muscle in man was sometimes independent, sometimes a part of the triceps, but that in the mammalia it was always independent. Gruber had also conclusively shown that the epitrochleo-anconeus was always supplied by the ulnar nerve. The innervation by the ulnar nerve and the usually independent condition of the muscle in the mammalia would appear to indicate that the epitrochleo-anconeus was not a part of the triceps. An examination of the amphibians and reptiles, the results of which Dr. Brooks described in detail, confirmed this view, and also showed that the epitrochleo-anconeus was not primarily an independent muscle, but that it was a portion of the flexor carpi ulnaris.—Mr. LOCKWOOD said much stress was usually laid upon nerve-supply as a guide to homologies of muscles; but, in view of the fact that nerve-supply sometimes varied, he wished to know what importance Dr. Brooks attached to the nerve which the epitrochleo-anconeus received from the ulnar nerve.

Pelvic Epiphyses in Mammals.—Dr. RICHARD J. ANDERSON read a paper on this subject. He said that it was well known that in many animals the ossa innominata became united by bone. Albrecht, in a paper written five years ago, spoke of an ossification in the pelvic girdle as a true pelvic sternum, and gave some examples. Three years later Dr. Anderson sent a short note on the subject to the Zoological Society, and gave some examples. He had now collected some statistics, which showed (1) that the pubes near the inferior margin became capped by a distinct piece of bone in some animals; (2) that the symphysis was ossified in many forms by distinct centres. There might be one principal posterior centre, which in some cases resembled in position the triangular ligament in man; or two principal centres, one in front and one behind, with a middle piece developed separately or in connection with one of the other centres. The post-pelvic bone was very considerable in some forms, as in the kangaroo.

Mechanism of the Heart and Pulse.—Dr. MAYO COLLIER read this paper, in which he first drew attention to the fact that extensive and sudden movements of the valves of the heart were quite out of the question. The valves were in absolutely closed spaces, having blood or the solid walls of the heart on either side, and, consequently, the flapping action described in the text-books was manifestly impossible. The first act of the ventricle was to close the tricuspid and mitral valves; subsequently to lift the semilunar valve, to distend the first part of the aorta, and increase the general tension, so expediting the outflow, but not dilating the whole arterial system simultaneously. It was shown that during the systole of the ventricle, at two periods the pressure on both sides of the semilunar valves was equal at the commencement and end of the injection. The second sound of the heart was due to the sudden difference in pressure on the two surfaces of the semilunar valves at the commencement of diastole of the ventricle. The mechanism of the pulse was next dealt with, and the conclusions drawn from arterial schemata were ridiculed as totally irrelevant, the experimenter being unable to imitate the gradually increasing force of the ventricle, and the gradually decreasing thickness and power of resistance of the arteries. The pulse was defined as a wave of dilatation and recoil, passing from the heart onwards till lost in the smaller arteries. The wave was normally single, but under circumstances of diminished tension, from whatever cause, two or more waves or pulses could be felt and recorded by the sphygmograph. These secondary pulses were due to the fact that on recoil of the artery, after the primary distension, the whole recoil was not expended in dilating a more distant section of the artery as normally occurred, but a redistension would occur of the part last dilated, or the penultimate section. This penultimate section would again recoil, and distend the ultimate—that is, the one under consideration—and so on as often as the diminished tension and the diastole of the ventricle would permit.

Arrested Twin-development.—In this paper Dr. J. MACDONALD BROWN described (1) the methods of origin of twin monsters; (2) the "thoracopagus" class; (3) parasitism and its causation. His remarks were illustrated by a demonstration of the Hindoo boy "Lalloo," whose case was fully described and illustrated in the JOURNAL of February 25th, 1888, p. 436. The dangers of his condition and the question of operation were discussed.

[1] *Mem. de l'Acad. Imp. des Sciences de St. Petersbourg*, 7 Ser., Tom. x, No. 5, p. 1.

CLINICAL MEMORANDA.

HEART-SOUNDS WHEN THE BREATH IS HELD.

WILL you allow me to caution practitioners against what I believe to be a not uncommon source of error in connection with certain conventional modes of examining the heart?

The patient is told to "stop breathing." This he does with a more or less forcibly inflated lung, the result being that the contact and impulse elements of the heart-sounds—and we too often forget how large these elements really are—become exaggerated. In addition to this, the lung being not infrequently distended by a very deep inspiration, taken hurriedly at the moment when the patient is told to "stop breathing," the mechanical obstacle offered to a free passage of blood through the vessels of the lung is especially great.

What the listener hears when the patient's breath is held will not be the cardiac sounds, simply unmasked by the suspension of the pulmonary sounds, but the former exaggerated and distorted by the accidental physical conditions of the lungs and the heart and their surroundings in the thorax; which conditions are abnormal, for a state of forced, or even fixed, inspiration is not normal, and it *modifies* as well as intensifies the heart-sounds sensibly, as any close observer may detect.

The very frequent appearance in the consulting room of cases of supposed heart disease, in which, when examined under ordinary conditions, nothing can be discovered to support the hypothesis of disease, may perhaps be to some extent accounted for by the method of examining to which I have ventured to object.

Another point of moment is the position of the patient. I do not think any physician is justified in affirming the existence of a morbid state until, or unless, he can satisfy himself that the known effects of change of position on the several performances of the cardiac mechanism are produced. It is a matter of very great concern that the number of persons living lives of misery because they have been told that "there is something wrong with the heart" is of late largely increased and increasing; while no inconsiderable proportion of such persons have, in fact, nothing whatever the matter with their hearts beyond, perhaps, some sympathetic disturbance. I am not now thinking of the scare produced by "anæmic" sounds, which, by the way, are too often misconstrued even by expert and experienced examiners, but of hypothetical "valvular disease" in hearts which are in no way organically affected, or even the subjects of exceptional muscular debility.

14, Hanover Square, W. J. MORTIMER GRANVILLE.

A CASE OF PURPURA RHEUMATICA.

Miss A., aged 25 years, had a severe attack of acute rheumatism. I adopted the salicylic treatment, with the result that the pain and fever promptly subsided. At the end of a fortnight the salicylates were discontinued, a mixture of bicarbonate of potash, carbonate of ammonia, and infusion of cinchona being ordered instead. The heart was unaffected, and the urine free from albumen. During the third week phlebitis of the femoral veins, with "hard œdema," supervened; there was much gastric disturbance, with colicky pains and bilious vomiting. Diarrhœa alternated with constipation. Livid spots appeared on the malar bones, the tip of the nose, and the helices of the ears, in the order given. The rest of the body was unaffected. The temperature fluctuated between 99° and 101° F. In spite of all that could be done, about the end of the fourth week the patient sank from sheer exhaustion.

The etiology and pathology of this variety of purpura have not been sufficiently worked out. Liveing connects it with erythema nodosum, but this is doubtful. Is the primary cause of this condition an embolic impaction, the circulation of salicylic acid in the blood, or an inherent weakness of the capillary walls?

Salford Royal Hospital. A. C. Dutt, B.A., M.B.

SURGICAL MEMORANDA.

RETENTION OF URINE.

I have just read with much interest Mr. Christopher Heath's lecture on the above subject, and am thereby reminded of a case which occurred to me nearly thirty years ago, which illustrates one of the causes of retention mentioned by him; and, as it is the only one I have ever seen or heard of, and I expect such are not very common, I think it worth recording.

A boy, aged 3 or 4 years, was seen by me with an enormously swollen, œdematous penis, which almost threatened to slough, the œdema extending quite up to the pubes. It was supposed that he had been stung by some insect, but, not satisfied with this explanation, I instituted a careful examination and discovered a narrow deep groove, at the bottom of which I found a long hair tightly coiled round the penis. The groove was almost imperceptible, so fully had it embedded the ligature. This being cut and removed, the swelling quickly subsided, and no permanent ill-effects resulted. It was then ascertained that the boy had been the day before playing with some older children, girls amongst them, and these had doubtless placed the hair around the penis. Had the case been longer neglected, doubtless the whole organ would have sloughed, as was the case with the glans penis in Mr. Heath's case.

John Ewers,
Surgeon to the Bristol Hospital for Sick Children and Women.

Clifton.

ACCIDENTAL VACCINE INOCULATION ON THE VULVA.

In a recent number of the Journal, I notice a record of a case of accidental inoculation of vaccine lymph on the face of a nurse girl. About two years ago, I saw the same thing in a very different situation. A mother of a family sent for me on account of a mysterious affection which had appeared on her vulva. I found a dozen or more large vesicles on the external genitals (on one side only of the vulva, if I remember aright); the woman was anxious, and could give no hint as to the cause. However, the key of the case was found in the room in the shape of her baby, just recovering from vaccination. Failing this key, I might have been puzzled; for, owing to the character of the tissues, or more probably to the method of inoculation, the vesicles were not single and sharply defined, but flattened, and united together along the whole side of the part.

T. B. Franklin Eminson, M.R.C.S.

Scotter, North Lincolnshire

"BAVARIAN" PLASTER JACKET FOR FRACTURED SPINE

In a recent case of fracture of the mid-dorsal region of the spine, the result of an attempted suicide, the patient becoming unmanageable, it was determined to put her up in a plaster jacket. On the third day after the accident, with the help of two nurses from the Hampstead Nursing Association, we set about it as follows: We took two pieces of house flannel, one 2½ yards long, ¾ of a yard wide; the other about 2 inches less in width, and 40 inches in length. We passed the longer piece under the patient in the same way as a draw-sheet; it reached from the acromial process to the lower part of the sacrum. The two sides were now brought together in the middle line in front, and sewn as close to the skin as possible. The axillary portion was split, the edges pared, and shoulder straps attached. Next, the extra pieces of flannel in front were split in about eight pieces, nearly down to the stitching, and the alternate pieces tied together round a clothes prop, cut about two inches shorter than the bed, so that it could be lifted straight up without danger of knocking it against the bed. The strips were carefully tied, so as for them all to be of the same tension when the weight came on them, and the patient was then lifted clear off the bed without pain or inconvenience. I omitted to say that the lower limbs and the head were supported by a towel tied in a similar manner round the pole, which was then braced up to another one, which had been previously placed on the head and foot rails. The second piece of flannel was then dipped in the plaster mixture and applied to the first piece, muslin bandages wound round the whole, passing through the spaces left in front by the alternate strips of flannel alone being tied. It became necessary a few days later to send her into hospital, as she grew unmanageable, and she made the journey with the greatest comfort in a greengrocer's cart to a hospital, about three miles away.

It is advisable to sew the shoulder straps on to the back part, before placing it under the patient. It is hardly necessary to point out the advantages and comfort of this plan of treatment

Queen's Crescent, N.W. F. R. Humphreys.

REPORTS

ON

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

CASE OF MITRAL DISEASE WITH SUPERVENING PERICARDITIS, IN WHICH A PRESYSTOLIC MURMUR DISAPPEARED.

(Under the care of Dr. C. Theodore Williams.)

[Notes by F. J. Wethered, M.B., House-Physician.]

L. F., aged 15, was admitted on October 26th, 1887, under the care of Dr. Williams, complaining of pain of a shooting character in her shoulders and over the præcordial region. Her father had died of phthisis. She had enjoyed good health until March, 1885, when an attack of rheumatic fever confined her to bed for three or four months, from which she recovered sufficiently to attend at the Brompton and the City Road Chest Hospitals successively, but of late the dyspnœa had been gradually increasing in severity.

When admitted she appeared a pale, anæmic girl, with a rather dejected look, somewhat emaciated. The thorax was elongated and ill-developed. The heart's apex was felt beating in the sixth intercostal space, slightly outside the nipple line; the impulse was heaving, but diffuse, and there was a well-marked presystolic thrill. A thrill was also felt in the left third interspace near the sternum. The area of præcordial dulness commenced at the upper border of the third rib, and extended downwards to the seventh, internally to the right edge of the sternum, and externally to the anterior axillary fold. On auscultation over the apex-beat, a loud booming presystolic murmur was heard, limited to a small area, and not extending to the axilla. The first sound was replaced by a loud blowing systolic murmur, conducted into the axilla, and also plainly heard near the angle of the left scapula. Over the upper end of the sternum a well-marked systolic murmur could be detected, which could be traced towards the left, and appeared to merge in the systolic murmur heard at the apex. Both the pulmonary and the aortic second sounds were much accentuated. The respirations were 48 and shallow, but the breath-sounds were clear over both lungs. Urine acid; contained urates and no albumen. The pulse was 132, small, thready, but regular. Temperature 101.5°. [Ordered tinct. convallariæ majalis ♏x; aquæ ℥i, ter die.

December 15th. She complains of pain in the upper part of the

abdomen on the left side, which came on suddenly. There is no change in the physical signs. Temperature 100.5°.

December 22nd. The pain has ceased in the abdomen, but is now felt over the cardiac area. Heart's action regular, but forcible. At the base of the left lung, also in the axilla, some subcrepitant *râles* are heard, and also some pleural friction. Temperature 99.2°. The pain was relieved by mustard plasters, and the patient was ordered liq. arsenicalis in two-minim doses three times a day after food.

January 2nd. Pain in cardiac region has quite disappeared. Cardiac dulness reaches to lower border of second rib above. Some pleural friction is still heard at base of left lung. Four days later ascites and œdema of thighs appeared, with œdema of the bases of both lungs.

January 9th. Patient improving, not so puffy about the eyelids; œdema of thighs diminishing. Cardiac dulness begins at upper border of third rib; a well-marked pericardial rub at base. Some œdematous *râles* heard at both pulmonary bases, more marked on the left side. Pulse 100, small and compressible. Respirations 18; temperature 98.6°.

January 19th. Œdema has quite disappeared; the pulmonary bases are clear. Cardiac dulness greatly diminished, is hardly perceptible above fourth rib, but below is still almost absolute. A systolic murmur is heard over the apex, but a presystolic murmur is no longer audible. Pericardial friction was heard over the great part of the præcordia three days ago, but has now vanished. Pulse 104, quick and compressible; respirations 26; temperature 98°.

January 25th. The systolic murmur is loud at apex, and the second pulmonary sound accentuated. Cardiac dulness commences above at the fourth rib, and reaches to sixth rib, but is nowhere absolute.

March 8th. Patient has been gaining in strength, and has been getting up daily, the time for remaining up being gradually increased. The dyspnœa has been gradually getting less. The pulse is still rapid, but regular. The heart's action is seen beating violently in lower left chest, impulse between sixth and seventh ribs in nipple line. Dulness can be detected from fourth to lower border of seventh rib, and from median line outwards to nipple. A systolic murmur is heard over the apex, but, better still, close to the ensiform cartilage. No presystolic murmur can be detected anywhere. The pulmonary second sound is a little accentuated, and the bases of both lungs are quite clear.

Patient discharged on March 17th, greatly improved.

REMARKS BY DR. WILLIAMS.—The interesting features of this case were: first, the insidious onset of the pericarditis; and, secondly, the crippling influence it exercised over the circulation, as shown by the appearance of dropsy and pulmonary œdema, which subsided when the effusion had become partially absorbed. Thirdly, the disappearance of the presystolic murmur, which was noted after the attack, indicating that the adhesions which followed the attack of pericarditis exercised some traction on the mitral valve, and gave rise to greater patency. Thus obstruction may have been replaced by regurgitation through the valve. The good effect of the course of arsenic was well marked.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.

CASE OF EXTRA-UTERINE PREGNANCY ATTENDED WITH COPIOUS ALBUMINURIA: OPERATION AT THE FOURTH MONTH OF PREGNANCY: RECOVERY.

(Under the care of Mr. JOHN W. TAYLOR, F.R.C.S.)

E. S., aged 38, married, was seen in consultation with Dr. Barratt on March 4th, 1888, on account of a rapidly increasing abdominal swelling on the right side. The history was as follows.

Since the birth of her last child, twelve years ago, she has menstruated quite regularly until December 6th, 1887. At this date, which should have been the commencement of a normal menstrual period, an irregular loss appeared, continuing, more or less, for two months. At the date of our visit this discharge had ceased for the space of three weeks. At no time has there been any history of amenorrhœa. About four months ago she began to feel ill, and has suffered with some pain on the right side of the abdomen ever since. Latterly, this pain has been increasing, until now it is unbearable, and prevents any rest at night. About one month ago, some swelling was noticed by the patient above the right groin, and this has been steadily increasing in size since its first appearance.

On examination, a hard, tense, semifluctuant mass was found on the right side of the uterus, pushing the latter to the left side of the pelvis. The upper limit of the tumour was plainly felt above the right groin, and formed a crescentic outline stretching from the crest of the ilium to the pubes. A sound passed into the uterus proved it to be quite distinct from the tumour, but slightly enlarged and empty. On testing the patient's urine, it was found to be full of albumen, the precipitate produced by heat amounting to about half the bulk of the urine tested.

A tentative diagnosis was made of an inflamed, and possibly suppurating, abdominal cyst, and laparotomy was advised. The possibility of extra-uterine pregnancy was considered, but dismissed on account of there having been no history of amenorrhœa.

The patient was admitted to the in-patient department of the Women's Hospital, and, on March 7th, abdominal section was performed. A blackish cystic mass was seen on the right side, very adherent to the adjacent intestine and omentum. The tumour was separated somewhat from its adhesions, and, at a fluctuant part, a small trocar was inserted. Pure blood flowed freely from the cannula, which was at once withdrawn. The tumour was quickly separated as far as possible from remaining adhesions, when a large sized fœtus, of about four months, was brought to light with its accompanying placenta. These were lying in the centre of the tumour already described, the walls of which were formed by the uterus and pelvic wall below, and by adherent intestine and omentum above. The placenta was mainly attached to the hypertrophied and expanded interior of the Fallopian tube, which had apparently ruptured at a much earlier date. The fœtus and placenta were removed, and the remains of the tube ligatured close to its uterine termination. A piece of omentum to which the placenta had become attached had also to be removed. The peritoneal cavity was washed out, and, a drainage-tube being inserted in the pelvis, the incision was closed.

The case, which gave a little cause for anxiety during the first week, eventually did very well, and, when discharged from the hospital on March 28th, the patient was quite convalescent, and there was only a trace of albumen in the urine.

REMARKS.—1. The question was mooted before operation whether it would not be wiser, considering the serious albuminuria, to tap the tumour through the abdominal wall rather than to do the laparotomy. Happily the proposition found no support, for the sequel shows very plainly that such a proceeding would have been attended with very grave risk. The hæmorrhage would have been severe and not improbably fatal; while, if the patient survived this danger, the original condition would have been unaltered save by the complication of intra-peritoneal hæmatocele.

2. It is interesting to note that the albuminuria in this case appeared to depend on the pregnancy or tumour, and that its existence in considerable amount need not be a bar to successful operation.

3. No definite history could be obtained of any sudden symptoms referable to the period of tubal rupture. In rare cases this must occasionally take place with but little pain or hæmorrhage.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

TUESDAY, NOVEMBER 27TH, 1888.

Sir EDWARD SIEVEKING, M.D., President, in the Chair.

The Etiology of Puerperal Fever.—Dr. W. R. SMITH, read this paper. The inquiry in connection with this subject was, he said, carried out at the Brown Institution at the request of the Committee. Blood was obtained from the heart of a patient who had died of puerperal fever, and cultivations made on gelatine in the ordinary way. In the course of two or three days, numerous colonies were present, all clearly of the same organism; this organism was isolated and its growth carefully noted in various media—for example, gelatine, agar-agar, milk, and broth; it was found microscopically to be a micrococcus. Mice inoculated with the organism died in the course of two or three days, and the organism could be recovered from the heart's blood. Inoculations of the ears of rabbits produced in the course of twenty-four hours a diffused redness, not progressive in character, as was the case in erysipelas, such redness disappearing in the course of two or three days. Blood was further obtained from the finger of

a woman suffering from puerperal fever, and cultivations made upon the surface and in the depth of gelatine in the usual way; numerous colonies appeared, in all cases resembling those originally cultivated from the blood of the previous patient. These colonies were isolated, and in every respect, both by cultivation and by experiments on animals, resembled the organism previously isolated. From these experiments, etc., the following conclusions were drawn: 1. That this organism occurred in the blood of persons affected with puerperal septicæmia in considerable numbers in the form of streptococci. 2. That, culturally, differences of a marked character distinguished it from other streptococci. 3. That its action upon mice and rabbits was distinct and definite. 4. That it could be distinctly distinguished from the erysipelas streptococcus of Fehleisen and from the *Streptococcus pyogenes* of Rosenbach.—Dr. QUAIN remarked that he did not think he could have been mistaken in proposing at the last meeting of the Society that this very interesting paper should be postponed until there was full time for discussing it. The origin of the paper had been from a very generous offer of the Hon. Rollo Russell of £100 for the special investigation of the disease at the Brown Institute. The result had proved eminently satisfactory.—Dr. W. O. PRIESTLEY considered both the paper and the subject important. Some ten or twelve years ago, when a considerable discussion took place at the Obstetrical Society, under his presidency, the subject was more confused, and he had hoped some further clue might be obtained by the microscope, and he had himself suggested the importance of the bacteria in the matter. M. Pasteur, eight years ago, in Paris, had made some investigations into the blood of patients with puerperal fever. He had got various streptococci, which he found could be easily reproduced, as well as the vibriones which ordinarily accompanied pus. Though Dr. Smith had pointed out the difference between erysipelas and puerperal fever, yet he should himself feel it a most dangerous thing to go from a case of erysipelas to a lying-in chamber. His chief point was that he wished to know what were the forms of puerperal fever in the two particular cases from which these streptococci were taken. They were all familiar with diversity of origin in the cases which originated in wounds of the genital canals (sapræmia), and other forms which were imported from without, by such means as the finger of nurse or doctor, and many other means. Much of the interest depended on the form of disease which had been investigated. They were distressing diseases, for they were mostly preventable. Much had been done already, and much more might be done. The mortality at Copenhagen had been reduced from 1 in 19 to 1 in 87; in one of the St. Petersburg hospitals there had for long been no case.—Dr. BARNES thought that, in spite of what had been done, we were not far advanced in our knowledge of puerperal fever. He had just been going to ask the same question as Dr. Priestley as to the special characters of the cases Dr. Smith had examined. He related a case in which the origin was at first obscure, but in which careful research had shown the disease to be really scarlet fever, conveyed by both doctor and nurse. Such an origin had been possible to discover in the country, but might be very easily missed in London. To the classes which Dr. Priestley had named he wished to add another, namely, the autogenetic cases which were the result of retained excrementitious matters, where some ferment was retained, and produced fever which ought to have been eliminated with the excreta. He quoted some cases in illustration, and expressed a strong belief that it would be found impossible to clear up the whole matter by any germ theories.—Dr. HERMAN felt Dr. Smith's paper deficient in not offering any answer to the question whether all puerperal fever was caused by germs. In his own opinion it was all caused from without, and that that was the case had become tolerably plain from the very great improvement there had been since the use of antiseptics. Roughly speaking, in fact, the diminution was in direct proportion to the antiseptics. It had been well shown that if scarlet fever was introduced into lying-in hospitals, scarlet fever and that alone was reproduced. It required many more than the two cases brought forward by Dr. Smith to show that the bacterium present in them was sufficiently constant to be the cause of puerperal fever.—Dr. ROUTH had little taste for talk about bacteria, and considered the question of how to treat the disease the first and main question; any proof of bacteria should be proof by treatment. He mentioned that he was the first Englishman to suggest the use of antiseptics in midwifery.—Mr. J. H. WALTERS said he had come up from the country for the discussion, and had been disappointed to find it so bacteriological. He agreed with Dr. Herman; and, as to autogenetic puerperal fever, he was not a little sceptical. He and his partners had not found it in cases of small supplemental placentæ, large clots in the uterus, etc., where it might have been expected. He regarded insanitary dwelling-houses as an important cause, and told a story of a man who had died of septicæmia, which he attributed to his having walked over a sewer-trap, and inhaled offensive gases; and another story of a lady in an ill-ventilated house who had developed morbid symptoms leading to phlegmasia dolens on the tenth day, and who had recovered quickly on removal to another house.—Dr. W. S. A. GRIFFITH admitted that not much was known about the history of the case from Queen Charlotte's Hospital, upon which Dr. Smith had based some of his experiments, and added that they had not had a case of puerperal fever since that one.—Dr. WILLIAM DUNCAN said his experience in puerperal fever was that the great majority of cases were heterogenetic, but not all, and he did not attribute this important minority to insanitary surroundings. As to the bacteria, he should have been glad to learn what they came from in acute periostitis; their origin in these cases was as difficult to explain as in the autogenetic cases of puerperal fever.—Dr. A. MONEY wished to note that a breach of surface anywhere in a parturient woman was sufficient to justify a heterogenetic origin.—Dr. W. R. SMITH, in reply, said he could not profess to know all forms of puerperal fever. In the first of the cases he had experimented on, which came from Queen Charlotte's Hospital, the disease had been traced to a nurse outside; in the other case the origin was doubtful. In answer to Dr. Routh, he felt it sufficient to say that knowledge must precede treatment, and that the more we knew of a disease the better we should be able to control it.

Acetonuria and its Relation to Diabetic Coma.—Dr. SAMUEL WEST read this paper. He said the relation of acetonuria to diabetic coma had been investigated by experiment and by clinical observation, and his paper was a contribution to the clinical side of the problem. The results of experiments were briefly referred to, and the conclusion to which they led. Clinical observation was for a long time difficult from the want of trustworthy tests. A short account of the chief ones was given:—1, Lieben's iodoform test; 2, Gunning's and Le Nobel's modification of it; 3, Reynolds's test; 4, Legal's test with nitro-prusside of potassium; 5, Le Nobel's modification of it; 6, Penzold's test. Legal's test was found to be the most convenient for use in the urine direct, and Lieben's in the distillate, but this reaction was also obtained if alcohol were present. But if the urine gave Legal's, and the distillate both Legal's and Lieben's tests, the presence of acetone might be accepted. As control experiments, two series of convalescent cases were examined. In the first thirty cases a doubtful Legal's reaction was obtained in three. In the only one which was distilled neither test was obtained in the distillate. In the second series of about the same number no evidence of acetone was obtained in any. Of non-diabetic patients actually suffering from illness at the time of examination, acetone was found in fifteen cases. Acetonuria was, therefore, very rare in healthy or convalescent persons, but common in various forms of acute and chronic disease. Of diabetic patients fourteen were examined, four being at the time comatose. In some of these cases the examination was continued for many days. The following conclusions were arrived at:—1, acetonuria was common in diabetics without coma; 2, it was not constantly present in cases of diabetic coma; 3, it varied greatly in the same case from time to time without definite cause; 4, it varied independently of variations in the amount of sugar, specific gravity, etc.; 5, it might even disappear when coma developed. The iron reaction showed also no relation either to coma or to acetone. Experiment and clinical observation, therefore, led to the same conclusion, namely, that acetone could not be the cause of diabetic coma. Clinical observation, however, seemed to show that acetonuria had a clinical value as indicating that the patient was in a more critical condition than when it was absent. The symptoms of diabetic coma depended, in all probability, upon acute intoxication by some substance rapidly generated within the body, but at present unknown. It might be that in the perverted chemical processes which developed it, acetone and the allied body giving the iron reaction were produced, so that the presence of these bodies in the urine might serve as danger signals.—Dr. MAGUIRE agreed with Dr. West that it might be taken as established now that acetone did not produce diabetic coma; the cause might be diacetic acid or many other things which were generally dealt with by the liver and kidneys without serious injury. He had observed an albuminuria in

diabetic coma which was connected with an acute parenchymatous inflammation or necrosis of the kidney, similar to that caused, as Albertoni had recently shown, by diacetic ether. He regarded the appearance of this albuminuria as a danger signal in diabetes.—Dr. A. MONEY had come to the same pathological conclusion as Dr. Maguire, from finding necrosis in the kidney after death. He thought the iron reaction also a signal of danger; for he had never failed to find it when the knee-jerk was lost in diabetes.—Dr. S. WEST quite agreed in thinking albuminuria a dangerous symptom in diabetes, even although it might vary during the disease, and even disappear before coma set in. It was very probable that in these morbid conditions there were poisonous substances collecting, until they resulted in an explosion, and the general rottenness of diabetic tissues was quite in accordance with this.

CLINICAL SOCIETY OF LONDON.

FRIDAY, NOVEMBER 23RD, 1888.

W. H. BROADBENT, M.D., F.R.C.P., President, in the Chair.

Death of Dr. E. H. Greenhow.—The PRESIDENT referred in feeling terms to the sudden death of Dr. Greenhow, which occurred at the Charing Cross Railway Station on the preceding day, Thursday, November 22nd. Dr. Greenhow was practically the founder, and was the actual first treasurer, of the Society, an office which he held for many years, and resigned only to become President.

Purulent Pericarditis Successfully Treated by Aspiration and Drainage.—Dr. DICKINSON related this case. A boy, aged 10, was brought to St. George's Hospital, having had symptoms which Dr. Harris and Mr. Noad, both of Norwood, interpreted as pyæmic. A large gluteal abscess was followed by signs of pleural effusion and œdema of the face and chest. On admission, on June 15th, 1887, there was evidence of effusion in the left pleura and in the pericardium. The position of the heart was almost indiscoverable amid the dulness, which involved the left pleural and præcordial regions. There was much dyspnœa, blueness, and irregularity of pulse. There was œdema more or less general, but especially marked about the thorax. The liver was enlarged or depressed so as to reach the umbilicus. On the 18th the pleura was aspirated, and thirty-seven ounces of serum were drawn off, which operation was repeated on the 23rd with the removal of thirty-two ounces. The dyspnœa, blueness, and œdema were but slightly and temporarily relieved by each operation, which had to be repeated on the 25th and 28th, so great was the distress and so rapid the reaccumulation. On the 30th the futility of dealing with the pleura having become apparent, the pericardium was aspirated by Mr. Rouse, and one ounce of creamy pus withdrawn; the aspiration was repeated with more success on July 8th, twelve ounces of similar fluid being withdrawn, and on the 15th with the withdrawal of nineteen ounces. The place selected for puncture was on the right side close to the edge of the sternum, in the fifth interspace. The heart before each of these operations had been drawn to the left by a preceding evacuation of the pleura. The lower part of the pericardium where the swing of the heart was greatest, and the right extremity of the cavity, from which the heart was furthest removed, was obviously the part which could be penetrated with the greatest safety. By July 22nd the pericardium was again as full as ever, and the general symptoms as distressing. It was clearly necessary to replace aspiration by a tapping opening. Mr. Rouse accordingly made an incision where the punctures had been, and put in a tube. The aspiration was followed by some faintness, but subsequently by great relief. Not to follow the case in further detail, recovery, after some temporary drawbacks and three subsequent aspirations of the pleura, became complete. By the middle of September there was no remnant of the pericardial puncture except a small cicatrix, which moved with each beat of the heart. In the course of less than two months the chest had been punctured sixteen times; the pleura twelve times, with the aspirator and removal of serous fluid; the pericardium four times, three with the aspirator, once with a knife so as to leave an opening and a constant discharge of pus. A remarkable fact in the history of the case—one, however, not unprecedented in similar circumstances, was the nearly total absence of præcordial friction, which was recognised but on one occasion.

Pyopericarditis associated with Osteo-Myelitis: Free Incision: Death.—Mr. PARKER related a case of extensive pyopericarditis (associated with osteo-myelitis of the tibia) which he had freely incised. Death had occurred while irrigation was being practised to wash out the thick membraniform pus with which the pericardium was distended. The patient was a girl, aged 9. She had been under treatment for acute osteo-myelitis of the tibia, complicated with secondary septicæmic suppuration of the knee-joint. The case went from bad to worse, treatment and antiseptics notwithstanding. In the fifth week of the disease extensive pericardial effusion supervened, and the girl's condition became desperate. Tapping at first brought some relief, but, as the effusion recurred, it was decided to incise the pericardium and insert a drainage-tube. When the pericardium had been opened, the pus therein was found thick and to contain large membraniform shreds, and so irrigation was resorted to, in order to wash them out, it being feared that if left behind they would decompose, and become a source of further danger. The already weakened heart was unable to bear this additional strain; and so the child died. After relating his case, Mr. Parker raised the question as to the mode of causation of purulent pericarditis, and referred to the usually accepted treatment. He then discussed the most appropriate teaching. Should free incision be advised? If so, in what cases—in small as well as in large effusions of pus? Was spontaneous cure a clinical possibility? Finally, as to the best place for making an opening, the author, from observations on the dead subject, recommended the fourth left intercostal space, close to the sternum. An opening at this spot, he contended, would longest afford a direct communication with a gradually retracting pericardium, an important point in facilitating complete drainage. The author finished by advocating for pericardial effusions the same line of treatment as had been so successfully applied to pleural effusions, and emphasised the essential importance of aseptic conditions.—The PRESIDENT observed that the whole question of the causation and treatment of pyopericarditis was before the Society. He thought there could hardly be any difference of opinion as to the treatment when once the presence of pus had been decided, but where should the puncture be made?—Dr. GOODHART mentioned a case which came under his notice last year, in which puncture was not resorted to, and the patient was allowed to die unrelieved. He said the case emphasised a point which also came out incidentally in Dr. Dickinson's case, namely, that a large quantity of purulent fluid in the pericardium might be, as it were, so packed away as to give rise to scarcely any signs of its presence. His patient was a woman, aged 45, married, who had borne children, and was engaged in housework. A fortnight before Dr. Goodhart's visit she had had shivering, a temperature rising to 102°, and œdema of the arm. She was better on the following day, then oscillated for some days, and was, when seen by the speaker, found to be lying in bed with a livid face, with cold livid limbs, and an irregular pulse of 120. There was no dyspnœa, but very little air entered the lungs anywhere; considerable præcordial dulness existed, and there was dulness at the bases of both lungs. The general history pointed either to pus in the pericardium, or possibly to a tumour in the anterior mediastinum. Some enlarged glands were found above the left clavicle and in the left axilla. As definite signs of pyopericarditis were not present, operative treatment was postponed. She lived three or four days, and on the day when aspiration for diagnostic purposes was to have been performed, she died. At the *post-mortem* examination there was found slight pleurisy of the left side, with two pints and a half of pus in the pericardium. Before opening the thorax it was found that puncture at the fourth interspace did not draw any fluid from the pericardium, but pus escaped when the puncture was made quite below the left nipple. He considered that it would not be possible in all cases to puncture at the same identical spot; the spot most suitable must be chosen in each case. In a few cases he believed a purulent pericarditis was primary. In many cases it was impossible to hear any pericardial rub; in the purulent cases the rub seemed to be softened, so that even when it had been expressly looked out for in reference to operation, as in a case at the Evelina Hospital, it had not been found before the patient died.—Dr. S. WEST observed that the diagnosis was often most difficult. Reference had been made to the absence of certain physical signs which were held to indicate pericarditis; but, as a matter of fact, no disease was more easily overlooked, and purulent pericarditis was generally more difficult to recognise than the serous variety of the disease. The disease was often latent, and it was frequently found on *post-mortem* examination when its existence had never been so much as suspected during life, and when they did discover it at the bedside it was often by accident, as it were. With reference to the origin of these cases, many were pyæmic, but still a certain proportion were not so, that is, not

connected with local suppuration in any other part. His attention had been called in one case to the abundance of bacilli in the freshly drawn fluids, the field under the microscope being crowded with them, but he could say nothing as to their significance. Friction sounds were often absent in these purulent cases, and absent throughout. In regard to serous pericarditis he had made the same diagnosis as Dr. Goodhart had made in his case, namely, that there was a solid tumour. There was a large friction sound all along the sternum, and the heart was just close beneath the bone, and floating instead of sinking. He thought that it was often impossible to distinguish between purulent and serous pericarditis except by inference, unless paracentesis had been performed. In many of these cases there was little or no elevation of temperature. If pus were proved to be present it ought, of course, to be evacuated by incision or puncture. The results were much better than when the pleura was incised, and that was easy to account for. The conditions for cure were more favourable; as the pericardium was elastic, and could be easily drained. He recalled a case which he had brought before the Pathological Society. A child was supposed to have pleurisy and empyema. The pleura was tapped and serous fluid drawn off. Recovery did not take place, and it was decided to lay it open. When the finger was passed into the cavity a bulging bag was felt and incised, and about a pint of pus withdrawn, but the child died fourteen days afterwards. At the *post-mortem* examination the sac which had contained the pus was found to be almost completely obliterated, except for a small point at the apex. Tapping, he said, was generally the first measure, but no general rule could be laid down as to the best spot to make the puncture or incision. They had to be guided by particular indications. He had seen laceration of the ventricle follow the use of the common trocar and cannula, the former of which often bulged a quarter of an inch beyond the latter, and he preferred a hollow needle, the point of which could be guarded, if possible. Tapping should not be performed over the thin right ventricle or auricle, as the risk of laceration was increased. In a case in which the right ventricle was wounded, the patient died in five minutes. He said that Mr. Parker's suggestion of stitching the pericardial sac to the wall of the thorax was hardly practical. He had seen two cases within the last year of purulent pericarditis associated with pneumonia, and in both of them there were indefinite symptoms of general empyema. In one case a needle was first thrust into the pleura, and withdrew all the pus therefrom; it was then used to the pericardium, but could not be pushed into it. Next day the patient was much better. It seemed as if the instrument had nicked the pericardial sac, which had then drained itself into the pleural cavity. That was again tapped, and the patient had recovered. He asked if Dr. Dickinson had in his case noted that depression in the epigastrium which was said to be indicative of pus in the pericardium. He remarked that Dr. Dickinson's was only the third case on record in which recovery had ensued. The first case was published by Rosenstein in 1881; then there was his own (the speaker's) case, published in 1883 or 1884; now this was the third successful case.—Dr. ANGEL MONEY did not quite follow Dr. Dickinson in his explanation of the production of serous effusion into the pleura. He doubted whether it was a pressure effect.—Dr. BARLOW, alluding to the question as to the best position in which to perform aspiration, quoted two cases of pericarditis which had been allowed to die unrelieved, as the rub was so excessive that he did not think it right to introduce a needle. At the *post-mortem* examinations of these cases all the experimental punctures made to the left of the sternum went into the heart-wall, and with the aspirator he was quite unable to remove any fluid from the left side, and he was only successful when he introduced it to the right of the sternum, in which position he was able to draw off many ounces of fluid. He was disposed to consider that the right-sided puncture had been unnecessarily discarded. Ounces of fluid might be stowed away and the heart float on the surface of it. Upon puncturing to the right side of the heart, one seemed to "get round the corner" with the instrument, and to have a chance of drawing off the fluid that might be stowed away. He thought the absence of friction sound was sometimes due to the fact that the parietal layer of the effusion became levelled down and smooth, so that the cardiac movement produced no frictional rub. He said that the serous effusion into the left pleura in association with pericarditis was often due to pressure on the root of the lung; if pleura and pericardium were affected by a common pyæmic cause, then they would both be purulent, whereas in other cases in which the effusion into the pleura was secondary to the effusion into the pericardium, then the former would be serous. He could recall several cases. One was that of a Newfoundland dog suffering from rheumatism; the pressure on the root of the left lung from pericarditis seemed to produce the serous pleurisy of the left side.—Mr. GODLEE made some remarks as to the anatomical relation of the internal mammary arteries in children. In them the vessel is so close to the side of the sternum that it must be wounded if an incision were made, though it would probably be avoided in the case of a puncture. For an incision, it should be cut down upon, tied, and cut before the pericardium was opened. If the parts were in the natural position, he thought the fourth or fifth interspace was the best spot for puncture of the pericardium. When the pericardial sac was injected with hot gelatine, there was found a large collection of the solidified gelatine on each side of it, and a thin layer in front and a thick layer behind, packed away against the root of the lung. The trochar used in tapping should be directed towards the middle line. In a case of pyopericarditis he had known the pleura to be tapped, and the bulging pericardium felt, but, as it was not thought to be the pericardium, it was not tapped. When the man died it was found to contain a pint and a half of fluid.—Dr. S. PHILLIPS mentioned the case of a girl, aged 14, who was admitted to hospital with acute articular rheumatism and pericardial effusion, who suddenly fell back dead, and whose pericardium was subsequently found to be full of pus.—Dr. DICKINSON, in reply, said he knew of no means except puncture, by which a purulent pericarditis might be distinguished from a serous pericarditis. One might know there was fluid there, but as to its nature one could not tell. As to the place of puncture, he thought that in each case it must be decided according to the individual circumstances, but he advised that it should be made low down where the pyramid was wider. His rules were: 1. Make sure that the pericardium contains fluid. 2. Make out where the heart is. 3. Keep clear of it. He quoted the case of a patient with large pericardial effusion, and with the heart sounds scarcely audible. The surgeon punctured to the left of the sternum using a long cannula. The patient was at once relieved; the pleura had been punctured, so that the fluid had gone to the pleura, and had there been absorbed.

Living Specimens.—Mr. H. BAKER showed a case of Genu Recurvatum; Mr. CLUTTON, a case of Compound Dislocation of the Elbow with Complete Recovery of the Joint; Mr. T. D. SAVILL showed a man, the subject of Hystero-epilepsy, and Functional Contraction; Dr. J. F. PAYNE a case of Molluscum Fibrosum with Multiple Neurofibromata.

MEDICAL SOCIETY OF LONDON.

MONDAY, NOVEMBER 25TH, 1888.

SIR WILLIAM MAC CORMAC, F.R.C.S., President, in the Chair.

CLINICAL EVENING.

Case of Goitre.—Dr. GEORGE STOKER showed a man who had come under his care in April, 1888, with a large, central, well-defined goitre, the size of a small hen's egg. Iodide of potassium and hydrofluoric acid were given internally, and irritants externally, but without any effect. In June he had symptoms of chronic hypertrophic rhinitis, which caused much inconvenience. The middle turbinated bodies were much thickened, and this was treated by the galvano-cautery. The cauterisation was continued at intervals of a fortnight up to the present time, and the goitre had now completely disappeared. Dr. Stoker suggested that the cauterisation in the nose produced reflex irritation of the vasomotor nerves, causing contraction of the blood-vessels in the gland and diminution of the hypertrophy, illustrating the intimate connection that existed between the functions of the thyroid body and the vasomotor system. He alluded to the coincidence, recorded elsewhere, of degenerative changes in the thyroid and in the middle and inferior cervical ganglia of the sympathetic. He mentioned that he had another case of the same kind under treatment, a diminution of an inch and a half in the size of the neck being already perceptible.

Cases of Partial Removal of Goitre—Mr. LENNOX BROWNE showed three young male patients, from two of whom he had removed the isthmus of the thyroid; from the other the isthmus and right lobe, weighing 7¾ ounces; and in each instance with the result of giving complete relief to distressing dyspnœa. He was disposed to think that the danger of

myxœdema after entire removal had been exaggerated, but seeing that it did exist, and that it was impossible to foretell the cases in which it might occur, he thought it better to do a partial operation. He had now removed either the isthmus, or the isthmus and one lobe, in ten cases; and in all with a completely satisfactory result. Hæmorrhage at the time of operation was but slight, but in two instances there had been rather severe secondary hæmorrhage on the seventh or eighth day. Mr. Browne showed the removed portions in the three cases exhibited, as well as photographs before and after operation.—The PRESIDENT observed that, since good results were possible with partial removal, they would be justified in avoiding the risks incidental to the removal of the gland in its integrity.—Dr. HADDEN mentioned that symptoms of myxœdema had been known to follow even partial removal, but in such cases the gland left behind was probably diseased. He said that Mr. Browne would recognise the real danger after total extirpation on reading the report of the Myxœdema Committee.—Mr. BERNARD PITTS asked Mr. Stoker whether there was any deformity of the trachea from pressure. He observed that the cauterisation had been slight, and the results extraordinary, and a number of successful cases would be required before it could be looked upon as more than a coincidence.—Mr. BERRY said the idea of cauterisation of the turbinated bones influencing the size of the thyroid was first mooted by a surgeon at Freiburg, many years ago. He did not think they were justified in incurring the risk of myxœdema by total extirpation.—Dr. STOKER, in reply, claimed that he was perfectly justified in claiming the cure as the result of the cauterisation. He affirmed that the tumour was not cystic, as suggested by Mr. Pitts.—Mr. LENNOX BROWNE said he had never seen myxœdema follow removal of the gland; but, if the risk were really great, it was one reason the more for resorting to partial excision only. He observed that the hæmorrhage in these operations was much greater than anatomists would lead them to suppose.

Polio-myelitis (?) after Injury.—Dr. BEEVOR showed this case. A boy of 12 fell violently on to his elbow last August. His arm, which he was unable to move, was put up in splints for fracture of the humerus. A month later, when the splints were removed, certain muscles were found to be paralysed, notably the supinator longus, biceps, brachialis anticus, deltoid, infra-spinatus, and teres major. There was no anæsthesia. The muscles did not react to the faradic current, and showed the reaction of degeneration. He thought it was a case of injury to the spinal roots (fifth and sixth cervical), or a case of polio-myelitis, probably the latter. The patient could use the upper part of the pectoralis major in pressing the hands together, but not in raising the arm. This looked as if the part of muscle acted at one time and not at another, a fact which would be in favour of physiological functional grouping of muscles in the spinal cord.—Dr. SIDNEY PHILLIPS asked whether the apparatus might not have caused the paralysis by pressure.—Dr. MONEY expressed himself as somewhat sceptical with reference to the occurrence of a fracture.—Dr. BEEVOR, in reply, said he saw no reason to suppose that Dr. Phillips's suggestion was correct.

Neuro-muscular Irritability.—Dr. HADDEN exhibited this patient. The man originally had a condition of spasmodic paraplegia, which was evidently not of spinal origin. A similar rigid state could be induced in the arms by mechanical stimulation of the muscles or nerves, and even in other muscles such as the sterno-mastoid and masseter. The rigidity of the legs disappeared under rest and treatment, but could be brought about afterwards by percussing the muscles. The man was an athlete, and it was possible that the condition was due to over-exertion. The condition of the patient resembled in some respects what was sometimes seen in hysteria, and also the morbid state known as Thomsen's disease. From both these, however, it was probably quite distinct.—Dr. MONEY said he had noticed somewhat analogous spasmodic contractions in cases of chorea and after typhoid fever, though he had never met with anything nearly so well marked as in the case before them.—Dr. HADDEN, in reply, said it was an exaggeration of what was met with in healthy persons. He was disposed to ascribe the symptoms noticed in the case of this man to irritation produced by fatigue.

Case of Resection of the Inferior Maxillary Joint for Ankylosis.—Mr. ALLINGHAM was to have shown a lad, 7 years of age, who fell a distance of ten feet on to his chin. When admitted some months later, he was unable to open his mouth except to a very small extent, and it was forced open, under an anæsthetic, but without any useful effect. He then made an incision along the zygoma, two inches in length, downwards along the posterior margin of the jaw, carefully dissecting down to the bone, and introducing a small saw through the neck of the jaw backwards, so as to weaken the bone, completing the division with a pair of curved bone forceps, and forcing out the condyle with an elevator. The patient made an uninterrupted recovery. He regretted that his patient had not put in an appearance, and said that the lad could now open his mouth for from an inch and a half to two inches.

Case of Erythema Gangrenosum.—Dr. CAMPBELL showed a young married woman who had been the subject of syphilis, who some time after had come to him with erythematous patches on the forehead and chin, and later between the nates and on the vulva, imperfectly vesiculated and giving place to shallow, superficial ulcers. He called the case one of erythema gangrenosum for want of a better designation.—Dr. RADCLIFFE CROCKER suggested that the ulcers might be self-produced.—Dr. CAMPBELL denied that this was possible, given the situation of the eruption.

Case of Ectopia Vesicæ after Operation.—Mr. A. BOYCE BARROW showed a female child on whom he had operated successfully for ectopia vesicæ. He described the operation, and mentioned that in a subsequent case in which he had performed a similar operation it had failed because he had attempted to close in the bladder at one operation.—The PRESIDENT congratulated Mr. Barrow on the result of his operation, but asked him whether he did not anticipate any trouble from the cutaneous surface of the flap presenting in the bladder cavity. He added that he thought there was a good deal to be said for the method of separating the sacro-iliac synchondroses, although his own experience had not so far been favourable.—Mr. BARROW, in reply, said that the separation of the pubes in his case was not very great.

HARVEIAN SOCIETY OF LONDON.

THURSDAY, NOVEMBER 15TH, 1888.

W. SEDGWICK, M.R.C.S., President, in the Chair.

Radical Cure of Hernia.—Mr. MITCHELL BANKS read a paper in which he divided non-strangulated hernia into two groups: (1) moderate sized herniæ, and (2) very large and enormous herniæ. This had been done, because they were by no means on the same footing, either as to danger to life from the operation or liability to recurrence of the rupture. In the statistics which he gave, the terms were used in the following manner: By "quite sound" was meant that the rupture had never come down since the operation, that there was nothing in the way of a swelling to be felt or seen, and that there was no impulse on coughing. By "partial success" was meant that the rupture had slightly returned, or threatened to return if unsupported, but that, with the aid of a truss, the patient was in safety and comfort. In many of these cases no truss at all would keep the bowel up before operation, while after it support could be effectually given. In every instance the patients placed in this category declared that they were in a distinctly better position after the operation than before it. By "complete failure" was meant that the rupture was as big and troublesome as before the operation. Among the fifty-five moderate-sized non-strangulated herniæ, two deaths were recorded. One was distinctly due to the operation. The other was doubtful, as the wound was all but healed, and there was no peritonitis or other lesion relating to the wound found after death. Of the sixteen very large and enormous herniæ, four cases proved fatal. Septicæmia killed two patients, and unsuspected abscess, bursting into the peritoneal cavity after the patient was walking about and deemed sound, proved fatal in another, while in one case the operation could not be completed. Of the twenty-two cases of strangulated inguinal hernia, one, an old man, aged 77, died from septicæmia and bronchitis. Of the nineteen cases of strangulated femoral hernia, two died; one never recovered from the collapsed state in which she arrived at the infirmary, and another was moribund when admitted. The statistics of permanence of cure showed that of the 100 cases of moderate-sized non-strangulated and strangulated herniæ combined, it had been possible to trace for very considerable periods seventy-seven. Of these, forty-eight remained quite sound, seventeen were partial successes, and twelve were complete failures. Of the sixteen cases of very large and enormous herniæ, it had been possible to follow up ten. Of these, five remained practically sound (though all requiring some support to prevent return), three were partial successes, and two were complete failures.—Mr. BRYANT'S experience of those cases in which the sac was removed was that they succeeded best. After kelotomy the operation

could not be considered completed until the sac had been removed. Operations on children were to be avoided, except where a truss could not be worn. Opening the sac almost quadrupled the risk. In adult life operation was inadvisable when a truss could be worn: big herniæ ought to be left alone, he had occasionally been obliged to operate upon them, but a truss must be worn afterwards.—Mr. KENDAL FRANKS agreed that an operation was necessary in adults who could not wear a truss, and also in adults who were athletic; a truss was a great detriment. He always, in operating, sutured the neck of the sac and the internal ring. The operation of twisting the neck of the sac could not be applied in cases where the cord was adherent to the sac. Strict antisepsis was essential to success, and good results were obtained either with silk or silver wire. His bias was in favour of operation; in forty cases he had had four returns.—Mr. EDMUND OWEN was afraid Mr. Banks would think that the discussion wandered from the actual subject of his paper; namely, the permanency of the favourable result after operation, and for his own part, he also was unable to speak definitely of results; he could only say that he was satisfied with the result of his operations up to the present. He had operated upon a good many children, but he entirely agreed with Mr. Banks, that children should not be operated on unless the hernia was absolutely beyond the control of a truss, for it was an undisputed fact that, with a fair chance, children did "grow out of" their inguinal weakness. The cases which he preferred for operation were those of adults whose inguinal herniæ were associated with an atrophied or an undescended testis. In such cases the surgeon should remove the useless gland without compunction, and, having ligated and pushed up the cord, should completely occlude with sutures the inguinal canal. The objection against the removal of the undeveloped testis was purely sentimental, for the gland was almost for certain of no physiological value. He did not believe in the surgeon being able to recognise during the operation the "internal abdominal ring" and the "conjoined tendon;" at any rate, though he knew them in the dissecting room, he ignored them in the hospital. He thought that it mattered little with respect to the permanency of cure whether the surgeon used silver, gut, or silk for closing the canal; but he would ask Mr. Banks how he dealt with the sac of that variety of hernia which descended into the tunica vaginalis. He (Mr. Owen) was satisfied to tie the funicular process high up, flush with the peritoneal wall, so as to leave no depression to invite the subsequent descent of the bowel; he then divided the process below the ligature, and removed an inch or so of the testicular part of it. He did not believe in the desirability of fashioning and suturing an artificial tunica vaginalis; all that might be left to Nature. The point on which he specially desired to join issue with the author of the paper was as regards the subsequent wearing of a truss. If the neck of the sac was obliterated, and the inguinal canal thoroughly closed, no bowel could descend, and the truss, therefore, was unnecessary. He always forbade the use of a truss after the operation, for he had a strong opinion that the constant pressure of the pad went a long way towards promoting the absorption of the plastic material which was thrown out in the neighbourhood of the ligature and sutures, and the definite organisation of which had a considerable influence in establishing the permanency of the cure. In conclusion, he ventured to congratulate Mr. Banks upon the straightforward manner in which he had reported his cases and results, favourable and unfavourable, and upon the fairness with which he had laid his conclusions before the meeting.—Mr. PAGE said it was necessary to wait some time before publishing results. Mr. Banks's statistics were encouraging.—Mr. BARKER could trace cures which had remained well four or five years, and thought this too short a time to give proper information. A speedy return had taken place in four of the forty or fifty cases upon which he had operated. The risks of this operation had been reduced to a vanishing point.—Mr. BANKS, in reply, said that removal of the sac was best because of its simplicity. He was himself inclined to operate upon those who could wear a truss, but in any case removal of the sac was essential, and repaired the irregularity of the peritoneum. He practised stitching of the rings, but it was of less importance. Umbilical herniæ contained so much adherent omentum and bowel that they were seldom suitable for operation.

MEDICAL HIGH SHERIFF.—Dr. William Moore, of Moor Lodge, Kilrea, and 67, Fitzwilliam Square, Dublin, has been appointed High Sheriff for the County Antrim for 1889.

BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, NOVEMBER 14TH, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., President, in the Chair.

Fibroid Tumours undergoing Calcareous Changes.—Dr. FANCOURT BARNES exhibited a hard fibroid tumour, partly calcified, which he had removed from a young woman, aged 23. The tumour appeared to be growing from the omentum, and had no connection with the uterus or pelvic organs. It was closely adherent to the intestines. At the bottom of the pelvis a mass of chalky deposit could be seen and felt through a layer of peritoneum.—The PRESIDENT said he had never seen a similar case. The pelvis was just like a chalk-pit. The mass was as firm and hard as a stalactite, and seemed to pervade not only the pelvis, but the lower part of the abdomen. The chalky mass was not removed.—Dr. BANTOCK thought it probable that the tumour was a fibroid of the uterus, the pedicle of which had been twisted, and which had, therefore, become free in the peritoneal cavity, and had contracted adhesions to the intestines before the separation of the pedicle, as occurred in ovarian tumours.—Dr. DICKINSON had made an examination of a portion of the tumour, and found it to consist of fibrous tissue, with a few ill-formed spindle-cells. It certainly was not of a carcinomatous nature.—Dr. BARNES spoke of the importance of having the subsequent history of all such cases brought before the Society.

Salpingitis.—Dr. GRANVILLE BANTOCK exhibited the uterine appendages which he had removed from a married lady, aged 33, who had had one child ten years before. The case was one of pyosalpinx, but the general health was bad, and the urine contained a large amount of albumen. With rest and treatment she greatly improved, and it was decided not to operate. In a very few days, however, the symptoms returned as bad as ever, necessitating operation. The patient made a good recovery.

Ovarian Tumour with Twisted Pedicle.—Dr. BANTOCK also showed this specimen. The patient was a single woman, aged 54. She had been laid up with symptoms pointing to mischief in the pelvis some few months previously. The tumour was universally invested by the omentum, and was full of hard blood-clot. The patient died on the seventh day from acute suppression of urine. On *post-mortem* examination, the kidneys were found extensively diseased, and the heart and liver extremely fatty.—Dr. BARNES said it had been taught that an operation upon an albuminuric patient was extemely dangerous. Sometimes, however, the albuminuria was associated with the disease itself, and then, when the cause was removed, the albuminuria also disappeared.

Syphon for Washing Peritoneal Cavity.—Dr. FENTON exhibited a syphon arrangement for this purpose, consisting of an india-rubber tube, in the course of which was a bulb, by means of which the syphon action could be set going without difficulty.—Dr. RASCH said that a similar instrument had been used by him many years ago. He had given it up, because much better instruments were available.—Remarks were also made by Dr. TRAVERS, Mr. DUNNETT SPANTON (Hanley), and Dr. FITZGERALD (Folkestone).

Sarcoma of the Breast.—Dr. F. A. PURCELL exhibited a tumour, 5¾ lbs. in weight, which he had removed from the breast of a woman, aged 43. It was first noticed four years previously on the site of a former abscess. The disease was localised in the breast, the axilla being quite clean and the arm perfectly free. An open wound was left, about six inches by five, which was dressed with carbolic oiled lint. The patient had made a good recovery.—Mr. DUNNETT SPANTON said that sarcoma was rare in the breast, and, amongst the whole of the cases in the North Stafford Infirmary, did not number more than one in thirty or forty.—Dr. HEYWOOD SMITH, Dr. ROUTH, Dr. RUTHERFOORD, Dr. BEDFORD FENWICK, and others, took part in the discussion.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

FRIDAY, NOVEMBER 2ND, 1888.

J. MAGEE FINNY, M.D., President, in the Chair.

Opening Address.—The PRESIDENT delivered his opening address.

Case of (a) Popliteal Aneurysm, cured; (b) Thoracic Aneurysm, fatal.—Dr. WALTER SMITH exhibited the viscera of a man, aged 54, admitted to Sir Patrick Dun's Hospital on May 18th, 1888. He was a porter, and enjoyed good health, although not temperate. Thirty-four years before he had had a venereal sore on the penis

and a suppurating bubo. About eight years previously he was in Jervis Street Hospital for a tumour in the left popliteal space, which was cured by pressure. On April 10th, 1888, he suddenly became faint and greatly distressed in his breathing, and, after five months' suffering, died. The prominent symptoms were pain across the upper part of the chest, over the left side and down the arm; also over the upper dorsal spines, which were tender. He was much troubled with dyspnœa, but laryngeal symptoms were never marked, and he could swallow without difficulty. A considerable bulging of the three upper ribs on the left side existed, dull on percussion, and exhibiting pulsation synchronous with that of the heart. There was no murmur. The pulse in the left arm could scarcely be felt, and was delayed. A few days before his death he was seized with rigors, retching, and intense pain in the back and left side. The temperature rose to 103.4°. He gradually became cyanotic, and died on September 25th. After death a large ovoid tumour, about five by four inches, occupying the upper part of the thorax, was found. This proved to be an aneurysmal sac, arising about one inch above the semilunar valves of the aorta, and almost completely filled with a firm laminated clot. The bodies of the second, third, fourth, and fifth dorsal vertebræ were eroded, and, the posterior wall of the sac being deficient, the blood-clot lay in contact with the vertebræ. The innominate and left carotid arteries were not involved; the left subclavian artery was flattened by the tumour. The œsophagus was incorporated with the wall of the aneurysm, and the left vagus nerve was flattened into a tapelike band. The aorta was slightly atheromatous above and below the aneurysm. The left popliteal artery and vein were fused together into a firm mass, and the lumen of the artery was completely occluded by a dense organised thrombus.—The PRESIDENT said that the late Dr. Stokes directed particular attention to this tendency to change of form as a valuable sign in the diagnosis of thoracic aneurysm as distinguished from other tumours.—Dr. M'KEE, Dr. FOOT, and Dr. BIGGAR made some remarks, and Dr. SMITH replied.

Ectopia Ventriculi.—Dr. C. B. BALL communicated a case of ectopia ventriculi. A tumour the size of a pea was removed from the navel of a child aged two months. The surface consisted of glands identical with the pyloric glands of the stomach. The centre of the tumour was composed of blood-vessels and muscular tissue. Only six of the recorded cases exhibited gastric glands, most of the others having a mucous membrane similar to that of the intestines.—Dr. M'KEE asked whether any explanation could be offered of the fact that the tumours were different in the several recorded cases.

Cystitis after Papilloma.—Sir WILLIAM STOKES communicated a case of cystitis after the removal of papillomatous tumours from the female bladder. The tumours had been removed some three years before the death of the patient, by Dr. Greig Smith, and the *post-mortem* appearances were those of cancer of the bladder.—Dr. M'KEE had examined a portion of the bladder in this case, and found clusters of epithelial cells in the muscular layers, which could not have existed if the tumour had been simply a benign one.—Mr. WHEELER said he had had four cases of papillomatous growths under his care from time to time.—Professor BENNETT said the question here was the same as that raised in the case of the late Emperor of Germany—namely, whether it was possible that a papillomatous tumour, which was proved by microscopic examination to be benign, could pass into an epithelioma. They did not usually find cases of papilloma of the anus and other localities turning into carcinoma.—Dr. FOOT observed that the kidneys of the patient, which had been sent round, appeared to him to be quite sufficient to account for death, when taken together with the prolonged irritation, pain, and loss of rest that accompanied the cystitis.—Mr. STORY said he had no difficulty in believing in the development of a benign tumour into a malignant one.—Sir WILLIAM STOKES, in reply, said that Professor Bennett would find it laid down by several authorities that papillomatous disease of the bladder had a special tendency to run into carcinoma; and he thought, from what had been laid down by Mr. Hutchinson and Sir James Paget, that there was a precancerous stage in a vast number of cases of cancer.—The specimen was sent to the Reference Committee.

SECTION OF MEDICINE.

FRIDAY, NOVEMBER 16TH, 1888.

LOMBE ATTHILL, M.D., President, in the Chair.

On the Action of Certain Drugs on the Utero-Ovarian System.—The PRESIDENT said much obscurity existed as to the action of medicines on the utero-ovarian system, and consequently the greatest empiricism prevailed in prescribing for cases in which these organs were engaged. Most women were under the impression that no medicine of any kind should be taken during the continuance of the menstrual flow, and that to take even a mild purgative would be injurious, and many practitioners shared in this unfounded prejudice. Dr. Atthill was perfectly satisfied that none of the ordinary medicines, taken in moderate doses, produced any effect on the function. To this statement one exception must be made; drastic purgatives, taken in large doses, did seem in many women to increase the menstrual flow. When they came to consider the action of drugs in cases in which menstruation (*a*) did not appear at all, or very irregularly, (*b*) was in insufficient quantity, or (*c*) was unduly profuse, the first question was, did ergot, tannin, quinine, or even strychnine, in medicinal doses, produce any appreciable effect on the muscular fibres of the normal uterus? Writers and practitioners assumed that these drugs had this effect without sufficient grounds to justify their belief. The author had administered quinine daily in doses from 2 to 10 grains during the menstrual period, and never observed it to produce any pain or discomfort, which it might be expected to do if it induced contraction of the uterine fibre, nor had it ever once among his patients exercised any influence on the amount or duration of the period. His experience of the effects of strychnine was the same. Again, he had given ergot alone, or combined with other drugs, as an emmenagogue, and had never known it to have any effect as such. He, therefore, felt satisfied that three of the most potent of the so-called emmenagogues had no appreciable effect on the unimpregnated uterus in its normal condition, normal so far as its muscular structure was concerned. He was forced to the conclusion either that these drugs did not, under such circumstances, produce any contraction of the uterine muscular fibre, or if they did, that stimulation and contraction of the fibre had no effect in the production of menstruation. With reference to the action of drugs in cases in which menstruation was too profuse, or in which actual uterine hæmorrhage occurred, putting aside those cases which depended for their origin on abortion, pregnancy, or parturition, the medicines known as astringents might at once be discarded as useless in cases of uterine hæmorrhage. The author did not believe that tannin, tannic or gallic acid, or any other astringent, had any effect whatever in these cases; indeed, their administration was worse than useless, was probably injurious; and the mineral acids seemed to him to be of no greater value. Full doses of the tincture of the perchloride of iron had, in his hands, sometimes been of great use in checking the loss, but it was always in anæmic women, and its beneficial effects were probably due to the iron it contained, but at best it was a very unreliable agent. Ergot was the only one on which Dr. Atthill placed any reliance, and there was only one preparation of it which was trustworthy. Some years ago he made a very extended trial of the various preparations of ergot in common use, both by the mouth and hypodermically, and came to the conclusion that none of them contained all the active principles of the drug. Consequently, for many years he had been in the habit of prescribing twenty or thirty minims of the liquid extract *B.P.* in half an ounce of the infusion of ergot, with, in general, the addition of a small quantity of the liquor strychninæ, with fair results; but he had found the American extract, known as "Squibb's ergot," to be so superior to that of the *British Pharmacopœia*, that he now relied almost entirely on it. Ergot was a drug most uncertain in its action in these cases and in the effects it produced. In some it caused pain, and when it did it always lessened uterine hæmorrhage, the pain being evidently due to clonic contraction of the muscular fibres. But sometimes the same dose of the same preparation which caused pain previously did not do so on another occasion, though, as far as could be judged, no change had taken place in the patient's condition. Ergot would probably not induce clonic contraction of the uterine fibres, unless something acting as a foreign body were present in the uterus. It was very doubtful if ergot ever originated clonic contractions of the uterus during pregnancy, unless the organ was prepared from some pre-existing cause to expel its contents. When engaged formerly in midwifery practice, the author was in the habit of frequently prescribing ergot as a preventive of *post-partum* hæmorrhage, commencing its administration a week or ten days before the expected advent of labour, and never once had he reason to suppose that it hastened that event; on the contrary, in several the period of utero-gestation seemed to be lengthened. In like manner, in

cases of a threatened abortion, he had seen the hæmorrhage checked, and pregnancy proceed normally under the administration of ergot; it seemed, indeed, to act as a uterine tonic, if such an expression were admissible. In others, and perhaps the majority, it seemed to produce no effect at all; in a few it induced clonic spasms, but in these there was always reason to think that the ovum was already blighted. In cases of uterine fibroids ergot would, in general, be found to act most beneficially in lessening hæmorrhage when the tumour was imbedded in the muscular tissue, and that as thinning of the wall took place, and as the tumour consequently came in closer contact with the uterine mucous membrane, the result of its administration would be less satisfactory; but in all cases much would depend on the preparation used and its freshness. With respect to the action of medicines in arresting hæmorrhage where malignant disease of the uterus existed, none could be relied on. He had sometimes thought that the exhibition of Chian turpentine, as recommended by Dr. Clay, did good in this respect, but further experience had lessened his faith in it. Tincture of the perchloride of iron, in full doses, was sometimes useful, but at best any good done was but transitory.—A discussion ensued, in which Drs. J. A. BYRNE, WILLIAM MOORE, and FRAZER took part.—The PRESIDENT, replying, said he had never experimented medicinally with an impregnated uterus, and he had never given ergot except in cases of threatened abortion. He believed that ergot had no effect in producing abortion, though given with the intent of producing criminal abortion; and his belief was founded on extensive experience in administering ergot as a preventive of *post-partum* hæmorrhage. Ergot was much more likely to prevent than to produce abortion, and he had prescribed it hundreds of times. He had never given Epsom salts as an emmenagogue.

Accidental Rashes in Typhoid Fever.—Dr. J. W. MOORE made a communication on this subject. He explained that it was not his intention to allude to the essential rose-spot rash of typhoid fever; or to the more common epiphenomena of the disease connected with the skin, such as *taches bleuâtres*, purpura spots, vibices, and sudamina, or sweat-vesicles; or, lastly, to the coexistence with typhoid fever of other specific diseases showing characteristic eruptions, such as scarlatina, measles, variola, and, above all, typhus. He desired rather to draw attention to certain other accidental or adventitious appearances of the skin, which were of somewhat rare occurrence, and, from a diagnostic point of view, of considerable importance. These were (1) simple hyperæmia; (2) miliary eruptions; (3) erythematous rashes; and (4) urticaria. Dr. Moore then detailed a series of cases which exemplified the occurrence of these accidental rashes, and summed up as follows: 1. Not infrequently, in the course of typhoid fever, an adventitious eruption occurred either miliary, urticarious, or erythematous. 2. When this happened, a wrong diagnosis of typhus, measles, or scarlatina respectively might be made, if account was not taken of the absence of the other objective and subjective symptoms of these diseases. 3. The erythematous rash was the most puzzling of all; but the prodromata of scarlet fever were absent, nor was the typical course of that disease observed. 4. This erythema scarlatiniforme was most likely to show itself at the end of the first, or in the third, week of typhoid fever. 5. In the former case it probably depended on a reactive inhibition of the vasomotor system of nerves; in the latter, on septicæmia, or secondary blood-poisoning; or both these causes might be present together. 6. The cases in which this rash appeared were often severe; but its development was important rather from a diagnostic than from a prognostic point of view. 7. Hence, no special line of treatment was required beyond that already employed for the safe conduct of the patient through the fever.—Dr. DUFFEY asked whether there had been eliminated the possibility of the rash being due to drugs administered during the course of the disease. He had himself seen four cases of profuse miliary eruption following the administration of antipyrin. So, too, an erythematous eruption similar to scarlet fever followed the administration of quinine, while scarlatinal eruption followed the administration of antipyrin, salicylic acid, and other drugs. The action of the food and drugs was explicable on the analogy of septicæmic rashes; because medicaments acted as poison to the system in the same way that poison generated in the system would cause a rash. Rashes occurred in fevers attended with serious blood-changes, and disappeared without any marked effect on the patient.—Dr. POLLOCK pointed out as remarkable that while most writers observed that the rash occurred in the first week or early stage of the fever, in his case the rash did not appear until the third week, although the rose spots had been out for a fortnight before. The pulse was never very high, but on the night of the 18th it suddenly rose to 108, and the rash was then noticed coming out over the back, chest, and abdomen. Next day there was a sudden collapse—the temperature fell to 96°, and the pulse was low and very weak. On the following day Dr. Moore saw the patient, and on the day after the rash came over the extremities. In reference to the medicines administered, he had given two grains of quinine, but, as it made the patient deaf, he stopped, and no more was given until after the erythematous rash disappeared. No antipyrin had been given.—Dr. WALTER SMITH said there were drug rashes and food rashes; and the explanation given by Dr. Duffey applied to many cases. Most rashes belonged to the erythematous class, and were due to a transitory disturbance of the vascular system of the skin, liable to rise in four different ways: First, direct action on the central nervous system by drugs; secondly, reflex irritation from the intestinal tube, produced by articles of diet; thirdly, direct dilatation of the vessels of the skin caused by such drugs as nitrite of amyl, nitro-glycerine, and alcohol; and, fourthly, the diffuse transudation of irritating drugs through the skin, as the essential oils of copaiba and cubebs, etc.—After some remarks by Mr. J. DOYLE, Dr. BEWLEY remarked that, in his experience in recent outbreaks of typhoid fever, rashes were more common in the third and fourth weeks of the fever than in the early stages, contrary to what was mentioned in the textbooks.—Dr. WILLIAM MOORE remarked that, looking for many years at enteric fever, he had seen erythematous eruptions, as a rule, early in the disease, not late; and in scarlatina there was an unmistakable temperature, which in his view was the key to a differential diagnosis.—Dr. JOHN WILLIAM MOORE replied: In Case No. 1, no medicine had been administered for some days, and the only possible cause of the efflorescence was the extreme rise of temperature, followed by sweating. It was not true erythema, but an efflorescence on the skin. In Case No. 2, he understood from Mr. Foy that the patient had been getting morphine to produce sleep, but only in small quantities; and that drug could scarcely have had anything to do with the development of the miliary eruption. In Dr. Pollock's case, quinine in only two-grain doses had been given several days before the rash appeared, but it disagreed, and was stopped.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

PATHOLOGICAL AND CLINICAL SECTION.

FRIDAY, OCTOBER 26TH, 1888.

THOMAS SAVAGE, M.D., President, in the Chair.

Splenic Leucocythæmia.—Dr. SUCKLING showed a man, aged 26, who had been an in-patient at the Queen's Hospital, suffering from splenic leucocythæmia, and who was greatly benefited by arsenic. He had been ill about nine months, and had noticed a swelling of the abdomen, and had suffered from epistaxis. On admission (July 10th) it was found that the spleen was enormously enlarged, reaching the left iliac fossa. With the hæmacytometer the percentage of red corpuscles was about 65, and the white corpuscles were very large and numerous, there being about one white to ten red corpuscles. Arsenic was given in daily increasing doses, till he was taking 24 minims twice daily. He greatly improved under this treatment, the spleen diminishing in size and the epistaxis and cachexia disappearing. On September 28th the percentage of red corpuscles was over 90, the white corpuscles remaining about the same in number.

Tumour of the Pituitary Body.—Dr. SAUNDBY showed a microscopical specimen of epithelial cancer of the pituitary body. The tumour started from this gland and passed forward into both orbits, imbedding in its substance all the structures, nerves arteries, etc., going to the eyeballs. With reference to the connection between "acromegaly" and pituitary tumours, it might be stated that there were no symptoms of acromegaly in this case. The patient, a man, aged 48, after suffering from headache and failing vision for eight weeks, went to the Eye Hospital, where he was seen by Mr. Wood White. Mr. White noted on his paper:—"Right eye: Complete paralysis of right third nerve; total loss of perception of light; fundus normal; retinal artery contracted." On admission to the General Hospital a fortnight later he was very cachectic, and there was a glairy yellow discharge from the right nostril, which, under the microscope, showed no traces of definite morphological structure; his wife said this had existed since the beginning of his illness. His mental condition was sluggish; he was drowsy, with occasional outbursts of delirium. Right eye:

Conjunctival sensibility nearly gone; vision very imperfect, pupil small, reaction to light and accommodation absent; fundus normal. Paralysis of all the external ocular muscles except the inferior and superior recti; no ptosis. Left eye: Conjunctiva normal, vision, *nil.*; pupil dilated, no reaction to light or accommodation; fundus normal; complete paralysis of all the external ocular muscles; ptosis nearly complete. Five days after admission the ptosis of the left eyelid disappeared for twenty-four hours, when it recurred. Seventeen days after admission the eyes were again examined ophthalmoscopically. Left eye: Numerous black floating bodies in vitreous, disc pale. Right eye: Disc seen very hazily from turbidity of media, but so far as it could be seen there was no swelling. By this time there was redness and chemosis of the right conjunctiva. On the twenty-second day ptosis of the left eyelid was again temporarily absent for twenty-four hours. The patient died two months after admission, his whole illness having lasted about eighteen weeks. The case was interesting (1) as an example of a tumour originating in a rare situation; (2) in connection with the alleged pathology of acromegaly; (3) as showing that a peripheral affection of the nerves to the eyeball might give rise to only partial paralysis in the right eye. There was complete ophthalmoplegia interna, while externally the branches to the levator palpebræ and inferior and superior recti escaped, although the trunk of the left third nerve was imbedded in the growth; (4) the absence of optic neuritis under circumstances which apparently presented all the mechanical conditions likely to favour its occurrence.

Carbuncle.—Mr. MARSH read notes of a case of huge carbuncle successfully treated by excision and erasion.

Effusion into Small Omentum.—Dr. SIMON read notes of a case of effusion into the sac of the lesser omentum, which terminated fatally after abdominal section.—The CHAIRMAN stated that he had operated on three cases of mesenteric cysts. He advocated early incision, and strongly deprecated aspiration of abdominal tumours.—Mr. BENNETT MAY mentioned an instance of a tumour forming in the abdomen after an injury. He considered it was due to fluid collecting in the sac of the lesser omentum as a consequence of glueing up of the foramen of Winslow by adhesions. He deprecated aspiration, as it was never followed by cure.—Dr. SUCKLING remarked that disappearance and reappearance of the tumour suggested hydronephrosis. He advocated the use of the hypodermic needle in collections of fluid in the chest or abdomen, except in distended gall-bladder, in which condition he had seen fatal results follow the use of the hypodermic needle.—Dr. SAUNDBY advocated the use of the hypodermic syringe for diagnosis, but not for treatment.—Mr. BARLING quoted a case in which the lesser sac of the omentum was distended with bile in a patient who had been run over. On *post-mortem* examination the bile-duct was found to have been divided.—Dr. SIMON had never seen any harm result from the use of the hypodermic needle. He quoted Hilton Fagge, who considered that effusions into the lesser omentum were generally due to pancreatic cysts.

Bilateral Intracapsular Fracture of Neck of Femur.—Dr. HOGBEN exhibited two specimens of intracapsular fracture of the neck of the femur (right and left). They were obtained from the same subject in the dissecting room of Queen's College. There was considerable absorption of the osseous tissue constituting the necks of the femora with ligamentous union between the heads and trochanters. The patient, a female, died at an advanced age, having been bedridden for years. Dr. Hogben also exhibited a specimen of united, impacted, intracapsular fracture of the neck of the femur.

Cystoma of Ovary.—The CHAIRMAN showed a specimen, removed that morning, of a strangulated cystoma of ovary (left), with twisted pedicle. There was a history of a fall preceding the serious symptoms. At the operation there was found to be general peritonitis. The patient was two months pregnant.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, NOVEMBER 2ND, 1888.

J. SPOTTISWOODE CAMERON, M.D., in the Chair.

Peripheral Neuritis from Septic Infection.—Dr. BARRS read a paper on peripheral neuritis caused by septic infection, with remarks on the sensory disturbances in peripheral neuritis.

Surgical Operations during Pregnancy.—Mr. MAYO ROBSON reported five cases in which he had performed serious operations at various stages of pregnancy. All the patients had recovered, and in no case had premature labour occurred. The cases were: 1. Fibroid of the cervix uteri, completely filling the vagina; removed in seventh month. 2. Carcinoma of breast and axillary glands; removed in third month. 3. Multilocular papillomatous ovarian cyst, with extensive adhesions to the uterus and bowel; ovariotomy at tenth week. 4. Strangulated femoral hernia; operated upon in third month. 5. Rotation of ovarian tumour, in second month, causing acute symptoms; ovariotomy. Mr. Robson attributed the results primarily to the absence of pain and the lessening of shock during the operation by the use of anæsthetics; and, secondarily, to the entire absence of any wound complication, such as pain, fever, or tension, owing to strict antisepsis. In no case was any sedative required, and in all cases the wound healed by first intention.—Mr. PRIDGIN TEALE had performed ovariotomy four times during pregnancy. All the patients miscarried and one died. In other operations his experience was favourable.—Dr. GORDON BLACK asked if there was any particular period at which operations might be most safely conducted. He had an impression that about the sixth month was best.—Mr. ATKINSON thought that the period of pregnancy was not of so much importance as the urgency of the condition for which the operation was required. He remembered two cases of his own, where operation had been undertaken during pregnancy for the relief of malignant disease of the breast and tongue respectively. Both patients recovered, but in the latter case miscarriage occurred on the eighth day.

Dislocation of Metatarsus.—Mr. ATKINSON reported a case of dislocation of the metatarsus, and showed the patient, aged 22, who, fifteen minutes before admission, was riding a horse bare-backed, when it slipped and fell over on the rider's right foot. There was a prominence on the dorsum of the foot, corresponding with the line of the tarso-metatarsal articulation, most plainly marked for the four outer metatarsal bones, the first being raised apparently only about a quarter of an inch above the level of the internal cuneiform. Posterior to the prominence there was a hollow, on examining which the articular surfaces of the four outer metatarsal bones could be distinctly felt. The fore part of the foot was everted, forming a distinct angle with the tarsus. The extensor tendons were prominent over the hollow on the dorsum. The length of the foot, from the heel to the tip of the hallux, was one-half shorter than on the left side; from the external malleolus to the tip of the fifth toe, a quarter of an inch shorter. Reduction was easily effected under chloroform, crepitus being elicited apparently in the base of the second metatarsal bone. The foot was put up on a back splint with foot-piece, and on the twenty-second day in plaster-of Paris, at which time all the displacement on the dorsum had disappeared; but there was still a projection of the inner side of the sole, which exaggerated the pre-existing condition of flat-foot.

Pathological Specimens.—Mr. JESSOP: (1) Kidney Removed for Malignant Disease; (2) Stomach from case of Gastro-jejunostomy; (3) Collection of Calculi, Renal, Biliary, etc; (4) Kidney with Calculus *in situ*. Dr. HUDSON: Malformed Fœtus. Dr. HELLIER: Malignant Stricture of Œsophagus. Dr. IRVING: Urinary Calculus passed six months after operation for Extroversion of Bladder.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

THURSDAY, NOVEMBER 22ND, 1888.

J. W. MARTIN, M.D., President, in the Chair.

Graves's Disease.—Dr. PORTER showed two patients: one a young married woman, aged 21, suffering from exophthalmic goitre. The goitre first made its appearance eight years before; the other symptoms were nervousness, palpitation, throbbing in carotids, marked exophthalmos, with Graefe's sign, anæmic *bruits* over pulmonary artery and at the apex, also blowing murmur in the carotids. She had not menstruated for three months.

Aortic Stenosis.—The second case was one of aortic stenosis in a man, aged 55, a puddler by trade. There was a history of an illness with feverish symptoms, seven or eight years previously; but no definite rheumatic history. There was an aortic systolic murmur prolonged into the second sound, and propagated into the carotids. The pulse was so small as to be almost imperceptible at the wrist. The general symptoms were syncopic attacks and vertigo, the patient sometimes falling, but never fainting quite away. The face was rather pale and anxious, the surface and extremities cold.

Intermittent Fever.—Dr. SIDNEY ROBERTS related a case of intermittent fever in a man who had never had a previous attack, and had not been in a malarial district for ten months. The attacks, which had occurred early every morning for a month, with a temperature of over 105°, at once ceased on the exhibition of large doses of quinine at bedtime.

Cheiropompholyx.—Mr. BURGESS read a note on a variety of cheiropompholyx. The main features of the case were the course, duration, and extent of the bullous eruption and the simultaneous presence of eczema. The patient was a thin, pale, undeveloped girl, aged 17. For about five weeks during the summer successive crops of vesicles kept springing up at intervals of several days, and the eruption spread over the front and back of both hands and forearms, reaching as high as the elbows. The back of the left foot was also slightly affected. A week after the last bulla of the series had disappeared, and after the cuticle had peeled off in large pieces from the elbows downwards, a second outbreak of vesicles occurred on the hands and lower parts of the forearms. The differential diagnosis between eczema vesiculosum and pompholyx was briefly discussed.—Remarks were made by Dr. S. ROBERTS and Mr. ATKIN.

Croup.—Dr. S. WHITE read notes of a case of membranous croup in a boy aged 4 years. The disease commenced insidiously, and, apart from the laryngeal membrane, complete aphonia, dyspnœa, and slight feverishness, there were none of the distinctive symptoms or sequelæ of diphtheria. On the ninth day of the disease the dyspnœa became alarming, and tracheotomy was performed. Flakes of dirty white membrane came away during several days subsequently, and the boy made a rapid and complete recovery. Dr. White alluded to the prevalent belief that membranous croup was but a manifestation of diphtheria, and, while allowing that most cases of croup, especially when occurring epidemically, were diphtheritic in character, he maintained that cases such as the one related ought to be classed separately. He condemned operative interference in cases in which the sole object in view was euthanasia. There was no evidence to show that death from dyspnœa was a specially painful one, except to onlookers; while the indiscriminate performance of tracheotomy brought the operation into disrepute. In suitable cases—children over two years of age, where alarming dyspnœa without great prostration of strength supervened—the operation should be done always, and early.—Dr. MARTIN, Mr. W. M. JONES, Mr. JACKSON, and Mr. ATKIN took part in the discussion.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.

WEDNESDAY, NOVEMBER 14TH, 1888.

R. SHINGLETON SMITH, M.D.Lond., F.R.C.P., President, in the Chair.

Cancer of Liver in a Cat. Dr. HARRISON exhibited the liver of a Civet cat with large soft growths in its substance resembling encephaloid cancer.

Cancer of Thyroid.—Mr. HARSANT showed a specimen of carcinoma of the thyroid body removed from a female patient. Great relief followed for some weeks, but recurrence occurred, and the case was ultimately fatal. The alveoli of the gland were full of large nucleated cells. Mr. Harsant considered the case one of primary cancer of the thyroid, and remarked on the rarity of this condition.

Naphthol in Typhoid.—Dr. J. MICHELL CLARKE read a paper on the effects of naphthol in typhoid fever. He considered that the so-called bacillus typhosus was probably the cause of the disease, and therefore that the rational treatment was to prevent the growth and development of this germ by introducing some insoluble, and therefore non-absorbable, antiseptic into the alimentary canal, according to the suggestion of Bouchard. Naphthol β fulfilled these conditions, and appeared to have shortened the duration of the fever, prevented splenic enlargement, albuminuria, and other complications, and brought about more satisfactory convalescence. The risk of propagation was also diminished by destroying the infectious nature of the stools. In some cases naphthol β caused gastric disturbance.

The Field of Vision.—Mr. RICHARDSON CROSS read a paper on the field of vision, normal and abnormal. He pointed out that the "macula lutea" was the most highly organised part of the retina, and the most elaborately supplied with blood, hence inflammations and hæmorrhages were more likely to occur here than elsewhere, giving rise to central choroiditis, with its results, "central" or "ring" scotoma. Again, the vascular supply to the optic nerve was most delicate in the centre of the nerve, and here, therefore, disturbances due to defective nutrition were probable. In toxic amblyopia (due to lead, tobacco, etc.) there were forms of axial neuritis and atrophy and of central scotoma. Peripheral limitations of the field of vision might be due to general anæmia; in such cases there might be also concentric blindness, either "red" or "white" scotoma. These defects might escape all methods of examination except the perimetric. The visual field might become contracted during the menstrual period, or even during examination of the eye in patients whose retina was easily exhausted. In glaucoma and retinitis pigmentosa function was first destroyed in the peripheral parts of the field. Mr. Cross exhibited numerous charts illustrating the above defects.

REVIEWS AND NOTICES.

ZUR ASSANIRUNG PRAGS (Report on the Sanitary Condition of the City of Prague). By Dr. IGNATIUS SOYKA, Professor of Hygiene in the University, and Medical Officer of Health to the City. 1886.

DR. SOYKA, one of Pettenkofer's most distinguished pupils, was appointed to his present position in 1884 or 1885, and the report before us was presented by him to the municipal authorities at the end of his first year of office. What fruit it has as yet borne we are unable to say, but it will not be from any fault on the part of Dr. Soyka if the sanitary condition and health of the Bohemian capital do not in the course of a few years present a great and much needed improvement.

He had not been there many months before he urged the need for definite and energetic action by the local authorities, complaining of their want of agreement consequent on their ignorance of the present state of sanitary engineering, and of such questions as sewerage, water-supply, etc; and that, while they had under consideration measures the usefulness of which he would not deny, others of far more immediate and urgent necessity were ignored or postponed. He suggested the election of a special sanitary committee of seven members, with power to add to their number by cooptation of experts; the resolutions of such committee to be laid before the corporation, thus saving much useless debate, and, he hoped, ensuring some decided course of action.

The death-rate (though, as he admits, not by itself an absolute index of the health of a community) had always been high, but had also shown remarkable fluctuations. Even the published returns, from which the deaths of all persons not permanent residents were excluded, gave a mean for the years 1873-1884 of 32.6 (with extremes of 28.6 and 37.2), which, though lower than some, were higher than many German towns of like size and character. But this estimation was too favourable, for taking the total mortality, without such distinction, of some fourteen Austrian cities, Prague and Klagenfurt head the list with 45, Vienna comes eleventh with 35, and Salzburg lowest with 25 per 1,000 of the entire population. That Rome, Naples, Milan, Madrid, and Buda are worse Dr. Soyka does not allow to be any extenuation. So, too, among twenty-one large cities, whose infant mortality or deaths under one year of 1,000 infants born he quotes from Körösi, Prague stands tenth with a rate of 22.9, Munich leading with 34, and Breslau with 32, while London stands best with 14.75. But the 22.9 of Prague is the mean only of the whole city, some quarters showing a much higher mortality.

Small-pox is rarely absent, the deaths having averaged 192 for the nineteen years 1865-83. But the gravest consideration is that while, prior to the great epidemic of 1872-3, they only once exceeded 42, they have since then, except in the two years immediately following, never been under 100, and in 1872, 1873, 1877, and 1880, reached 642, 460, 658, and 471.

In scarlatina, Prague stands second highest among fourteen Austrian towns, and in measles fifth; but in diphtheria (including so-called croup) it is remarkable that the mortality is only 65 per 100,000 population, or the second lowest, nine showing death-rates over 100, and three of these over 170.

Enteric fever is, however, as Dr. Soyka very properly maintains, one of the surest indications of insanitary conditions, and he rightly refuses to exclude the deaths of strangers, since, with the exception of a few who may have been admitted to the hospital from the neighbouring villages, the probability is that visitors to the city had contracted the disease during their stay. Prague

here stands third highest of the fourteen Austrian towns with a mortality of 80.4 per 100,000, and this as an endemic, a constant mortality less subject to fluctuations than elsewhere, as is shown by elaborate analyses of its prevalence in different quarters of the town, and at all times of the year. The mortality from tuberculosis also is extraordinarily high, being double that of Frankfort and Munich, and half as high again as that of Vienna.

Among the conditions of a healthy town, Dr. Soyka assigns the first place to the water-supply. He gives elaborate analyses of the waters of 27 per cent. of the town wells, together with those of the water-supplies of numerous German cities, the results of which are simply appalling. Suffice it here to say that the maxima in the London water companies' supplies and those of the Prague wells are respectively in milligrammes per litre: chlorine, 310 and 592; nitric acid, 220 and 1119.5; organic matter or loss of residue by heat (?), 112 and 602; and sulphuric acid, 364 and 1283.9. He, in this matter, bitterly censures the apathy and divided counsels of the authorities who, so long ago as 1882, after having had the question under consideration for eleven years, resolved on taking "immediate steps" for providing fresh supplies of filtered river water for general purposes, and of pure spring water for drinking. He strongly disapproves of a double supply, but, even in this direction, nothing practical has been done. Experimental borings had shown that good water could be obtained at no great distance, but it has not been ascertained whether in sufficient quantity; and he insists on immediate explorations in several localities simultaneously, with a view to obtaining an adequate supply, to be followed by the unconditional closure of all wells within the precincts of the city.

The sewerage of Prague is as bad as can be conceived; sewers dating from the sixteenth century, with no fall or actually in the wrong direction, the contents of which have to be removed by manual labour; huge cesspools in one instance 8 yards by 8, and 4 deep (!), and the soil of the streets and basements reeking with sewage. During the recent cholera scare, good resolutions were passed, but two years have elapsed, and nothing has been done. With this Dr. Soyka contrasts the expenditure on sewerage works, not only in England, but in Berlin, Danzig, Frankfort, Munich, etc.

The housing of the poor; overcrowding; cellar dwellings inundated once or twice a year with sewage; the abominable practice of filling in the hollows of party walls and floors, with rags, rubbish, and refuse of all kinds; the retention of the dead in dwelling rooms, for want of central mortuaries; and a score of other questions of greater or less importance are rapidly reviewed by our author, who implores his townsmen not to wait for another visitation of cholera, but to act with a definite aim and vigorous purpose to remedy, without delay, the disgraceful condition of their venerable city.

A Manual of Diseases of the Nervous System. By W. R. Gowers, M.D., F.R.S., F.R.C.P., Professor of Clinical Medicine in University College, London, etc. Vol. II: Diseases of the Brain and Cranial Nerves: General and Functional Diseases of the Nervous System. London: J. and A. Churchill. 1888.

The second volume of Dr. Gowers's *Manual* completes the work as originally planned, and the manner in which the task has been accomplished will do more than confirm the author's already high reputation. Of the two parts, nearly equal in length, into which the second volume is divided, the first, however, appears to have far greater merit than the second; in it the author's remarkable power of organising his authorities, and of applying the results of experimental physiology and morbid anatomy to the explanation of clinical facts is again conspicuous; the chapters on the organic diseases of the brain, the meninges, and the cranial nerves are so full and exact that the reader may be assured that no point of importance has been overlooked, and that each is discussed in the light of the very newest researches by a physician who is everywhere guided by a large and varied clinical experience.

The opening pages of this volume contain a most excellent condensed description of the structure and functions of the brain; the localisation of function is fully discussed; an extremely convenient diagram of the relation of the convolutions to the skull is given on page 7. The origin of the cranial nerves and the distribution of the cerebral vessels are described with the fulness which the importance of these anatomical facts deserves; but the pages are not overloaded with detail, the clinical value of all such knowledge being kept steadily in view. The non-localising symptoms of brain-disease are classified on a convenient system, being described under the following heads: motor symptoms, sensory symptoms, mental symptoms, affections of speech, general symptoms, and ophthalmoscopic symptoms. The next subject taken up, the diseases of the cranial nerves, is very thoroughly dealt with; the sections on affections of the optic nerve, and on paralysis of the ocular muscles are, as the special studies of the author lead us to anticipate, of high scientific as well as first-rate clinical value. This section of the book concludes with a very useful article on the localisation of cerebral disease or the relation of locality to symptoms.

Passing over the chapters on diseases of the membranes of the brain, and on anæmia, in which the author does not appear at his best, we come to admirable articles on cerebral hæmorrhage and on softening; they contain much good clinical observation, but ought to be read along with the description of apoplexy given on an earlier page, and with the chapter on abscess at a later page, the arrangement of the book being in this respect somewhat faulty. Intracranial abscess and tumours are next treated, but in the converse order; the article on cerebral tumour is, in fact, a very complete though succinct essay, in which full use is made of recent clinical and pathological work; in discussing the operative treatment of these tumours, Dr. Gowers expresses the opinion that it is only "a small proportion of intracranial growths in which an operation can be undertaken with sufficient prospect of success to render it justifiable. The cases suitable for an operation are those in which the growth is in or just beneath the cortex of the brain. It is chiefly in tumours of the motor region that the symptoms are such as to indicate the seat of the disease with the necessary precision. Probably tumours of the occipital lobe, causing hemianopia, or of the first temporal, disturbing the auditory function, may also be successfully removed. On the other hand, it is not probable that tumours of the central ganglia, crura, pons, or base can be successfully removed." Though growths in one hemisphere of the cerebellum would be accessible, yet they so seldom cause distinctive symptoms until they are of large size, and even then are so difficult to localise precisely, that Dr. Gowers apparently considers that surgery cannot be of much assistance in such cases; while as to the middle lobe of the cerebellum, he writes, it "is so inaccessible and so close to important structures, that it is not likely that the removal of a tumour could be survived."

The last article in Part IV, on degenerations of the brain, is of somewhat unequal merit, but comprises two admirable chapters on bulbar paralysis, and on insular sclerosis; the latter contains matter which would not be easily obtained elsewhere in an equally compact and easily available form.

The second part of this volume, the fifth and concluding Part of the entire work, does not, with some notable exceptions, reach the same high level of excellence as is attained in the early Parts. The articles on chorea, on epilepsy, and on exophthalmic goitre are most admirable; those on tetanus and on eclampsia are decidedly the reverse; the articles on occupation-neuroses, and on paralysis after acute disease, are disappointing, though exception must be made of the account of the symptoms and pathology of diphtheritic paralysis, which is ably discussed in a separate chapter. The subject of alcoholism is not treated with the fulness which its importance deserves.

It is, however, pleasanter to dwell on the merits rather than on the faults, faults chiefly of omission, of a remarkable work; Dr. Gowers has undoubtedly been most successful in treating of those portions of his subject which are the more difficult to handle with precision. The book will be found a thoroughly reliable guide to the diagnosis of the site and nature of organic disease of the nervous system.

The Sectional Anatomy of Congenital Cæcal Hernia. By E. H. Bennett, M.D., Professor of Surgery in the University of Dublin; and D. J. Cunningham, M.D.(Edin. and Dubl.), Professor of Anatomy and Chirurgery in the University of Dublin. London: H. K. Lewis.

This work forms a descriptive atlas of no mean value and interest. It is peculiarly suited for hospital libraries, and will prove of high service to the anatomist and the surgeon. The authors rightly express their gratitude to the Provost and Senior Fellows of Trinity College for defraying the expense of the plates and woodcuts. The coloured drawings, executed by Mr. Huth, junior, under the superintendence of Dr. Cunningham, are of great merit, rivalling some of the best specimens of French anatomical art. It would be well if other corporations would be as generous.

There are many excellent anatomical artists in the United Kingdom, and many active young anatomists and pathologists who only want sufficient funds for the publication of useful atlases like the *Anatomy of Congenital Cæcal Hernia*. As matters stand, an illustrated paper for a London Society is often a considerable expense to its author unless he be a first-rate draughtsman. To the average worker, the production of an illustrated atlas is perfectly out of the question. If the public often approve of men who write popular medical books for a too evident aim, cannot the less ignorant authorities who preside over universities and hospitals encourage the most legitimate and useful form of medical literature?

The substance of the text is of the usual purely scientific nature, not suited for literary criticism. Every feature in the drawings is ably analysed. The atlas elucidates matters of interest beyond its subject, as the sections display the hip-joint and other important structures in the neighbourhood of the regions involved in congenital cæcal hernia.

THE THERMAL BATHS OF BATH: THEIR HISTORY, LITERATURE, MEDICAL AND SURGICAL USES, ETC. By H. W. FREEMAN, F.R.C.S.I., F.R.C.P.E., etc. Crown 8vo; pp. 380. London: Hamilton, Adams and Co. 1888.

A SHORT MANUAL OF THE BATH MINERAL WATERS. By A. E. W. FOX, M.B., F.R.C.P.E. Crown 8vo; pp. 88. London: Simpkin, Marshall and Co. 1888.

ON looking at the bibliography included in Mr. FREEMAN'S book, we observe that some seventy works have been published on Bath and its waters. The number seems large, and would certainly reach a hundred if popular guides were added to the list. Yet when we consider that this number represents about three centuries, we find that it only furnishes one volume or pamphlet in each three years. However this may be, the books on Bath multiply, and there are now five works by gentlemen who are at present practising in that city. Mr. Freeman's is the latest but one, and contains much information, and was evidently intended to be very complete; but there is something defective in its arrangement: for instance, malarial cachexia appears among surgical diseases. In the lists given of indifferent and earthy waters, Bath is made to appear among the former, not among the latter, and Harrison's curious account of Bath is included among the lives of physicians. Then there is a great deal of matter which has no more bearing on the Bath than on any other thermal waters. Lists of the temperature of hot springs, and still more accounts of American spas, are quite out of place. There is a long essay on massage and Aix-les-Bains treatment, which explains the practices introduced of late years at Bath. The portion devoted to the use of the waters themselves is made up chiefly from the work of the late Dr. Wilbraham Falconer, but it is so overlaid by the observations of others, that it is difficult to make out what portion belongs to him and what to his commentator.

The volume contains a great deal of curious antiquarian lore. It is well printed and has excellent illustrations, but it is deformed by misprints, especially of classical words, and much of the English is slipshod. Nevertheless, there is matter in the book, and many of its defects might be remedied in a new edition.

Dr. Fox's work is short and compendious. He first gives an account of the Bath waters in their old days, and in the words of Dr. E. Turner and Dr. John Jones, who wrote about them three hundred years ago. He then proceeds to give his own views respecting the uses of the waters, and discusses their application in rheumatism, rheumatic gout, gout, dyspepsia, diseases of the skin, of the nervous system, in anæmia and malaria, and in uterine affections. He is judicious throughout, and is cautious and guarded in giving his opinions. He does not, like many others, regard the Bath waters as a panacea; indeed, in a certain sense, his book may be regarded as a protest against the extravagant use of Bath waters in all possible diseases, as also of the modes of treatment lately introduced into that place from abroad, which are apt to be used somewhat indiscriminately.

A recent visit to some of the larger foreign spas has forced on us the consideration that at many of them the various new or newly revived subsidiary portions of treatment are superseding the ordinary use of mineral waters. The same tendency is very observable at home, and in other directions besides that of mineral waters. It is an important feature of present medical practice.

A NEW CONTRIBUTION TO THE HISTORY AND ETIOLOGY OF SPONDYLOLISTHESIS. By FRANZ LUDWIG NEUGEBAUER, M.D., Warsaw. Translated by FANCOURT BARNES, M.D. Pp. 64. London: 1888.

THOUGH several specimens of the spondylolisthetic pelvis had been described, it was not until 1884, when NEUGEBAUER propounded his views in an article entitled "Du Bassin Vicié par le Glissement Vertébral" that the true explanation of the cause and mechanism of this variety of deformed pelvis was generally understood. The view formerly held, that a dislocation forwards of the last lumbar vertebra was the result of caries was in that article strongly controverted; and Neugebauer's views are now almost universally accepted as correct. From the examination of several pelves the author concludes that the dislocation is, in the majority of cases, the result of trauma, though in a few cases, owing to "the lateral defect in the ossification of one or both sides of the arch of the fifth lumbar vertebra," there may exist congenital spondylolisthesis. The author deals shortly with the history of this condition, and mentions various specimens which have been described. The pelves examined by the author are described in full, and accurate measurements tabulated. Numerous illustrations facilitate the description of many of the cases, and throw much light on the most important points. This remark applies more especially to the diagrams which appear towards the end of the pamphlet.

The present translation will be welcomed by those who have been unable to gain access to the original article, or who are unable to follow it. The translator is to be heartily congratulated on his careful and excellent rendering into the English language of so important and valuable a memoir. The pamphlet is handy in size, and the type throughout is good and clear, but to the binding we must take exception. So important a subject might with justice have been bound in a more thorough and substantial manner.

NOTES ON BOOKS.

Home Nursing. By E. MARGERY HOMERSHAM. (The National Health Society.)—This little book is admirable in every way—short, clear, and, above all, practical, showing the author's thorough knowledge of her subject. Her rules for the preparation, application, and use of home nursing apparatus is excellent. It forms a valuable addition to the National Health Society's list of useful publications, and can be confidently recommended to the public seeking some acquaintance with nursing details.

On the Vomiting of Pregnancy, and Menorrhagia. By JOHN MEREDITH, M.D.Edin., Medical Officer of Health, Wellington, Somerset. (Bristol: J. W. Arrowsmith. 1888.)—This short memoir of thirty-two pages deals with a case of obstinate vomiting of pregnancy and several cases of menorrhagia. The author, in the treatment of the former condition, after trying various methods, had finally resorted to dilatation of the cervix by means of sponge-tents, a dangerous expedient, especially in the early months of gestation. No mention is made of the use of peptonised foods, of antipyrin, or the application of cocaine to the cervical canal, means which are at times followed by relief when everything else has failed. Another point which strikes us is that, though the author from the first considered the vomiting to be due to the inhalation of sewer-gas, no effort was made to diminish the nuisance, or remove the patient from its influence. Numerous cases of menorrhagia are cited, the cause in the majority of cases being the inhalation of sewer-gas or drinking impure water. The important part played by these agents in the production of menorrhagia is not sufficiently recognised by the profession. Many a flooding is ascribed to "anæmia" or "debility," while the exciting cause of these conditions is altogether overlooked. The memoir is interesting throughout, especially that part dealing with menorrhagia. The type is good and clear, and the pamphlet handy in size.

MEASLES AT BATTERSEA.—According to the evidence given by Dr. Hayes at a recent inquest, there is a severe epidemic of measles at Battersea, "cases in every street." The jury suggested the closing of the schools in the neighbourhood, or isolation more strictly enforced.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SESSION 1888.

Tuesday, November 27th.

JOHN MARSHALL, F.R.C.S., F.R.S., President, in the Chair.

President's Address.—The PRESIDENT opened the proceedings by delivering the following address: I am able to congratulate the Council on meeting to-day unchanged in number and in personality, each member experienced in the obligations of the Council, and all desirous of forwarding its work. The chief incident which I have to record as having occurred since our last meeting in May is that I decided not to summon the Executive Committee in July. In adopting this resolve, I trust you will find that I was fully justified when I state that I could discover no business whatever for that committee to undertake. On the question of my power so to act, it seemed to me that the words of the standing order, "as a rule," inasmuch as they imply a possible increase in the number of meetings of that committee, allowed also a possible decrease according to the needs of the Council. An important step, provisionally taken under my directions, has been definitely adopted by the Executive Committee—namely, that of accepting the "leaving certificate" granted by the Scotch Education Department amongst those recognised as fulfilling the conditions of a preliminary examination to be undergone by medical students before registration. The first report concerning this examination, which resembles closely the *abiturienten* examinations of the German schools, shows highly satisfactory results; and appears to indicate that it must supersede all other preliminary examinations in Scotland. It further suggests some possible simplification and strengthening of the corresponding test examinations in the other divisions of the kingdom, regard being had to the special conditions of area, population, and the convenience of the examination centres. Since the last session of the Council, only ten foreign medical diplomas have been registered as additional qualifications upon the home *Register*. The total number now thus registered is 214, of which 180 were registered in 1887, and 34 in 1888, so that, as indicated last May, the applications for the registration of these additional foreign titles will speedily cease. No entry, either in a Colonial or a Foreign *Register*, pursuant to Sections 11 and 12 of the Medical Act, 1886, has yet been made. In addition to the dependency of Ceylon, the colony of New Zealand has been declared by the Privy Council to be a British possession to which the above mentioned Act applies. Following upon this, a request has been received at the office that a graduate of the University of New Zealand may be registered as a "colonial practitioner" under the Act. The Executive Committee, in pursuance of its powers, has, after due inquiry, recognised generally the diploma of the University of New Zealand as deserving of registration; but, as the practitioner applying to be thus registered has received his degree *ad eundem*, the Executive Committee has referred to the legal advisers of the Council the question as to the power of the Council to recognise and register a Colonial *ad eundem* degree. I have been informed by Mr. Peel that there has also been received an application to the Privy Council from the colony of New South Wales to be brought under Part II of the above quoted Act; but that, as the latest Act on medical education and examination in that colony is of so ancient a date (1855), the Privy Council has suggested "that the colony should pass another Act more applicable to the altered condition of things." No recent communication from Switzerland had been received by the Privy Council on the question of the Swiss authorities granting special or reciprocal facilities to practitioners, duly registered in our home *Register*, to practice amongst Her Majesty's subjects, or otherwise, in that country. A correspondence has taken place between the American Embassy and this office, relative to the admission to our proposed foreign *Register* of the Degree of M.D. of Michigan, but the preliminary conditions required by the Privy Council have not yet been fulfilled. As to the business immediately before the present meeting of this Council, the important duty of considering the reports of its inspectors of medicine, surgery, and midwifery takes the first place, and, as is well known to all, this duty has now to be performed for the first time. I. The reports of its inspectors on the final examinations of the several qualifying bodies, including statements as to the "sufficiency" of those examinations, having been presented to the Council, together with the replies of those bodies, there will follow the presentation and discussion of a report framed by the Examination Committee, to which this important task has been assigned. It is not for me to anticipate your immediate judgments and action, or the future outcome of these proceedings; but I may be allowed to claim, on behalf of this Council, that all such inquiries, accompanied as they are by open discussion and criticism, have contributed, and will continue to contribute, to the general advancement of medical education and the improvement of medical qualifications throughout the United Kingdom. After the Council has completed its formal consideration of its inspectors' reports, which I may be allowed to characterise as both laborious and impartial, the Council will have further to consider its duties under the Act of 1886, in reference to the further appointment of inspectors for future work; for the Council will remember that the commissions of its recent inspectors expired on the last day of September. In connection with this duty, the Council may desire to issue some special instructions, or it may direct the Executive Committee to do so along certain indicated lines, having reference to the periods and extent of its future inspections. It may further be open to consideration whether, and if so, when and to what extent, the visitation of the earlier examinations should be repeated. II. The memorandum drawn up by myself, with suggestions from the legal advisers of the Council, relating to the "disciplinary and penal powers of the Council, and of the several qualifying bodies," having been forwarded by order of the Executive Committee to those bodies, with a request for the expression of their opinions upon the suggestions contained in that memorandum, a recommendation on this subject will be presented to you from the Executive Committee. III. There are, I regret to say, several charges to be investigated against registered practitioners for various acts of association with unregistered persons. These it is desirable to adjudicate upon at this session of the Council. IV. Other business may arise, but I sincerely trust that with the help of the Council this meeting will not be a protracted one.

Inspectors' Reports.—On the motion of Mr. WHEELHOUSE, the Inspectors' reports on the final examinations in medicine, surgery, and midwifery conducted by the several licensing bodies in the United Kingdom, together with the remarks thereon by the bodies inspected, were ordered to be received and added to this year's volume of the Minutes.

Distribution of Registration Fees.—The PRESIDENT reported that the following opinion had been obtained, pursuant to the subjoined instruction given by the General Council at its meeting held on May 26th, 1888 (Minutes, vol. xxv, p. 68):

"Mr. Macnamara having moved 'That the fee paid for registration of the qualification or qualifications which admit a practitioner to the *Medical Register* should in future be credited to the Branch Council of the division or divisions of the kingdom in which the qualification or qualifications were obtained,' it was resolved:

"That this subject be referred to the President, with power to consult the legal advisers of the Council on it, and particularly as to the competency of the Council to make an order to the effect of that proposal."

The opinion of their legal adviser was as follows:

"(*a*) Each Branch Council is entitled to the fees paid for registration by the persons registering through it, whencesoever may come the qualifications on account of which such persons are registered. (*b*) No Branch Council can apply the fees received by it for any other than its own purposes, except as directed by the Act of 1858, Section 13. Hence the Branch Council for England cannot credit for fees received for registration through it to any other Branch Council, whatever may be the qualifications in respect of which such registration has been obtained. (*c*) The General Council has no power whatever over moneys belonging to the Branch Councils. (*d*) The Branch Councils have to pay a proportion, according to their receipts, of the cost of the General Council, and that is all the General Council has to do with their money."

Case of William Henry Emeris Burke.—A communication was read from the Royal College of Surgeons of England to the effect that William Henry Emeris Burke, having been convicted of wilful murder and sentenced to be hanged, the sentence having been subsequently commuted into one of penal servitude for life, the following resolution had been passed, namely:

"That the crime of which William Henry Emeris Burke has been convicted renders him unfit to remain a Member of the College,

and that he accordingly be removed from being a Member thereof." The certificate of conviction and of commutation of sentence having also been read, and the documents ordered to be received and entered on the minutes, the Registrar was ordered to erase his name from the *Register*.

Case of Charles Frederic Groom.—A communication was read from the Royal College of Surgeons of England, announcing that a resolution had been passed, in virtue of which Charles Frederic Groom had ceased to be a Member of the College. The resolution was based on the publication of the pamphlet entitled *The Pathway of Safety*, which pamphlet was, in the opinion of the Council, under Clause 1, "an indecent advertisement relating to his practice as a surgeon," and, under Clause 2, "prejudicial to the interest and derogatory to the honour of the College," and "disgraceful to the profession of surgery."

The PRESIDENT put it to the Council whether, in their opinion, Charles Frederic Groom had been guilty of "infamous conduct," in virtue of which his name should be removed from the *Register*.

Sir JOHN SIMON urged that the erasure ought to go as a matter of course, seeing that he had lost the only diploma which entitled him to be placed on the *Register*.

The REGISTRAR read Section 28 of the standing orders bearing on the proper course to follow.

A long and desultory discussion took place on the point as to whether or not the Council should act on the communication from the College, or whether they ought themselves to investigate the evidence. Dr. HERON WATSON, Dr. BATTY TUKE, Professor STRUTHERS, Dr. GLOVER, Mr. WHEELHOUSE, and Dr. LEISHMAN joined in the discussion.

Dr. BRUCE thought that Mr. Groom should have been summoned before the Council to answer the charge.

Ultimately, however, the resolutions to strike out the qualification and to erase the name from the *Register* were agreed to, and the Registrar was ordered to carry these resolutions into effect.

Penal Powers of Medical Authorities.—Mr. WHEELHOUSE moved that:

"Documents, submitted to the General Council by direction of the Executive Committee, with the recommendation that they should be forwarded to the several medical authorities, and the consideration of them deferred to the next meeting of the Council in May, in regard to a memorandum by the President on the disciplinary or penal powers of the qualifying medical authorities, and of the Medical Council, as regards the erasure of qualifications and names from the *Medical Register*,"
be received and entered in the minutes.

The Rev. Dr. HAUGHTON said that he had been struck by the serious difference of opinion existing among the bodies in respect to the question. He said that the University of Dublin would be very pleased to have the power to remove the names of graduates of all kinds who had become unworthy to belong to the University.

The motion was agreed to.

Mr. WHEELHOUSE then moved:

"That the documents referred to should be forwarded to the several medical authorities for their consideration."

This was seconded by the Rev. Dr. HAUGHTON.

Mr. MACNAMARA thought it would be a great waste of time to do as proposed. The authorities had already given the matter attention, and had expressed their opinion on the subject. He suggested that the documents should be forwarded to the Privy Council. He thought there might be a difficulty in getting conjoint bodies to work together. He moved as an amendment that the documents be then discussed.

Sir WILLIAM TURNER said that one reason for adjourning the discussion was that all the bodies applied to had not sent in their replies. He mentioned that when the communication came up for discussion before the Senate, several law lords being present, the proposal was thought to be very novel and somewhat extraordinary.

After some further discussion, Mr. MACNAMARA withdrew his amendment, with the permission of the Council, and Mr. WHEELHOUSE postponed his motion until the following day.

Admission of Graduates of the University of New Zealand to the Colonial Register.—The following resolution, reported by the Executive Committee to the General Council, was read by the REGISTRAR:

"That under the power conferred by the hereunder-cited Section 13, Subsection 1, of the Medical Act (1886), graduates of the University of New Zealand be admitted to the *Colonial Register*:

"'The medical diploma or diplomas granted in a British possession or foreign country to which this Act applies, which is or are to be deemed such recognised colonial or foreign medical diploma or diplomas as is or are required for the purposes of this Act, shall be such medical diploma or diplomas as may be recognised for the time being by the General Council as furnishing a sufficient guarantee of the possession of the requisite knowledge and skill for the efficient practice of medicine, surgery, and midwifery.'"

Sir WALTER FOSTER mentioned that members of Parliament were constantly receiving letters from all parts of the country, and brought them to him, asking when there would be a chance of these foreign degrees being registered. He said that attention might be called to it in the House, and reference made to the slowness of their procedure.

The PRESIDENT explained that the Council were in nowise responsible for the delay. They had to obtain certain guarantees of reciprocity, and that was a very difficult matter to carry out. He referred to the letter that had been received from the University of Michigan, but said that no university had so far complied with their requirements except that of Otago. The delay arose from ignorance of the conditions of registration.

Sir WALTER FOSTER said that public attention should be called to the fact that the delay did not rest with the Council.

Inspection of Sanitary Examinations.—The Rev. Dr. HAUGHTON brought forward the following motion:

"That, taking into consideration the fact that the recent County Government Act of Parliament requires all sanitary inspectors to hold a diploma in Public Health, and in consequence a large number of medical men are 'reading up' for special qualification in that subject, it is desirable that the Medical Council should appoint inspectors to visit examinations in this subject during the coming year, so as to secure that the standard of examination for Public Health diplomas shall not fall short of what the Act of Parliament evidently intended to secure."

He explained the interest he took in the matter, and said that his attention had been earnestly called to the fact that, although the Local Government Act required that medical officers of health should have special diplomas in Public Health, and although the Council was empowered by the Act of 1886 to recognise such diplomas, they had no means of controlling the efficiency of the examinations. He said there was likely to be an ugly rush for these diplomas now that they had been made compulsory, and he feared that there might be a tendency to lower the standard of the test. He thought they ought to appoint inspectors to see that the standard was kept up to the proper level, though he admitted that there would be a difficulty in procuring proper inspectors. He said that he was prepared to accept as an alternative to his motion a resolution requiring that the examination should be conducted by a sufficient number of examiners in the different branches to secure that the examination would be thorough. He thought there should be at least six examiners.

The motion was seconded by Mr. COLLINS.

Dr. QUAIN asked Dr. Haughton to point out by what authority the Council could appoint these inspectors.

Sir WILLIAM TURNER said that Dr. Haughton appeared to think that the examining bodies were intentionally going to avoid doing their duty. (Dr. HAUGHTON: Some bodies.) He suggested that as Dr. Haughton was in possession of some private information, perhaps he would tell the Council which were the bodies which were not going to perform their duty. Dr. Haughton had asked them to take the matter into consideration, but he would ask Dr. Haughton whether he himself had taken it into consideration. The clause upon which he relied gave the Council power to register such diplomas, but not to inspect the examinations. Still less had they the power to take up the alternative proposal as to the appointment of a definite number of examiners. He maintained that the motion was *ultra vires*.

Professor STRUTHERS said he was disposed to support Dr. Haughton's motion, although he regretted the tendency to the granting of special diplomas, which was a degradation to the profession. He would either give these diplomas in Public Health to everybody, or he would make them very genuine. Some of them undoubtedly required to be inspected. He thought there would certainly be a rush, and it was the duty of the Council to see that these qualifications were really a guarantee of knowledge. The Act of 1858 only empowered them to inspect certain specified examinations, and the Act of 1886 only authorised them to inspect "qualifying examinations." The latter Act, however, empowered

them to admit to registration such certificates "as appeared worthy to be admitted," and he thought this gave them the required power. He, therefore, warmly supported Dr. Haughton's motion, but he suggested altering the wording of it as follows:

"Taking into consideration the fact that the recent Local Government Act requires certain medical officers of health to hold a special diploma in Public Health, and that in Section 21 of the Medical Act of 1886 the General Medical Council is required to satisfy itself that the diplomas in Public Health, Sanitary Science, or State Medicine deserve recognition in the *Medical Register*, before being admitted thereto, the Council resolves to appoint an inspector, or inspectors, to visit examinations in that subject during the ensuing year."

The amendment was seconded by Sir DYCE DUCKWORTH.

Sir JOHN SIMON pointed out several errors in the wording of the motion as proposed by Dr. Haughton. He said that the law assumed that, at least for the minor offices, every well educated member of the profession was competent to act as medical officer of health. He said that hygiene was only one of twelve subjects, and if they inspected the examinations in hygiene there was no reason why they should not inspect all the others.

Sir WALTER FOSTER said that Dr. Haughton's motion appeared to him to be founded on a misconception. The law only required the special diploma for the more important posts, and he thought Dr. Haughton's motion would tend, if passed, to dislocate the health services of the country. They hoped that the smaller offices would gradually be grouped together until they would all fall within the grasp of the clause. He observed that many of the most competent medical officers of health of the country were men who had no special diploma at all, and any action on their part might prevent such men obtaining appointments in the future. He wished the improvement to be gradual. By attempting to strengthen these examinations suddenly they would not be taking the best steps to further the cause they had in hand.

Mr. MACNAMARA asked how the Council was to pass an opinion on these examinations without an inspection. He thought the object might be attained by requesting the various bodies to furnish copies of the papers set. He added that the Royal College of Surgeons of Ireland would cheerfully furnish all information respecting the examination, and he felt quite sure that other bodies would be equally willing.

Dr. LEISHMAN suggested that the subject might well be brought up when the question of the appointment of inspectors came on for discussion. He said that inspection was not indispensable; they might ask for copies of the papers and regulations. He thought it was the duty of the Council to see that this subject, like other subjects, was properly taught. He objected to the Council committing itself to the inspection of any special examination to the exclusion of others.

Dr. QUAIN said that the Council was not in possession of any information to enable them to form an opinion. He alluded to the fact that the University of London had resolved to abolish the certificate in Public Health, putting in its place a diploma in State Medicine. He would be quite satisfied to have a full and complete summary of the requirements of the various bodies.

The PRESIDENT called Dr. Quain's attention to the fact that the requirements had already been received, and were to be found in the last volume of the Minutes.

Dr. HERON WATSON thought they ought not to interfere with the quiescence of the examination boards unnecessarily, and, therefore, unless Dr. Haughton knew of certain bodies that were likely to bring about a failure, his suggestion ought not to be adopted.

Mr. BRUDENELL CARTER mentioned that the Council had been told last meeting that at least one body was in the habit of giving the diploma to their students without any special inquiry. He thought that such a course involved grave responsibility. He felt that the discussion would do good if only by calling the attention of the licensing bodies to the fact that the Council was seriously taking notice of the examinations and the conditions under which the diploma was granted. He thought there was a possibility of certain examining bodies endeavouring to "make hay while the sun shone," and, therefore, that there was some urgency. The matter had not been brought forward in a form in which he could support it, but he was glad it had come before the Council.

Mr. TEALE suggested that the matter should be referred to the Standing Committee on Education to report upon the matter in time for their next meeting. He proposed this as an amendment.

The Rev. Dr. HAUGHTON said that Sir William Turner was clearly in the wrong as to the powers of the Council to inspect. He claimed that he had done a public service in ventilating the subject. He accepted the corrections of Sir John Simon and Sir Walter Foster, and expressed himself willing to accept Professor Struthers's amendment in lieu of his own motion. With the permission of the Council, Dr. Haughton then withdrew his own motion in favour of that proposed by Professor Struthers.

Mr. Teale's amendment was then discussed, but Professor Struthers announced his willingness to accept the suggestion to postpone the discussion. Dr. Haughton, however, very strongly protested against any such course being followed, on the ground that he had only abandoned his own motion on the understanding that the other was to be put to the vote. As the request of Professor Struthers to be allowed to withdraw his amendment (now become a substantive motion), had been formally put to the Council, it was put to the vote and negatived.

Mr. TEALE'S amendment was then put to the vote and carried by 16 to 9.

The Council then adjourned.

Wednesday, November 28th.

JOHN MARSHALL, F.R.C.S., F.R.S., President, in the Chair.

Case of Alexander Lindsay.—The defendant, Alexander Lindsay, appeared before the Council on the charge

"That he, being a registered medical practitioner, had acted, and did still act, as cover to one Edwin Middlebrooke, of Smallthorne, Stoke-on-Trent, in the county of Stafford, an unqualified person, thereby enabling the said Edwin Middlebrooke to carry on a medical practice as though he were a legally qualified medical practitioner."

The defendant was represented by a solicitor (Mr. Riddell). Some discussion took place as to whether the words "and did still act" should be left in, seeing that part of the defence was that the defendant, if he had ever done what was alleged, had ceased to do so.

Mr. FARRAR, the Solicitor to the Council, pointed out that if the defence were admitted that defendants had ceased to act, the law would become inoperative. Mr. Farrar then read a statement of the facts of the case, together with the defence that had been made. It appeared that Middlebrooke had done no curriculum, but had become possessed of an American diploma. He had already been convicted under the Apothecaries' Act of illegal practice, and had been sentenced to a fine of £20 and costs. Up to the time of the summons being issued by the Apothecaries' Society, the name of "Dr." Middlebrooke appeared upon the door, but at that time the plate was taken down, and that of Dr. Lindsay put up in its place. From that time Middlebrooke was alleged to have practised as before, under cover of Dr. Lindsay. Two accounts were shown with the printed heading of Dr. Lindsay, for medical attendance, "per Dr. Middlebrooke."

After some preliminary remarks by Mr. RIDDELL, on behalf of Dr. Lindsay,

Mr. PERCY JOHN WILKINSON, by whom the matter had been brought before the Council, was called upon to make a statement in support of his allegations. He said he had evidence to prove that Middlebrooke came from Leek, where he was engaged in a warehouse and kept a herbalist's shop. He came to Smallthorne a few years ago, and after a short time he obtained the services of a qualified man and started a dispensary. Mr. Wilkinson produced a printed card announcing the medical officers as "Dr." Middlebrooke and another. The latter left after a short time, and then Middlebrooke carried on the practice by himself. A card was produced on which Middlebrooke's name alone appeared. At that time there was a brass plate with his name on the door, and in every way he represented himself as fully qualified. A certificate of death was produced signed by Dr. Lindsay for a case attended by Middlebrooke. He then narrated the circumstances of his conviction for illegal practice, immediately after which a mock sale took place of the effects of Middlebrooke, nominally for the benefit of his creditors, at which Dr. Lindsay bought the drugs, etc., for £3. It was shortly before that time that the plate bearing the name of "Dr. Middlebrooke" was taken down and the plate of Dr. Lindsay substituted. He said that Middlebrooke described himself as "M.D., L.M., and Associate of the British Medical Reform Association." It was only when the summons at the instance of the Apothecaries' Society made Middlebrooke's position untenable that the imaginary transfer took place. He mentioned a number of pa-

tients (four) who had been attended solely by Middlebrooke. In reply to Mr. Muir Mackenzie he admitted that he had no direct evidence to disprove the statement that Middlebrooke stood in the relation of assistant to Dr. Lindsay, but said that the fact of his having alone attended the cases brought forward was presumptive of his having practised by himself.

After some remarks by the Rev. Dr. HAUGHTON.

Mr. RIDDELL, the defendant's counsel, entered upon the defence of his client. He urged that the conviction at the instance of the Apothecaries' Society and the fine had ruined Middlebrooke, who then took a place as assistant to Dr. Lindsay. He claimed that the allegations made by Mr. Wilkinson related to Middlebrooke's behaviour before he had been fined, and the statements were, strictly speaking, not evidence at all. In reply to a question, he said that Middlebrooke's age was about 33. Dr. Lindsay maintained that Middlebrooke was only his assistant, that he (Dr. Lindsay) visited all, or nearly all, the cases, and received the fees.

Dr. LINDSAY, the defendant, was examined as to how he paid his alleged assistant. He said that he paid him sometimes quarterly, sometimes at odd times. He had no receipts, and could not say how he arrived at the fact that when Middlebrooke left him he owed him a balance of £3. He denied having given him authority to send in accounts of his own in his (Lindsay's) name. The stamp with his name was in his surgery, and Middlebrooke had access to it. He had never forbidden him to use the stamp. In reply to a question, he said the accounts of the surgery at Smallthorne were entered up from time to time in the day-book at his surgery at Burslem.

Mr. MUIR MACKENZIE observed that it seemed to be a pure question of conflict of testimony.

Strangers were then ordered to withdraw while the Council deliberated.

On strangers being readmitted, the PRESIDENT, addressing himself to the defendant, Dr. Lindsay, informed him that the Council had come to the conclusion that he was guilty of "infamous conduct from a professional point of view," and that his name had been ordered to be erased from the *Register*. He added that this was the first time that the Council had used their prerogative in cases of this kind, but they did it with the perfect conviction that he had been guilty of the offence with which he was charged. He added that names which had been penally erased from the *Register* had, on a few occasions, been restored after an interval.

Mr. RIDDELL asked when his client might apply to have his name restored.

No answer was given to this question.

Two other cases of alleged "covering" had been brought before the Council by Mr. R. H. S. Carpenter, acting on behalf of the Medical Alliance; but a letter was read from him, dated November 27th, withdrawing from the prosecution, and leaving the affairs in the hands of the Council.

After the SOLICITOR had read the statement of the facts of the first case with the documents annexed thereto,

Dr. KIDD protested against the Council entertaining a prosecution from which the prosecutor had withdrawn. He urged that the Council had no facts before it on which it could act.

Mr. MUIR MACKENZIE said it rested with the Council to decide whether the case called for any investigation. He submitted to the Council whether their attention should be occupied by a case supported by such slight evidence.

Sir JOHN SIMON moved "that the charge be dismissed."

The PRESIDENT proposed that the motion be worded as follows:—"That the case be not further considered."

Sir JOHN SIMON adhered to the terms of his own motion.

Dr. KIDD thought that the form proposed by the President would leave the charge hanging over the defendants. He thought that a protest should be entered and appear on the minutes against this policy of bringing frivolous accusations and then running away.

Sir JOHN SIMON's motion was then put to the vote and passed *nem. con.*

The standing orders were then suspended in order to proceed with the second case.

Mr. MUIR MACKENZIE said that the conduct of the prosecutor in this case was peculiarly bad, he having disavowed the very person on whose evidence the charge was originally brought.

On the motion of Sir WILLIAM TURNER this case was also dismissed.

Thursday, November 29th.

JOHN MARSHALL, F.R.C.S., F.R.S., President, in the Chair.

The Council was engaged in the investigation of a charge of "covering."

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

AUSTRIAN PINE PRODUCTS.

THESE products are made by Mr. Joseph Mack, at his distilleries at Reichenhall, in Bavaria, and at Gmain, near Salzburg, Austria. Of all conifers, pinus pumilio has been recognised, at least on the Continent, as being the most valuable and efficacious in what is known as "the pine treatment." The preparations derived from those smaller trees growing at a great altitude, in fact at or above the snow line, are stated to have more virtue than those derived from the larger trees growing upon the lower slopes. Mr. Mack guarantees that all the products offered by him are derived from trees of pinus pumilio growing on the Austro-Bavarian Alps at an altitude of 5,000 to 6,000 feet above the level of the sea.

Three of the Austrian pine products have been submitted to our notice, namely, Mack's Austrian Pine Essence, Mack's Anti-Rheumatic Bath, and Mack's Austrian Pine Soap.

The Austrian pine essence is a very limpid, volatile oil, with a peculiar but very pleasant and "wholesome" odour. It is recommended that this be used in the form of fumigations or inhalations for catarrhal and more serious affections of any portion of the whole respiratory tract. It may also be used on soft flannel or wool, as a local application, to relieve the acute pains of gout.

The "anti-rheumatic bath" is really the residue left in the retort after the distillation of the pine essence. It is soluble in water, and for an adult the contents of one bottle are to be dissolved in the water of the bath, the temperature of which should be from 96° to 100° F. The duration of each bath should not exceed twenty minutes. It is stated to be particularly useful in gout, rheumatism, and the like.

The Austrian pine soap is said to be of value if used habitually in those cases for which the other pine products are likely to be beneficial. As a toilet soap it is a very pleasant preparation. It lathers well, has an agreeable odour, and is free from excess of alkali. The London depôt for Mr. Mack's preparations is Hearn Street, Curtain Road, E.C.

COMPRESSED TABLOIDS.

AMONG the many therapeutic agents of a purely chemical nature which have recently been discovered, sulphonal has attracted considerable attention as a hypnotic. This substance is given in doses varying from 15 to 40 grains, and as it is but sparingly soluble in water, it cannot conveniently be administered in mixture. The largeness of the dose also indicates that it is not well adapted for administration in the pilular form. Messrs. Burroughs, Wellcome and Co., of Snow Hill Buildings, E.C., have therefore prepared compressed tabloids of sulphonal containing 5 grains in each. The same well-known firm have also added tabloids of salol to their already long list of these convenient preparations. Each tabloid contains 5 grains of salol, compressed without the aid of any excipient or admixture. As salol seems likely, not only to maintain its ground, but to be increasingly used as an antipyretic, analgesic, and antirheumatic, we are glad to see means adopted for rendering its administration more easy.

"Warburg's Tincture" has long had a reputation as a remedy for malarial and other fevers in Africa and India, but its bulk has greatly militated against its employment very generally. To obviate this difficulty Messrs. Burroughs, Wellcome and Co. have, in response to an ingenious suggestion of Dr. Felkin, of Edinburgh, made tabloids containing the ingredients of the tincture, excepting, of course, the alcohol and water. Each tabloid contains the quinine, aromatics, etc., contained in half a fluid drachm of the tincture as ordinarily prepared, and so the equivalent of a large quantity of the tincture can be carried in a comparatively small space. This form of Warburg's tincture is manifestly convenient, especially for travellers in malarial districts.

The compressed tabloids mentioned above are admirably made, and can be readily swallowed with the aid of a little water, and thus, in the case of Warburg's tincture, the rather nauseous taste is entirely avoided.

FERRUGINOUS CAPSULES.

Messrs. James Robertson, of 35, George Street, Edinburgh, have in these introduced a distinct novelty. Dried sulphate of iron (ferrous sulphate) is suspended in a pure hydrocarbon oil and mixed with an alkaline carbonate, and the mixture is afterwards introduced into capsules. No reaction takes place as long as the mixture remains in the capsules, but on mixing the contents with water, ferrous carbonate or moist carbonate of iron is formed. The makers claim that this reaction also takes place in the stomach, from the fact that the capsules have a slightly aperient instead of an astringent action, owing to the formation of sulphate of the alkali and the conversion of the astringent sulphate of iron into carbonate. The capsules are of two strengths, No. 1 containing 1½ grain dried sulphate of iron (equal to 2½ grains of the green crystalline salt), with sufficient dried alkaline carbonate to decompose the iron salt; No. 2 contains the equivalent of 7½ grains of crystalline ferrous sulphate, with sufficient alkaline carbonate to effect its conversion into carbonate. These ferruginous capsules are also made so as to contain, in addition, one-sixteenth of a grain of arsenious acid, or one-sixteenth of a grain of sodium arseniate, or one-hundredth of a grain of digitalin in each. The capsules themselves are very flexible and readily soluble in water, and we have found that their contents have undergone no oxidation on being kept.

COMPRESSED PELLETS OF PERCHLORIDE OF MERCURY WITH TARTARIC ACID.

It has been recently shown that the antiseptic power of perchloride of mercury is greatly enhanced by the addition of acids. The formation of insoluble albuminate of mercury (produced whenever a simple solution of perchloride is brought into contact with albuminous substances) is by this means prevented. Tartaric acid is one which has this power. In accordance with a suggestion of Dr. Foulis, Messrs. Robertson and Co. have made compressed pellets of perchloride of mercury and tartaric acid of two different strengths. No. 1, dissolved in a pint of water, forms an acidified solution of perchloride of 1 in 3,000; and No. 2, similarly dissolved, gives a solution of 1 in 1,500. These pellets are put up in glass tubes, each containing twelve. They readily disintegrate, but actual solution is effected with some difficulty in the quantity of water prescribed. They are very convenient as a means of making extemporaneously an antiseptic solution of definite strength, and the only possible objection to their use is that if by any means they were carelessly left about they might be mistaken for harmless lozenges.

THE N.C. DOSIMETRIC GRANULES.

From the time of the successful isolation of alkaloids and other definite principles from crude drugs, there has been difference of opinion as to whether these principles, or any combination of them, represent the full therapeutic value of the entire drug. However this may be, alkaloids and the like are an extremely useful class of substances, and are being more and more employed in the treatment of diseases.

Messrs. Numa, Chanteaud, and Co., of Paris, are offering a great variety of small granules containing measured quantities of active principles, etc. They are of various strengths. The granules of the more powerful principles contain half a milligramme (0.0077 grain) of the active ingredient. In this list we find aconitine, atropine, strychnine, veratrine, etc. In another series each granule contains one milligramme (0.0154 grain) of the medicinal substance, and here we find quassiin, pilocarpine nitrate, elaterin, emetine, gelsemine, etc.

In a third series the granules contain one centigramme (0.154 grain) in each. Besides vegetable active principles many chemicals are contained in these preparations, and altogether nearly a hundred different kinds of granules are made by Messrs. Numa, Chanteaud, and Co. They are well prepared, and, as far as we have tested them, we find that they contain the amount of substance indicated. They are put up in small tubes, each containing 20 granules, and are very convenient and portable. The agents for their sale in Great Britain are Messrs. Thos. Christy and Co., of Lime Street, E.C.

MANDARIN RAZORS.

We have received from Mr. D. A. Arbenz, 107 and 108, Great Charles Street, Birmingham, specimens of his mandarin razors, of which we are able to speak in terms of commendation. While a bad razor is at all times a source of pain and annoyance to the user, a reliable, handy, and easy shaver is a convenience the utility of which cannot be overrated for individual, and especially for hospital, use.

Arbenz's interchangeable blades are said to be made of the best English steel, are hardened and tempered to the highest degree of perfection, and finished off in the natural colour, so that their fine temper is not ruined by subsequent grinding and polishing, as is commonly the case with razors of the old construction, quality and durability in such instances being often sacrificed for the sake of an extra polish.

These razors are supplied, with four interchangeable blades, in a neat velvet-lined case.

SNOWDRIFT CAKE FLOUR.

This flour is intended to save some labour in the preparation of light cakes or pastry. It consists of a mixture of flour, sugar, and baking powder, and only requires the addition of butter, eggs, and milk to yield the dough for a good cake. Snowdrift flour is a well-made and useful preparation. It is manufactured by Mr. J. Bury, Manchester.

PREPARATIONS OF CASCARA SAGRADA.

The chemistry of the bark of rhamnus purshiana (cascara sagrada) has not, up to the present time, been fully worked out, but a communication (of which Messrs. H. F. Meier and J. le Roy Webber are the joint authors) from the laboratory of Messrs. Parke Davis and Co., has lately thrown some additional light upon the subject. This paper appeared in the *American Journal of Pharmacy*, February, 1888.

Acting on their increased knowledge of the chemical constituents of the crude drug, Messrs. Parke Davis and Co., of Detroit, Michigan, have produced a liquid extract of cascara sagrada, "comparatively free from bitterness," and which they desire to be designated "Formula 1887." We have examined a sample of this recently submitted to us by them. It is free from all sediment, it is entirely miscible with water, forming a perfectly clear solution, and it is practically free from bitter taste. At least, what suspicion of bitterness does remain is not at all like that nauseous bitterness so noticeable in the ordinary liquid extract as prepared according to the pharmacopœial formula.

It is, of course, very difficult to make true comparisons between different preparations of such a drug as cascara sagrada; but, as far as we can judge, the liquid extract, "Formula 1887," seems to possess all the tonic laxative properties existing in the ext. cascaræ sagradæ liq., *B.P.*

"Cascara Cordial" is a preparation, the formula of which Messrs. Parke Davis and Co. publish, made from the barks of cascara sagrada, berberis aquifolium (alterative), with the addition of carminative aromatics and appropriate flavouring agents. It is really pleasant to the taste, is an efficient laxative, and is calculated to be especially useful for ladies and children, who might even object to the liquid extract "comparatively free from bitterness."

The London agents for these preparations are Messrs. Burgoyne, Burbidges, Cyriax, and Farries, 16, Coleman Street, E.C.

BEEF BOUILLON.

The above is the latest addition to Messrs. Brand's long list of specialities. It consists of a beef extract containing vegetable ingredients and flavouring materials, and yields, suitably diluted with boiling water, excellent and palatable bouillon. It will prove useful in the household, on board ship, and in emergencies.

MALT BREAD.

We have received from Messrs. Carr and Co., Carlisle, a loaf of malt bread, made from malt meal. We found the bread to be very nutritious and palatable. It contained an abundance of soluble (saccharin) constituents, was well baked, and altogether a very good sample of bread made from highly malted grain.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st; and notice is hereby given, in accordance with by-law 5, that Branch Secretaries' subscription-accounts close on October 31st, and all unpaid subscriptions must be forwarded, after that date, to the General Secretary, 429, Strand, London. Post Office Orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, DECEMBER 1ST, 1888.

THE ROYAL COLLEGE OF SURGEONS.

IV.

IT is undeniably unfortunate that there should be any strife between the members of a great medical corporation and their governing Council. It is unfortunate in every way, but it really seems to be the fault of the Council if mischief comes. But especially is it unfortunate, because it threatens, if the Council will not move, to involve a final recourse to litigation. They appear to be insensible to the logical and moral weight of the constitutionally expressed desires of their community. They ride high above the tides of public opinion. There remain only two ways in which effective action can be taken—the one is the criticism of Parliament; the other, the power of the Court of Chancery. We sincerely trust that the occasion for this *ultima ratio* may not arise. But it is well to recognise the fact, which is not perhaps as well known as it might be, that the members of such a corporation are not without their legal redress if their deaf rulers cannot be made to hear.

There are three great principles of the English law, each of which finds an application in the present case. The first is that every corporate trust, such as that under which the governors of any corporation existing for public ends act in the corporate name, is under the care of the Courts of Equity. The second is that no by-law of any authority, however formally correct, can be maintained as valid if it be against common right. The third is that, although "the king can do no wrong," yet, when he grants unjustifiable charters, he is supposed to be "deceived," and the charters, or at least the unjust provisions therein, are liable to be legally annulled.

Unhappily, the business of a general trust, or of what is technically called a "charity," is often not the evident business of any single individual, and accordingly the public is often deprived of its interest in such property by the mere supineness of the citizens. It is true that the Attorney-General is in some cases an official protector of these public rights; but successive Attorney-Generals have failed to take any action in the notorious case of the successive sales of the Inns of Chancery, though eminent lawyers have said that these fine properties were in the nature of educational trusts, and were, in fact, used for that very end not so many years ago. In the case of a body, however, whose members are already organised, there is no reason to doubt that the question will be raised, if it be unhappily necessary, at the proper time; and none can be more clearly entitled to raise it than the members themselves—or, rather, a few representative members on behalf of the whole. It would be premature, and on many grounds undesirable, to discuss here the precise legal points on which a "statement of claim" might be based. We believe that the Members have already fortified themselves with legal advice, although they are rightly reluctant to carry their quarrel into the Chancery Division, so long as any chance of negotiation remains. It is evident that, as the recent resolutions themselves expressed, the two most vital points are the power to object to, or if need be to veto, unjustified expenditure, and the free right of meeting and discussion. The attack on the 17th by-law was probably the cause of the legal objection taken at the meeting in the name of the solicitor. There was probably nothing in that objection, though it was not worth while to argue it. The Members have to profess obedience to the by-laws, but not in any higher sense at most than that in which any citizen has to obey the statutes of any State, in so far, that is to say, as they are valid. If a State law of Massachusetts is against the Constitution of the United States, and is about to be overruled by the Supreme Court, it is neither rebellious nor unlawful to resist it. It is equally, or rather it is still more true that there is nothing irregular in the criticism or, if need be, in the breach of a corporate by-law, if it be true that that by-law is inconsistent with the common right of the Members of the College. As a matter of fact, so weak do the Council feel their case to be, that they have whittled away their own restrictions till there is left little of them beyond an indefinite possibility of irritation. But we gravely doubt whether the Council would for a moment be allowed at this time to repeat the high-handed proceedings of fifty years ago, and to suppress a meeting of their own Members by force. We sincerely hope it will never come to any such pass, but we strongly suspect that any servant of the Council who should now try to exclude a Member from access to his own Hall for purposes of reasonable discussion would be severely dealt with by the Courts. On this head, indeed, we cannot conceive what objection the Council can equitably allege against the very moderate proposal, which was ultimately carried, to the effect that they should pass a new by-law for the convening of College meetings at any convenient time, on the requisition of not less than twenty Members and Fellows.

The management of the finances is, of course, a matter still more grave. No one dreams of accusing the members of the Council of anything but honourable motives; yet we believe that competent lawyers are of opinion that any such gift of the College moneys, as that which Mr. Heath mentioned as having been proposed and dropped, could have been attacked by way of injunction, and would probably have been held to be illegal. It would obviously be a monstrous injustice if a small Board should have the power to deal improvidently, in defiance of the protests of their constituents, with so magnificent a property as that just bestowed on the College of Surgeons by the Erasmus Wilson Bequest. The Council would surely have acted more wisely in their own interests if they had invited suggestion and debate, and elaborated, in concert with the general body of the Fellows and Members, some scheme of broad utility. We hope it is not yet too late to express the aspiration that, even at the eleventh hour, they may do something of the kind.

That the Fellows and Members cannot now rest content without further suitable and effective action is obvious. Probably their first action will be to raise in some form a parliamentary discussion. The Government should be strongly pressed to give an explanation of their failure to admit a full consideration of the broad reforms required, as part of the procedure in the matter of the recent Charter; and the agitation for the further Supplemental Charter rendered necessary by the tentative and stop-gap character of their last decision, should be at once begun and carried vigorously forward. Lord Randolph Churchill's application in the House of Commons, and Mr. Smith's assent to publish as Parliamentary papers the address made to the Privy Council by Mr. Hart on behalf of the deputation of Members of the College, and setting forth their claims, appears to be a first step in the course of Parliamentary action, and an appeal to public opinion and legislative methods such as that by which the similar right of the profession to direct representation on the General Medical Council was established.

We trust that in the meanwhile the Council will bethink them of the urgency of making some conciliatory arrangement. If they remain obdurate, and if the Government decline to move, the aggrieved party will not forget that the courts are always open, and that equity is still able to hold its own even against by-laws and, if need be, against charters also.

THE DECLINE OF CHEMICAL SCIENCE IN ENGLAND.

As President of the Chemical Section of the British Association in Bath, Professor Tilden delivered an address which is thoroughly deserving of the earnest attention not only of those who are especially interested in chemistry itself and its teaching, but of all who are interested in the reform of education generally. He contends that a sweeping reform is required in the entire system of chemical education in this country; for although we have ample provision for instruction, increased opportunities for study, a considerable supply of capable teachers, and an enormous body of students, we by no means hold our own with other nations. The ignorance and indifference of the public, and the lack of intelligent feeling in favour of any sort of education unless there is an expectation of direct returns and obvious practical results, are put forward by Professor Tilden as the causes of this unsatisfactory state of things. No doubt this is perfectly true, but it is only, it must be confessed, one of the natural results of the universal hurry and smatter that may almost be said to be characteristic of education as a whole in this country.

As science does not adapt itself to the convenience and intelligence of its students, not only is a certain amount of aptitude required for its successful pursuit, but also a good preliminary educational training; and Dr. Tilden recommends that this latter should be tested by a severe examination in mathematics, English, French, German, and drawing. A great advance has certainly been made in recent years by the introduction of the study of chemistry into the curriculum of many of our schools; but very often we fear, with Dr. Tilden, that it is taught by masters who know very little about it, and are, consequently, very unfit to teach it with real advantage to their pupils. Ample opportunities for study in the form of colleges, laboratories, and professorships have also been established of late, but there certainly seems to have been a want of intelligent attention to the means of utilising these advantages to the greatest profit. Above all, although the public is a very incompetent judge in such matters, and is bound to take qualifications on trust, yet, as far as possible, it should most strongly insist, under proper guidance of course, that only those shall be allowed to teach who are thoroughly competent to do so.

In conjunction with Professor Tilden's address, the presidential address delivered some time ago before the Chemical Society by Dr. W. Perkin may be studied with advantage. Bearing in mind the greater facilities now offered for the development of chemical science, Dr. Perkin said that the first thing which arrests the attention is the anomalous fact that the number of papers read before the Chemical Society is declining year by year, and this not only with increased laboratory accommodation, but also with the assistance offered to investigators by research funds and Government grants. From many of the laboratories of our universities we never hear of a research emanating, and from the rest, taken as a whole, we get but driblets at intervals, a condition of things very different from that existing in the German universities, from which there is such an incessant flow of work. A similar paucity of original work is also to be met with in the chemical laboratories connected with our colleges and hospitals. Speaking in a general sort of way, the work of our laboratories consists mainly in the students going through the ordinary course of qualitative and quantitative analysis, and attending one or two courses of lectures. But all this, as Dr. Perkin pointed out, however well taught, is insufficient to make a a student a chemist; it is but a preliminary part of the training which gives but little scope for independent thought and action. On the other hand, the subsequent prosecution of scientific research under proper supervision is quite another thing, requiring as it does independent thought and independent methods of working, thus developing the faculties of the student, and giving him an insight into his science and a living interest in it that nothing else will do.

"The past neglect of research will, it is to be feared, have a more lasting influence on the progress of chemistry in this country than may appear at first sight, and in this way: Those who have been students in laboratories where the importance of this kind of work is not recognised advance in their positions, becoming assistant demonstrators, etc., and eventually professors, and as they have not learnt to practically realise the value of research by being in the habit of conducting it themselves, or of seeing others do so, when they become professors they will naturally not encourage students to undertake it in their laboratories; and it is to be feared that we are already suffering in this way, and that this is one of the causes why the new laboratories which have been opened are doing so little to add to our store of fresh knowledge.....There can be no doubt that when a professor, his assistants, and advanced pupils are enthusiastically engaged with research, their influence is found to act even on beginners, who, if they possess any scientific spirit at all, will realise that the ordinary course of analysis is but a preliminary

thing, and will thus be induced to use their best energies to master it, that they also may try their hand at original work. That this condition of things is calculated to fill laboratories with students is seen from the fact that on the Continent, where the greatest scientific activity prevails, the laboratories are the most crowded, and this is the kind of activity we want in this country, where our students pre-eminently possess all the faculties for original work, but as they are not cultivated these are not developed."

We shall now deal with a part of Dr. Perkin's address which more particularly concerns medical men. "There is also another class of students," he says, "who study chemistry, but the fruit of their study is so extremely small, that it is difficult to realise that it possesses any practical value. I refer to medical students....Yet there are good teachers and good laboratories employed in the work....The present condition of things cannot but be disheartening both to students and teachers. Medical students have so much to learn that it is sad they should have to waste their time in studying chemistry in the way they do. If there is any value in chemical products as curative agents, if there is any value in physiological chemistry, or any importance in toxicology, surely medical students should have a sound knowledge of chemical science, and not learn simply to detect an acid and a base in a mixture, an operation which is of no value except as an intermediate exercise, to be followed by more advanced work. The only cure for the evil," Dr. Perkin continues, "appears to be either that their term of study should be lengthened, or that other subjects which are of less importance should be withdrawn from the curriculum, so as to enable them to work at this science sufficiently. Unfortunately, medical men have, as a rule, acquired so imperfect a knowledge of chemistry themselves, that they have found it to be of little value, and, therefore, do not sufficiently see how important its proper study would be to students. It is evidently high time that some steps were taken to economise the present waste of time and power, and that we should hear of some good work proceeding from the numerous and, in many cases, well-appointed chemical laboratories connected with our hospitals."

In all the above there is certainly much truth, and a great reform of the kind indicated would, without doubt, tend to the advancement of chemical science. But, at the same time, Dr. Perkin can hardly be aware of the number of subjects to which the medical student of the present day has to devote himself, and the comparatively small amount of time at his command for chemical studies. If any real improvement is to be made, we think that it is absolutely necessary to add at least another year to the student's curriculum. With so many new subjects to learn as he advances in his career, none of which, we fear, the examining boards will be disposed to withdraw in favour of chemistry, as Dr. Perkin suggests, the student is hurried too rapidly onwards, and insufficient time is thus afforded him for the perfect digestion of the knowledge he has acquired. But even independently of this, an improvement might certainly be made with advantage, we think, in the order in which the medical student's studies are at present pursued. In some, if not in all, of the London medical schools, as well as in many of the provincial schools, the medical student is frequently allowed to begin his studies with practical physiology, including physiological and pathological chemistry, before he has had an opportunity of acquiring any knowledge of general chemistry; the result of which is obvious. In Dr. Perkin's words, slightly modified, it may be said with reason, that it is sad that medical students should thus be allowed to waste their time in studying chemistry in the way they do

But Dr. Perkin, in one sense, goes beyond the truth when he affirms that the fruit of the study of chemistry by medical students is so extremely small that it is difficult to realise that it possesses any practical value; for, to say the least, if the medical student has availed himself, even in a comparatively slight degree, of the opportunities and teaching he has had, he will be able, without difficulty, to detect any abnormality in the chemical constitution of the urine, and thus often be led to detect indications of the most important and valuable kind, both in the diagnosis and treatment of disease. Surely this is of great practical value; and a large amount of practical work of this kind is being quietly done in purely medical research, which is of the utmost importance in a medical and physiological point of view, and yet not likely, for that very reason, to come directly under Dr. Perkin's observation. Until they have qualified, medical students cannot conveniently or advantageously devote themselves to original research; and we confess that the provisions for such work at most of our medical schools are not of the most favourable kind, at least when compared with the corresponding advantages to be found at most of the foreign universities. But, at the same time, we do not deem it a disadvantage, even in an educational point of view, for our home students to be compelled to place themselves, for a time at least, under the new relations and conditions with which they will find themselves surrounded at one of the larger Continental medical or scientific schools.

What is undoubtedly wanted in this country is a series of State-endowed research laboratories, presided over by a staff of able professors and assistants enthusiastically engaged in original work, not only in organic and inorganic chemistry, but also in that very important branch of the former, physiological and pathological chemistry. We beg to offer the suggestion to the respectful consideration of the College of Surgeons. General and also particular inducements should likewise be offered to all comers who have any, but specially to those possessing marked, competence for chemical research. Indeed, until an activity of this kind prevails here, much of the faculty for original work will be lost to the country, or will be compelled to go abroad for its development and cultivation.

THE NAIL-BRUSH QUESTION.

MAN is not instinctively clean. Cleanliness is the result of good training in childhood, and of common sense and self-respect in adult life. The doctrine that man is not by nature clean, nor even a seeker of what civilised people call comfort, may amply be proved by inspection of the members of a neglected family of children. Cleanliness and comfort represent acquired tastes, luxuries that have grown into necessities, items respected by social prejudice. Lastly, science has demonstrated that cleanliness and health are intimately allied.

The doctor has to pay great attention to cleanliness, for the laws of health and the good opinion of patients demand it. Dirty nails are abominable in every sense; hence the doctor constantly uses the nail-brush, both in the hospital ward and in the private sick-room. In the latter place there can be little risk in employing that article of toilet. Recently, however, the danger of the nail-brush in hospital work has been pointed out by more than one surgeon not without experience. The chief object of the nail-brush in the wards and out-patient rooms is not to make the surgeon's nails look beautifully clean. That is an important object, but the main aim of the use of the nail-brush is to remove any source of infection which may be carried from patient to patient. But the surgeon must perforce, under the ordinary arrangements which prevail in hospitals, make use of a brush which has repeatedly been employed by himself and his colleagues for removing from their nails a great many sources of infection. May he not, then, be conveying, instead of removing, infection? In the course of a day's work in an out-patient room, a surgeon may repeatedly clean his nails with the same brush after his fingers have been soiled with pus, fæces, and many other foul or morbid products. A colleague, about to perform an abdominal section, looks in on his out-patient colleague, and, perhaps, examines a case or two, taking care not to touch any morbid product. Having handled one or more men of toil, the surgeon rightly washes his hand to clean away that sweat or other allied kind of dirt, which is no doubt honest, but is likewise objectionable. He uses the nail-brush. It is evident that the chance of conveying septic matter will be increased rather than diminished by its use, under the circumstances. A trace of dirt from healthy skin is less septic than the particles of filth already lying in the nail-brush, and fostered, perhaps, by the frequent immersion of the brush in warm water. The out-patient colleague cannot have used water sufficiently hot to kill germs or decompose ptomaines. The destruction of infectious matter cannot be insured by the weak solutions of antiseptics in vogue in out-patient practice. So the operation case may be put in jeopardy. More good may be done than harm by the nail-brush, no doubt, yet who can deny that, as above explained, it may do harm? There are several ways of overcoming the danger. A surgeon recently suggested that practitioners and operators who objected to nail-brushes should carry private brushes in their pockets. In private practice, however, the risk of using chance nail-brushes is but trivial. In hospitals it is otherwise. The surgeon might keep his own nail-brush in a locker, with other articles of toilet, if he please. Such lockers are seen in clubs, and are not unknown in hospitals. In any case, scraping the nails with a penknife is far safer than using a strange nail-brush. By the well-known plan recommended by "D.H.G." (that soap should be forced under the nails and removed by means of the nails of the opposite hand) the skin beneath the nails is kept smooth, and not roughened by a brush into traps to catch the dirt. No doubt both penknife and brush tend to make the nails rough, if not brittle. We have devoted to nail-brushes an amount of space in our columns which our readers will not deem excessive when they bear in mind the true importance of a subject which only at first sight appears trivial.

Professor Romanes will give a public lecture for the Ashmolean Society at Oxford on Monday, December 3rd.

Sir Spencer Wells has been appointed a Deputy Lieutenant of the new County of London.

The *Gazette* of November 23rd contains an order by the Queen in Council re-appointing Dr. Richard Quain, F.R.S., a member of the General Council of Medical Education and Registration of the United Kingdom for a further term of five years from November 27th.

At the request of the Council of the Sanitary Institute, Mr. Ernest Hart has consented to deliver an address at the Parkes Museum on December 20th, on the subject of "The New Local Government Bill, especially in Relation to Sanitary Administration."

Mr. John H. Morgan, M.A.Oxon., F.R.C.S., Surgeon to Charing Cross Hospital, has been unanimously elected to the post of Surgeon to the Hospital for Sick Children, vacant by the retirement of Mr. Howard Marsh.

The Copley medal of the Royal Society has this year been awarded to Professor Huxley, in recognition of his investigations into the morphology and histology of vertebrate and invertebrate animals, and for his services to biological science in general, during many past years.

The Honorary Fellowship of the Medico-Chirurgical College of Philadelphia has been conferred on Graily Hewitt, M.D., F.R.C.P.; Charles D. F. Phillips, M.D., LL.D.; and William Murrell, M.D., F.R.C.P., for their efforts in connection with the Ninth International Medical Congress at Washington.

THE GENERAL MEDICAL COUNCIL.

A report of the proceedings of the first two days of the session of the General Medical Council is published elsewhere. It will be noticed that the Council for the first time exercised its power of erasing from the *Register* the name of a practitioner proved to have acted as cover to an unqualified person. Graduates of the University of New Zealand will in future be admitted to the Colonial *Register*.

THE LIMITATION OF MARRIAGE.

The old rhyme runs, "The good or the ill of all a man's life, is the good or ill choice of his good or ill wife," and if for man we read woman, and for wife husband, the adage is as true. Yet there is no contract into which people habitually enter with so little thought for their own future health and happiness, and for the moral and physical welfare of their possible offspring. There are legislators in Kentucky, however, who, if the *Medical Record* of New York correctly states the effect of a Bill introduced into the local legislature, are before their time. This Bill would prohibit marriage with an idiot, lunatic, pauper, vagrant, tramp, gambler, felon, or any person rendered physically helpless or unfit for the marriage relation, or any person with a violent temper, or who has, within one year, been a frequenter of any immoral house.

INEBRIETY DUE TO INHERITANCE OR INJURY.

The treatment of a very large number of cases of inebriety at the Fort Hamilton Home for Inebriates in New York has afforded solid ground for various general deductions on the causation of alcoholic and other forms of narcomania. Dr. Lewis D. Mason has just published a few such conclusions drawn from his long experience at this successful institution. The most important of

these deductions is, that alcoholism in progenitors will produce physical and mental degeneration in their descendants, all the neuroses that arise from a defective nerve organisation, and all grades of mental degradation from slight enfeeblement of intellect to insanity or idiotcy. Further, the laws regulating these alcoholic degenerations are similar to those which govern congenital degenerative changes from other inherited causes. The records of the Fort Hamilton Home and of the Dalrymple Home at Rickmansworth are adduced to prove that parental inebriety is the chief predisposing cause, fully one-third of the cases showing this origin. Dr. Mason also supports this general law by giving the testimonies of Anstie, Skae, Peddie, Elam, Nugent, Mitchell, Winslow, Clark, Richardson, and Kerr of England, Parrish, Crothers, Wright, and Hughes of America. The considerable proportion of cases of narcomania due to head and other injuries is also noted. Cranial traumatism is shown to have been the initiation of the inebriate symptoms, and the importance of eliciting an accurate health-history of inebriates is strongly enforced. The more this difficult question is studied, the greater will be the part found to be played by physical causes such as disease and injuries.

DR. DE BARTOLOMÉ.

OUR Sheffield correspondent reported last week the interesting proceedings in relation to the complimentary portrait presented to Dr. Bartolomé, a presentation which will have given pleasure not only to those who took part in it, but to the great body of friends whose respect and esteem Dr. de Bartolomé has earned throughout the British Medical Association, of which he was President in the year 1876-7. We understand that the portrait has been hung over the fireplace in the library of the Medical School. The tablet affixed to the frame bears the following inscription: "This portrait of M. Martin de Bartolomé, M.D., Senior Physician to the Sheffield General Infirmary, and Ex-president of the British Medical Association, was subscribed for by many of his professional brethren and old pupils, in grateful recognition of his valuable services to the medical profession, and warm appreciation of his high character, to be placed in the Sheffield School of Medicine, of which he has been for many years President and Lecturer on the Practice of Medicine. November 21st, 1888."

THE "BRITISH PHARMACOPŒIA."

IT has again become necessary to reprint the *British Pharmacopœia* (1885). Probably no medical work which issues from the press is subjected to keener or more minute criticism. It speaks well for the extreme care and unstinted pains expended upon it by Dr. Quain, F.R.S., the Chairman of the Pharmacopœia Committee of the General Medical Council, and his coadjutors that so few flaws have been discovered by the most zealous critics, or brought to light by the experience of over three years. The third reprint, which has been issued from the press this week, embodies, of course, all the early, corrections and, in consequence probably of some recent legal decisions, synomyms have been given for tincture opii (*syn.* laudanum), and tinctura camphoræ composita (*syn.* paregoric paregoric, elixir).

HOSPITAL SUNDAY FUND.

A MEETING of the Council of this Fund was held at the Mansion House on Monday last under the presidency of the Lord Mayor, at which the report of the Council for the year was presented. The total amount collected was £40,379 9s. 2d., being £228 18s. 2d. less than the preceding year, which included one legacy of £1,000 and a sum arising from the jubilee service at Westminster Abbey. The list of contributions was headed by that from St. Jude's, South Kensington (£1,164), the largest sum ever received from any one congregation for the Fund; the next in amount was St. Michael's, Chester Square (£1,002). Awards to hospitals had been made to the amount of £39,408 in 1888, a larger sum than in any previous year. The Fund had been distributed among 107 hospitals and 50 dispensaries, and £1,600 had been set apart for the purchase of surgical appliances. Guy's Hospital, for the first time, had participated in the distribution. The working expenses (£1,272) were at the rate of a little over 3 per cent. of the gross receipts. Sunday, June 23rd, was suggested as the date of Hospital Sunday next year. At the instance of Mr. A. L. Cohen it was decided to recommend to the Council the appointment of subcommittees among the chief professions, and banking and commercial firms, to canvass for donations in aid of the Fund.

EXECUTION BY ELECTRICITY.

THE Committee of the Medico-Legal Society of New York appointed to investigate the best method of carrying out the death penalty by electricity presented a report to the meeting of the Society on November 15th. The report points out that a current passing from the top of the head to the small of the back would be diffused throughout a great part of the brain and all the tissues of the neck. The medulla oblongata, upon which the maintenance of the functions of respiration and circulation depend, and the cortex of the brain, upon which consciousness is dependent, would thus both be brought into the direct course of the current. The report continues as follows: "The electric stream flows from the positive to the negative pole, and there might be some possible advantage in placing the positive pole on the vertex of the head, nearest the centre of consciousness, although death in any case will be instantaneous. After mature deliberation, we recommend that the death-current be administered to the criminal in the following manner:—A stout table covered with rubber cloth, and having holes along its borders for binding, or a strong chair, should be procured. The prisoner, lying on his back or sitting, should be firmly bound upon this table or in the chair. One electrode should be so inserted into the table or into the back of the chair, that it will impinge upon the spine between the shoulders. The head should be secured by means of a sort of helmet fastened to the table or back of chair, and to this helmet the other pole should be so joined as to press firmly with its end upon the top of the head. We think a chair is preferable to a table. The rheophores can be led off to the dynamo through the floor or to another room, and the instrument for closing the circuit can be attached to the wall. The electrodes should be of metal, not over one inch in diameter, somewhat ovoidal in shape, and covered with a thick layer of sponge or chamois skin. The poles and the skin and hair at the points of contact should be thoroughly wet with warm water. The hair should be cut short. A dynamo generating an electro-motive force of at least three thousand volts should be employed. Either a continuous or alternating current may be used, but preferably the latter. The current should be allowed to pass for thirty seconds." The *Medical Record* of New York, from which we quote the above, states that this report will be discussed during December.

DEFECTIVE PLUMBING.

MEDICAL men and sanitary officials have long recognised the influence which faulty plumbing work and defective drains have on the prevalence of preventable disease and mysterious cases of loss of health. A large proportion of so-called plumbers have no claim to be regarded as skilled workmen, and yet carelessness or inefficiency in the performance of their work may mean illness or even death to the unhappy householder. The reform of the plumber has, therefore, come to be a question of vital importance to all classes of the community, and a debt of gratitude is due to the Ancient Company of Plumbers of the City of London, for having undertaken the task. The system of technical teaching, examination, certification and registration of plumbers which the

Company started a few years ago has already become established on a firm basis. This is, however, a subject upon which the support of the general public is essential if eventual success is to be attained, and it is therefore to be wished that not only builders, but individual householders, would make a point of entrusting their work only to men who have been registered as qualified by the Plumbers' Company. As it is open to any reasonably efficient workman to obtain this registration, there is no hardship involved in requiring him to produce his certificate before believing in his competency. If evidence were needed of the urgency of this matter it would be found, in the fact mentioned at the recent banquet of the Plumbers' Company, that in some cases as many as 75 per cent. of the applicants for certificates failed to pass the test, and at the latest examination only one-third of the candidates were successful. One of the most recent illustrations of the evil results of faulty plumbing comes to us from Poplar. Typhoid fever and diphtheria have prevailed in that locality from time to time, and Mr. Corner, the medical officer of health, reports that, when inquired into, nuisances from defective drains have usually been found on the premises. In Poplar, as elsewhere, the bottom of the soil-pipe is frequently found to be separate from the drain, and the junction between the pan of the water-closet and the drain is very often at fault. Defects of this kind, which are not confined to the poorer and smaller class of houses, are specially dangerous at a season of the year when the temperature of the house is higher than that of the drains and sewers, owing to the general use of fires. In such circumstances the sewer-air is liable to be drawn through any leak or defective joint or trap into the interior of the dwelling with disastrous consequences. And yet these defects can usually be readily discovered by such an apparatus as the "smoke test." The primary cost of this apparatus is comparatively trivial, and by co-operation can be reduced to a nominal sum. Yet it is, perhaps, too much to expect that those responsible for house property should, without some gentle pressure, have their drains and fittings systematically subjected to even this simple test. In this matter, however, the tenant has the remedy, to some extent, in his own hands. He should require all the sanitary arrangements of the house to be thoroughly tested and put in order by experienced and skilled workmen before entering upon his tenancy.

"NERVES" AND ANÆSTHETICS.

It seems that we are losing our "nerve" in favour of our nerves. Britons are ceasing to be manly and becoming effeminate in their culture; of course it is a woman who makes the charge, and one who is as little satisfied with the young man of the period, as with the girl of the period. It may be doubted whether the growing roughness of our school-games, the ordinary scenes of the football ground, and the records of the athletic associations and the rowing and cycling clubs altogether justify the fear; but it is well sometimes to hear what clever women, like Mrs. Lynn Linton, have to say on such subjects. She has so often abused her own sex, to the complete satisfaction of the male mind, for becoming too mannish in tastes and education, that we owe her a fair hearing when she complains that men are becoming too effeminate. "Anæsthetics" are at once a source and a gauge of this virile degeneration. She writes in the *St. James's Gazette*, that a hundred good reasons can be given, all logically proving the case against men—"as logically," she observes, "as it has been proved, that the future man must needs be hairless, toothless, short-sighted, spindle-shanked and weak-handed." "Proved" is a big word in this connection, and perhaps therein we might at once take comfort. However, it is interesting to know that anæsthetics head the list.

"Whether they have done more good than evil in the world is scarcely an open question. To the individual, of course, they are of priceless comfort, but to the race, of more than doubtful advantage. They are among the many causes which have sharpened the nerves and softened the fibre of the present generation, which have produced that effeminate dread of pain and shrinking from discomfort that threaten to turn us all into Sybarites past redemption. The wave of humanitarianism, again—of regard for the individual rather than the community—passing over the country, though doing credit to the hearts of the women who have set it in motion, does very little to the heads of the men who have helped to keep it up. And here the pessimists have something to say for themselves. For surely our super-sensitiveness to pain, either on our own persons or the person of others, does not help to make such men as our forefathers were, and, if carried too far, would undoubtedly sap the true virility of the nation. Where a Percy, fighting bravely to the last, yields himself prisoner when he can no longer stand, saying quietly, "I am sore wounded; my greaves are full of blood," a modern masher takes chloroform if his tooth is to be drawn, and his flesh is made locally insensible if his corns have to be cut. No one who can obtain immunity submits himself to pain of any kind, and the reason given—that nerves are more sensitive than they used to be—is perfectly true. But, say the pessimists, what does that mean, save weakened vital power because of a more delicate organisation? Nothing differs so much in races as tenacity of life. A southern Italian dies of a shock to his nervous system which would not do more than give an Englishman a headache. He takes to his bed for a fit of passion, and is seriously ill when he "makes bad blood." He has become as brittle as a starfish, as invertebrate as a sea-cucumber; and what climate and careless ease of living, the want of hard work and the insufficient food resulting, the soft self-indulgence of idleness, and the absence of that hardening process which is got by struggling with evil conditions—what all these have done for him our moral effeminacy is doing for us; and if we are not on the alert and do not keep up our fighting blood as men should, we shall become just as molluscous, as invertebrate, and as brittle as those degenerate descendants of warlike progenitors."

Poor Italians! How Garibaldi and Minghetti, and "Il Re Galantuomo," in his chamois-hunter's hut, would have been surprised to learn these sad truths, of which they never dreamed. However, if we begin to do a little hunting, running, cricketing, football, and rowing; if we can persuade ourselves to do a little digging, delving, mining and engineering, seafaring, mountaineering, and exploring—all arts which are not altogether alien to Britons—perhaps we shall be able to retain our virility, and dispense with the use of wigs in infancy and spoon-food in middle-age, for another generation or two, notwithstanding that we suffer the use of anæsthetics for amputations.

CURRICULUM AND APPRENTICESHIP.

We have received several communications referring to the letter of "Senex Adolescens," on the above subject, which appeared in the Journal of November 10th. The fault which most practitioners have to find with the modern newly-qualified young doctor is ignorance of the art of prescribing. The reason is evident; he has been used to order ready-made draughts out of his hospital pharmacopœia. After six months of clinical clerking, when he sees little prescribing besides "house pill," or "hst. 20," he can be little versed in the art of directing how physic should be administered to the sick. Again, whilst he, as a student, is less trustworthy than the experienced hospital dispenser who may exercise his discretion in the matter of large doses prescribed to infants, the same student, when qualified, may have to rely on a country druggist. The accomplished young doctor, again, often errs through having been accustomed to attend cases picked for their severity in hospital wards. Hence, in practice, he is apt to take extraordinary precautions for cases of chronic rheumatism or dyspepsia, alarming the patient or confining him to bed when some mild alterative would be quite sufficient to cure the case. Our correspondents admit that the new type of young doctor is far more able to meet serious emergencies than was his predecessor. This was particularly true with regard to cases of strangulated

hernia, tumours, and aneurysms. As to the high value of study in out-patient rooms and of the appointment of house-physician, all our correspondents are well agreed. They further appear unanimous in distrusting the prospect of taking a partner fresh from hospital. The young gentleman may be a prizeman and a good anatomist and clinical worker, or he may be a very shrewd, persevering, though not learned young man, "sure to get on;" still he is not safe as a partner. Our correspondents place little trust in apprenticeships before hospital work, but believe that the newly qualified doctor should seek an appointment as qualified assistant for a year or so to a practitioner, or act as *locum tenens*. This is what is often, if not usually, done under the circumstances. The neophyte who really intends to live by private practice, as generally understood, will usually, our correspondents think, find an assistantship far more advantageous than a house-surgeoncy to a country hospital. Dr. Laffan enters into the most serious aspect of the case. He speaks of recognising as fit men to take pupils only those "who would furnish proof of the possession of the necessary capacity and means for teaching." Unfortunately, another letter signed "A Young M.B. of nearly Six Years' Standing" shows how unsuited are some practitioners to undertake pupilage. No doubt it is most unfortunate for a young man to find himself bound to work with a teacher who cannot teach and who must not be taught. A general spread of the apprentice system would doubtless throw light on slipshod and routine practice. A well-educated young medical man is not necessarily a bookworm, and the spectacle of the young reforming the old is not rare in this world. What is taught in hospital may be retailed to a senior, with all due courtesy and modesty. Should prescriptions appear old-fashioned, newer and more tasty compounds may be politely suggested. The evidence of the "A Young M.B." tends to prove that such a step is sometimes called for; yet, as a rule, thriving doctors in high class practice know of more palatable preparations than such as are included in hospital pharmacopœias. Lastly, under any practitioner—unless he has absolutely no practice—the apprentice must acquire some knowledge of the requirements and prejudices of private patients. That knowledge is not to be learnt in hospitals.

THE SURGICAL TREATMENT OF PURULENT PERICARDITIS.

THE successful case related by Dr. Dickinson at the last meeting of the Clinical Society will again direct attention to the treatment of purulent pericarditis by free incision and drainage, whilst the record of the case described by Mr. Parker at the same meeting will serve to show with what care the operation must throughout be performed that it may be successfully accomplished. Dr. Dickinson's is now the third published case treated by incision and drainage that has recovered. Notes of the two former cases were given in a paper read before the Royal Medical and Chirurgical Society, in 1883, by Dr. S. West, and published in vol. xlvi of that Society's *Transactions*. The first case was one of Professor Rosenstein, the patient being a boy aged 10; the second case was that of a boy aged 16, treated by Dr. S. West; and now this third case (Dr. Dickinson's) was also a boy, whose age was 10. Many fatal cases have besides been recorded, so that the operation may not be lightly undertaken. Purulent pericarditis, however, is usually so fatal a disease that severe measures may be justifiably employed for its treatment; and, although the physical signs which accompany it do not always enable the physician to diagnose with certainty between it and serous pericarditis, it is always possible to undertake a puncture for diagnostic purposes. With regard to this especial point of the diagnosis, it is to be noted that in purulent pericarditis a friction-sound is usually absent; but, the diagnosis having been settled by the exploratory puncture, and treatment by incision and drainage determined upon, the place of puncture must be settled. It is usually recommended to make the incision in the fourth or fifth left intercostal space; but in Dr. Dickinson's case the fifth right space was chosen by Mr. Rouse, the operator. Mr. Godlee at the meeting exhibited some drawings showing the relation of the internal mammary arteries to the edge of the sternum in children, from which it appeared that if the operation is done very close to the sternum the vessel of the side selected is very apt to be wounded; and he recommended that the vessel should be cut down upon and tied before the pericardium is opened. Dieulafoy recommends the fifth left space, about one inch from the edge of the sternum, as the best site for puncture with the aspirator. The purulent pericardial sac being opened, and the fluid drawn off, the relief to the patient is usually at once extreme; the pus should then be allowed to drain away through a tube until recovery ensues. The drainage was facilitated in Dr. Dickinson's case by the patient being placed face downwards in bed. The elasticity of the pericardium further tends to empty its cavity. Altogether, it is allowable to hope that a fair chance of success will attend this operation in the future when it is undertaken with full antiseptic precautions.

MEDICAL CLUBS.

THE precise explanation why medical clubs are generally failures is by no means clear. Some persons say that doctors have no time to waste at clubs. This assumption is incorrect; some of the busiest men in the world find time for social amusement. Nearer the truth is the individual member's fear that if he is often seen at his club, people will think that he has no practice; and popular opinion is of direct import to any medical man. The getting up of a medical club is a relatively easy matter; a number of distinguished names have to be collected, a perfectly simple matter. A prospectus, explaining the advantages of social intercourse between members of our noble profession may be made a persuasive agent in furthering the embryonic development of the club. Unfortunately, when the institution is set going, the great men, who head the lists in prospectuses, generally prove conspicuous by their absence. A certain number of members may frequently assemble, but unfortunately it is seldom for social intercourse. When doctors meet it is hardly possible for them to avoid medical politics or purely scientific discussion. Such tendencies defeat the first principles of club-life. Wearied doctors, who seek solace from the constant strain of professional thought, will go elsewhere than to smoking-rooms full of colleagues. Medical men of undoubted social ability, or popular for wit and geniality rather than for success in their career, constantly gravitate into various places which their colleagues do not frequent. The fact that doctors are not "clubbable" is not entirely to be regretted; yet we cannot help feeling for a medical club which has recently failed. Why should not its members combine under, perhaps, more favourable conditions, as has been suggested in our columns? Whatever may be the influences which check the successful establishment of a medical club, it is quite conceivable that a form of club-life suitable to medical men might be introduced with great benefit to those who are wearied with "shop" and care.

SCOTLAND.

UNIVERSITY COLLEGE, DUNDEE.

DR. PERCY F. FRANKLAND, Assistant Examiner in Chemistry in the Science and Art Department, Lecturer and Senior Demonstrator of Chemistry in the Normal Science Schools, South Kensington Museum, has been elected Professor of Chemistry in University College, Dundee.

GLASGOW UNIVERSITY CLUB.

At a meeting of this club, held on November 22nd, the following resolution was proposed and unanimously adopted: "That the Glasgow University Club respectfully urge upon the Government the desirability of passing the Universities (Scotland) Bill during the present session, and express their conviction that deep disappointment will be felt among the professional classes in Scotland if the Bill, which is of the greatest national importance, and which is practically accepted by all parties, should fail to become law."

THE SCOTTISH MICROSCOPICAL SOCIETY.

Under this name, a new society has just been launched in Edinburgh, with the express purpose of encouraging microscopical research. It is proposed that the annual subscription shall be one guinea, that quarterly transactions be published, and that nine monthly meetings take place during the year, with outdoor excursions in summer. Ladies are not eligible for membership. Over one hundred names have been promised already.

LEPROSY AND ECZEMA.

The suit in the Court of Session, at the instance of a Foundation Scholar of Fettes College, Edinburgh, against the Governors of the College for unwarrantable dismissal on account of his being affected with leprosy, has now been decided by Lord Fraser in favour of the Governors of the College. The case was formerly referred to in the Journal, but the medical facts are sufficiently given in the following extract from the judgment: "The boy was ill with leprosy when he entered the school, although the disease was dormant. It broke out at intervals afterwards, but the head master said nothing about it, not being willing to injure the pursuer's prospects as a student in the College. This was acting with all kindness for the youth, and no one could blame the head master for taking a course so considerate and humane; but at the date when pursuer was dismissed, his leprosy again came to the front, and there being an epidemic of another disease (eczema) among the boys, it was absolutely necessary to take action so as to prevent the whole of them becoming lepers by contagion. A learned argument was submitted by the pursuer's counsel, to the effect that leprosy was not contagious. Upon this point his lordship was incapable of pronouncing any opinion, but the existence of such a disease in the midst of a community of boys like that of Fettes College, was calculated to create such terror as to impair the usefulness of the institution, and therefore the head master, approved of afterwards by the Governors, was justified in sending the pursuer away."

IRELAND.

THE AMALGAMATION OF DUBLIN SCHOOLS.

The opposition of Dr. Broomfield, one of the proprietors of the Carmichael School, to the union of that institution with the school of the College of Surgeons, still continues. The other proprietors support the scheme; but it appears that one objector can delay the completion of it. It is not probable that anything of an active nature will occur during this session, and the project will hang on in an unsatisfactory way.

ROYAL UNIVERSITY IN IRELAND.

The Senate of the Royal University will shortly proceed to the election of examiners in midwifery and materia medica. There are two examiners in each subject, but it is understood that only one vacancy will be made this year, the examiner who is allowed to remain going out next year. There are already several candidates for the appointments, which will be continued by re-election for four years.

FAILURE TO RECTIFY INSANITARY CONDITIONS.

Dr. Clements, consulting medical officer of the Clonakilty Union, failing to obtain the support which he expected from the board of guardians as regards the measures to be adopted for remedying the sanitary condition of the several dispensary districts of the union, has written to the Local Government Board in reference to the matter. He states, among other complaints, that the sanitary officer rarely makes reports to the medical officer on matters affecting the health of the district, and that in Rosscarbery the sewage is allowed to run in an open channel. The Local Government Board have requested the guardians to rectify the matters complained of.

BELFAST ROYAL HOSPITAL: ELECTION OF STAFF OFFICERS.

At a general meeting of the life-governors and General Committee of the Belfast Royal Hospital, held on November 26th, elections took place to fill the vacancies upon the staff. Dr. Lindsay, who has filled the post of assistant-physician to the hospital for the last five years, was unanimously elected staff-physician, in the room of Dr. J. W. T. Smith, resigned. Dr. Strafford Smith, the son of the retiring physician, was unanimously elected to succeed Dr. Lindsay as assistant-physician.

THE BELFAST MEDICAL SCHOOL AND THE ROYAL UNIVERSITY.

It has long been a subject of complaint that, whereas the large Medical School of Belfast sends forward about 40 per cent. of the candidates for the medical diplomas of the Royal University, it has not a single representative on the examining board for the final degree of M.B. In former days, when anatomy and physiology formed part of the course for the final examination, Belfast had a powerful representative in Professor Redfern; but, since these subjects have been transferred from the final to the third university examination, the Belfast candidates for graduation in medicine are entirely unrepresented. It is no disparagement to the able and efficient board of examiners to say that the ignoring of Belfast and the quite disproportionate representation of Dublin is felt to be a genuine grievance. The Senate of the Royal University will shortly proceed to select examiners in several subjects of the medical curriculum, and it may be hoped that the claims of Belfast will receive the respectful attention of which they are certainly worthy. Up to the present, the only candidate for an examinership from Belfast is Dr. J. W. Byers, who is an applicant for the post of examiner in midwifery and diseases of women and children. Dr. Byers is well known as a skilful practitioner, a judicious writer, and a most successful teacher in obstetrics and gynæcology. His application is backed by exceedingly strong testimonials from such distinguished members of the profession as Dr. Playfair, Dr. Halliday Croom, Dr. Kidd, Mr. Hutchinson, Professor Simpson, Professor Cuming, Dr. Barlow, etc.

ULSTER MEDICAL SOCIETY ANNUAL DINNER.

The annual dinner of the Ulster Medical Society was held on November 21st at the Castle Restaurant, Belfast, the President, Dr. Burdon, in the chair. After dinner the President gave the toast of the "Queen and the other members of the Royal Family," which was cordially received. The other toasts were as follows:—"The Lord Lieutenant and Prosperity to Ireland," proposed by the President, responded to by Dr. Esler; "The Belfast Medical School," proposed by Councillor Stewart, M.D., responded to by Dr. Walton Browne, Dr. Byers, and Dr. Lindsay; "The Army, Navy, and Reserve Forces," proposed by Dr. Esler, responded to by Dr. Bailey; "The Ulster Medical Society," proposed by Dr. Dempsey, responded to by the President. Several excellent songs by Dr. McCaw and Dr. Mackisack added greatly to the pleasure of the evening.

SCARLATINA AND MILK.

THE fact that epidemics of scarlet fever can occasionally be shown to stand in direct relation with milk-supply has been known for the last fifteen or twenty years. It was generally believed that the milk became the bearer of the infection owing to its contamination in some way by persons suffering from the disease. The report of Mr. W. H. Power to the medical officer of the Local Government Board, dated March 31st, 1886, contained the first definite evidence for a new theory; this theory, as is now well known, was that scarlet fever in human beings might be produced by the milk of cows suffering from an eruptive disease of the udder. It will be remembered that Mr. Power clearly established that a certain limited epidemic of the disease in North London was associated with the distribution of milk from a particular dairy farm at Hendon, and that the milk became infective at the farm. He satisfied himself that external scarlet fever might be excluded, that the infectivity of the milk was in some way associated with the importation of certain cows bought in Derbyshire into the Hendon farm, and that the milk furnished by these Derbyshire cows and related cows was connected by a series of parallel events with the peculiarities in the prevalence of the epidemic of scarlet fever among the consumers of the milk. The parallelism of these events, it may be remembered, was very striking. Mr. Power's hypothesis was, to quote the words of Dr. George Buchanan,[1] "signally confirmed by Dr. Klein's researches into the nature of the malady under which those cows were found to have actually suffered." Dr. Klein found similar anatomical features, and the same micrococcus in human scarlet fever and the Hendon cow disease. Subcultures of the micrococcus produced in calves every manifestation of the Hendon disease, except the sores on the teats and in recently calved cows these sores also; subcultures from the human or the cow disease produced similar diseased states in certain rodents, and calves fed on subcultures established from human scarlatina obtained the Hendon disease. In conclusion, Dr. Buchanan expressed the opinion that there had been accumulated "a mass of evidence to show that the Hendon disease is a form, occurring in the cow, of the very disease that we call scarlatina when it occurs in the human subject." Before this, however, the Agricultural Department had undertaken an investigation of the facts and theories advanced by the Medical Department of the Local Government Board, and soon after the publication of the report from which quotations have been made above, Professor Crookshank hazarded the hypothesis that the Hendon cow disease was in reality true cow-pox.

The volume[2] now before us contains the results of the investigation by skilled veterinarians of all the evidence which has been brought forward, as well as Professor Crookshank's report, and we have the advantage of a comparatively definite opinion from Professor Brown. First, as to the exclusion of the possibility of the contamination with the virus of scarlet fever of the milk at Hendon from a human source, a report by Professor Axe, of the Royal Veterinary College, founded partly on the report of the medical officer of health, and partly on the results of inquiries on the spot, makes it appear that cases of scarlet fever had occurred at Child's Hill not far from the farm in September and in October, 1885, and two others during November in the Mead, a street of poor houses within 600 yards of the cowshed. Professor Axe found that some of the dairymen lived in the Mead, and that a boy, the brother of one of the patients, was in the habit of frequenting the cowshed, but he does not state the precise date of the commencement of this child's illness, and therefore leaves it doubtful whether it preceded or not the epidemic in London; apparently it was coincident. If this be so, the fact is worth little as evidence in the case.

The full history of the cows which started the epizootic on the Hendon farm is now given. Mr. Richard Keevil purchased thirty cows in Derby market on October 16th and 30th; he removed them to his own sheds, and offered them for sale. In the interval before they were disposed of the milk was sold in the ordinary course of business. Three of these cows were sold to Mr. Crees, of Hendon, eight to Mr. J. Keevil, of Merton, and three others were the originators of the epizootic described by Mr. Power and Dr. Klein in the Hendon dairy farm belonging to Mr. Panter. Epizootics, believed by the dairymen to be the same as the one which occurred at Mr. Panter's, were produced in their dairies by the cows purchased by Mr. J. Keevil and Mr. Crees, and also among the cows of Mr. Vipon, who subsequently bought cows from Mr. J. Keevil. The milk from all these dairies was sold in the ordinary course of business, but no prevalence of scarlet fever occurred among the consumers. While the disease was prevailing among the cows on Mr. J. Keevil's farm, two of the milkers drew attention to an eruption on their hands; they were examined by Dr. Bates, of Merton, who reported that both "were suffering from a well-developed attack of vaccinia, contracted by them in milking." A third milker had a "similar eruption" on the cheek. The readers of the BRITISH MEDICAL JOURNAL will be able to recall the nature of the evidence which led Professor Crookshank to the opinion that the Hendon cow disease was most probably cow-pox, and that cow-pox was prevalent among dairy herds in England.[3]

The Travelling Inspectors of the Agricultural Department report that, during 1887, both cow-pox and scarlet fever were prevalent in the counties of Ayr, Derby, and Durham, and in the towns of Dundee and Edinburgh, and that cow-pox, but not scarlet fever, had prevailed in parts of the counties of Cheshire, Cumberland, Gloucester, Huntingdon, Leicester, Lincoln, Norfolk, Stafford, Suffolk, Sussex, and Wilts. Diseased cows from outbreaks in Middlesex and Wilts were sent to the Brown Institute to be under the observation of Dr. Klein, who does not consider that any of the cases were identical with the Hendon cow disease of 1885-86. Professor Brown expresses the opinion, however, "that no clinical, nor indeed microscopic, signs were then, nor have since then been, discovered which can be relied on as distinctive marks between the original Hendon cow disease and the common affection which bears such a very close resemblance to it that experienced men are unable to recognise any points of difference."

Professor Brown's general conclusions on this part of the subject are as follows: 1. The Hendon cow disease was not an isolated outbreak. 2. That though scarlatina was coincident with the distribution of milk from the Hendon cows only, the consumers of milk from other dairies where an epizootic had been started from the same herd as started the Hendon cow disease, did not suffer from scarlet fever. 3. That there was a possible infection of the milk by human agency. 4. That districts infected by scarlatina which were supplied from the Hendon dairy had also supplies of milk from two other farms which were not visited in the course of the inquiry. 5. That a cow disease identical with the Hendon disease of 1885-86 reappeared in 1887-88 at Hendon and elsewhere, but that in no case was scarlatina coincident.

UNIVERSITIES (SCOTLAND) BILL.

THE deputation recently appointed by the Glasgow University Council to wait on Lord Lothian in connection with the Universities Bill had an interview at Dover House on November 23rd. All the members of the deputation were present except Professor Jack. They were accompanied by many members of Parliament, and were introduced by Dr. J. A. Campbell, the member for the Universities of Glasgow and Aberdeen. Rev. D. Hunter, convener of Business Committee, Professor Ramsay, Dr. McVail, Rev. Mr. King, and Mr. Craig, in addressing his lordship, emphasised the remarkable unanimity which at present prevailed among all classes in Scotland interested in the question, the agreement being much greater than had ever before been the case, all parties, though not agreeing with every detail, having given up their own particular points in order to unite in securing the passing this session of the Bill substantially as it is now before Parliament. They also proposed some slight amendments with a view to render certain clauses in the Bill more definite, and especially urged that the quorum of Council should be reduced to 10 for every 1,000 on the *Register*, and that the annual grant should not be less than £50,000.

Lord LOTHIAN, in reply, said that the Government were most anxious to see the Bill passed into law, and he hoped that the members of the House of Commons then present would note the strong expression of opinion just given in favour of the Bill as it stood, and not try to make any material alteration in the Bill, as that might endanger its further progress this session. The sug-

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[1] *Sixteenth Annual Report of the Local Government Board*, 1886-87, Supplement containing the Report of the Medical Officer for 1886.

[2] Report on Eruptive Diseases of the Teats and Udders of Cows in Relation to Scarlet Fever in Man. By Professor Brown, C.B., Agricultural Department, Privy Council Office; with Appendix. Presented to both Houses of Parliament by command of Her Majesty. London: Eyre and Spottiswoode. Edinburgh: A. and C. Black. Dublin: Hodges, Figgis and C. 1888. (Co.—5,481.)

[3] An Investigation into the so-called Hendon Cow Disease, and its Relation to Scarlet Fever in Man, etc., JOURNAL, December 17th, 1887, page 1317.

gestions made by the deputation would be carefully considered, but he had no hope whatever of any further grant from the Treasury. He had great pleasure in seeing together representatives of both sides of this question—Professor Ramsay on the one side, and Dr. McVail on the other—the lion and the lamb lying down together; although he should be sorry to say which was the lion and which was the lamb. This state of unanimity had never been known before, and he would like the House of Commons to take note of it; and also that, as they had heard, if the Bill were not passed this session, it was possible that the lion and the lamb might take different views before next year.

Mr. HUNTER thanked the noble Marquis, and the deputation withdrew.

Later in the evening the deputation had interviews with Mr. W. H. Smith and the Chancellor of the Exchequer at the House of Commons.

Mr. SMITH assured the deputation that the Government were alive to the importance of passing this measure, and would do all in their power to assist its passage.

Mr. GOSCHEN expressed himself as strongly in favour of the passing of the Bill, but as regards the additional £3,000 sought for by the Universities, he did not offer much hope.

THE RUTHERFORD-ASHDOWN MATTER.

THE following is the finding of the Edinburgh University Court, after investigation of the charges made by Mr. Ashdown against Professor Rutherford:—

University of Edinburgh, November 22nd, 1888.—The University Court having made a full investigation into the matters in controversy between Herbert H. Ashdown, M.B., F.R.S.E., a graduate of this University, and William Rutherford, M.D., F.R.S., Professor of the Institutes of Medicine in this University, by considering the written pleadings of parties, taking proof, and hearing counsel:—Find that no evidence has been adduced to support the allegation made by Mr. Ashdown in his application to the Court of June 9th, 1888, to the effect that "gross and revolting forms of vice" were "allowed to go on within the University, uninvestigated and unrebuked by either the Senate or the University Court;" that no attempt was made to justify this allegation except by reference to certain conversations, hereinafter referred to, held by Professor Rutherford with Mr Ashdown and others, and the Court express their disapprobation that, in the circumstances, so serious and unfounded a charge should have been made. Further, with respect to the specific allegations laid before the Court, they find—(1) that on December 11th, 1886, Professor Rutherford called Mr. Ashdown into his retiring room, and complained of certain gestures on his part as personally annoying to him, and as having attached to them an improper significance; (2) that Mr. Ashdown understood Professor Rutherford to impute to him the intention to make use of the said gestures in that sense, and that Professor Rutherford's expressions were capable of such meaning, although he has all along denied, and still denies, that he intended to make such an imputation; (3) that in consequence of this conversation Mr. Ashdown resigned his office as Professor Rutherford's class-assistant; (4) that Professor Rutherford shortly afterwards expressed regret and apologised to Mr. Ashdown for making use of the said expressions, and unreservedly withdrew them, and that to this apology he still fully adheres; (5) that, according to reliable medical evidence, Professor Rutherford, on said December 11th, 1886, and for some time before, in consequence of overwork in connection with his duties as Professor, was in a weakened state of physical health, which led to a condition of nervous irritability, and to a diminution of mental control, with a tendency to magnify trifles, and to misinterpret gestures in themselves innocent and harmless; and (6) that Mr. Ashdown's gestures complained of were innocent and harmless; and as he was entirely without blame in the matter, the Court regret that the occurrence in question should have resulted in the loss of his services to the University. Further, find (7) that in 1884 and in 1886 Professor Rutherford held conversations of a similar kind with one or two other persons connected with the University; that he was then in the same bodily and mental state as at the time of his conversation with Mr. Ashdown; that the gestures of which he complained on these occasions were innocent and harmless; and that there was no ground for imputing blame to those persons. Further, find (8) that, according to the uncontradicted evidence before the Court, Professor Rutherford is now, as the result of the extended leave of absence allowed to him by the deliverances of the Senatus Academicus of February 26th and October 27th, and of the Courts of March 21st and October 24th, 1887, completely restored to health; that he is conducting a class of 430 students, with great advantage to the University: and that there is no reason to apprehend a recurrence of his illness; therefore the Court see no cause for exercising any of the powers conferred upon them by Section XII, Subsection 5, of the Universities (Scotland) Act, 1858.—Signed in name and by authority of the University Court. "W. MUIR, Principal."

This judgment is not received with the general favour which should be accorded to a decision of the highest University Court. The two leading daily papers, the *Scotsman* and the *Scottish Leader*, criticise the finding in no measured terms.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS FOR 1889. ELECTION OF MEMBERS.

MEETINGS of the Council will be held on January 16th, April 17th, July 10th, and October 16th, 1889. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 27th, 1888, March 28th, June 20th, and September 26th, 1889.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary*.

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: NORTH LONDON DISTRICT.—The first meeting of this District will be held at the Tottenham Hospital, The Green, Tottenham, on Thursday, December 6th, at 8 P.M., Dr. C. Brodie Sewell, President of the Branch, in the chair. Some interesting cases from the hospital will be exhibited. Dr. Goodhart will read a paper: Notes on the Value of Certain New Drugs. All members of the profession are welcome to attend this meeting. —GEORGE HENTY, M.D., Honorary Secretary, 302, Camden Road, N.W.

SOUTH-EASTERN BRANCH: WEST KENT DISTRICT.—A meeting of the above District will be held at the West Kent Hospital, Maidstone, on Thursday, December 13th, at 3.30 P.M., Dr. Shaw in the chair. The dinner will take place at the Star Hotel at 6 P.M.; charge 6s. 6d., exclusive of wine. To facilitate the arrangements, gentlemen who intend to dine are particularly requested to signify their intention to the Chairman, Dr. Shaw, Tunbridge Road, Maidstone, not later than December 11th. All members of the South-Eastern Branch are entitled to attend this meeting and to introduce friends. Papers already promised:—Dr. Boyce: A case of Acute Lepto-meningitis Spinalis. Dr. Muirhead: The General Practitioner in his Relations with Mental Disease. Dr. Whithingdale: A case of Eclampsia occurring during Pregnancy; Induction of Premature Labour; Recovery.—A. W. NANKIVELL, Honorary Secretary of the District, St. Bartholomew's Hospital, Chatham.

BORDER COUNTIES BRANCH.—The winter meeting of this Branch will be held at the County Hotel, Carlisle, on Thursday, December 20th, at 3.30 P.M. By request of the Council, Professor Chiene, of Edinburgh, will introduce a discussion, the subject selected being "Suppuration: its Causes and Treatment." Notices of papers for reading should be sent to the Honorary Secretary, H. A. LEDIARD, 41, Lowther Street, Carlisle.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.

A MEETING of the above District was held at the Queen's Hotel, Eastbourne, on Friday, November 22nd. Dr. ROBERTS presided.

Communications.—The CHAIRMAN read notes of some Current Medical Cases, including a series in which he had used sulphonal as a hypnotic in nervous insomnia. He had found it of great service.—Dr. DOWNES read notes on the Treatment of Chronic Sinus.

Specimens.—The HONORARY SECRETARY exhibited (for Mr. Griffin, of Bath) specimens of Nutrient Suppositories.

Next Meeting.—The next meeting will be held at Brighton in next March.

PROCEEDINGS OF COUNCIL.

AT a special meeting of the Council, held at the Office of the Association on Wednesday, November 28th, 1888, present:—

Dr. T. BRIDGWATER, President of the Council, in the Chair.

Dr. HOLMAN, Treasurer.

Dr. M. M. DE BARTOLOMÉ, Sheffield.
Dr. J. S. BRISTOWE, London.
Mr. H. T. BUTLIN, London.
Dr. A. CARPENTER, Croydon.
Surgeon-General W. R. CORNISH, London.
Dr. J. WARD COUSINS, Portsmouth.
Dr. G. W. CROWE, Worcester.
Dr. J. L. H. DOWN, London.
Mr. GEORGE EASTES, London.
Dr. J. H. GALTON, Upper Norwood.
Dr. W. C. GRIGG, London.
Dr. J. HARDIE, Manchester.
Mr. J. D. HARRIES, Shrewsbury.
Mr. J. H. HEMMING, Kimbolton.
Mr. G. F. HODGSON, Brighton.
Mr. W. D. HUSBAND, Clifton.
Mr. A. JACKSON, Sheffield.
Mr. T. R. JESSOP, Leeds.
Mr. H. R. KER, Halesowen.
Dr. W. R. KYNSEY, London.
Mr. C. MACNAMARA, London.
Dr. W. WITHERS MOORE, Brighton.
Dr. C. PARSONS, Dover.
Dr. R. SAUNDBY, Birmingham.
Mr. S. W. SIBLEY, London.
Dr. E. M. SKERRITT, Clifton.
Dr. W. STRANGE, Worcester.
Mr. T. SYMPSON, Lincoln.
Mr. J. TAYLOR, Chester.
Dr. T. W. TREND, Southampton.
Dr. W. F. WADE, Birmingham.
Mr. F. WALLACE, Upper Clapton.
Dr. E. WATERS, Chester.
Mr. A. WINKFIELD, Oxford.

Read circular convening the meeting, a copy of which is as follows:—

"British Medical Association. General Secretary's Office, 429, Strand, London, W.C., November 22nd, 1888.—DEAR SIR,—In accordance with By-law 23, a copy of which is as follows:—

'23. The President of Council may, if he think right, and upon receiving a requisition, signed by not less than ten members of the Council, and specifying the business for which a special meeting is required, shall call together a special meeting thereof, but at such meeting no business shall be transacted other than that for which such special meeting was called.

a Special Meeting of the Council will be held at the Offices of the Association, 429, Strand, on Wednesday next, the 28th instant, at 3.30 o'clock in the afternoon, to consider the Memorial, of which the subjoined is a copy.—I am, yours faithfully, FRANCIS FOWKE."

Read letters of apology for non-attendance from Dr. Henry Barnes, Dr. Mackenzie Booth, Dr. Duffey, Dr. Bruce Goff, Dr. Glascott, Mr. Evan Jones, Mr. Jones-Morris, Dr. Vawdrey Lush, Dr. Needham, Sir George Paget, Mr. Webb, and Mr. C. G Wheelhouse.

The memorial, of which the following is a copy, was taken as read.

TO THE PRESIDENT AND COUNCIL OF THE BRITISH MEDICAL ASSOCIATION.

THE undersigned members of the British Medical Association and others beg to direct the attention of the President and Council to the publication in the 1450th number of the JOURNAL of the Association of a *facsimile* of a "script" by the late Emperor of Germany, referring to his treatment by one of his medical attendants. The publication of this document the undersigned regard as a violation of professional confidence, and its appearance in the BRITISH MEDICAL JOURNAL as discreditable to the medical profession of this country. They accordingly request the President and Council to take such immediate action as may be required to clear the Association and profession from the discredit now attaching to them in respect to this matter. (Signed)

WM. S. SAVORY.
JAMES PAGET.
JOHN MARSHALL.
WILLIAM MAC CORMAC.
JOSEPH LISTER.
A. PEARCE GOULD.
JOHN ERIC ERICHSEN.
GEORGE POLLOCK.
BERKELEY HILL.
JAS. RISDON BENNETT.
CHRIS. HEATH.
GEO. LAWSON.
J. RUSSELL REYNOLDS.
W. A. MEREDITH.
J. MATTHEWS DUNCAN.
CHARLES A. AIKIN.
J. W. CHEPMELL, M.D.
ROBERT LIVEING.
THOMAS BARLOW, M.D.
THOMAS SMITH.
GEORGE JOHNSON.
DYCE DUCKWORTH.
J. FAYRER.
OCTAVIUS STURGES.
JOHN LANGTON.
THOMAS BRYANT.
SYDNEY JONES.
P. H. PYE-SMITH.
ARTHUR E. DURHAM.
G. N. PITT.
H. G. HOWSE.
CHARTERS J. SYMONDS.
JAMES E. POLLOCK.
ROBERT MARTIN.
W. H. ALLCHIN.
SAMUEL GORDON, M.D., President of the Royal Academy of Medicine of Ireland.
J. EMERSON REYNOLDS, M.D., F.R.S., Professor of Chemistry University of Dublin.
J. MAGEE FINNY, M.D., F.K.Q.C.P.I., King's Professor of Medicine, T.C.D.
GEO. H. PORTER, Surgeon to the Queen.
R. DOUGLAS POWELL.
JOHN WILLIAMS.
W. B. CHEADLE, M.D.
ALFRED B. GARROD, M.D.
J. ANDREW.
J. W. HULKE.
ALFRED WILLETT.
EDWARD H. SIEVEKING.
WARRINGTON HAWARD.
W. HOWSHIP DICKINSON.
NORMAN MOORE.
WILLIAM MUNK.
HENRY A. PITMAN.
EDWD. LIVEING.
W. S. PLAYFAIR.
SAMUEL WILKS.
F. W. PAVY.
EDMUND OWEN.
JOHN CROFT.
T. PICKERING PICK.
FREDERICK TAYLOR.
W. H. BROADBENT.
WILLIAM M. ORD.
CHARLES DRAGE.
G. E. PAGET, M.D. CANTAB.
WILLIAM STOKES.
J. T. BANKS, Physician in Ordinary to the Queen for Ireland.
EDWARD H. BENNETT, Professor of Surgery in the University of Dublin.
D. J. CUNNINGHAM, Professor of Anatomy and Chirurgery, University of Dublin.

The following list of gentlemen was sent to the President of Council as having signed the memorial:—

Sir Andrew Clark, Bart.
Sir William Gull, Bart., F.R.S.
Sir William Aitken, F.R.S.
Professor Annandale, Edinburgh
Dr. T. Acland, London.
Dr. James Andrew, Edinburgh.
Dr. Brodie, London.
Dr. Percy Boulton, London.
Dr. Watt Black, London.
Rayner Batten, Gloucester.
C. A. Ballance, London.
Dr. Alexander Bruce, Edinburgh.
Dr. Brackenridge, Edinburgh.
G. A. Berry, M.B., Edinburgh.
Dr. Beddoe, F.R.S., Clifton.
Dr. A. B. Barrow, London.
Dr. Lionel Beale, London.
Dr. C. Beaumont, Southampton.
Dr. Cavafy, London.
Dr. Sidney Coupland, London.
D'Arcy B. Carter, Shipley.
W. Harrison Cripps, London.
Dr. William H. Copley, Wisbech.
J. Montagu Cotterill, Edinburgh.
Dr. Francis Cadell, Edinburgh.
Dr. William Carter, Liverpool.
R. Brudenell Carter, London.
N. Davies Colley, London.
Dr. Cameron, Glasgow.
Sir W. Dalby, London.
Dr. Lovell Drage, Hatfield.
Dr. Clement Dukes, Rugby.
Richard Davy, London.
Dr. Pritchard Davies, Kent.
William Eddowes, Shrewsbury.
Mr. Easton, London.
Mr. R. Hingston Fox, London.
Alex. G. R. Foulerton, Chatham.
Dr. Godson, London.
Dr. Mortimer Granville, London.
Dr. E. A. Gibson, Edinburgh.
Dr. Gervis, London.
Dr. W. B. Hadden, London.
J. Hutchinson, London.
C. D. B. Hale, London
Dr. Donald Hood, London.
Dr. James A. Hunter, Edinburgh.
Dr. de Haviland Hall, London.
Rev. S. Haughton, F.R.S., Dublin.
Dr. Hollings, London.
H. Nelson Hardy, Dulwich.
W. H. H. Jessop, London.
Dr. R. Mackenzie Johnston, Edinburgh.
Dr. W. Allan Jamieson, Edinburgh.
Dr. Johnston Jones, Kent.
Dr. Sydney Jones, London.
Dr. Kidd, Dublin.
Sir Thomas Longmore, Netley.
Dr. Law, London.
Dr. John Lowe, Southport.
Edward Lund, Manchester.
H. Cripps Lawrence, London.
Dr. McBride, Edinburgh.
Dr. R. McDonnell, F.R.S., Dublin.
John Morgan.
William A. Morris, Army Medical Staff.
Dr. Magrath, Forest Row.
Dr. Maclagan, London.
Dr. E. Metcalfe, London.
Dr. George Mowat, St. Albans.
Dr. Claud Muirhead, Edinburgh.
Dr. P. H. Maclaren, Edinburgh.
Dr. W. Moore, Dublin.
Dr. Mackern, London.
F. E. Manby, Wolverhampton.
Dr. Nias, London.
Dr. J. W. Ogle, London.
Dr. Priestley, London.
Dr. Potter, London.
Professor Pettigrew, St. Andrews.
Dr. John Phillips, London.

Dr. Poore, London.
Dr. Pitts, London.
Dr. Phillips, Bedford.
Arnold Royle, C.B.
Henry Rundle, Southsea.
James S. Robertson, Southampton
Dr. Street, Westgate.
Butler Smythe, London.
Henry Smith, London.
Dr. R. Scanes Spicer, London.
W. W. Smith, Sittingbourne.
H. P. Symonds, Oxford.
James Stedman, Towcester.
W. R. H. Stuart, London.
Dr. Saunders, Hayward's Heath.
J. J. Stack, Radnorshire.
W. S. Scott, Manchester.
R. W. Scott, Southampton.
Sir William Turner, Edinburgh.
Dr. Thursfield, Leamington.
Edward Tegart, London.
W. Pugin Thornton, Canterbury.
William Travers, Kensington.
E. W. Tait, Highbury.
Dr. H. H. Taylor, Brompton.
E. S. Tait, Highbury.
Henry B. Tait, Hornsey.
Joseph A. Tapson, Clapham Common.
Dr. Wyatt, London.
Edgcombe Venning, London.
Dr. Hermann Weber, London.
W. Spencer Watson, London.
E. M. Wrench, Baslow.
Dr. Whipham, London.
Dr. A. L. Wade, Wells.
Russell E. Wood, Edinburgh.
H. E. Waddy, Gloucester.

The PRESIDENT of the Council made a statement relative to the memorial, and notified that the business of this special meeting must be entirely confined to the subject matter of the protest, in accordance with By-law 23.

The TREASURER reported the proceedings of the Journal and Finance Committee, of November 28th, and made the following statement:

The above memorial having been read and entered on the minutes, it was stated that the subject of the recent publications in the JOURNAL had been brought to the notice of the Council at its meeting of October 17th, but that its consideration had been deferred in view of possible legal proceedings impending.

The following memorandum from the Editor was read:

"The Editor has carefully considered the document dated November 17th, of which a copy has been placed in his hands by the President of Council. He has to point out that the 'script' therein referred to gave only the precise verbal form of an expression of opinion on a subject elsewhere publicly discussed."

The Editor has produced to the Journal Committee documentary evidence which he considered to afford strong reason for believing that the publication of this opinion did not constitute any breach of confidence. Nevertheless, he regrets its appearance in the columns of the BRITISH MEDICAL JOURNAL.

Moved by Dr. J. S. BRISTOWE (London), seconded by Mr. W. D. HUSBAND (Clifton, Bristol), and unanimously

Resolved: "That this Council strongly deprecates the publication of any details in violation of professional confidence. The Editor of the JOURNAL has given to the Council his assurance that he had reasons which he considered adequate for believing that the publication of the "script" referred to in the protest laid before the Council, was not a breach of confidence, but has expressed his regret at its publication in the JOURNAL. The Council would express their own regret that, under any circumstances, that document was published."

Moved by the Treasurer, Dr. HOLMAN (Reigate), seconded by Dr. WARD COUSINS (Southsea), and

Resolved that the protest, with signatures, the statement of the Editor, and the resolution of the Council, be published in the next JOURNAL.

Moved by Mr. HUSBAND (Clifton), seconded by Dr. WADE, and

Resolved: That a copy of the resolution be sent to every signatory to the protest.

SPECIAL CORRESPONDENCE.

SWITZERLAND.

[FROM OUR OWN CORRESPONDENT.]

Codeine as a Substitute for Morphine.—Sulphonal.

THE statements of Professor Lauder Brunton and Dr. George C. Kingsbury in the JOURNAL, June 9th, 1888, p. 1213, and June 30th, p. 1382, respecting codeine, are endorsed by Dr. Fischer, of Kreuzlingen, who writes in the *Correspondenzblatt für Schweizer Aerzte*, October 1st, 1888, p. 610, that for the last five years he has been using the drug extensively in all cases where morphine is indicated internally. The dose of 0.025 or 0.03 gramme of codeine is said to be equivalent physiologically to 0.01 of morphine. Internally, Dr. Fischer gives codeine in powder, but when its bitter taste is objected to he administers it in a mixture. Externally, it may be used in the form of suppositories, inhalations, salves, etc. The author warmly protests against the groundless assertions found in nearly all pharmacological textbooks to the effect that the narcotic action of codeine is but weak and unreliable. Bad preparations of the drug are, of course, met with from time to time, but, when genuine, codeine has a most constant and very marked anodyne and hypnotic action. On the other hand, it never causes any bad secondary symptoms, even when given in full doses (for example, three centigrammes) three or four times daily for many successive days. Dr. Fischer asserts, moreover, that the drug continues to produce its physiological effects without an increase in the doses being required. The patient does not acquire anything like a "codeine habit," or craving for the drug. Codeine is especially valuable as a remedy for agonising cough in pulmonary phthisis or bronchitis, and "as a hypnotic in all cases of insomnia, except that depending upon extremely severe pain." In insomnia of the latter category morphine is said to act better since it alleviates pain more promptly than codeine.

Dr. Fischer also speaks very favourably of sulphonal; his experience fully confirms that of Professors Baeumler and Kast. The drug is said to be tasteless, constant and pleasant in its action, and free from any secondary effects, the patient rising from his seven to nine hours' sleep quite cheerful, with a clear head. The only drawback is its cost, one franc's worth being required to send the patient to sleep.

GLASGOW.

[FROM OUR OWN CORRESPONDENT.]

Burial Reform Association.—Victoria Infirmary.—Epidemic of Measles.—Orphan Homes.—Philosophical Society.

A MEETING of the Provisional Committee of the Burial Reform Association was held in Glasgow on October 21st, under the presidency of Dr. Eben. Duncan. A report was presented that the committee had come to the conclusion that a limited company should be formed rather than simply an association, which would be better able to advocate reform in a practical way, and would more readily obtain subscriptions than an association with unlimited liability. The articles of association of the proposed company stated the objects of the company to be "1. To promote reform in the present methods of burial in Scotland, both as regards the expense incurred, and the dangerous effects on the public health. 2. To promote inexpensive, and at the same time sanitary, methods of disposal of the dead, which shall best tend to render the remains innocuous, and in particular the method known as cremation. 3. To publish information on all matters tending to promote burial reform or cremation, in the form of books, circulars, reports, or transactions as may seem conducive to either of these objects. 4. To consider all questions relating to burial reform in Scotland, or the cremation of the dead; and, if necessary, to petition Parliament thereon, or promote deputations or public meetings in relation to general measures or legislation affecting such objects." A strong opinion was expressed at the meeting that the association should become an active one, and, by erecting a crematorium, take practical steps for the furtherance of their objects. It was stated that for £1,000 a crematorium could be erected, a building something like a chapel, with the crematorium below, into which the body could be lowered. A committee was appointed to consider the various suggestions and obtain all information necessary for the practical carrying out of the objects of the Society. It was remitted to the Chairman to prepare a memorial to the Home Secretary, setting forth the facts as to the method of burial in Scotland, as the Church of England Burial Reform Association was doing for England.

The *employés* in public works subscribing to the Victoria Infirmary have the privilege of electing three members of the governing body. Accordingly, a meeting of representatives, appointed by the *employés*, was recently held for the election of the three governors, when Messrs. I. T. McIntosh (Caledonian Railway Engine works); Mr. John Henderson, engineer; and Mr. William Key, gas manager, were elected. Dr. Edward Macmillan, of Pollokshields, has been elected as the representative of the Glasgow Southern Medical Society, on which the privilege of nominating one governor has been conferred, for the important part taken by the members in originating and promoting the movement for the building of a hospital on the south side of the city.

It was by a member of this Society, the late Dr. Rice, that the need of the institution was first pointed out in 1866, and four years later Dr. Eben. Duncan and other members took up the proposal.

At Old Kilpatrick and Bowling, villages on the Clyde, a few miles from Glasgow, measles have become so prevalent that one of the schools has been closed, 100 children being down with the disease, though in all cases it is mild. In the village of Milton typhoid fever has occurred, four cases having occurred in one house, which were removed to Maryhill Joint Hospital.

The seventeenth annual report of the homes, familiarly known as Quarrier's Homes, has been published. During the year 1,012 children passed through the homes, while hundreds of others were helped with food and lodgings. The total income from all sources had been nearly £19,000, while the ordinary expenditure was £9,088, though expenditure on new buildings, a new home in Canada, etc., had left a balance of only 11s. 4½d. Since the beginning of the work 300 children have been sent to Canada, of whom 95 per cent. have turned out well. Mr. Quarrier, in some remarks, spoke very strongly of the duty of the magistrates, whom he had been asking for twenty-four years to take steps for the control of street children, of whom every week many passed into the criminal ranks. He thought the magistrates could help this if they would.

The annual general meeting of the Glasgow Philosophical Society was held on November 21st, Dr. J. B. Russell, President, in the chair. The report showed the number of ordinary members was 642. During the year forty-nine members were removed by resignation or death, and exactly the same number of new members had been elected. There were also nineteen honorary members and ten corresponding members. During the session the Society received in trust the sum of £252, being the residue of the funds of the defunct Glasgow Science Lectures Association, the interest from which would be applied in doing such work as the Association had carried on. Mr. Renny Watson was appointed Vice-President in room of Dr. James Morton; Mr. John Mann, Mr. John Robertson, and Mr. John Mayer were reappointed Treasurer, Librarian, and Secretary respectively.

MANCHESTER.

[FROM OUR OWN CORRESPONDENT.]

Annual Meeting of Medical Charities.—Hospital for Incurables.—Sanitary Association and School Board.—Medical Officership of Health.

Last week the annual meeting of the subscribers to the Manchester and Salford Medical Charities was held in Manchester. The amount received from sundry collections was £4,559, against £4,603 of 1887, and from the Hospital Saturday Fund £3,432, as against £3,135 in 1887, and from all sources there was a net increase of £250 above last year. One noteworthy feature is that the number of mills and workshops where the contributions are raised by weekly subscriptions is increasing year by year. The Committee think that the time has come to do away with the "recommend" system. During the last nineteen years nearly £140,000 has been raised for hospital purposes by this movement.

At the annual meeting of the subscribers to the Northern Counties Hospital for Incurables, a gratifying report of the continued success and increased usefulness was presented.

The Manchester and Salford Sanitary Association recently presented to the Manchester School Board a memorial on "Health Teaching in Schools." In their reply, the School Board incorporate a report by the inspectors of schools, which is both interesting and important, and part of which we quote:—"The Board recognise the fact that it is desirable to include in the curriculum of their schools instruction on health subjects. Advantage is taken of every opportunity presenting itself for educating the children and inculcating principles which, in the course of time, are calculated to go far towards eradicating the insanitary habits of the masses. In each of the infants' schools of the Board a series (sometimes forty) of 'object lessons' is given to the children. The subjects of these 'object lessons' are mainly common objects of every day use, and include such as—A house; its uses, advantages, its erection, &c.; soap, water, food (animal and vegetable); clothing, cooking, and other utensils; and parts of the body. To older girls practical instruction is given in cookery, special care being taken to adapt the dishes to the wants of a working man's household, and in the preparation of them only such inexpensive apparatus is used as may be expected to be at the command of the children. After a demonstration lesson by the properly qualified teacher, the pupils themselves, under her supervision, but without other aid, prepare a similar dish. The pupils may, and do, purchase these dishes at cost price for own or home consumption. In order to 'keep touch' with the children after leaving school, the Board open evening classes for boys and girls in the subjects of physiology and hygiene." Formerly in Manchester "Health Lectures for the People" were delivered regularly during the winter months. The association have made arrangements for holding a series of public conferences in various parts of the city, on the causes of the high death-rate of Manchester and Salford.

Owing to the death of Mr. Leigh, the late officer of health for the city, the City Council will be called upon to elect an officer of health. At present, Manchester has the high death-rate of 25.5 per mille. The question is being discussed whether some rearrangement of the Health Department should be carried out to make it more effective in, and adequate for, the great work which needs to be done in a community so densely crowded and so immense as that of Manchester There is a suggestion that the city should be divided into districts, each with its medical officer of health.

CORRESPONDENCE.

REFORM AT THE ROYAL COLLEGE OF SURGEONS.

Sir,—Will you be so good as to insert in your forthcoming issue the following letters received by me from the private secretary of Lord Randolph Churchill, in answer to a request on the part of the Association of Members of the Royal College of Surgeons, for a motion in the House of Commons.

2, Connaught Place, W., November 20th.

Dear Sir,—Lord Randolph Churchill desires me to acknowledge with thanks the receipt of your letter of the 15th instant, together with the accompanying papers; and, in reply, to say that he intends to ask the First Lord of the Treasury, on Monday, whether he will produce the documents to which you refer.—I am, dear sir, yours faithfully, FRANK D. THOMAS.

W. Ashton Ellis, Esq.

2, Connaught Place, W., November 27th, 1888.

Dear Sir,—I am directed by Lord Randolph Churchill to send you the enclosed, from which you will see that he has moved for the papers you wished for. They will probably be published in the course of a few weeks.

"Lord Randolph Churchill,—Royal College of Surgeons (Supplemental Charter),—Address for Copy of the Statements made by the Deputation of the Members of the Royal College of Surgeons of England to the Lord President of the Council, on the 11th day of November, 1887, upon the subject of the Supplemental Charter, since granted to the said College, and of all Documents and Correspondence relating thereto lodged in the Privy Council Office, including the Petition to Her Majesty, signed by 4,665 Members of the College."—I am, dear Sir, yours faithfully,

W. Ashton Ellis, Esq. FRANK D. THOMAS.

You will see from the above correspondence, that an important step has now been taken in Parliament.—I am, etc.,

WM. ASHTON ELLIS, Joint Honorary Secretary,
Association of Members of Royal College of Surgeons.

14, Grosvenor Road, S.W.

ETIOLOGY OF RICKETS.

Sir,—In the JOURNAL of November 24th, page 1145, Dr. Cheadle is stated to have said that "One of the first and best established facts with regard to the first connection is that rickets is almost confined to 'hand-fed' children; children at the breast escape, whatever the other hygienic conditions may be, at any rate after weaning."

Having kept the notes of 65 cases of rickets that occurred amongst my out-patients at the York County Hospital, I find of these that 16 were nursed entirely for three months, 12 for six months, 5 for nine months, 5 for twelve months, and 12 for twelve months and over, and 15 only were brought up by hand entirely.—I am, etc.,

W. H. JALLAND.

York, November 26th.

SIR,—In the discussion on rickets reported in the JOURNAL of November 24th, only a passing reference was made to "want of light" as one factor of the disease, and one to which little importance was attached. It has long seemed to me that this was the chief element in the case. I was led to this conclusion by the fact that, during a residence of nine years and a half in Japan, during which time a large number of patients of all sorts passed through my hands, rickets was conspicuous by its absence. Contrasting the conditions of child-life in that country with those prevailing in the large cities of Great Britain, the most striking point of difference is the abundant sunshine, both in winter and summer in the former country, and its rarity in England. Our murky skies, our smoke-laden city atmosphere, our high houses and narrow streets, helping to exclude the struggling rays of the sun, are the direct opposites of the conditions prevailing in the 'Land of the Rising Sun."

I believe that a further study of the distribution of this disease would show it to be in direct relation to the absence of sunshine. The facts with regard to the prevalence of the disease among animals seem to be explicable also by the confinement of the animals where they cannot enjoy that luxury of basking in the sun, which they also, especially the feline race, evidently take much pleasure in, and can have *ad libitum* in their native habitat. The malnutrition of rickets, on this view, has also its analogy in the vegetable kingdom in the malnutrition of plants when deprived of sufficient sunlight.

If this theory be correct, the most rational treatment would be the systematic use of sun-baths. A rickety child should be kept in the sunshine as far as possible, but I would suggest that the little patient should be placed naked in a well warmed glass conservatory, the temperature and length of exposure being duly regulated. I may say that I have never had the opportunity of carrying out this suggestion. It is, perhaps, fanciful to ask whether the tendency, which rickety children particularly show, to kick off their coverings and lie exposed may not be an indication of Nature in the direction suggested.—I am, etc.,

THEOBALD A. PALM, M.A., M.D.

Birkenhead, November 24th.

EDINBURGH MEDICAL SCHOOL.

SIR,—I have read with some surprise the following paragraph of Scottish news in the JOURNAL of November 24th:—"A new departure has been made in the clinical side of the Edinburgh Medical School. Several courses of a practical nature, open to a limited number of students, have been begun. Dr. Byrom Bramwell treats of neurology with reference to the spinal cord," etc, Allow me to say that, so far as I am concerned, your correspondent has been misinformed. I have not begun, and have no intention of beginning, any such course of instruction as he describes.

During the past vacation I delivered a course of twelve lectures to postgraduates and students on the clinical examination of the nervous system as a whole. I enclose the prospectus, from which you will see that one of the lectures only was devoted to the spinal cord, and that the number of gentlemen attending the class was not limited. These lectures will, I trust, be published in due course, as the second part of my work on practical medicine and medical diagnosis, but they will not again be delivered as lectures. Should I determine to take part in the postgraduate course of next year, it is my intention to select some subject outside neurology for discussion. I have no wish to be considered only a neurologist, and have no intention of limiting either my teaching or my practice to any special department or departments of medicine. My aim is to endeavour to cover the whole subject, as the enclosed prospectus of my winter course of lectures on medicine shows.—I am, etc.,

BYROM BRAMWELL.

Edinburgh, November 24th.

THE CLIMATE OF THE SEA.

SIR,—In reference to Dr. S. Thompson's lecture on the Cape as a health-resort, containing some deprecatory remarks about the sanitary disadvantages of the sea-air, I should like to point out that this is not found to be so moist as he alleges. Instrumental investigation shows that the differences between the dry and wet thermometers are equally as great at sea as on land, amounting from 2° to 8° frequently in many latitudes, as may be seen on consulting marine log books of ships' voyages. Further, the evaporation of water in an evaporimeter on board ship exhibits very commonly amounts varying from 0.100 inch to 0.200 inch, and now and then up to 0.300 inch per diem, as much as may be met with in the Cape itself. Really the moisture or dampness met with on board ship probably does not proceed from the sea itself, but from the clouds above; and the class of winds prevailing, whether polar, dry, or equatorial, wet. In fact, the weather at sea, as on land, depends on the atmosphere above, and not on the sea below the ship.

Extreme dryness of the air at sea on board ship is frequently manifested on the persons of passengers by sunburnt faces and hands, freckles on the skin, and affection of the eyes.

A very illustrative description of a drought and heat on board ship, and the sufferings of the crew from thirst and famine, is to be read in Coleridge's *Ancient Mariner*, when the planks of the ship gaped and cracked with the dry heat of the blazing sun overhead.

There is one element of a sea climate which is a permanent sanitary advantage, the general presence of ozone everywhere. That of the Cape cannot lay an equal claim to this set off, especially as many of its towns have a bad sanitary reputation.—I am, etc.,

25, Charles Street, S.W. W. G. BLACK, F.R.M.S.

NAVAL AND MILITARY MEDICAL SERVICES.

CHANGES OF STATION.

THE following alterations of station among the officers of the Medical Staff were officially notified to have taken place during the month of September:—

	From	To
Brigade-Surgeon J. Davis	Bengal	Bombay.
,, J. Colahan	Chatham	Dublin.
Surgeon-Major J. E. Fannin	Dundalk	Bengal.
,, J. L. Notter, M.D.	Bengal	Netley.
,, J. P. Hunt, M.D.	Gravesend	Gibraltar.
,, G. A. Hughes, M.B.	Worcester	Devonport.
Surgeon J. L. Hall	Adj. Vol. Med. Staff	Home District.
,, F. B. Maclean	Penally	Horfield.
,, P. H. Fox	Dublin	Navan.
,, W. J. Macnamara, M.D.	Netley	Woolwich.
,, J. O. G. Sandiford, M.D.	Clonmel	Ballincollig.
,, W. Heffernan	Netley	Bengal.
,, C. H. Clabburn, M.B.	N. British District	Piershill.
,, J. H. Nicholas	West Africa	Dublin.
,, C. G. D. Mosse	Lydd	Canterbury.
,, G. Coutts, M.B.	York	Burnley.
,, W. J. Baker	Devonport	Pembroke Dock.
,, E. Butt	Belfast	Dundalk.
,, T. Moynihan	Belfast	Dunfanaghy.
,, S. H. Creagh	Lancaster	Fleetwood.
,, W. A. Morris	Aldershot	Adj. Vol. M. Stff.
,, J. Hickman	Sheerness	Chatham.
,, H. A. de Lom	Honduras	Barbadoes.
,, G. B. Russell, M.B.	Fermoy	Cork.
,, H. A. Haines, M.D.	Gibraltar	Sheerness.
,, G. E. Hale	Devonport	Madras.
,, W. Turner	Stratford-on-Avon	York.
,, H. E. Cree	Ashton-unde-Lyne	Sheffield.
,, W. C. Poole, M.B.	Navan	Sierra Leone.
,, G. Raymond, M.B.	Cork	Queenstown.
,, J. C. Weir, M.B.	Aldershot	Dublin.
,, V. H. W. Davoren	Aldershot	Cork.
,, H. S. Peeke	Hulme	York.
,, T. Birt	Aldershot	Cork.
Quartermaster R. Gordon	Malta	Aldershot.

THE RANK QUESTION.

WE quote the following from the editorial columns of the *Englishman* (Calcutta):—

"The BRITISH MEDICAL JOURNAL has published an analysis of statements by medical officers of the Army Medical Department of their views on the ranks question. The report concludes in the following words: 'It has been a difficult matter to select from the immense mass of able replies before us those which typically represent the "reasons" and "suggestions" of the great majority voting under the different proposals, but we have endeavoured to do so, and we hope with success. We reserve to ourselves the right of independent criticism, but it is perfectly certain the vast majority of the Medical Service of all grades demand rank which shall be nameable and definitive, and titles which shall clearly set forth that rank in the army and in society at large.' That is to say, they demand that they shall have the military titles of Captain, Major, Colonel, etc., without the prefix of Surgeon, just as the Commissariat, Ordnance Store, Paymaster, and Quartermaster's Departments have, and even Inspecting Schoolmasters; and there is no reason why the Surgeons, who are more intimately connected with the army than any of them, should not have the same privilege. I know a general officer who never had a red coat on his back since he was an ensign. He was quill-driving for five-and thirty years in the Mysore Commission as a so-called military civilian. The doctors do go into action and spend their lives among soldiers. If any non-combatants are entitled to military rank the surgeons are *primus ante omnes*. If they wish to have it, it should be granted at once or withheld from everyone who does not draw a sword on parade. That is what it ought to be; but as long as military rank is dealt out broadcast to everyone or to anyone, there is no logic in withholding it from the officers of the Medical Staff."

THE NAVY.

THE following appointments have been made at the Admiralty: WILLIAM THOMPSON, Staff-Surgeon, and RICHARD A. FITCH, Surgeon, to the *Cleopatra*; ALFRED RIMELL, Surgeon, to the *Canada*; B. C. E. F. GUNN, Surgeon, to the *Rattlesnake*; GEORGE R. D. CHARLTON, Surgeon, to Chatham Hospital; WM. H. O'MEARA, Surgeon, to the *Linnet*; PERCY B. BURY, Surgeon, to the *Cambridge*; JOHN L. BARRINGTON, Surgeon, to Portsmouth Division Royal Marines; JAMES O'B. WILLIAMS, Surgeon, to the *Asia*; JOHN JENKINS, Surgeon, *Duncan*, additional; CORNELIUS BRADLEY, Surgeon, to the *Curlew*; JOHN ANDREWS, Surgeon, to the *Peacock*; HAROLD R. OSBORNE, Surgeon, to the *Mistletoe*; JOHN S. DOBBYN, Fleet-Surgeon, to the *Hibernia*; CHARLES DICKINSON, Surgeon, to the *Duncan*, additional; JAMES A. VASEY, Surgeon to the *Amphion*, when commissioned; STANDISH O'GRADY, Surgeon, to the *Archer*, when commissioned; FRANCIS WOORE, Surgeon, to the *Indus*; RICHARD MILLER, Surgeon, to the *Iron Duke*.

THE MEDICAL STAFF.

DEPUTY SURGEON-GENERAL T. RUDD, M.D., who is serving in the Bengal command, is posted to the administrative medical charge of the Allahabad District, *vice* Deputy Surgeon-General E. H. Roberts.

Deputy Surgeon-General J. LANDALE, M.D., who is also serving in Bengal, is transferred from the Sirhind District to the administrative medical charge of the Quetta District.

Brigade-Surgeon R. WATERS, M.D., also serving in Bengal, is transferred from the Quetta District to the administrative medical charge of the Sirhind District.

Surgeon W. B. DAY, M.D., who is serving in the Madras command, has passed the examination in Burmese by the lower standard.

Surgeon J. W. H. FLANAGAN, serving in the Bombay command, is appointed to do general duty in the Mhow District.

Surgeon R. W. BARNES, also serving in the Bombay command, is ordered to do general duty in the Poona District.

Surgeon-Major J. L. NOTTER, M.D., who has recently returned from Bengal, has taken up his appointment of Professor of Military Hygiene at Netley, in place of the late Surgeon-Major de Chaumont.

Surgeon-Major J. R. RAHILLY is granted retired pay. He entered the service as Assistant-Surgeon March 31st, 1868; became Surgeon, March 1st, 1873; and Surgeon-Major, March 31st, 1880. He has no war record.

INDIAN MEDICAL SERVICE.

SURGEON-MAJOR S. H. BROWNE, M.D., Bengal Establishment, Joint Civil Surgeon of Simla, is appointed to the medical charge of Army Headquarters Staff and establishments remaining at Simla during the winter, in addition to his other duties, with effect from October 17th, 1888.

Surgeon J. D. M. SWINBURNE, Bengal Establishment, is appointed to the officiating medical charge of the 19th Bengal Lancers, *vice* Surgeon R. C. Macwatt. Surgeon Swinburne will remain with the Sikkim Expeditionary Force till his services can be spared.

Deputy Surgeon-General C. P. COSTELLO, of the Bengal Establishment, is posted to the officiating administrative medical charge of the Assam District, *vice* Deputy Surgeon-General A. Eteson, M.D., granted leave.

Surgeon C. E. SUNDER, Bengal Establishment, is appointed to the officiating medical charge of the Corps of Guides, *vice* Surgeon L. J. Pisani. This cancels Surgeon Sunder's appointment to the 4th Punjab Infantry, previously notified.

Surgeon L. J. PISANI, Bengal Establishment, is appointed to the officiating medical charge of the 4th Punjab Infantry, *vice* Surgeon A. R. Jolliffe, deceased.

The services of Surgeon J. J. MORAN, M.D., Madras Establishment, Civil Surgeon of Akola, are replaced at the disposal of the Military Department.

Surgeon A. H. PIERSON, Bengal Establishment, is appointed Medical Officer to the Kwaja Amran extension of the Sind-Pishin Section of the N. W. Railway, from the date on which he was relieved by his duties as Civil Surgeon of Sibi.

The services of Surgeon-Major A. S. LETHBRIDGE, M.D., Bengal Establishment, Inspector-General of Gaols, are placed temporarily at the disposal of the Government of India in the Home Department.

Surgeon-Major H. B. PURVES, Bengal Establishment, Civil Surgeon, and Superintendent of the Temple Medical School, Patna, is appointed to act as Inspector-General of Gaols during the absence, on deputation, of Surgeon-Major A. S. Lethbridge.

Surgeon J. H. T. WALSH, Bengal Establishment, officiating Resident Surgeon, Eden Hospital, Calcutta, is appointed to act as Civil Surgeon of Puri, during the absence, on furlough, of Surgeon-Major B. Gupta.

Surgeon J. R. ADIE, Bengal Establishment, officiating Civil Surgeon of Puri, is appointed to act as Resident Surgeon, Eden Hospital, Calcutta, during the absence, on deputation, of Surgeon W. G. P. Alpin.

Surgeon-Major F. C. NICHOLSON, M.B., Bengal Establishment, Civil Surgeon of Moorshedabad, on furlough, is appointed to act as Civil Surgeon and Superintendent of the Temple Medical School, Patna, during the absence, on deputation, of Surgeon-Major H. B. Purves.

Surgeon J. F. MULLEN, Bengal Establishment, Civil Surgeon, Tipperah, is appointed to be First Resident Surgeon, Presidency General Hospital, from August 6th.

Surgeon-Major R. D. MURRAY, M.B., Bengal Establishment, officiating Civil Surgeon, Chumparun, is appointed to be Civil Surgeon of Tipperah, from August 6th, but will continue to act in his present appointment.

Surgeon H. W. STEVENSON, Bombay Establishment, in medical charge of the 7th Native Cavalry, is allowed furlough to Europe for one year, on private affairs.

Surgeon J. R. ROBERTS, having reported his arrival from England on first appointment to the Bengal Establishment, has been directed to proceed to Rawul Pindi, and report himself there to the Deputy Surgeon-General for duty.

Surgeon W. H. GRAY, who has reported his arrival from England on first appointment to the Indian Medical Service, Bengal Presidency, has been attached to the Allahabad Station Hospital for duty, until required to proceed to Peshawur, where he has been posted from Army Head-quarters.

Surgeon-Major KENNETH MCLEOD, of the Bengal Establishment, whose first commission dates from March 31st, 1865, and that of Surgeon-Major from March 1st, 1877, is promoted to be Brigade-Surgeon. He does not appear to have had any war experience.

CORRECTION.—In a notice of the death of Surgeon-Major H. M. G. ARCHDALL, published in the JOURNAL of November 24th (page 1188), it was incorrectly stated that he had no war service. He served through the last Afghan war, and received the medal for that campaign.

THE VOLUNTEERS.

MR. F. W. GRANT, M.D., is appointed Acting Surgeon to the 1st Banff Artillery.

Surgeon and Honorary Surgeon-Major D. MACEWAN, 1st Volunteer Battalion Royal Highlanders (late the 1st Forfar), has resigned his commission, which was dated November 14th, 1870; he is permitted to retain his rank and uniform.

MEDICO-LEGAL AND MEDICO-ETHICAL.

PAYMENT FOR DEATH CERTIFICATES.

MR. W. FAULKNER, M.R.C.S., Registrar St. Giles South, writes: During a period of thirty years I have never met with an instance I can remember of a death certificate being refused. A registrar has the power to register a death without certificate, stating the cause he has not received one. I think it is compulsory to give one (see notice enclosed), as it is a misdemeanour not to comply with an Act of Parliament.

Many years since, a practitioner refused to sign and send to a neighbouring registrar certificates of successful vaccination. Legal advice was taken by both parties, and it was clearly put that he was compelled to send the certificates to the registrar for the reason stated, namely, that it is a misdemeanour not to comply with the Act.

*** There is no doubt a general rule that, where no other remedy is provided, a wilful refusal to comply with the requirements of an Act of Parliament may be punished as a common law misdemeanour. We know of no case in which refusal to fill up and sign a certificate of death has been so punished. Medical practitioners as a rule give the certificate and receive remuneration for so doing as part of their charges for attending the deceased person. We adhere to our opinion that they are entitled to claim a reasonable fee for this, as for any other professional work, and do not think that a practitioner who declined to give a certificate because payment of such a fee was refused would run any serious risk of conviction. The annoyance and expense of defending such a charge would of course far outweigh the amount of any fee that could be demanded, and it is therefore probably not worth while for anyone to try the experiment.

BRANCH PRACTICES.

M.R.C.S. L.R.C.P. writes: If A. has had a good practice in a large village and surrounding districts for some years, and has become unpopular and rapidly losing his practice owing to patients preferring to send further away for another doctor, say B., would it be a breach of medical etiquette—in any way an unprofessional proceeding—for B. or any other medical man from a distance to take a room in the said village, and to have one or two regular days a week when he would hold consultations and provide medicines for those who care to consult him instead of A., A. being the only resident doctor in the village.

*** In the absence of any written rule within our knowledge which bears directly on the subject of our correspondent's interrogative note, we can merely express our personal views thereon, namely, that to adopt the suggested course would, in our opinion, not only be contrary to the traditional usages of the profession, but incompatible with the moral obligation to do unto others as we would be done by. Irrespective of its tradelike character, would our correspondent, we may ask, like such a contemplated step to be taken in opposition to himself? We trow not.

ASSISTANTS AND INQUEST FEES.

J. T. writes: At page 1189 of the JOURNAL of November 24th, your decision with regard to the claim of a qualified assistant to the fee for a *post-mortem* examination and inquest seems to me strange, and it must be of much importance to medical men who, unlike myself, keep qualified assistants. Some time since, a neighbouring practitioner asked my opinion on a somewhat similar case. In this instance it was a *locum tenens* who claimed the fee, and the opinion I gave was exactly the reverse of your own. I may be wrong, but *primâ facie* it appears to me that when a medical man engages an assistant or *locum tenens* he pays him so much per year or week for attending to the duties of the practitioner so engaging him; he is supposed for this consideration to have his services *in toto*, not in part, and he is supposed to devote all his time to the duties of his office. Why should this duty be an exception? He has no claim on other fees; the *post-mortem* examination and inquest take place in the practice of the person whom the assistant serves; how can he claim a portion of the time which is evidently the principal's for the purpose of engaging in a branch of medical practice on his own account? I simply give my view of the case *quantum valeat*.

*** The agreement between principal and assistant or principal and *locum tenens* may be, and often is, so drawn as to provide that all moneys received by the assistant or *locum tenens* shall be paid over by him to his principal, who in return is bound to pay a fixed salary, irrespective of the amount of fees earned. In the absence of agreement, fees for giving evidence or making a *post mortem* examination belong to the individual to whom they are paid in the first instance. No one else is entitled to claim payment of them. A principal who applied to a coroner or county treasurer for a fee in a case in which he had not himself been concerned, ought to be refused. If the recipient of such fees is to hand them over after he has got them, it must be by virtue of an agreement binding him to do so. Principals can always protect

themselves when they make their agreements, and, if they want these fees, should take care to do so.

NEGLECT TO FURNISH TESTIMONIALS.

ZYMOGEN writes: I have acted with a gentleman as *locum tenens* for six months, and have given his practice my undivided attention. I worked as honestly and as carefully as if the practice had been my own, and have reason to know that his patients were fully satisfied with my attention to and treatment of them. The principal and myself never disagreed regarding the treatment of my cases, but we invariably "agreed to differ" about political and religious matters when we talked of them, which was not infrequent. Matters seemed to be brought to a climax by my expressing my belief that I was entitled to fees at an inquest on a case that I saw, in support of which I showed him a copy of the JOURNAL for June last. I wrote him for a testimonial, after leaving on apparently friendly terms, but he has never answered my letter. 1. Has he treated me in an unbecoming manner? 2. Can I compel him to give me a testimonial, useless though it may be? 3. Should I write again? 4. What would you advise me to do?

*** To our correspondent's first and second questions our reply is in the negative; and to the third and fourth, which *de facto* constitute one, we would suggest that a courteous note be addressed to his late principal soliciting a reply, at his early convenience, to the application for a testimonial relative to his professional services as *locum tenens*.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.—Tuesday, November 27th.

Public Health Acts Amendment (Buildings in Streets) Bill.—Lord BASING, in moving the second reading of this Bill, said it proposed to confer powers on municipal authorities to prevent the bringing forward of houses so as to mar or interfere with the frontage of streets.—Lord BALFOUR said the Local Government Board did not propose to offer any objection to the Bill; on the contrary, they thought it a reasonable measure, which carried into effect what, until a recent decision, was believed by all parties to be the state of the law.—The Bill was read a second time.

The Samaritan Free Hospital.—Viscount CRANBROOK stated, in answer to the Earl of MEATH, that an application was recently made on behalf of the Committee of the Samaritan Free Hospital, Marylebone Road, for permission, in rebuilding the hospital, to advance the frontage of the building to a line at the centre 15 feet, and at the wings 19 feet back from the public way. As the Vestry of St. Marylebone objected to the proposal, the application was referred to the Building Acts Committee for consideration. The Committee having regard to the objects and public character of the institution, thought that the building might be enlarged without injury to the adjacent property, and the Board, on the recommendation of the Committee, granted the application. Since the permission of the Board was given, the Vestry of St. Marylebone had requested the Board to reconsider their decision, and the parties interested had been invited to attend the next meeting of the Building Acts Committee, on November 27th.

HOUSE OF COMMONS.—Friday, November 23rd.

Soldiers' Rations.—Mr. E. STANHOPE, in reply to Dr. FARQUHARSON, said the Committee which was considering the dietary of soldiers, had commenced its labours under the presidency of the Member for Exeter; with whom were associated the Members for Hammersmith and the Ince Division of Lancashire, Sir Redvers Buller, Sir Arthur Haliburton, and Surgeon-General Massey.

The Royal College of Surgeons and its Supplemental Charter.—The following motion has been made by Lord RANDOLPH CHURCHILL:—"Royal College of Surgeons (Supplemental Charter)—Address for Copy of the Statements made by the deputation of the Members of the Royal College of Surgeons of England to the Lord President of the Council, on the 11th day of November, 1887, upon the subject of the Supplemental Charter, since granted to the said College, and of all documents and correspondence relating thereto lodged in the Privy Council Office, including the petition to Her Majesty, signed by 4,665 Members of the College."

HOSPITAL AND DISPENSARY MANAGEMENT.

AT a meeting of the Committee of the Birmingham and Midland Eye Hospital held on Tuesday last, a letter was read from Mr. J. D. Goodman, announcing a gift from an anonymous donor; £4,000 to be devoted to paying off the existing debt on the hospital, and £1,000 towards current expenditure.

OBITUARY.

E. HEADLAM GREENHOW, M.D., F.R.C.P., F.R.S.

WE regret to have to record the sudden death of Dr. E. Headlam Greenhow, which took place at Charing Cross Station on Thursday, November 22nd.

Dr. Greenhow was born in 1814, the son of a highly respected family of medical practitioners, both his father and grandfather having practised in North Shields before him, while an uncle, Dr. T. M. Greenhow, practised at Newcastle, and subsequently moved to Leeds, where he died a few years later at an advanced age. Dr. Greenhow received his early education at various schools in his native town, and his medical education at Edinburgh (Argyle Square School of Medicine, where he obtained the medal in medicine) for two years, and at Montpelier for two years. He was apprenticed when about fifteen years of age to his grandfather. As a student, he was always fond of science, and especially botany. At the age of twenty-one he entered into partnership with his father, and practised in North Shields and Tynemouth for eighteen years. During this time he was an active member of the Town Council of Tynemouth and chairman of the Board of Health, and did much to improve the sanitation and drainage of the town. He graduated M.D. Aberdeen in 1852. In 1853 Dr. Greenhow came to London, took the L.R.C.P., and in 1855 the M.R.C.P., and was appointed physician to the Western General Dispensary and Lecturer on Public Health at St. Thomas's Hospital. For the next few years he was largely engaged in Government work for the Board of Health and the Privy Council. In 1854 he had charge of the cholera districts in Southwark, and in 1857 reported on murrain in cattle. In 1858 the Board of Health published an exhaustive inquiry made by him into the excessive mortality in different districts (the starting point of further inquiries), in 1859 were issued his reports on Diarrhœa and Diphtheria, and in 1861 his well-known reports on Industrial Diseases (pulmonary). He served on more than one Royal Commission, the last being in 1878 (Penal Servitude—Lord Kimberley, Chairman). He was elected F.R.C.P. 1859, and F.R.S. in 1870. Dr. Greenhow held the position of Censor of the College of Physicians 1880-81, and was Croonian Lecturer 1875 (subject, Addison's Disease). He was Assistant Physician and Lecturer on Public Health and Joint Lecturer in Medical Jurisprudence, Middlesex Hospital, in 1861, where he became physician in 1870, Lecturer on Medicine in 1871, and Consulting Physician in 1880. He became Dean of the School in 1868, Treasurer 1870, and subsequently Chairman. Dr. Greenhow was appointed medical officer to the Pension Commutation Board in 1870, a post which he held to the day of his death. It was on his return home from a meeting of this board that he died. He was visitor of the Pharmaceutical Society's Examinations.

He married first the widow of W. Barnard, Esq., in 1842; she died in 1857, leaving a son, now the Rev. Edward Greenhow, Vicar of Earsdon; and secondly the daughter of the late Mr. Joseph Hume, M.P.; she died in 1878, leaving two daughters. Dr. Greenhow's published works include the following: *Diphtheria*, 1860; *Chronic Bronchitis* (2nd edition), 1878; *On Addison's Disease*, 1866; and in 1875 (Croonian Lecturer) papers in *Medico-Chirurgical, Pathological*, and *Clinical Transactions*, and to the Epidemiological and Statistical Societies. The Clinical Society was founded in 1867, mainly by his exertions, and he held the post of Treasurer of the Society until 1879, when he became President. As physician to an insurance office (British) he took an interest in the subject of life insurance, and insisted on the utmost carefulness in medical reports of candidates. Dr. Greenhow was an excellent man of business, a capital chairman at public meetings, and had a mind well fitted for financial work. He was an industrious, earnest, and persevering teacher, his aim at the bedside always being to induce men to observe and think for themselves, and to make them good, sound, and thoughtful medical practitioners. To the students and all others about him he set an admirable example, being punctual, regular, and thorough-going in the fulfilment of his engagements, never sparing himself either in time or trouble in carrying out any matter he took in hand; nor did he neglect the social side of life, and nothing gave him greater pleasure than entertaining his hospital colleagues and his old clerks and assistants at his hospitable table. Many will remember the agreeable gatherings at his house in Manchester Square during the life of the late Mrs. Greenhow, whose learning and ability were so much prized and appreciated by her husband. In connection with this

lady it ought to be mentioned that Dr. Greenhow took the keenest interest in the well-being of the cancer patients in the Middlesex Hospital, and through the combined efforts of Dr. and Mrs. Greenhow some £300 was collected and made over to the authorities of the Middlesex Hospital for the purpose of establishing a ward and day-room for male cancer patients incurably affected. This ward has been named after its founders, and is known as the "Greenhow Ward."

EDWARD JACKSON, M.B.

We regret to have to record the death of Dr. Edward Jackson, which occurred at his residence, 69, Osborne Road, Newcastle-on-Tyne, on November 19th, after a short illness, the cause of death being pneumonia. Although resident in Newcastle at the time of his decease, nearly the whole of Dr. Jackson's career was passed in Sheffield, where his talent and energy had secured for him a leading position. His father, the late Mr. Wm. Jackson, is still remembered in Sheffield as a very capable and laborious surgeon, who remained in an active practice until late in life, enjoying the esteem and confidence of a large circle of patients. Under his guidance, Dr. Edward Jackson received an excellent early training, which bore fruit in his successful career at University College, London, as also later in life. Whilst a student in London, besides other class prizes, he obtained the Fellowes Clinical Gold Medal of University College, and the Silver Medal for Materia Medica at the Apothecaries' Hall. In June, 1851, he graduated as M.B. of the London University, and subsequently, in 1853, became a Member of the London College of Surgeons. Shortly afterwards, he commenced practice in Sheffield, where he rose rapidly in the esteem of his professional brethren and the public, and soon came to be looked on as a leading man in the department of medicine—that of midwifery and diseases of women—to which he more especially devoted himself.

In 1864 he took an active part in the founding of the Sheffield Hospital for Women (now known as the Jessop Hospital), and no one was more delighted than he when, through the noble generosity of the late Mr. Thomas Jessop, the charity was at length firmly established in the permanent and extended form it now presents. Up to the last, Dr. Jackson discharged the duties of surgeon to the hospital with unflagging zeal and ability, and few things in connection with his removal from Sheffield caused him more regret than being compelled, by failing health, to relinquish a work in which he had been so long and usefully employed. Like many other earnest and modest workers, Dr. Jackson published very little, his chief contributions being "Operations for Vesico-vaginal Fistula," and "Four Cases of Ovariotomy;" but he was amongst the first and most successful operators in the south of Yorkshire when, some twenty-five or thirty years ago, the operative treatment of pelvic disease was entering on that rapid development which it has since obtained. In private life Dr. Jackson was of domestic and retired habits. Though much esteemed by the public and by the profession to which he belonged, his intimate friends were few in number. Those, however, who knew him well, loved him for his kindness of heart, his loyal character, and his steady unfailing friendship.

GEORGE SHAW, M.D.

We regret to have to announce the death, after a short illness, of Dr. Shaw, whose loss will be particularly felt in the town of Leicester, where since 1833 he had been successfully engaged in practice. The deceased was born on November 7th, 1801. He entered Caius College, Cambridge, in 1820, and took his degree in medicine in 1824. He proceeded to his Doctor's degree in that University in 1829, and became F.R.C.P.London in 1831. While pursuing his medical studies in London, he was a favourite pupil of Sir Astley Cooper.

Dr. Shaw commenced practice at Manchester, where he was lecturer at the School of Medicine. He also had charge of the Cholera Hospital in that city, and distinguished himself by his ability and devotion to the severe duties devolving upon him during the terrible prevalence of the epidemic.

In 1832 Dr. Shaw married Julia, daughter of William Humphries, Esq., of Ballyhaise House, Co. Cavan, and widow of Colonel O'Brien.

After six years' practice in Manchester, in order to be near his brother, who had lately become rector of Narborough, Dr. Shaw removed to Leicester in 1833, where he soon obtained a large and lucrative practice. Amongst his earliest and most attached friends in the county were the late Duke of Rutland, the late Earl Howe, and the late Sir Henry Halford, first baronet, and physician to the King. For many years Dr. Shaw held official appointments in connection with the Leicester Infirmary, the Leicestershire and Rutland County Lunatic Asylum, and other medical and charitable institutions. Shortly after his arrival in Leicester he founded the Literary and Philosophical Society, of which he was the first President. Fifty years later he was elected President a second time for the jubilee year of the Society, and his opening address on that occasion bore evidence of his unabated vigour of intellect and wide scientific knowledge. For a long period Dr. Shaw was a trustee of the Wyggeston Hospital, and much of its present financial prosperity is due to him. During the last few years of his life he was instrumental in founding the Leicester Society in aid of deaf mutes, and was a zealous supporter of the German or pure oral system of the education of the deaf.

Throughout the greater part of his life Dr. Shaw was a steady supporter of all church work and schools. In 1848 he was elected to the Town Council for St. Martin's ward, but he only remained on that body for three years, and never afterwards sought municipal honours. In 1841 he had been appointed a magistrate for the borough, and at the time of his death was the father of the bench.

He became indisposed during a visit to Skegness, but rallied sufficiently to be able to return home. He was then attended by Mr. Crossley and Mr. Benfield, in consultation with Dr. Marriott, who treated him for bronchitis, but he made no headway in spite of all that was done for him. His funeral was attended by a large public gathering, including the mayor and a number of borough and county magistrates.

UNIVERSITY INTELLIGENCE.

LONDON.

M.B. Examination.

First Division.—J. H. Abram, University Colleges, Liverpool and London; S. K. Alcock, St. Bartholomew's Hospital; E. O. Ashe, London Hospital; P. Ashworth, B.Sc., Owens College and Manchester Royal Infirmary; J. T. Bays, St. Mary's Hospital; R. Bird, St. Bartholomew's Hospital; J. R. Bradford, B.Sc., University College; E. H. Brock, Guy's Hospital; W. O. Carter, University College; J. J. Clarke, St. Mary's Hospital; H. E. Crook, Guy's Hospital; H. P. Dean, B.Sc., University College; H. M. Fernando, B.Sc., University College; J. L. Firth, University College; A. G. Francis, St. Bartholomew's Hospital; J. E. Gould, University College; A. A. Kanthack, B.A., B.Sc., Liverpool Royal Infirmary and St. Bartholomew's Hospital; P. Leech, Owens College; A. Lyndon, St. Bartholomew's Hospital; H. J. Macevoy, B.Sc., St. Thomas's Hospital; W. J. Maillard, Guy's Hospital; L. W. D. Mair, St. Bartholomew's Hospital; W. P. May, B.Sc., University College; G. H. O'Reilly, Northampton General Infirmary and King's College; A. Parkin, Guy's Hospital; J. P. Parkinson, University College; B. Pierce, St. Bartholomew's Hospital; W. B. Ransom, B.Sc., University College; J. L. Roberts, B.A., B.Sc., Guy's Hospital; H. K. Roper, Guy's Hospital; H. A. Sansom, St. Thomas's Hospital; R. V. Solly, St. Thomas's Hospital; E. H. Starling, Guy's Hospital; W. C. Swayne, Bristol Medical School and Guy's Hospital; J. H. Tonking, St. Thomas's Hospital; J. A. Wheeler, Guy's Hospital; G. B. M. White, University College; J. Wilkie, B.Sc., St. Bartholomew's Hospital; H. Williams, St. Bartholomew's Hospital; W. G. Willoughby, St. Bartholomew's Hospital.

Second Division.—F. R. Blaxall, University College; A. T. Brown, Guy's Hospital; E. V. Brown, St. Bartholomew's Hospital; H. E. L. Canney, University College; H. E. Cuff, Guy's Hospital; H. Duncan, St. Thomas's Hospital and Cambridge; F. Edge, B.Sc., Owens College and Manchester Royal Infirmary; H. W. Elphick, University College; A. Grayling, St. George's Hospital; E. B. Hastings, University College; J. S. Hicks, London Hospital; A. H. Joseph, Bristol Medical School and King's College; G. H. Lang, University College and Manchester Royal Infirmary; A. N. Little, Bristol Medical School; Isabella M. Macdonald, London School of Medicine for Women and Royal Free Hospital; B. Melland, Owens College and Manchester Royal Infirmary; E. Moss, Guy's Hospital; P. M. O'Brien, University College, Liverpool; C. P. Oliver, Charing Cross Hospital; P. N. Randall, Guy's Hospital; G. B. Smith, Guy's Hospital; T. W. Smith, Guy's Hospital; G. W. Sutherland, B.A.Syd., University College, London, and University of Edinburgh; H. Symonds, St. Bartholomew's Hospital; C. H. Taylor, King's College; S. A. Tidey, St. Mary's Hospital; W. E. Tresidder, Guy's Hospital; F. W. Tunnicliffe, St. Bartholomew's Hospital; Helen Webb, London School of Medicine for Women and Royal Free Hospital; E. Wills, University College; C. Wilson, London Hospital.

Donation.—Mr. Alexander Duncan, Rhoda Island, has offered £1,000 to build a convalescent home in connection with Arbroath Infirmary.

The Queen has conferred the decoration of the Royal Red Cross upon Miss Airey for nursing services during the Egyptian campaign in 1882 and 1884.

PUBLIC HEALTH
AND
POOR LAW MEDICAL SERVICES.

THE TRUE DEATH-RATES OF LONDON DISTRICTS DURING THE THIRD QUARTER OF 1888.

In the accompanying table will be found summarised the vital and mortal statistics of the forty-one sanitary districts of the metropolis, based upon the Registrar-General's returns, for the third quarter of the current year. The mortality figures in the table relate to the deaths of persons actually belonging to the respective sanitary districts, and are the result of a complete system of distribution of deaths occurring in the institutions of London among the various sanitary districts in which the patients had previously resided. By this means the precise number of deaths of persons actually belonging to the respective sanitary districts is known, as all deaths occurring in institutions of persons who had previously resided in another district have been excluded from the total number of deaths in the district in which the institution is situated, and credited to the districts from which the patients came. By this means alone can trustworthy data be secured upon which to calculate reliable rates of mortality.

The births registered in London during the third quarter of the current year were equal to an annual rate of 29.7 per 1,000 of the population of the metropolis, estimated at 4,282,921 persons, which showed a further decline from the rates recorded in the corresponding periods of recent years. The birth-rates in the various sanitary districts last quarter showed the usual wide variations the sex and age distribution of the population differing greatly In St. George Hanover Square, Kensington, London City, St. James Westminster, Strand, and Hampstead the birth-rates were considerably below the average; while in the districts comprising East London, in Fulham, St. Luke's, St. Olave Southwark, and Woolwich, where the population contains a large proportion of young married persons, the birth-rates showed a marked excess.

The 16,979 deaths of persons belonging to London, registered during the three months ending September last, were equal to an annual rate of 15.9 per 1,000, which was as much as 3.6 below the mean rate in the third quarter of the ten preceding years, 1878–87, and was considerably below that in the corresponding period of any preceding year on record. The lowest death-rates among the forty-one sanitary districts last quarter were 11.5 in Hampstead, 12.5 in Plumstead, 12.6 in Kensington, 13.0 in Islington and in Camberwell, and 13.3 in Hackney; in the other sub-districts the rates ranged upwards to 23.5 in Whitechapel, 24.9 in St. Saviour Southwark, 25.7 in Stepney, and 28.7 in St. George-in-the-East. During the quarter under notice 2,856 deaths resulted from the principal zymotic diseases in London; of these, 1,437 were referred to diarrhœa, 428 to measles, 348 to whooping-cough, 271 to diphtheria, 238 to scarlet fever, 132 to different forms of "fever" (including 2 to typhus, 121 to enteric fever, and 9 to simple and ill-defined forms of fever), and 2 to small-pox. These 2,856 deaths were equal to an annual rate of 2.7 per 1,000, which was below that in the corresponding quarter of any year on record. The

Analysis of the Vital and Mortal Statistics of the Sanitary Districts of the Metropolis, after Complete Distribution of Deaths occurring in Public Institutions, during the Third Quarter of 1888.

Sanitary Areas.	Estimated Population middle of 1888.	Births.	Deaths.	Annual Rate per 1,000 Living.			Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-cough.	Typhus.	Enteric Fever.	Simple and Undefined Fever.	Diarrhœa.	Deaths of Children under one year of age to 1,000 births.
				Births.	Deaths.	Principal Zymotic Diseases.											
LONDON	4,282,921	31,698	16,979	29.7	15.9	2.7	2,856	2	428	238	271	348	2	121	9	1,437	169
West Districts																	
Paddington	112,781	691	440	24.6	15.7	2.7	75	—	23	1	13	13	—	3	—	22	155
Kensington	193,247	897	609	18.6	12.6	1.8	89	—	9	4	30	8	—	3	—	35	157
Hammersmith	98,823	736	398	29.9	16.2	3.3	81	—	18	1	5	4	—	2	—	51	192
Fulham	62,556	708	328	45.4	21.0	5.3	82	—	10	1	4	7	—	1	—	59	208
Chelsea	102,106	676	367	26.6	14.4	2.4	60	—	7	4	1	6	—	1	—	41	180
St. George, Hanover Square	88,024	377	296	17.2	13.5	1.1	25	—	1	2	7	1	—	—	—	14	143
Westminster	55,406	381	224	27.6	16.2	1.7	24	—	2	3	1	2	—	1	—	15	186
St. James, Westminster	27,528	141	105	20.6	15.3	1.7	12	—	—	3	1	1	—	—	—	7	191
North Districts																	
Marylebone	150,053	1,059	591	28.3	15.8	2.2	84	—	26	4	6	10	—	7	—	31	120
Hampstead	56,565	349	162	24.8	11.5	2.1	30	—	15	—	1	7	—	—	—	7	129
St. Pancras	244,703	1,830	1,015	30.0	16.7	3.2	196	1	41	13	26	38	—	12	—	65	184
Islington	332,163	2,355	1,072	28.5	13.0	2.3	190	—	17	16	11	18	—	10	2	116	152
Hackney	238,374	1,600	788	26.9	13.3	1.9	115	—	17	13	15	13	—	7	—	50	138
Central Districts																	
St. Giles	40,001	298	182	29.9	18.3	1.4	14	—	4		2	3	—	—	—	5	171
St. Martin-in-the-Fields	15,125	90	73	23.9	19.4	3.2	12	—	3	2	—	1	1	1	—	4	200
Strand	29,309	163	108	22.3	14.8	2.2	16	—	1	4	—	6	—	—	—	5	166
Holborn	30,489	217	168	28.6	22.1	2.9	22	—	3	2	—	4	—	—	—	13	226
Clerkenwell	70,308	549	374	31.3	21.4	5.7	100	—	23	2	9	8	—	3	—	55	260
St. Luke's	52,000	474	265	36.6	20.5	4.5	58	—	3	6	1	2	—	1	1	44	171
London City	38,528	188	191	19.6	19.9	1.3	12	—	1	—	3	—	—	2	1	5	176
East Districts																	
Shoreditch	125,396	1,071	613	34.3	19.6	4.2	130	—	19	8	18	15	—	6	—	74	207
Bethnal Green	131,347	1,137	580	34.8	17.7	3.5	114	—	11	36	10	10	—	3	—	44	155
Whitechapel	67,389	661	395	39.4	23.5	3.5	58	—	6	4	5	1	—	2	—	40	201
St. George-in-the-East	46,229	434	331	37.7	28.7	6.9	80	—	25	1	3	5	—	1	1	44	283
Stepney	58,802	485	377	33.1	25.7	5.4	79	—	27	4	6	8	—	3	—	31	270
Mile End Old Town	114,444	955	458	33.5	16.1	2.7	77	—	12	15	9	8	—	3	—	32	162
Poplar	186,200	1,451	779	31.3	16.8	3.3	155	—	45	23	7	12	—	15	—	53	166
South Districts																	
St. Saviour, Southwark	27,230	232	169	34.2	24.9	4.4	30	—	1	2	4	5	—	1	—	17	267
St. George, Southwark	59,864	475	309	31.9	20.7	3.9	58	—	1	3	7	15	—	2	—	30	223
Newington	121,123	987	458	32.7	15.2	1.7	52	—	3	6	2	7	—	1	—	33	171
St. Olave, Southwark	10,053	91	53	36.4	21.2	1.2	3	—			1		—		—	2	165
Bermondsey	89,802	724	395	32.4	17.7	2.5	55	—	4	3	4	5	—	3	—	26	193
Rotherhithe	43,072	345	211	32.2	19.7	3.7	40	—	7	2	—	4	—	1	—	25	217
Lambeth	284,809	2,219	1,083	31.3	15.3	2.2	156	—	3	17	22	26	1	8	1	79	150
Battersea	160,377	1,242	506	31.1	14.7	2.2	89	—	8	8	8	9	—	2	1	53	158
Wandsworth	128,448	1,038	480	33.4	15.0	2.7	85	—	17	4	11	12	—	2	—	41	151
Camberwell	256,404	1,745	832	27.3	13.0	2.1	134	—	10	5	12	25	—	4	2	76	161
Greenwich	156,169	1,245	582	32.0	15.0	2.4	92	—	2	8	4	19	—	4	—	55	146
Lewisham	59,837	383	207	25.7	13.9	1.8	27	—	—	6	7	1	—	2	—	11	136
Woolwich	37,093	326	154	35.3	16.7	1.2	11	—	3	—	—	3	—	1	—	4	117
Plumstead	80,739	673	251	33.5	13.5	1.5	81	—	—	2	9	6	—	1	—	13	98

lowest zymotic death-rates during the three months ending September last in these forty-one sanitary districts were 1.1 in St. George Hanover Square, 1.2 in St. Olave Southwark and in Woolwich, 1.3 in London City, and 1.4 in St. Giles; the zymotic rates ranged upwards in the other districts to 4.5 in St. Luke's, 5.3 in Fulham, 5.4 in Stepney, 5.7 in Clerkenwell, and 6.9 in St. George-in-the-East. Compared with the preceding quarter, the fatality of whooping-cough and of "fever" declined, while that of each of the other zymotic diseases showed an increase. Only two deaths from small-pox were recorded in London during the quarter under notice; of these one belonged to St. Pancras and one to Wandsworth. Only 8 small-pox patients were under treatment in the Metropolitan Asylums Hospitals during the quarter; the admissions into these hospitals, which had been 38 and 23 in the first two quarters of the current year, further declined to 6 during the three months ending September last. Measles showed the highest proportional fatality in Hampstead, Poplar, Clerkenwell, Stepney, and St. George-in-the-East; diphtheria in Clerkenwell and Kensington; whooping-cough in Stepney, St. Pancras, St. Saviour Southwark, Strand, and St. George Southwark; diarrhœa in Shoreditch, Whitechapel, St. Saviour Southwark, Clerkenwell, St. Luke's, and St. George-in-the-East; and scarlet fever in Bethnal Green. The number of scarlet fever patients in the Metropolitan Asylums Hospitals, which had been 844 at the beginning of July, declined to 717 at the end of August, but increased again to 880 by the end of the quarter. The admissions to these hospitals of persons suffering from scarlet fever, which had been 1,416 and 1,025 in the two preceding quarters, rose again to 1,095 during the three months ending September last.

Infant mortality last quarter in London, measured by the proportion of deaths under one year of age to births registered, was equal to 169 per 1,000, against 220 and 230 in the corresponding periods of 1886 and 1887. Among the various sanitary districts the rates of infant mortality were lowest in Plumstead, Woolwich, Marylebone, Hampstead, and Lewisham; whereas they showed the largest excess in Holborn, Clerkenwell, St. Saviour Southwark, Stepney, and St. George-in-the-East.

POOR-LAW DISPENSARIES.

We are pleased to hear that the medical officers of the Brentford Union are petitioning their guardians for the establishment of dispensaries in their several districts. The population having so much increased of late years renders the change desired absolutely necessary. In London and most of the large provincial towns where the poor-law dispensaries are general, great satisfaction has been given, both to the patients and medical officers, and it has been a surprise to us, notwithstanding the efforts of the Poor-Law Medical Officers' Association in that direction, that there has been a lull of late in the extension of so admirable a system.

Yellow Fever at Palma.—The Spanish Government had, in accordance with their sanitary rules and regulations, included all the Canary Islands under the category of "foul;" but they have now withdrawn the decree, and the island of Palma will alone be considered foul, vessels arriving in Spain from the other islands being admitted to free pratique. The bills of health from the other islands will consequently be clean, and free of any note respecting the epidemic at Palma, and the foreign consuls' *visés* thereon will tally with the Spanish certificates of health.

Health of English Towns.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 5,693 births and 3,278 deaths were registered during the week ending Saturday, November 24th. The annual rate of mortality, which had been 19.0 and 19.7 per 1,000 in the two preceding weeks, declined again to 18.2 during the week under notice. The rates in the several towns ranged from 9.8 in Derby, 12.4 in Hull, 13.2 in Leicester, and 13.7 in Birmingham to 24.7 in Halifax, 25.2 in Manchester, 26.4 in Cardiff, and 28.9 in Blackburn. In the twenty-seven provincial towns the mean death-rate was 19.1 per 1,000, and exceeded by 1.9 the rate recorded in London, which was only 17.2 per 1,000. The 3,278 deaths registered during the week under notice in the twenty-eight towns included 239 which were referred to measles, 62 to scarlet fever, 57 to diphtheria, 51 to whooping-cough, 49 to diarrhœa, 42 to "fever" (principally enteric), and 1 to small-pox; in all, 501 deaths resulted from these principal zymotic diseases, against 432 and 495 in the two preceding weeks. These 501 deaths were equal to an annual rate of 2.8 per 1,000; in London the zymotic death-rate was 3.0, while it averaged 2.6 per 1,000 in the twenty-seven provincial towns, and ranged from 0.5 in Hull, 0.6 in Norwich, and 0.7 in Plymouth, in Halifax, and in Bradford to 5.1 in Salford, 6.2 in Cardiff, and 8.8 in Blackburn. Measles caused the highest proportional fatality in Huddersfield, Leeds, Liverpool, Oldham, Cardiff, and Blackburn; scarlet fever in Sheffield, Derby, and Blackburn; whooping-cough in Newcastle-upon-Tyne and Cardiff; and "fever" in Birkenhead. Of the 57 deaths from diphtheria recorded during the week under notice in the twenty-eight towns, 41 occurred in London, 6 in Manchester, 3 in Salford, and 2 in Newcastle-upon-Tyne. Small-pox caused 1 death in Cardiff, but not one in London or in any of the other great towns. No small-pox patient was under treatment in the Metropolitan Asylums Hospitals on Saturday, November 24th; these hospitals contained, however, 882 scarlet fever patients on the same date, against 901 and 907 in the two preceding weeks; 54 cases were admitted during the week, against 75 and 73 in the two previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 3.5 per 1,000, and was considerably below the average.

Health of Scotch Towns.—In the eight principal Scotch towns, 789 births and 449 deaths were registered during the week ending Saturday, November 24th. The annual rate of mortality in these towns, which had been 19.1 per 1,000 in each of the two preceding weeks, declined to 17.8 during the week under notice, and was 0.4 per 1,000 below the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Edinburgh and Aberdeen, and the highest in Perth and Paisley. The 449 deaths in these Scotch towns during the week included 53 which were referred to the principal zymotic diseases, equal to an annual rate of 2.1 per 1,000, which was 0.7 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Glasgow and Paisley. The 175 deaths registered in Glasgow included 6 which were referred to diphtheria, 6 to whooping-cough, 4 to scarlet fever, 4 to diarrhœa, 2 to measles, and 1 to "fever." Thirteen fatal cases of measles were recorded in Paisley, against 20 and 18 in the two preceding weeks. The death-rate from diseases of the respiratory organs in these Scotch towns was equal to 4·0 per 1,000, against 3.5 in London.

Health of Irish Towns.—During the week ending Saturday, November 24th, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 22.5 per 1,000. The lowest rates were recorded in Lurgan and Drogheda, and the highest in Dundalk and Sligo. The death-rate from the principal zymotic diseases in these towns averaged 2.5 per 1,000. The 175 deaths registered in Dublin during the week under notice were equal to an annual rate of 25.9 per 1,000, against 27.5 and 23.5 in the two preceding weeks. These 175 deaths included 12 from the principal zymotic diseases (equal to an annual rate of 1.8 per 1,000), of which 5 were referred to "fever" (principally enteric), 3 to whooping-cough, 2 to measles, 1 to scarlet fever, 1 to diarrhœa, and not one either to small-pox or diphtheria.

MEDICAL OFFICERS OF HEALTH AND THE COUNTY GOVERNMENT BILL.

Inquirens writes: I have been medical officer of health to this urban sanitary authority since 1873. The present population is 3,000 and the salary £30. I have been re-elected from time to time with the approval of the Local Government Board. I am M.R.C.S., L.S.A., but have no diploma in sanitary science. Can I still hold this appointment under the new Local Government Act, and will it be necessary to obtain the diploma in State medicine, or shall I have to resign without it?

*** "Inquirens" can be re-elected to this appointment without the possession of a diploma in public health.

P. H. W. writes: I am M.R.C.S., L.S.A., and qualified in 1867; I have not the L.M. Are these two qualifications sufficient for my obtaining the appointment of medical officer of health under the new Local Government Act, without getting any other qualification? I have never held any health appointment.

*** The two qualifications mentioned in this letter are sufficient, but for election after January 1st, 1892, to any district or combination of districts having a population at the last census of 50,000 or more inhabitants, evidence must be produced of having held a health officership for at least three consecutive years in respect of a population of 20,000 or more inhabitants, or must hold a diploma in public health.

A MEMBER asks whether it will be necessary for a medical officer of health of a town of, say, 16,000 inhabitants, to obtain a diploma in sanitary science before being re-elected, under the new Local Government Act. As he understands the Act, the necessity of possessing such a diploma (or of having been medical officer of health of a town of more than 20,000 inhabitants for a period of three or more years) applies only to officers of sanitary districts of 50,000 or more inhabitants.

*** Our correspondent is correct in assuming that the possession of a diploma in public health will not be required in respect of a town of 16,000 inhabitants; but if it should be combined with other districts making a total population of 50,000 or more, the diploma would be necessary.

MEDICAL OFFICER OF HEALTH writes: When does the new Local Government Bill come into force, and do I read the clauses aright when I state that I am eligible for re-election under that Act, I having been medical officer of health to a district, with a population above 20,000, for more than three years (seven years in fact), and possessing the full qualifications of M.R.C.S., L.R.C.P., L.S.A.Lond., but not a sanitary certificate? It would be a graceful act if the College presented medical officers in my position with a sanitary certificate without examination.

*** The Act is already in force, but the particular section relating to requirement of diploma in public health does not come into force until January 1st, 1892. Under the circumstances mentioned our correspondent is exempt from its provisions.

SANITAS.—There is no prospect of the Bill dealing with District Councils being introduced this session. There does not appear any probability that existing sanitary powers will be greatly altered, but where any district is situated in more than one county, its boundaries will necessarily be altered.

REMOVAL TO HOSPITAL OF SCARLET FEVER CASES.

DR. M. GREENWOOD, JUN., D.P.H.Lond. (London) writes: Dr. Tidy, in his report on the sanitary condition of the parish of St. Mary, Islington, alluding to a recent scarlet fever epidemic, says: "I must say that I strongly deprecate the forced removal of very young children to hospital when suffering from such a disease as scarlet fever, nor do I think this course either wise or expedient, for if we live long enough we shall all sooner or later, with few exceptions, be sure to have it, and perhaps at an age when it will be less convenient and more dangerous to suffer from it, and it may therefore be safely asserted that the rigid practice of isolation and of removal to hospital may be carried too far."

The doctrine here laid down seems to me of a very strange character, and, from a sanitary point of view, distinctly retrograde. While recognising the long experience and great reputation of Dr. Tidy as a sanitarian, I would ask, has any other sanitary authority ever formulated such propositions as these? Could there be any doubt of the expediency, from a public point of view, of the removal as a general rule of all young children suffering from scarlet fever from such homes as the majority of the infected probably inhabit in a parish like Islington, and of their isolation in special hospitals? By what authority does Dr. Tidy state that "if we live long enough, with few exceptions we shall be sure to have it?" Why, also, will it be more "dangerous" to have the disease at a later period, when statistics clearly show that the mortality from scarlatina is greater during childhood than in adult life?

MEDICAL NEWS.

UNIVERSITY OF GLASGOW.

THE November graduation ceremony at Glasgow University took place on the afternoon of November 22nd, before a large attendance of students and of the general public. Among other candidates for graduation in the various faculties the following gentlemen were presented in the Faculty of Medicine by Dr. Leishman:—

Doctors of Medicine (M.D.).—J. W. Grange, M.B., C.M., England (thesis: Notes of Cases occurring in a Country Practice); H. St. Clair Gray, M.B., C.M., Scotland (thesis: The Mechanism of the Third Stage of Labour); J. F. Orr, M.B., C.M., Scotland (thesis: Remarks on some of the more important Aspects of Clinical of the Rotunda Hospital, Dublin).

Bachelors in Medicine and Masters in Surgery (M.B., C.M.).—F. L. Duncan, Scotland; J. E. Duncan, Scotland; R. B. Lothian, Scotland; J. M. McCall, Scotland; J. P. Maclaren, Scotland; J. P. Tannock, Scotland.

Diploma in Public Health.—W. Gemmell, M.B., C.M., Scotland.

MEDICAL VACANCIES.

The following Vacancies are announced:

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Acting Surgeon. Applications by December 4th to the Medical Board, Children's Hospital, Steelhouse Lane, Birmingham.

BIRMINGHAM BOROUGH ASYLUM.—Resident Clinical Assistant. No salary. Applications to the Superintendent.

BRADFORD FEVER HOSPITAL.—Resident Medical Superintendent. Salary, £150 per annum, with board and residence. Applications by December 3rd to the Chairman of the Sanitary Committee, Town Clerk's Office, Bradford.

ESSEX LUNATIC ASYLUM, Brentwood.—*Locum Tenens* Assistant Medical Officer. Salary, £10 per month, with board, etc. Applications to the Medical Superintendent.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Senior Assistant Medical Officer. Salary, £250 per annum, with board, lodging, and washing. Applications by December 1st, to Dr. Rees Philipps, St. Ann's Heath, Egham.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Junior Assistant Medical Officer. Salary, £120 per annum, with board, lodging, and washing. Applications by December 1st, to Dr. Rees Philipps, St. Ann's Heath, Egham.

HOSPITAL FOR EPILEPSY AND PARALYSIS, etc., 32, Portland Terrace, Regent's Park, N.W.—Physician to Out-patients. Applications by December 3rd to the Secretary.

LISNASKEA UNION, DERRYLIN DISPENSARY.—Medical Officer. Salary, £115 per annum, with fees. Applications to B. Major, J.P., Honorary Secretary, Mount Prospect, three days before the day of election, namely December 4th.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Registrar and Chloroformist. Salary, £50 per annum. Applications by December 15th to the Secretary.

LONDON THROAT HOSPITAL, Great Portland Street, W.—House-Surgeon. Applications by December 10th to the Secretary.

LUTON FRIENDLY SOCIETIES' MEDICAL INSTITUTE.—Medical Officer Salary, £200 per annum, with residence. Applications to the Secretary Mr. T. Keen, 12, Grove Road, Luton, Beds.

NEWCASTLE UNION, BROADFORD DISPENSARY.—Medical Officer. Salary, £115 per annum, and fees. Applications to Mr. John Dove, Honorary Secretary, Ballykenny, Newcastle West. Election on December 7th.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road.—Junior House-Surgeon. Salary, £30 for six months. Applications by December 11th to A. Nixon, Esq., 27, Clement's Lane, E.C.

NOTTINGHAM GENERAL HOSPITAL.—Resident Medical Assistant. Board lodging, and washing. Applications to the Secretary.

NOTTINGHAM GENERAL HOSPITAL.—Resident Surgical Assistant. Board, lodging, and washing. Applications to the Secretary.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House-Surgeon. Board, and lodging. Applications by December 15th to the Chairman of the Managing Committee.

ROYAL HANTS COUNTY HOSPITAL, Winchester.—House-Surgeon. Salary, £100 per annum, with board and lodging. Applications by December 1st to the Secretary.

ST. GEORGE HANOVER SQUARE PROVIDENT DISPENSARY, Little Grosvenor Street, W.—Surgeon Dentist. Applications by December 8th to the Secretary, 73, Park Street, Grosvenor Square, W.

STAFFORDSHIRE GENERAL INFIRMARY.—Assistant to the House-Surgeon. Board and lodging. Applications by December 6th to the House-Surgeon.

SUNDERLAND INFIRMARY.—House-Physician. Salary, £80 per annum, rising £10 annually to £100, with board and residence. Applications by December 13th to the Chairman of the Medical Board.

UNIVERSITY OF EDINBURGH.—Examiner in Medical Jurisprudence. Salary, £75 per annum, with £10 expenses. Applications by January 14th, 1889, to J. Christison, Esq., Secretary.

WESTMINSTER HOSPITAL.—Curator of Museum. Salary, £40 per annum. Applications by December 8th to the Secretary.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Assistant. Board, lodging, and washing. Applications by December 10th to the Chairman of the Medical Committee.

MEDICAL APPOINTMENTS.

ABBOTT, F. C., L.R.C.P., M.R.C.S., appointed Assistant House-Surgeon to St Thomas's Hospital.

ARCHER, Ernest G., M.R.C.S.Eng., L.S.A.Lond., appointed Medical Officer and Public Vaccinator to the Feltwell District of the Thetford Union, *vice* George Archer, L.S.A.Lond., resigned.

BEEVOR, Sir H. R., M.B., M.R.C.S., appointed Assistant Physician to the City of London Hospital for Diseases of the Chest, *vice* E. Clifford Beale, M.B., M.R.C.P., promoted.

BRISTOWE, H. C., L.R.C.P., M.R.C.S., appointed Resident House-Physician to St. Thomas's Hospital.

BROOK, W. F., M.R.C.S., L.S.A., reappointed House-Surgeon to St. Thomas's Hospital.

BROOKS, J. H., M.B., C.M.Aberd., appointed Assistant Medical Officer to the Mile End Infirmary School and Workhouse, *vice* J. N. Constable L.R.C.P.&S.Edin., resigned.

BOYCOTT, A. N., L.R.C.P., M.R.C.S., appointed Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital.

CALVERT, J. T., M.B.Lond., L.R.C.P., M.R.C.S., reappointed House-Surgeon to St. Thomas's Hospital.

COOKE, C. W., L.R.C.P., M.R.C.S., reappointed Resident House-Physician to St. Thomas's Hospital.

COPELAND, W. H. L., L.R.C.P., M.R.C.S., appointed Clinical Assistant in the Special Department for Diseases of the Ear at St. Thomas's Hospital.

CRISP, E. H., L.R.C.P., M.R.C.S., appointed Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital.

DUNCAN, H., M.B.Lond., L.R.C.P., M.R.C.S., appointed Assistant House-Surgeon to St. Thomas's Hospital.

ECCLES, C. H., L.R.C.P., M.R.C.S., reappointed non-resident House-Physician to St. Thomas's Hospital.

FAWSSETT, F., L.R.C.P., M.R.C.S., reappointed House-Surgeon to St. Thomas's Hospital.

GLENN, John H. R., M.B., B.Ch., appointed Junior House-Surgeon to the London Temperance Hospital, Hampstead Road, N.W., *vice* W. Boake, L.R.C.S.I., resigned.

GUNN, R. Marcus, appointed Surgeon to the Royal London Ophthalmic Hospital.

HULBERT, H. H.., L.S.A., appointed Clinical Assistant in the Special Department for Diseases of the Ear at St. Thomas's Hospital.

JAMES, C. H., L.R.C.P., M.R.C.S., appointed Clinical Assistant in the Special Department for Diseases of the Throat at St. Thomas's Hospital.

LAWS, W. G., M.B. C.M.Edin., appointed Clinical Assistant in the Special Department for Diseases of the Eye at St. Thomas's Hospital.

LUARD, H. B., M.B., B.C.Cantab., L.R.C.P., M.R.C.S., appointed Resident Accoucheur to St. Thomas's Hospital.

ORD, W. W., M.A., M.B., B.Ch., M.R.C.S., reappointed House-Surgeon to St. Thomas's Hospital.

ROE, Leyland F., M.R.C.S., L.R.C.P., appointed Honorary Surgeon to the Eccles and Patricroft Hospital, *vice* Edwin H. Roe, resigned.

SEDDON, H. B., L.R.C.P., M.R.C.S., reappointed Assistant House-Physician to St. Thomas's Hospital.

SPENCER, M. H., M.A., M.B., B.C.Cantab., L.R.C.P., M.R.C.S., reappointed Clinical Assistant in the Special Department for Diseases of the Eye at St. Thomas's Hospital.

WHEATLEY, James, M.B., B.S.Lond., appointed Senior House-Surgeon to the Blackburn and East Lancashire Infirmary, *vice* G. T. Gifford, M.R.C.S., resigned.

ST. JOHN AMBULANCE ASSOCIATION.—The annual report of the St. John Ambulance Association records the continued extension of the work in many directions, and among all classes of the community. The leading features are the acceptance of the office of President by His Royal Highness the Prince of Wales, and the more intimate connection between the Association and the Order of St John, formed by its constitution as the "Ambulance Department" of the Order, in accordance with the terms of the Royal Charter granted to the latter in May last. The formation of new centres at home and abroad is recorded, and for the first time numerous local reports are printed in full and in an appendix; 596 "detached classes" have been held during the year, and 22,181 certificates have been awarded, as against 17,718 of the previous session, with a total of nearly 150,000 certificated pupils. Classes for police, railway *employes*, firemen, and working people generally have largely increased, especially in the colllery and mining districts, where a great impetus has been given to the sale of ambulance material by the Mines Regulation Act, which came into force in January last, compelling owners to provide stretchers and other appliances, a compulsory enactment which it is considered might well be extended to the railway companies. The "Invalid Transport Corps" continues its useful work, both at its ambulance stations at the recent London and other exhibitions, and by the removal of invalids any distance either in the United Kingdom or on the Continent.

JOHN ABERNETHY.—In the *Life of Sir Robert Christison, Bart.*, is the following sketch of Abernethy, noted down when Christison was a student at St. Bartholomew's Hospital: "Abernethy, a very little man, but in figure and countenance uncommonly handsome, had not strength enough to become a great operator. The diagnosis and constitutional treatment of surgical diseases were his favourite field of practice, and in these branches of consulting practice he was at this time *facile princeps* among London surgeons. He was an early cultivator of what is now aptly called 'conservative surgery.' But I do not remember that term as in use at the period in question; and the surgical tendency was to fly too precipitately to the knife and saw. That never was Abernethy's fault. He was a good operator when driven to operate, but he disliked it. Cullen, who was his anatomical assistant, told me he had seen him in his retiring room, after a severe operation, with the big tears in his eyes, lamenting the possible failure of what he had just been compelled to do by dire necessity and surgical rule. His *ratio medendi* was very simple. In all surgical diseases the digestive organs are apt to get out of order—the stomach, and the bowels, and the liver, but the liver at the root of all. Without sound digestion, there cannot be healthy nutrition or, without that, vigorous surgical reparation. Therefore, the liver must be stimulated by alterative doses of calomel and blue-pill, the stomach by some bitter infusion, and the bowels by a gentle saline aperient. This treatment, combined with a rigorous dietary, was found to suit excellently many London dyspeptics who had no surgical complaints; and, consequently, Abernethy's consulting-room soon became that of a physician much more than of a surgeon."

THE Home Secretary has appointed Tuesday, December 11th, at 1 o'clock, to receive a deputation from the Church of England Burial and Funeral Reform Association, which will be introduced by the Duke of Westminster, to ask for an inquiry by Royal Commission into the condition of cemeteries and modes of burial, with a view to further legislation. The memorial is signed by three archbishops, twenty bishops, the Duke of Westminster, Lord Clarendon, Sir Spencer Wells, Mr. Seymour Haden, Mr. Ernest Hart, Dr. Hill (Medical Officer of Health, Birmingham), Dr. Wm. Carter (Liverpool), Mr. C. S. Loch, the Mayor of York, the Head Master of Eton, and a great many other representative persons. It is understood that Lord Randolph Churchill will, if possible, accompany the deputation.

THE SANITARY INSTITUTE.—The first ordinary general meeting was held on November 22nd; Sir Douglas Galton, K.C.B., F.R.S., in the chair. The Council reported the successful commencement of the Institute; nearly 500 members and associates had been enrolled, and the Institute had before it a large field of useful work. The Duke of Northumberland was elected President of the Institute, and Inspector-General R. Lawson, LL.D., was appointed Treasurer. Her Royal Highness the Duchess of Albany has graciously consented to become Patroness.

THE RED CROSS SOCIETY OF FRANCE.—This Society, which rendered invaluable services during the Franco-German war, dispenses large sums every year for the relief of old and disabled soldiers and their widows and orphans. Last year it distributed to 1,760 soldiers who had been wounded in war, and 327 dependent relatives, a sum of 47,506 francs, as well as numerous artificial limbs and surgical appliances. The perfection of different types of ambulance wagons is a subject to which the Society is giving much attention.

DIARY FOR NEXT WEEK.

MONDAY.

BROWN INSTITUTION (University of London), 5 P.M.—Mr. Victor Horsley, F.R.S. Professor-Superintendent: On Epilepsy. Lecture III.

MEDICAL SOCIETY OF LONDON, 8.30 P.M.—Mr. Knowley Thornton: On some additional Cases illustrating Hepatic Surgery. Dr. Savage: On Puerperal Insanity of Septic Origin.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN, 8 P.M.—Paper:—Dr. Mitchell: On Some Suggestions on Metal Cap Crowns. Casuals:—Mr. Bland Sutton, F.R.C.S.; Dr. St. George Elliott: On Copper Amalgams. Exhibition of a series of accumulators and other electrical apparatus.

TUESDAY.

PATHOLOGICAL SOCIETY OF LONDON, 8.30 P.M.—A debate on the Pathology of Chronic Alcoholism will be opened by Dr. Payne; Drs. G. Harley, Beale, Savage, and others will take part in the discussion; specimens illustrative of the subject will be shown. Dr. Stephen Mackenzie will show an unusual case of Localised Symmetrical Œdema (living specimen).

WEDNESDAY.

BROWN INSTITUTION (University of London), 5 P.M.—Mr. Victor Horsley, F.R.S., Professor-Superintendent: On Epilepsy. Lecture IV.

OBSTETRICAL SOCIETY OF LONDON, 8 P.M.—Specimens will be shown. Dr. Herman: On the Effects of Glycerine on the Quantity of Secretion poured into the Vagina. Mr. C. B. Lockwood: Obliteration of the Central Canal of the Spinal Cord in the Early Human Embryo. Dr. Herman: Sequel to a Case of Bright's Disease during Pregnancy.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, 8.30 P.M.—Dr. W. B. Cheadle: The Harvelan Lectures on The Various Manifestations of the Rheumatic State as Exemplified in Childhood and Early Life. Lecture II.

ROYAL COLLEGE OF SURGEONS, 4 P.M.—Mr. Jonathan Hutchinson: The Bradshaw Lecture: On Museums in their Relation to Medical Education and the Progress of Knowledge.

SANITARY INSTITUTE (Parkes Museum, 74A, Margaret Street, Regent Street, W.), 5 P.M.—Sir Douglas Galton, K.C.B., D.C.L., LL.D., F.R.S.: On the Future of the Amalgamated Societies, the Parkes Museum and Sanitary Institute of Great Britain.

FRIDAY.

BROWN INSTITUTION (University of London), 5 P.M.—Mr. Victor Horsley, F.R.S., Professor-Superintendent: On Epilepsy. Lecture V.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 2s. 6d., which should be forwarded in stamps with the announcement.

BIRTH.

MACDONALD.—On November 22nd, at Kirkoswald, Cumberland, the wife of Alex. Macdonald, L.R.C.P., L.R.C.S.Edin., of a son.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents on the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us *with Duplicate Copies.*

QUERIES.

TREATMENT OF BEDSORES.

M.B. asks for suggestions for the treatment of bedsores in a man bedridden for ten years. The bedsores are large and raw; all ordinary applications only give temporary and little relief.

CREOLIN.

M.F. writes: Can any of your readers speak from personal experience of the value of creolin in tympanites? I see it so highly spoken of in the JOURNAL of July 21st, 1888, by Dr. Hiller, of Breslau. In two cases of tympanites following pelvic cellulitis after confinement the acute symptoms have subsided, and now the only apparent trouble is the tympanites. Turpentine and hot water enemata have been tried without success. In what form and dose should it be given?

ANSWERS.

INQUIRENS.—"Guernsey" is probably misinformed.

MEMBER.—"R.M." can be proceeded against under the Apothecaries' Act, 1865 and you had better communicate with the Clerk to the Society of Apothecaries on the subject.

A. BASU (Mamari, India): Mr. Thistleton, 1, Old Quebec Street, London, W., supplies useful combined batteries for general medical purposes.

C. HENDERSON.—Information about the examination for the Brussels M.D. degree may be obtained from Dr. W. C. Steele, 1, Florence Terrace, Ealing, W.

MRS. THOMPSON (Surbiton Hill).—It is a matter in which a local practitioner might best advise.

UVULA should write to the Secretary of the Medical Society of London or to one of the other Societies.

INQUIRER would be glad to know what are the best works to read on surgery, surgical pathology, and operations for the final F.R.C.S.Eng.

*** For surgery, the well-known textbooks of Bryant, Holmes, Erichsen, or Druitt; for surgical pathology, the manuals on the subject by Bowlby or Pepper: Mr. Heath's *Course of Operative Surgery* is expensive but instructive.

APPOINTMENTS AT ASYLUMS.

M.D. asks what steps should be taken by a recently-passed Licentiate in Medicine and Surgery (Apothecaries' Hall) with a view to obtaining a junior medical appointment in either a public asylum or private establishment for the care and treatment of the "insane."

*** The steps to be taken are to note the advertisements in the medical papers, and to comply with the terms of application and qualification required by the Boards of the institutions referred to. A candidate for such an office will find his chances of success increased by obtaining the certificate of efficiency in psychological medicine granted by the Medico-Psychological Association. The next examination falls on December 20th, and full particulars will be found in our advertising columns, or application can be made to Dr. Savage, 3, Henrietta Street, W.

CHILBLAINS.

DR. M. K. HARGREAVES (London) writes: In answer to "S. H. P.," I would suggest he should try the following: methylated chloroform, ʒij; cocaine hydrochlorate, gr.viij; compound camphor liniment, ʒiij; liniment of soap, ʒv; mix, and use night and morning. Last winter I tried the internal use of "kerpod perles," by Christie and Co., of Lime Street, and found them to be of great use.

R. J. C. writes: Whilst I think no plan of treatment of chilblains will be universally successful, seeing that the conditions on which they depend are multiple, the following hints, obtained from personal experience, may be worth communicating to your correspondent "S. H. P."

As dampness of feet in cold weather is an exciting cause, one very important point is to be extravagant in hose. The socks or stockings should be made of some woollen material, and I think it better not to have them very thick. They must always be thoroughly dry when put on, and they should be changed as soon as they become damp, either from perspiration or from moisture coming through the boots. For this reason the socks should be changed immediately after taking exercise, and the same boots should not be put on again unless they are quite dry. The same pair of socks should not be worn for two consecutive days, but each pair should be washed, or at least thoroughly dried, before being worn a second time. On no account are the socks to be allowed to dry on the feet, and the practice of putting the feet before the fire is to be condemned.

I find that chilblains are most prevalent when the weather is both cold and damp. It is in just such weather that many people eat more food and take less exercise than usual, thereby inducing indigestion, congestion of the portal system, constipation, etc., which in their turn lead to the development of chilblains. It is important, therefore, to insist upon regular exercise and a moderate diet, and to sedulously prevent constipation.

For the immediate relief of itching nothing is better than soaking in hot water. Iodine is the best external application. It should be applied—either as ointment or tincture of twice the ordinary strength—once or twice a day as long as the skin remains swollen and red.

W. S. writes: In reply to "S. H. P.," in the JOURNAL of November 24th, respecting a remedy for the cure of chilblains. If he will have them painted with equal parts of compound tincture of iodine and collodion, three or four times, I think his lady patient will derive considerable benefit, as I have never known it fail to cure since I first tried it now some ten years since.

DR. E. HEAD MOORE (Falmouth) writes: In reply to "S.H.P.," I beg to say that to some winters past I have used only "anodyne colloid" for this troublesome complaint, and invariably with success. It is, I believe, prepared by various chemists, that which I use being made by Gale and Co. It should be applied freely on the first sign of swelling or irritation.

HÆMORRHAGE AFTER A GLYCERINE CLYSTER.

M.A., M.B. writes: In answer to "Q.," I should have thought an ordinary soap and water enema would have been preferable. At the end of the second week the sloughs are nearly complete; certainly the risk of bleeding from them is increased by any measure for the relief of the bowels, and especially by glycerine, which seems to stimulate the intestinal glands some way up the bowel. In one fatal case of hæmorrhage during typhoid fever I had, I believe purgatives had been freely given during the stage of *malaise* ere the diagnosis was made. I would certainly rather run the risks (whatever they may be) of constipation in a typhoid patient, than those liable to be brought on by remedying that state.

LOSS OF HAIR.

DR. M. K. HARGREAVES (London) writes: In answer to "Caput," I would recommend him to use Squire's "linimentum crinale," which is made up as follows: cantharadin, gr. i; acetic ether, 5ss; dissolve and add rectified spirit, ʒiij; castor oil, ʒi; ol. lavandulæ, mxv. To be well rubbed into the scalp night and morning. If there is anæmia or debility, give the appropriate internal treatment.

MASSAGE.

W. STEWART, M.B.—A case such as this would undoubtedly derive benefit from a course of massage if carried on systematically. There are several works on the subject in English, French, and German. There would be no advantage in carrying out the treatment in an institution, as isolation is not needed.

SENIOR OFFICERS OF ASYLUMS.

A JUNIOR PHYSICIAN will find a list of all the county asylums, registered hospitals, and licensed houses in this year's report of the Lunacy Commissioners, and also the names of the superintendents. He will have to refer to the annual reports of the county asylums to ascertain the salaries of the medical officers and their number. It is very exceptional to allow an assistant medical officer to have a wife. We are not aware that in the appointment of an assistant medical officer the physician in chief influences the selection, "regardless of qualifications and testimonials."

BOOKS ON CHILDREN'S DISEASES.

PRACTITIONER.—Probably the best book all round on children's diseases is Barthez and Rilliet's *Maladies des Enfants*. Next to it in general merit, and far superior to it on the clinical side, on treatment especially, is *A Practical Treatise on Disease in Children*, by Eustace Smith, M.D. (London: J. and A. Churchill); this book would probably be more "useful to a practitioner who has many such diseases to treat" than any German textbook; Henoch's *Lectures*, with all their merits, cannot compare with it for practical purposes. *The Student's Guide to Diseases of Children*, by Dr. J. F. Goodhart (London, J. and A. Churchill) is an excellent handbook; a new edition has been published recently.

MASSAGE IN TORTICOLLIS.

MR. BERNARD ROTH, F.R.C.S. (London) writes: In reply to W. S., who does not mention whether his case be one of spasmodic or non-spasmodic wryneck, I beg to direct his attention to my paper, "The Treatment of Non-spasmodic Torticollis," published in the JOURNAL of June 14th, 1884. If he requires further details of the proper medical gymnastic exercises, he should look up the articles "Medical Gymnastics" and "Massage" in Heath's *Dictionary of Practical Surgery*.

THE TITLE OF DOCTOR.

L.R.C.P.—A Member or Licentiate of the College of Physicians in Edinburgh has strictly no legal right to affix "Dr." before his name. No breach of professional etiquette is, however, involved in this so long as a person does not write "M.D." after his name.

INSTITUTION FOR IMBECILES.

LEICESTER.—If the boy resides in Leicestershire, the proper institution to which to apply is Knowle, Birmingham, the idiot asylum for the midland counties. Apply to the secretary. In several counties there are branch asylums for imbeciles connected with the pauper insane asylums. The principal training school for pauper idiots is at Darenth, Kent. Apply to Dr. Fletcher Beach.

THE EXAMINATIONS OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

A SENIOR ASSISTANT MEDICAL OFFICER IN A COUNTY ASYLUM writes in a critical spirit respecting the examination of the Medico-Psychological Association, for the certificate of efficiency in psychological medicine. He writes

"Where is the necessity for this special examination any more than for one in any other of the numerous 'ologies? Of what use are these diplomas? Surely the possession of one which entitles the owner's name to a place on the *Register* is sufficient guarantee to the public of his fitness for their confidence."

*** The answer to our correspondent's criticism is obvious, namely, that the examinations which men have to pass to entitle their names to a place on the *Register* do not include a knowledge of the nature and treatment of mental disorders, with the slightest possible exception. That these diplomas may be of great value to candidates for lunacy appointments surely does not require proof. If any proof were required of the need of these examinations, we should find it in our correspondent's own letter, seeing that, although his name is on the *Register*, he is unable to spell "psychological" correctly on the three occasions in which he employs the word. The gross blunder into which he falls betrays so elementary an acquaintance with the subject on which he writes, that we fear he would fare badly at the examination at Bethlem Hospital in December.

COMMUNICATIONS, LETTERS, etc., have been received from:

The Secretary of the Sanitary Institute, London; Dr. J. M. Granville, London; Messrs. Eyre and Spottiswoode, London; N. M. Falkiner, M.B., Dublin; Dr. Jacob, Sheffield; Dr. Mackinlay, Lichfield; Dr. C. Joynt, Carrickmines; Mr. Wickham Barnes, London; Mr. A. Bell, London; Mr. A. B. Howes, London; Mr. R. Barwell, London; Mr. P. G. Lewis, Southampton; Mr. M. Smart, London; Dr. Waller, London; Dr. M. Charteris, Glasgow; Mrs. Thompson, Surbiton; Dr. J. J. De Z. Marshall, Hastings; Mr. W. F. Macdonagh, Twickenham; Mr. J. B. Henderson, Glasgow; Messrs. G. Greiner and Co., London; Dr. Willoughby, London; Dr. William Thorn, London; Dr. R. Sturgis, Boston; Messrs. Cassell and Co., London; Mr. J. H. Griffin, Dublin; Mr. J. Graham, Exeter; Messrs. J. Wright and Co., Bristol; Dr. H. A. Slocum, Philadelphia; Mr. T. A. Bates, Manningtree; Mr. W. H. Hayward, Middleton; Dr. Sykes, Mexborough; Dr. B. Bramwell, Edinburgh; Dr. C. M. Jessop, London; Mr. Lennox Browne, London; Mr. E. G. Mather, London; Dr. D. Sutherland, London; A. M. Sheild, M.B., London; Mr. A. F. Hawkins, Birmingham; Dr. J. Irving, Leytonstone; Dr. A. Rasch, London; Dr. M. K. Hargreaves, London; Mr. H. Carter, Bristol; Mr. R. Marcus Gunn, London; Dr. R. T. Halliday, Glasgow; Messrs. T. Townsend and Co., London; Mr. G. M. Smith, Clifton; Messrs. S. W. Royse and Co., Manchester; Mr. C. G. Westropp, Monkstown; Dr. Norman Kerr, London; W. Murray, M.B., Staplehill; Mr. F. R. Humphreys, London; Mr. R. S. Miller, Leith; Dr. J. Reid, Melbourne; Dr. R. H. Bakewell, Auckland; Mr. A. W. Nankivell, Chatham; Mr. F. Broadbent, Collingham; Dr. W. Clibborn, Bridport; Dr. A. Morison, Newark, New Jersey; Mr. E. G. Archer, Feltwell; Dr. T. A. Palm, Birkenhead; Mr. J. Taylor, Ticehurst; Mr. M. Moore, Cavan; Dr. A. Baker, Ottery St. Mary; Dr. J. J. Gorham, Garstang; Dr. Rentoul, Liverpool; Dr. D. Little, Manchester; Mr. G. T. Pilcher, London; Mr. E. White Wallis, London; Mr. E. J. Adams, Sheffield; Mr. E. Crockett, Wolverhampton; Our Manchester Correspondent; Mr. J. W. Caley, Selby; Mr. W. Sheppard, Ealing; Mr. W. Boyce, Shrewsbury; Mr. H. Morris, London; Mr. W. Somerville, Monkwearmouth; In Doubt; Mr. E. M. Keeley, Nottingham; Mr. W. S. Watson, London; Mr. M. Finucane, London; Messrs. Ward, Lock and Co., London; Dr. E. Fishbourne, Riviera; Mr. W. G. Black, London; Mr. A. C. Bridges, Brighton; Mr. M. Thomson, Bradford-on-Avon; Mr. S. Plowman, London; Mr. R. J. Collyns, Dulverton; Messrs. Raphael Tuck and Co., London; Dr. Gubb, London; Messrs. Street and Co., London; Mr. B. Walker, Kirkby Stephen; Dr. Hunter Mackenzie, Edinburgh; Dr. J. F. W. Silk, London; Mr. G. Rendle, London; The Honorary Secretaries of the Nottingham Medico-Chirurgical Society, Nottingham; Mr. E. M. Sympson, Lincoln; Mr. Shirley Murphy, London; Dr. J. Erskine, Glasgow; Dr. C. D. G. Hailes, Clifton; Miss Jones, Ross; Mr. E. H. Moore, Falmouth; Mr. J. H. Heeling, Sheffield; Dr. E. F. Hall, Prescot; Mr. T. Jenner Verrall, Brighton; Mr. W. D. James, Sheffield; Mr. T. Laffan, Cashel; Sir Edmund Lechmere, London; Mr. A. F. Keyworth, Marple; Dr. Sheen, Cardiff; Dr. Tatham, Salford; Mr. F. Keene, Cambridge; Mr. D. E. Thomas, Irthlingborough; Mr. H. D. Buss, Leominster; H. P. Tayler, M.B., Bradford-on-Avon; Mr. G. Greene, Ferns; Mr. H. W. Allingham, London; Mr. G. F. Browne, Cambridge; Mr. E. H. Roe, Eccles; Mr. Noble Smith, London; Mr. J. Pearson, Sheffield; Straightforward; Mr. A. C. Smyth, Belfast; Mr. W. J. H. Fletcher, Uttoxeter; Mr. J. F. Dell, London; Dr. Ward Cousins, Southsea; Dr. Leftwich, London; Messrs. Dannielsson and Co., London; Dr. Maxwell, Woolwich; Dr. J. C. Day, London; Mr. J. A. Wilson, Glasgow; Dr. Reid, Stafford; Mr. W. H. Jalland, York; Mr. J. Whitaker, Westhoughton; Dr. R. Wade Savage, London; Mr. W. Adams Frost, London; Mr. W. A. Wilkinson, Manchester; Mr. E. F. Cooper, Redhill; Dr. Bronner, Bradford; Dr. C. F. Hutchinson, Monte Carlo; Our Dublin Correspondent; Dr. W. A. Aikin, London; Mr. C. E. Winckworth, Beds; Mr. H. Morris, London; Dr. A. G. Blomfield, Exeter; The Secretary of the Harveian Society, London; Dr. D. Biddle, Kingston-on-Thames; Dr. J. O'Connor, Manchester; Mr. D. Ashbee, London; Mr. A. E. Bodington, London; Dr. F. J. Shepherd, Montreal; Mr. H. S. Archdall, London; Dr. W. Lattey, Southam; Mr. E. L. Robinson, Guernsey; R. McBride, M.B., Guildford; Dr. Abercrombie, London; Mr. W. J. Richardson, Hull; Mr. W. J. Atkey, Worthing; Dr. R. Robinson, Darlington; Mr. F. R. Humphreys, London; Mr. J. Ronalds, Edinburgh; Mr. G. K. Poole, London; Dr. Kealey, Gosport; Dr. Abrath, Sunderland; Mr. J. Hutchinson, London; Dr. C. Barry, London; The Honorary Secretaries of the Association of Members of the Royal College of Surgeons, London; Dr. W. Nicholson, London; Douse's Patent Fire Check Company, London; Mr. G. H. Bishop, London; Mr. W. R. E. Coles, London; Mr. A. de W. Baker, Dawlish; Dr. R. W. Philip, Edinburgh; Messrs. J. C. Nimmo, London; Dr. C. W. Suckling, Birmingham; Inspector-General J. S. Huran, Cannes; Mr. E. H. Hardwicke, Newmarket; etc.

BOOKS, ETC., RECEIVED.

The Pathology and Treatment of Displacements of the Uterus. By Dr. B. S Schultze. Translated from the German by Jameson J. Macan, M.D. M.R.C.S.Eng. Edited by Arthur V. Macan, M.B., M.Ch. London H. K. Lewis.

The Professional Pocket-book. London: Rudall, Carter and Co.

The World's Inhabitants; or Mankind, Animals, and Plants. By G. T. Bettany, M.A., B.Sc., F.L.S. London: Ward, Lock and Co.

Recent Materia Medica: Notes on their Origin and Therapeutics. Third edition. By F. Harwood Lescher, F.C.S. London: J. and A. Churchill.

Nor'ard of the Dogger; or Deep-sea Trials and Gospel Triumphs. London: J. Nisbet and Co.

Note-book for the Examination of Eye Diseases. Glasgow: A. Stenhouse. 1888

One Box of Christmas Cards from Messrs. R. Tuck and Sons, London.

J. C. Nimmo, London:—

The Mirror of the World. By Octave Uzanne.
Omnibus de Rebus. By the Author of "Flemish Interiors." Second edition.
Lyrics from the Song Books of the Elizabethan Age. Edited by A. H. Bullen.
The Complete Angler. Edited by John Major.

T. Fisher Unwin, London:—

St. Nicholas: an Illustrated Magazine for Young Folks. Conducted by Mary Mapey Dodge. Volume xv.
Crime, its Causes and Remedy. By L. Gordon Rylands, B.A.Lond.
The Twilight of the Gods, and other Tales. By Richard Garnett.
Concerning Oliver Knox. By G. Colmore.

Parkins and Gotto, London:—

Annual Diary for 1889.
Pocket Diary for 1889.
Scribbling Diary for 1889.

Cassell and Co., London:—

The Astonishing History of Troy Town. By Q, author of "The Dead Man's Rock."
Little Folks: a Magazine for the Young. New and enlarged series.
Heroes of Everyday Life. By Laura M. Lane.
Cassell's Family Magazine.

Blackie and Son, London:—

When I was a Boy in China. By Yan Phon Lee.
The Cat of Bubastes; a Tale of Ancient Egypt. By G. A. Henty.
Quicksilver, or the Boy with no Skid to his Wheel. By G. Manville Fenn.
The Lion of St. Mark; a Tale of Venice. By G. A. Henty.
Jasper's Conquest. By Elizabeth J. Lysaght. Illustrated by T. H. Willson.
Under False Colours. By Sarah Doudney.
Meg's Friend. By Alice Corkran.
The Missing Merchantman. By Harry Collingwood.

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NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-Offices letters addressed to initials only.

THE BRADSHAW LECTURE
ON
MUSEUMS
IN THEIR RELATION TO MEDICAL EDUCATION AND THE PROGRESS OF KNOWLEDGE.

Delivered at the Royal College of Surgeons of England on Thursday, December 6th, 1888.

By JONATHAN HUTCHINSON, F.R.C.S., F.R.S., LL.D.,
Emeritus Professor of Surgery at the London Hospital.

MR. PRESIDENT AND GENTLEMEN,—A library and a museum are twin institutions, having for their common aim the advance of knowledge. Nor is it well to draw the distinction between them too definitely, for a library should always partake of the attributes of a museum, and most certainly a museum should always be in some sort a library. The latter may be defined to be a collection of knowledge-documents in a literary form, for the most part printed; the former, a collection in concrete form of the materials out of which knowledge is built up, and by which it is illustrated. Just, however, as a book gains greatly by the introduction of plans, portraits, maps, and other illustrations which are not letterpress, so a museum which does not avail itself freely of the aid of printed descriptions, labels, and catalogues, fails to develop a large half of its uses. A museum should indeed, it may be added, be a sort of book in itself, of large type, and easy to be read.

It would be ungracious to attempt any comparison as to usefulness of museums and libraries, for, as has been said, they are sisters. "Who loves a garden loves a greenhouse too," and we may remember that the founder of the Alexandrian Library was also a collector of museum specimens on a most magnificent scale. From the time of Alexander the Great and Aristotle downwards the collectors of museums have almost always been also the prolific writers of books. Aldrovandus and Hunter are good examples in proof of this.

Although it is far from my design to make comparisons, yet I find myself unable to leave the subject without just asking you to note some of the features in which museums have a great advantage over libraries. A library always contains much less than it assumes to, a museum usually much more. Books contain the statements of opinion often mistaken, and narrations of supposed facts which it may be equally impossible to believe or to refute. The specimens in a museum speak for themselves only, and stand open to the freest re-examination. They may possibly teach but little, but they do not lead us astray. To our librarians we allow no discriminative power; they must keep everything that is once acquired, and a large half of what stands on their shelves is simply worthless. Our museum conservators, on the contrary, we invite to weed out all that is superseded, and their collections contain nothing but what is good. Above all, the superiority of a museum is illustrated in the ease and rapidity with which its contents may be inspected, and the depth of impression which they make upon the memory. When we visit a foreign town we go to the museums, whilst we well know that it would be hopeless to attempt to consult a library. There is a pleasure in objective instruction, a sense of security and reality in it which greatly helps both the perceptive faculties and the memory. He who uttered the complaint that much study is a weariness to the flesh had doubtless known but little of the delights of a museum, and was thinking rather of the fatigues and disappointment of books.

I am tempted here to make a digression, with the object of saying that it is possible that before long our medical libraries may be made more valuable and the office of librarian acquire a new dignity. Books and pamphlets are now exceedingly cheap, and duplicate copies are easily obtained. I would suggest that our librarians should become bookmakers as well as custodians of literature. I do not mean that they should become authors, but that they should undertake the rearrangement and classification of the more valuable portions of their charge. Thus, all the monographs, chapters, and reviews on any given subject in various languages should be collected together and be bound in a special volume. Such volumes of selections would immensely save the time of the reader and encourage research. Thus, all that has been written on Raynaud's disease, for instance, at home and abroad, would be found collected in one volume. A diligent librarian would, after a time, have a volume of monographs on every rare malady that can be mentioned, and his shelves would possess a value far greater than that of any mere collection of ordinary books.

It is scarcely necessary to remark upon what is known to all, that the museums of our forefathers were very heterogeneous, and that they oftened catered as much for the love of what is curious as for the love of knowledge. Something of this still survives in our present institutions, especially those of old standing. Gradually, however, in this as in other matters, as knowledge widens, we observe a tendency to restrict and to specialise. The authorities of the British Museum very properly long ago sent to us all their original specimens which bore upon pathology, and they have more recently effected with great advantage the transfer of their natural history department to the splendid edifice over which Professor Flower now so ably presides at South Kensington. The museum collected by William Hunter, and which he bequeathed to the Glasgow University, is an extremely miscellaneous one, and is even more rich in coins, curiosities, and works of art than it is in pathology and anatomy, although its wealth in the latter is very great. John Hunter had, to some extent, the same universal tastes as his brother, but he kept far more closely to natural history and surgery, and did not mix up his collections so much. That in the future the development of special museums, and of special departments in general museums, will receive greater attention there can be little doubt. We shall classify more, and with great advantage to all we shall learn to put aside all objects which are calculated to divert attention from those specially under consideration. We shall exclude from scientific museums all objects designed only to attract the sightseer and curiosity seeker. In Hunter's time the whole subject of comparative anatomy might almost be said to be in the keeping of the surgical profession, and the same statement was almost true of the scientific culture of natural history in general. But that stage has, we are thankful to say, long passed, and anthropology, comparative anatomy, palæontology, botany, etc., have now their special societies and their special museums. We have long since excluded from our museum the skins of animals and of birds, but we retain their bones and viscera, the reason being, I suppose, that the latter are less likely to find adequate illustration elsewhere. We have no longer a hortus siccus, and it may be in the future we shall see that the illustrations of palæontology and various other departments of natural history may be safely left to other institutions, whilst we devote our space to our more peculiar vocation, and to objects which would not be appropriate elsewhere. There is no fear that the zeal in general subjects of those who have received a medical training would be diminished by such a course. It is not that we have receded, but that others have advanced, and that the workers, who were formerly counted by tens, are now numbered by hundreds, and are taken from all professions. As such subdivisions are accomplished, surgeons are still found foremost in every special branch. In proof of this, I need only remind you that a surgeon is at present at the head of the British Museum natural history department, that he was preceded by a surgeon, and that very recently the President of the Pathological and of the Geological Societies was one and the same man. I need only mention the names of Owen, Huxley, Parker, Flower, and Hulke.

Leaving the subject of special museums, I have to say something of a division which has as yet received far too little attention. I allude to the importance of modifying the scope and arrangement of our various museums with regard to the class of students for whom they are intended. A museum of reference, one designed to aid the research of the well instructed who are working for the advance of knowledge, ought surely to take very different lines from one which is intended for the education of beginners. Almost all our English museums are as yet museums of reference, more or less complete; we have none which can claim to be designedly educational. I must note this as a great want, not only in professional museums, but in those designed for the general public. Neither as regards general science nor medical pursuits have we any collections of illustrative objects but such as are so heterogeneous and multifarious as to be very confusing to younger students. Educational museums seem to me, I will confess, to be the great

want of the age. By their aid, and by it alone, can we hope to get rid of the evils of cramming—of the lamentable loss to the formation of character which comes from the habitual and almost exclusive substitution of words for things. What we want is objective teaching; and this, I think, is beginning to be perceived on all hands. To that end nothing seems to be more important than the formation of good educational museums. Such collections should contain no mere curiosities and but very few rarities, but should be supplied with good illustrative specimens of common things, not too numerous and so liberally provided with printed description as to fully explain themselves. An ordinary museum, crowded as it almost invariably is, and replete as it ought to be with all that is rare and exceptional, overwhelms and confuses a beginner. Nine-tenths of what is there is of no use to him, and he cannot distinguish what is valuable from what is not. Few specimens, and those good and typical, plenty of explanatory diagrams and illustrations, abundant labels, and, above all, plenty of space, such are the requisites of an educational museum, and such a museum ought to be in the possession of every country town, and of every college and large school. These remarks are applicable, without much modification, to the museums which ought to be provided in connection with our medical schools.

The museum for reference has a very different scope, and should aim at a very different standard. Designed for the use of those already well advanced, it should seek after detailed completeness in every department; nothing should be too rare or too recondite to be suitable for it. Between such a museum and one for educational purposes there is all the difference that would be found between a school library and the public reference library of a large city. I will not attempt to conceal my opinion that it would be for the advantage of medical science if our London hospitals were to aim at higher perfection of their museums for educational purposes, and were more zealous to regard the Hunterian collection as the great reference museum for London, or, may I say, for England. It is not for the best that investigators should be driven to search through many collections for specimens which might very easily be accumulated in one. I know that I am on delicate ground, and will not say more than that I hope that this College will at any rate endeavour to collect copies or models of rare specimens which may be in the possession of other institutions, and that all facilities will be afforded it should such be its wish. We have lived past the old narrow temper of the collector, which rejoiced in the accumulation of unique objects, and carefully guarded them from reproduction. I trust also that we have lived past that yet narrower and more hurtful form of the museum-maker's pride which refuses to possess anything but what is original. Completeness of illustration should be our aim, not merely the possession of that which is unique or rare. Exclusiveness and fastidiousness, reprehensible and injurious everywhere, would be more especially out of place in an institution which exists not for the purposes of scientific dilletantism, but in order to subserve the great aim of the good of humanity through the promotion of medical knowledge.

Here, Mr. President, permit me to mention, and with feelings of reverential respect, the name of a pioneer in natural history, and especially in museum-making, Ulysses Aldrovandus. Born at Bologna in 1527, he died at the age of 78, after a life devoted to the pursuit of knowledge, and to the collection in permanent form of the materials for its illustration. He wrote many books and he made a large museum. I mention him chiefly, however, because he set an example to us all of liberality and enlightenment. His mind was not one of those which cherished a foolish pride in the possession of unique specimens, and in collecting nothing but the best. He aimed at completeness of illustration, he travelled widely, and of specimens of which he could not procure the originals he made sketches. At his own cost he employed one painter for thirty years, in addition to securing the help of several of the best engravers of his day. Like our own Hunter, who was just two centuries his junior, he devoted his whole fortune to his work and died in poverty which was an honour to him.

If we try to catch zeal from the example of Aldrovandus, it should, I think, incite us to endeavour to complete the splendid collection which we have in charge by obtaining (by the aid of the camera we can do it far more easily than he could) copies of rare specimens in other museums. Let me illustrate my meaning by directing your attention to a skeleton which hangs before you. It is one borrowed for the occasion from the Norwich Museum through the kindness of Mr. Cadge and Mr. Cross, the latter of whom is the custodian of that collection. It is that of a dwarf whose limbs are very short, and show remarkably thick, coarsely-formed bones (fig. 1). His humerus and femur are more like those of a bear than of a man. The sternal articulation of his clavicle is most peculiar, for its under-surface presents an inclined plane, as if intended to slide backwards and forwards on the sternum. We have nothing in the least like it in our collection, and we cannot of course hope to beg the original. We shall preserve, however, photographs which so well represent its peculiarities that they are almost as valuable as the skeleton. Let me express a hope that we shall also make these photographs easily obtainable by other museums. This skeleton is no mere curiosity, but is full of interest and value to the student of man. The possessor of these animal-like limbs was, there is reason to believe, of a brute-like nature. He was executed for the attempted murder by poison of his wife and child, and it is recorded that he evinced a remarkable degree of callousness and entire absence of remorse. Yet, be it observed, this brutality is expressed rather in his limbs than in his head, for the latter, although narrow and ill-formed, is not remarkably small.

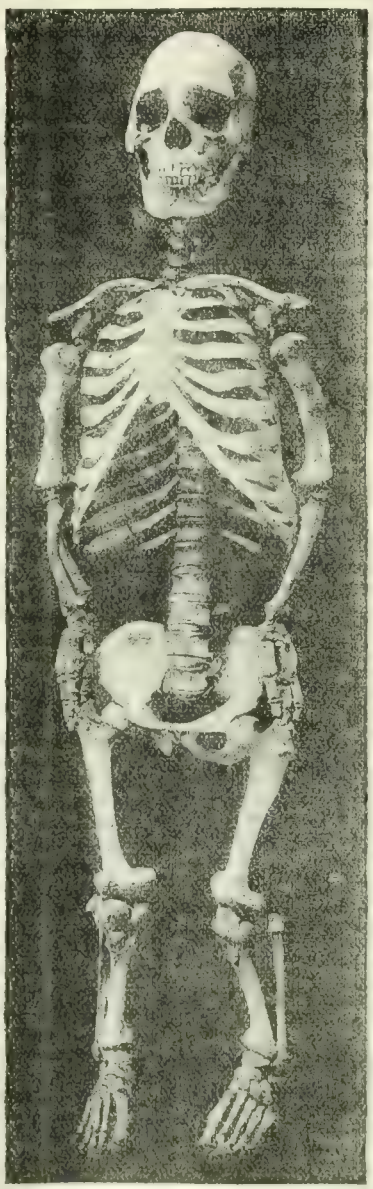


Fig. 1.—Skeleton of dwarf with brute-like limbs.

I will adduce yet another instance of the desirability of collecting drawings when we cannot get the originals, although it may not improbably be an example of an inability only temporary. Mr. Frederick Horniman, an indefatigable collector, and the possessor of a private museum of great beauty and completeness, has lent me for exhibition to-day the butterflies which are before you. They claim our attention not for their beauty, nor yet as specimens required to complete a collection of lepidoptera, but as illustrations of biological law. This butterfly occurs both in Africa and Madagascar. The male in both countries is exactly the same, but the female, subject in Africa to considerable variations in colouring, assumes in Madagascar a fixed type, which is widely different from any of those shown on the opposite continent. There is probably no other instance so definite in the animal kingdom of the hereditary transmission of the tendency to vary, with finally a fixed difference, being wholly confined to the individuals of one sex. I need not say that, before these specimens are returned to Mr. Horniman, our museum will be the possessor of good coloured representations of these instructive facts.

The value of photographic evidence received a remarkable illustration in a case which a few years ago was brought before the

Pathological Society[1] by Mr. Henry Morris. A woman had died with large pulsating tumours in connection with bones, one of the largest affecting her skull. The histology of these growths puzzled all who examined them, but more than one noticed their similarity to the structure of the thyroid gland. A photograph of the patient, which had fortunately been taken to show the tumour, was now sought for, and when produced, it was discovered that it showed also a bronchocele.

It will be seen that we have here the suggestion of an important pathological doctrine, one which should supply another to the many items of evidence which connect non-malignant growths, inflammatory productions, or even simple hypertrophies with malignant neoplasms. It would appear that the bronchocele, in itself showing no signs of malignancy, was competent, if not to originate, at least to stamp with peculiarity of structure, a secondary growth which proved itself malignant in a high degree. Nor does Mr. Morris's case stand alone, for a year later Mr. Warrington Haward published a similar one, in which a woman, who had long been the subject of bronchocele, died with multiple tumours in bones and viscera. The bronchocele, which had much increased of late, showed chiefly hyperplasia of the normal elements of the gland, and the secondary growths consisted of a tissue exactly like that of the thyroid. A third example of the same thing is recorded in Langenbeck's *Archives*.[2]

Such being the facts already within my knowledge, you will judge of the interest with which, in turning over the pages of Bruns's *Atlas* the other day, my eye was drawn to the portrait which I have copied for your inspection. You will see that it represents a man with a large tumour growing from his skull, and that it proves, also, that he was the possessor of a bronchocele. Nothing that occurs in the case-narrative suggests that the reporter supposed that there was any connection between the two; and we are indebted to the artist who took the portrait for the unconscious record of the fact.

There is, of course, nothing whatever new in the proposal to collect pictorial illustrations of natural history and pathological objects. Every observer almost has done it more or less, and the only feeble claim to novelty of recommendation which I can advance is that I urge that it should now be attempted on a liberal scale, with an aim at completeness, and that we should avail ourselves to the full of the quite modern arts of the modeller and photographer. As I have said, Aldrovandus made drawings systematically; so did John Hunter. Hunter's drawings concerned almost exclusively comparative anatomy, and there are but very few which illustrate disease in the living patient. Our museum contains a large series of drawings collected by Dr. Farre, one illustrating vaccination and vaccine eruptions by Mr. Ceely; and quite recently we have had a very valuable gift from Dr. Matthews Duncan. To the value of such illustrations, Cheselden bears testimony as follows. Introductory to his work on *Osteology*, he writes:

"This work was executed in a camera obscura contrived on purpose by the author, which renders it more exact and complete than any thing of the kind whatever; one view of such prints showing more than the fullest and best description can do."

My chief desire in these remarks is to emphasise Cheselden's assertion. To it may be added that "such prints" are often almost of equal value with the specimens, and, what is still more to the point, that in a host of instances they can be had when the latter cannot possibly be obtained.

Most affections of the skeleton as a whole, as well as those of single bones, lend themselves easily to the photographic lens. I shall refer directly to osteitis deformans, and may add symmetrical exostoses, all forms of rickets, osteo-malacia, and that rare and interesting condition known as myositis ossificans. This latter malady presents problems similar in their character to those which are offered by such others as ichthyosis, leucoderma, and the like. It can only be studied profitably when a number of examples are collected together. It is so rare, however, that no single museum can hope to possess more than one skeleton. Our own has but one, and that is Hunterian. During the century which has passed since Hunter was collecting, no one has offered us another example of it. We have, however, got two photographs, and it is impossible not to note with the utmost interest how closely these two resemble the original one. To Mr. Sympson, of Lincoln, we are indebted for one, taken from the living patient, and the other, from a skeleton in the museum of the College of Surgeons in Dublin, was given to me by Dr. H. G. Johnstone, formerly a teacher of anatomy there. Tedious, indeed, would be the verbal description which would enable its reader to realise one-half of the peculiar features which he may recognise at a glance in this photograph.



Fig. 2.—Duhring's Neoplasm. (See Page 1265.)

Rare cases gain immensely in value when they can be, so to speak, paired. The placing of two or more examples of a precisely parallel but very exceptional condition in juxtaposition, and thus making them throw light upon each other, is accomplished more easily in museums than in printed books. In a museum a new illustration can immediately on publication be added to those of the same class already collected. Two very remarkable examples of arterial obstruction published, one by yourself, Mr. President, and one by Sir William Gull, and both now upwards of thirty years old, serve me as good illustrations of what I wish to enforce. In Sir William Gull's case a woman, aged 47, died two years after an illness which had resulted in blocking of her innominate and left carotid arteries. The state of things is shown in a good lithograph which I have had copied for your inspection. You will see that the arteries named are occluded at their origins, as if they had been corked (Fig. 3). The patient, who died finally with cerebral softening, had, it would be seen, survived for two years with no other direct blood-supply to her brain than that afforded by her left vertebral. Such a state of things might well have been deemed impossible. Nor does the interest of the case end with the problem as to how the brain was fed, for we have in it also a question of much difficulty and importance, as to the nature of the arteritis which led to the obliteration.

With this case let me pair your own. In it also the patient was a woman, but twenty years younger than the other. No definite history of the illness attending the occlusion was obtained, but it was known to have existed several years. Both main arteries on the left side were permanently blocked through a

[1] *Pathological Society's Transactions*, vol. xxxi, p. 259. Mr. Morris informs me that the bronchocele had not been overlooked.

[2] There is a fourth case, but with some differences, in Virchow's *Archives*, 1876, by Cohnheim. Bd. 68. S 547.

long tract, and so also was the right subclavian; thus the left carotid was the only vessel affording blood to the brain. You rightly aver of the case that "it is one of the most remarkable on record, and in some respects unique," but it will be seen that it is now capped by the preceding one. So far as I know, this may be the first occasion on which they have been mentioned together. I am sure it will be admitted that they illustrate each other, and as both were published with good drawings, they might easily be placed in juxtaposition in a museum collection.

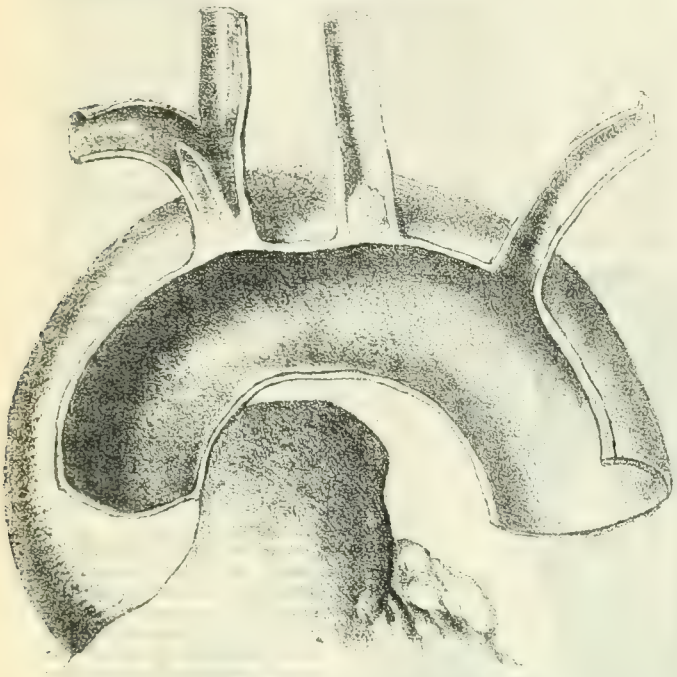


Fig. 3.—Occlusion of Innominate and Left Carotid.

Of Sir William Gull's case I have scarcely found any mention in medical literature, and he does not refer to yours. Your case has not been wholly neglected by systematic writers, but almost the only reference to it which I have found contains in the course of four lines two important errors. Whereas you distinctly state that the occlusion was due to arteritis, and record that, in consequence of deficient blood-supply, the patient had ulcerative destruction of the scalp and skull, the writer to whom I refer as quoting you says that the conditionwas probably congenital, and that no gangrene occurred. Those who follow will probably quote from him and not go to the original, and thus the errors will be perpetuated, and I shall have an excellent illustration of what I stated in the beginning of my lecture as to the relative trustworthiness of books and museums. It is needless to point out that it is extremely improbable that any museum should ever be fortunate enough to possess the original specimens of two such exceedingly rare cases as those just cited. If they are ever to be paired it must be by pictorial representation of one or both; and I may, perhaps, be permitted to add that, for most purposes, these representations are almost as instructive as the specimens themselves.

To those who have devoted attention to dermatology, it will be quite needless that I should remark that the collection of models and drawings is of primary importance to the advancement and elucidation of this department of surgical knowledge. How tedious are detailed descriptions of the conditions displayed by a skin eruption! how clear and easy of comprehension do they become the moment a good drawing is produced! "Show me your drawing, and I shall know what you mean by your words," is the suggestion constantly on the lips of the puzzled listener or reader in this department. Witness the noble testimony to the importance of this mode of illustration which our Paris *confrères* have given in their magnificent collection at the Hôpital St. Louis. To those, however, who have not devoted any special attention to dermatology, it is, perhaps, necessary to say a few words in justification of the importance of its minute and detailed study. The need for such justification is, I trust, diminishing very rapidly, but it is possibly not yet wholly past. The prejudices of an older day still cling about this department of observation, to its great injury, and prevent dermatology from occupying, as it ought to do, the very foremost place in medical study. Surely it cannot need much thought to perceive that the skin, inasmuch as it is exposed to view, affords the best opportunities for the inspection of pathological processes. The kinds of morbid action which it displays are almost infinitely varied, and they occur with a richness of combination which has no parallel in any other organ.

In support of the assertion that, quite apart from their substantive importance as objects of treatment, and therefore needing to be understood by the practitioner, diseases of the skin are invaluable as helping us to the comprehension of pathological laws, such facts as the following may, amongst many others, be advanced.

They, better than any others, illustrate the influence of drugs upon the economy, and the marvellous manner in which idiosyncrasy controls such influence. We note with wonderment how, in the case of the iodides and bromides, dose has little or no influence on the results; how very small doses will cure, and very large ones will not poison; and how in the production of eruptions on the skin all seems to depend upon peculiarity in the recipient, and nothing upon the quantity swallowed. Thus it has happened that the same patient has on three or four different occasions been poisoned, brought absolutely to death's door, by a dose of the iodide of potassium which most persons would have taken without knowing it. We note, also, how very diverse may be the type of the eruption assumed in different persons, a pustular acne, an erythema, a malignant purpura, a kind of pemphigus, or, finally, a freely growing multiple neoplasm, which may cause death. All these various results from small doses of the iodide of potassium are well illustrated in portraits which now hang before us, and they might be brought in an impressive manner within the experience of all by the arrangements of a clinical museum.

There is, as I have said often before, no single fact in the range of therapeutics better calculated to rehabilitate our faith in drugs than to observe the manner in which a few drops of a tasteless solution of arsenic can dismiss an eruption of pemphigus and rapidly restore the patient to health. Three lines of record of result at the foot of a portrait might bring this important fact home to the mind of the sceptic in the most conclusive manner. The possibility of causing, by the use of arsenic, that peculiar form of local neuritis which results in an eruption of shingles, might also be well illustrated, although, perhaps, it could not be said to be proved by a series of photographs. Another not unimportant pathological fact in reference to arsenic which should be demonstrated in our museums is the production of discolorations and chronic inflammations of the skin, ending in the formation of corns, which have a tendency to pass into epithelial cancer. Of these occurrences, some illustrative drawings are now before you.

Having mentioned cancer, I am reminded to ask attention to the manner in which various laws as to the modifications of malignant action receive their best illustrations when observed on the cutaneous surface. What may be called topographical modifications may be mentioned first. We observe how on the prolabium a papillary, gland-infecting type is the constant form, how on other parts of the face the cancer is not usually papillary and never gland-infecting. Now this latter (the so-called rodent or Jacob's ulcer) is almost peculiar to the face, or, if seen on other parts, receives at once most important modifications. We may observe also with interest how very similar in appearance and in course are the forms of melanotic sarcoma which develop in the sole of the foot, and of spindle-celled sarcoma of skin when it occurs on the lower extremities or abdomen. It has never happened to me to see any form of disease resembling that shown in the drawings which I exhibit on the upper extremities, on the neck or head, nor even, I think, on the upper part of the trunk. Yet on the thighs and legs, and lower part of the abdomen, it is a well characterised form of malignant disease. Further experience may prove that this impression is an erroneous one, but whether it confutes or confirms it, the possession of good drawings, in order to show the peculiarities of the conditions described, is equally important. Nor shall we find anywhere else such good illustrations of the mode in which cancer develops in connection with local irritation, as are supplied to us by the skin. The pipe cancer of the lower lip, preceded by papillary growth and hardening, the soot cancer of the scrotum, supervening on the soot wart, are

matters of transition which the artist can easily display. So also the immense multiplication of secondary growths, as we occasionally witness it in melanosis, is, for the student, a most instructive lesson in pathological possibilities, and one which he will be singularly fortunate if he ever witnesses in the hospital ward.

In connection with this topic permit me to exhibit a drawing which possibly transcends the experience of even the most experienced of those present, and which, but for the drawing, might have been he ld. in mere verbal description, to be an exaggeration.



Fig. 4.—Eruption of sarcomatous nodules.

The poor fellow who sat for this portrait, himself a member of our profession, died within two months of his first symptoms covered with an eruption of sarcomatous nodules, so copious as, in many parts, to have become confluent (Fig. 4). In the early stages his eruption had been named a purpura, then lichen planus, and, finally, with great confidence, a syphilide; but in the end there could be no doubt that it was malignant. The progress of the disease, the mode of death, and the microscope, placed this beyond dispute. It was probable that he had before his death a growth in connection with the lumbar vertebræ, but whether this was the primary one could not be proved. His mother had died of cancer.

I feel sure that all will admit that a portrait which brings such a case within the range of the personal experience of all who see it possesses great clinical value. I owed to my friend, Mr. Morrant Baker, the opportunity of seeing the patient, and the permission to mention the case on this occasion. Mr. Baker has discovered that somewhat similar cases have been published by that most excellent observer, the late Dr. Hilton Fagge, but not having been illustrated by drawings, they did not secure for the malady the wide professional recognition which this case will, I hope, obtain.

I turn now from malignant disease to the consideration of illustrations of pathological laws afforded by the study of ordinary skin diseases. For dermatology in general I put in the claim that it is fast escaping from the trammels of nosology, and adopting with much success methods of patient search for causes and study of mode of evolution. Excepting for purposes of conventional convenience, we are careless as to names, and recognise that they often serve only to disguise and perpetuate our ignorance. The labours of those who have preceded us in the department of descriptive nosology enable us, now that the foundations are well laid, to disregard names far more than they could afford to do, and devote ourselves to the attempt to realise the nature of the process designated. We desire not to stop with the question, Is this psoriasis, is this lupus, is this morphœa? but to ask in each instance, What is psoriasis, what are the essential features of the diseases known as lupus, what are the pathological processes which result in the extraordinary conditions—by no means, be it remarked, confined to the skin—which we know as morphœa? From the investigation of skin diseases in this manner, permit me to repeat, we may expect very valuable discoveries as to the general doctrines of pathology. It is needful, however, that we should collect our facts with great care and patience, and illustrate them as far as possible by permanent representations of the conditions described.

A theory, for the present a mere working hypothesis, which has of late years claimed much of my attention, would assert that almost all inflammatory skin diseases are infectious to the organism in which they originate. The chief, indeed almost the only, real exceptions to this law would appear to be the neurotic and neuro-vascular affections—herpes and morphœa, and a few others. These are neither serpiginous nor capable of becoming generalised, and thus they are in no sense infective. But of the other forms, all of which do tend to become generalised, and which begin usually by local and small developments, it may be the fact that the first patches are the parents of the others. The degree of the infectiousness may vary much in different cases in connection with differences of idiosyncracy, of health, and of age; but, under these limitations, the explanation may be nearly the same for acne, boils, psoriasis, eczema, and a host of allied maladies. It may be that we ought not to consider the patient on whose knee or elbow the first scaly patch has appeared as necessarily destined to evolve a complete generalised psoriaris, any more than one on whose lip is an epithelial cancer is destined to die of gland disease. The prompt excision of the primary cancer may entirely avert such a hypothetical destiny; and so also it is possible that the cure of the first patch of eczema or psoriasis, or of the first pustule of acne, may avert a general eruption. We have just seen how a malignant growth, shedding its infectious germs into the blood, may produce a general eruption, comparable in extent, in symmetry, and rapidity of evolution, to any inflammatory skin disease. Let us look backwards, and ask whether it be not possible that these skin eruptions become generalised in exactly the same way as sarcoma does, by the blood-diffusion of germs? Many facts support such an interpretation of what we see. In almost all cases there is an initial period, during which the eruption is local. Generalised eczema, for instance, is almost invariably preceded by an old-standing patch of eczema rubrum on the leg or some other part of the body. Acne never becomes copious all at once, and its worst cases are to be cured by careful attention to the destruction by local measures of its pustules as they appear. If one is permitted to develop, others will infallibly follow; the more pustules are permitted to exist the more will come. It is notoriously the same with boils, and, in a general way, I think it may be asserted of all the eruptions which I have named, that they are self-aggravating, and that the worse they are the worse they will become. Especially is this the case in eczema.

Looked at from this point of view, the main difference between a disseminated malignant disease and one the result of non-malignant inflammatory processes would be that in the one the cell-growths have entirely escaped the control of the organism and the influence of drugs and changes in bodily condition,

whilst in the other they have not. Even this distinction may be one of degree rather than absolutely of kind. You can cure psoriasis by the use of arsenic, whilst you cannot cure cancer: but many facts favour the belief that, although not efficient to cure, arsenic does very powerfully influence malignant cell-growths in the same direction, though not to the same extent that it controls those of psoriasis. I must not, however, trouble you further with the development of what I fear you will regard as, at the best, only a crude theory. Before, however, quite leaving the topic of general pathology as illustrated by skin disease, I must ask attention to one which stands as a sort of connecting link between malignancy and inflammation.

I refer to lupus. Surely there is no disease which presents so many points of interest for the pathologist, and at the same time offers such tempting facilities for their investigation. Various diseases of the lupus family are some of them so different the one from the other that good authorities have held that they ought not to be placed together. But, on the other hand, the connecting links are capable of easy and definite demonstration. In no disease, perhaps, can we find the laws of what may be termed pathogenetic partnership more interestingly illustrated. Some forms of lupus are little removed from chilblains; others are close to epithelial cancer, and readily slide into it; others are tubercular, and display the characteristic bacillus; whilst yet others, in their mode of evolution and the features of a disseminate eruption which they assume, come very close to common psoriasis. With all these differences, I yet make bold to assert that whoever investigates the lupus family in detail will convince himself that there are close bonds and relationships between its members. It is in the examination of different kinds of lupus that we may hope to throw light upon the relationship between common inflammations and those of highly specialised types; again, between the latter and malignant processes; and, lastly, to decide the all-important question as to the relationship between micro-parasites and the peculiar forms of disease which they attend.

Amongst the propositions in general pathology which may be instructively demonstrated by pictorial aid is the assertion that the specific poison of syphilis may, under favouring circumstances, become a cause, not of congestion merely, nor of inflammatory effusion, nor of ulceration, but of hypertrophic growth. The proof referred to is given in the case of the papillæ in the mid-region of the dorsum of the tongue. We have for long been familiar with "syphilitic warts" as reputed to occur on the genitals in both sexes; but in these regions there is always the fallacy that papillary growths may be the result, not of the syphilitic poison, but of the local influence of irritating discharges. On the surface of the tongue no such source of possible error exists, and I beg to put in evidence a little collection of five drawings, all of which show exactly the same thing—a group of overgrown papillæ, without any other evidence of inflammation in the region named.

It is needless to remark that this possibility, once conclusively demonstrated, becomes of somewhat wide importance. If syphilis can cause hypertrophy in one structure, it probably does so in others, and we begin to see in the processes of inflammatory action which so commonly attend all syphilitic disturbances of nutrition a usual but not absolutely essential concomitant. Let us reflect upon what takes place in the coats of arteries and in bones.

In what I have hitherto said I have been insisting on the value of pictorial illustrations for general purposes, but I must now pass to a special branch of the subject, for I wish to advocate the formation of

Clinical Museums.

By the name clinical we may designate that department of a museum which is devoted to the illustration of disease as seen in the living subject. As our ordinary pathological collections exhibit in permanent preservation the treasures of the *post-mortem* room, so would this display for us those of the hospital ward. It would accomplish this by casts, models, portraits, and photographs. Whilst almost all our museums possess a few illustrations of the kind referred to, in none, so far as I am aware, has anything like completeness been attempted. The collection at the Hôpital St. Louis in Paris is by far the best, but it is almost restricted to syphilis and diseases of the skin. Guy's Hospital has a number of wax models which are most excellent in execution and invaluable in character, but they make no approach to completeness. Most of our hospitals have, more or less considerable stores of valuable drawings, but they are usually stowed away in portfolios, and hardly available excepting to the hospital staff. What I mean by a clinical museum, and what is I trust contemplated by a resolution which was adopted by the Council of this College some years ago, is a department in which every effort shall be made to display in the best possible manner all that can be usefully portrayed by the artist or modeller in illustration of disease during the life of the patient. Its contents should not be hidden away, but exhibited in well arranged order for the ready inspection of all visitors. Such a collection would be far from restricting itself to disorders of the skin. It would comprise all varieties of deformity, whether congenital or acquired, all diseases of the eye, whether external or seen by the aid of the ophthalmoscope, and all that occurs to the tongue or in the mouth, including the revelations of the laryngoscope. In addition to these, it would also take in illustrations of all forms of external cancer and new growths, and the alterations of contour which are peculiar to the different varieties of fracture and dislocation. What is is called the physiognomy of disease and the peculiarities of the general form of the body which characterise such diseases as myxœdema, rickets, osteo-malacia, spondylitis and osteitis deformans, and the like, would also fall within its scope.

Living as we do in a city which counts four millions of inhabitants, and is the easily-accessible metropolis of a country having a population of twenty-eight millions, it has often struck me as a defect that we have no institution into which the living examples of exceptional forms of chronic disease might be received and permanently maintained, for purposes not solely of treatment and of personal comfort, but as the means of advancing clinical knowledge. London could easily supply half a dozen examples of leprosy, morphœa, lupus erythematosus, or Raynaud's disease, which, placed together, would afford material for observation of a kind not now accessible to the medical student. Nor is it alone or chiefly for the student that such a kind of permanent repertory of all that is at once chronic and rare would be of the utmost use. We are every year advancing in our recognition of the obvious fact that a surgeon's education is not complete when he takes his diploma, and it is not too much to hope that very speedily a large post-graduate school will flourish where, above all places in the world, it ought to flourish—in this great metropolis. When such is established, the want of such a hospital as I have indicated will be felt, and not impossibly an effort will be made to supply it. In the meantime, a clinical museum may be made, at much smaller cost, to supply a tolerably substitute.

The value of a collection of such objects can surely need no attempt at proof from me. It would be useful alike to the student, to the practitioner, and to the investigator. The distinction which has been drawn between an Educational and a Reference Museum would here scarcely apply, for a clinical department must almost of necessity be both. Its objects would one and all be useful to the student, however multiplied, but they would be so expensive to procure and keep up, and occupy so much space as to be beyond attainment, excepting in a modified form, by most of our medical schools. In a peculiar and special manner, therefore, the formation of a complete clinical collection devolves upon a central and wealthy institution such as this College. Let me add that, although costly in the first instance, as just observed, yet when once formed, it would in many of its sections, I allude especially to photography and portraits, be easily and cheaply copied. Thus the museums of our medical schools, whether metropolitan, provincial, or colonial, might be supplied with duplicates of great educational value. I shall venture presently to bring forward a few illustrations of what I have just asserted, but before doing so, allow me to say, in a general way, that a clinical museum would teach, so far as the eye is concerned, the great art of diagnosis. It is true that we cannot educate the finger in a museum, and that the detection of abscess, the manipulation of tumours, and the tactile examination of fractures and dislocations, must still be left to be learnt in the ward or the receiving room. But all that the eye can do, and it comprises by far the largest half of surgical diagnosis, can be learned easily and well from models photographs, and drawings. The trained eye can detect hardness in a chancre without touching it, and many other conditions usually supposed to need the finger, may yet, if the eye be duly educated, be diagnosed at a glance without it. How useful the contour of the parts is in the diagnosis of dislocation, I venture to illustrate, although of course well known, by a number of stereoscopic photographs which are placed before you.

It may be said that diagnosis should be learnt in the hospital as anatomy is learnt in the dissecting-room. Neither in one nor the other instance, let me reply, is such limitation as to place and mode of study a judicious one. To learn anatomy only by dissections would be to incur an enormous waste of precious time, and if training in clinical diagnosis is to be restricted to the hospital ward, the student's attainments in it will be grievously inadequate. Let us reflect for a moment how seldom some of the more rare diseases make their appearance in our wards, and how transitory are the most important stages in many others. How many of our students pass through their curriculum, even at our largest hospitals, without having seen an example of malignant pustule, of Dupuytren's contraction of fascia, of an encephalocele, or it may even be of the chalkstones of gout. Excepting by the house-surgeon and his dressers, fractures and dislocations are seldom seen until, by reduction, all their diagnostic features have been removed. How very short is the period during which each student enjoys the privileges of a dresser. No one who knows the real facts as to ordinary hospital opportunities (for even in the hospital itself, be it remembered, it is not one in twenty who is allowed the opportunity of gaining experience otherwise than by the eye) can hesitate for a moment to admit that it is most important to supplement them in all ways that are open to us. To a clinical museum the student can come again and again—the patient will not have gone out—and can refresh his memory and impress it anew with a visual picture, which if it does not equal life, yet very far excels for diagnostic purposes anything which he can get from books.

Although I have often before mentioned an incident which occurred to myself in illustration of my present argument, yet I shall beg your permission to again refer to it on account of its peculiar instructiveness. Five and thirty years ago, at the time when I was the hospital reporter to a journal of which Sir Spencer Wells was then the distinguished editor, I once entered an operating room where a surgeon was standing with his instruments in his hand. In another minute a large armed needle would have been thrust into a florid nasal encephalocele, with the intention of ligaturing its base. The diagnosis, as I was informed, was nævus. I knew better, and at the risk of a charge of ill-manners I forced my way through the crowd of students, and mentioned to the surgeon my opinion as to the real nature of the malady. He desisted at once, and the child's life was saved. Now at this time I had never myself seen an encephalocele; I knew the disease only from a photograph.

If I may venture to illustrate in detail the uses to which a clinical museum may be put, I will take first the recognition of cancer. The early diagnosis of external cancer will perhaps be admitted to be one of the most important objects of surgical attainment. Our students seldom or never see such cancers in early stages, and opportunities for obtaining an extensive familiarity with them fall to the lot of but very few of us. Now I unhesitatingly assert that it would be easily possible in a good series of wax models to construct imitations of the early appearances of rodent ulcer, cancer of the lip, tongue, genitals, etc., which would be as nearly as possible equal to seeing them in the living patient. The saving of human life and of human suffering which would result from such collection would be beyond our calculation.

The vocation of a clinical museum, as affording opportunities for the study of Rare Diseases, cannot be overrated. No other form of publication can afford advantages to be compared with what it would offer. Nor can anyone doubt that the complete study of rare diseases and the rapid diffusion amongst the profession of accurate knowledge respecting them is of the utmost importance. Not only is it to be alleged that the sufferers from rare disease have equal claims with others upon the resources of science, whilst unless special effort is made, they are in danger of encountering professional ignorance, but a yet more cogent reason is to be assigned in the fact that rare diseases are often type-forms, and afford us a clue by which to solve clinical problems of wide extent. I will adduce as an instance of this a new disease which has had the good fortune to be observed by one to whom clinical surgery was already under untold obligations, and to be described by him in two essays which are models for us all, not only in the art of seeing and describing what has been seen, but of zealous effort in bringing to a focus all the light that can be got from the researches of others. I allude, of course, to Osteitis Deformans, a malady which, were it not that the brow of its discoverer wears already so many laurels, we might be tempted to propose should be known as Paget's disease.

The first public mention of this singular and most interesting malady was made before the Royal Medical and Chirurgical Society in November, 1876, and our knowledge respecting it already comprises the narratives of some twenty cases recorded with great care by different observers. Those who, in addition to Sir James Paget, deserve especial mention, are Professor Czerny, of Heidelberg; Mr. Lunn, of the Marylebone Hospital; Mr. Bryant and Dr. Stephen Mackenzie. Three-fourths of the cases as yet extant are, however, from the pen of its discoverer, and I shall derogate in nowise from the merits of later observers if I venture to say that they have added nothing of importance to his statements. Now osteitis deformans and museums come into relation at two points. In the first place the photograph of the living patient is easy of recognition, and might enable anyone who had never seen the latter to make a diagnosis at once; and, in the next, the single bones, still better the entire skeleton, afford objects of great interest for the pathologist. Already two complete skeletons have been obtained; one is in the museum of St. Thomas's and one is in our own. The difficulties which have been overcome in order to secure them will be appreciated by all who ever engaged in such pursuits. I ask you to remember them not alone that we may feel grateful to those who encountered them, but that I may enforce the lesson of the desirability of supplying to other less fortunate museums photographic copies of these skeletons together with those taken during life.

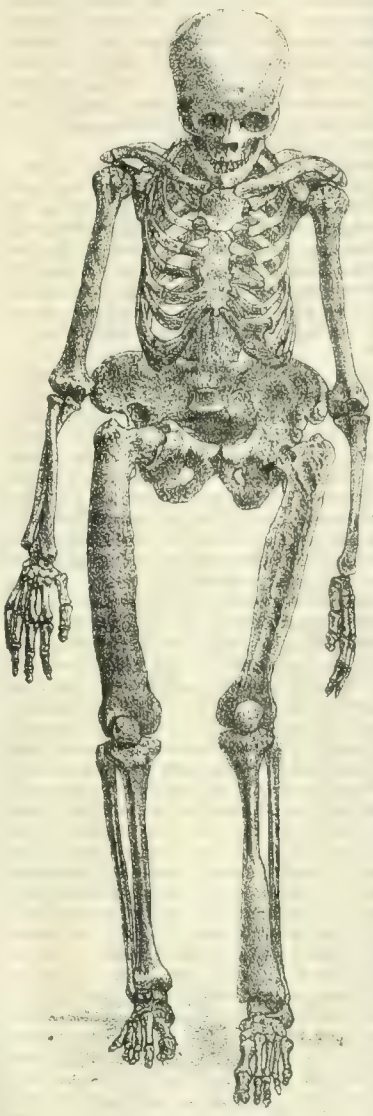


Fig. 5.—Osteitis Deformans.

The main facts as regards osteitis deformans are these. It is a disease of the osseous system which occurs in middle life or senile periods, which is attended simultaneously by overgrowth and by weakened structure (Fig. 5). The bones increase in size, and at the same time they may bend and shorten. Although often almost painless, no one who looks carefully at the bones affected, and who notes how the disease may pick out one and avoid another, can doubt that the changes are due to some low form of inflammatory action. The problem which it presents to the pathologist may be thus stated: How account for a very chronic osteitis which becomes multiple, but not with exact symmetry, which occurs to those who seem perfectly healthy, and has no connection with either syphilis or gout? Although occurring to the aged it is certainly not a senile degeneration, or it would be general and symmetrical.

Clearly, to solve this problem, we need an abundant collection of facts. Now to get these quickly and to put them into an available form we must illustrate our cases by photographs. Those who have patients should get the portraits taken, and supply them, with full particulars, to our museums. Above all, wherever a skeleton exists, it should be photographed and copies made accessible to

all. When we find out what osteitis deformans really means, we shall probably at the same time get light as to certain other maladies occurring under similar conditions, whose origin is for the present shrouded in mystery. Clearly it belongs to the group of structural affections tending to multiplicity but not to symmetry, and restricted to one kind of tissue. Let us ask if other tissues besides bone afford us examples of parallel occurrences.

We might, if we liked, call it "disseminated osteitis" or "disseminated osteoporosis," and if we did so the word would probably remind us that neurologists have a disseminated sclerosis which disorganises certain scattered areas in the brain and spinal cord. A little further thought would remind us that some forms of tumours, both innocent and malignant, become disseminated in a similar manner, and that lupus and several other affections of the skin do the same. This would lead to the hypothesis that osteitis deformans may be, like these, an infective malady in which one bone originates the elements which set the process going in the others—infect them, in fact. We know well what happens in Simon's "necrosial fever." It may be that we ought to give a literal application to the term "disseminate"—it may be that really the process is one of seed-sowing.

Now, if we assign any generalised malady to the group of self-infective ones, we have, if not discovered its cause, at any rate made an important step in that direction. All that is left to be done is to find out what caused the parent lesion. The answer to this will, in nine cases out of ten, be the same: the cause of the primary infecting area of inflammation or new growth was an injury occurring to a person of special type of organisation. Given the peculiar state of health or of age with the local damage to structure followed by a peculiar type of inflammatory action, and all the rest is explained.

I cannot leave this topic without just briefly referring to an exceedingly rare form of skin disease, of which a portrait is before you. In 1869 I had the man under care, whose hand is the subject of the portrait. He had large livid patches of thickened skin on his hands. He lived seven years after the portrait was taken, and became covered with blue patches of thickened skin. His health did not fail on account of the skin disease, and his death, which occurred in King's College Hospital, was from dropsy. In Christiania, some years later, Professor Boeck showed me the portrait of a man's hands exactly like those before you, but I was unable to get any particulars of the case. During the present year another example of the malady has come under my notice, and these three cases make up all the data that I have. This third case is a most extraordinary one, for the patient, an elderly and healthy farmer, is covered with blue livid patches, which present a condition of solid œdema, almost as hard as keloid. As in osteitis deformans, the subjects of this disease have been senile men, and the malady has multiplied slowly through many years without derangement of general health. As in osteitis deformans, it has not attained to exact symmetry. If we substitute skin for bone, the facts as to the two maladies are much alike. I have to add, respecting the blue-skin cases, that there was good reason to believe in at least one, that the disease began in a local injury.

A rich store of material exists ready to hand for clinical museums in the pictorial illustrations of disease which have been already published. It may be said, perhaps, and it is partly true, that these are already accessible in our libraries. They are accessible there, however, only in a certain sense, for in most instances they exist only for those who know where to find them. They are scattered here and there, unarranged and unclassified, and but too often, so far as the general student is concerned, they are accessible only in the sense in which fossils in the rocks may be said to be accessible to the geologist. If carefully hunted out, disentombed, and placed in a museum, in which they should be well classified and indexed, their value would be increased tenfold. Few, indeed, of us have any conception of the wealth of clinical material of this kind which is buried in the atlases, journals, transactions of societies, and monographs of the past century. Most certainly as a preliminary to the collection of new delineations of disease, an attempt should be made to bring together, in orderly arrangement, the wealth which we already possess by inheritance. In skin diseases, for instance, there are at least a dozen atlases, and, of these, those of Bateman, Alibert, Cazenave, Sir Erasmus Wilson, and Hebra, are of exceptional merit, whilst almost all contain much that is valuable. Let anyone picture to himself the labour of hunting through all these works for illustrations of any given disease, and the probability that the seeker would after all miss much of what he was looking for. How different would it be if these were all collected, taken to pieces, and their contents reclassified, according to subject. Such would be the beginning of a clinical museum, a well arranged collection of all that our predecessors have deemed worthy of delineation. In many cases, published portraits are accompanied by good case-narratives, and in such, not infrequently, the realisation of the facts may be almost as perfect as if we had ourselves seen the patient. It would be absurd for me to attempt to produce to you anything like detailed proof or exemplification of what I have said, and yet I may, perhaps, be permitted to glance very briefly at a few instances.

In the year 1849, our veteran colleague, Mr. Cock, published in the *Guy's Hospital Reports* some very important commentaries on the pecular changes which may occur in sebaceous cysts, and which may simulate malignant disease. Mr. Cock's portraits should form the nucleus of a series of illustrations, showing all that has been observed subsequently on this subject.

A most extraordinary disease of the fingers and ears, which occurred in several children of the same family, was the subject of a very full narrative by my late friend, Dr. John Murray, who published with it the portrait which I have copied. So far as I know, nothing of the same kind has ever been observed, either before or since. Knowing, however, what we do as to the laws of production of rare maladies, and how it is certainly the fact that nothing



Fig. 6.—Protrusion of Hydrocephalic Brain.

can be so peculiar and strange in its features, but that we may expect in due time to find its precise counterpart, there can be little doubt but that we shall some day see the exact parallel of Dr. Murray's patients. In the meantime it is, I cannot but think, of great importance that his published portrait should be placed in a museum conspicuously under the eyes of the profession. It is as valuable for the physician as a new fossil bird for the palæontologist.

Professor Hebra published in his *Atlas*, amongst many other rarities of great value, a portrait which it will serve my present purpose to mention. It is that of a disease which he called *sarcoma melanodes*. It shows large diffused patches of black new growth, almost covering the fingers. It is most rare for anything of the nature of melanosis to be developed symmetrically, and I doubt much whether the experience of Mr. Pemberton or any other English observer can produce a parallel. I feel almost sure

that none such has been published. It is most important that the Vienna portrait should be kept in memory, and its features made familiar, in order that careful search should be made for others. No doubt, they illustrate new laws in reference to the disease in question, so also of rhinoscleroma.

In a portfolio which is on the table I have collected from various sources published portraits of diseases which, so far as my knowledge extends, are almost unique. We have amongst them an enormous erectile hypertrophy of the female breast (Mr. Image). Portraits of granuloma fungoides (Dr. Pringle). A most unusual case of urticaria tuberosum, by Mr. Morrant Baker. A case of dermatolysis, in which the man's ear and eyelids travelled halfway down his neck. The condition shown in this latter portrait is so extraordinary, so inconceivable without the sketch—and, I may add, so almost incredible with it—that we can but wish it had occurred within the possibilities of photography.

Here is a case of tinea, possibly favus, in which extensive disease of the skull bones was induced. A portrait by Dr. Anthony Todd Thompson, of a rapidly serpiginous form of nævus. In this other portrait we have a representation—rough, I may confess, as a work of art, but very good for the demonstration of what it is designed to show—in which, after premature ossification of the skull bones, the hydrocephalic brain grew through a hole caused by absorption of the calvaria, and hung over the temples (Fig. 6). I must not trouble you with more, my object simply being to enforce the point that of all extreme rarities portraits should be taken and conspicuously exhibited, in the hope of obtaining parallel observations.

We have in Dr. Duhring's Neoplasm a sort of type case of a new group (Fig. 2). If it be not now unique, it probably was so at the time of publication. The growths in the end killed the patient, and caused gland disease; they were therefore malignant, but they were not to be distinguished from inflammatory hypertrophies, and many underwent complete removal whilst the others were growing. The cases constitute most important links between inflammation and cancer.

It would be great omission if, in connection with the present-day development of such a museum as ours, I should say nothing as to the collection of illustrations of surgical instruments and appliances. The time at my disposal is, however, very short. I must content myself with affirming that such a collection ought certainly not to confine itself to objects of historical interest, but should aim at displaying every novelty of the day. It is only by such public display that the merits of what is good can be easily appreciated and made widely known, whilst that which is not good may be permitted to pass quietly away. At present the surgeon wishing to make himself acquainted with new instruments, etc., must visit an instrument maker's shop, or must content himself with what is shown at the annual museum of the British Medical Association. Neither of these can be considered as fully satisfying, and I cannot admit that the institution in which we are now assembled will have done all that it can for the perfecting of the art of surgery until it has within its walls a collection, easily arranged for inspection and comparison, well labelled, described, and catalogued, of all instruments and appliances, concerning the merits of which the practitioner may desire information.

It remains only, Mr. President and gentlemen, that I should now say a few words by way of summary and conclusion. The design of the Bradshaw Lecture is, I believe, to keep in memory the name of a surgeon who was proud of his profession and had faith in its aims. When you, Sir, did me the honour to convey to me your wish that I should deliver it on the present occasion, I had no difficulty in selecting a subject, than which I believe there is none other of equal importance at present. I can only hope that you have not thought it inappropriate. Apart, however, from the general interest which attaches to the development of modern museums, there were other and more temporary reasons which impelled me to take up their advocacy. It is well known that our Council contemplates large additions to our museum accommodation. The additions to our library are already complete, and have, I cannot but believe, given great and general satisfaction. When, however, it got abroad that one or more new wings were to be added to the museum, the announcement was not received by our critics with unmixed approval. It has been said that we have abundance of bottles and bones already; I have even heard it hinted that the age of museums is passed. Now, Sir, the Council of this College has, as you well know, in nowise commissioned me to defend its acts, nor do those acts stand in the slightest need of apology from anyone. It occurred to me that I might, however, usefully employ the present occasion in the endeavour to enlist the sympathy and co-operation of the whole profession in the plans referred to. With this design I have tried to show that our museum, rich as it is, magnificent as in many departments are the accumulations which it already possesses, still stands in need of further developments. These developments are necessary in all directions, but, as being of paramount importance, and as having been comparatively neglected, I have urged the formation of clinical departments, which should be designed to assist in the diagnostic discrimination of disease.

I have in the advocacy of this object produced, I fear with some diffuseness, evidence that such a museum would be of the utmost advantage both for the education of students and the advancement of knowledge. I am sanguine that some of the facts adduced must have carried conviction to all doubters, should such be present, that it is most desirable that we should as speedily as possible form a collection as complete as possible of all that the modeller, the artist, and the photographer can do in the representation of disease as seen in the living subject. I am almost ashamed to attempt to meet the only objection which I can conceive to remain in the minds of any, that, namely, on the score of expense. If, however, this must be met, let it be urged that in the lowest and most mercantile calculations, such expenditure would pay. The victims of cancer, for instance, and of such diseases as malignant pustule, are often men in the prime of life, the fathers of families; and their death prematurely, quite apart from motives of humanity, may be easily shown to be a heavy pecuniary loss to the community. These diseases are curable only by early operation, and early operation is possible only as the outcome of early and confident diagnosis. I assert that a few good models would make such power of diagnosis a common possession of the whole profession to an extent very far greater than is at present the case. I name these two diseases as examples, but there are hundreds of others. Let us throw aside lukewarmness, and join heartily in the work. Let us stint no requisite outlay. I cannot believe that our critics wish that we should hoard our wealth; there could be no surer step downwards as regards both the repute and the usefulness of this noble College. Others there are, I doubt not, ready to emulate the liberality of Sir Erasmus Wilson if they see that the College knows how to make wealth useful, and has the moral courage to employ it. Surely it was to the high honour both of Aldrovandus and of John Hunter that they died poor. Although both enjoyed large incomes, yet both saw so clearly how money might be made to subserve science and both had such faith in science, that they spent in its service all they had. If I were asked to denote by any one fact the difference in the intensity of character of the brothers Hunter, who in most respects were much alike, I would say that William died wealthy and John almost a bankrupt. It cannot be wished that an institution like ours should show less of public spirit than has been displayed by individuals who were surrounded by family claims. If such cowardice should ever come over us, as I am convinced it never will, we shall indeed have lost sight of the example of the man whose name our museum bears, and shall have failed grievously in the duties of our trust.

THE MORTON LECTURE
ON
CANCER AND CANCEROUS DISEASES.

Delivered at the Royal College of Surgeons of England on Thursday, November 29th, 1888.

By Sir SPENCER WELLS, Bart., F.R.C.S.,
Surgeon to the Queen's Household.

[*Concluded from page 1205.*]

Let me mention another matter for your consideration. We may be consulted in cases where the period for early and hopeful operation has passed by, or where, months or years after operation, recurrence has taken place—it may be that recurring growths have also been removed, once or several times—and then comes a time when a patient, exhausted by loss of blood or by profuse offensive discharge approaches the end, and further operative treatment is abandoned. Are we to be content with relieving pain, prolonging sleep, and the use of deodorising or

disinfecting appliances, or can we do more? Can we encourage the forlorn hope of the patient that even yet growth may be stopped; that some benign alteration may take place in its structure—something like the "spontaneous involution" of Virchow—some retrograde fatty change in the cells or elementary components of the tumour, while extension or growth of new cancer cells is stopped? If this could be attained before the whole body were infected it would amount to curing cancer. From time to time such cases of cure are reported; but few, if any, stand the test of accurate investigation. Virchow, however, cautions us against too great scepticism in such therapeutical investigations, and says that the hopeless condition of the patient justifies the trial of remedies of whose mode of action we have no clear idea. Whether we can go still further, and secure for healthy tissues immunity against infection from an existing cancer—a resistance to invasion—remains a subject for future inquiry. All we can yet say is, that under certain conditions the nutrition of cancer cells may be so far arrested as to lead to their complete disintegration. This is often observed in small fragments, or within a limited circumference, and Nussbaum has recently succeeded in the attempt to effect such changes in larger growths by cutting off their supply of blood. He makes deep furrows with Paquelin's cautery through the integuments and subcutaneous fat quite down to the adjacent fascia or muscles, thus cuts off all peripheral supply of blood, and so lessens the abnormal vascularity of many malignant tumours. Soft fungoid masses which bleed readily soon become firm, and the whole tumour more solid, while the general health improves and life is prolonged. And we also hear from Munich of aims at a somewhat similar object by injecting solutions of ozone into the substance of cancerous growths and the tissues surrounding them. Not only is the proliferation of the epithelial cells said to be arrested, and the formation of cicatricial tissue obtained, but the surrounding textures are protected against invasion. So long as the disease is local it must be curable. As Virchow says in concluding his last paper, "If cancer in its beginning, and often very long afterwards, is a local disease, it must be possible during this period locally to cure it."

When a superficial cancer on a limb has returned after destruction by cauterisation or caustics, or after removal by the knife and grafting of healthy skin, and the lymphatic glands nearer the body remain free from infection, the propriety of amputating the limb must become the subject for consultation. It will sometimes be the painful duty of the surgeon to urge upon a reluctant patient to sacrifice a limb in the hope of saving life; and if this advice is followed before infection of the glands has taken place, the result has often proved the soundness of the advice; while too great delay, or want of earnestness in urging submission to so serious an alternative as the loss of a limb must always be, may lead to protracted suffering and inevitable death.

I have yet another subject for your consideration; one which the general public enters into with a good deal of warm feeling and an amount of ignorance which calls rather for instruction than blame. I mean the removal of cancerous growths by caustics instead of by the knife. On this point let me read to you what our great master, John Hunter, said just a hundred years ago[1] as to cures for cancer.

"No cure has yet been found; for what I call a cure is an alteration of the disposition and the effect of that disposition, and not the destruction of the cancerous parts. But as we have no such medicine, we are often obliged to remove cancerous parts, which extirpation, however, will often cure as well as we could do by changing the disposition and action. Arsenic seems to have some power of this kind, and its effects might be increased, by being used internally and externally; but its use is very dangerous, and I am afraid insufficient for the disease. This is a remedy which enters into the empirical nostrums which are in vogue for curing cancer, and among which Plunkett's holds the highest rank. But this is no new discovery, for Senertus, who lived the Lord knows how long ago, mentions a Roderiguez and Flusius, who obtained considerable fame and fortune by such a composition. I was desired to meet Mr. Plunkett, to decide on the propriety of using his medicine in a particular case. I have no objection to meet anybody. It was the young one; the old one is dead, and might have died himself of a cancer for aught I know. I asked him what he intended to do with his medicine. He said, 'To cure the patient.' 'Let me know what you mean by that. Do you mean to alter the diseased state of the parts, or do you mean by your medicine to remove the parts diseased?' 'I mean to destroy them,' he replied. 'Well, then, that is nothing more than I or any other surgeon can do with less pain to the patient.' Poor Woollett, the engraver, died under one of these cancer curers; he was under my care when this person took him in hand. He had been a life-guardsman, I think, and had got a never-failing receipt. I continued to call on Woollett as a friend, and received great accounts of the good effects, upon hearing which I said, if the man would give me leave to watch regularly the appearance of the cancer and see myself the good effects, and should be satisfied of its curing only that cancer (mind, not by destroying it), I would exert all my power to make him the richest man in the kingdom. But he would have nothing to do with me, and tortured poor Woollett for some time, till at last I heard the sound testicle was gone, and at length he died."

How this story of John Hunter reminds us of much that goes on every year in this great city. More than thirty years ago, in 1857, I published a lecture on the cancer curers of that day—Pattison and Fell, Landolfi and the Black Doctor, Beveredge, and the Rev. Hugh Reed. I believe the exposure of Mr. Reed's practice did something to prevent other cancer curers from doing much harm in London since his disappearance. But there are still irregular practitioners heard of who follow the line of Plunkett, Pattison, and Fell, who profess not only to destroy a cancerous tumour, but also what they call its roots, and thus prevent a return; or, as Fell professed, to destroy the "tendency existing in many cases in the constitution for the reproduction of cancerous cells," and to "destroy the cancerous diathesis." It is curious to compare this claim with John Hunter's speculations on the use of arsenic to "destroy the cancerous disposition," and Dr. Creighton's remarks on arsenic among other alterative or "habit breaking" drugs, metals, or metalloid substances, having elective affinities for particular tissues, and his views of cancer as an acquired habit of the tissues, "a habit that might be broken if we only knew how." The inhalation of oxygen and the use of oxygenated water as a beverage have been supported upon somewhat similar grounds, and did no harm beyond disappointing the patient. But, as a fashion, its day was short. The use of methodical compression, which often did good, has led to the more modern massage, which has already done much harm.

On looking over my old lecture, I find this sentence: "I should not be at all surprised to hear that the next great empiric who appears in London will profess to cure cancer by galvanism." I have been surprised that this advent has been so long delayed, although there have been proofs of late that female galvanic doctors are at work, and others calling themselves electro-homœopaths, doing some harm, but not deserving the title of great great empirics. I heard only last week of certain cancer curers whose headquarters are at Brussels, but who have correspondents in London and Southampton, whose practice leads to results quite as bad as any of those of Pattison and Fell. I must not pursue this rather tempting subject further than to repeat my assertion that "we have no reason to fear a comparison between what we can do by fair and open means, and what really can be done, or ever has been done, by any cancer curer or any secret remedy."

I wished to say something more as to the use of caustics rather than the knife, scissors, or cautery, but I have only time to add that potassa fusa has been largely used in this way, and that I have heard of, but never seen, very good results following; and I have seen several cases treated by the late Dr. Wynn Williams with bromine. But not one ended satisfactorily, although temporary good was done. On the table is a very remarkable specimen of the entire uterus, which sloughed away after the use of chloride of zinc. Dr. Marion Sims carefully scraped away with his curette all the diseased structure till he came upon hard uterine tissue. Then he applied persulphate of iron upon cotton-wool, left this for twenty-four hours, removed the styptic plug, applied another plug of wool charged with a strong solution of chloride of zinc, and left this for four days. After removing this plug antiseptic vaginal injections were used for several days, and then I found this mass quite loose in the vagina. It consists of the entire uterus, and when fresh it was quite evident that some of the peritoneal coat of the fundus came away with it. The patient suffered a great deal, and died about two months after the application of the caustic; sooner, I believe, than if she had been left alone.

More than ten years ago, in June, 1878, lecturing in this theatre, I gave a short account of Freund's method of entirely removing a cancerous uterus through an incision in the abdominal wall, and referred to Blundell's four cases of removal through the vagina.

[1] Palmer's edition of his works, vol. i, page 625.

I then said I thought it would be very rarely that an entire uterus affected by cancer would be removed in this way, and I need now only add that the results of the practice have been so disappointing, that it may be said to be practically abandoned. I have only twice removed the entire uterus by laparotomy, and the specimens in both cases are on the table before you. One is of some historical interest as having been the first instance in this country of excision of the entire gravid uterus. The patient was six months pregnant, and suffered from epithelioma of the cervix uteri. You see the entire uterus and the ovaries just as they were removed, and the opening through which the fœtus was extracted. The patient recovered from the operation, and was in fairly good health for several months; but the disease recurred in the left iliac fossa, and death took place thirteen months after operation.

The other case was much more satisfactory. A patient, at the full term of pregnancy, had her pelvis so blocked up by a uterine tumour that delivery was impossible. You see the uterus, which I removed with both ovaries, and the cavity from which a living child was drawn out. Recovery was as rapid as after a natural labour, and I received a photograph of mother and child a year after the operation, both being quite well. I need say no more of these cases, as they have both been published, except that they have proved that, in case of need, the entire uterus containing a fœtus or a viable child, with considerable tumours, and with both ovaries may be successfully removed through the abdominal wall. But excision of the uterus by laparotomy must be an exceptional proceeding, as removal through the vagina is a much more successful operation. It did not attract serious attention in England until after a discussion at the Obstetrical Society in March, 1885, where it may be said to have been generally condemned. In the report of that discussion I find the following remarks of my own:—

"It is to be hoped that at least as good results may be obtained here as in Germany, and that condemnation of the principle of the operation will not be the verdict of the Obstetrical Society. Have we sufficient facts before us to justify such a verdict? Admitting that abdominal extirpations have resulted in a mortality of 72 per cent., and vaginal extirpations of 28 per cent., is it to be supposed that improved methods will not lead to diminished mortality? Admitting that recurrence of the disease within a few months, or, at most, in from two to five years, has hitherto been the rule, may not a more accurate diagnosis, earlier operations, and improving methods lead to better results—not only to a lower death-rate, but to a retarded recurrence and sometimes to complete recovery?"

It will hardly be disputed now that the mode of operating has been improved, and that mortality has diminished; and I think I cannot employ the few minutes still allotted to me better than in rapidly sketching what I believe to be the best mode of operating, and in bringing before you the results already attained by experienced operators.

But before speaking of the removal of the entire uterus, I must allude to the removal of the diseased part only, by the operations known as infra-vaginal and supra-vaginal amputations. These diagrams show what is meant by these alternative proceedings:—



Supra-vaginal amputation of cervix. Infra-vaginal amputation of cervix. *o* internal os. The dotted lines indicate the line of incision.

Of course it must be difficult to draw a very definite line, and say exactly where one or other of the two operations begins or ends, but these are near enough for all practical purposes, and if they are compared with this other diagram after Freund, showing what is done when the entire uterus is removed, both Fallopian tubes and both ovaries being left behind, a very good idea may be formed as to the comparative gravity of the different procedures.



Line of Ligatures in Freund's operation.

In many cases of total extirpation it may be advisable to remove both Fallopian tubes as well as the uterus, and in some cases one or both ovaries should also be removed. This will, I need hardly say, depend upon the healthy or diseased condition of the different parts.

I am sure we are not yet in a position to compare numerically the risks of partial or total excisions, either as regards the immediate danger of death from the operation, or as to the liability to recurrence at longer or shorter intervals. This must be done at some future time, when we have a larger number of cases accurately observed and faithfully recorded. At present I can only offer a general statement that in my own practice, when the disease is strictly limited to the parts near the os, I prefer infra-vaginal amputation, and I do it by the galvanic cautery *écraseur*, using the wire at a low red heat, and tightening the loop very slowly. I have removed nearly the whole of the cervix in this way without losing one drop of blood. A white, dry eschar is left, and cicatrisation follows without fever or much pain. When disease has extended rather higher, amputation must be done with knife or scissors, but it is well to cauterise the raw or bleeding surfaces by copper or gas cautery, or Paquelin's, to serve the double purpose of checking bleeding and destroying any infective cells that may possibly have invaded the tissues above the line of amputation.

After what I have said it cannot be surprising that in any case where cancerous disease has extended much higher than the os, and there is good reason to believe from the mobility of the organ that the surrounding tissues are still free from invasion, I advise total excision as the best practice; and increasing experience is materially simplifying the operation. I cannot pretend now to describe the different steps in detail, and I need only allude to the importance of preliminary disinfection of the vagina, removal of any dead or softening cauliflower excrescences, and shaving off all hair from pubes and vulva. This may be done the day before operation.

During the operation the patient is fixed in the lithotomy position by anklets and wristbands, or by a thigh crutch; and a *douche* and elastic tube are so arranged that a stream of warm, slightly carbolised water may continually irrigate the vagina. The body is well covered, as well as the arms, legs, and feet, to prevent chilling. If the uterus is fairly mobile, no speculum (at most one or two retractors) is required. Some operators draw down the uterus by a simple or double hook, or by hooked forceps; but, if the cervix is firm, any friable part having been cleared away, the safest plan is to pass a strong wire through the cervix. This is quite safe, and not so likely to be cut as silk. Supposing that any intention of turning the fundus either forward or backward is, as it ought to be, abandoned, the cervix is pulled by the wire towards the vulvar orifice, the labia held aside, and the sides of the vagina separated if necessary. The operation is completed by different stages.

1. Division and loosening, and pushing up to the extent of half

to three-quarters of an inch of the vaginal mucous membrane behind and in front of the cervix.

2. Pushing upwards or separation of the bladder and ureters from the neck and anterior surface of the body of the uterus.

3. Opening Douglas's pouch, and introduction of a sponge to keep up the small intestines.

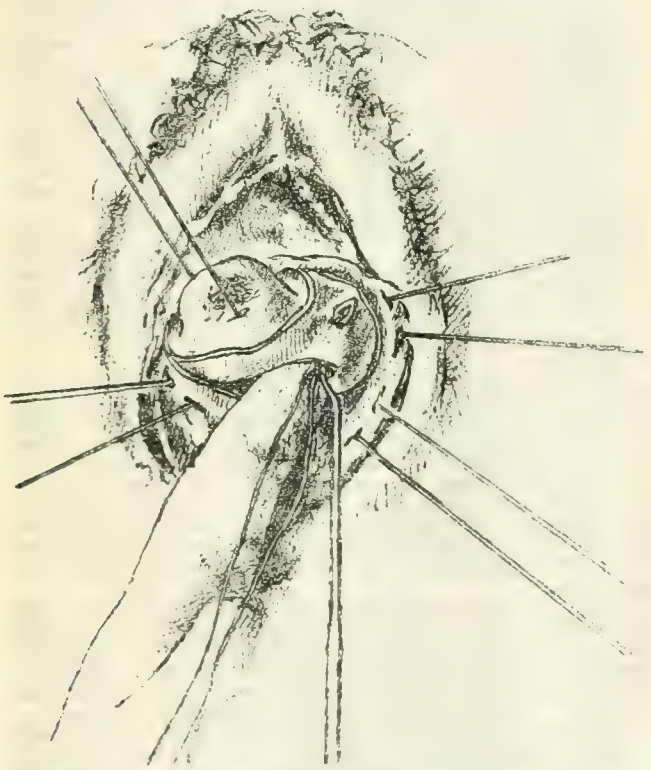
4. Securing the uterine arteries on both sides by ligature or by pressure forceps.

5. Division of the broad ligaments and other attachments, and removal of the uterus.

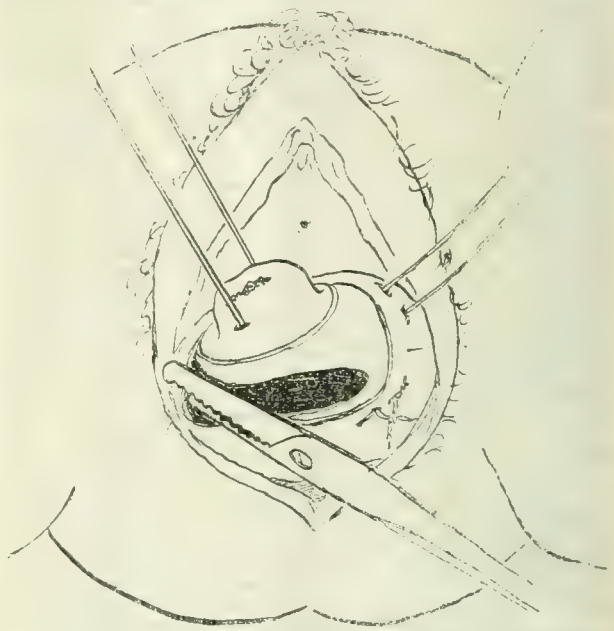
6. Cleansing vagina, removal of sponges, arranging ligature-threads or forceps, and loose plugging with iodoform gauze.

It is unnecessary to such an audience as this to enter into further detail, but I will refer briefly to two matters of great importance—the safety of the bladder and ureters, and the substitution of forcipressure for the ligature.

Sometimes the separation of the bladder from the uterus is quite easy, sometimes very difficult, and I am sure great care is always required to avoid the ureters. In several recorded cases one, and in more than one case both, ureters have been tied or divided. I need hardly remind you that one mode of death in uterine cancer is uræmic coma, caused by closing up of one or both ureters; and I show you here the parts removed after the death of a patient from uræmic coma. She was operated upon by a very experienced American surgeon for vesico-vaginal fistula; yet one ureter was included in the sutures which closed the fistula, and the other was left opening into the vagina behind the united edges of the fistula. In some recorded cases the bladder has been wounded, and in others the catheter or sound passed through the urethra, and used as a guide to the separating finger or to pull the bladder forward, has been seen through the thin muscular coat and mucous membrane of the bladder.



In one of these drawings the mode of passing one of the ligatures used to secure the uterine arteries is shown. A threaded blunt needle is guided by one finger passed into Douglas's pouch. One or more may afterwards be passed in the same way to secure the broad ligament on either side, or the same object may be gained by the use of pressure-forceps, as shown in the next drawing. These are not removed, but are left on for twenty-four, thirty-six, or forty-eight hours, until all danger of bleeding has ceased. Leopold and other German operators prefer the ligature. Péan, Richelot, and other Frenchmen trust to the forceps. I believe I was the first to suggest their use, and one of our Fellows, Mr. Jennings, the first in this country to carry out the suggestion with success. Some warm controversy has arisen in Paris lately on this matter, and Dr. Pozzi, in a small work on vaginal hysterectomy for cancer just published, puts the historical question as follows. After quoting what I wrote in 1882,[2] recommending the



"securing any bleeding vessel as it is divided by pressure-forceps, not using any ligatures, but leaving the forceps hanging out of the vagina for two or three days until all danger of hæmorrhage has ceased," Dr. Pozzi refers to Mr. Jennings's successful case in October, 1885, before M. Richelot's first case in April, 1886, but after M. Péan's first in June, 1885, which was not published until April, 1886, and concludes that, although M. Richelot has "vulgarised" forcipressure in this operation, Mr. Jennings's case had been published nine months before M. Richelot made his communication to the Academy of Medicine.

But it matters very little who first proposed or first practised a particular method. The chief thing is to decide whether it should be followed or not, and my own belief is that it must be left to the choice of the surgeon in each case. He should be prepared to secure bleeding vessels by ligature or the forceps, as he finds he can do it more easily. Forceps with a variety of curves may prove more convenient than the straight instrument shown in the drawing. It may be that ligatures will do all that is required, and the best way of applying them that of Leopold, as shown in the drawings, each ligature passing twice through the peritoneum of Douglas's pouch and the vagina, and being tied so as to lie parallel to the line of incision—not simply bringing serous and mucous edges together, but compressing in separate portions the whole of the vaginal wall. I think the quickest way to do this would be to have a long ligature threaded at each end on a small needle, which would be passed by a needle-holder from the serous outward through the mucous membrane.

When these ligatures are tied they form a chain of compression all round the edges, and may be used afterwards by loosely tying some or all of the long ends together to close the opening from the vagina into the peritoneal cavity as far as may be desirable. By crossing their handles pressure-forceps would have the same effect. My own feeling would be rather to trust as a rule to forceps, and only exceptionally to ligatures. Forcipressure is simpler, more secure, takes much less time, and saves much trouble and suffering to the patient after operation. When an operator who has prepared himself by sufficient practice on the dead body trusts to forcipressure, and has prepared everything before he begins, I feel sure that fifteen or twenty minutes would give ample time to

[2] *Ovarian and Uterine Tumours*, p. 528.

complete the operation if the ovaries are not disturbed. If healthy, I think they had better be left alone, and so may the Fallopian tubes. But if the disease has extended high up the uterine cavity it would be safer to remove the tubes; and this would add very little to the duration of the operation.

I shall not attempt to give the results of this operation statistically, but it is important that we should know what a few of the most experienced operators have been able to accomplish. Leopold wrote to me on the 11th of this month, stating that up to that date he had performed total extirpation of the uterus by the vagina in 83 cases with only 5 deaths, a mortality of 6 per cent. Péan, writing on the 13th, says that from 1882 to the end of 1887 he had done 22 operations, 15 successful, but with 7 deaths; but that this year he has had 16 cases, all successful and no deaths. Professor Olshausen, of Berlin, appears to have the largest experience of this operation, for he writes to me that between May, 1887, and November 5th, 1888, he had 99 cases with 13 deaths. In 1881–82, he had 22 cases with 8 deaths; from January, 1883, to April, 1887, 31 cases with 5 deaths = 53 cases in Halle with 13 deaths, to be compared with 99 in Berlin, also 13 deaths. All these were cases of total extirpation by the vagina for cancer. He has had 1 case where seven years have elapsed without recurrence, and 3 of five years and upwards. Martin, of Berlin, who had previously published 66 cases where cancer led to the operation, with 11 deaths, or 16 per cent. mortality, writes on the 16th of this month:—"Since the Washington Congress in 1887, I have performed the vaginal total operation in 22 instances" (he does not say in how many for cancer). "All recovered but one, who died of hæmorrhage. Of supravaginal amputation I performed altogether 6 with one death." It would be easy to collect a very large number of cases, such as Schroeder, 59, with 5 per cent. mortality; Fritsch, 60, 7 per cent. fatal. But these do not bring us later than 1886, and they all tell the same story of greater success following larger experience.

As to the comparative mortality of infra- and supravaginal amputation and total excision, the results vary so much in successive years and in the practice of different operators, that I have been unable to collect materials for a trustworthy contrast either as to the immediate fatality or as to the frequency of recurrence of disease, but it certainly appears that recurrence is earlier after partial than after complete operations. In some series the remarkable fact comes out that supravaginal amputation stands the test of recurrence better than complete excision. This would be inexplicable if it were not for the probability that the disease had been generally much further advanced in the cases where total excision was performed than in the others.

Our American brethren have been before us in adopting the operation of total excision of the uterus, and, as elsewhere, their results have improved with time and experience.

The cases hitherto performed in this country have not been enough to serve for any comparison of results with those abroad, but there have been many successful cases published since that of Mr. Jennings, five by Dr. Purcell, and others by Dr. Duncan, Mr. Reeves, and Dr. Sinclair, of Manchester; and they all teach the lesson that if the operation is to be successful it must be done early, before surrounding structures are involved in the disease.

There are other parts of this subject on which I should like to say much more. I wished to allude to cancerous disease of the ovary, and to say how difficult it is to decide whether an ovarian tumour is innocent or malignant, even after it has been removed and carefully examined. Now I can do no more than support the rule to operate early as the best way to avoid recurrence. I wished also to remind you how the mortality after amputation of the breast and after removal of other parts affected by cancerous disease has been so much lessened by modern sanitary science that all the old arguments against operating at all in cases of cancer require revision. I wished to say something about inadequate operations, and about operations which are unnecessarily severe—and much more than I did say against operating in hopeless cases, and in studying how to "soothe where we cannot save." Of cases which especially interest us, where cancer has affected the lips or tongue, the œsophagus, the larynx, the pylorus, the spleen or kidneys, the intestines, the bladder, and the female genital organs, I have not time to say another word.

And now, in conclusion, I will only venture to express the belief that if some who have heard or who may read this lecture are convinced that cancer is increasing, and will try to find out the cause of the increase, and why cancerous diseases are so prevalent and so fatal; and if they will also try to learn how to prevent or to cure them, no one can forecast the result. No one could have imagined that a forgotten book of Marco Polo would rouse the spirit of research in Columbus, and lead to the discovery of a new continent; and no one can foretell what the work of one man may accomplish. It may be trifling, but

> Think nought a trifle, though it small appear,
> Small sands the mountain, moments make the year,
> And trifles life.

Each one may bring his offering, however small, to the altar of one of the temples of Æsculapius; or, if his own search for knowledge fail, he may assist in preventing the failure of others, and in guiding them along the path to full success. And, year after year, the Morton Lecture may exert some influence for good upon all mankind in all coming generations.

[Some paragraphs of the lecture were not delivered for want of time.]

OBSERVATIONS
ON
TWO CASES OF RAYNAUD'S DISEASE
(SYMMETRICAL GANGRENE).

WITH CHROMOLITHOGRAPH.

Read in the Section of Medicine at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

BY J. O. AFFLECK, M.D., F.R.C.P.E.,

Physician to the Royal Infirmary, Edinburgh; Lecturer on Practice of Physi and on Clinical Medicine in the Edinburgh Medical School.

ALTHOUGH numerous instances of the remarkable train of symptoms constituting the disease which bears the name of its eminent discoverer, M. Maurice Raynaud, have of late years been recorded, and although the subject has received considerable attention and discussion, it must be admitted that there remain many points both in its etiology and pathology which are still unsettled, and respecting which further information is much to be desired.

The main phenomena of this affection, when typically manifested, are, as is well known, the sudden occurrence, after it may be various sensory disturbances, of marked ischæmia, affecting in general portions of the extremities, particularly the points of the fingers and toes, but sometimes other parts, such as the lobes of the ears, tip of nose, etc. This displays itself in two or three stages. At first the affected parts present the appearance of so-called "dead fingers," being pallid and cold like the fingers of a corpse. Pain, often of intense character, is present; but along with this there may be numbness and other perverted sensations. The affected textures, too, are often abnormally hard and resistant. These symptoms, constituting the *syncope locale* of M. Raynaud, are held to depend upon arrest of blood-supply from spasm of the arteries. They may soon pass off, and, the circulation being restored, the parts regain their normal condition and appearance. But in many cases this stage continues, with, it may be, intermissions over a series of days, and further vascular changes emerge in the form of extreme lividity, together with swelling of the affected localities, due to their engorgement with venous blood *(asphyxie locale)*, which is held to depend either upon backward flow into the capillaries, or upon an actual spasm of the veins themselves arresting the return blood. Painful burning feelings and other sensory disturbances are present during this stage. The whole symptoms, however, may still pass off, or they may increase, and, with or without a further state of erythematous change, advance to gangrene. This gangrene is usually of the dry form, and superficial in extent, involving the upper layers of the skin of the points of the fingers or toes, which separate, leaving an ulcerated surface, which cicatrises with some amount of loss of substance, or, it may be, of one or more phalanges. Occasionally, but rarely, the gangrene is of much greater extent. The disease usually affects young adults, and it appears to be liable to recur, particularly on the return of any exciting cause, of which exposure to cold is one of the most potent. It may vary greatly in intensity

and duration. It is comparatively seldom met with, and, therefore, the occurrence of two well-marked cases within little more than a year, both presenting special features of interest in relation to the pathology of the disease, appears to justify in some measure my occupying, for a brief period, the time of the Section in narrating their main particulars.

CASE I.—M. K., aged 16, worker in a wholesale confectionery establishment at Musselburgh, was admitted to the Edinburgh Royal Infirmary on January 20th, 1887, complaining of severe pain and swelling of both feet, particularly of the left, which had existed since January 3rd. The following details of the illness were obtained from herself and from Dr. Craigie, who had treated her for some days prior to her admission into the hospital. On Saturday, January 1st, after prolonged exposure and fatigue in walking through the streets in melting snow, she felt a sense of extreme chilliness in both feet, which, however, soon passed off. Two days afterwards she was attacked with pain in both feet, which lasted but a short time, and did not prevent her from going out to her work. Each day during the week she had a return of the pain, lasting for several hours, and attended with feeling of tightness in the feet, which she tried to relieve by changing her boots. The pain daily got worse, and on the 10th she was compelled to take to bed, although it was not until the 13th that medical aid was called. She was then found to be suffering from intense pain in both feet, which were swollen and of blue colour, the toes being extremely œdematous, and appearing as if they would burst. It was noticed that the tinge of the feet varied, being sometimes nearly black, and at other times pale. The pain was liable to exacerbations. The patient's feet were placed in an elevated position, and many soothing remedies tried, but without benefit; and her sufferings and loss of sleep continuing, she was sent to the infirmary on the 20th. There were no points of importance in her family or personal history, except that from childhood she had been liable every winter to attacks of eczema.

State on Admission.—The patient was a well grown but delicate-looking girl, with a transparent skin and some slight eczematous patches behind the ears and on the eyelids. She bore the look of intense suffering, which was evidently paroxysmal and caused her often to scream out, and she had had no sleep for many nights. She would not lie down, but preferred to sit in bed with her legs hanging over—the only position in which she felt any ease. On examining her feet they both presented an appearance of extreme venous engorgement and swelling, particularly the dorsum and toes of the left foot, where there existed a large dark bleb strongly suggestive of gangrene. The congested appearance continued to a less degree backwards as far as the ankle, and even up the outer aspects of both legs, but it was noticed occasionally to alternate with an appearance of pale lividity. Any attempt to touch the feet caused her to scream, and she betrayed an amount of nervous excitement and irritation which rendered examination extremely difficult. Pulsation, however, could be made out in the arteries at both ankles. Besides the pain there were sensations of coldness and numbness of the affected parts, alternating with heat and tingling. The cerebral and mental functions were perfectly normal, and, beyond a slight cough, respecting which physical examination of the chest revealed nothing, all the other systems appeared healthy. The pulse was 120, temperature 101°. My colleague, Mr. John Duncan, kindly saw the patient at my request and noted the symptoms above described. He recognised gangrene as having begun in both feet, but to a greater extent in the left, and he advised washing with boric lotion and wrapping both feet in sublimated wool. Opiates were administered, and some sleep was obtained.

During the next ten days there was no material change, except that her pain, which was great, was kept under by treatment, and she took nourishment better. The gangrenous condition of both feet became more marked, and assumed the appearance represented in the painting now shown (Fig. 1). The whole of the anterior half of the left foot became shrivelled, mummified, and as black as coal: and it was evident that every tissue in this part had perished. In the right foot the gangrenous appearance was nearly as extensive, but was more superficial, affecting chiefly the true skin, but involving especially the four outer toes. The great toe had escaped, and had a perfectly healthy appearance (Fig. 2).

During the early part of February a distinct line of demarcation was visible on the left foot, and the gangrenous mass began to separate. On the right foot considerable recovery had taken place, and, beyond slight ulceration of skin on the dorsum, the only portions which had been destroyed were the points of the four toes already mentioned. The pain was now less intense, and ceased to be paroxysmal, but the patient betrayed extreme nervous irritability, especially whenever the affected feet were examined. The vascular engorgement referred to as affecting the hitherto sound parts of the extremities had also ceased. The patient began to look better, and, although thin, was not anæmic, her blood-corpuscles numbering 4,300,000 per cubic millimètre. Throughout all this time her urine, which was free from albumen, contained a large phosphatic deposit. Iron tonics and generous diet were administered; and during the whole month of February the patient's general health improved.

On March 2nd Mr. Duncan removed the left foot by Syme's amputation. Mr. Duncan notes: "The first dressing was made three weeks afterwards, when it was found that the anterior edge of the heel flap had sloughed and separated, its place being occupied by healthy, though rather pale, granulations. In ordinary course thereafter the stump healed soundly, with a good covering and fairly narrow cicatrix."

During the convalescence from the operation the patient began to cough and expectorate large quantities of muco-purulent matter. Physical examination revealed extensive bronchial catarrh, with limited areas of dulness.

On March 15th a trace of blood appeared in the sputum, but neither lung tissue nor tubercle bacillus were discovered in it. The points of the four affected toes of the right foot slowly separated to varying amount. Nearly the whole of the fifth toe was lost, but only the distal phalanx of the second toe. There only remained one entire toe, namely, the right great toe.

The chest complication retarded the patient's progress; but under cod-liver oil, iron, etc., she slowly and steadily improved; and on May 2nd was able to be out of bed. On May 23rd she was able to go out of doors on crutches; and on June 28th she left for a convalescent home in Perthshire. Notwithstanding the continuance of the cough and expectoration (which latterly showed some traces of lung tissue, but no bacilli), the temperature had continued normal, and the patient had gained considerably in weight before she left the infirmary. In Perthshire a small portion of the cicatrix of the stump broke down, and an erysipelatous blush appeared on the middle third of the leg, but this soon passed off, and she made good progress, so that on her return to her home in Musselburgh early in October she had gained much in flesh and was looking and feeling well.

On Thursday, November 3rd, the patient, who had not been exposed, felt a creeping sensation in her right great toe and in the stump of the adjoining toe, and pain began to be severe, while the colour changed to dark blue. She was admitted again to the infirmary on November 7th, suffering great pain in the two toes mentioned, which had a deep purple, almost black, hue. Alternating hot and cold sensations were felt, but the pain was easier when the former prevailed. No pallor was observed, and the stump of the left foot was entirely unaffected. Pulse and temperature about normal. Her health appeared to have somewhat deteriorated, as she was much paler and thinner than when previously seen, and the eczematous condition of the eyelids and ears had returned. Her cough, however, had disappeared. The treatment was similar to that formerly pursued, namely, allaying pain by opiates and wrapping the parts in wool. In two days the pain was greatly better, the dark appearance of the toes less marked, and the patient was soon entirely well. On December 2nd the lobes of both ears became of a dark purple, almost black, tinge. They were wrapped in cotton-wool, and by the 7th the dark colour had passed away. The patient was discharged on December 17th.

On April 24th, 1888, she again presented herself at the infirmary. Beyond slight eczema of the left ear and a little tenderness of the stump there was no morbid condition to be found. She was much improved in general health, and her catamenia, which had been suspended during all the time of her illness, had recently returned. She stated that during the winter months, subsequently to leaving the hospital, she kept her bed almost constantly, owing to the cold weather tending to bring back the pain and discoloration of her foot. But latterly she had been able to go about freely, and is now to be fitted with an artificial foot.[1]

[1] In the beginning of November, 1888, the patient, K., was again admitted to the Royal Infirmary for a return of the symptoms affecting the great toe. The "local syncope" and "local asphyxia" were exceedingly well-marked, as were also the characteristic painful sensations; subsequently both ears became affected in a similar manner. The treatment was the same as before, and after about a fortnight's stay in hospital she left quite well.

Case II.—J. L., aged 16, a kitchen-maid, residing in Edinburgh, was admitted to the Royal Infirmary on April 8th, 1888, complaining of severe pain in the hands, especially the right hand, which had existed for a week. From her statement it appeared that for the past six months she had been liable to attacks of this kind, occasionally affecting both hands and feet, and of varying severity. Eight days before her admission, after a long walk, she felt much pain in her feet and also in her hands. The pain soon passed away from her feet, but her right hand became worse, and she noticed that the tips of all the fingers were blanched. She was unable to sleep on account of the pain, which, however, tended to lessen towards morning. This continued for four successive days, the pain always returning at night, and being most severe in the right middle and ring fingers. She was seen by a medical man, who prescribed for the relief of her pain, but her condition becoming worse she was sent into the infirmary. Her family history was good, as was also her personal history, excepting that her occupation entailed much wetting and chilling of the hands and arms.

State on Admisson.—The patient was a tolerably well-nourished and healthy-looking girl, but was evidently suffering severely. On examination of the right hand all the fingers were of a blanched, corpse-like appearance, especially marked in the second and third phalanges, and the nails were absolutely colourless. The points of the fingers were of almost stony hardness. There was great pain in the whole hand, but the affected fingers and a large portion of the dorsal aspect were anæsthetic to touch. The fingers of the left hand were pale and painful, but to a much less extent than the right. Painful sensations were complained of in the toes of both feet, which, however, presented no abnormal appearance. The various systems of the body were found to be in a healthy state, with one exception. The heart and vessels generally were normal, but in the right arm no brachial, radial, or ulnar pulse could be felt. The right subclavian and axillary arteries could be made out, but they were of smaller calibre than those of the left side, and careful measurement showed that the right arm and hand were smaller in circumference by about half an inch than the left, in which the arteries were all normal.

The affected hand was treated with warm opium fomentations, wrapped in cotton wool, and an opiate administered which procured some hours of sleep. On the following day (April 9th) the whole of the right hand was of a uniform pale and corpse-like appearance when exposed (Fig. 3), and excessively painful, but it was noticed that in the course of a minute or two it underwent a remarkable change in colour, becoming deeply purple or livid (Fig. 4), and at the same time somewhat less painful, although the patient asked to have it covered up quickly. On April 10th, the same symptoms continuing, one minim of a 1 per cent. solution of nitro-glycerine was administered every hour for four hours, which the patient stated gave her much relief, although it did not appear to alter the condition of the circulation in the affected hand. On April 11th a dark spot was noticed upon the tip of the middle finger (see Fig. 4), and on the following day a similar spot upon the tip of the ring finger. Pain continued in varying degree, and the patient was irritable and nervous at all times. Considerable areas over the dorsal and palmar aspects of both hands and fingers were more or less anæsthetic. These areas were constantly changing.

April 19th. For the past eight days the patient's condition had continued unchanged, excepting that the pain was decidedly less, and that the hand felt comfortable while enveloped in cotton wool. The two gangrenous patches of skin on the ends of the right middle and ring fingers were separating; there was still alternate pallor and engorgement when the hand was exposed. On May 7th the gangrenous tip of the middle finger came away, and on May 12th that of the ring finger. Healthy looking granulating surfaces were left. From this time the patient improved steadily, the sensory disturbances however continuing in varying amount and locality.

On May 31st she was sent to the convalescent home, feeling quite well. Up till the day of her dismissal the arteries of the right arm were constantly being examined, but beyond the pulsation of the axillary, no brachial, radial, ulnar, or any other pulse could be discovered, an observation confirmed by Mr. Duncan, who had kindly seen the patient with me.

On July 25th she again presented herself. The right hand had a cold feeling, and the fingers generally, especially the three first, were of deep purple tinge contrasting strikingly with those of the other hand, but painless. The cicatrices on the finger tips looked healthy. She used her hand and arm well, but the measurements showed the same diminution as before, and the absence of all pulses was again confirmed.

It should be mentioned that neither the constant current, nor massage, both of which were employed, appeared to have much effect upon the disordered circulation. Protection by warm wrappings gave marked relief.[2]

These two cases, although differing much from each other in severity, presented in typical form the characteristic phenomena of Raynaud's disease, but yet they both exhibited features of quite exceptional interest.

In the first case the extent of tissue destroyed—namely, the half of the left foot as well as nearly all the toes of the right (and involving amptutation of one entire foot)—was much greater than is usually observed in this disease, M. Raynaud himself and all other authorities laying stress upon the fact that gangrene of this peculiar kind rarely if ever entails more than the loss of portions of the pulps of the fingers or toes, or of one or two digits.[3]

In the second case, which was one of much milder character, there existed a remarkable anatomical abnormality as regards the blood-supply to the affected hand and arm. This arrested attention from the first, and up to the present time it has been repeatedly verified. Beyond the axilla no pulse anywhere in the arm or hand could be made out. This was probably a case where high division and unusual distribution of the brachial artery existed as a congenital condition, but that it bespoke an inadequate or inefficient blood-supply to the parts concerned seems a warrantable conclusion from the appreciable difference between the bulk of the two arms and hands, notwithstanding the patient was right-handed, and also from her experience that at all times the right hand got more easily chilled than the left.

These observations raise some important questions in connection with the pathology and etiology of this singular malady. Of the soundness of the position of M. Raynaud in emphasising the large part played by vasomotor disturbance in the evolution of the morbid phenomena, there has been and can be no question, the striking sequence of changes in the local circulation in any well-marked case rendering this abundantly clear. Moreover, the operation of causes capable either directly or by reflex action of profoundly influencing vasomotor nerve-function is traceable in a large proportion of cases. But the question remains, and I venture to think is brought into special prominence by such instances as those I have brought forward, whether there may not be other factors concerned in the disease, of which sufficient account has not been taken.

It may be worth while to state here parenthetically that, as regards some of the recorded cases, other conditions, having affinities with, yet certainly not typically corresponding to, symmetrical gangrene, have been mixed up with it in a somewhat confusing way. This, however, is not surprising when it is remembered that tropho-neuroses generally have many common characters which may oftentimes render their precise identification a matter of difficulty. But it is the well-marked disease which is now under discussion, and in reference to the part played by ischæmia in the production of the gangrene, it may reasonably be asked, Are these vascular changes sufficient of themselves to bring about so serious a result? Let us recall for a moment what these changes are. Taking a typical case, the first thing observed is the deadly pallor, indicating the arrest of arterial flow through the part. It is not certain, however, that such arrest is absolute, but whether or not, it does not seem to be of long continuance at any one time, but is often seen to alternate with a state of engorgement even while one may be looking at the affected part. Moreover, it does not appear to be always present even in genuine cases, and it was certainly absent in the second attack of M. K. It is a condition which may quickly appear and pass off, as one frequently sees in hysterical patients, and it cannot be held to be the direct cause of the death of the part in this disease. I may here quote the following sentences from Mr. Duncan's observations of the girl K.'s case:

"This condition (pallor) did not, I think, in any part lead to death directly; probably it did not last long enough. I do not

[2] November 16th, 1888.—The patient called at the Royal Infirmary to-day to report herself. It is observed that the right hand and arm are of more livid appearance and are less warm than the left; and, further, that the entire absence of pulse in the right arm is as conspicuous as before.

[3] A case recorded by Professor Grainger Stewart (*An Introduction to the Study of Nervous Diseases*, p. 138), in which extensive gangrene attacked all the extremities, bears some resemblance to Raynaud's disease, but differs in many points from that malady in its clinical history, and Dr. Stewart himself seems doubtful about regarding it as such.

believe that we have yet gauged the viability of a limb kept bloodless, but I know that Esmarch's bandage and tourniquet may be kept on for six hours without injury. The difference between a bloodless and a blood-full part when cut off from the rest of the circulation, is, I take it, very great."

The further stage of the disease is that of cyanosis or venous engorgement, and it obviously possesses special importance, since, unlike the previous stage, it is never absent in any well-marked case of symmetrical gangrene, and always precedes the death of the affected part. The intensity of the engorgement seen in such a case as that of the girl K. appears more suggestive of a condition of what might be called active venous congestion depending upon a spasmodic contraction of the veins, than of passive congestion due to the backward flow of venous blood into the empty capillaries; and the effect, too, appears more in harmony with such a view. Thus mere venous stagnation does not, at least very soon, entail gangrene as a result, but rather œdema; while, on the other hand, sudden and complete venous arrest is a condition which may more readily tend to death of the part, and all the more should there coexist or have recently preceded non-access of arterial blood. But just as it is doubtful whether, in the earlier stage, the arterial spasm is ever so complete or so universal as to occlude entirely the vessels, so in this further stage, even granting (what is by no means certain) that it is due to venous spasm, it is equally doubtful whether this is so absolutely complete and of such continuance as effectually to close every channel for the return blood. Considering, too, the capacity of sound textures to resist morbid influences threatening their vitality, we should scarcely have expected to see so quickly brought about in this way such an amount of destruction as occurred in K.'s case.

If, however, we assume the pre-existence of trophic defect or disturbance in the parts, there is little difficulty in accounting for the result following upon the vascular changes already described. Weiss, of Prague, in an elaborate article upon the subject,[4] merely mentions this as a possibility, and as giving, according to Virchow's phrase, "eine Opportunität zur Necrose." Such a lowered tissue vitality might be inherent or acquired, and the two cases now submitted appear to give strong countenance to this view.

In the first case (K.) there seemed to have been all along feeble circulatory function, as seen by the ill-nourished skin, and by the tendency to the development of eczema on every return of cold weather, more particularly at the parts furthest removed from the heart. The extreme chilling of the feet during the two days she walked much in the wet and snowy streets would have a marked effect upon already ill-nourished tissue, and in this state the onset of such vascular disturbance as ushers in Raynaud's disease (of which the exposure referred to was doubtless the exciting cause) would be quite sufficient to determine the death of a large extent of texture.

In the second case (L.) a like set of conditions seemed to prevail; but the most striking fact was the arterial anomaly of the right arm, which, although apparently congenital, appeared to involve a chronic lowered vitality of the arm and hand. They were always more easily chilled than those of the left side, and the tendency to venous stasis in the fingers was very apparent to any observer. The girl had been subject to the symptoms of "local syncope" (dead fingers and toes) during the entire preceding winter, and, after having had the arms much chilled by cold water, "local asphyxia" (engorgement) set in, more markedly on the right side, as might have been anticipated, and ended in gangrene of two finger-tips.[5]

As bearing upon trophic disturbance, reference must also be made to the severe neuralgia which frequently exists before the symptoms of Raynaud's disease set in, and accompanies it in its earlier stages, together with the paræsthesiæ which so commonly prevail. The connection between neuralgic troubles and nutritive changes is well recognised. But do these neuralgic sufferings indicate any appreciable nerve disease here?

An interesting point in this connection may now be submitted. The amputated foot of K. was carefully examined in the Pathological Laboratory of the University by Dr. H. A. Thomson. The blood-vessels leading to the diseased parts were quite healthy. The internal plantar nerve was dissected out, and sections of it furthest removed from the diseased parts were prepared for microscopic examination. These sections are now submitted, and it will be seen that the nerve had suffered extensively from neuritis, and was now undergoing degenerative change, many of the bundles being entirely destroyed and replaced by fatty matter (Fig. 5). It might, perhaps, be urged that this was a secondary result to the tissues of the affected parts from the changes in them accompanying the gangrene. On the other hand, the appearances were so striking and so unmistakable that they could not be omitted from the investigation of the case, and they are of all the more interest to note, seeing that many now hold that peripheral neuritis probably plays a large part in the morbid process of influencing alike the blood-supply and the nutrition of the texture.

The whole subject is one for further observation and inquiry; but the cases now submitted manifestly possess features so unique as to entitle them to be placed upon record.

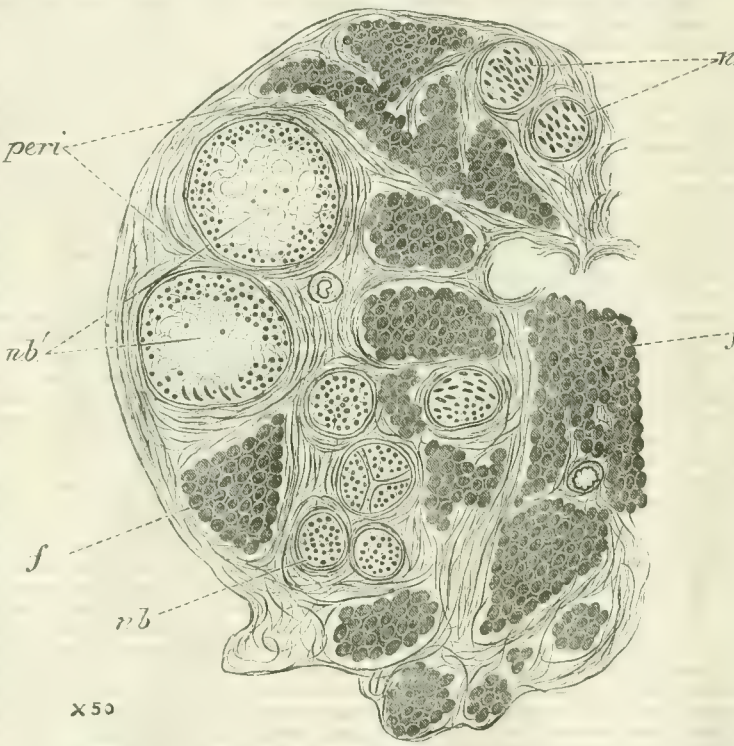


Fig. 5.—Transverse Section. Internal plantar nerve ×50, stained by Weigert's hæmatoxylin method, and cut in celloidin. *peri* = perineurium; *n.b.* = nerve bundles; *f* = adipose deposit; *n.b.'* = nerve bundles where the fibres have lost their medullary sheath.

[4] *Zeitschrift für Heilkunde*, B. iii. 1882.

[5] It is interesting in this connection to recall how, in diabetes mellitus, the skin suffers in its nutrition, and various cutaneous eruptions and destructive changes, such as carbuncles or even gangrene, occasionally occur. Vasomotor disorder is a feature of this disease. In one of Raynaud's recorded cases of symmetrical gangrene (*Nouveau Dictionnaire de Medecine*, t. xv. p. 650) diabetes set in apparently secondarily, but, under treatment specially directed to the latter condition, the symptoms of both diseases simultaneously disappeared.

THE GLASGOW MEETING.—At a recent meeting of the New York Academy of Medicine, the President, Dr. A. Jacobi, read a report as delegate to the annual meeting of the British Medical Association. Many of the very valuable papers read on that occasion had, he said, already been published, and were familiar to American physicians, but he wished to commend for careful perusal the address of the President of the Association. He enlarged on the value of such general meetings of all orders of physicians.

IT is stated that the epidemic of yellow fever in Florida, which has now, with the onset of cold weather, almost or completely ceased, was introduced by bedding brought by persons escaping from Havanna. Up to November 19th there had been 4,621 cases with 402 deaths, a mortality of 8·7 per cent.

Fig 1.



Fig 2.



Fig 4.



Fig 3.

TO ILLUSTRATE "OBSERVATIONS ON TWO CASES OF RAYNAUD'S DISEASE." By J. O. AFFLECK, M.D.

A LECTURE
ON THE
RELATIONS OF MICRO-ORGANISMS TO THE TREATMENT OF DISEASE.

Being the First Lecture of the Course of Therapeutics, Session 1888-9, at the University of Glasgow.

By M. CHARTERIS, M.D.,
Professor of Therapeutics and Materia Medica, Glasgow University.

GENTLEMEN,—The first lecture of this session will be devoted to a fair and impartial inquiry as to the present position of micro-organisms in relation to the treatment of disease. As doubtless you are aware, there has been much affirmation, and much denial with regard to the special significance of these bodies. Some have belittled their importance, except in so far as their existence bears upon various doubtful and unsettled points in pathology, others have stated that the investigations in bacteriology have revolutionised previously accepted data as to the etiology of disease, and by inference also its treatment.

If we grant, as we must grant, that all rational treatment must be mainly founded upon a correct interpretation of etiology, symptoms, and *post-mortem* appearances, and if we accept the opinions of some authorities, then indeed it would be necessary now to commence, *de novo*, and to formulate other conclusions as to the action of remedies than those which in former years have been delivered to students at this University. But we may state now, and attempt to prove afterwards, that bacteriology has not revolutionised the etiology of disease nor its treatment, and that, in point of fact, micro-organisms have only been proved to influence two diseases which you are likely to see, namely, pulmonary phthisis and splenic fever; and another fever, fortunately rare, namely, relapsing. In these their significance cannot be gainsaid by any impartial or unprejudiced observer, and it would be manifestly unjust to minimise the deductions which necessarily accrue.

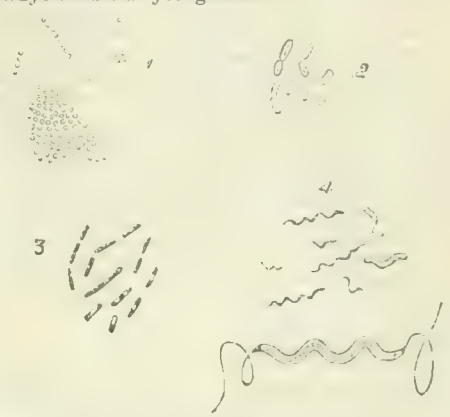
After these introductory remarks, we shall now proceed to ask what are bacteria? Well, they are vegetable cells, the lowest members of the vegetable kingdom. They possess constancy of form, that is to say, although they may vary more or less in outward appearance, in varying circumstances, yet each species has always a certain definite form marking its complete development. Many elongated bacteria, for example, reproduce themselves by the formation of spherical spores, but these spores seen by themselves are not to be regarded as varieties, for in truth they are merely miniature undeveloped bacteria. So also pathogenic bacteria, that is bacteria which when introduced into a healthy organism cause it to become diseased, can each arouse or bring about one and only one kind of disease. They cannot in the course of generations be so varied as to cause at one time putrefaction, at another a specific fever, at another cholera. We can, in some cases, deprive them of their noxious influence, by changing their environment, but we cannot further change them, so that they will give rise to a different kind of disease.

Further, bacteria have a cell-wall and cell-contents, and they multiply by division or by the formation of spores. The spores are surrounded by a thicker and stronger cell-wall than are the bacteria from which they develop. They are consequently hardier products than the original bacteria. They can withstand to a much greater extent extremes of heat or cold, or the vicissitudes of atmospheric influences.

In a favourable environment, carefully nurtured and specially looked after, they grow and multiply with great rapidity. The vital processes so resulting give rise to chemical products, usually of the nature of an alkaloid, which are alike antagonistic to the life of the micro-organisms themselves, and of any vital tissues with which they may come into contact. Thus it is presumed they excite putrefaction and fermentation, and, when developing in the living organism, occasion the pathological changes characteristic of infectious diseases. These micro-organisms are round, (1) globular (micrococci); (2) short rods (bacteria); (3) long rods (bacilli); (4) spiral twisted (spirilla) spirochætæ.

We shall now allude to some of the diseases into which these different forms of micro-organisms enter.

Micrococci.—These micro-organisms have been found more frequently in disease than any other forms of micro-organism. They are always observed in the pus of acute abscesses. They cause the secondary deposit of pyæmia; going from the wounds into connective tissue, interspaces, and vessels. In erysipelas they are especially seen at the edge of the blush, and they occupy the lymphatic vessels, and spread along them. With regard to this affection there arises a crucial question, namely: Does it owe its origin in every case to micrococci? Pathological experience answers in the affirmative, for cultivated cocci drawn from erysipelatous sources will, when inoculated in a rabbit, produce erysipelas after the incubation of fifteen to sixty hours. Clinical experience tells a different tale, for erysipelas does originate, does appear in cases when the most minute and searching inquiry is unable to detect even an abrasion of the skin on which the micrococcus could lodge. Its origin, then, must be, according to our present knowledge, undetermined. Old writers, before the micro-organism era, perhaps not wrongly attributed this to an impure or impoverished state of the blood, or to atmospheric conditions acting in ways we are as yet ignorant of.



Pneumonia.—Klein, Koch, and Friedlander have stated that micrococci exist in pneumonia. The cocci are large and oval, and, according to Friedlander, have around them a peculiar capsule, which is not, however, constant. It is affirmed that these organisms exist in great numbers in the early stage of pneumonia, not only in the exudation, but also in the lymphatics of the lung. Other observers found the coccus in the blood and blister fluid of patients with pneumonia. This they have cultivated, and state that, injected into rabbits, it produces pneumonia and fibrinous pleurisy, while cultured fluid without the micrococcus failed to do this. More recently, A. Fränkel has isolated a micrococcus from the sputum of patients suffering from pneumonia. Pure cultivations of it have been made and injected into healthy animals, such as rabbits and guinea-pigs, and death followed, as a rule, in from twenty-four to forty-eight hours. On examination of the internal organs the spleen is seen to be much distended, and the blood swarms with micrococci. When the lung itself has been inoculated it is always found inflamed, and more or less condensation has taken place. As compared with Friedlander's pneumococcus, it is more specially and certainly fatal in its effects. But it has been seen also in empyema, and in the exudation of cerebro-spinal meningitis, coming as a complication of pneumonia. Further investigation is, therefore, needed before we can say which of the two, if either, is to be regarded as the real coccus of pneumonia.

Apart from these statements, we may say that the evidence of a clinical ward does not demonstrate that pneumonia passes from patient to patient, and if pneumonia does attack one member of a household, it is not found that others suffer. From a therapeutic point of view, judging from experience of such cases, we believe it would be most disastrous treatment to try to get rid of the inflammation of the lung by germicides or inhalations, which presumably might act on its supposed micrococcal origin.

Bacteria.—Diligent research has been made for a micro-organism in diphtheria. The examination is difficult, for the false membrane, characteristic of this disease, teems with a multitude of forms of bacteria, while the blood and intestinal organs are usually found untouched. One investigator has certainly isolated and cultivated outside of the body a bacterium which

causes inflammation and the formation of a false membrane when inoculated into mucous membranes of animals. But the same investigator frankly owns that he has not found the bacterium in every case of diphtheria, and that he has detected it in the mouth of a healthy child, so that the question of the specific bacterium in this disease must still be regarded as *sub judice*.

Bacilli.—We will now consider some diseases where bacilli are supposed to be the prominent factors.

Cholera.—In true cholera Koch described a bacillus, "comma-shaped," more or less "curved," which he considered characteristic of cholera and cholera alone. This opinion from the high authority of Koch was for a time undisputed, and by many is still regarded as true. Yet we must remember that the researches of Klein and of the British Investigation Committee sent to Spain, have indicated that Koch's conclusions are premature, and that the bacillus of cholera has not yet been isolated.

Typhoid Fever.—Many competent observers have testified to a bacillus of typhoid fever. They have agreed that there is a bacillus, but their opinions as to its special form do not altogether tally. The opinion is, however, nearly unanimous on this point, that the micro-organism of typhoid is swallowed, then passes though the stomach, and locates itself in the small intestine. Though this probably is the manner in which the disease originates, it is very difficult to prove it by experiments on animals. The animals experimented on, in their habits and in their food differ from human beings, and for some time it was considered impossible to give rise to a disease in them in any way resembling typhoid fever. Lately, however, a German authority has obviated, he states, this difficulty by neutralising the acidity of the gastric juice by a solution of sodic carbonate, and arresting the peristaltic action of the bowels by opium, and then by means of a catheter introducing into the stomachs of animals a pure cultivation of the typhoid bacilli. The majority of the animals so operated upon died, and in the contents of the bowels the bacilli were found in great numbers, and the intestinal mucous membrane was inflamed and altered.

Spirilla.—Whilst there may be some dubiety as to the bacillus origin of typhoid fever, there is little doubt that in relapsing fever a peculiar micro-organism exists in the blood which is spiral in form and quick and undulating in its movements. Koch has stated that this organism, termed the "spirochæta Obermeieri," can be conveyed from man to man and from man to apes. With regard to the eruptive fevers, small-pox, scarlatina, and measles, nothing, so far as their micro-organism origin goes, has as yet been definitely settled. We have as yet only spoken of the negative or the undetermined origin of diseases dependent on micro-organism, and we now pass on to the more positive aspect, where little doubt can be entertained.

Splenic Fever.—In the disease termed splenic fever, anthrax, charbon, or woolsorters' disease we have undoubtedly a specific bacillus, which exists not only in the blood drawn from the body, but also in the organs of animals which succumb to anthrax. These bacilli, isolated and cultivated, produce, when inoculated, infection, and their spores have wonderful vitality, for, although they may remain dried and inactive for years, yet in favourable conditions of heat and moisture they are brought to further development. So the disease is caught by woolsorters, wool-pickers, horsehair cleaners, furriers, and tanners, who from their occupations have to deal with the wool and the hair of animals that have died from this disease. It is not likely that the virus can be absorbed by the unbroken skin or by the lungs, yet further it has been demonstrated that the intestine may afford ingress to the infectious matter, and that eating the flesh of animals that have died from anthrax will bring on the disease in man.

This origin of anthrax has been utilised. Prophylactic measures are absolutely necessary. The carcases of animals dying from anthrax should be destroyed by fire. Further, in this disease Pasteur has made a notable triumph; for he has shown that, if the bacilli of anthrax are kept under cultivation for several weeks at an unchanging temperature of 106° F., they gradually lose their power of infection, although their external appearance is not changed. Inoculations made with the virus so cultivated produce little or no mischief, and animals so inoculated are not affected when exposed to infection with real anthrax. Anthrax, we may presumably infer, with proper precautions will not in the future prove fatal to animals or man.

Tuberculosis.—We pass now from anthrax to tuberculosis, which in one form or another you will meet with more commonly than any other disease in the whole range of practice. In 1882 Koch announced the discovery of a specific bacillus as the one and only cause of tuberculosis, and that without its influence tuberculosis could not originate. This bold and comprehensive statement was received with mingled feelings; some doubted its truth, some accepted it without hesitation; but now, after the lapse of six years, no one can truly question Koch's discovery of tubercle bacillus in sputum. The bacillus tuberculosis does exist; its identity cannot be mistaken. It simulates no other micro-organism, and stamps with painful and unerring accuracy the diagnosis of phthisis and the unity of the disease termed tuberculosis. It brings into its fold the scrofulous diathesis, whose characters were formerly considered different from those of tubercle. Now we must recognise them as one and the same, through the specific character of the bacillus. How the bacillus enters the system is still a mooted point. In the belief that it and it alone was the *fons et origo mali*, it was inferred that certain inhalations would destroy the bacillus in the lungs, and that this dreaded malady would, like epidemics of the past, cease to harass the human race. So inhalations were tried and tried, but the disease, unconquered, kept its course, and the life of the consumptive was not lengthened. Shall we then abandon all hope of good in the treatment of phthisis? Shall we fold our hands and in despair exclaim *Kismet?* Nay, verily. The inadequacy of inhalations to meet this disease has done much to render clear what ought to be done in phthisis. We have to meet constitutional weakness and local mischief, and the fittest way to remedy these is to place the patient in such surroundings that not by fits and starts, but at every breath, he or she must draw in air destructive to the growth of the organism, and calculated to strengthen a weakened frame. Hence the undoubted benefit of the climatic treatment of phthisis. Other treatment, which does not keep these objects in view, is simply pottering or tinkering, as pottering and as tinkering as the attempt to oust syphilis from the constitution without the aid of mercury.

Time prevents us entering more fully into this subject. The survey given has necessarily been rapid; the facts, however, cannot be questioned. While we welcome discoveries made in this new scientific field, yet we cannot discard our old weapons as rusty and futile. From the ripe experience of the past, and from present day hospital and private practice, we must still battle with acute disease. We must also remember that laboratory work does not always agree with bedside observations, and that scientific research in medicine must ever to a great extent be judged by the practical inquiry *cui bono?* And if this standard is to be set up with regard to its utility in grave disorders, it is still more necessary to raise it in connection with the slightest and most chronic ailments, in which no micro-organism can ever be traced. In dealing with these ailments, your future work will often be associated with, and your success will be judged by, the information you possess and the means you can adopt to make little troubles pass away, and thus to render the path of life easier and smoother.

Our treatment of disease has not in late years stood still. It is not altogether pharmacopœial, for we also call to our aid climate and diet, kind sympathy, and skilled nursing. Moreover, our better knowledge of etiological facts has led to the adoption of sanitary precautions, which diminish greatly the probability of any epidemic obtaining amongst us any permanent hold.

Our present position is this: we have emerged from expectant therapeutics to a firmer and more active faith. We are daily outgrowing any belief in the grotesque, outrageous, and degrading doctrine of *similia similibus curantur*, which has never taught us how to check a malady or to relieve an ache or pain. We can afford to be amused at the wondrous tales, related in daily papers, as to faith cures, for we know that the age of miracles is past. No crossing of hands, no action on the mind or the senses, can make the dumb speak, the blind see, the deaf hear, or enable the paralysed man to take up his bed and walk. Such legends gravely told are an affront to our reasoning and our knowledge of the laws which govern the human system in health and disease.

The rational method of treatment now adopted is plainly directed by pharmacology, that is, the action of remedies. Neither being too optimistic or pessimistic in our interpretation of these actions, but relegating all doubtful points to that great tribunal, common sense, which after all is the *ultima thule* of all true belief. Guided by this method, we may justly affirm that the progress of medicine is at present satisfactory, advancing, and sure.

AN ADDRESS

ON THE

MORBID ANATOMY AND PATHOLOGY OF CHRONIC ALCOHOLISM.

Delivered at the Opening of a Discussion at the Pathological Society of London, December 4th, 1888.

By JOSEPH FRANK PAYNE, M.D.,
Vice-President of the Society; Physician to St. Thomas's Hospital.

Mr. President and Gentlemen,—When the Council of this Society did me the honour to ask me to open the discussion on this occasion, I accepted the task perhaps with a somewhat inadequate appreciation of the vast extent of the field which now lies opened out before me. It is only since I have been endeavouring, to the best of my ability, to prepare for the duty devolving upon me, that I have thoroughly realised the multiplicity and variety of the facts which have to be dealt with, and the extreme difficulty of compressing them into a moderate compass.

I must, therefore, ask your indulgence while I appear before you, not in the character of an explorer bringing home the results of travel in new and untrodden ways, but rather in that of a geographer trying to sketch a rough outline map of a country hardly as yet completely explored or surveyed.

The extent of our country, however, though wide, is not unlimited. We are not going to discuss the action of drinks on the human body generally, nor all the diseases to which habits of excess can give rise, nor, still less, the moral or economical consequences of such habits, but solely the material changes which the use of alcohol in excess has been actually shown to produce in various tissues and parts of the body.

Historical Introduction.

First Period: Ancient Medicine.—Before entering on the main topic, I will, however, ask your attention for a few minutes to some rough notes on the history of the subject. This begins in comparatively modern times, for ancient medicine knew almost nothing of morbid anatomy. Doubtless, so long as wine has been known, so long has there also been known excess in wine; and among the Greeks even, more especially among the Romans, such excesses were neither rare nor harmless. Hence we find scattered notices in the ancient medical writers showing that the symptoms of inebriety were observed, and some graphic descriptions and some good clinical rules, founded on these observations, might be quoted; but, so far as I know, there is nothing in any ancient writer bearing on the morbid anatomy of the disease.

Second Period: Rise of Morbid Anatomy.—This is, of course, equally true of mediæval medicine, on which, therefore, we need not linger. It was not till the sixteenth century that morbid anatomy began a separate existence as a science, first under the protection of her elder sister, normal anatomy; gradually, in the seventeenth century, assuming a more independent position. But among the many excellent scattered observations on the structure of diseased organs, with which the medical literature of this century abounds, there are very few bearing on the action of wine or strong drinks.

As an instance of the most advanced knowledge of the age on such subjects, we might well quote our own Harvey, not only as a man of genius, but as a skilled physician well versed in all the learning of his time. In Harvey's MS lectures, lately published in *facsimile*, I have found nothing directly referring to inebriety, but there are certain observations which would naturally have led to this being spoken of had its importance been recognised. For instance, in speaking of the anatomy of the liver, he describes twelve different cases or examples of diseased liver which he had himself seen; one was "russet, hard, contracted, absque sanguine," which seems like a small cirrhotic liver. Another, according to the rough notes, was "russetish, ingentem et durum, plane scirrus tumour, absque fere sanguine, aspera superficie;" a large, hard liver, evidently like a scirrhous tumour, almost bloodless, and with a rough surface, which could hardly have been anything else than cirrhosis. He also says that such livers are found in cases of dropsy (fol. 39). In another place he discusses dropsy generally, as being said by Fernelius to depend upon the liver, but himself inclined to the opinion that the dropsy is the cause of the morbid change in the liver rather than the contrary. Dropsy may arise, Harvey says, by drinking more than the kidneys can get rid of, so at length even the fleshy parts are turned into water; but so long as any of the liver remains, the patient will live and not die.

This seems to bear upon our subject, but, really, I think it is founded upon the common belief at that time that dropsy could be caused by drinking too much water; a fault which consequently the bold spirits of the time were much on their guard against. Altogether these notes make one regret the loss of the observations on morbid anatomy which Harvey is said to have collected.

Harvey's MS was written in 1616. Not long after this some notices of alcoholic diseases begin to appear, but the only lesion referred to this cause by writers of the seventeenth century was cirrhosis of the liver, and its consequent ascites. The earliest case of this kind which I can find is of the date 1626, though published many years later in the great storehouse of such observations, Bonet's *Sepulcretum* (Geneva, 1679), where it is quoted from Gregorius Horstius. A German nobleman, of intemperate habits, suffered for three years from jaundice, and was found to have the liver hardened, as was evident to the touch. He improved under treatment, but having "indulged his genius" for several weeks, he was attacked with epistaxis, followed by dropsy of the belly and scrotum. The latter was punctured, and two measures (? quarts) of fluid escaped, but the abdominal swelling did not diminish, and after some months he died suddenly. On opening the body ten measures of fluid were found in the abdomen. The liver is described as "scirrhosum et induratum, necnon exsuccum instar ligni putredine corrupti," that is, scirrhous, hardened, and juiceless, like rotten wood. The mesenteric veins were filled with gelatinous material surrounded by clotted blood, which could be pulled out to the length of an ell and a half.[1]

Surely this, as a clinical and pathological picture, could hardly be improved. A hard liver, jaundice, ascites, epistaxis, and sudden death with thrombosis of the portal system—scarcely any important feature is wanting.[2]

Several cases might be quoted from the same work, but I will only give one more.

A French soldier, returning from the wars in a thirsty mood, came upon a pool of stagnant water, where he first bathed, and of which he then drank a mighty draught (*haustus Germanicus*). This he took the first opportunity of correcting with abundant libations of strong wine, and the remedy was so often repeated that he fell into a severe fever, followed by dropsy of the abdomen and legs. The belly was tapped repeatedly, and in all 168 ounces of fluid were drawn off, of which the curious observation was made that, first and last, it always smelt like the stagnant pond-water of which the patient had so incautiously drunk. After death there was still some water in the peritoneum, and the liver was found as hard as wood.

In these cases and others strong wine was clearly recognised as the source of evil, but other causes were not excluded, as Bonet records the case of a boy who contracted fatal scirrhus of the liver and ascites by eating too many figs. Then there is another curious history of a certain glutton who ate as well as drank to excess, and whose liver was found after death of an enormous size—clearly an instance of the other type of alcoholic liver, the fatty, such as we might find now in a robust and plethoric brewer's drayman.

English medical literature of this period yields few valuable observations. One by Walter Harris, the correspondent and friend of Sydenham, author of a book on the diseases of children, and of *Pharmacologia Antiempirica* (London, 1683), may be worth mentioning. In the work just mentioned he relates the case of a gentleman, aged 36, who had brought himself to an insensible necessity of drinking sack several times a day until he fell into an irrecoverable consumption. On opening the body after death the liver was found "so thoroughly boiled with constant heat that a sound liver could not well be more boiled over the fire than his was by the use of sack. It was in colour and brittleness the very

[1] *Sepulcretum*, p. 1052.

[2] In the same case there is a very good description of xanthelasma in the form of tubercles on the knees and elbows, etc.

same as a long-boiled liver can be." Although dropsy is not named, probably it is meant that there was ascites also. Harris observes that sack does much more harm than French wines; and, though the reason he gives for this is a strange one, it shows that the causation of cirrhosis was beginning to be understood.

There is still one observation of dropsy connected with liver disease which I will venture to quote, although its dependence upon alcoholic drinks quite escaped the surgeon who has recorded it, one John Browne, surgeon to St. Thomas's Hospital. The account, which appears in the *Philosophical Transactions*, vol. xv, 1685, is entitled: "A Remarkable Account of a Liver, appearing Glandulous to the Eye," and is accompanied by a figure, "accurately taken down by Mr. Faithorn," an eminent artist and engraver of the day, which I have thought worth copying to show to the Society.

"The person was about 25 years of age, a soldier in one of His Majesty's regiments here in town, who contracted his distemper by drinking much water, when he could not stirr from his duty, and catching cold at nights in being upon the guard. He was under the care of our physicians for some time, by whose directions his swellings did by times abate; but afterwards it was observed, that the method which had been beneficiall to others, had not here the like success, his swellings returning upon him as before, so that there was nothing more now to be thought of, but a paracenthesis, which operation, however, is judged very hazardous, by reason of the time of the year, and for that the patient was very much emaciated; yet he being so much swelled, that it was uneasy to him to lie in his bed, he importuned us very often, and with great earnestness, that the operation might be performed. Whereupon, a paracenthesis by the physicians consent and directions, was made by me, whereby we drew from the patient about three pints of brinish liquor, and within four days after as much more; the next day, morning, he dyes, and his death, as was found upon dissection, was partly occasioned by a mortification upon his scrotum and penis.

"This operation was performed to the satisfaction of the physicians and chirurgeons that saw it, and by it the patient had some ease for the present. Upon opening the body I believe I took out about twenty-four quarts of water; he had a large inflammation upon the peritonæum, all his other inward parts not much disaffected, except the liver. Its magnitude was not extraordinary, but seemed rather less than usual, but that which was very remarkable (and I think the like was scarce ever observed by any author) and seems much to confirm the opinion of the learned Malpighius, is this: It consisted in its concave, convex and inward parts of glands which (with the vessells) made up one whole substance thereof; these glands contained a yellowish ichor, like so many pustulæ, and was I suppose part of the bilious humor lodged in the same, though otherwise the liver between the glands was of its usual reddish colour. In the bladder of gall we found a soft friable stone, but otherwise nothing considerable further in that part."

A private in the Guards is hardly likely to have acquired dropsy by drinking water, and there can, I think, be little doubt that the so-called "glandular structures" were the ordinary soft bile-stained masses, separated by fibrous tissue, which we find in cirrhosis of the liver. And the figure, allowing that it is drawn in a formal and conventional manner, appears to me to represent the same. However, it is left to the judgment of the Society; but as being, if I am right, the first published figure of cirrhosis of the liver, it has some historical interest.

Third Period: Use of Distilled Spirits.—We have now seen what the seventeenth century contributed to the morbid anatomy of alcoholism. A new period was now about to begin, that in which distilled spirits came into use as a beverage. With this, new and more severe kinds of alcoholic disease began to appear,

macies et nova febrium
Terris incubuit cohors.

and, but for this disastrous invention, I am convinced that our programme for discussion to-night would be very much shorter than it is.

It was at the beginning of the eighteenth century that distilled spirits began to be generally drunk. The art of distillation, of course, was very much older, and was practised in London at least in the sixteenth century, if not earlier; but, up to the time now spoken of, distilled spirits were chiefly used in medicine, and were for a long time very costly. But towards the end of the seventeenth century they became much cheaper, so that in 1678 a pint of Nantes brandy cost about sixpence. When the use of such drinks became common I do not know, but in 1724 we find the College of Physicians making a public representation as to the evils of spirit drinking. At this time gin was so cheap in London that a person could intoxicate himself for one penny. A duty was imposed in 1736, and other laws made to check the practice of spirit drinking. The name of the Rev. Stephen Hales, the physiologist, ought to be mentioned in a medical discussion for his efforts in this cause. It is also clear that alcoholic diseases increased, and were more observed by the medical profession, but the morbid anatomy of the subject was little advanced, at least in England, till the end of the eighteenth century. Erasmus Darwin made some good observations on the symptoms of drunkenness, but has only contributed to morbid anatomy in the statement that pigs fed on grains from distilleries get diseased livers.

Baillie described cirrhosis under the name of tubercles of the liver, and declared it to be a disease *sui generis*, different from scirrhus.

J. C. Lettsom first noticed some of the symptoms of alcoholic paralysis, and James Jackson, of Boston, America, gave, in 1882, a very good account of a disease resulting from the use of ardent spirits, which he calls arthrodynia, which is evidently the same.

But all the knowledge of this period is summed up in the classical work of Magnus Huss on *Alcoholismus Chronicus*, translated from Swedish into German in 1852. Huss describes very carefully the morbid changes of all parts of the body met with in drunkards; but, with regard to the nervous system, it is noteworthy that he regarded the disturbances of these parts as being unaccompanied by any change in structure, and hence as being symptoms of a certain kind of poisoning. It is to these that he applied the name, then used for the first time, of chronic alcoholism, and some of his descriptions have left little to be added to.

Fourth Period: Era of Pathological Histology.—The most conspicuous advance on the subject since the work of Huss has been the demonstration of minute changes in various parts of the nervous system affected by alcoholic disease. At the same time the histology of other organs has been studied, the identity of the minute changes found in different parts has been demonstrated, and gradually the uniformity of the action of alcohol throughout the whole body has become clearly manifest. We are now able to look upon alcoholism as a form of poisoning, and to compare it with the action of other poisons, especially with metallic and other so-called irritants. The history of alcoholism must come to an end here, for it would be difficult to separate it from the exposition of different branches of the subject.

Alcohol as a Poison.

I have now to consider the question, In what sense is alcoholism a poisoning; or, in other words, in what sense is alcohol a poison?

Since we must here evidently look upon poisons in a somewhat wider sense than a purely medico-legal one, perhaps I may be permitted to quote a pathological definition of poisons which I have given elsewhere:[3] "A poison is a substance capable of injuring the body, either by causing damage to the tissues or by producing functional disturbance." On this basis I divide them into two classes, namely, tissue poisons and functional poisons. I will take the latter first. A functional poison disturbs the mode of action of the tissue elements without permanently altering their composition. Hence their action is transitory, and ceases when they are eliminated from the body. Most functional poisons are called narcotic or neurotic, because their most conspicuous action is on the nervous system. But some such poisons—for instance, opium—affect animals without a nervous system, and possibly even plants, so that their action is general. Substances like quinine, which affect protoplasm, though without showing any special predilection for the nervous system, and hence sometimes called protoplasmic poisons, are also included.

But it may be worth while to say that I do not use the term poison as a term of unqualified condemnation. It only means something capable of producing injury, not necessarily doing so. All metallic salts, nearly all drugs, and many substances used as food are in this sense poisons; but we do not on that account deny their usefulness when properly employed. It would be as absurd to condemn alcohol as to condemn common table salt because a large dose of either of them may be fatal. But to pursue this

[3] *A Manual of General Pathology*, page 378.

subject further might be dangerous; I return, then, to the old track.

It is quite clear that alcohol is a functional poison of the narcotic class. Its action on the brain shows the gradations of stimulation, overaction, inhibited action, and actual narcosis. These effects, unless positively fatal, are transitory. But it is also clear that this is not the whole of its injurious effect; since, if the functional disturbance be often repeated, the brain itself will come in the end to be damaged. But it may be supposed this damage is caused by the excess or repetition of the functional disturbance. Such an explanation will not, however, apply. Some organs, such as peripheral nerves, are damaged, in which no functional disturbance from the immediate action of alcohol can be traced. Hence we conclude that alcohol is also a tissue poison damaging the structure of the tissue elements. This effect is not seen after a single dose, even a fatal dose, at least so far as is known, but only after repeated action of the poison. When its action is perceptible it is quite comparable to that of the so-called irritant, especially metallic, poisons, such as lead, arsenic, antimony, etc., with phosphorus, and even mineral acids. It is now recognised that these substances, if absorbed, act on all or most tissues of the body which they reach in proportion to the degree of concentration in which they may be present, and to the susceptibility of the different parts. This is also true of alcohol. It is carried by the blood to all parts (having been detected in the brain and various organs), and acts most powerfully in the first instance on the parts which it reaches with the least amount of dilution, that is, the stomach and liver. In the second place, it acts on the nervous tissues as being more vulnerable than the rest. Again, the influence of concentration in relation to the tissue damage is seen in the fact that alcohol in a dilute form injures the tissues much less than the same amount in a concentrated form, though the narcotic effect may be the same.

Another law of tissue poisons is that they all have, within certain limits, the same action, or at least there are certain modes of action common to all. These common modes of action belonging to all tissue poisons I will endeavour to state, and then see whether alcohol acts in the same way.

The first effect of such poisons is seen on the more vulnerable or parenchymatous elements, namely, nerve, epithelium, muscle fibre. On these parts their action is essentially necrotic, producing, if in a low degree, parenchymatous degeneration; in a higher degree, actual necrosis, though if the injury be not too severe, repair is possible. This is true of arsenic, antimony, sulphuric acid, and, with some modification, of phosphorus. I would submit that this is also true of alcohol, which produces degeneration, or ultimately necrosis, of mucous membrane of stomach, liver-cells, nerve-fibres, nerve-cells, and muscular fibres.

Another effect of all tissue poisons, if sufficiently concentrated, is to injure the blood-vessels, causing exudation and cell migration—that is, inflammation as generally understood. It is obvious that this is true of all irritant poisons. If chronic, this inflammation sometimes results in hyperplasia of connective tissue. I submit that concentrated alcohol acts on the stomach, for instance, to which it is directly applied, in the same way: setting up acute inflammation. The action of alcohol, however, is never quite so intense as that of some metallic poisons, since it never produces suppuration, nor has it an actually corrosive action. Its continuous or chronic action is to produce connective tissue hyperplasia, fibroid changes, or cirrhosis.

Besides these two modes of action, alcohol has one almost peculiar to itself: that of causing accumulation or infiltration of fat in various parts of the body, especially where such accumulation naturally takes place, as in liver, omentum, subcutaneous tissue. Phosphorus is like alcohol in this respect, and so is, to some extent, arsenic. This change may be called "steatosis." It is explained, apparently with reason, as due to deficient oxidation or impeded cell-respiration, the alcohol or phosphorus being oxidised in place of the fat which should be burnt up in the cell. I would ask, are there any objections to this explanation?

I would suggest the relations of fatty infiltration to true fatty degeneration as an interesting though difficult subject of inquiry and discussion. The difference in well-marked conditions is obvious. A liver cell or connective-tissue cell loaded with fat may be healthy, while a fattily degenerated cell is one of which the protoplasm is already altered in structure. But is it not possible that accumulation of fat may destroy the cell in the end, and thus pass into degeneration? If the respiration of a cell is sufficiently impeded will the cell die as an individual does under the same circumstances? Since alcohol appears to cause true fatty degeneration of some parts, as well as mere adipose accumulation in others, the question is particularly interesting here. This action of alcohol can hardly be called poisonous since it may aid in nutrition.

To sum up. The action of alcohol on tissues or tissue elements is threefold: (1) as a functional poison; (2) as a tissue poison or destructive; (3) as a checker of oxidation; and in these respects it may be paralleled by other substances called poisons, and by others which are generally considered innocuous. These views of the action of alcohol are put forward with the object of inviting criticism or correction. It is very probable that they may be in some respects one-sided or faulty.

I had intended to give some account of the morbid changes produced by administering alcohol to animals, but find that time will not permit.

(To be continued.)

ON THE OCCURRENCE OF HÆMATOMA OF THE EAR IN FOOTBALL PLAYERS.

By F. A. SOUTHAM, M.B.Oxon., F.R.C.S.,
Assistant Surgeon to the Manchester Royal Infirmary.

THE traumatic variety of hæmatoma auris (an effusion of blood into the auricle, occurring in healthy persons as the result of the application of direct violence to the ear) is not infrequently met with in those who take part in the game of Rugby football.

Hinton[1] states that Dr. Farquharson (formerly medical officer to Rugby School) has observed this condition in boys after football, and Burnett[2] also makes a brief allusion to the same fact. Erichsen,[3] in alluding to Hinton's observation on its occurrence in football players, attributes it to "hard hits on the ear." The injury is not usually the result of a blow on the ear with the football, but is produced in a "tight scrimmage" by the pressure and friction exerted by the arms and bodies of the other forward players on the ears and side of the head, when the latter is bent downwards and forwards, as is so often the case with many forward players. Probably a factor which may assist in its production is the congested condition of the vessels of the head and neck, the result of the severe straining efforts which accompany the attempt of an energetic player to take the ball through a "scrimmage." So common is this affection among those who take part in Rugby football, that I am informed it has now become the custom of many forward players to wear a tightly-fitting cap with lateral flaps in order to protect the ears.

In most cases the effusion is slight, and becomes absorbed in the course of a few days without any special treatment. It is, however, not at all uncommon for the extravasated blood, probably mingled with a certain amount of inflammatory exudation, to become organised and develop into fibrous tissue. The latter result is most likely to occur if, as often happens, the individual continues to play, and pays no attention to the swelling of the ear. The consequence is that the upper portion of the auricle, the part usually affected, remains in a thickened and indurated condition, eventually assuming an irregular, shrivelled up appearance, owing to the process of contraction which, after a time, gradually takes place in the newly formed cicatricial tissue. In other cases, suppuration is excited at the seat of injury, a similar deformity being produced after the pus has been evacuated and healing has taken place. This is well shown in the figure from a case recently under my care. The patient, a strong healthy man, aged 20, informed me that, about six months previously, he played forward in a closely contested game where there were some very "tight scrimmages." The same evening he noticed that the upper part of his left ear was much swollen in front, the swelling being of a dark blue colour. He showed it to a medical man, who opened it, and let out a small quantity of fluid blood. He played again several times during the following month, and on each occasion the ear became considerably swollen. Eventually it inflamed and was again opened, some pus being evacuated on the second occasion. After this it gradually shrank, and contracted until it assumed the appearance shown in the figure. As he was anxious to have the deformity removed, I separated the skin and

[1] *Aural Surgery*, 1874, p. 79.
[2] *A Treatise on the Ear*, p. 255.
[3] *Science and Art of Surgery*, ninth edition, vol. i, p. 1004.

dissected out the irregular mass, which consisted of dense fibrous tissue, closely adherent to the cartilage of the auricle. The wound readily healed without any suppuration, and the appearance of the ear was much improved.



As illustrating the common occurrence of this condition in football players, the patient told me that he knew of six other individuals, members of his own or of neighbouring clubs, who suffered from a similar deformity of the ear, produced in the same way, though not so marked as in his own case. In one instance the deformity was symmetrical, both ears being involved. Mr. Rye, one of my dressers at the time the patient first came to the hospital, at once recognised the cause of the deformity, as he had previously seen several cases of a precisely similar nature occurring among football players. Dr. Cox, assistant surgeon to the Manchester Ear Hospital, informs me that he has seen the ears affected in the same way in Cumberland wrestlers, and the common occurrence of this deformity in boxers is proved by the fact that it is shown in many ancient statues of pugilists.

CHOLECYSTOTOMY.

By ROBERT TORRANCE, F.R.C.S.Ed.,
Founder of Blackett Street Throat and Ear Hospital; Consulting Surgeon to the Throat and Ear Infirmary, Newcastle-upon-Tyne.

The success attending ovariotomy has led to the adoption of abdominal section for other pelvic and abdominal tumours likely to affect seriously the life of the patient, unless of a cancerous nature. Dr. Handfield-Jones had the merit of suggesting operative measures, particularly in cases of threatened death from impacted gall-stone, though Jean Louise Petat[1] was the first to recommend a similar proceeding in 1743. Dr. Marion Sims was the first to follow out the plan, but unsuccessfully, and the present case was one, amongst others by various surgeons, that has been successful since that time. It seems to be a very general opinion that exploration of the abdomen is justified if antiseptic precautions are only strictly followed out, but in this case it was performed successfully without their use at all. I debated in my mind whether to make the opening, as Sir Spencer Wells has suggested, by means of potassa fusa in order to obtain adhesion of the peritoneal lining, or by incision, but eventually adopted the latter method, from which there was not much difficulty from hæmorrhage, and, moreover, there was very little dragging on the gall-bladder when it was attached to the abdominal wall.

[1] *Mémoires de l'Académie de Chirurgie*, tome i, p. 155.

The patient, S. B., aged 37, had been married thirteen years, was the mother of four living children, and had had two miscarriages. Her menstruation was normal and health good, till the early part of the year 1887, when she began to experience spasmodic pains in the right side over the liver, which extended to her right shoulder and epigastrium, and were aggravated by walking and lifting slight weights. A swelling noticed in August slowly increased, and during last winter pain became more intense, and she presented a cachectic appearance on coming to me in December, suffering from incessant headache, sickness, and obstinate constipation. These symptoms were sometimes so severe that they were accompanied by vomiting and shivering, and she suffered intermittently from severe attacks of colic, making her so ill that she was obliged to lie almost constantly on a sofa during the greater part of the day. Latterly her attacks had increased both in number and severity, so much so, indeed, that she was scarcely able to get out of bed. The urine gave only negative results. When the swelling was first discovered by herself, it was painfully tender to the touch, and remained so more or less up to the time of her coming to consult me. The tumour was found to be a distended gall-bladder, which moved freely up and down with respiration. Puncture with a hypodermic syringe showed its contents to be of a white starchy-looking fluid, and operative interference suggested itself to me.

The operation was performed on January 3rd, the tumour being exposed by a vertical incision through the abdominal parietes immediately over it, and about three inches long. After placing three pads behind the distended gall-bladder, an aspirator needle was introduced at the fundus, and 4½ ounces of opalescent fluid removed. The anterior wall of the gall-bladder was now pulled forwards by two pairs of long forceps, and opened sufficiently between them to admit easily my index finger. Forty-three small round stones, about the size of coffee-beans, were scooped out with my forefinger and partly by the use of a curette, then washed out with a Higginson's syringe. They were closely packed together, each gall-stone having quite made a bed for itself, so to speak, on that of its neighbour, and weighing 53 grains. The gall-bladder was sponged dry, the bile ducts explored without finding anything, and the pads removed from the abdominal cavity. The edges of the thickened gall-bladder were now fixed to the abdominal wall, including the peritoneum, by a continuous suture, the edges of the wound being brought together above and below by interrupted sutures, which were removed on the eighth day; a rubber drainage-tube was left in the gall-bladder, and removed on the twentieth day, while the wound was left to the *vis medicatrix naturæ* almost entirely. For ten days more only a small sinus was left, from which some mucus continued to be discharged, the diet up to this time being restricted almost wholly to milk and beef-tea. Her after-progress, I might say, was uninterrupted, a temperature-chart indicating the evenness and rapidity of her recovery. She got up on the nineteenth day, and gained strength daily. The wound was entirely healed at the end of six weeks, and her health now is as good as ever it was, and certainly very much better than it had been for twelve months previously.

THERAPEUTIC MEMORANDA.

SULPHONAL.

As notices of this drug are few, and some not very favourable, it may be worth while stating that I have found it very useful in an obstinate case of insomnia. The patient is a gentleman, over 70, who has frequently for months at a time suffered from sleeplessness. He has used every drug of repute, both new and old, but none except sulphonal have given him natural sleep, and all with after-effects so unpleasant as to necessitate their discontinuance. He has taken sulphonal in twenty-grain doses twice a week or so for many weeks; it has never failed to procure three or four hours sleep, and he observes that he is rather drowsy next day, and sleeps soundly the following night, and generally the night after as well.

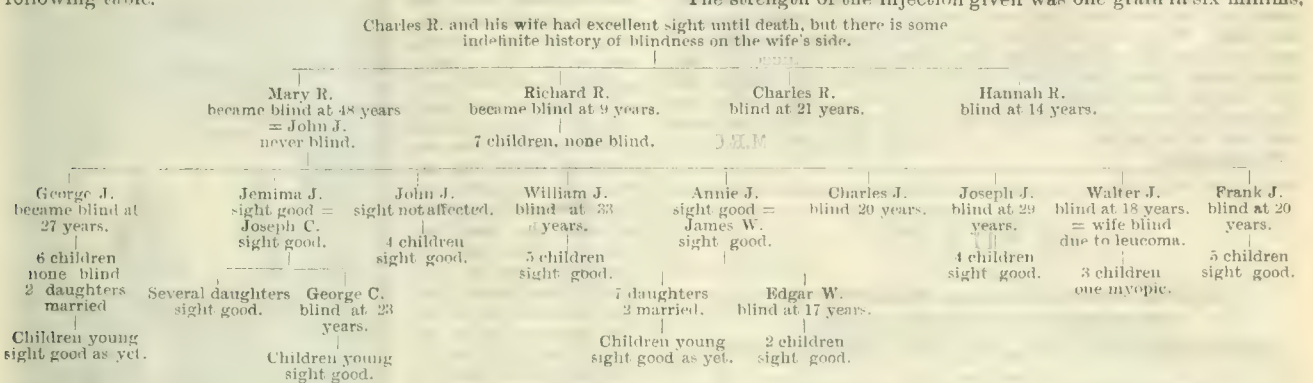
J. Mason, M.D.Cantab.
Windermere.

It has been arranged to issue a new edition of the *United States Pharmacopœia* in 1890.

OPHTHALMOLOGICAL MEMORANDA.

A CASE OF HEREDITARY AMBLYOPIA.

A VERY interesting case of this affection occurred in the practice of the Liverpool Northern Hospital. Walter J., aged 37 years, admitted to the Hospital for some other complaint, was, on examination, found to be blind, and stated that he became so at the age of 18 years, and that many of his relations on the male and a few on the female side, were blind also. This is shown in the following table.



Four of the males were examined and all gave practically the same history, namely, that at various ages the sight was noticed to be dim, rapidly became worse, without pain or other symptom, and in a year from the onset of the complaint reached the present condition, and has remained stationary ever since. In one case the left eye was affected three months before the right. All have perception of light and two of the four can count fingers. The optic discs are atrophied in all the cases, and the vessels, both veins and arteries, small. Pupils equal and act slowly to light. Walter J. has nystagmus. Charles J. can read 30 type (Snellen's) at three feet with the left eye, but only with the nasal half of the retina.

Although all the males are smokers, yet the fact that some of the females have been affected, and that in one instance (Richard R.) the disease has come on early in life, seems to exclude the possibility of tobacco amblyopia, and it appears to be one of those cases of hereditary amblyopia which occur without any known cause.

It is interesting to note that in two generations the disease has affected only the males, and that all the females are exempt, whether this will continue in the next generation remains to be seen, for at present they have not reached the age at which the blindness has usually commenced.

J. F. HASWELL, M.B., C.M.,
Senior House-Surgeon, Cumberland Infirmary, Carlisle.

TOXICOLOGICAL MEMORANDA.

LARGE DOSES OF MORPHINE.

IT is thought that the following instance of tolerance of large doses of morphine is sufficiently remarkable to be recorded.

The case in which the drug was administered was one of sarcoma, growing probably from the interior of the sacrum, and caused intense pain of a constant character, exaggerated by occasional paroxysms. The tumour eventually grew to an enormous size, filling up the pelvic cavity completely, and the greater part of the abdominal cavity.

The administration of morphine was begun hypodermically in ordinary doses in January, 1881. The doses were increased gradually during February, March, and April; and at the beginning of May the patient was having nine grains in the twenty-four hours in three injections. By the end of May the injections had to be increased to five in number in the twenty-four hours, and the daily dose was twenty-five grains. By the end of June he was taking thirty-six grains in five injections, and this dose was continued through the month of July, as it controlled the pain fairly well. In August the pain became more severe, and the morphine had to be increased again, and at the end of the month the patient was taking as much as fifty-six to sixty grains per diem, in five injections. Early in September the paroxysms of pain became so severe that chloroform had to be administered in addition to the morphine, and it was found possible to keep the patient fairly comfortable on some days with as little as thirty grains of morphine in the day. Very soon, however, the pain again became more severe, and before the death of the patient, which occurred towards the end of September, the quantity of morphine had to be increased to seventy and even eighty grains daily, the largest single injection given being one of twenty-seven grains.

The strength of the injection given was one grain in six minims, and atropine was given with the morphine throughout, in doses of about $\frac{1}{150}$ grain.

The effect of the morphine upon the action of the bowels is worthy of notice. During the earlier part of the case there was some difficulty in getting the bowels to act, and the motions were scybalous. Subsequently, when the patient was taking between thirty and forty grains of morphine in the day, an occasional dose of an ounce of castor-oil was always followed by a copious action of the bowels, and, later on still, when the dose of morphine was still further increased, no aperient of any kind was required for four or five weeks, the bowels acting naturally and healthily every second or third day.

Once an abscess formed as a result of the injections (which towards the last had to be given in several places at once); beyond this, the patient did not seem to suffer the slightest inconvenience attributable to the morphine.

WM. EDDOWES,
Shrewsbury. ARTHUR JACKSON.

POISONING BY DIEFFENBACHIA REX.

ON October 28th, 1888, I was called to see a boy, aged 3 years, who had eaten a portion of a hot-house plant—dieffenbachia rex—one of the so-called dumbcanes, characterised by their extremely acid and poisonous juices. From the piece shown me, which was the spadix or flower of the plant, he appeared to have bitten off about an inch; but, as will be seen subsequently, he had only swallowed a very small portion of this, the acidity of the juice having caused him to spit out the rest. When I saw him, about ten minutes after the occurrence, he appeared greatly frightened, but quite conscious; his lips and tongue were very swollen, and he was unable to speak, or even to make a noise of any kind, although he tried to do so; the saliva was dribbling freely from his mouth; his pulse was 130, and irregular; the pupils were somewhat dilated.

I dissolved one of "Richardson's soluble hypodermic tablets" of apomorphinæ hydrochloras, in fifteen minims of water, and injected five minims of this into the arm. Each tablet contains one-tenth of a grain, so the amount injected was one-thirtieth of a grain. In about three or four minutes the boy became very drowsy, the pupils contracted to pinhead size, the pulse slowed to 70, and became almost imperceptible; the feet and hands were cold. As he did not vomit, I then administered, with some difficulty (by the mouth), ten grains of sulphate of zinc, in an ounce of warm water; this produced immediate, copious vomiting. The vomited matter consisted of the *débris* of his last meal (breakfast) and a few small pieces of green vegetable matter, which were undoubtedly portions of the plant. In a quarter of an hour I repeated the dose of zinc, which again at once caused vomiting. He was still drowsy, and the pupils contracted; I ordered him to be well wrapped up, heat applied to the extremities, and that he was

to be kept awake by constant shakings. I saw him again an hour afterwards; the drowsiness had passed off; his pupils were normal, pulse 80; he spoke with a husky voice. A little warm milk was given to him, which in a few minutes the stomach rejected. The subsequent treatment consisted merely in the application of a little olive oil to the swollen lips, and the administration of small quantities of warm milk. The next day the child was all right, save that the tongue and lips were sore and blistered.

The question naturally arises: were the drowsiness, contracted pupils, etc., due to the dieffenbachia, or to the apomorphine containing some unaltered morphine? The syringe was perfectly clean, and had not been previously used for the administration of morphine. Why did not the apomorphine cause vomiting? I have not been able to ascertain the symptoms produced by this plant, except those due to its irritant action on the tongue and lips; and as the drowsiness, etc., did not come on until after the hypodermic injection, I am inclined to think that they must have been due to the latter.

FRED. FARROW, M.R.C.S.

Cleckheaton.

REPORTS

ON

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

THE GENERAL HOSPITAL, SINGAPORE.

ELEPHANTOID SCROTUM WITH HERNIA: REMOVAL OF SCROTUM AND RADICAL CURE OF HERNIA, WITH ILLUSTRATION.

(By MAX. F. SIMON, Acting Principal Civil Medical Officer, Straits Settlements.)

MANJOOR, Mussulman, aged about 55, was admitted on April 3rd, 1888, with a large elephantiasis of the scrotum, which he stated had been three years in growing to its then size, but which, I think, must have been of longer duration. The tumour reached to below his knees, and he could hardly walk. A slit in the front of the tumour showed where the growth had drawn in the penis, and a depressed cicatrix lower down had been apparently the seat of an abscess. There was a large reducible hernia on the right side. The old man had suffered a good deal from fever, but had no albumen in his urine, and was of fair vitality.



I operated on April 8th, having the kind assistance of Dr. Gimlette, of H.M.S. *Orion*, and of Drs. Tripp and Mugliston. A long incision was first made over the hernia, and the sac dissected out; it was about as long as an ostrich's egg, but not quite so large round. The hernia was then easily reduced, and the sac being firmly held at the neck by Dr. Gimlette, to prevent the possible entrance of fluids into the peritoneal cavity, was slit up to see that it was quite empty. The sac was then twisted at the neck, for as many turns as could be made, tied with a carbolised silk ligature at the ring, and then cut away. The operation was then proceeded with in the usual way; the right cord and testicle were first separated, after some little trouble in finding the cord, as both it and the testicle were small; the penis was then brought to light, and finally the left testicle; this latter giving no trouble, as the cord was easily found, and there was a good sized hydrocele (a common condition) on that side. The skin which had been involuted by the retraction of the penis was saved, and made a covering for that organ, and enough healthy skin was obtained from the sides of the scrotum to cover up the testicle very well. No elastic ligature was used, and there was not any considerable hæmorrhage. A drainage-tube was inserted up to the hernial ring, and another to the root of the penis, running between the testicles, from the lower angle of the wound, the side flaps of skin being brought together over the testicles. The tumour after removal, partly drained of fluid, weighed 54 pounds.



The old man made a very good recovery. There was sloughing of some of the skin flaps, but to a very slight extent. The drainage tubes were removed on April 12th. During the latter half of April he had an evening rise of temperature, which I attributed to a relapse of his former intermittent fever, and which yielded to quinine and arsenic. Towards the end of April he had pus coming down a sinus which ran in the direction of the hernial ring; I thought that perhaps the ligature at the neck of the sac was causing irritation, and on April 30th I slit up the sinus, but saw no sign of the ligature. After this, except for a sharp attack of diarrhœa on May 8th, he made an uninterrupted recovery, and was discharged on June 11th, with the wound healed, except a small spot under the penis which was not quite skinned over. The skin which was turned back over the penis remained for some time somewhat œdematous.

I saw him at the end of August, and had the second photograph taken. The hernial aperture was then firmly closed, and there was no more coughing impulse on the right than on the left side. The œdema of the prepuce had disappeared, and he looked and walked as though he were ten years younger than he was at the time of the operation. He had some rheumatism of the right knee. In photograph 1, some of the collodion film was unfortunately rubbed off the plate in the middle of the scrotum, before printing. The weight of the scrotum was so great, he had to be supported while the photograph was being taken, and nearly fainted. In photograph 2, the white marks on the penis are cicatricial. The testicles are retracted to the perineum, the left one can be partly seen, drawn towards the groin. The hernia was on the right side.

REMARKS.—The case shows that the presence of a large hernia need not be a bar to the operation for elephantiasis of the scrotum. The operation for the scrotal disease alone is, I think, one of the most successful in surgery, and is familiar enough to surgeons in the East.

THE Convocation of Oxford has agreed to pay £750 as a contribution to the expenses incurred by the Master of Balliol and Dean of Christ Church in defraying part of the cost of works for improving the drainage of the valley of the Thames.

REPORTS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, DECEMBER 4TH, 1888.

Sir JAMES PAGET, Bart., F.R.S., President, in the Chair.

DEBATE ON MORBID ANATOMY AND PATHOLOGY OF CHRONIC ALCOHOLISM.

THIS discussion was opened by Dr. PAYNE, who read an introductory address, which appears at page 1275 in this JOURNAL. At the close of his speech, the PRESIDENT proposed a vote of thanks to Dr. Payne, which was carried unanimously.

The PRESIDENT then called on Dr. GEORGE HARLEY, who commenced by paying tribute to the great value of Dr. Payne's address. Continuing, he observed that, although he did not imagine that any of his hearers were sufficiently fanatical to believe that alcohol was at the root of almost every ill that human flesh was heir to, yet every medical man was painfully conscious of the fact that not only were innumerable diseases aggravated, but many diseases actually engendered in the otherwise predisposed, by the habitual daily indulgence in alcohol, even within what was usually regarded as the limits of temperance. For although many intemperate persons lived to a ripe old age, and many moderate drinkers flourished, there was no disguising the fact that the habitual daily indulgence in alcoholic drinks tended notably to weaken the constitutions of most persons, while at the same time it predisposed hereditarily feeble tissues to undergo prematurely both the cellular and the fibroid forms of tissue degeneration. Although the question of the deleterious effects of alcohol on the body, as a whole, as well as on certain organs in particular, when indulged in to excess, were equally easy to describe and to understand, from their being patent to the naked eye, it was quite another thing when one had to deal with the changes produced by alcohol taken frequently in small quantities. There were so many collateral problems requiring solution, that the question of how much of these effects was due to the direct, and how much to the indirect, influence of alcohol on the tissues was one of extreme intricacy for the pathologist who dealt with causes, in contradiction to the morbid anatomist who dealt only with effects. The visible lesions produced in the digestive, circulatory, and urinary organs by an excessive use of alcohol had long been recognised and carefully studied. The thickening of the mucous coats of the stomach, the hypertrophies, the indurations, and the fatty amyloid and cirrhotic degenerations of the hepatic tissues; the atheromatous changes in the blood-vessels, and consequent hæmorrhages and apoplexies; the hypertrophy of the heart's tissues, and the dilatations of its cavities; as well as the granular and fatty degenerations of the cortical substance of the kidneys, had long been recognised. These tissue-changes, however, formed but a small proportion of the morbid effects met with in practice, from the fact that for every drunkard there were fifty others who suffered from the effects of alcohol, in one form or other. Amongst them were persons who had never been once intoxicated in their lives. Of this so-called class of moderate drinkers neither our hospital statistics nor our national mortality tables took any account, and yet it was those very moderate drinkers who were in reality the most numerous class of alcoholic victims. The liver was the organ which was not only the earliest, but the most generally affected by the daily imbibition of small quantities of alcohol. The value of this statement would be fully appreciated by a glance at the subjoined tables of comparative mortality in different industries, taken from the Registrar-General's report, which showed the death-rate of men between the ages of 25 and 65 exposed to the temptation of "nipping":—

Death-rate of Men Exposed to the Temptation of Nipping.	Liver Diseases.	Urinary Diseases.	Circulatory System.
Brewers	96	55	165
Commercial travellers	61	44	100
Innkeepers, publicans, wine, spirit, and beer dealers	240	83	140

The men in the above table could not be classed as drunkards, seeing that drunkenness would of itself incapacitate them for occupations in which they were continually handling intoxicants. The comparative death-rate of men of the same age engaged in other industries, not exposed to the temptation of "nipping," was shown in the subjoined table:—

Death-rate of Men not Exposed to the Temptations of Nipping.	Liver Diseases.	Urinary Diseases.	Circulatory System.
Farmers and graziers...	41	31	84
Drapers and warehousemen	35	37	75
Printers	28	30	93
Gardeners and nurserymen...	18	39	82

These data were startling, more particularly as regarded the proportion of liver diseases, which was six times greater among men exposed to the temptations of "nipping" than in that of all the other industries combined. The actual figures were, for brewers, 1,361; for vintners and other salesmen of wines, spirits and beers, 1,521; and for waiters and barmen (those most exposed to temptation), no less than 2,205. On the other hand, for maltsters, who were only concerned with the materials from which the intoxicants were manufactured, and not with the intoxicating liquids themselves, the death-rate was only 830. It was not difficult to understand why the liver was the organ most affected by small quantities of alcohol, when it was remembered that almost every drop that was taken into the stomach was absorbed by the branches of the portal vein, conveyed directly to the liver, and had to filter through its tissues ere it could get into the general circulation. Moreover, as he himself had shown in 1853,[1] the mere injection of alcohol into the portal vein in dogs was sufficient to cause the animals to become diabetic in from two to three hours. The result of the two following experiments proved this. The first was one of the experiments he performed at the Collège de France before a commission appointed by the Société de Biologie, consisting of Professors Bernard, Verdeil, Würtz, and Robin. Into the mesenteric branches of the portal vein of a full-grown healthy retriever dog 16 cubic centimètres (half an ounce) of pure alcohol, mixed with an equal amount of water, were slowly injected. In three hours the dog was found to be markedly diabetic. The most rapid example of the supervention of diabetes after the introduction of alcohol into the portal vein he ever met with was in the case of a small mongrel adult dog. The quantity of alcohol employed was ten cubic cent., with an equal amount of water. In two hours this dog's urine contained sugar. Dr. Harley next discussed the question of the causation of disease induced by the daily use of alcohol, and began by remarking that all of them were aware that an immense change had taken place during the present century in our ideas of what really constituted disease. At one time mere symptoms were not only spoken of, but actually treated as if they were the actual diseases. Afterwards, when *post-mortem* examinations came into fashion, the titles of diseases were transferred from the symptoms to the morbid lesions found after death. The tissue lesions were looked upon as the actual diseases instead of the mere mechanical products of the invisible and inscrutable disease which still eluded recognition. Yet another stage was reached when, by the introduction of the microscope into the dead house, it was found that alterations had taken place in the cells and fibres constituting the organs. This discovery brought into existence cellular pathology, which, however, had had but a brief reign, from its having been found to supply us with names instead of explanations, while totally failing to throw light on the genesis of diseased action. Now the pioneers in pathological thought were directing their attention to the teachings of the test-tube and the balance in the hope that chemistry might reveal the mysterious, because not understood, cause of diseased action. No better opportunity had ever been (or, probably, would ever be) presented than the one now before us of essaying a step or two along the newly indicated path of pathological chemical inquiry, seeing that the morbid lesions induced by alcohol were neither the result of wounds nor bruises, of thermal changes in the shape of chills or colds, or of animated beings (either vegetable or animal) in the shape of visible parasites or invisible germs, but a chemical agent whose action upon the blood and tissues, either as a food, a medicine, or a poison, we could study more completely in the laboratory than in the *post-mortem* room. Already we knew something

[1] Recherches sur la Physiologie du Diabète Sucré, *Compt. Rend. de la Soc. de Biologie*, Paris, vol. v, pp. 59-61.

of the chemical mode of action of alcohol on the frame. We knew, for example, that it must in some way or other chemically incorporate itself with the constituents of the body; for although, after being taken into the stomach, it was eliminated both by the lungs and kidneys, and probably also, to some extent, by the skin, only a mere fractional part of what was taken into the body ever came out of it again as alcohol. We likewise knew that some of it during its sojourn in the body underwent its most easy chemical transformation, namely, its change into acetic acid; for the acidity of the urine, as well as its watery ingredients were increased after the administration of small doses of absolute alcohol. Further than this, Dr. Harley said he had shown in a paper On the Influence of Physical and Chemical Agents upon the Blood, published in the *Transactions of the Royal Society*, 1864, pp. 687-724, that 10 per cent. of alcohol turned fresh arterial blood of a light brick tint, coagulated a portion of its albumen, and not only prevented it ever being re-oxygenated, but annihilated its power of producing hæmin crystals. Dr. Harley's experiments also showed that alcohol, even in small quantity of 5 per cent., possessed the remarkable power of so altering the materials of the blood (without producing any visible effects upon the corpuscles), that they entirely lost the power of becoming fitted, by oxidisation, for the purposes of nutrition, just as opium did, though to a somewhat less extent, as the following analysis showed.

In 100 Parts of Air.	Oxygen.	Carbonic Acid.	Nitrogen.	Vol. at 0° C. and 1 Mètre Pressure.
Composition of employed air	20.9	0.002	79.038	20.96
With pure ox-blood.....	10.58	3.330	86.09	14.91
Ditto plus 5 per cent. alcohol	16.59	2.380	81.03	18.97
With pure calf's-blood	6.64	3.47	89.89	10.11
Ditto plus 0.005 gramme of morphine	17.17	1.00	81.83	18.17

Might not this peculiar property of alcohol in acting like an asphyxiant and preventing the blood from becoming fitted for the purposes of nutrition, in some measure furnish us with a clue to the remarkable influence which alcohol had when daily taken in small quantities at a time, of inducing degenerative tissue-changes, and hastening the progress of fatty and amyloid transformations, seeing that oxidation was the motor power of all vital action, and in direct proportion to its activity were the manifestations of life accelerated or retarded? Every breath we drew, every movement we performed, every thought we had was but the outcome of the transformation of matter under the influence of oxygen. Dr. George Harley concluded by expressing the hope, although time did not permit him of going more into the chemical pathology of chronic alcoholism, that what he had said regarding the future prospects of chemical pathology would be sufficient to induce some of the younger Fellows to direct their earnest attention to it.

Dr. LIONEL BEALE showed and explained several diagrams from microscopical sections of hepatic cirrhosis, referring to one case of which he showed some microscopical sections—where death had occurred after about a year's illness, and in which the liver was at first hypertrophied, but during the course of the year became much contracted. The sections, which had been prepared by special methods of manipulation, appeared to show that what was ordinarily considered as increase of the connective tissues of the organ really consisted of *débris* of the normal tissue of the gland which had been destroyed.

The PRESIDENT then called upon Dr. STEPHEN MACKENZIE to give some account of the case from which his drawings and microscopical sections were taken. The following details were given: The liver, which both macroscopically and microscopically showed the ordinary changes of chronic cirrhosis, was taken from a girl aged 12, who came under observation for an enlargement of the upper part of the abdomen. The liver was found to be enlarged, but no conclusion was come to as to the cause of the enlargement. There were no urgent symptoms during the time the child was under observation, and she was discharged from hospital. Some time later hæmatemesis set in suddenly, which was uncontrollable, and proved fatal within a week from its onset. At the necropsy an extremely contracted, typically cirrhotic liver was found. He considered the case a proper one to be brought forward at a discussion on chronic alcoholism, owing to the changes found in the liver, but he emphasised the fact that no history of consumption of alcohol by the child could be obtained, though most carefully inquired for. Referring more directly to the discussion, he expressed the opinion that the primary change produced by alcohol in the liver was an increase in the connective tissue elements. After death from many different kinds of disease one found degeneration of the hepatic parenchyma cells; and it did not seem to him proven that degeneration of the cells was produced by the direct action of alcohol on them, and not by the contraction of the new connective tissue.

The PRESIDENT next asked Dr. MOTT to relate the history of his case, from which microscopical preparations were shown. He said that the sections were taken from the heart of a man, aged 34, who had died collapsed shortly after admission to Charing Cross Hospital. He had been drinking heavily shortly before admission, and was known to have been a drunkard. At the necropsy the liver was enlarged, showing both fibroid and fatty changes. There were some early atheromatous changes in the aorta. The heart was enlarged, weighing 15 ounces, and both ventricles, but particularly the left, were dilated. The heart was very soft, and there was some endocardial mottling. The microscopical specimens showed fatty degeneration of the ventricular walls, which was especially well marked in the columnæ carneæ and musculi papillares. On looking up the literature of the subject he found that Professor Shroetter, in Ziemssen's *Encyclopædia*, included alcohol as one of the poisons causing fatty degeneration of the heart.

The following drawings, specimens, and microscopic slides, demonstrating changes produced by alcohol in the alimentary, circulatory, and urinary systems, were exhibited at this meeting.

Drawings.—Dr. PAYNE: A copy of a drawing, made by Mr Faithorn in 1685, which was mentioned by Dr. Payne in his address, and was interesting as being the first published figure of cirrhosis of the liver.—Dr. COUPLAND: A drawing in the Middlesex Hospital museum, showing red atrophy of the liver from a case that had been under Dr. Cayley's care. A diagram, showing the microscopical structure in this case, was also shown by Dr. Payne. —Dr. STEPHEN MACKENZIE: The drawing of the liver with cirrhosis from a girl, aged 12, where there was no history of alcoholism.

Specimens.—Mr. LEOPOLD HUDSON: Seven from the Middlesex Hospital Museum. 1. Ulcerations in the stomach perforating a large branch of the gastric artery, from a soldier, aged 28, who had been a hard drinker, and was found to have well-marked cirrhosis of the liver. The case was reported by Dr. Murchison in the *Path. Soc. Trans.*, vol. xxi, p. 164. 2. An ulcer of stomach in a woman, aged 50, who died of hæmatemesis. 3. A portion of liver showing an extremely thickened capsule, without marked intra-hepatic cirrhosis. This was taken from the body of a heavy spirit drinker. 4. Marked cirrhosis in an alcoholic subject, with distended and hypertrophied gall-bladder. 5. Hypertrophic cirrhosis from a heavy drinker, aged 41; the weight was 80¾ oz Case published by Dr. Murchison in *Trans. Path. Soc.*, vol. xx. 6. Small cirrhotic liver, only 22 oz. in weight, but without any induration or increase of fibrous tissue from a man who drank much beer, but no spirits. This case was published in the *Trans. Path. Soc.*, vol. xix, p. 252. 7. Spleen with extremely thickened capsule, from the same case as the Specimen No. 3.—Dr PAYNE: A specimen from St. Thomas's Hospital Museum, of pachymeningitis hæmorrhagica, thickened dura mater, the left side of which was lined by false membrane, divisible into two layers, the outer adherent to the dura mater, the other bounding the arachnoid cavity. The space between was found at the necropsy to be full of dark fluid blood.

Microscopical Sections.—Dr. LIONEL BEALE: Cirrhosis of liver in man and in frog.—Mr. LEOPOLD HUDSON: (1) Kidneys with cirrhosis from the bodies of hard drinkers; (2) atrophic cirrhosis of liver from a drunkard; (3) hypertrophic cirrhosis of liver from a drunkard.—Dr. MOTT: Fatty degeneration of the columnæ carneæ from the heart of a heavy drinker.—Dr. PAYNE: Series showing alcoholic cirrhosis of liver: (1) fatty degeneration of hepatic cells: (2) fatty degeneration of hepatic cells, and increase of connective tissue; (3) pigmentation of hepatic cells and increase of connective tissue.—Dr. STEPHEN MACKENZIE: Non-alcoholic chronic cirrhosis from liver of a girl, aged 12.—Mr. TARGETT: Chronic cirrhosis of liver in a boy, aged 8, almost certainly produced by alcohol.

The following were also shown at the meeting:

Living Specimens.—Dr. R. CROCKER: Two children from the

same family with atropho-derma pigmentosum. —Dr. STEPHEN MACKENZIE: Localised symmetrical œdema.

Card Specimens.—Mr. BERKELEY HILL: Primary cancer of prostate.—Mr. R. JOHNSON (for Mr. B. HILL): Pulmonary embolism by detached clot from internal saphenous vein.

MEDICAL SOCIETY OF LONDON.

MONDAY, DECEMBER 3RD, 1888.

SIR WILLIAM MAC CORMAC, F.R.C.S., President, in the Chair.

Some Additional Cases, illustrating Hepatic Surgery.—Mr. J. KNOWSLEY THORNTON gave brief notes of six cases operated upon since his communication to the Society, on cholecystotomy, in November, 1887. The first two were cases of abscess in connection with perforation of the gall-bladder, presumably by gall-stones, though the stones were not found. The third case was one of cholecystotomy, the gall-bladder being removed and the stones left in the common duct, from which they were afterwards expelled, considerable disturbance arising as they passed through the ileo-cæcal valve. The fourth case was one of ordinary cholecystotomy, the gall-bladder being sutured into the parietal opening, and drained. The fifth was one of hepatotomy for hydatids of the left lobe of the liver. The sixth case was one of abscess in connection with perforation of the gall-bladder, stones being found both in the abscess-sac and in the gall-bladder and cystic duct, 100 in all. Mr. Thornton remarked on the danger of waiting when there were symptoms of impacted gall-stones; on the advisability of free incision and drainage in preference to aspiration on hydatids; on cholecystectomy in place of cholecystotomy; on the functions of the gall-bladder; and upon the irritant action of the bile on healing wounds. All the cases recovered and were then well, and they represented the author's whole practice of hepatic surgery since the previous communication to the Society.—The PRESIDENT asked whether the fistulous openings were continued in the two first cases in which the gall-stones escaped from the gall-bladder, and became encysted. He asked whether there were no adhesions.—Mr. DAVIES-COLLEY alluded to a case of hydatid of the liver which he had under his care eight years ago. It was at first thought to be aneurysmal, on account of the tumour being a pulsating one. It was tapped later on, and a small quantity of fluid was withdrawn. The sac, however, filled again, and two fruitless attempts were then made to tap. He then cut down and opened it up, stitching the sac to the parietes.—Mr. DAVSON mentioned a case in which the application of caustic potash opened up the cavity, and a heap of echinococci were scooped out.—Mr. THORNTON, in reply, said that the fistulæ took about seven or eight weeks to heal quite up. There were no adhesions of a kind to interfere with the operation. The chief danger of hæmorrhage would be in separating the sac from its attachments to the liver. The present size of the stones did not give a fair idea of their dimensions when removed.

Puerperal Insanity of Septic Origin.—Dr. SAVAGE read a paper on this subject, in which he insisted upon the frequent correlation of puerperal fever with puerperal mania. The ordinary form of puerperal insanity, he said, was quite common, and from 8 to 10 per cent. of all the acute cases met with in hospital practice were due to this cause. When it was considered that a large proportion of the cases were treated at home, the total would be seen to be somewhat formidable. Puerperal insanity was less curable than it was generally believed to be. About 5 per cent. of the acute cases proved fatal, and no less than 20 per cent. remained permanently afflicted. He enumerated the different forms assumed by puerperal insanity—the acutely maniacal, the melancholic, and dementia. When of septic origin the malady most frequently took on the acute maniacal form, and most of the fatal cases were of this kind. He pointed out that neurotic persons, curiously enough, appeared more liable to take on septic changes, the determining causes being various. He related the cases of three sisters, who all fell victims to the same form of septic mania at intervals of some months.—Dr. BARNES said it was very important to compare and complete experience. Obstetricians saw the beginnings but missed the sequel. He said that heredity was the great predisposing cause. Then, as to the evocative causes—blood diseases and such like—he said that Dr. Savage had not drawn a line of demarcation between the mental disturbance commencing during pregnancy and that which broke out during lactation. It was very important to distinguish between them. Albuminuria was common. They had a condition of high vascular tension to which the albuminuria was often due. Then there followed a stage of depression, when the septic symptoms became more marked. In cases that he had seen after labour, anæmia was marked, as well as toxæmia from other causes. He said the liver of puerperal women was always fatty, thus increasing the difficulty of disposing of the post-puerperal metabolic product. Emotional shock was a powerful influence in the production of sepsis. He mentioned a case of thrombosis following a shock. Exhaustion also was a factor of importance. He had seen insanity cured by the replacement of a displaced uterus. Of this he had had unexceptionable proofs.—Mr. KNOWSLEY THORNTON said he had had several cases of marked insanity after important abdominal operations. He suggested that the marked acceleration in the pulse, which was considered of such ill omen in these cases, might be due to septic causes, the other symptoms being masked by the mental condition. This "masking" of the symptoms was often very remarkable. He explained the albuminuria which was often present to be due to acute congestion of the kidneys, caused by the elimination of the poison.—A MEMBER mentioned the case of a lady, just confined of her first child, who was neglected by her nurse, and was reported to have had a "fit." He found her comatose, and she remained in a condition of stupor for three months, and then, on being sent away, suddenly recovered. There was a little albumen in the urine.—Dr. SYMES THOMPSON said there could be no question that the susceptibility of puerperal women was largely due to the prostration. Under such circumstances sepsis was more readily induced.—Dr. SAVAGE, in reply, said that statistics seemed to point to a preponderance of cases among the upper classes. He said there was no more danger to reason from puerperal mania than from the delirium of fever. He preferred a tonic treatment.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

FRIDAY, NOVEMBER 23RD, 1888.

W. J. SMYLY, M.D., President, in the Chair.

Exhibitions.—Dr. MASON exhibited two ovarian cysts. One was almost unilocular, and had a solid mass on one side. It was not adherent to any of the structures, and was removed without difficulty. The woman made an uninterrupted recovery. The other cyst was removed from a woman aged 47. There was a large amount of ascitic fluid, and the tumour was practically solid. No fluid came from it when it was tapped, and it had to be broken down and removed almost piecemeal. The case went on very well for eight days after the operation. On the night of the tenth day, however, she got bronchitis and died in twelve hours. On *post-mortem* examination, the abdomen was found to be healthy, but there were signs of gradually organising lymph in it. Dr. Mason also exhibited an anencephalic fœtus. The upper part of the skull was totally deficient. The child presented by the lower extremities, and was delivered without difficulty. After its birth the heart pulsated for a few minutes, but no respiration was established.

President's Address.—The PRESIDENT delivered his address.

Sloughing Fibrous Polypus of the Uterus.—Dr. LANE read notes of a case on the above subject. The patient, aged 32, had been married for three years and a half, and had never been pregnant; she had had menorrhagia since January, lasting three weeks at a time, and accompanied by great fœtor. Slight difficulty in passing urine was experienced on June 10th, followed by complete retention next morning. On vaginal examination, the tumour was found projecting through the os. Torsion was first tried, but, the tumour breaking down, a wire *écraseur* was then applied and the pedicle cut through; a short straight midwifery forceps was then put on, and the polypus was delivered without the slightest injury to the perineum.—Dr. MACAN and Dr. NIXON made some remarks, and Dr. LANE replied.

Mammary Inflammation and its Treatment by Elastic Pressure.—Dr. ANDREW HORNE read a paper on this subject. He said inflammation of the breast was almost always the result of infectious material gaining entrance through fissures and cracks of the nipple, and too much attention could not be paid by the physician when such a condition existed in the nursing mother. The treatment advocated was to envelop the breast in a layer of absorbent cotton. Having first painted the breast with a 5 per cent. solution of oleate of mercury and morphine, then having procured an elastic web bandage, five yards long by three inches wide, he made equable and gradual pressure over the inflamed

gland, thereby securing the most perfect rest possible.—Dr. MACAN said he had long used compression of the breast in certain cases, although he did not regard it as suitable where there was suppuration; but he felt that he could recommend Dr. Horne's plan, even where there was suppuration, as strongly as in other cases. It gave great relief to the patient, and was a great step forward. In certain cases it would permit the woman to go on nursing, which, in the case of the poor, was a great advantage. It seemed specially applicable in the troublesome form of affection in which, although the breast was enormously distended, and the skin quite tight, not a drop of milk would flow.—Dr. MASON said the plan recommended would greatly extend the treatment of sore breasts by pressure. Varieties of plasters had for long been before them. Belladonna plaster he believed to be one of the best. It was most important to give the breast perfect rest. It was remarkable that women who did not attempt to nurse their children did not suffer from sore breasts.—The PRESIDENT said he used to employ Martin's bandages, but he believed Dr. Horne's arrangement to be much better. One of its best features was the covering up of the breast which it involved, by which external infection was prevented. One of the causes of inflammation of the breasts he believed to be that when a patient felt her breasts growing swollen and tender she would ask some assistance from the midwife, who would handle a cracked nipple with fingers covered with putrid lochia, and in that way infect the breast and cause inflammation.—Dr. HORNE, in reply, said one of the reasons why he had adopted this bandage instead of elastic plasters, was that it was most difficult to put on elastic plasters in such a way as to get even pressure. Another reason was that elastic plasters were apt to produce an eczematous eruption on sensitive skins. That would never happen with his bandages. As to Martin's bandage, patients to whom he had applied it complained that it caused uncomfortable heat, whereas his bandage, being more porous, allowed a freer circulation of air.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, NOVEMBER 28TH, 1888.

JOHN STUART NAIRNE, F.F.P.S.Glasg., in the Chair.

Myoma of Uterus.—Dr. W. L. REID showed a myomatous polypus recently removed with the galvanic *écraseur*. The cervix had about a month earlier been divided with scissors, and the os internum forcibly dilated. The myoma had in the interval become polypoid, and was easily removed with a new and simplified *écraseur*.

Knotting of Umbilical Cord.—1. Dr. M. CAMERON showed a cord so tightly knotted as to cause the death of the fœtus. 2. Dr. G. A. TURNER showed a cord with several complicated knots. 3. Dr. LAWRENCE OLIPHANT showed twin cords firmly tied together in two places. A committee was appointed to report on this case, as some of the Fellows were sceptical about the observation of the case. The children were born in the street, while the placenta was delivered in the hospital. In the discussion which followed, most of those present thought that true knots were less common than the ratio given in the textbooks.

Doubly Flexible Knee-joint.—Dr. G. A. TURNER described a child born with one knee-joint doubly flexible. No surgical injury could be detected, and the condition had almost disappeared at the end of six weeks.

President's Address on Oöphorectomy.—The PRESIDENT then delivered an address on Lessons in Oöphorectomy. He gave an abstract of the results of fifty consecutive cases, and described in detail several of the cases, and his mode of procedure. He removed only the diseased ovary, and in certain cases contented himself with mere puncture of small cystic ovaries, which he returned into the abdominal cavity.

GLASGOW SOUTHERN MEDICAL SOCIETY.

THURSDAY, NOVEMBER 22ND, 1888.

J. GLAISTER, M.D., President, in the Chair.

William Smellie.—The PRESIDENT read the opening paper of the session on "William Smellie: His Life and Times." Born about the year 1697, the exact date being uncertain, Smellie was educated at the Grammar School of Lanark, to which academy he made a bequest of his library and portrait. He started as an apothecary in Lanark in the year 1720, and seemed to have practised medicine there without a qualification. The period of his practice in that town extended from 1720 to 1739, at the close of which he left for London. Smellie's teacher appeared to be John Gordon, surgeon in Glasgow. He was also intimate with Cullen, from whom he obtained books on loan. Some had said that Smellie was unsuccessful in Lanark, but this did not seem likely, for he attended midwifery cases within a radius of twenty-five miles from the town. As his travelling companion to London he had Tobias Smollett, M.D., the author of *Roderick Random*. Smellie was disappointed with what he saw in London in the department of midwifery, the teachers of the time being Mowbray, Chapman, Sandys, Sir Richard Manningham, and James Douglas. He found he could learn nothing in London, and he therefore went to Paris and studied under Grégoire, but without benefit. He afterwards settled in London, and set up as teacher, and got many pupils. The source of Smellie's diploma was disputed; it was supposed to be from Paris. He wrote M.D. after his name shortly subsequent to his settlement in London. The Scotch diplomas of the time were mostly from Utrecht, Smollett's, however, being from Aberdeen. It was found advisable to postpone the reading of the latter part of the paper till the next meeting, as being specially interesting, since it included a detailed list and description of the contents of Smellie's works.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

NOVEMBER MEETING.

H. C. MAJOR, M.D., President, in the Chair.

Tubercular Nephritis.—Mr. HORROCKS showed a specimen of tubercular nephritis and cystitis. The patient, aged 48, had shown the first symptoms nine months before death. The right kidney showed a large tubercular ulcer, the ureter was superficially ulcerated, the bladder studded with miliary tubercles. The lungs were indurated, and studded with miliary tubercles; the left kidney and the prostate were free.

Loose Cartilage in Knee-Joint.—Dr. A. RABAGLIATI showed a patient from whose knee-joint he had extracted a bean-shaped piece of loose cartilage, one inch in length, which had been in the joint for twenty years.

Gastrostomy for Malignant Stenosis.—Dr. T. C. DENBY showed a specimen of cardiac stenosis from cancer, for which, at the wish of the patient, gastrostomy had been performed. The patient survived the operation four days.

Death-Rate of Bradford.—Dr. A. RABAGLIATI read a paper on comparison between the death-rate of Bradford and that of the country in general, in which he showed that the low death-rate of Bradford was, to a great degree, dependent upon the low marriage-rate.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, NOVEMBER 16TH, 1888.

H. HANDFORD, M.D., M.R.C.P., President, in the Chair.

Calcareous Degeneration of Heart-Valves.—Mr. WINDLEY showed a remarkable illustration of this condition. The aortic valves were most affected, being in some places as much as 0.5 centimètre in thickness. The aortic and other vascular walls, however, were entirely free from disease.

Rupture of Tubal Pregnancy.—Dr. F. R. MUTCH showed the uterus and Fallopian tube of a woman who died from this condition in about the eighth week of pregnancy. The case was remarkable for the occurrence of the accident at so early a date.

Specimens.—Dr. H. HANDFORD showed a drawing and microscopic specimens illustrating Alcoholic Neuritis. Dr. GEORGE ELDER showed chronically-inflamed Ovaries removed from a single woman, aged 34, who had suffered severely from painful dysmenorrhœa. Mr. KELLY showed a Foot removed for chronic thickening and gangrene from a woman, aged 29, who had suffered from infantile paralysis.

Fæces Passed by Urethra.—Mr. HATHERLY read (for Mr. Thompson) notes of three cases of fæces passed through the urethra. The treatment was palliative, and each of the patients died. Mr. Thompson was not permitted to make any *post-mortem* examination. One of the cases was undoubtedly malignant.

Hypertrophy of Cervix Uteri.—Mr. HATHERLY then read a paper on hypertrophied conditions of the cervix uteri. He first dealt with the conical cervix, which he believed to be generally congenital. When it was mistaken for procidentia or prolapsus it could only be through incomplete examination. The only remedy was amputation. Mr. Hatherly enumerated the different

methods of performing the operation, and said he preferred to remove it with a wire-rope *écraseur*. If the operation was performed slowly and with a rather thick wire, hæmorrhage would be very unimportant. He had not found stenosis or dysmenorrhœa in any instance as a result of the amputation with the *écraseur*. Mr. Hatherly then exhibited a specimen of follicular hypertrophy in which the os had become so much enlarged as to plug up the vagina and prevent intercourse. After amputation the patient made a speedy recovery, and had suffered no inconvenience since.

Peripheral Neuritis.—Mr. T. D. PRYCE read a paper on this subject. Having discussed the chief types of multiple neuritis, he especially alluded to diabetic neuritis, stating that this disease might occur in two forms: (1) one in which the motor nerve-fibres were chiefly affected, with consequent paralysis; seen in some cases of advanced diabetes; (2) a form in which the sensory, vasomotor, and trophic nerve-fibres were mostly implicated, with consequent and corresponding symptoms. This type closely resembled locomotor ataxy, and also that form of alcoholic neuritis described by Dreschfeld as alcoholic ataxia. Mr. Pryce suggested the term diabetic ataxia or diabetic pseudo-tabes. He related three cases illustrating this form of disease, in one of which extensive peripheral neuritis was found after death. He considered that the diabetic poison was peculiarly apt to affect the peripheral sensory nerves, and in support of this view instanced the comparatively frequent occurrence of symmetrical neuralgia in diabetes. He further drew attention to a suggestion made by him, two years before, as to the nature of the ataxia which so often occurred in diabetes, and believed that it was in many cases due to a peripheral sensory neuritis. A case of peripheral neuritis associated with phthisis was also related. The patient was a woman, aged 57, and presented most of the typical symptoms of the disease, namely, pains of varying character, anæsthesia, impairment of superficial reflexes, loss of knee-jerk, tenderness of muscles to pressure, together with muscular paralysis and atrophy. The disease had run an extremely chronic course. Peripheral neuritis was found after death. In this case there was no history of alcohol, syphilis, rheumatism, etc. The paper was illustrated by drawings, photographs, and microscopic specimens of alcoholic, diabetic, and idiopathic neuritis.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

TUESDAY, NOVEMPER 6TH, 1888.

J. SPOTTISWOODE CAMERON, M.D., President, in the Chair.

Cases.—I. Mr. JESSOP showed: 1. A man on whom exploratory laparotomy had been performed for renal tumour, which it was found impossible to remove. 2. A child from whom he had removed a large malignant tumour of the right kidney by a combination of Langenbeck's incision with the transperitoneal method. 3. A man suffering from advanced malignant disease of the rectum, who had undergone left lumbar colotomy. Mr. Jessop remarked that the frequent partial failure of colotomy to afford relief generally arose from the absence of any barrier to the passage of fæces; and the patient had a lumbar fistula added to his other troubles. In this case he had made a complete section of the bowel, brought the upper opening to the surface, and closed the lower by inversion and suture. The patient had previously had colotomy performed, which had failed for the reasons described above. 4. A woman who had had cholecystotomy performed for the removal of gall-stones, which had caused severe symptoms for a number of years.—II. Mr. EDW. ATKINSON showed: 1. A case of external urethrotomy, with immediate suture of the wound. Mr. Atkinson referred to Mr. Marmaduke Sheild's method of suture in separate layers of tissue, and said in the case shown he had stitched the urethra and the external wound by four deep sutures. A silver catheter was retained for twenty-four hours, and afterwards passed at intervals of three days. There was a little leakage at the end of the first day, but none afterwards. 2. A case of cancrum oris.—III. Mr. MAYO ROBSON showed: 1. A case of goitre which, by pressing on the trachea, had caused dyspnœa for three years. The constriction could be seen by the laryngoscope. Division of the isthmus with the galvanic *écraseur* ten months ago had reduced the circumference of the neck from $17\frac{1}{2}$ to $14\frac{1}{2}$ inches, and the breathing had become easy. 2. Ununited fracture of the olecranon, treated by wiring the refreshed ends of the bones. There was subsequent good union. 3. A case of psoas abscess, due to caries of the lumbar spine, treated by aspiration and injection of a saturated solution of iodoform in ether. There had been four aspirations, 8 ounces, 3 ounces (twice), and 2 ounces respectively being withdrawn, and about 2 drachms of the solution injected on each occasion; since the last aspiration, four months previously, there had been no fresh accumulation, and the spine was being treated with a plaster jacket. 4. Suprapubic lithotomy in a boy, aged 13 years, where the bladder had been sutured and immediately returned. Mr. Robson had had four cases where immediate suture had succeeded in young subjects. 5. Sigmoidotomy for stricture and ulceration of the rectum, performed by Mr. Allingham's method. The case showed the double-barrelled arrangement of the opening in the colon which prevented the fæces passing below the aperture.

Innominate Aneurysm.—Mr. R. N. HARTLEY showed a case of innominate aneurysm, for which distal ligature of the common carotid and subclavian artery was performed three years and a half before. He said that since he had previously exhibited the patient, two years previously, the tumour had become firmer and had almost disappeared, except for a slight prominence of the manubrium sterni, and the inner half of the clavicle. About six months previously, without any very obvious exciting cause, the swelling began to enlarge again, at first without any symptoms except slight cough, but latterly there had been diffuse pains about the shoulders. At present the aneurysm had extended largely upwards in front of the neck, and the sternal end of the clavicle seemed almost lost in the walls of the sac. There were no signs of thoracic extension, but marked pulsation of the large anastomosing vessels about the shoulder of the radial pulse was quite distinct. He invited opinions as to the advisability of galvano-puncture, but felt reluctant to undertake further interference, considering the absence of serious or painful symptoms. —Dr. WARDROP GRIFFITH made some remarks on the difference of the circulation through aneurysms, after proximal ligature by the methods of Anel and Hunter respectively.—Mr. JESSOP said he thought that the method of consolidation of aneurysms by a sudden coagulation throughout the whole cavity was more common than the method by laminated clot. He had once observed sudden consolidation and arrest of pulsation while he was examining an aneurysm, and he mentioned another case in which amputation had been performed for gangrene after ligature, where the sac was found to be lined with a thin layer of laminated clot of old duration, the cavity being filled by a mass of soft coagulum.

Charcot's Disease.—Dr. WARDROP GRIFFITH showed a case of Charcot's disease affecting both knee-joints. The patient had sudden pains, lasting about a minute, myosis with "Argyll Robertson's symptom" in the iris reflex, absence of patella jerks, and incontinence of urine. There was some creaking in some of the smaller joints, and a history of effusion into the right knee, which was tapped.—Dr. CHURTON had seen a similar case, in which a joint was swollen and painful. He thought the joint-affection in tabes was determined by the question whether "Clarke's column" was involved.—Mr. L. KNAGGS thought the involving of the other joints, the rheumatic history, and the character of the pain rendered it more probable that the joint affection was rheumatoid arthritis.—Dr. ALLAN held the same opinion.

NEW SURGICAL AID SOCIETY.—A Samaritan Society has been founded at Newcastle, to be designated the North of England Samaritan Society, with the object of supplying medical and surgical appliances for the deserving poor. A resolution was moved by Dr. Phillipson, and carried unanimously, and the meeting afterwards proceeded to elect a committee, consisting of the senior physicians and surgeons of the town. It was understood that there should be no letter system, and that the institution would be thoroughly unsectarian.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—The members of this Association met on Friday, November 30th, in the rooms of the Medical Society of London, to receive a report from a Committee consisting of Dr. C. R. Drysdale, Surgeon-Major Pringle, and Mr. H. A. W. Coryn, on the report to the French Senate on Alcoholism and the Consumption of Alcohol in France. The President, Dr. B. W. Richardson, prefaced the report with some observations on the different races in the British Isles, and the effect of alcohol on them. It was resolved to publish the report of the Committee, and to present a memorial to the Government for a similar exhaustive report on alcoholism in this country.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SESSION 1888.

Thursday, November 29th.

JOHN MARSHALL, F.R.C.S., F.R.S., President, in the Chair.

Case of Stephen Joseph Daly.—Stephen Joseph Daly (registered as Mem. R. Coll. Surg. Eng. 1886, Lic. R. Coll. Phys. Lond. 1886) appeared before the Council on the following charge, as formulated by the Council's solicitor: "That he, being a registered medical practitioner, had acted, and did still act, as cover to one George Billing, of Blackpool, in the county of Lancaster, an unqualified person, thereby enabling the said George Billing to carry on a medical practice as though he were a legally qualified medical practitioner."

Mr. Daly was represented by his solicitor (Mr. Richard Banks).

Mr. FARRAR read a statement embodying the facts of the case, from which it appeared that Mr. Billing, an unqualified person, was the son of a Manchester physician, and had for many years been assistant to his father, and was now endeavouring to qualify. Mr. Daly's position was that he had rented the larger part of Billing's house, with the intention of starting in practice for himself while Mr. Billing went to Glasgow to pass his preliminary examination. It further appeared that Mr. Daly charged Mr. Alfred Anderson, the complainant, with having previously done for Mr. Billing what he charged him (the defendant) with doing. A number of cases were mentioned in which Mr. Billing was alleged to have attended patients alone; but statutory declarations by some of the alleged patients were read denying that Mr. Billing had attended the cases in question except as the assistant of Mr. Daly, together with some to the contrary effect.

Dr. G. C. KINGSBURY said he appeared on behalf of the Fylde Medical Association, of which he was a member. He had been requested to attend and explain the case to the Council. He alluded to the statement that Mr. Anderson himself formerly acted as cover to Mr. Billing, but said that even if so, it, in any case, would be no justification for Mr. Daly doing the same thing. He stated that Mr. Billing, as far back as 1876, was an unqualified assistant, and since that time had been practising with or without a cover. Coming to the relations of Mr. Anderson with Mr. Billing, he stated that, under pretext of having more time to prepare himself for the preliminary examination, Mr. Billing wrote for and obtained a *locum tenens*, Mr. Daly, who was alleged by the defence to be the *locum tenens* of Anderson, though the latter was not aware of his arrival until he met him by chance. Circumstances gave rise to a rupture of the arrangement between Billing and Anderson, and Daly promptly took the place of the latter, though Billing's name was substituted on the lamp. The statement comprised a good deal of evidence to prove that Mr. Daly was in reality the servant, and not the master. On one occasion he came into collision with Mr. Anderson, and, on the latter asking who he was, he said, "I am here for Mr. Billing."

The question was raised by Sir JOHN SIMON as to the relevancy of this statement, but the President ruled that it was in order.

Dr. KINGSBURY, continuing, then alluded in great detail to particular patients who were alleged to have been attended by Mr. Billing on his own account.

Having concluded his statement, Dr. KINGSBURY asked the President if it would be in order for him to examine Mr. Daly then, or wait and hear his defence, and then examine him?

The PRESIDENT said there were statements that had been made by Dr. Kingsbury which the Council would like to have substantiated by evidence, and asked him if he proposed to give such evidence.

Dr. KINGSBURY asked if he might put the questions he desired to put to the defendant there and then.

The PRESIDENT replied that he thought the Council would like to hear Mr. Anderson's evidence, as Mr. Anderson was there; and the present would be the proper time to take his evidence.

Dr. KINGSBURY said he would proceed to examine Mr. Anderson.

In reply to Dr. KINGSBURY, Mr. ANDERSON stated that Mr. Billing sent for Mr. Daly without his, Mr. Anderson's, knowledge or consent. He first learned that Mr. Daly had come to Blackpool from Mr. Billing's wife. During the month that Mr. Daly professed to have been witness's assistant witness did not pay him any wages, nor did he give him any directions as to what he was to do. Witness never went with him to see any patient.

Dr. KINGSBURY stated that a copy of the expenses which were paid by Mr. Anderson at the King Street surgery during the months of April and May last showed that Mr. Anderson had paid for the drugs, hay, the man's wages, for the repair of harness, and for the repairs of carriage; but there was no mention of Mr. Daly's wages, showing conclusively that the statement made by Mr. Anderson that he did not pay him any wages was correct.

Mr. ANDERSON said the statement was correct.

It was further stated in evidence that a correct copy of the receipts of Mr. Billing from 1885 showed for 1885 £430, 1886 £482, 1887 £430; and in the first quarter of 1888 he received as his first quarter's wages a part share of the practice, £71. From March to the end of May, when he dismissed Mr. Anderson, £80; and since he had severed his connection with Mr. Anderson, he had been in receipt of the monthly sums paid to him out of the debts collected from the practice, the amount for June being £18, July £30, August £39, September £32, and October £15, showing for the year £288 as his share of the practice.

Mr. ANDERSON then identified various documents which were produced to him by Dr. Kingsbury, and affirmed the truth of divers statements of facts and conversations alleged to have taken place. He had seldom seen Mr. Daly after his arrival on June 16th. Mr. Anderson then narrated the circumstances of his visit to one confinement case, where he was told that as Mr. Billings had begun the attendance, the patient preferred that he should continue.

Mr. RICHARD BANKS, who appeared for the defendant, cross-examined Mr. Anderson as to whether he himself had not acted as "cover" to Mr. Billing. This Mr. Anderson denied, saying that he engaged Mr. Billing as his assistant. He intended to disassociate himself from Mr. Billing, but was obliged to postpone doing so until he had found a house to which to go, he being then living in a house belonging to Mr. Billing. Witness would have discharged Mr. Daly before, but could not do so because Mr. Billing would have turned him out. He repeated that Mr. Daly's relationship with Mr. Billing was quite different to that which obtained between himself and Mr. Billing.

Mr. BANKS: What is the Fylde Medical Association, and when was it formed?

Dr. KINGSBURY said the Association was formed in May, 1888.

In reply to further questions, Mr. ANDERSON said that he joined at the first meeting. The Association numbered about thirty members. Mr. Daly went to some of his patients near the South Shore. The arrangement between him and Mr. Billing arose out of a visit paid to him by Mr. and Mrs. Billing.

In reply to Mr. MUIR MACKENZIE, witness said the arrangement between them was a temporary one, until he could get a surgery for himself. Witness's surgery was to be at Mr. Billing's house. He was to give Mr. Billing half the proceeds of the practice.

Mr. MACKENZIE: Was there any arrangement as to patients?

Mr. ANDERSON: None whatever. I was to go and see patients, and he was to have the minor patients, and especially the midwifery cases, which he had attended for the ten years previous.

Mr. MACKENZIE: Was there no arrangement whatever?

Mr. ANDERSON: None, except that he was to have half receipts.

Mr. MACKENZIE: Half the receipts from your patients?

Mr. ANDERSON: No; only the receipts of the town surgery.

Mr. BANKS then addressed the Council on behalf of the defendant. He observed that a great deal of extraneous matter had been introduced. The facts were few. They would hear from Mr. Daly the circumstances under which he came. Some unpleasantness took place between Mr. Anderson and Mr. Billing, but Mr. Daly had nothing to do with it. On May 27th Mr. Billing informed Mr. Daly that he had dissolved his arrangement with Mr. Anderson, and in the evening he asked Mr. Daly whether he would like to set up for himself. Since Mr. Daly obtained the permission of the Council to employ Mr. Billing, he had paid him £1 per week. He submitted that there was no proof of "cover." He admitted that Mr. Daly had been unwise in allowing Mr. Billing to use the instruments so freely. Mr. Billing only assisted Mr. Daly like any medical student. He appealed to the Council not to lend credence to mere reports, and thus deprive a man of his means of gaining a livelihood.

Sir JOHN SIMON called attention to the expression that Mr.

Billing had said to Mr. Daly, "you can take the practice," when he went away. He asked what practice was referred to, seeing that Mr. Billing was supposed to be the unqualified assistant.

Mr. DALY, examined, said that he entered Mr. Anderson's employment *bonâ fide* as assistant, and Mr. Anderson saw him almost every day. He never knew anything of the arrangements which existed between Messrs. Anderson and Billing. Mr. Billing, after giving notice of his intention to have nothing further to do with Anderson, asked witness whether he would like to set up in practice for himself. He ultimately arranged to take apartments in Mr. Billing's house, for which, with board, etc., he was to pay him £2 10s. a week. Since August he had paid Billing £1 a week besides. Billing was away from home four days every week at the Liverpool School of Medicine.

In reply to Sir JOHN SIMON, Mr. DALY said the termination of the previous arrangement was on the last two days of May. He had his name put up as soon as possible, as soon as he began to practise.

In reply to Sir W. FOSTER, the witness said he took the practice altogether. He took his chance of getting patients or not. He was engaged by Mr. Parker, of Liverpool, as Mr. Anderson's assistant. When he first went to Blackpool he thought he was going as Mr. Anderson's assistant. Mr. Parker arranged the terms, which were two guineas a week. Mr. Billing paid him, he supposed, for Mr. Anderson. He went there as an acknowledged rival and tried his best. Mr. Billing did not make him a present of his business. There was no understanding between him and Mr. Billing. He simply said to him, "Do you think it is worth your while to take the practice here?" Mr. Billing was to receive no interest whatever. There was no bargain whatever.

In reply to Sir W. FOSTER, he said he started practice for himself. There were forty patients on Mr. Billing's list, and those were Mr. Anderson's. He thought all the time he was going as Mr. Anderson's assistant. He reported himself to Mr. Anderson. Mr. Billing went to Glasgow on June 6th. He continued to attend patients for Mr. Anderson.

In reply to Mr. MUIR MACKENZIE, Mr. DALY said he knew nothing of any circumstances preceding his arrival there. He knew nothing of any partnership between Messrs. Billing and Anderson until the former announced his having put an end to it.

Professor STRUTHERS asked how it was that Mr. Billing rode in the carriage, and that he (Daly), the nominal principal, walked.

Mr. DALY said that Mr. Billing only rode in the carriage a few times, and then because he was lame, or because witness was otherwise engaged. He admitted that his conduct in starting in practice in that house and place, after having been the assistant of Mr. Anderson, was, perhaps, not all that could be desired.

In reply to Dr. GLOVER, who asked whether in his application to the Council in reference to taking Billing as assistant the witness had related the full circumstances which had existed between Messrs. Billing and Anderson, the witness answered in the affirmative.

At Dr. GLOVER'S request the letter to the Council was read again.

Sir JOHN SIMON pointed out that there had been a distinct breach of his engagement with the Council.

Mr. DALY asked to be allowed to say a few words. He urged that he could prove that he had acted in perfect good faith. He could not accuse himself of any deliberate breach of his undertaking.

The defendant was examined by Dr. KINGSBURY. He stated he came to be assistant to Mr. Anderson on April 28th. He was not made aware by him that Mr. Billing was unqualified. He was questioned as to how it was that he, being engaged as Mr. Anderson's *locum tenens*, did not report himself to his principal. He said he met Mr. Anderson on the following day at the house of a patient. Witness was accompanied by Mr. Billing, who was introducing him to the patients in the interest of a principal whom he acknowledged not yet to have seen. He was paid his salary by Mr. Billing, as he supposed on behalf of Mr. Anderson. He took his orders from Mr. Anderson. He remained as Mr. Anderson's assistant a month. He did not wish to cast any reflection on Mr. Anderson's character, but if he denied what witness had stated, then he had said what was not true. After leaving Mr. Anderson's employment he was not assisted by Mr. Billing in getting patients. He took the house on speculation, and it turned out well.

The further consideration of the case was postponed until the next day.

Friday, November 30th.

JOHN MARSHALL, F.R.C.S., F.R.S., President, in the Chair.

After the minutes of the previous meeting had been read and confirmed, the examination of Mr. Daly by Dr. Kingsbury was resumed.

Witness was closely questioned as to the amount he paid to Mr. Billing for his board and apartment. Mrs. Billing paid the coachman his wages, but it was by his direction. He had no written agreement with Mr. Billing, and he had no receipts from him for amounts paid. He said he had the lamp with Billing's name on removed as soon as possible.

Mr. MUIR MACKENZIE called Mr. Daly's attention to the fact that on the previous day he had said that Mr. Billing accompanied him to the patients' houses in order to introduce him.

Mr. DALY explained that Mr. Billing went with him for the purpose of informing patients that he had ceased to have any connection with Mr. Anderson. Witness took rooms in Mr. Billing's house because it suited his convenience to stay where he was. He was careful to inform everybody that he had no connection with Mr. Billing or Mr. Anderson. Mr. Billing went with him to see the patients on purpose to tell them this.

Dr. HERON WATSON having called attention to the presence of Mr. Billing, he was ordered to withdraw. Some discussion followed as to whether Mr. Billing was to be called as a witness. It was stated that he would not be called on behalf of the defendant.

Mr. MUIR MACKENZIE pointed out that they had a declaration by Billing; but when the declarant, being present, declined to offer himself for examination, the value of such evidence was usually very small.

Witness was then examined as to the attendance of Mr. Billing on certain confinements.

In reply to Sir WILLIAM TURNER, he denied ever having signed a death certificate in cases attended by Mr. Billing. He did not give any receipt to Mr. Billing when he was paid by him on behalf of Mr. Anderson.

Dr. GLOVER called attention to the fact that Mr. Daly had stated that although he lived in Mr. Billing's house, Mr. Billing had not assisted him in taking up the practice, whereas in Mr. Billing's own letter to the Council he stated that he had discontinued to practise, having "made it over to Mr. Daly."

Mr. BANKS, the defendant's solicitor, claimed that the cross-examination had not dealt with the real points at issue. The question was as to whether Mr. Daly had acted as cover, and the proof of his having done so turned upon two cases. He submitted that Mr. Daly had given a satisfactory account of himself. He had explained with regard to the confinements that they were attended by Billing only because he was otherwise engaged, and was prevented from attending himself. He submitted that there was no evidence whatever in support of the charge. In every case in which Mr. Billing had attended it had been under the supervision of Mr. Daly. There was no evidence to prove that Mr. Billing had ever acted apart.

Strangers being requested to withdraw, the Council then deliberated *in camerâ* for nearly three hours on the case.

Upon strangers being readmitted, the PRESIDENT announced that the Council had come to the conclusion, after a long and careful consideration of the facts of the case, that Daly was guilty of the charge of having acted as cover to Billing, and was therefore, in the opinion of the Council, guilty of "infamous conduct from a professional point of view;" and his name had therefore been ordered to be erased from the *Register*. The President stated that, in communicating this very serious sentence, he was empowered by the Council to add that the Council had on a few occasions restored to the *Medical Register* after an interval the names of persons whose names had been penally removed therefrom.

The Council then adjourned.

Saturday, December 1st.

JOHN MARSHALL, F.R.S., F.R.C.S., President, in the Chair.

Report of the Examination Committee on the Reports of the Inspectors of Examinations.—Professor HUMPHRY, as Chairman of the Committee, moved that the report be received and entered upon the minutes. He observed that the report was satisfactory all through. There were one or two cases in which the inspectors had found it necessary to make some remarks, but he believed that the imperfections would be remedied, and there was no cause for special representation to the Privy Council with regard to them. The result of the inspections conducted by the inspectors since

their appointment in May, 1888, is shown by the following extracts from the report of the Committee: *Report on Midwifery.* — In all cases the examination in midwifery is pronounced by the Inspector to be sufficient. In the cases of the two Conjoint Boards in Ireland, the absence of material, obstetrical and gynæcological, is commented on. The Inspector attributes these defects to the recent institution of the examinations, and adds in the one case—that of the Colleges of Physicians and Surgeons—that "provision will have to be made for furnishing the examination table with the necessary material;" and in the other case—that of the College of Surgeons and the Apothecaries' Society—that the examination is provisionally sufficient. *Report on Medicine.*—In the case of the Conjoint Board in Ireland, consisting of the Royal College of Surgeons and the Apothecaries' Hall, the Inspector reports that the examination was in many respects good. He adds, "seeing that no candidate passed in all parts of the examination, I can express no opinion regarding the complete standard. But as the two candidates whose examination has been described [the Oral Examination, in which they "showed great want of precision and so little knowledge that they might fairly have been relieved from appearing for the Clinical Examination"] have been passed in the written and oral parts, and will be exempted in them from future examination, I do not regard the standard as sufficient." With reference to this point, the Committee are informed by the representatives of the Royal College of Surgeons and the Apothecaries' Hall in Ireland on the Medical Council that there is no exemption of the kind stated, and that any candidate rejected in the written, oral, or clinical part of the examination will require to be examined in all these parts when he again presents himself for examination. The Conjoint Examination of the College of Physicians and the College of Surgeons in Ireland was inspected on two occasions, in April and in July. On the first occasion the Inspector considered the standard of examination to be not sufficient to guarantee the requisite knowledge, this opinion being founded mainly on the fact that "a candidate (p. 8) was passed who was considerably below the passing standard laid down by the regulations." On the second occasion (in July) "also candidates were passed who were not up to the standard in medicine, even upon the official marking; but there were no such conspicuous cases as in the first examination." This second examination is, therefore, reported as sufficient. The other examinations in medicine were reported to be sufficient. *Report on Surgery.*—The absence of any test in operative skill by the performance of operations on the dead body is noted in the reports on the Inspections, in England, at the Conjoint Board of the Royal Colleges of Physicians and Surgeons, at the Society of Apothecaries, at the Universities of Oxford and Durham, and at the Victoria University; and, in Scotland, at the Conjoint Board of the Royal Colleges of Physicians and Surgeons and the Faculty of Physicians and Surgeons, and at the Universities of Edinburgh, Aberdeen, and St. Andrews; and the Inspector, on this ground, hesitates to pronounce these examinations to be sufficient, or, at least, qualifies his conclusion as to their sufficiency. Thus, with regard to the Conjoint Board in England, he says:—"With the exception of the absence of any real test in operative surgery, I regard this examination as sufficient," and goes on to remark that, until some arrangement is made to supply this defect, "the Conjoint Board of England will continue to act as an impediment to the teaching of operative surgery by offering an open portal to the profession for such students as desire to avoid this branch of surgical training." The report analysed the replies of the several bodies to the report of the Inspector on Surgery. Special attention was directed to the fact that a large proportion of the licensing bodies still do not include in their examinations in surgery operations upon the dead body as a necessary part of the tests employed to determine the competent knowledge of candidates for admission to the medical profession. It was also pointed out that the Inspector in Surgery regards this as "an impediment to the teaching of operative surgery," while the absence of sufficient material and the insufficiency of such a test of operative skill are advanced as answers to the suggestion that this test should be imperative in all cases. The Inspector had also called attention to the absence of a written paper in systematic surgery at the University of Aberdeen, to the absence of a clinical test at the University of St. Andrews, and to the unsatisfactory mode of conducting the examination in surgery by the Conjoint Board of the Royal College of Surgeons and the Apothecaries' Hall in Ireland. He pronounced the examination in surgery of all the other licensing bodies sufficient.

Sir JOHN SIMON did not object to the report, but he did not see why the Council should adopt the report, which was a simple statement of facts.

Mr. MACNAMARA, alluding to the statement in the report that "the Examination in Surgery by the Conjoint Board in Ireland, consisting of the Royal College of Surgeons and the Apothecaries' Hall, is pronounced insufficient, in consequence of the examination by written papers being unsatisfactory in its method and standard, in consequence of the superficial character of the Examination in Clinical Surgery and on surgical appliances, and in consequence of the violation of the principle of conducting the oral examinations by at least one examiner and one assessor," said this conclusion had been come to largely in consequence of a misunderstanding. He said that the College of Surgeons and, he believed, the Apothecaries' Hall, were in a position to assure that in future the examiners should sit in couples. He pointed out that that very rule was violated at the London University, and he thought that body ought to get a hint to conform to the requirements of the Council in that respect. He very much regretted that the inspector was not present at the oral examination of the London University. He thought that the omission on the part of the inspector should be made the subject of serious remark. He thought it would be necessary to obtain some information on the facts alluded to on page 137 of vol. xxiii of the Minutes. There was no clinical examination at the London University, no operative surgery on the cadaver, no testing as to bandaging, or the use of surgical apparatus, etc. He said that the Council had spent a large sum on these inspections, and if the report was merely to be sent back to the bodies it would be practically thrown away. There were several points which required serious attention, and he considered that the question of operative surgery on the dead body was one of them.

Sir WILLIAM TURNER raised a point of order. He thought that Mr. Macnamara ought to confine his remarks to the report of the Examination Committee, which alone was under consideration.

Professor STRUTHERS thought it was perfectly in order to discuss the whole subject, as otherwise the matter would fall through.

Sir JOHN SIMON and Professor HUMPHRY suggested that the reports should be received, and then they might proceed to the discussion of the principal points involved.

The report was then ordered to be received and entered upon the minutes, a vote of thanks being passed to the Committee for their labours in the matter.

Dr. HAUGHTON and Dr. AQUILLA SMITH were of opinion that the further consideration of the report should be postponed until the May meeting.

Professor HUMPHRY said the only reason for postponing the discussion would be the convenience of the members. Considering that the report had been sent in, that the bodies had been requested to send in their replies by a certain date, that the Committee had spent a good deal of time in drawing up their report, and that the reports were the principal object of their meeting, he thought it would indicate a want of heart, and spirit of attention to duty, on the part of the Council, if they postponed until May the consideration of so important a subject. A postponement would not be fair to the bodies, to the inspectors, nor to the public generally.

Dr. GLOVER strongly endorsed the remarks that had fallen from the previous speaker. He observed that the matter had been brought up last May and had been adjourned until November, and now it was proposed to further adjourn the matter until next May.

Dr. BATTY TUKE, Sir JOHN SIMON, and Mr. BRUDENELL CARTER spoke in favour of an immediate discussion, and Dr. HERON WATSON against it.

Dr. LEISHMAN urged that one reason for discussion was that their inspectors had been unable to remedy the lapsus as regarded the examination of the London University. He suggested that this might be done in time for the May meeting.

Dr. QUAIN pointed out that there would not be another examination before the May meeting.

After further discussion, Dr. AQUILLA SMITH moved: "That the consideration of the reports of the Examination Committee be postponed until the May meeting."

Dr. PETTIGREW moved as an amendment: "That their consideration be proceeded with."

The amendment was carried by 18 votes to 7.

A long discussion ensued on a proposal made by Sir W. TURNER to limit discussion to the question of operation on the dead body. No resolution, however, was come to on the subject.

Professor HUMPHRY said that if the Council passed by the question of operative surgery on the cadaver, it would be discouraging those bodies which endeavoured to carry out their wishes. He thought the Council might emphasise its belief that this question was one of extreme importance as regarded the efficient practice of surgery. He asked how examiners were to form an opinion as to the possession of that manipulative dexterity which was so indispensable to the surgeon, unless they applied the practical test. It was not enough to see if a man recognised the different instruments, and could draw chalk lines on the skin. The question was, Could he make his incisions in a neat surgical manner? Could he apply a ligature so that it would hold? He argued at great length to prove that even to experienced surgeons the knowledge to be obtained in difficult cases from experimental operations on the cadaver was invaluable. He thought that the subject must recommend itself to all practical men. It had been urged that ordinary surgeons did not require such a high standard of surgical training, but surely that view was founded on error. The "ordinary" surgeon might, and often must, find himself in circumstances which obliged him to undertake many of the most serious operations. Moreover, the "ordinary" surgeon was authorised by law to undertake and perform any operation he thought proper; and it was not too much to ask that he should be required to show that he was in possession of the requisite knowledge. He regretted that the resolution was not more vigorous, but it had been cast in its present form because, for the time being, it had been thought that it would not be safe to go further. He himself thought that the difficulties in the way were not nearly so great as had been stated, and that, with a little perseverance and initiative, they might be surmounted, at any rate in England.

Mr. TEALE thought that the pressure of the Council might induce the bodies to consider the matter, and see how they could overcome those difficulties.

Sir JOHN SIMON said the only fault he had to find with the report was that it did not go far enough. He expressed his shame that a certain passage of the report would go before the Privy Council, namely, that in Ireland all qualifying bodies' examinations included the subject of operative surgery on the dead body, while in England and Scotland such a test was applied to candidates at two places only—Cambridge and Glasgow. He said that the candidates who obtained their qualifications from the other bodies might be, so far as any real test was applied, quite unable to open an abscess or secure a bleeding vessel.[1] He declined to adopt the conclusion that the bodies "cannot" carry out the suggestion. The difficulties in the way were not insuperable. He hoped the Council would see its way to making a direct recommendation on the subject. He suggested a modification of the wording of the resolution as follows:—

"That the Council, being of opinion that the performance of operations on the dead body is a highly important part of the complete test of efficiency in the practice of surgery, regrets that so many of the licensing bodies in England and Scotland have not hitherto availed themselves of it by rendering their examinations less incomplete in that respect, and the Council earnestly recommends to these bodies to reconsider the means they might use for amending that part of their recommendation."

Mr. MACNAMARA seconded the amendment. He hoped the Council would be impressed by Professor Humphry's remarks. He called attention to a remark in the report with regard to a candidate at Oxford, who, though he had justly obtained high marks for his written paper, failed absolutely to apply a truss or a tourniquet on the living subject.

Sir GEORGE MACLEOD dwelt upon the very particular attention paid to this subject at Glasgow. A man should be required to show not only that he knew where the vessels were, but how to take them up, and what were the steps of this or that operation. The examiners should have an opportunity of seeing how the candidate held his knife, and what sized knife he would select. He said he had seen men take a scalpel to perform a major amputation.

Dr. CAMERON argued that they should carefully discriminate between operative surgery on the dead body as a means of instruction and the same thing as a test of knowledge. With regard to the first there could be no difference of opinion, but he failed to see what information not already elicited would be obtained from requiring a student to perform a single operation on a body. A student could not be expected to possess the manipulative dexterity which was only to be acquired by experience. He contended that the only effect of any such resolution would be to withdraw a large part of the material at present available for teaching purposes, and thereby to frustrate the very object they had in view.

Dr. HERON WATSON proposed as a second amendment:—

"That the General Medical Council, in forwarding the reports of the Inspectors of the Qualifying Examinations to the Privy Council, together with any observations thereon made by the body or bodies inspected, resolve to state that, in their opinion, these reports satisfy the requirements of the Medical Act in so far as the essential sufficiency of the Final Examinations is concerned, but that in so far as the subject of operative surgery on the dead body is referred to, they deem it inexpedient to make such a requirement an absolute test of the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery, especially in view of the circumstances connected with the anatomical supply admittedly existing in some parts of the kingdom."

He did not think that the present time was opportune for insisting upon this question. While there would be very little difference of opinion as to the propriety of including the subject in the curriculum, to make it a test was quite another matter so long as the supply of material was not unlimited. He urged that some men, no matter what their training, could never perform an operation. He did not see why, if a man preferred medicine, he should not be exempted from this practical test. Not one man in fifty would ever be called upon to perform operations. The large proportion of men who were taught operative surgery were heart-breaking failures so far as their ability to operate was concerned. It was idle to insist upon the possession of qualities which could not be acquired. He said a man might be paralysed or have only one arm, possibly no arms at all, yet it would be unfair to bar such persons from the practice of medicine. He urged that a test which might be applicable to a small school like Cambridge was not necessarily available in much larger institutions.

Dr. HEATH supported the motion. He said they were bound to examine men in operative surgery; it was the part of the examination in which students were apt to prove themselves most deficient. Men were often absolutely unable to describe the steps to take in the reduction of a dislocation of a fracture. He said that every medical man might be forced to operate, and it was their duty to see that he was provided with the requisite knowledge.

Dr. KIDD mentioned the results of some inquiries he had made which tended to show that the difficulty of securing sufficient material was not so great as had been thought. He said the subject had been before them ever since the Council was constituted, and it was high time they did something in the matter.

Monday, December 3rd.

JOHN MARSHALL, F.R.C.S., F.R.S., President, in the Chair.

Report of the Examination Committee on the Report of the Inspectors of Examinations Committee.—The discussion was resumed.

Dr. MOORE said he should support Sir John Simon's amendment. He held that operative surgery was as indispensable to the qualification of an English or Scotch student as to that of an Irish student.

Sir WILLIAM TURNER, who seconded Dr. Heron Watson's amendment, expressed himself as unable to agree with much that had fallen from the preceding speakers. He said he had failed to find that unanimity among surgeons in London which might have been expected from the claims of some of the speakers who had preceded him. He thought that all requirements would be fulfilled if students were properly grounded in anatomy. He did not believe that they could obtain the requisite material, for the demand would be increased not only for examination, but for educational purposes. Any recommendation on their part might have for effect to impose duties which it might be impossible to carry out. He thought they ought to leave it to the respective bodies to do what they could in the matter.

Dr. QUAIN said that as a Crown representative, and therefore representing the Privy Council, he thought they had no option in the matter of doing their duty. He added that it was not a question of the convenience of teachers and examiners. If these replied that they were unable to carry out the recommendations of the Council, then it was their duty to report the fact to the Privy Council.

Mr. MITCHELL BANKS said he did not think that dissection

[1] General Report of Inspectors, page 189.

could give the slightest idea of what operating was like. He said the bodies most interested in the matter were the Royal College of Surgeons of England and the University of Edinburgh. The scheme, although difficult, was not impracticable. He thought that a little pressure from the Council would put a different aspect on the matter. He then discussed the question as to what the actual requirements were likely to be in practice. Sir William Turner had told them that they had no right to impose an impossibility, but he did not think that that was a fair argument. If the University of Edinburgh could not provide the necessary material for its students, then the students had better be sent where those requirements could be met. If a body came before them, and pleaded that they were unable to comply with their requirements on the ground of poverty, he did not think they would take the plea into favourable consideration. The size of a school was no argument against it. Of course, the Council would not be so unreasonable as to come down upon all the bodies who were unable to carry out the improvement immediately.

Mr. BRUDENELL CARTER quite agreed that men who took up surgery particularly ought to have special training; but, as regarded general practitioners, he did not think that the proposed additional test was of any very great value. He said he spoke with a very great experience of general practitioners, and not 10 per cent. of them would ever be called upon to perform an operation. He attached a great importance to the teaching of practical surgery, because very often it was the means of convincing men that they were not possessed of any aptitudes in that direction. He said the real emergencies of surgery were very few, and it was almost always possible to obtain skilled assistance when this was required. The present curriculum was so stuffed full of work, as it was, that he doubted the wisdom of insisting that a man, in order to pass, should have to pass a test as to the way in which he held his scalpel. He thought the Council should stay their hand, and he should consequently support Dr. Watson's amendment.

Sir WALTER FOSTER said they were there to maintain the standard of efficiency necessary to enforce as high a standard as possible. He denied that only 10 per cent. of qualified men would be called upon to perform operations, and he asked where Mr. Carter had got his information. As a matter of fact it was a matter of surprise to him, the number of surgical operations that were performed by ordinary practitioners in the manufacturing districts. He thought it was their duty to put the men who left their schools in a position to discharge their duty in as efficient a manner as possible. He said the question as to the anatomical supply ought not to be a matter for them to consider at all.

Dr. CHAMBERS thought it was preposterous that men who did not aspire to occupy a high position in their profession should be compelled to submit to such a test. He suggested that the test should be restricted to men who took a special degree in surgery. He should, therefore, support Dr. Watson's amendment.

Dr. BRUCE said they were there to administer the Act of Parliament, and it was their duty to provide for a proper standard of efficiency in the practice of surgery. He said it was a farce to pretend to teach a man surgery without giving him a practical opportunity of learning it. He hoped that the Council would do nothing to check a steady progress towards making the examination more practical.

Professor STRUTHERS said it was all a question of supply. He declined to allow that great bodies like the College of Surgeons of London and the University of Edinburgh could be modelled on a small school like Cambridge. He then criticised the practical examination as carried out at Cambridge, and said he taught his students as much in the dissecting rooms; and he said a very large supply of material would be required if the test was to be more than a sham. The proper place to teach surgery was in the dissecting room. He urged that the discussion of the subject was likely to do harm, and said he should certainly vote against Sir John Simon's amendment.

Sir JOHN SIMON, speaking to the amendment, maintained that his amendment was of a very pacific nature. No one would dream of founding general compulsory measures on his modest proposal. It really only asked the bodies to reconsider the matter. He made some sarcastic allusions to the "dapper and fastidious young gentlemen" whose cause Dr. Heron Watson had taken on himself to defend. He observed that the question was whether a surgeon was to be practically qualified in his work or not. He was reminded of a certain character in Shakespeare, who, "but for those same guns," would have been a soldier. Just so, "but for these same cold, moist bodies" these others would be surgeons. If the programme could not be carried out at Edinburgh, then it could be done at Glasgow. The Council would be satisfied so long as it was done somewhere. He observed that Professor Struthers seemed to think that if the subject were well taught, there would be no need to examine in it. Doubtless there was a good deal of truth in what he said, but if carried to its logical conclusion, all examinations would be unnecessary. The anatomical supply was undoubtedly the difficulty, but even that varied in degree. He thought it might be got over, but, whether or no, the resolution ought to be passed. If the argument as to the dearth of material was valid, it would militate in favour of sending students abroad, where the requirements could be fulfilled. It was a very sad thing for our country if we had not the means of educating and examining our students. He took his stand on the statutory report, which signalled a deficiency, and it was for them to deliberate as to the means of remedying it. He insisted that the examination in surgery could not be properly conducted except in presence of the dead body.

Sir DYCE DUCKWORTH, speaking as the representative of the Conjoint Board of England, said they were asked to believe that for years past their young men had been passing examinations without being properly trained in surgery. To this he gave his absolute denial. He asked whether they were to believe that the ordinary graduates of Cambridge and Glasgow were better than the ordinary men of London and Edinburgh. He refused to believe it. He claimed that the standard of surgical talent among the rank and file of the profession was higher than in any other country in the world. He asked who the men were that did not know how to open an abscess, or ligature an artery? Inaptitude must always be recognised as a feature in examinations. Some persons could not be made into surgeons merely by being made to operate. As an examiner, he said he had often been amazed at the amount of knowledge displayed by candidates, and to add a compulsory course of operative surgery was, he held, practically unnecessary. The next thing would be that the student would be required to display an intimate acquaintance with the method of making a *post-mortem* examination. In conclusion he declared his intention of supporting the amendment of Dr. Watson.

After a long discussion as to the order in which the motion and amendments before the Council ought to be taken, Professor HUMPHRY declared his willingness to accept Sir John Simon's amendment in lieu of his original motion.

With the permission of the Council, Professor Humphry's motion was withdrawn, and the amendment of Sir John Simon substituted.

The PRESIDENT said that as he had been so long associated with the Royal College of Surgeons, he thought he ought to say a few words on the subject. He alluded to the fact that the Council of the College had appointed a committee to consider the question. Speaking, then, in his private capacity as a member, he said the motion of Sir John Simon comprised a question of principle and a question of practice. So far as the principle was concerned, he said he had not the slightest doubt as to the necessity for introducing such a test. He had been unable to accept the reasons that had been alleged against its introduction, either on the ground of the difficulties which it would involve, or on account of the fastidious student. The practical question had assumed a very serious aspect. It was not desirable that the Council should press the matter home on any body in particular. It would be absurd to require the bodies to give effect to their resolution at once, but there was nothing in Sir John Simon's motion of that kind. He saw nothing but the expression of an earnest desire on the part of the Council to improve the standard of examinations as far as they could do. He pointed out that they were not obliged, under the Act of Parliament, to add any commentary to their report on forwarding it to the Privy Council, and he thought it would be injudicious for them to do so on this occasion. It would be quite sufficient for them to leave the matter with the Privy Council, and then, if they were applied to for advice as to the best means of remedying the defect, they could point to this motion.

Dr. HERON WATSON'S amendment was then put to the vote, and was negatived by 16 votes to 8.

Sir JOHN SIMON'S amendment, which had become the original motion, was then put to the vote, and was agreed to with only one dissentient.

The Surgical Examination of the Apothecaries' Society.—The following motion was then proposed by Professor HUMPHRY:—

"That the surgical examiners of the Apothecaries' Society of London having stated that they are prepared to make the addition of operative surgery, and to raise the standard of the clinical examination if it be thought desirable by the Upper Court or the Medical Council, the Council informs the Society that in their opinion it is desirable that the addition of operative surgery should be made, and that the standard of clinical surgery should be raised."

He said that it followed as a matter of course on the resolution just passed.

Dr. HERON WATSON urged that there was not the slightest reason to interfere, and suggested that such a resolution might land the Council in difficulties. He therefore moved the previous question, and this was agreed to.

The motion therefore lapsed.

The Appointment and Future Duties of Inspectors of Examinations.—Dr. HERON WATSON moved that the question be referred to the Examination and Executive Committees to report thereon to the next meeting of the Council.

This was passed *nem. con.*

Report of Pharmacopœia Committee.—The REGISTRAR read the report of the *Pharmacopœia* Committee.

Dr. QUAIN stated the present position. He dwelt upon the necessity for making the *Pharmacopœia* the official book of reference, and called attention to the clauses drawn up with this object in view by the solicitor.

The report, etc., were ordered to be received and entered on the minutes.

Sir WALTER FOSTER, in proposing a vote of thanks to Dr. Quain, as Chairman of the Committee, said he would be pleased to offer every assistance in getting the proposed clauses embodied in the Bill.

Equality of Qualifications.—A motion was brought forward by Mr. MACNAMARA, in the absence of the Rev. Dr. Haughton, to the effect:

"That this Council cannot look with satisfaction upon the adoption of regulations by public institutions tending by their exclusive character to reflect injuriously upon qualifications granted by medical authorities, for the efficiency of whose examinations this Council is responsible."

The resolutions passed at the annual meeting of the British Medical Association (JOURNAL, August 11th, p. 314), were received and entered on the minutes. After some discussion, it was pointed out that it was quite beyond the competence of the Council to to pass a resolution dealing with the administrative details of private institutions; and, on the motion of Dr. HERON WATSON, the Council "passed to the next order of the day."

Procedure in Penal Cases.—Sir WALTER FOSTER then moved the following resolution:—

"That a Committee be appointed to consider the documents named in Clause 12 of the Minutes of November 27th, 1888, and added as an appendix to the Minutes and the Standing Orders, 'Cap. XIV.: Penal removals from the *Medical Register*,' and to report to the next session of the Council on what steps they think necessary (1) to improve the procedure of the Council in relation to penal removals from the *Medical Register*, and (2) the powers of the medical authorities to remove from its ranks medical practitioners 'convicted in England or Ireland of any felony or misdemeanour, or in Scotland of any crime or offence, or shall, after due inquiry, be judged by the General Council to have been guilty of infamous conduct in any professional respect.'"

He said that everyone would agree that the present method of procedure in the investigation of penal cases was cumbrous and costly. He mentioned that it had been calculated that the cost of inquiring into the two cases decided by them had been about £800. While considering the question, they might consider the desirability of extending and completing the powers of licensing and educational bodies to suspend or remove the names of persons who had been guilty of infamous conduct. He suggested that the Committee consist of the President, the Treasurer, Dr. Glover, Sir Dyce Duckworth, Mr. Brudenell Carter, and himself.

Dr. QUAIN, in seconding the motion, said it was evident that some better way would have to be devised. Seeing what the cost was for two cases, half a dozen of such cases would reduce the Council to a condition of bankruptcy.

A discussion took place as to the scope and constitution of the proposed committee, and it was ultimately decided that the Executive Committee should be the committee, and should report to the Council at the next meeting.

Antedating of Certificates.—Mr. MACNAMARA (in the absence of the Rev. Dr. Haughton) asked the reasons for antedating the certificate of registration of George Billing, for "covering" whom the name of a practitioner had been removed from the *Register*. It was urged that such a concession was a departure from the rules which the Council had laid down, and constituted an undesirable precedent.

The PRESIDENT explained why this had been done—namely, on the grounds that Billing had for years been an unqualified assistant, and he had thought it desirable to afford every facility to such persons to qualify.

After some further discussion the explanation was ordered to be entered on the minutes.

Examinations in Ophthalmology.—A motion introduced by Mr. BRUDENELL CARTER, inviting the Council to express an opinion that the subject of ophthalmology should receive more attention, was, with the consent of the Council, withdrawn.

This concluded the business of the session.

We have received a lengthy communication from Dr. R. H. S. Carpenter, Honorary Secretary of the Medical Alliance, with reference to the cases of alleged "covering" brought by him to the notice of the General Medical Council, and to the remarks made thereon by Mr. Muir Mackenzie, standing counsel to the General Medical Council. Dr. Carpenter says that he is prepared to justify the course he took in desiring Mr. Pridham, the Solicitor to the Medical Alliance, not to appear before the Council. He complains that the Council has heretofore "considered and decided upon complaints without the personal help of the accusers;" that it has "until now uniformly refused permission to the Alliance to allow their complaints to be supported by their solicitors;" and that it has now, without any intimation to the Medical Alliance of its intention, refused to hear the complaints unless personally supported.

"My withdrawal," he continues, "from one of the cases was because our solicitors drafted an affirmation which included only a very small portion of the evidence I submitted to them. There was a mass of other available evidence, but it was not forwarded to me. I therefore withdrew from the case in disgust, but I did not withdraw the case from the Council; on the contrary, I urged it on, even to my very last words to them.....The second case was neat, clean, perfect, and conclusive, and untouched by lawyers' hands. Why was that case 'dismissed' too?"

REVIEWS AND NOTICES.

THE ANTISEPTIC VAULTS OF ST. MICHAN'S CHURCH, DUBLIN. By ARTHUR VICARS, F.S.A. Dublin: Ponsonby.

THE vaults of St. Michan's Church, Dublin, have been long celebrated for the power they possess of preserving undecomposed the corpses committed to them. Bodies which have lain there for certainly more than a hundred years, and in some instances probably for twice or thrice that time, have still their limbs, trunk, and features intact, although their flesh, as Mr. VICARS informs us, "has assumed a dark and leathery appearance; yet the pores of the skin as well as the features are still discernible. The abdominal walls are elastic on pressure, and the fingers can be moved independently of each other, and it is very probable that the other joints of the body are equally pliable. The hair is not preserved on any of the bodies that we saw."

Although St. Michan's Church seems to be the only burial place in the British Isles which possesses this peculiarity, yet in other parts of the world such instances are by no means very rare. Mr. Vicars mentions the Capucin Church of S. Maria della Concezione at Rome, whose antiseptic properties he seems, however, to doubt; the Vaults of Palermo, where a preservative process was, in addition, employed; the Grotto of Calypso in Malta, and St. Michael's Church, Bordeaux—of both which latter places he professes ignorance; and a vault in Bremen Cathedral, where poultry has been hung and preserved for some years. He might have noticed, in addition, the case of a body, mentioned by Caspar in his *Jurisprudence*,[1] which has lain for over sixty years in a vault at Charlottenburg, near Berlin, only separated from the outer air by an iron lattice-work, yet is completetely mummified and well preserved. The same author also quotes Riecke, of Stutt-

[1] New Syd. Soc. edit., I. § 21, p. 43.

gart, as maintaining that such natural mummies occur even in the churchyards of his city; while Professor Demaria, the editor of the Italian translation of Caspar's handbook, asserts that this mummification is a common occurrence in various parts of Piedmont, and quotes several examples.

It is an interesting inquiry to decide the cause of this condition of preservation of corpses, which is one quite distinct from the not very uncommon saponification. The first suggestion Mr. Vicars gives appears to us quite untenable—namely, that the site of St. Michan's is on the remains of an old oak forest, and that the resulting tannin in the soil composing the floor of the vaults may account for their antiseptic qualities. If this were the case, the bodies buried in the adjoining graveyard should be equally preserved, which is apparently not the fact. Moreover, the extreme dryness of the vaults and the thickness of the coffins would prevent the tannin, even if present in the earth, from in any way affecting the decomposition of the dead, which could only be done by means of a solution.[2] And it is more than unlikely that any emanations from a dry floor, even if it were composed entirely of tannin—especially in such a dust-free atmosphere as we are told these chambers possess—could in any way modify the process of putrefaction.

The remaining suggestions which appear worthy of note are (1) that there is a complete absence of dust in these vaults, and therefore, inferentially, an absence of the lower organisms necessary to putrefaction; and (2) that the complete dryness of these places desiccates the body, removing from it the moisture required for the process of decay. The first theory rests upon the observations of Sir Philip Crampton, who exposed twelve tubes, containa sterilised infusion of melon, for six weeks in the vaults, during the summer of 1879. On examining these at the conclusion of that period, five only were opaque and mucilaginous; the contents of the remaining seven were quite clear, and exhibited no signs of fermentation; but, as two of these had remained sealed, the net result of the experiment was, that, of ten tubes with narrow necks exposed to the air of the vaults during summer weather, five exhibited the usual signs of putrefaction, while an equal number were unaffected. But all became equally cloudy and mucilaginous when removed to the laboratory of the Royal College of Surgeons. This experiment is of interest, so far as it goes, though its results are rather equivocal. For instance, no note is taken of the comparative temperature in the vaults and laboratory, a factor which might be of much importance in a temporary retardation of putrefaction. At any rate, the double answer returned makes a decision from such an experiment very difficult.

But even allowing that Sir P. Crampton proved an absence of microzymes in the vaults, this would by no means account for the freedom of the contained corpses from putrefaction, allowing that the other requisite elements were present—since it is certain that most, if not all, of the schizomycetes necessary for the putrefactive process are to be found in the intestines;[3] and it appears that, according to a Dublin chemist, quoted by Mr. Vicars, the intestines have in all cases decayed, the putrefactive process being arrested in a later stage, and not entirely prevented.

This brings us to the acceptance of the remaining supposition that it is the dryness of the air in these places of sepulture which is the active agent of retardation.

There are certainly three factors which are necessary for the decay of organic bodies: (1) oxygen, (2) microzymes, and (3) moisture. Of the free presence of the first factor, there can be no question; and we have, we think, shown the almost certainty of the presence of the second. It only remains to be considered whether the absence of the third is sufficient in itself to cause the condition of mummification here present. On this Caspar writes:[4] "We know but little of the process of natural mummification, and the necessary conditions for its production. It may happen to bodies placed in vaults continually exposed to a drying wind" (here he cites the already mentioned instance of the Charlottenburg mummy), "and also to others completely shut off from the air and buried in leaden coffins, and the like. It seems not to be doubtful that bodies in hot, dry sand readily become mummified.....since very high temperature, especially when combined with very great dryness, appears to favour the process of mummification, because these influences, as well as a constant atmospheric draught, cause a rapid evaporation of the watery constituents of the body." So much for the chemical part of the question.

For the imagination, embalmment, whether natural or artificial, possesses a certain charm. What would not some of us give to stand in the presence of the mighty dead, and to see what manner of men they were? To look into the very face of Shakespeare, of Milton, of Bacon, or of Newton? To have stood, as Sir Henry Halford did (in 1823), beside the open coffin of the Martyr-King, and to have gazed on that "dim discrowned head?" To have seen the Peruvian Incas of three hundred years throned in solemn state within the Temple of the Sun? To have beheld the venerable form of the Cid Campeador seated in his ivory chair in the Church of San Pedro de Cardeña? Or, less apocryphally, our own Edward I, when his undecayed remains were exposed to view in Westminster Abbey at the close of the last century?

The reality, however, is not so pleasant as the imagination. Mr. Vicars quotes a description from a Dublin journal of the condition of the mummies in St. Michan's, which is by no means inviting: "In a common tomb or vault, after a few years have gone by, nothing remains but the remnants of the coffin and the bones; everything belonging to the child of dust has returned to its dust, except what may mark the place as a Golgotha—a place of skeletons and skulls. But here death is, as it were, making a mockery of mortality, leaving flesh in rags and tatters, and allowing skin, muscle, and cartilage to remain, so as in the most appalling way to humble human pride, and show what man's gallantry and woman's beauty may become, when it is preserved, as it is here, half skeleton, half mummy. The transition state between preservation and decay was most horrible to look on.....The skin on the head, the cartilages of the nose, the cellular substance of the legs, the capsular ligaments of the joints and fingers, were all preserved—but oh! the torn, worn, tattered skin! just like decaying discoloured parchment, exhibiting all the colours belonging to the slowest decay—blue, green, and yellow, the mildew and mouldiness of a century. Never," says the writer, "will the image of that ghastly specimen of decay be effaced from my memory."

Nor is the care or reverence of succeeding generations for such relics of humanity a temptation for desiring the preservation of our remains. It is not many years since the body of the patriot Hampden was dug up by curiosity seekers, who cut off one arm with a penknife, and tore away the scalp with their fingers. The head of Sir Thomas Browne lies on a shelf in the Norwich Infirmary. Gough, the antiquary, was detected concealing in his pocket a forefinger from the hand of Edward I, when that king's coffin was opened in Westminster Abbey; and even in the vaults of St. Michan's the fingers of the destroyer have been at work. In one of the female mummies the hand has been cut off at the wrist, possibly by some Vandal of a tourist; and the head of John Sheares, the rebel,[5] was, not many years ago, stolen for a wager, and was only returned through the agency of the late Dr. Madden, in 1853.

"What," says Washington Irving, "is the security of a tomb, or the perpetuity of an embalmment? The remains of Alexander the Great have been scattered to the winds, and his empty sarcophagus is now the mere curiosity of a museum! The Egyptian mummies, which Cambyses or time has spared, avarice now consumeth. Mizraim cures wounds, and Pharaoh is sold for balsams."

MODERN METHUSELAHS; or Short Biographical Sketches of a few advanced Nonagenarians or actual Centenarians who were distinguished in Art, Science, Literature, or Philosophy; also Brief Notices of some Individuals remarkable chiefly for their Longevity. By JOHN BURN BAILEY. Chapman and Hall. 1888.

As its title implies, this book is intended for the general rather than for the medical reader. It gives interesting biographical sketches of several Methuselahs, culled from biographical memoirs or notices of them, which include many particulars of their surroundings and the times in which they lived, as well as of their personal history. It shows how varied were their habits and the conditions of their life. Indeed, in his introduction, the author remarks that "long lasting" cannot be treated as a family peculiarity, or as dependent upon external circumstances, but is rather a "God-gift, which seems to fall on whomsoever it listeth, and

[2] *Hamlet*. Act v., scene 1. "A tanner will last you nine years."

[3] Landois and Stirling, *Physiology*, vol. i, p. 372.

[4] *Loc. cit.*

[5] For an account of the trial of the two Sheares, see *Curran and his Contemporaries*, by Charles Phillips, pp. 223-232. Blackwood. 1850.

which is inscrutable to the most subtle investigator." It may be doubted whether Professor Humphry, to whose reports on old age, in connection with collective investigation by the Committee of the British Medical Association, frequent reference is made, would assent to this quite in an unqualified manner. Some remarkable examples, however, corroborative of the view are given, such as that of St. Anthony the Great, who in the third and fourth centuries attained to the age of nearly a hundred, living as a recluse in the deserts of Egypt on the most abstemious fare—a small quantity of bread soaked in water, the bread brought to him once in six months, being his diet, and that often interrupted by fasts, with penances, and nights spent in prayer, with terrible and frequent temptations assailing him under the horrid forms that the inventiveness of devils could assume, and that Teniers and others have delighted in realising upon their canvas. A remarkable contrast, also, is presented by the two Venetian cotemporaries and friends, Cornaro and Titian, each of whom nearly completed a century. The one carried abstemiousness and prudence in diet, and minute attention to all that relates to the preservation of health almost to a fault; whereas the other enjoyed life to the full, loved to mingle in high, and not always the most orderly, society, "did not regulate his life by any stern principles of health, but indulged throughout his days in festive living and pleasant companionship," yet in his ninety-ninth year, when he was cut off by the plague, he was engaged in painting "the Christ of Pity," which still occupies a place in the Museum at Venice, and, though finished by another hand, shows traces "that the touch is broad and massive, telling of incomparable steadiness of hand." A contrast with any of these is the life of the great philanthropist, Sir Moses Montefiore, who was ever ready to expose himself to the fatigues and risks of travel in Palestine, in Egypt, in Russia, in Roumania, in Morocco, wherever and whenever, by intervention with the Powers, by purse or by advice, he saw a prospect of mitigating the hard lot of the downtrodden children of Israel, his last journey being to the Holy Land, when he was past 90, from which he returned home to live several years, and to die peacefully in his 101st year, revered by the whole civilised world, Christian and Mahommedan as well as Jewish.

The work concludes with "a group of unquestionable centenarians," including Canon Beadon, Lady Smith, Miss Hastings, of whom the account was given by Professor Humphry in this JOURNAL, and Miss Agnes Baillie, the niece of William and John Hunter, and the sister of Dr. Matthew Baillie, whose talents gave her no mean place among the members of that remarkably talented family.

LEÇONS CLINIQUES SUR LES AFFECTIONS CHIRURGICALES DE LA VESSIE ET DE LA PROSTATE. By Professor FÉLIX GUYON. Paris: Baillière et Fils. 1888.

THIS book, the latest contribution to medical literature from the facile and fertile pen of Professor GUYON, will be welcomed by his English brethren, not only because it embodies the ripe experience of a master hand, but also because it is an index to the progress and position of the French school of urinary surgery. The volume is a collection of clinical lectures upon diseases of the bladder and prostate, and each section affords evidence of the result of many years of keen observation of an enormous clinical material, backed by sound deductions from pathological research. Of the 1,000 pages devoted to this subject, the consideration of tumours of the bladder comprises a fourth; the various forms of cystitis are detailed in another fourth; whilst disease of the prostate occupy a fifth. The book is therefore too large to do justice to in a review where space will only permit us to touch lightly upon the most salient features. It is well known that Professor Guyon is the advocate for the suprapubic operation for the removal of vesical growths, and it is interesting to consider the results he has obtained. He gives us the notes of 22 cases which have been under his care; of these, 4 were females. On analysing the remaining 18 male cases we find that the suprapubic operation was performed 17 times, with 8 successful results. In 5 cases the disease recurred after the operation, and 2 of these were again subjected to suprapubic cystotomy. Six patients died within five days of the operation (1 from peritonitis). Of the 22 (male and female) patients only 3 suffered from "benign" growths, the remaining 19 had "cancers, properly so called, or epitheliomata." This is manifestly an important statement if taken in conjunction with that of "8 cases being successful." In 14 of the 18 male cases some indication of the disease was afforded by rectal or bimanual examination. In eliminating renal carcinoma stress is laid upon the absence of a symptomatic varicocele and upon renal *ballottement*. No mention is made of the electric light in the diagnosis or prognosis of growths, although this has proved of the greatest service in such cases.[1]

Professor Guyon insists that the evacuation of residual urine should be slow, gradual (that is, in several sittings), and antiseptic. He states that vesical irrigation is contra-indicated in the hypersensitive bladder or acute renal disease. He relies greatly upon the injection of nitrate of silver in the diagnosis of tubercular from gonorrhœal cystitis, the former being aggravated and the latter being improved by the procedure. The microphone is pronounced to be valueless in the detection of calculi. In the treatment of prostatic hypertrophy the method of Mercier is condemned from personal experience of patients who had been under Mercier's care. The question of electrolysis is not discussed, and the suprapubic removal of the "third lobe" has not been attempted. Professor Guyon has performed perineal cystotomy in vesical tuberculosis for the relief of pain, and has in one instance attempted successfully a radical cure by scraping away the tubercular deposits. The chapters upon exfoliating cystitis and prostatic carcinomata are summaries of the literature upon the subject up to 1884. They contain nothing new. The footnotes generally refer the reader to French literature (115 out of 150 references are to French authorities other than Professor Guyon).

NOTES ON BOOKS.

DIARIES, ETC.

THE diaries sent us this year are less numerous than usual, and do not seem to be very novel.

Letts, Son, and Co., Limited, send us their *Medical Ledger*, which is well arranged to lessen the trouble of book-keeping as well as, with the addition of Letts's *Medical Diary*, to ensure accurate accounts.

Messrs. Cassell and Co. now publish Letts's *Medical Diary* in the various well-known forms.

Messrs. Parkins and Gotto's interleaved scribbling diary is an old-established companion for the table, and their little shilling diary bound in cloth is compact and useful.

Messrs. Griffith and Farren send Pettit's octavo scribbling diary interleaved with blotting paper, and with almanac, ready reckoner, and other information; as well as a block calendar, and Blackwood's *Medical Call Book*, interleaved with blotting paper, which is already in extensive use.

The Religious Tract Society have their customary series of pocket-books and calendars, with a full set of mottoes and useful information relating to the religious societies.

The speciality of the *Professional Pocket Book* published by Rudall Carte and Co. is that it supplies a diary for daily and hourly engagements, divided off into four parts for the four quarters of the year, of which it is only necessary to carry one in the leather case, so that it constitutes on the whole one of the most complete and portable of pocket engagement books.

Messrs. Collins's pocket diaries are miniature, but give a perfectly free page for each day's engagements.

Smith's Physician's and Surgeon's Visiting List, which is now in its forty-third year, and an old-established favourite, is issued for 1889 by Messrs. Hazell, Watson, and Viney, who have taken over the business.

MESSRS. WRIGHT AND CO., of Bristol, have in preparation the volume for 1889 of the useful *Medical Annual* issued by them for the last six years. The new volume, which will shortly be obtainable, will be uniform in arrangement with the last issue, and is designed to serve as a useful guide to the latest advances in medicine, surgery, and therapeutics. Among the contributors are Dr. Saundby, Mr. Hurry Fenwick, Dr. Fancourt Barnes, Mr. W. Lang, Dr. Dana (of New York), Mr. J. Hutchinson, jun., Mr. C. Stonham, and Dr. Alexander Collie.

GIFT BOOKS FOR CHRISTMAS.

THE most artistic series of volumes on our table are the publications of Mr. J. C. Nimmo. *The Mirror of the World*, by Octave Uzanne, is a beautifully illustrated series of essays by one of the most *spirituel* of writers, delicately but profusely illustrated with

[1] JOURNAL, April 14th, June 16th, September 22nd, 1888.

etchings, coloured prints, and marginal drawings, by Paul Avril. The essays on "Arts and Literature," "Home Life," "The Table," "The Country," and "Sports," are pleasant examples of delicate and fanciful writing exquisitely illustrated. Walton and Cotton's *Complete Angler* appears in all the glories of hand-made paper, and liberal illustrations, with etchings, wood engravings, and coloured plates. The views by Mr. Creswick, A.R.A., which were taken on the spot expressly for this work, and afterwards drawn on the blocks by himself, are of permanent artistic value, and the book itself is a gem for the library which every book-lover would desire to possess. *De Omnibus Rebus* is by the author of *Flemish Interiors*. It is illustrated by 100 drawings, by Mr. R. C. Orpen, and gossips pleasantly on a number of topics of modern life, among other things concerning medical women and the medical wife. Like all the works of this author it is pleasantly written, and shows a good deal of refinement. Mr. A. B. Frost's *Stuff and Nonsense* is made up of a series of whole-page caricatures, showing much power of characterisation. Mr. A. H. Bullen's *Lyrics from the Song-books of the Elizabethan Age*, is an anthology by an experienced and competent hand of the Elizabethan songs. The art of song-writing was then carried to perfection, and composers were not content to regard the words of a song as a mere peg on which to hang the music, but sought the services of true-born lyrists. It contains many choice lyrics which have lain hidden out of sight for three centuries. It is an admirable specimen of typography.

Messrs. Cassell and Co. send us the volume for 1888 of *Cassell's Family Magazine*, containing a wealth of illustration and a remarkable variety of interesting matter. *Little Folks* well maintains its established reputation as an illustrated magazine for the young. *The Astonishing Story of Troy Town*, by "Q," the well-known author of *Dead Man's Rock*, has already attained great popularity. A series of stories of *Heroes of Everyday Life*, with sixteen full-page illustrations by Laura M. Lane is a capital boy's book.

The Religious Tract Society have a splendid series of Christmas books, all of which deserve inspection, and each calls in its way for warm words of commendation. The annual volume of the *Sunday at Home* is a type of an excellent family magazine for Sabbath reading, and its chromo-lithographs, coloured plates, whole page illustrations and woodcuts are in astonishing profusion, and make it a most valuable gift-book. *The Boy's Own Annual* has as its frontispiece a large coloured plate of Mr. Nettleship's untamable tiger, one of the best specimens of English reproduction which has yet been seen in a periodical of this kind. *Quicquid agunt pueri nostri est farrago libelli* is a thoroughly suitable motto for this inexhaustible treasury of wholesome amusement for boys. *The Girl's Own Annual* naturally deals with a gentler class of subjects, but has its own good grounds for an appeal to general favour, The last of this series of magazines is the volume of *The Leisure Hour* for 1888, than which there could be no more acceptable gift-book of the kind. *Our Little Dots* contains pretty pictures and stories for little girls and boys. Mr. Lovett's *Irish Pictures* is a quarto volume, by the well-known author of *Norwegian Pictures* and *Pictures from Holland*. It has 123 illustrations from photographs and sketches. We have never seen a book which gives so accurate, pleasing, and picturesque a view of Irish life as well as of Irish scenery. Just now a book of this sort is particularly valuable, and, beautifully illustrated as it is, it cannot fail to prove very attractive.

Messrs. Blackie and Son maintain once more this year the very high reputation which they have gained for brilliantly-bound, well-printed, and profusely-illustrated story books for young people. Mr. G. A. Henty's *The Cat of Bubastes*, a tale of ancient Egypt, with eight full-page illustrations, is likely to be a prime favourite. Besides these, we should mention, among those which all offer good material for selection, *When I was a Boy in China*, by Yan Phon Lee; *Quicksilver, or the Boy with no Skid to his Wheel*, by G. Manville Fenn; *The Lion of St. Mark's, a Tale of Venice*, by G. A. Henty; *Jasper's Conquest*, by Elizabeth J. Lysaght; *Under False Colours*, by Sarah Doudney; *Meg's Friend*, by Alice Corkran; *The Missing Merchantman*, by Harry Collingwood.

Messrs. Swan Sonnenschein and Co. issue no less than three volumes full of picturesque interest from the pen of that famous caterer of books of adventure, Captain Mayne Reid. Among these *The Free Lances* is a romance of the Mexican Valley; of *The Child Wife* it is stated that most of the events related were actually incidents in the life or within the experience of the author; *No Quarter* is an assured favourite, which is presented in a stereotyped edition; *Blackbirding in the South Pacific* is a startling tale of adventure, giving the story of the first white man on the beach. *An American Hero*, by Frances E. Cooke, tells the memorable story of the life of William Lloyd Garrison. *A King and not a King* is a boys' story by M. Spring Rice. Medical men desirous of giving an interesting present to young people will be very apt to pitch upon *Truth for its own Sake*, which is a story of Charles Darwin, written for young people, by W. Mawer, F.G.S., most of the facts being selected from the *Life and Letters of Charles Darwin*, by his son, and the book itself being intended to enforce the conclusion that the moral lesson of Darwin's life is perhaps, more valuable than his grand discovery which he has stamped on the world's history.

Mr. Fisher Unwin sends the fifteenth volume of *St. Nicholas*, which has a reputation of the highest class in both hemispheres as a highly artistic and spirited illustrated magazine for young folks. It is conducted by Mary Mapes Dodge. *Concerning Oliver Knox*, by G. Colmore, is the new volume of Unwin's novel series. The print, type, and paper of this series of excellent novels by well-known writers is notable considering the value of the books and the lowness of the price at which they are published. *Crime, its Causes and Remedy*, by L. Gordon Rylands, B.A., is a thoughtful study of a social problem, for which the author proposes prophylactic methods as well as an extremely drastic last resource.

Messrs. Ward, Lock, and Co. contribute in their octavo series a volume on *The World's Inhabitants*, by G. T. Bettany, M.A., a popular account of the races and nations of mankind, past and present, and the animals and plants inhabiting the great continents and principal islands. It has about 900 illustrations representing all the types of mankind, their homes and their public life, together with many of the principal types of animals and plants. The author has set himself, as he acknowledges, no easy task in the endeavour to include in one volume, in good type, and well illustrated, a review of the people at present existing on the globe. as well as a sketch of the change of masters and change of people, extending the view even to prehistoric inhabitants. It must be acknowledged that he has accomplished this very difficult task with remarkable skill, while the publishers have been lavishly liberal in their illustrations. It may, we agree with him, be safely said that never before has a volume of this character been available for three half-crowns.

The volume of the *Church Monthly*, an illustrated magazine for home reading, has as its frontispiece a portrait of the Archbishop of Canterbury, and contains a good deal of serious reading for children. Both in mechanical production and quality the material is below many of its competitors.

Messrs. W. H. Allen and Co., Waterloo Place, publish a delightful little series of sketches of soldier life in peace and war, past and present. There are many whole-page coloured illustrations. The verses are selected and the illustrations drawn by Richard Simkin. It is published at one shilling. *Rural Rambles* is a tablet book of very novel design and full of pretty pictures issued by the same publishers. It includes a delicate series of illustrations by Alfred Woodruff, with pictures by S. B. Carlill, novel in design and shape, and artistic in execution.

Among the greatest gems of the gift books of the season must be counted the exquisitely artistic publications of Messrs. Hildesheimer and Faulkner. The quarto *Book of Old Ballads*, with whole-page tinted illustrations by Alice Havers, is one of the most beautiful specimens of delicate illustration and luxurious typography which have issued from the English press. *Sunbeams*, a book of poems, by F. E. Weatherly, illustrated in whole-page tinted pictures, with reproductions of sepia drawings in the text, is another masterpiece from the same publishers. Similar books, got up and illustrated in the same style, are *The Good Shepherd*, by Frederick Weatherly, illustrated by Alice Reeve. *Here's to the Maid of Bashful Fifteen*, by Sheridan, illustrated by Alice Havers and Ernest Wilson. A miniature *brochure* displaying the humours of *Our Boys at School*, by Frederick E. Weatherly, illustrated by G. G. Fraser. *The Harvest Moon*, and comical studies in animal life, entitled, *What Became of Them?* pictures by A. M. Lockyer. The illustrations are designed in England and printed in Germany, and for effects of colour in black and white, as well as for the delicacy of the tinted colour pictures, they surpass anything hitherto presented in this line.

DR. J. B. HAMILTON has recently been selected as editor of the Journal of the American Medical Association.

CHRISTMAS CARDS.

THE distribution of books, gifts, and cards in institutions and families connected with the medical profession follows the general movement of opinion, and tends this year to become more general and extensive. Christmas cards are this year, perhaps, less novel and interesting than usual.

Messrs. Raphael Tuck and Sons, fine-art publishers, of London, Paris, and New York, are, as usual, the leading purveyors of Christmas cards and tablets. Their series include an extensive and attractive reproduction in coloured panel of Raphael's Sistine Madonna, and a similar reproduction in coloured panel of the famous picture of the Nativity, from the original picture of Correggio in the Dresden Gallery. Their other series include a series of six cards for Christmas, with religious subjects, designed by W. J. Webb, verses by H. M. Burnside; private autograph cards for best wishes, variously illustrated; a little book of songs, carols, and chimes by the Marquis of Lorne, Canon Farrar, and Canon Bell; very pretily illustrated books and cards, entitled *Angel Voices, Good Tidings, Homes of England, The Twenty-third Psalm, Sunrays and Moonbeams*, and other series, of which a full catalogue is published by them, and which suit every taste and the most modest resources, as well as including specimens of a more costly kind. For this year they are for the most part of a more pronounced religious character than usual. A considerable number of them are admirably suited for distribution in hospitals and public institutions.

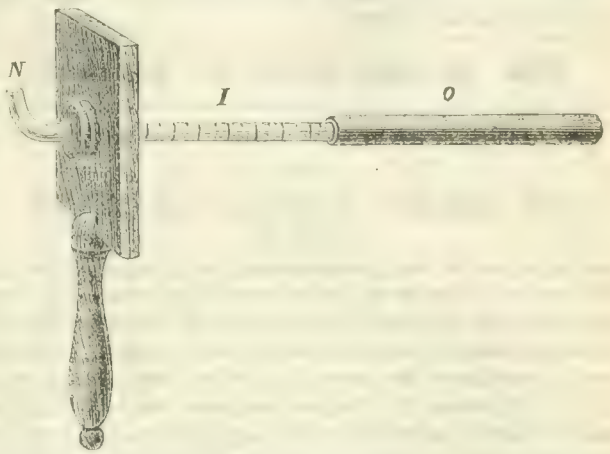
Mr. J. Taylor Foot, 18, Poland Street, has issued an extensive and novel series of Christmas cards, consisting of reproductions in coloured papier-maché of filberts, flowers, and the various Christmas delicacies of the table, neatly packed and with suitable inscriptions. The filbert series, *Nuts to Crack, Christmas Rose, Merry Thoughts, Mincepie*, and other series are exceedingly clever in workmanship, and constitute very pleasant little surprises for young people, and no doubt will be largely used for distribution in children's hospitals, etc., as well as in families. The other cards which have been sent are for the most part of the ordinary formal kind.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

AN OLFACTOMETER.

A METHOD, which the author declares to be most simple and accurate, of estimating numerically the acuteness of the sense of smell, has recently[1] been described by Dr. H. Zwaardemaker, Docent (*militärärtzlicher Curs*) in Utrecht. When, in breathing, air is drawn into the nose through a tube, the inner surface of which is covered with an odorous substance, a more or less strong odour is perceived, if the sense of smell be normal. The intensity of the sensation will depend upon the nature of the substance, and *cæteris paribus* on the length of the tube; using the same odorous substance a stronger or weaker odorous sensation can be produced by lengthening or shortening the tube. The instrument shown in the accompanying woodcut has been designed by Dr. Zwaardemaker to apply these principles to the clinical estimation of the sense of smell.

The instrument consists of three parts; a tube (O) containing on its inner surface the odorous substance; a glass tube (I) graduated in centimètres, and turned up at a right angle at one end (N) to fit conveniently into the nostril; the tube I is mounted for convenience of manipulation in a wooden plate provided with a handle. The inner tube I is 5 centimètres in diameter; the outer tube O is 0.8 centimètres in diameter and 10 centimètres long. The two substances used by Dr. Zwaardemaker for lining this tube are red india-rubber tubing and "ammoniacum-gutta-percha," which is made by combining together equal parts of ammoniacum and gutta-percha; the india-rubber is used for measuring the acuteness of a normal or nearly normal sense of smell, the latter for estimating various degrees of anosmia. The outer tube fits easily over the inner, and when an estimation is to be made the outer is pushed up over the inner until the outer end of the two are flush, and the bent end is introduced into the anterior part of one nostril; on drawing air through the tube the patient perceives no odour, as the air does not pass over any part of the odoriferous surface of O. While the patient still continues to breathe through the tube, the outer tube O is withdrawn until at some point intermediate between the position at starting and that shown in the woodcut the odour is perceived. The number of centimètres which O has been withdrawn is then read off; this gives the minimum perceptible for that individual. As the condition of the odoriferous substance varies with the temperature and



other circumstances, the observer or some other person possessing a normal sense of smell must use the instrument immediately afterwards. The relative acuteness of the sense is in inverse proportion to the length of tube drawn out when the odour is first perceived. This may be expressed as follows: if the normal acuteness be taken as 1, if Cn = the number of centimètres of tube which must be drawn out before the odour is perceived by the normal nose, and Ca = the number before the odour is perceived by the patient, and if x be the relative acuteness of the patient's sense of smell, then $x = \frac{Cn}{Ca}$: thus if the normal organ perceives the odour at 0.7 centimètre and the patient only at 7 centimètres, $x = \frac{0.7}{7} = \frac{1}{10}$th.

Dr. Zwaardemaker informs us that it is only occasionally necessary to wash out the whole length of the tube I, and adds: "Before beginning the investigation I take care that the odour is familiar to the patient" by permitting him to smell the tube O. Dr. Zwaardemaker prefers the term "Olfactometer" to Osmometer, as the latter might, through similarity of sound, be confused with the endosmometer. The instrument is made by M. Harting Bank, of Utrecht (price, 1m. 50pf.).

[1] *Berliner Klin. Wochensch.*, 1888, No. 47, and *Centr. f. d. Med. Wiss.*, 1888, No. 45.

FOREIGN CIGARETTES.

MR. A. BALL (Chemist with Messrs. Burroughs, Wellcome and Co., Snow Hill Buildings, E.C.) writes: After reading with much interest the various reports respecting metallic impurities in cigarettes, I resolved to make some experiments. As a result of numerous exhaustive experiments, I discovered the peculiar affinity of the alkaloid nicotine for the acidulous radical of a chloride. After carefully studying the matter, I saturated a piece of absorbent paper (pure cellulose) with a solution of calcium chloride; this I carefully dried and made into a kind of mouthpiece for a cigarette. By this method I found the disagreeable hot taste of the nicotine was completely removed. The chlorine radical forms with the nicotine a chloride; composition $C_{10}\,H_{14}\,N_2\,2\,(HCl)$ (nicotin chloride), with calcium hyorate. These are both retained by the absorbent material, which also retains the pungent saccharoid matter with any metallic impurities in the form of a hydroxide. This may be of hygienic interest to your professional readers.

IT is interesting to compare the mortality-rates in different countries of the world, represented by the following figures: 20.5 per 1,000 in England; 22.8 in France; 29.6 in Austria; 25.5 in Prussia; 18.1 in Sweden; 30.5 in Italy; 21.9 in Switzerland; and 18.0 in the United States. The relative mortality of great cities is 22.14 in London; 26.47 in New York; 27.22 in Liverpool; 27.48 in Paris; 40.18 in Madrid; and 35.94 in Dublin.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st; and notice is hereby given, in accordance with by-law 5, that Branch Secretaries' subscription-accounts close on October 31st, and all unpaid subscriptions must be forwarded, after that date, to the General Secretary, 429, Strand, London. Post Office Orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, DECEMBER 8TH, 1888.

THE BRITISH MEDICAL ASSOCIATION, 1888—89.

As the echoes of the great meeting held during August in Glasgow are dying away, the voices of those who are in busy preparation for the forthcoming meeting of the Association at Leeds are making themselves heard in our columns. The last general meeting of the Association held at Leeds took place in 1869. The meetings of the previous years had been in Dublin and in Oxford, and much modest trepidation was expressed by the representative members of the Association in Leeds at following in the wake of meetings which had been dignified by University association, and which had been held under circumstances of no slight distinction. The achievement, however, of great and undoubted success on that occasion speedily reassured even the most timid; and now, when the Association is about to meet, probably in numbers at least three times as large, in this great centre of intellectual and industrial activity, no one will profess to entertain any doubt of the success of the arrangements already in progress. From its great resources as a city of merchant princes, from its old and well-established medical traditions of high repute, from the active interest and prominent position in the Association of many leading medical men in the city and the county, we may feel assured that Leeds will not be behind Glasgow in providing for the Association at its forthcoming annual meeting all the elements of intellectual exercise and accessory social satisfaction.

The programme, which we print in another column, indicates that the Address in Medicine will be delivered by Dr. Hughlings Jackson; the Address in Surgery by Mr. Pridgin Teale; the Address in Psychology by Sir James Crichton Browne. The names of the selected orators afford more than adequate security that the addresses will be of original scientific value and literary merit; the very strong list of sections (ten in number) sufficiently indicates the development of the Association since its last meeting in Leeds, for at that time sectional activity was in the embryonic stage.

The full list of Committees and Subcommittees for providing amusements, excursions, and entertainments has been completed, and due announcements under these heads will be made at an early date. It is certain that the members of the Association will be received with hearty hospitality; that the industries of the town and neighbourhood will be freely shown; that the beauties of the district will be made abundantly available, and that excursions, short and long, will be arranged. Excursions to York, Scarborough, Hull, Harrogate, and the Ripon district, with Ilkley, the moors, and the Yorkshire dales are being offered and arranged for. They will be well planned, organised, and guided, and special care will be taken that the pleasure and comfort of the lady visitors shall be provided for. The Lord Bishop of Ripon has undertaken to preach an inaugural sermon. Mr. Wheelhouse, one of the most experienced and able members of the Association, is at the helm, and he is surrounded by enthusiastic helpers, so that there is every reason to look forward to a most agreeable and successful meeting.

Turning from this prospect to the brief retrospect in which it is customary to indulge in this issue of the BRITISH MEDICAL JOURNAL, which reaches beyond the ordinary circle of our readers, it will suffice briefly to record the continued progress of the Association and its steady extension not only throughout the United Kingdom, but throughout the empire. The number of places in which Branches can possibly establish themselves seems every year to be almost exhausted, but every year brings new requisitions from distant colonies and possessions of the empire, where medical men desire to bring themselves into union with the social, intellectual, and professional activities represented by the Association and its JOURNAL, which constitute a bond uniting the most distant members of the profession with those who form the mother Association seated here.

Among the new Branches which have been formed during the past twelve months, or are at the present moment in course of formation, are two Scotch Branches: the Perthshire Branch, already officially recognised by the Council, and the Stirling Branch, now being formed. With these additions, the Branch organisation of Scotland may be said to be territorially complete. The South of Ireland Branch is, we are glad to hear, likely to be reorganised and brought into fresh activity, by the help of many of the leading local medical men, and with the efficient assistance of Dr. Cremen and others. In addition to these, there is the newly-formed Malta and Mediterranean Branch, which is a welcome addition to the list of Branches from its important position as a naval and military station, and from the fact that it is officered by the principal medical officers of the army and navy and the chief Government medical officers, who will act (*ex officio*) as President and Vice-President annually in rotation, beginning with the principal medical officer of the army, and followed in the second year by that of the navy, and in the third year by the chief Government medical officer. Dr. Manché has rendered excellent service in the formation of this Branch. Another colonial Branch, the Griqualand West Branch, of 20 members, which has the honour of being the first Branch organised in South Africa, will, we believe, soon be followed by the Cape Town Branch, the organisation of which is not yet completed. There are many others in a more or less forward state of promotion, as to which communications are now being made, and which it is believed will be officially recognised before the annual meeting, namely, the Tasmania, the Christchurch (New Zealand), Barbadoes, Bombay, Gibraltar, Mauritius, Ontario, and Rajputana Branches.

We have frequently pointed out to those of our readers not

yet members of the Association, and to those who, being members, have not yet joined or constituted Branch organisations, the advantage which such organisation offers for taking part in the scientific, social, and political work of the general body, and of obtaining representation on the Central Council. These advantages are now so widely appreciated and so generally understood, that it is no longer necessary to dwell upon them at length.

During the last year, in response to the invitation extended by the two special issues of the JOURNAL to members of the profession outside the bounds of the Association, nearly 1,000 new members have been enrolled, and the circulation of the JOURNAL, which last year had attained the phenomenal number of 14,000, has now risen to 15,000, and shows signs of yet further increase. Under these circumstances it seems hardly necessary to say anything more for the Association and the JOURNAL than that which has been many times repeated and is apparent on the face of the facts. Union means strength, and the facilities which these pages afford for bringing under the notice and the discussion of the greatest medical audience ever yet assembled the clinical work, the scientific research, the social and professional aspirations of each member, present advantages of constantly growing value and opportunities of increasing worth and interest to every member of the profession who has not yet joined the membership of the British Medical Association. Provision has been made for those remoter districts where members of the profession do not congregate in sufficient numbers to constitute a Branch, by the appointment of honorary corresponding secretaries, whose communications will receive especial attention in our pages—a new departure, which it is hoped may afford opportunities for the record of instructive observations.

The last annual report afforded, as the President of the Council has pointed out, two instances in the colonies where, Branches having been formed, the Government had realised the advantages of consulting a body of intelligent men to guide them in the decision of matters of public health, and in other questions upon which medical men are best qualified to form an opinion.

The financial position of the Association, as shown in the last annual balance-sheet, was in the highest degree satisfactory, the actual balance amounting to not less than £31,000, while considerable items for special expenditure incidental to the moving into commodious premises in the Strand were last year met out of the revenue.

Of the scientific interest of the JOURNAL it is not for us to speak. It is sufficient to refer to the current number, to the programme of the forthcoming volumes which we print elsewhere, and to the almost endless list of valuable scientific and clinical papers from the leading authorities in Great Britain and in every part of the empire which we have had the satisfaction of publishing during the last year. The continued pressure of communications; the ever-growing list of Societies asking for report; the mass of queries which weekly reach us on subjects closely affecting the personal interests of the members of all the public services and of individual practitioners, call for constant vigilance and entail unceasing labour, accompanied by no small anxiety, and weighted with an editorial responsibility the sense of which increases with the ever-growing influence thus exercised by the JOURNAL.

In the selection which must perforce be made we are influenced by a desire to do justice to the claims of the humblest in equal measure with those of the most influential members of our body; and in solving the difficult problems almost daily presented by the delicate questions raised and submitted we have the assistance of a numerous and loyal band of editorial writers and supporters, to whom our warmest acknowledgments are due and are gratefully paid. The anxieties and responsibilities of editing such a JOURNAL as this, which is read by more thousands of medical men than have ever before given their confidence and approval to a medical sheet, is enhanced by the circumstance that almost every one of them feels a more or less direct interest in its pages, and is disposed from time to time to exercise a critical judgment connected with the sense of associated proprietary control from which other journals are exempt. It is only just to acknowledge that for the most part these complicated difficulties have been greatly lightened by the generous and grateful confidence which, with few and rare exceptions, has requited the sacrifices involved in the effort to advance the material interest of the JOURNAL and the Association to the highest degree of prosperity, while carefully furthering the scientific, social, and professional objects for which the JOURNAL and the Association mainly exist.

Looking back upon a series of years of unexampled prosperity and success, we may fairly entertain the hope that the auguries for the future, which are at this time as promising as they have ever been at any period in the history of the Association, may be duly fulfilled. In numbers; in financial strength; in sources of accessory revenue; in the representative character of its governing Council and committees, whose generous and unpaid services, and whose wise conduct of affairs, have been so potent a factor in success; in the prospect of its next annual gathering of the Association; in the masses of valuable matter which await publication in our pages—we read the promise of continuing prosperity, and no effort will be spared to ensure the fulfilment of that promise.

THE RECENT SESSION OF THE GENERAL MEDICAL COUNCIL.

THE Medical Act of 1886 entitled any registered medical practioner to whom a diploma for proficiency in sanitary science, public health, or state medicine had, after special examination, been granted by any university or qualifying body in the United Kingdom, to have such diploma entered on the *Register*, provided that the General Medical Council considered the diploma to deserve such recognition. This clause (21) clearly imposed upon the Council the duty of ascertaining whether the diplomas were in all cases granted after adequate examination, and a question might very well then have been raised as to how a decision was to be arrived at.

The diploma in Public Health was, however, at that time purely ornamental, and probably for that reason the question was not raised. The Local Government Act, passed this session, has rendered the possession of such a diploma obligatory on the future incumbents of certain posts,[1] and Dr.

[1] The medical officer of health of any county, county district, or combination of districts, "as contained according to the last published census for the time being a population of 50,000 or more inhabitants." Reservation made in

Haughton did well to bring the question before the General Medical Council at the earliest possible opportunity. The Council, it may be remembered, has recently found it desirable to make an important change in its mode of inspecting qualifying examinations, and the costly system of visitation by three or more members of the Council has been replaced by a system of inspection by salaried inspectors in medicine, surgery, and midwifery respectively.

Dr. Haughton asked the Council to appoint another inspector—of the examinations in Public Health—which would appear to be the only logical solution; but the Council decided by a large majority to refer the subject to the standing Committee on Education: their report was directed to be prepared in time for presentation to the Council at its meeting in May; but the arguments of those speakers who opposed Dr. Haughton's resolution—in the modified form proposed by Professor Struthers—do not appear to have been directed against the principle involved.

Quite apart from the effect of the Local Government Act, the Council is clearly bound to have some eye to the efficiency of the examinations, since they are empowered to add the diplomas to the *Register*: inspection by a special inspector nominated *ad hoc*, is the system which the Council, after many years' experience, has decided to be the best for ascertaining that examinations are efficient; the cost would not be great, for the duties of the inspector would be relatively light; inspection would be welcome by all the bodies which already impose an adequate examination, and would disclose deficiencies, if any exist. In either case the value of the diplomas to their possessors would be enhanced, and the obvious intentions of the Legislature would be carried out.

The Council during the session which has just ended has used its disciplinary powers in two cases in which registered practitioners had acted as "covers" to unqualified practitioners; in both cases the name of the accused person was ordered to be erased from the *Register*. The President held out a hope that the names might be restored at an early date, and no vindictive punishment ought to be desired; but the strong action taken may warn others who may be disposed to evade the law that they cannot continue with impunity in a course of conduct which is inimical to the interests not only of the public, but of the medical profession.

This exercise of its disciplinary powers, however, while of great advantage to the profession at large, has cost the Council a serious expenditure of time and money; three days and many hundreds of pounds were spent in laying bare the petty details of these two miserable cases; it is not surprising, therefore, that the Council is casting about for some means of, at least, reforming its procedure. The President has drawn up an important memorandum on the disciplinary or penal powers of the Council, and of the qualifying bodies, which, together with the opinion of the legal advisers, and remarks of many of the qualifying bodies, will be issued as an appendix to the volume of minutes for the present year. The President considers that the duties of the Medical Council "as regards the record of medical qualifications, are essentially and merely such as will secure an accurate *Register* of qualified persons as medical practitioners." The point of this paragraph lies in the words "and merely;" and its force will be seen when it is further found that the President considers "that the Medical Council is not to be regarded as a Court of Appeal, but is merely to be satisfied that a given qualification has been legally and formally taken away."

Since a person is entitled to have his name inserted on the *Register* only by reason of the possession of a licence granted by a qualifying body, it at first sight seems only logical to assume that the primary obligations of a disciplinary character rest with the qualifying bodies, and that the Medical Council has only, to quote the words of the memorandum, "a secondary, conditional, or indirect authority" to erase a name after the qualification or qualifications have been withdrawn.

A practical objection of some weight is that not all the qualifying bodies possess the power of taking away a qualification once granted. There are at the present time twenty qualifying bodies in the United Kingdom, and of this number eleven are Universities. It would appear that the powers of a University as to the withdrawal of degrees once granted are, to say the least, not very clearly defined. Whatever these may be, the Universities of Cambridge, Durham, Edinburgh, Aberdeen, and St. Andrews have declared themselves, in response to the President's memorandum, opposed to the proposal to confer upon them the power to withdraw qualifying medical degrees; the Universities of London and Glasgow and the Victoria University have given no answer, and the Hebdomadal Council of the University of Oxford has in oracular manner stated that it has no objection to the powers of the General Medical Council being strengthened.

This objection is very fairly and fully stated in Mr. Marshall's memorandum, which is drawn in a most judicial spirit, and so great is its force felt to be that the Council's legal advisers are prepared to recommend the Council to promote a Bill in Parliament "to extend and define the powers of the several qualifying bodies in the United Kingdom so as to enable each qualifying body to deprive temporarily or permanently any practitioner of the qualifications conferred on him by the qualifying body," such action to be confined to cases contemplated by Section 28 of the Medical Act (1858), namely, to cases of "conviction" under the law, and to cases of "infamous conduct in a professional respect."

Even if the effect of the legal decision in a recent case were to be nullified by a new enactment, the Council would still possess the power, *proprio motu*, to erase a name from the *Register*: this power has been exercised twice during the session just ended; upon this point the wording of section 29[2] of the Medical Act, 1858, is free from ambiguity.

It is most essential that the disciplinary powers of those qualifying bodies which already possess them should be preserved, and that such powers should be conferred upon all of them alike; for dealing with minor offences especially, these powers are most valuable, but in the opinion of some of the qualifying bodies the General Medical Council is a body better

favour of persons who have been](1) medical officers of a district or combination of districts containing not less than 20,000 inhabitants for three years before 1892; (2) medical officers or inspectors of the Local Government Board for three years before the passing of the Act.

[2] "29. If any registered medical practitioner shall be convicted in England or Ireland of any felony or misdemeanour, or in Scotland of any crime or offence, or shall after due inquiry be judged by the General Council to have been guilty of infamous conduct in any professional respect, the General Council may, if they see fit, direct the Registrar to erase the name of such medical practitioner from the *Register*."

adapted by its constitutions for the exercise of judicial functions in cases of the most serious type. This argument is well put in the following extract from the reply of the Senate of the University of Aberdeen:

Removing a name from the recognised ranks of a profession is a very serious step, and it is due that the exercise of such a power should be carefully guarded against all possible vitiating influences, such as local prejudice, collegiate feeling, and the uncertainty arising from diverse views taken from so many and so variously constituted tribunals. It appears clearly to be preferable that this grave function should continue to be entrusted to one body, a body removed from such influences, accustomed to inquiries into conduct coming under the penal clauses of the Medical Act, and having the advantage of the guidance of the law advisers who have had experience in conducting such inquiries.

The alternative proposal—that the Council should delegate to the Executive Committee the duty of investigating and deciding cases of alleged "infamous conduct in a professional respect"—while it presents certain disadvantages, would yet effect a very great saving in money and time. The Executive Committee now consists of nine members, five from England and two each from Scotland and Ireland, and it at present contains, and probably always will contain, at least one direct representative; it fairly reflects, therefore, the general composition of the Council, and is sufficiently numerous to form a legal quorum of the Council itself. Such a body is better adapted for the discharge of judicial functions than the whole Council; during the recent inquiries thirty members were present, and the cost of the investigation of one case is said to have been £700; had it been possible to delegate the duty to the Executive Committee the cost would have been £200. The money has been, in one sense, well spent, inasmuch as action of the kind which the Council took was clearly demanded in the interests of the public and the profession: but if the same end could be attained at a greater economy of time and money it would be a great gain.

COMPOUND GONORRHŒAL INFECTION.

The accidental or more or less accidental presence of two specific micro-organisms in the same subject has often been observed. Thus, the bacillus of tubercle and the special germ of erysipelas may be found together; or the gonococcus may be detected in company with the septic micrococcus of puerperal fever. Dr. Bumm, of Würzburg, claims to have discovered certain true compound infections (*Mischinfectionen*) where the first germ has really caused the entry of the second, or, rather, rendered the tissues more fit to receive it. The first germ, in the cases which he has investigated, is the gonococcus, the second is in some instances a pyogenic micrococcus, in others the bacillus tuberculosis. When fresh gonorrhœal discharge enters Cowper's gland, it tends to destroy the glandular tissue and to cause cystic degeneration; but when the pyogenic staphylococcus follows the gonococcus, suppuration occurs, and the pus-producing micro-organism supplants the specific germ of gonorrhœa. This is always the case in the compound infection which Bumm has investigated. The urethral follicles may be infected in the same manner, and so may the mucous membrane of the bladder. The gonococcus cannot readily penetrate the stratified vesical epithelium, but it favours the entry of another coccus, which is pyogenic. In the upper part of the genital tract the gonococcus itself only attacks the mucous membrane. Had it the power of penetrating deeper, gonorrhœa would as a rule be a very dangerous disease. However, the gonococcus favours the entry of more dangerous germs into the pelvic connective tissue. Thus Bumm discovered staphylococcus aureus in abscesses formed in two cases of gonorrhœal parametritis. In two other patients who had parametritis without abscess, as a result of gonorrhœa, he punctured the phlegmon, and found that the little fluid which drained away was entirely free from germs of any kind.

The higher the gonorrhœal infection extends above the cervix uteri, the less will be the chance of compound infection, for the vagina and vulva, favourable receptables for all kinds of germs, will be far from the infected regions. Hence few micrococci besides the gonococcus can be found in gonorrhœal discharge from the uterus, and hardly any in the Fallopian tube. Thus it is in the tubes that the pure specific action of the gonococcus may best be studied. The tubal mucous membrane may become the seat of purulent inflammation, but the subjacent connective tissue escapes. Should any of the gonorrhœal pus escape through the ostium into the peritoneal cavity, the tube is rapidly closed up by circumscribed peritonitis. When pyogenic micrococci enter the peritoneal cavity, as when a puerperal parametric abscess bursts, severe diffused peritonitis almost certainly follows. Dr. Bumm doubts if any authentic case of compound gonorrhœal infection of the tubal mucous membrane has been noted.

Thus there appears to be a distinct compound infection where gonococci prepare the tissues which they infect for pyogenic germs such as streptococci, staphylococci, etc., the latter rapidly supplanting the gonococci, as above explained. In a limited series of cases, tubercular changes in the epididymis have been known to follow closely on an attack of gonorrhœa. Dr. Bumm believes that tuberculosis of the Fallopian tubes often arises in the same way; his theory explains, in his opinion, the origin of the tubercular masses which are sometimes found in the tubes in subjects free from tubercle in any other part of the body. The dried-up pus in an old pyosalpinx is a favourable cultivating medium for the bacillus tuberculosis. He succeeded in curing, or almost curing, a young woman of gonorrhœa of the cervix and repeated attacks of parametritis on the left side. She married, and two years later returned to hospital, where she died of isolated tuberculosis of the left Fallopian tube. The patient had never conceived, and the husband was phthisical.

Dr. Bumm shows that it was in female subjects that the first researches were made to determine the nature of the fluid found in the synovial cavity of a joint affected with gonorrhœal rheumatism. True pyogenic micrococci were discovered, but no gonococci could be found. This fact is entirely in accordance with his theory and demonstration of compound gonorrhœal infection. The genito-urinary mucous membrane, damaged by the ravages of the gonococcus, allows the entry of pyogenic micro-organisms into the deeper tissues. He admits that nobody has been able to explain why the more formidable and less specific germs make for the articulations, and more especially select the knee-joint.

SACCHARIN AS A SUBSTITUTE FOR SUGAR.

The largely increasing use of saccharin, not only in the treatment of disease, but as an ordinary substitute for sugar, renders it important that all evidence adduced as to its action on the human frame should be noted and recorded. Bearing this in mind we, in the Journal of November 3rd, gave a short *résumé* of the conclusions arrived at by a French Medical Commission appointed to inquire into the subject. On another page of to-day's Journal will be found a letter from Dr. Fahlberg, the discoverer of saccharin, in which he altogether denies the correctness of the views held by the Commission, and in which he further states that the "highest authorities in the world" deny that saccharin exercises any harmful influence upon the system. The main ground upon which the Commission based its conclusions was that saccharin is not a food, that it has considerable antiseptic powers, and that it therefore retards or checks the digestive functions. It must be admitted that saccharin is in no sense a food; but the results of some experiments by Drs. Stevenson and Wooldridge, recently published, tend to show that saccharin is innocuous when taken in quantities largely exceeding what would be taken in any ordinary dietary. As a result of actual experiment, they have determined that saccharin, when present in any practicable quantity, has no retarding influence on the peptic digestion of fibrin, although the presence of 0.25 per cent. slows the process decidedly, and 1 per cent. greatly retards it. They further found that "the diastatic solution of starch" was not hindered by the presence of as much as 2 per cent. of saccharin.

The authors do not seem to have performed any experiments with pancreatic ferment, but, not satisfied with those on the extra-corporeal action of saccharin on peptic digestion, they made comparative and concurrent experiments on two dogs, and found that the swallowing by one of them of one gramme of saccharin with a single meat meal did not in the least interfere with the gastric digestive process. Altogether we consider that, up to the present time, the balance of evidence is in favour of the supposition that saccharin is generally innocuous. But it must be remembered that saccharin is comparatively new as a therapeutic agent, and it is quite possible that in some conditions of disease a patient may not be able to tolerate it. If such be the fact, in process of time these cases will be duly recorded and classified, and thus experience will inform us as to when the use of saccharin is contra-indicated.

Another medical novel is, we hear, in the press, entitled "Queen Anne's Hospital." It is by Dr. Schofield, and is written on teetotal principles and by way of answer to a recent novel which brought sensational charges against hospital surgeons and their method of treating ward patients.

A report presented by a committee to the annual meeting of the American Academy of Medicine, recently held in New York, states that there are 116 medical schools in the United States. Of this number 89 require evidence of preliminary education, the remainder being apparently extremely lax on this head. Dr. Wood estimates that nearly 3,000 imperfectly-educated students are graduated in medicine in the United States every ten years.

On November 28th, 29th, and 30th, Professor Crookshank delivered three lectures at the Royal Veterinary College, London. The subject was Actinomycosis in Animals and Man. The lecturer has for some years made this disease the subject of a special investigation, and we understand that a full report will shortly be published.

At the anniversary meeting of the Royal Society on St. Andrew's Day, the Copley Medal was presented to Professor Huxley, F.R.S., F.R.C.S., for his investigations on the morphology and histology of vertebrate and invertebrate animals; and the Royal Medal to Baron Ferdinand von Müller, for his investigations of the flora of Australia. Professor Huxley was not able to attend, but the President was able to announce that his health had greatly improved.

DYING IN HARNESS.

The New York papers announce the death on November 18th of Dr. Henry Berton Sands at the age of 56. He had been generally recognised for many years as the leading surgeon of that city, and though failing health had led him to give up his teaching appointments, his death, which occurred very suddenly from cardiac failure while driving home from a consultation, was quite unexpected.

"TIN FOIL."

Chocolates, confectionery, dried fruits, cheeses, and other alimentary products are very often wrapped in what appears to be, and is described as, tin foil, but is really an alloy, containing a good deal of lead. This dangerous practice is now prohibited in France, and the tin foil destined for this use must, under penalty, be composed of "fine tin," that is, an alloy containing at least 90 per cent. of tin. Here is a subject which may be worth the investigation of public analysts.

PREVENTIVE INOCULATION AGAINST RABIES.

At the Anti-Rabic Institution founded by the Emperor of Brazil at Rio Janeiro, 140 persons have presented themselves between February 9th and October 2nd, declaring that they had been bitten by mad dogs. All the cases were investigated, and only 69 were distinctly ascertained to have been really bitten by rabid animals. They were treated by the Pasteurian method, and up to the present day one only had succumbed. This was a child badly bitten in the forehead by a mad dog, and brought at a late date for treatment. Three other children bitten by the same dog, but immediately (five months ago) submitted to treatment, had remained well.

SUCCESSFUL OPERATION FOR PARAPLEGIA.

Cases of operation upon the vertebral column for the relief of paraplegia due to tubercular abscess are still sufficiently uncommon to lend a special interest to the history of a patient recently shown to the New York Surgical Society by Dr. R. Abbe. The patient was a young Swede, aged 21, in whom complete paraplegia developed between March 6th and May 25th, while he was a patient in St. Luke's Hospital. A tumour was all along to be felt over the spinous and right transverse processes of the ninth and tenth dorsal vertebræ. An incision was made down to the lamellæ, two ounces of cheesy pus were evacuated, and the lamellæ and spinous processes of the eighth, ninth, and tenth dorsal vertebræ, being carious, were removed, revealing a mass of dense connective tissue and broken-down material which occupied nearly the whole diameter of the vertebral canal for two inches and a half, and pressed the cord against the anterior wall. This was thoroughly cleared away with Volkmann's spoon, and the cavity packed with iodoform gauze; two drainage-tubes were introduced, and the wound thoroughly irrigated with bichloride solution; an antiseptic dressing was then applied, and over all a

plaster jacket. The wound healed rapidly; sensation began to return on the tenth day, motion on the twenty-seventh. When shown to the Society four and a half months after the operation, his general condition was, according to the report in the *New York Medical Journal* (521), excellent; he had no fever, was free from pain, could move his limbs, stand, and walk with the support of a chair.

THE OFFSPRING OF RABID ANIMALS.

SOME observations made by Dr. G. Zagari appear to prove that rabies is not, as a general rule at least, communicated by pregnant animals to their offspring. He experimented with guinea-pigs (six), rabbits (five), and one bitch, and tested the virulence of the bulb in the thirty-two fœtus removed from the body of these animals while suffering from rabies (which generally causes abortion at an early date). In no case was it found to be capable of producing rabies when inoculated; the amniotic fluid, the placenta, the liver, and finally an emulsion made from the whole body of a fœtus were found not to be virulent. In like manner, the milk yielded by the bitch and by two rabbits was found not to be virulent. Dr. Zagari (an abstract of whose paper in the *Giorn. int. d. Scienze Med.* is published in the *Cent. f. Klin. Med.*, 1888, No. 48), considers that the negative result of his researches lends support to the theory that the virus of rabies exists in the nervous system and not in the blood.

"EXTRAORDINARY LIBERALITY."

"THE deceased seems to have been a person of extraordinary liberality" was the remark of Mr. Justice Kekewich, in the course of delivering judgment this week. On one occasion the deceased seems to have sent to his doctor a cheque for double the fees demanded. This marvellous stretch of liberality seems so greatly to have astonished the learned judge as to form a turning point in his judgment on the knotty question submitted to him. Such liberality, however, is not without precedent, and there is good reason to hope that it may frequently be followed. The fees charged by medical men are often but a very slight indication of the value of the services rendered by them, and it would be not unreasonable if the sentiment which grateful patients so often verbally express were as often followed by substantial proofs of their appreciation.

PHONOGRAPHS FOR PHYSICIANS.

COLONEL GOURAUD gave last week an exceedingly interesting lecture on Edison's new phonograph at the Society of Arts. This marvellous instrument, in its perfected form, will have a multitude of uses in every-day life, and will be available for physicians and lecturers in a variety of ways. Thus a lecturer, who was preparing his notes, or a practitioner, who was writing a book, cannot always have a clerk or a shorthand writer at his heels night and day to take down the paragraphs as he composes them, and thus is compelled, both in this respect and in conducting a heavy correspondence, to go through the drudgery of an immense amount of writing, mechanical labour which is very exhausting, and might well be spared. It will, in the future, be not only possible, but easy for him to speak into the phonograph as he composes his sentences from the notes before him, or as they occur to his mind, and they can then be written off by an amanuensis. In the same way verbatim reports can be received by him from patients. The uses of the new phonograph will, indeed, probably be indefinitely multiplied by individual ingenuity, and by the unfailing fertility of resources of the great inventor. They are now being made in the United States in great quantities, and it will probably not be very long before they are introduced for practical use.

PRIZE ON ALCOHOLIC PATHOLOGICAL MICROSCOPY.

A PRIZE of 100 dollars has been offered on behalf of the American Association for the Cure of Inebriates, by Dr. L. D. Mason, one of the Vice-Presidents, for the best original essay on "The Pathological Lesions of Chronic Alcoholism, capable of Microscopic Demonstration." Along with the essay, the competitors have to send carefully prepared microscopic slides, with accurate drawings or micro-photographs of these. Conclusions which have been founded on experiments with animals will be admissible. The object of the essay will be to demonstrate the facts as to to these two questions: (1) Are there pathological lesions due to chronic alcoholism? (2) Are these lesions peculiar or not to chronic alcoholism? An authentic alcoholic history must accompany each microscopic preparation, complications such as specific disease being excluded. The essays, with slides, drawings, or micro-photographs, are to be forwarded to Dr. W. H. Bates, Chairman of the Prize Committee, 175, Remsen Street, Brooklyn, New York, not later than October 1st, 1890. After adjudication the successful competitor will be asked to read and demonstrate, either personally or by proxy, his essay, at a meeting of the Medical Microscopical Society of Brooklyn. The essay, after publication in the *Journal of Inebriety*, will be the property of the author.

THE BRADSHAW LECTURE.

MR. JONATHAN HUTCHINSON'S lecture published this week is a most earnset plea for the museum as a necessary and efficient factor in medical education and scientific progress. He ingeniously pointed out the advantages which a museum has over a library. Its contents may be speedily inspected; its resources have been made select by skilled curators. In a library there is no such selection, and reference seeking is far more wearisome than specimen hunting. Fortunately for science there is a class of mind eminently adapted for museum work. This mental type includes the fervid and self-sacrificing zeal of the collector, tempered by scientific judgment. Without such tempering a man makes a bad curator, and will turn a museum into an old curiosity shop. Again, without sufficient scientific judgment, the curator is too ready to hunt for rarities only. His duty lies chiefly in demonstrating that which his museum is intended to demonstrate, and it is not meant to be merely a display of rarities. A solitary specimen of a rare disease is often of interest to the specialist rather than of value to the student, and it may even mislead the latter. In the case of common diseases, the curator has the better chance of preparing series which illustrate every stage of each malady, and which show clearly all ordinary variations in type. To maintain an efficient catalogue is another duty of high importance. Mr. Hutchinson dwelt on the self-sacrificing zeal of Aldrovandus and John Hunter, who impoverished themselves by their museums. The lecturer professed great belief in good models and drawings. They illustrate clinical conditions, and are specially serviceable in the case of rare serious diseases. He mentioned, as an illustration of his opinion, how he once saved a nasal encephalocele from being treated as a nævus through knowing the former disease through one photograph only. Drawings are, in fact, often more valuable than specimens in rare cases. There can be little doubt, however, that the medical public do not believe much in casts and sketches; only trained teachers like the lecturer adequately understand the true value of these aids to medical education.

OVERPRESSURE AND UNDERFEEDING.

EVERY winter the same appeals are made to provide food for the starving children in the board and voluntary schools in the poorer districts of London, and perhaps no appeals meet with more ready and liberal support than in the appeal for the South London Schools Dinner Fund. We read last winter that £655 1s. 6d. was

contributed, and the total number of free dinners and breakfasts given to children in South London through the fund and through local agencies is estimated at 456,915 as against 251,613 in the previous winter, and we cannot be surprised at the success of such appeals. No one likes to see a starving child. The straitest member of the Charity Organisation Society feels that the child's want of food is not its own fault, and that it is at least very hard to make it suffer for the fault of its parent. And it is worse still to see the starving children in school. As Mill briefly put it—children cannot be better taught than they are fed. The taxpayers and the ratepayers are spending every year vast sums of money upon education, but most of this, we feel, is wasted, because education is impossible without sufficient food. How many ill-fed children there are in our London schools it is impossible to say. We may refer our readers to the report on Charity and Food, issued by the Charity Organisation Society, which contains both fact and opinions upon the subject. We can safely say that there are large numbers of ill-fed children at school (if we cannot say how many) that the overpressure, of which there was a scare a year or two ago, meant generally underfeeding, and that for the want of food education is, to a great extent, wasted. But the question how the evil is to be dealt with is more important, and one that cannot be solved in a moment. It is easy to scatter money broadcast and give the children food, but is this a scientific form of benevolence? Science, it must be remembered, begins with classification, and before we can draw up rules how the starvation of children should be treated, we must classify the various cases in which the gift of food seems necessary. We shall then see whether each separate class does not need a separate treatment. It seems to us to fall under three heads. First, there are those whose parents are in a chronic state of destitution. These are clearly cases for the poor-law, and no real good is done by merely feeding the children a little better. Next, there are the children whose parents are temporarily unable to feed them properly through no fault of their own. Clearly in these cases there is room for charitable aid, but it may well be argued that even in these cases it would be better to give the aid direct to the parents rather than to take their children's feeding off their hands. In such cases, too, it is not the children only who need to be fed, nor is food the only thing they need, and it scarcely seems necessary, or even advisable, to provide special organisations for the giving of free dinners. Lastly, there is the most difficult class of all to deal with, the innocent children of negligent, improvident, or dissolute parents. Are we to encourage such parents by feeding their children for them, or must we allow the sins of the parents to be visited upon the children rather than run the risk of permanently demoralising large numbers of the population by the offer of free meals to their children? We lay these considerations before our readers with the opinion that, however we may think it right to deal with this last class of cases, the above classification must reduce the number to which free dinners shall be given, and that great care is in every case necessary in order to prevent our doing as much harm in one way as we are doing good in another.

THE WHITECHAPEL MURDERS.

An eminent surgeon writes to us: The crimes which have lately been committed in Whitechapel have given rise to many theories and speculations, prompted rather by a desire to account for them—that is to say, to find some motive for them—than by any knowledge of the subject. Most of those who have written to medical or daily papers have treated these occurrences, as though they were unprecedented in the annals of crime. Therefore, however revolting be the subject, it seems desirable to point out that such is by no means the case; but that a certain horrible perversion of the sexual instinct is the one motive and cause of such apparently aimless acts, and that the criminal is neither insane nor prompted by pseudo-religious rancour against an unfortunate class of women. The most exhaustive and judicial treatise on this subject[1] divides this form of neurosis into three divisions: local, spinal, and cerebral; but the individual may be affected simultaneously by more than one of these forms. The cerebral neuroses fall naturally into four subclasses: 1. Paradoxia, that is, untimely desire (in regard to age). 2. Anæsthesia, absence. 3. Hyperæsthesia, excess, 4. Paræsthesia, perversion of desire; among these last are cruelty and murder. He says (omitting certain parts): "These cerebral anomalies lie in the province of psycho-pathology. They occur, as a rule, in persons mentally sound, in a variety of combinations, and in them originate many sexual misdemeanours. They are worthy of study by the medical jurist, because they so frequently produce perverse and even criminal acts." Krafft-Ebing then goes on to give, in sufficient detail, accounts of five trials with conviction for the murder of women (sometimes of children) and mutilation of their bodies, and he refers to three other such convictions, naming the authorities.[2] Of these criminals, one, Verzenteli, condemned in January, 1872, had murdered and mutilated three women, and had attacked five others with murderous intent. The escape of his last victim led to his detection. One of Lombroso's cases is a certain Gruyo, who thus slew and mutilated five women, and was discovered on the murder of a sixth after ten years of immunity. Several of the condemned persons confessed the disgusting motive of the crime, and not one of them was found to be insane. These acts are not committed by women (save in one exceptional case), nor is it likely that any woman would have the nerve, bodily strength, and audacity to carry out two murders, at an interval of only a few minutes, as was done in October.

BUYING A PRACTICE.

To buy a practice or a succession to a practice is not always, as is well known, a proceeding free from subsequent cares and anxieties; and a writer in the *Concours Médical*—a medical journal which is the organ of an association of 3,000 medical men—gives an amusing, but of course slightly fabulous, account of the typical troubles which he incurred in purchasing a succession of a certain Nicolet. To buy a succession to a practice, he observes, is like marrying a widow, and the patients are always making comparisons with the dear defunct. On entering on his new career, he found that old Nicolet became quite a legendary character, whose innumerable excellencies were incessantly vaunted by way of disagreeable comparison with the supposed defects of the successor. If he had to treat a typhoid or gouty patient, and adopted an expectant policy, he was told: "Ah! ah! old Nicolet was a man of energy; he knew how to cut the disease short, and with him it was only an affair of a few days." If he declined to interfere actively, when he thought active treatment useless or dangerous he was told that when the old man was afraid that the disease would become serious, he had no two ways of handling it. "The patient must be cured," he used to say, "or the disease must give the reason why." "He did not fool about. He went straight to the point, and played double or quits." When the bills were sent in, he would be told: "Ah! Nicolet was not a mercenary man; he never bargained about his services. He made the rich pay, but never asked anything of poor people, and many a time he helped them out of his own pocket." "Nevertheless," they would add by way of encouragement, "he grew rich." If, when sum-

[1] *Psychopathia Sexualis*: Eine Klinisch-Forensische Studie. Von Krafft-Ebing. Stuttgart, 1886.

[2] Feuerbach one case. *Aktmässigeen Darstellung Merkwürdiger Verbrechen*, and two from Lombroso, in Gottdammer's *Archiv*. (vol. 30. One of Ebing's cases occurred in England, a young man who killed a little girl in a cornfield, but two other English cases might have been added.

moned to some chronic case, he took time to swallow a cup of tea or to tie a cravat, he would be told: "Whenever Nicolet was sent for he came at once; his carriage was harnessed night and day," and so on through a long column of complaints. "Nicolet," he would be told, "would sit down and take a meal with the poorest of his patients." When at last he ventured to observe that "Was not old Nicolet rather given to drinking?" the answer was: "O! yes, but when he had not been drinking, what a man he was!" So that, neither in his defects nor in his merits could the unhappy successor hope to rival the defunct practitioner to whose practice he had incautiously succeeded. The story is amusingly told, and is not without a moral, which every-day experience frequently points.

MEDICAL READING ASSOCIATIONS.

THE Universities of Oxford and Cambridge have done good work for higher education in establishing courses of lectures in the principal towns of England. In order to further such work and make it more thorough and complete, they have now made arrangements for the formation of reading circles, or associations for the pursuit of a definite study, under the guidance of a selected leader. There is a great advantage in encouraging young men to study and read for themselves after their academic course is finished. Post-graduate courses of lectures may partially supply this want in large towns where medical schools exist, but, after all, lectures do not necessarily inculcate the habit of reading and private study which are so essential to continued mental growth and advancement of professional knowledge. Most of our young medical men, after qualifying, pass away to provincial towns or country districts to discharge professional duties, and it is to be feared that too often many cease to make further acquaintance with the scientific literature of our profession through the want of encouragement and guidance in systematic reading. Post-graduate lectures have been very useful, and it might be possible to establish a medical reading association, in each of which some experienced physician or surgeon would undertake to suggest to inquirers a course of reading such as could be profitably undertaken for general advancement or for obtaining special knowledge in certain directions. The young practitioner engaged in working up a practice has necessarily much spare time upon his hands, which he might wisely employ in gaining a knowledge of medical literature: but, though he may have a desire for self-improvement, it does not follow that he knows what books to obtain, what parts of them to read, or how best to gain special knowledge on such subjects as bacteriology, diseases of the ovaries, or mental diseases. Advice and encouragement in such matters would often be thankfully received, and books could be obtained from a medical circulating library. Such a plan might also have the additional advantage of directing attention to some of the best works of the older masters. In connection with such reading associations, arrangements might be made for the interchange of microscopical specimens illustrating the subjects suggested for their reading. It would be well worth while to give a trial to any feasible plan for prolonging the period of study of young and less occupied practitioners desiring to gain more knowledge from books as well as experience from practice.

THE CONSULTING-ROOM "SNEAK."

THE consulting-room "sneak" is as familiar to the medical profession as is the area "sneak" to the outer world. A fine specimen was committed for trial by Mr. Shiel at Southwark Police Court last week. He was a man (aged 26) who was in the habit of going to the houses of well-known consultants and practitioners and, pretending that a female relative was ill, would ask for note-paper, so that he might write a short account of the imaginary patient in the waiting-room. The servant leaving him alone for awhile, he forthwith proceeded to snap up unconsidered trifles. At length he was arrested for stealing a salver, which he observed, on his arrest, "was only plated," and he thought it hard that he should be arrested for purloining so trumpery an article. Twenty other charges were stated to have been preferred against him, and the police found sixteen pawntickets in the prisoner's possession, all relating to goods stolen from medical men. John Jackson, for such was the name of this redistributer of property, in some cases contented himself with stealing visiting-cards, which he profitably employed as media of introduction elsewhere, a favourite device of genteel cadgers. Housemaids, and even footmen, are especially ready to be disarmed of any feeling of distrust when a visitor produces a card bearing an aristocratic or quasi-military name. The consulting-room sneak is more dangerous than the medical beggar, who, at least, faces the doctor on whom he calls, and touchingly reminds him how "we were students together," and how all old "Barts" men or Guy's men or fellow-students of the whatever medical school his host was educated at, always help each other at the hour of need. Both forms of criminal are far from rare.

THE QUANTITATIVE ESTIMATION OF URIC ACID.

THE method of estimating uric acid in urine devised by Dr. J. Berry Haycraft, and described by him in the JOURNAL for December 5th, 1885, has been carefully tested by Dr. August Herrmann, who has reported very favourably in Hoppe Seyler's *Zeitschrift* (B. xii, H. 6). The method is based on the fact that nitrate of silver is very insoluble in water and ammonia; the urine is first treated with bicarbonate of soda, is then rendered alkaline, and ammoniacal solution of silver is added; the precipitated silver urate is collected on an asbestos filter, and washed: it is then treated with nitric acid, by which it is dissolved, and in the filtrate thus obtained the silver is estimated by Volhard's method; from the amount of silver found, the amount of uric acid can be calculated. Dr. Herrmann modified the method slightly; he used a large quantity of urine, and added magnesia in addition to bicarbonate of soda; he treated the wash-water with hydrochloric acid, instead of a solution of common salt. He compared Dr. Haycraft's method with Ludwig's; in the former, two analyses gave the same result; in the latter there was a difference of + or − 0.00038 grain; in the former the results were somewhat higher, on an average 0.0029 per cent., probably due to a precipitation of xanthin by the silver. The constant error in both is − 2 per cent. estimated by using pure uric acid. Dr. Herrmann found that the presence of sugar and of albumen interfere very slightly with Dr. Haycraft's process, and need not be separated before estimation. He concludes by observing that though Dr. Haycraft's method gives, as compared with Ludwig's, too high a result, yet for comparative and clinical purposes, where a knowledge of the variation in the amount of urea present is sought, it is to be preferred on account of its practicability and the short time required for its performance. In the same number of the *Zeitschrift*, Dr. Czapek recommends a much simpler method; a measured quantity of the silver solution is mixed with a measured quantity of urine, filtered, and the amount of silver in the filtrate estimated by titration with potassium sulphide; this method, though simple, has the damning drawback of being very far from accurate, the average error being 10 to 15 per cent.

TARTAR EMETIC AND THE "PHARMACOPŒIA."

TARTAR emetic was the subject of an animated discussion at a recent meeting of the Pharmaceutical Society, following the reading of a paper by Professor Dunstan and Miss Boole. The author commenced by criticising somewhat severely the *Pharmacopœia* process for the estimation of this salt on the ground that when the solution is treated with sulphuretted hydrogen, unless

previously acidified, some oxy-salt of antimony is invariably carried down with the sulphide, as well as free sulphur, giving rise to an error that it is intensified by the persistent adhesion of water to the precipitate when dried under ordinary conditions. In addition, it was pointed out that the weight of washed and dried precipitate specified in the *Pharmacopœia* as required from 29 grains is in excess of the weight of sulphide of antimony obtainable from that quantity of tartar emetic. The authors turned their attention to a volumetric process for the estimation of tartar emetic, dependent upon the decolorisation by it of a solution of iodine, as proposed by Mohr. Very varying results were at first obtained with this process, but it was found that if sodium bicarbonate of sodium be added to the tartar emetic solution immediately before titrating with the iodine solution, the reaction is definite and reliable. The authors, therefore, suggest the substitution of this test for the purity of tartar emetic in the place of the one at present official. Another test mentioned depends on the action of tartar emetic on polarised light, which it rotates strongly to the right, whilst other commonly occurring tartrates are much less active, and the double oxalate of antimony and potassium is optically inactive. The examination of twelve commercial specimens of tartar emetic by the volumetric process gave fairly satisfactory results, the equivalents of the indications varying from 102.3 to 94.7 per cent. of pure salt. The indications of excess were attributed to efflorescence of the respective specimens, and those of deficiency were thought to be probably due to decomposition. In consequence of this tendency of the crystalline salt to effloresce, the authors recommend that it should be replaced in the official work by the anhydrous salt, which can be readily obtained as a constant white powder by precipitating an aqueous solution of tartar emetic with alcohol. The communication was also interesting as representing work that has been done in the new research laboratory of the Pharmaceutical Society.

STERILISED MILK.

From a correspondence in the pages of the *St. Petersburger Medicinische Wochenschrift*, we learn that the practice of sterilising milk is extensively carried out in the Russian capital, not only in the Children's Hospital and some of the larger dairies, but in many private families. Though but recently suggested by the German chemist Soxhlet, whose name is familiar to all analysts through his ingenious apparatus for the extraction of fats, the process is nothing more or less than the common one of sterilising fluids in flasks by heating them in a water bath to boiling and hermetically closing their mouths while their contents are in a state of ebullition. There has been much discussion both in the papers and in the Medical Society as to the respective advantages of the flasks advocated by Dr. Gräbner and the ordinary bottles which Dr. Martenson has adopted after a trial of several special forms. Bottles, he very reasonably urges, are always at hand; they are less easily upset, and less fragile than the flasks commonly used in laboratories, while flasks of thicker glass are as liable to break if the heat be applied too quickly. The best method of closing the flasks or bottles has also been a matter of debate; Dr. Westphalen, of the Children's Hospital, rejects india-rubber stoppers as unnecessary, and Dr. Martenson agrees with him; but corks are certainly hard to maintain in an aseptic condition. We should be inclined to recommend the new patent spring stopper which has recently been largely employed by wholesale druggists as perfectly air-tight and cleanly, and at the same time more easily removed than glass stoppers, which are apt to be firmly retained by atmospheric pressure over a partial vacuum. For the rest, a water bath, with suitable arrangements for heating and a rack or frame for keeping the bottles in position, are all that are required. In the presence of foot-and-mouth disease, which, as Johne has shown, may be communicated as such to man, and has led, more often perhaps than is known, to epidemics, as it were, of low and even fatal pneumonia, with herpetic or eczematous eruptions among infants, and indeed in all cases in which the milk is not above suspicion, simple boiling is all that is required to exclude the chance of infection; but in the closure of the bottles while boiling, the subsequent access of aërial germs is prevented, and the milk remains perfectly fresh and unaltered for two or three weeks. Such sterilised milk might be supplied by the dairy companies in pint, quart, or gallon bottles with spring stoppers for use in nurseries, and on board passenger steamships and yachts, where it would be preferred to condensed milk by most persons.

THE RELATIVE COST OF EDUCATION AND EXAMINATION.

The purposes of examination of students during their curriculum of medical studies, and previous to the granting of a registrable diploma, are of secondary importance to the years of education and professional training which precede. The process of education occupies at least four years; it necessitates a well-appointed college, with its lecture-rooms, dissecting-room, museum, and laboratories, and, above all, an intelligent and hard-working staff of lecturers and demonstrators. Such machinery cannot be established without capital and revenue for the necessary heavy working expenses and remuneration for the staff. Many improvements are still required in most medical schools, and the teaching power needs constant augmentation as new demands are made upon students by the examining bodies. This question of the cost of education is important. In most cases it is quite unsupported by endowment, and is entirely dependent upon the fees paid by students. Attempts have been made in some schools to raise the entrance fees to meet the ever-increasing demands upon the teaching; but even where this has been done the higher fee has not always been adhered to, but, we are informed, a smaller fee may sometimes be accepted on entrance by way of charity or as a matter of policy. In fact, we occasionally hear of something like a competition for students in this matter. The composition fee payable in the London schools on entrance is £100, or thereabouts. The fee payable under the conjoint scheme of the Royal Colleges is £36 15s., in addition to which the candidate who has qualified and obtained his diploma must register, at the cost of an additional £5; so that the father of the lad pays £41 15s. for him before he is licensed to practise. It is thus obvious that there is a great disparity between the sums paid for examination and education, though there is no question where the greatest amount of personal labour and expense is incurred. This inequality arises from the relative positions of conjoint colleges and the schools, the latter being dissociated and open to competition for students, while the colleges are practically without competitors, except the Society of Apothecaries, which grants a completely qualifying diploma for £10. It would be well that the medical schools—the real educators of the profession—should look carefully to the relative cost of examination and education.

SCOTLAND.

Sir Morell Mackenzie lectured before the members of the Philosophical Institution, Edinburgh, on Tuesday. The subject of the lecture was "Speech and Song." On Wednesday evening Sir Morell delivered a lecture on "The Relation of General Culture to Professional Success," to the students of Edinburgh University, who presented him with a highly-complimentary address. Professor A. Campbell Fraser occupied the chair.

ST. ANDREWS UNIVERSITY COUNCIL.

THE half-yearly meeting of the General Council of the University of St. Andrews was held on November 30th, Principal Donaldson presiding. The chief business was a motion by Dr. Crombie to forward a memorial to the Secretary for Scotland, to the Lord Advocate and to Mr. W. H. Smith, expressing their earnest desire that the University Bill now before Parliament shall be passed into law during the current session. This was seconded by Dr. Cæsar, and agreed to. Professor Scott Lang referred to the inadequacy of the money grant from the Treasury to the Universities, but Professor Mitchell and Principal Cunningham deprecated the discussion of the money grant, as they thought they must now accept the Bill very much as it stood.

GLASGOW UNIVERSITY EXTENSION.

THE details of the arrangements for the courses of evening lectures at the University have now been published. Professor Grant began a course on "Planets, Comets, and Meteorites" on December 6th. Professor Cleland begins one on "The Principles of Structure of Vertebrate Animals." on January 7th, 1889. Mr. Smart begins one on "Political Economy" on January 18th. All the courses extend to twelve lectures. The hour of lecture is 8 P.M., and the lectures are open to both sexes. The present arrangements are tentative, but it is the expectation of the Board for the Extension of University Teaching that courses of lectures, followed by special tutorial instruction, will be carried out next winter. Special arrangements will be made this winter for the examination of any attending the lectures of the present session who may desire the certificate of the Board. The tickets for each course are 10s. 6d., the first lecture in each case being free.

ST. MUNGO'S COLLEGE, GLASGOW.

FOLLOWING the example of Queen Margaret College and Anderson's College Medical School, the promoters of St. Mungo's College have applied to the Board of Trade, under the Companies Act, 1867, for a licence directing an Association about to be formed under the name of St. Mungo's College to be registered with limited liability. The principal objects of the Association are stated to be: to institute and maintain in the eastern end of Glasgow classes for higher education; to absorb the Royal Infirmary School of Medicine as a part of the new College; to teach students in science, literature, art, and learning of every description; to establish laboratories, museums, and libraries; to support or assist any similar institution, and to amalgamate, either wholly or partially, with any similar society or institution, or to become affiliated with any Scottish university.

FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW.

THE annual dinner of the Fellows of the Faculty of Physicians and Surgeons took place in the Faculty Hall on November 30th. The President, Dr. James Morton, LL.D., occupied the chair, and the visitor, Dr. Alexander Robertson, acted as croupier. Among the guests were Dr. Peel Ritchie, President of the Royal College of Physicians, Edinburgh; Mr. Joseph Bell, President of the Royal College of Surgeons, Edinburgh; Mr. Russell, editor of the *Glasgow Herald*; Dr. Scott, Rutherglen; and Surgeon-Major Brodie Glasgow. About sixty Fellows were present, among them being Professor Gairdner, President of the British Medical Association.

NEW BACTERIOLOGICAL LABORATORY IN EDINBURGH.

THE latest announcement in connection with the practical side of the Edinburgh Medical School is the establishment of a special bacteriological laboratory at 4, Lindsay Place. The premises are in close proximity to the Infirmary, the University, and the several other buildings which, clustered round a common centre, go to constitute the Edinburgh Medical School. The laboratory is under the conduct of Dr. Woodhead and Mr. Edington, M.B. The prospectus indicates that the practical courses, which are to be commenced early next year, will include thorough training in all the recognised departments of bacteriological investigations. The institution can hardly fail to prove a great success, and the projectors are to be congratulated on their undertaking. It is only to be regretted, our Edinburgh correspondent adds, that the University should not have occupied the position earlier, so that so important an advance might have been a natural development within her walls. As indicated by Professor Butcher, this appears to be the only likely way whereby the University may expect to maintain her prestige in the face of extra-mural competition. She must be in the van of progress, and willing to recognise the necessity for extension and fuller distribution of special branches. There are departments of anatomy, chemistry, physiology, and pharmacology, which might similarly, with advantage, be entrusted to thoroughly trained graduates of the University, who would devote themselves specially to the work. No university can afford, in the present age, to rest content with the laurels of the past.

IRELAND.

THE CONJOINT EXAMINATIONS.

A NUMBER of candidates who were rejected at the recent examinations have been allowed to proceed with their studies during the winter session, as if they had passed, but they must present themselves in 1889 for the examination in which they have just failed. The committee will reconsider the existing scheme of examination, and it is certain that several necessary modifications will be made.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE Irish quarterly meeting of this Association was held in the King and Queen's College of Physicians, Dublin, on Thursday, November 29th. In the absence of Dr. Clouston, President of the Association, the chair was taken by Dr. Eustace. Other members present were Dr. Garner, Dr. Finnegan, Dr. Ringrose Atkins, Dr. Ashe, Dr. Patton, Dr. Maziere Courtenay, Dr. Drapes, Dr. Nolan, Dr. Molony, Dr. Thornley Stoker, Dr. Hethrington, and Dr. Conolly Norman, secretary for Ireland. Dr. Drapes read a paper on "Psychology in Ireland," in which he dwelt at some length on the various causes which retarded the progress of this branch of science in Ireland. In the discussion which followed, Drs. Eustace, Hethrington, Patton, Finnegan, Courtenay, and Atkins took part. It was resolved, on the motion of Dr. Finnegan, that at least one meeting in each year should be held at some asylum in Ireland, with a view to rendering the work of the Association more practical. Dr. Maziere Courtenay read a paper on "A Case of Foreign Body in the Œsophagus," which was discussed by Drs. Thornley Stoker, Ashe, and Atkins. Dr. Nolan read a paper on "*Folie à Deux*," which was discussed by Drs. Drapes, Finnegan, Eustace, and Ashe. Dr. Connolly Norman read a paper on 'Sulphonal," which was discussed by Drs. Drapes, Thornley Stoker, and Atkins. Dr. Drapes read a paper on "Hyoscin in Insanity." The members of the Association subsequently dined together at Jury's Hotel, College Green. Among the guests were Dr. Atthill, President of the King and Queen's College of Physicians, and Dr. Nugent, Commissioner of Control of Lunatic Asylums.

THE subscriptions to the Manchester Hospital Sunday Fund reach a total of £4,559; that of the Hospital Saturday Fund £3,432. The total sum raised this year has been £8,019, against £7,770 for 1877.

THE SANITARY CONDITION OF ROTHERHITHE.

THE Government inquiry into the sanitary condition of this parish concluded last week, and the Commissioners, Messrs. Cubitt Nichols and Shirley Murphy, are now in a position to report upon the whole case, and to suggest the remedies they consider best suited for the parish. Three other London parishes, namely, Clerkenwell, Mile End, and Bethnal Green, have been previously subjected to official investigation, and in each case the inquiry has been instigated by the Mansion House Council on the Dwellings of the People, a very earnest and militant body, which has taken upon itself to endeavour to enforce, in the case of the metropolis, the recommendations of the Royal Commission on the Housing of the Working Classes, which otherwise would have met the general fate which overtakes the recommendations of all Royal Commissions. It is possible that the Rotherhithe inquiry will be the last of the series, for the anomalous position of the London vestries, which has rendered them practically free from all control, will disappear as soon as the County Council for London is elected. It was this want of control and supervision which rendered the inquiries already held so necessary. Public opinion has proved stronger than the vested rights of inactivity, supposed to be the common property of so many London vestries, and results of quite an astonishing nature have followed the revelations made at these inquiries, and the insight into what might be accomplished by a little well-directed effort. It will, we think, in a few years be a subject of wonder that for thirty-three years the metropolitan vestries and district boards, each in its own way, were allowed to pursue their own courses, free from any statutory control either by the higher elective body, the Metropolitan Board of Works, or by the Local Government Board, and only nominally under the Home Office, which has no inclination to add to its functions in this way, and no officers to do it, even if it had the desire.

If the County Council of London forms a proper conception of its duties, it will endeavour to harmonise and to bring into unison the work of the district sanitary authorities, and for this purpose it might with advantage establish a staff of officers whose work would be similar to that performed throughout the country by the inspectors of the Local Government Board.

The result of the Rotherhithe inquiry again brings to light what is already so well known. The sanitary enactments, though confused and complicated, contain ample powers for the enforcement of a satisfactory sanitary condition in every parish. There is no want of power, but there is the want of will to set the power in motion, and the excuse offered for the neglect to exercise the power is chiefly ascribed to the poverty of the parish, and the burden that would result to the ratepayers. Equalisation of rates throughout the metropolis is a pressing necessity, but, in the meantime, it cannot be too strongly impressed upon sanitary authorities that money spent in sanitary improvements is money well laid out, with a certain return in the improved health and wage-earning powers of the inhabitants. In Rotherhithe, as in so many other parishes, no proceedings have ever been taken under Torrens's Act. The demolition of dilapidated and insanitary property is thought to entail great hardships on the owners. Generally there is some idea of waiting until the leases fall in, and the property reverts to the ground landlord, who may or may not be willing to demolish and rebuild. In attacking this great question, London may well imitate the example of Glasgow, which has wisely determined that the only course is to sweep away the human pigstyes, and to replace them by properly constructed dwellings. When all such places are destroyed, the former occupiers must improve their habits sufficiently to be accepted as tenants for the improved dwellings, or they must leave the city and go elsewhere. This may seem a hardship, but it is the only plan which can effect a radical cure.

There is often a disposition in these inquiries to adduce the evidence of death-rates as tests of the health and sanitary surroundings of the population, and to narrow the question down to one of death-rates. Although such evidence should always be forthcoming, it is, in our opinion, not desirable to attach too much importance to it. In the first place, the populations on which death-rates are calculated are, so far from the census year, often wrongly enumerated, and this may give rise to a very considerable error. In the second place, death-rates afford no evidence of those minor diseases and illnesses which are often caused by sanitary defects; and, in the third place, a neglected parish means a population living without the civilising influences of decency and cleanliness, and ripening in its neglect for social crime and disorder. It is not given to everyone to be able to unravel the various causes which act and react upon one another in their production of the social misery in our midst; the sanitary question is one of the problems which bear upon the case, and its elucidation is desired by all social reformers.

Messrs. Cubitt Nichols and Shirley Murphy have shown from their former report on Bethnal Green how well fitted they are to undertake these inquiries, and we await the result of their late careful inquiry into the sanitary condition of Rotherhithe with interest.

THE ANNUAL MEETING AT LEEDS.

IN addition to the particulars which are given elsewhere of the arrangements for the forthcoming annual meeting at Leeds, it should be noted that Leeds is fortunate in being well provided with public buildings, affording ample space for reception rooms and offices, Council rooms, etc., and a good hall for general meetings and addresses. There is the new School of Science, which is in course of erection in connection with the Mechanics' Institute, also a large and commodious structure for the Higher Grade Schools—premises which, it is probable, may be utilised, and where sectional and other meetings may be held, if not under one roof, at all events in contiguous premises, within easy distance of the stations and upon the line of the tram routes. There is every reason to expect that the museum, which usually constitutes an interesting feature in connection with the annual meetings of the Association, will be extensive and complete. It was at the former meeting at Leeds that the annual museum was first organised on a satisfactory scale, at the suggestion of Mr. Jonathan Hutchinson.

Among the institutions of Leeds, the doors of which will be thrown open to visitors, may be mentioned:

The Yorkshire College, which is now affiliated to the Victoria University, is a large and handsome structure, which, however, is hardly adapted for the meetings of the Association. With its rapidly-increasing entries, the College will ere long have to be considerably extended. It will be an object of interest during the meeting, and the Council hope to extend their welcome to the Association in a more substantial way. The work of the medical department is at present carried on in the School of Medicine, which, built more than twenty years ago, is now quite inadequate for the large increase in the number of our students. A site has been recently secured close to the infirmary, upon which the erection of extensive premises will shortly be commenced.

The Infirmary, built from designs by the late Sir Gilbert Scott' had just been occupied when the Association last met in Leeds in 1869. It is now about to be considerably extended by the addition of new out-patient rooms and wards for special purposes.

The Hospital for Women and Children is gradually extending its special sphere of labour, although it has to content itself with a building which is increasingly unequal to its requirements.

The West Riding Asylum, at Wakefield, is within easy reach of Leeds. The medical director, Mr. Bevan Lewis, hopes to avail himself of the opportunity of receiving visitors to the coming meeting.

A large new County Asylum has been recently opened at Menston, in Wharfedale, which combines all the latest resources for the treatment of its inmates.

The Philosophical Hall, with its Natural History Museum, etc., a new Fine Art Gallery recently opened, also form features of interest.

Leeds lies in the midst of lovely surroundings. The magnificent public park of Roundhay is just outside the town, while Kirkstall Abbey, Adel Church, Temple Newsam, Harewood, and Farnley are all easily accessible. The proximity of Ilkley, Bolton Abbey, and Harrogate will give facilities for agreeable excursions, especially for ladies accompanying members of the Association, for whom it is hoped that special arrangements will be made.

The manufactures of Leeds are very varied, some—especially iron and its engineering developments, and the ready-made clothing trade—being carried out on a large scale. It is expected that every opportunity for inspection will be afforded to those interested in special industries.

MEDICAL PROVIDENCE.

It is exceedingly cheering, amidst the constantly repeated appeals from medical men who in earlier days had no organisation to which they could have recourse for provision against sickness, disablement, and accident, to find that the progress of the Medical Sickness, Annuity, and Life Assurance Friendly Society is one of continuous success, that every day the number of its members is growing, and that its financial position, long since fully assured, presents from month to month features of increasing prosperity. Instead of the minimum number of 400, which statisticians had established as the necessary basis to secure stability for the Society, it has received nearly 1,100 proposals, and numbers now about 940 members, whose membership is in full activity, and at the present rate of increase it is not unreasonable to expect the number will before many months be raised to 1,000.

The Society has now to its credit a capital of nearly £28,000, upwards of £3,000 having been added to the credit of the reserve since last June, and £7,000 during the current year. As to the beneficence of its operations, it is sufficient to point out that upwards of £6,000 has been disbursed for sickness pay, and £1,150 for death. The amount paid for sickness has been participated in by over 300 members, out of a membership of 900, showing that one out of every three members is liable to experience disabling sickness in the course of four years, although all have entered in a state of perfect health and for the most part at an early period of life. The inclusion of accident under the term sickness has proved especially valuable to members, one member who met with a serious accident shortly after joining received £109 4s. during the first year's membership; and the liability of members of the medical profession, especially those practising in country districts, to accident has been brought out in a very remarkable manner in the operations of the fund. The evidence of this is furnished by the fact that quite recently three serious accidents occurred to members in the course of one week, for which the fund made due and adequate provision of payment.

In addition to the provision against sickness, the quarterly payments are calculated to include a fixed annuity from a given age, and arrangements are also made by which a return is made where desired on account of the premium paid for annuity if death should occur before the age at which such annuity would come into operation. Of this latter provision, which has recently been added, a considerable number have availed themselves. Insurances on a favourable basis are also effected for payment up to £200 at death.

The economy of management remains unparalleled in the history of insurance funds, the official expenditure being reduced to an absolute minimum, the manager acting without fee, and a large amount of honorary services being given. The amount set aside by the actuary for the expenses of management was fixed at the extremely low rate of 10 per cent. of the premium income; actually, however, they have been less than 4 per cent. The result of this economy in management has been a gain to the funds of the Society of over £2,000 during its comparatively short period of existence, which sum has been invested and placed to the credit of the members. The increase of reserve from year to year has been most satisfactory. The amount of reserve on June 30th, 1885, was £6,433 0s. 10d.; June 30th, 1886, £11,330 7s. 6d.; June 30th, 1887, £17,645 3s.; June 30th, 1888, £24,694 17s. 9d. All the funds of the Society are invested in sound securities in the names of the honorary trustees—Sir Spencer Wells, Dr. W. M. Ord, Mr. Ernest Hart, and Mr. J. R. Upton (Solicitor to the British Medical Association). The interest earned on these investments shows an average of 3¾ per cent., while the basis on which the tables were calculated assumes a rate only of 3 per cent. From this source an additional profit has accrued to the funds and security to the members.

The Society is wholly mutual. There is no share capital calling for dividends. There are no payments to directors or agents, no commissions are allowed, and thus considerable savings are effected which become entirely the property of the members.

Prospectuses, tables, and full particulars can be obtained on application to Mr. C. J. Radley, 26, Wynne Road, Brixton, S.W.

The French Home Minister has presented a sum of 8,000 francs (£320) to the Academy of Medicine, for the encouragement of animal vaccination.

THE LATHAM FUND.

The late Dr. R. G. Latham, F.R.S., who, before he achieved distinction as a comparative philologist and ethnologist, was Assistant Physician to the Middlesex Hospital, and Lecturer on Materia Medica and Forensic Medicine in that School, was in the enjoyment of a pension of £100. The pressure upon the slender fund at the disposal of the First Lord of the Treasury has been so great that, for the time being at least, he has found it impossible to continue the pension to Dr. Latham's widow, who, at 70 years of age, is left with an invalid daughter and totally unprovided for. A subscription, therefore, is opened for her benefit, and those who feel moved to respond to it are invited to send their contributions to "The Latham Fund" at the London and County Bank, Putney Branch, or to the treasurer, Mr. W. J. Lancaster, Garryowen, Putney Hill, S.W.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS FOR 1889. ELECTION OF MEMBERS.

Meetings of the Council will be held on January 16th, April 17th, July 10th, and October 16th, 1889. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 27th, 1888, March 28th, June 20th, and September 26th, 1889.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council.*

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

Francis Fowke, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

Reports upon the two remaining inquiries, namely, that into Diphtheria, and that into the Geographical Distribution of certain Diseases, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the Etiology of Phthisis.

A fresh inquiry into the Origin and Mode of Propagation of Epidemics of Diphtheria has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

South-Eastern Branch: West Kent District.—A meeting of the above District will be held at the West Kent Hospital, Maidstone, on Thursday, December 13th, at 3.30 P.M., Dr. Shaw in the chair. The dinner will take place at the Star Hotel at 6 P.M.; charge 6s. 6d., exclusive of wine. To facilitate the arrangements, gentlemen who intend to dine are particularly requested to signify their intention to the Chairman, Dr. Shaw, Tunbridge Road, Maidstone, not later than December 11th. All members of the South-Eastern Branch are entitled to attend this meeting and to introduce friends. Papers already promised:—Dr. Boyce: A case of Acute Lepto-meningitis Spinalis. Dr. Muirhead: The General Practitioner in his Relations with Mental Disease. Dr. Whithingdale: A case of Eclampsia occurring during Pregnancy; Induction of Premature Labour; Recovery.—A. W. Nankivell, Honorary Secretary of the District, St. Bartholomew's Hospital, Chatham.

Bath and Bristol Branch.—The second ordinary meeting of the session will be held at the Grand Pump Room Hotel, Bath, on Thursday evening, December 13th, at 7.30; J. Hinton, M.R.C.S.Eng., President. The following communications are expected:—1. Four Cases of Brain Surgery—Trephining; two patients will be shown: H. W. Freeman, F.R.C.S.I. 2. A few Remarks on Bath and her Mineral Waters: S. Craddock, M.R.C.S.Eng. 3. Case of Acute Intestinal Obstruction; Laparotomy; Removal of Gall-stone: F. King Green, F.R.C.S.Eng.—R. J. H. Scott, E. Markham Skerritt, Honorary Secretaries, Bath.

BORDER COUNTIES BRANCH.—The winter meeting of this Branch will be held at the County Hotel, Carlisle, on Thursday, December 20th, at 3.30 P.M. By request of the Council, Professor Chiene, of Edinburgh, will introduce a discussion, the subject selected being "Suppuration: its Causes and Treatment." Notices of papers for reading should be sent to the Honorary Secretary, H. A. LEDIARD, 41, Lowther Street, Carlisle.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.—The next meeting will be held in the Town Hall, Walthamstow, on Thursday, January 19th, at 8.45 P.M. A paper on Diphtheria, with special reference to Treatment, will be read by A. Ernest Sansom, M.D.—J. W. HUNT, Honorary Secretary, 101, Queen's Road, Dalston.

MALTA AND MEDITERRANEAN BRANCH.

THE first annual general meeting of the Branch was held in the Library of the Valletta Station Hospital, at 2.30 P.M., on November 19th; Deputy Inspector-General A. B. MESSER, R.N., Vice-President, occupied the chair, and fifteen other members were present.

New Members.—The election of Staff-Surgeon Crocker, R.N., and of Surgeon Graham E. Kennedy, R.N., already members of the British Medical Association, to be members of the Branch, was proposed, seconded, and carried unanimously.

President's Address.—The address of the President, Surgeon-General SINCLAIR, late P.M.O., was then read on his behalf by Brigade-Surgeon O'DWYER, M.S. An abstract of it will be published in an early number of the JOURNAL.

Vote of Thanks.—A vote of thanks to Surgeon-General Sinclair for his valuable assistance in the formation of the Branch, and for his opening address, was proposed by Surgeon-Major MANCHÉ, seconded by Surgeon-Major RAY, M.S., and carried unanimously.

Alteration in By-Laws.—The alterations to the by-laws of the Branch, recommended by the General Secretary of the Association, were read by one of the Secretaries, and, after discussion, it was agreed that the by-laws be altered accordingly.

Proposed Annual Dinner. Surgeon-Major MANCHÉ proposed that an annual dinner of the members of the Branch should take place. The proposal, which was seconded by the ACTING RESIDENT, was agreed to, and a committee of five members was selected to make the necessary arrangements.

Proposal as to Communications.—Surgeon GIPPS, seconded by Surgeon-Major MANCHÉ, then proposed that none but original papers, not previously published, be allowed to be read at the meetings of the Malta and Mediterranean Branch. Carried with two dissentient votes.

Papers.—A paper on "Two Cases of Aneurysm, by Surgeon-General SINCLAIR, was read by Surgeon-Major MANCHÉ.—Surgeon BRUCE, M.S., read a paper on a case of "Empyema," in which nearly 200 ounces of septic fluid had been removed from the pleural cavity after resection of the left eighth rib. The patient, who was in a dying condition, was then, after three months' treatment, almost cured. The patient, as well as the apparatus for washing out the pleura, was shown at the meeting.

BRITISH MEDICAL ASSOCIATION.

FIFTY-SEVENTH ANNUAL MEETING.

THE fifty-seventh Annual Meeting of the British Medical Association will be held at Leeds, on Tuesday, Wednesday, Thursday, and Friday, July 30th, 31st, August 1st and 2nd, 1889.

President: Professor W. T. Gairdner, M.D., LL.D., Professor of Medicine in the University of Glasgow.

President-elect: C. G. Wheelhouse, F.R.C.S., Consulting-Surgeon, Leeds General Infirmary, Hillary Place, Leeds.

President of the Council: Thomas Bridgwater, M.B., LL.D., Harrow-on-the-Hill.

Treasurer: Constantine Holman, M.D., Reigate.

An Address in Medicine will be delivered by J. Hughlings Jackson, M.D., LL.D, F.R.S., Physician to the London Hospital, and to the National Hospital for Paralysed and Epileptic, Queen Square, W.C.

An Address in Surgery will be delivered by T. Pridgin Teale, M.B., F.R.C.S., F.R.S., Consulting Surgeon to the Leeds General Infirmary, Leeds.

An Address in Psychology will be delivered by Sir J. Crichton Browne, M.D., LL.D., F.R.S., Lord Chancellor's Visitor in Lunacy, London.

A. MEDICINE.—*President*, Thomas Clifford Allbutt, M.D., F.R.S. *Vice-Presidents*, Charles Parsons, M.D.; Robert Saundby, M.D. *Honorary Secretaries*, Alfred George Barrs, M.D., 22, Park Place, Leeds; Theodore Dyke Acland, M.D., 7, Brook Street, Grosvenor Square, W.

B. SURGERY.—*President*, Thomas Richard Jessop, F.R.C.S. *Vice-Presidents*, Edward Atkinson, M.R.C.S.; Arthur F. McGill, F.R.C.S.; Henry Morris, F.R.C.S.; *Honorary Secretaries*, Arthur W. Mayo Robson, F.R.C.S., Hillary Place, Woodhouse Lane, Leeds; Edward Ward, M.B., 22, Park Place, Leeds.

C. OBSTETRIC MEDICINE AND GYNÆCOLOGY.—*President*, Charles J. Cullingworth, M.D. *Vice-Presidents*, James Braithwaite, M.D.; J. W. Byers, M.D. *Honorary Secretaries*, F. Hall, M.D., St. Mark's House, Leeds; Peter Horrocks, M.D., 9, St. Thomas's Street, S.E.

D. PUBLIC MEDICINE.—*President*, John Edwin Eddison, M.D. *Vice-Presidents*, George Goldie, L.R.C.P.Edin.; Shirley F. Murphy, M.R.C.S. *Honorary Secretaries*, George Eastes, M.B., 35, Gloucester Place, Hyde Park, W.; Arthur Stopford Underhill, M.D., Great Bridge, Tipton, Staffs.

E. PSYCHOLOGY.—*President*, Daniel Hack Tuke, F.R.C.P., LL.D. *Vice-Presidents*, W. Bevan Lewis, L.R.C.P.; Ringrose Atkins, M.D. *Honorary Secretaries*, John Greig McDowall, M.D., Menston Asylum, near Leeds; Robert Percy Smith, M.D., Bethlem Royal Hospital, S.E.

F. PATHOLOGY AND PHYSIOLOGY.—*President*, Joseph Coats, M.D. *Vice-Presidents*, Thomas Churton, M.D.; De Burgh Birch, M.D. *Honorary Secretaries*, Ernest Henry Jacob, M.D., 12, Park Street, Leeds; T. Wardrop Griffiths, M.B., 23, Park Square, Leeds.

G. OPHTHALMOLOGY.—*President*, George Anderson Critchett, F.R.C.S.Edin. *Vice-Presidents*, John Albert Nunneley, M.B.; George A. Berry, M.B. *Honorary Secretaries*, Gustavus Hartridge, F.R.C.S., 65, Green Street, Grosvenor Square, W.; R. N. Hartley, M.B., 29, Blenheim Terrace, Leeds.

H. DISEASES OF CHILDREN.—*President*, Thomas Scattergood, M.R.C.S. *Vice-Presidents*, Richard Favell, M.R.C.S.; A. H. Carter, M.D. *Honorary Secretaries*, Walter Henry Brown, M.R.C.S., 19, Queen Street, Leeds; Angel Money, M.D., 24, Harley Street, Cavendish Square, W.

I. LARYNGOLOGY.—*President*, Henry T. Butlin, F.R.C.S., *Vice-Presidents*, Francis de Havilland Hall, M.D.; Richard A. Hayes, M.D. *Honorary Secretaries*, G. M. Macdonald, M.D., 47, Queen Anne Street, Cavendish Square, W.; Barclay J. Baron, M.D., 16, Whiteladies Road, Bristol.

J. OTOLOGY.—*President*, George P. Field, M.R.C.S. *Vice-Presidents*, Frederick Morrish Pierce, M.D.; Henry B. Hewetson, M.R.C.S. *Honorary Secretaries*, Adolph Bronner, M.D., 33, Manor Row, Bradford; G. William Hill, M.B., 27, Cornwall Road, W.

Honorary Local Secretaries, Charles J. Wright, M.R.C.S., Lynton Villa, Virginia Road, Leeds; Charles M. Chadwick, M.D., 3, Park Square, Leeds; G. Herbert Rowe, M.R.C.S., Hillary Place, Leeds.

PROGRAMME OF PROCEEDINGS.

TUESDAY, JULY 30TH, 1889.

9.30 A.M.—Meeting of 1888-89 Council.
11.30 A.M.—First General Meeting. Report of Council. Reports of Committees; and other business.
4 P.M.—Service in Parish Church. Sermon by the Right Rev. the Lord Bishop of Ripon.
8.30 P.M.—Adjourned General Meeting from 11.30 A.M. President's Address.

WEDNESDAY, JULY 31ST, 1889.

9.30 A.M.—Meeting of 1889-90 Council.
10 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Second General Meeting. Address in Medicine by J. Hughlings Jackson, M.D., LL.D., F.R.S.
4.30 to 6 P.M.—Local Entertainment.
8.30 P.M.—Ditto.

THURSDAY, AUGUST 1ST, 1889.

9.30 A.M.—Meeting of the Council.
10 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Third General Meeting. Address in Surgery by T. Pridgin Teale, M.A., F.R.S., F.R.C.S.
4.30 to 6 P.M.—Local Entertainment.
7 P.M.—Public Dinner.

FRIDAY, AUGUST 2ND, 1889.

10.30 A.M. to 1.30 P.M.—Sectional Meetings.
3 P.M.—Concluding General Meeting. Address in Psychology by Sir J. Crichton Browne, M.D., F.R.S.
4.30 to 6 P.M.—Local Entertainments.
8 P.M.—Ditto.

SATURDAY, AUGUST 3RD, 1889.
Excursions.

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

Hysteria from Poisoning by Sulphide of Carbon.

M. P. MARIE reports two cases of hysteria caused by poisoning with sulphide of carbon. The symptoms were identical with those described by MM. Delpech, Bonnet, Auguin, etc., who have studied the symptoms of this form of poisoning, without, however, connecting them in any way with hysteria. The toxic hysteria produced by sulphide of carbon, the disturbance in the general and special sensibility is very marked. In the first case there is hemianæsthesia, or limited anæsthesia (sometimes replaced by hyperæsthesia), which follows a circular line, passing through the root of the limb. In the second case there is anæsthesia of the cornea, diminished sight and field of vision, monocular polyopia, macropia, micropia. The hearing, taste, and smell are impaired. The motor disturbance is constituted by hemiplegia, paraplegia, or by limited paralysis, which attacks a whole limb or portion of one, as in hystero-traumatism. Glosso-labial hemispasmus is very frequent. In three cases reported by M. Delpech there were the convulsive attacks characteristic of hysteria. The symptoms come on gradually, or they may show themselves suddenly by an hysterical apoplectic attack. In a case described by Bonnet, the patient was engaged in cleaning a tub containing sulphide of carbon, when he suddenly felt a burning sensation in the scrotum, and subsequently a feeling as of a blow on the head. He fell to the ground, and remained unconscious for half an hour. The next day, on waking, there were formications in the right arm, which became paralysed in three or four days; the right leg was paralysed a few days later. The disturbance in the genital organs would point to the existence of a veritable hysterical aura. It may be manifested by genital excitability, or by impotence; in women it often shows itself as metrorrhagia. The existence of hysteria produced by this form of poisoning is undeniable, although all the nervous phenomena which are observed cannot be regarded as hysterical. Certain cases of paralysis, for instance, may be regarded as due to peripheral neuritis. The fact that the forms of poisoning which produce peripheral neuritis also produce hysteria would suggest that hysteria may arise from some deterioration in the nerve centres.

BERLIN.

[FROM OUR OWN CORRESPONDENT.]

Emile Dubois-Reymond.—A Case of Sarcoma of the Pancreas: Melanosarcoma of the Liver.—Leontiasis Ossea.

DR. EMILE DUBOIS-REYMOND, the illustrious Professor of Physiology in the University of Berlin, celebrated his 70th birthday on November 7th. He was born in Berlin, his father being a watchmaker from Neufchâtel, who had taken up his residence in the Prussian capital. The future professor was first sent to school at Neufchâtel, returning at the age of 19 in order to study theology. He soon, however, gave up all thought of a clerical career, and began the study of natural science at Bonn in 1838, with geology. It was Johannes Müller, the illustrious anatomist and physiologist at Berlin, who first gave Dubois-Reymond the direction which he has since followed with such brilliant success. He soon became one of Müller's favourite pupils, together with Brucke, who now teaches physiology at Vienna. It was at Müller's suggestion that Dubois-Reymond published in 1843 his first essay, "Über den Sogenannten Froschstrom und die Electromotorischen Fische." This publication was the introduction of his greatest work, *Untersuchungen über die Tierische Electricitat.* On his master's death he became his successor in the Chair of Physiology at Berlin. Dubois-Reymond is not a mere physiologist but a philosopher. Both by his public teaching and his philosophical writings he has greatly contributed to the enlightenment of the upper classes in Germany. He has opposed coarse materialism just as strongly as he has the eccentric idealism of Hegel, Schelling, etc., by his clear explanations of the atomistic and evolutionistic theories, especially those of Darwin. He is also an excellent speaker, uniting the grace of his ancestral French with the vigour and character of his German mother tongue. The annals of the Royal Academy of Science contain many biographical and other essays from his pen, all written in a very pleasing style.

At a recent meeting of the Berlin Verein für Innere Medicin, Professor Litten showed two rare tumours. The first was found in a boy, aged 4, of good constitution, who at first suffered only from diarrhœa. In a few weeks a solid growth appeared, which increased in size so rapidly that the little patient gained 5 kilogrammes in weight, although he became terribly emaciated. Sarcoma of the kidney was diagnosed, but the necropsy showed an enormous primary sarcoma of the pancreas, filling the whole abdominal cavity. Metastases were found in the kidneys, the retroperitoneal lymphatic glands, the intestines, and the mesentery. The case is unique. Its rarity consists in the great size and rapid increasing of the growth. Moreover, the most careful examination of the digestive function during life did not reveal any disorder, although the pancreas must have been degenerated some time before the commencement of the boy's illness. This is the first case of sarcoma of the pancreas ever described. One case of carcinoma has been recorded, but none of sarcoma. The second case was that of a man, aged 41. A tumour of the left choroid had been recognised by Professor Hirschberg at the beginning of 1884. The patient declined to submit to enucleation, which was proposed by Dr. Hirschberg, and soon after metastases were found in the liver. He lived four years and a half longer. It was found by palpation and percussion that the liver was transformed into an enormous tumour, which filled the whole abdominal cavity, displaced the spleen, and descended downward into the lower pelvis. Fluctuation could be felt at many points in the tumour, from which an inky fluid escaped on puncture. This fluid consisted chiefly of pigmented cells of different kinds. The urine was passed clear and of a light yellow colour, but within two hours it became black. Both chromic acid and fuming nitric acid turned it of the same colour. After death an immense tumour of the liver was found; it was very dark in colour, and weighed twice as much as the heaviest yet described—namely 25 lbs. It was ulcerated in many places, and there the above-mentioned black fluid was to be seen. It was a melanosarcoma of the liver, a disease which has become very rare in consequence of the progress of ophthalmology, as tumours of the choroid are now operated on very early, before metastasis has taken place.

A very curious case was shown to the Berlin Medical Society by Professor B. Fränkel. The patient was a girl, aged 12. The father, who is dead, seems to have suffered from syphilis. The child was healthy up to her eighth year, then a boil appeared on the right side of her forehead in consequence of a fall. The swelling remained and became ossified; since then all the bones of the face and the skull have become thickened by hyperostoses. The other bones of the skeleton seem to be normal. Virchow has named this affection "leontiasis ossea," from its analogy with leontiasis of the skin. The etiology is very obscure. It is not probable that the affection is of a syphilitic nature, as the girl has taken 180 grammes of iodide of potassium without the least improvement.

SWITZERLAND.

[FROM OUR OWN CORRESPONDENT.]

Bulimia.

IN the *Correspondenzblatt für Schweizer Aerzte*, October 15th p. 624, Dr. Alex. Peyer publishes an interesting paper on the curious gastric neurosis named "bulimia" (ox-hunger), or "cynorexia" (dog-hunger). There are two forms of the affection—acute and chronic. Acute bulimia is characterised by a sudden and extremely violent onset, the patient and his friends invariably taking the attack for the beginning of some severe, if not hopeless, illness. Within half an hour or an hour, however, the paroxysm passes off, and for ever, or, at all events, to recur only at very long intervals. The chronic form, which is met with far more frequently than the acute, differs from the latter by the presence of various prodromal symptoms. As a rule the first attack is preceded by certain neurasthenic or hysterical symptoms, including extraordinarily frequent craving for food. Once bulimia sets in, the attacks recur once or several times daily, or there is a continuous sensation of insatiable hunger, lasting for days, months, and even years. As to the etiology of the disease, the neurosis may be caused (1) by a prolonged cerebral excitement, as from anxiety, grief, etc.; (2) by general exhaustion of the organism and nervous system, as from prolonged or severe diseases (pneu-

monia, etc.); (3) by hereditary general neurasthenia; (4) by hysteria. In a relatively small proportion of cases no cause whatever can be made out. Possibly in such cases the disease is an essential neurosis of the stomach. But in all other cases bulimia appears to be nothing more than a mere symptom of some morbid state of the nervous system. The treatment must accordingly be directed before all to the primary morbid state. If the latter is general debility or nervous exhaustion, tonic treatment is indicated. If it is due to some affection of the genital system, the latter must be attended to. When no apparent cause can be discovered, Dr. Peyer resorts to the internal use of nervine and tonic remedies—valerian and iron, bromide of sodium, arsenic, nitrate of bismuth, etc. Dr. Guipon recommends a prolonged administration of raw, minced beef. As to the treatment of individual attacks of bulimia, Dr. Peyer obtains excellent results from the administration of strong wine or beer, several glasses being given one after another in rapid succession, at the very beginning of the paroxysm. The author details four cases of the neurosis which occurred in his practice, one of them being a most typical instance of the acute form. In view of the extreme rarity of acute bulimia, the following abstract of the case may be interesting: About Midsummer, 1885, Dr. Peyer was hurriedly fetched to a robust-looking married lady, aged 32, who had suddenly fallen ill when visiting a friend of hers. He found the patient lying in bed, loudly screaming and groaning, and most piteously complaining of "gastric agony," while the lady of the house and her daughter, standing close by, were hastily breaking raw eggs, one after another, to pour their contents into the mouth of the patient, who, trembling with eagerness, incessantly moaned, "Oh, God! one more, one more!" A whole bottle of strong wine sent the patient to sleep. As her friends stated, the lady had been of late suffering from grief and worry in connection with divorce proceedings instituted by her husband. On the day in question she received some legal notice, and came to her friends in the greatest excitement, crying and sobbing. Soon after her arrival she suddenly complained of having "a peculiar spasmodic feeling about the stomach," which was speedily followed by "a most intense, unbearably painful, ever-increasing sensation of insatiable hunger." She swallowed in the course of forty-five minutes three pints of milk and twenty-three eggs. When seen again the next morning by Dr. Peyer she was quite well. No indigestion occurred, nor has she been troubled with any similar attack up to the date (for three years).

GLASGOW.

[FROM OUR OWN CORRESPONDENT.]

Æsthetic Sanitation.—West of Scotland Sanitary Association.—Medical Missionary Society.—Charity Organisation Society.—The Sewage Problem in Glasgow.

THE attention which Dr. J. B. Russell has of late so frequently and vigorously called to the physical conditions of the poor is already bearing fruit. At a recent meeting of the Glasgow Ruskin Society, Mr. Jolly, one of Her Majesty's inspectors of schools, delivered an address on "Natural Law, at once Natural, Moral, and Religious," in which he urged that immediate and energetic action should be taken by the municipal authorities to lay the physical foundation of a permanent reform of these social and moral evils, by securing the requisite sanitary conditions for human habitations. The Kyrle Society, which has been quietly doing good work in bringing "the influences of natural and artistic beauty home to the people," has now, to its sanitary section, added one "to improve the condition of the dwellings of the poorer classes in the city." They propose to obtain from the landlords of low-class dwellings the factorage and control of such houses, with a view to the improvement of the surroundings of the tenants, and securing thorough sanitation, and otherwise making efforts to raise the standard of comfort among that class. They propose to follow in the lines of Miss Octavia Hill, of London, and the Social Union of Edinburgh. There are other indications, also, that Dr. Russell's facts and figures will, in time, issue in other movements indicative of the awakening of the public consciousness to the necessity of a vigorous effort to improve the physical circumstances of the poorest classes of the city.

The West of Scotland Sanitary Association has, during the seven years of its existence in Glasgow, scarcely made the progress it ought to have done in public estimation. It has yet only 354 members on its roll books, an addition of 170 new members during the year, being more than counterbalanced by 173 resignations. A considerable proportion of the new members are resident in localities at some distance from the city, inspections having been made even in the North of Ireland. Many of the resignations are of those who had been members for only one year, having received the benefits of the Association in the inspection of their dwellings for their single subscription of one guinea. If dwellings, once inspected and pronounced sanitarily sound, could be guaranteed to remain so for an indefinite period, this might be considered a smart piece of business, but, considering that a house, in good condition one year, may yet be in a very bad condition the next, or, for that matter, under certain circumstances, within a short time after a satisfactory inspection, it is not so smart as it looks. We fear the Glasgow public needs more knowledge of sanitary science than, according to the experience of the Sanitary Association, they yet possess. When they obtain that, they are likely to display a more lively appreciation of the benefits such an Association can bestow.

At the two dispensaries of the Glasgow Medical Missionary Society, 28,486 persons have received advice during the past year; 1,510 medical visits had been made, and nurses had made 3,981 visits to patients in their homes. During the past two years eleven ladies, who had received instruction at the dispensaries, have gone to the foreign mission field.

The Glasgow Charity Organisation Society has issued the third edition of its *Handbook of Glasgow Charitable and Beneficent Institutions*. It includes no fewer than 305 societies. The need of the work of the society is forcibly shown by the results of some of their operations. Last year they investigated 7,361 cases, of whom 720 were applicants not requiring relief, 1,285 were undeserving, 300 were ineligible or withdrawn, 577 were parish cases, 838 were referred to the benevolence of private persons, 2,672 were referred to charitable institutions and local agencies, and 1,169 were assisted by the society. During the fifteen years of the society's existence 50,000 cases have been similarly dealt with.

The head of the cleansing department in Glasgow has addressed to the Chairman of the Health Committee of the Town Council a report on a tour of inspection made by him to Birmingham, Nottingham, Croydon, Berlin, Paris, and other places, for the purpose of observing the various methods of sewage purification in operation at these places. In 1868 Messrs. Bateman and Bazalgette proposed to convey the sewage in its crude state to the sea on the Ayrshire coast. This simply meant passing over the sewage to another locality and to another authority, who might object. This also was the proposal of Sir John Hawkshaw in 1876. In 1868 the possibility of irrigating the sandy bluffs of the Ayrshire coast by the sewage was also suggested. In 1877 chemical precipitation was suggested. Mr. Young points out that Leicester has abandoned the precipitation system in favour of irrigation, and that Birmingham has supplemented it by irrigation, and that it would be difficult and costly to dispose of the sludge, it being now very doubtful whether its disposition in Loch Long as proposed would be permitted. Mr. Young proposes to deal with Glasgow sewage by intermittent irrigation only, and for that purpose suggest the acquiring of 4,500 acres of land in Strathgryffe, which he thinks would suffice for the disposal of the sewage of the 750,000 of population, something like double that area being available in the strath, so that a sewage farm, not for Glasgow only, but also for Paisley, Johnstone, and Renfrew, might be formed there. He bases his calculations upon the experience of the Birmingham, Tame, and Rea District Drainage Board, and on the experience of Nottingham. He estimates that the total volume of sewage to be dealt with is 45 to 50 million gallons per day. The sewage would be collected at Govan, where the main pumping station would be. From the reservoir the sewage would be forced through cast-iron pipes direct to the farm, through which it could be distributed into open main carriers, or the rising mains could deliver the sewage into a large covered conduit, from which it could be distributed by gravitation. The cost of delivering it would probably be £130,000. The farm could be divided into a series of competitive dairy farms under one head. The green crop most suitable under the special circumstances would be Italian rye grass, one sowing of which lasts two years, and on English sewage farms gives five cuttings in the year, and it is the best crop for silage. Mangolds and swedes and most vegetables could also be grown. Mr. Young estimates that on the farm there would be a total loss annually of £6,075. The total capital outlay he estimates at £1,500,000. Adding the loss on the farm to the annual

charges, he finds that the total provision from rates would require to be £44,375, or rather less than 2½d. per pound on the rental.

CORRESPONDENCE.

THE ARTERIAL ORIGIN OF PILES.

SIR,—I have just finished reading the last edition of Allingham *On the Diseases of the Rectum*, and it astonishes me to find, amongst other things, that he retains his belief in the arterial hæmorrhoid, and that he remains convinced that at times arterial hæmorrhoids occur as perfectly distinct varieties of piles. If Mr. Allingham contends, as he appears to do, that arteries, like veins, become dilated, sacculated, and tortuous, frequently contain thrombi, and sometimes become, through inflammatory changes, reduced to consolidated tumours, I venture to express my decided dissent from his view, and I will, with your permission, briefly state the reasons upon which I do so.

1. In the first place, upon *a priori* grounds, we should not expect to find the arteries of the rectum in a condition of cirsoid dilatation, a condition Mr. Allingham certainly infers to exist. Cirsoid dilatation of arteries is, we know, an exceedingly rare condition to find in any part of the arterial system, and when it does occur the instances are almost invariably met with in the upper half of the body. Cirsoid dilatation of arteries may be said to be as rare below the waist as varicose veins are common, and varicose veins as common in the lower half of the body as they are rare above.

2. In varicocele, and in the familiar varicose condition of the saphenous veins, analogous in every respect to venous hæmorrhoids, we find no corresponding diseased condition of the spermatic artery, or of the arteries correlated with the saphenous veins, notwithstanding that varicocele, varicose veins, and venous hæmorrhoids not infrequently exist in the same subject, and apparently depend upon the same initial cause.

3. Most of the causes which are supposed to induce venous hæmorrhoids would exercise the very reverse effect upon arteries, and yet venous and arterial hæmorrhoids are alleged to exist together, as well as independently, and to be the result of the same cause.

4. If hæmorrhoids were sometimes of arterial origin we should expect occasionally to detect expansile pulsation in some of the tumours. I have examined hundreds of piles with the object of deciding this point, and in every instance I have failed to discover pulsation.

5. For the last ten years I have with persistency operated upon piles by excision, and during that time I have treated considerably upwards of 300 cases without finding an exception to the venous composition of the tumours. The details and nature of the operation admit of no error of observation, as the pile area is fully exposed for inspection, and it is perfectly easy to discriminate, accurately and positively, between the diseased veins and the healthy arteries.

6. Finally, I am strengthened in the opinion I hold by the independent and corroborative testimony of numerous surgeons of unquestionable authority, who have adopted the removal of piles by excision, and who unanimously declare that they have never seen any condition to warrant the assumption that piles are of arterial origin.

The popularity of Mr. Allingham's work, and the influence his views exercise upon the minds of other surgeons, render it, I think, desirable that a question of, at least, some pathological interest should no longer remain in dispute.—I am, etc.,

Manchester, December 3rd. WALTER WHITEHEAD.

SACCHARIN AS A SUBSTITUTE FOR SUGAR.

SIR,—In your issue of November 3rd, you gave prominence to a statement to the effect that coal tar saccharin is injurious to the human system.

The origin of this statement is doubtless traceable to the report issued by the Commission appointed by the Conseil d'Hygiène et de Salubrité de la France to inquire into the properties of saccharin, and also to the remarks made by Dr. Worms at a meeting of the Académie de Médecine in Paris on 10th April last.

I respectfully submit that the above report is objected to by all prominent men of science outside France who have been consulted in the matter, and who indeed express themselves in terms diametrically opposed to those contained in the report: and, further, that the Government of France have not felt themselves impelled to take any action in consequence of the said report.

That the words of Dr. Worms have become magnified and distorted by the French press until they no longer represent what he did say; that this distortion is malicious and is dictated by the fears of the French sugar industry lest sugar should be displaced (see *Le Courrier de Lyon* of 28th August last, in which this charge is unhesitatingly made); that the words of Dr. Worms as uttered are opposed to the views of such authorities as Dr. Pavy, Dr. Stevenson, and others.

I have delayed replying to the charges which have been made against saccharin pending the completion of experiments impartially conducted with a view to test their veracity. Had they been confirmed, I should have discontinued the production or sale of saccharin.

In view, however, of the fact that the highest authorities in the world now deny that saccharin exercises any harmful influence upon the system, I feel that I shall not appeal in vain to your sense of justice in asking you, after perusal of the enclosed pamphlet, to give as great a publicity to the contradiction as you have done to the assertion that saccharin acts injuriously upon the human system.—Yours, etc., DR. CONST. FAHLBERG,

Salbke, Westerhüsen. Discoverer of Saccharin.

REFORM AT THE ROYAL COLLEGE OF SURGEONS.

SIR,—I have the honour to forward you the following copy of a letter received by me November 29th, too late for the JOURNAL of December 1st.

Council Office, November 27th.

SIR,—I am directed by the Lord President of the Council to acknowledge the receipt of your letter of the 15th instant, enclosing a copy of a resolution stated to have been advanced on behalf of the Association of Members of the Royal College of Surgeons at the annual meeting of the College on the 1st instant, and carried all but unanimously, and suggesting in support of such resolution, that Her Majesty may be advised to grant a further Supplemental Charter embodying the claims made by 4,665 Members of the College in the petition lodged at this office in May, 1887. The Lord President instructs me to inform you that it is not within the province of the Privy Council to advise Her Majesty to grant a Suppiemental Charter contrary to the wishes of a governing body entrusted in existing Charters with the management of the affairs of a corporation. I am to add that, in these circumstances, it appears to his lordship that, if the Members desire that the constitution of the College should be altered, the proper course would be to apply to Parliament for that purpose.—I am, dear Sir, your obedient servant, C. L. PEEL.

W. Ashton Ellis, Esq., Joint Hon. Sec., Association of Members of the Royal College of Surgeons.

We have now exhausted all the less public forms of attempting to bring to pass the much needed reform of our College, and I think you will allow that we have exercised much patience and moderation in the attempt. We shall no longer continue the hopeless task of convincing the obdurate Council of the College, but, armed with the friendly advice of the Privy Council, we shall, under the leadership of Lord Randolph Churchill, seek from Parliament the redress of our wrongs.—I am, etc.,

WM. ASHTON ELLIS, Joint Honorary Secretary, Association of Members of Royal College of Surgeons.

14, Grosvenor Road, S.W., December 5th.

A NEW AND ONLY WAY OF RAISING THE EPIGLOTTIS.

SIR,—On July 7th, 1880, I read before the Medico-Chirurgical Society of Edinburgh a paper entitled the Treatment of Asphyxia during the Administration of Anæsthetics.

Will you kindly allow me space for the publication of the following abstract from that paper as it appears in the *Edinburgh Medical Journal* of that date? This abstract, I think, contains all that need be said by way of a reply to Dr. Howard's concluding remarks at the adjourned discussion on his paper before the Medical Society of London on November 19th.

Abstract from *Edinburgh Medical Journal*, July, 1880.

"Dr. Foulis described an instrument which, for want of a better name, he called a glossotilt. It consists of a piece of metal—nickel silver—about ten inches in length, half an inch in breadth, and about the twelfth of an inch in thickness. At each end the

instrument resembles very closely the handle of an ordinary tablespoon.

"Instead of seizing the tongue with a pair of catch-forceps and dragging it forward, as is usually done when a patient's breathing is arrested during the administration of chloroform, Dr. Foulis proposes that one of the curved ends of the glossotilt should be passed down over the dorsum of the patient's tongue as far as the base, and then the instrument should be pressed back in such a way that it acts as a lever. The base of the tongue and the hyoid bone are thus made to project forward. When this takes place, the epiglottis, being closely connected with the hyoid bone, is drawn well away from the rima glottidis, and the aryteno-epiglottidean folds are rendered tense. The instrument is passed into the throat with the greatest ease, if the patient's head is allowed to fall well back over the end of the operating table, or the head may be made to fall back by passing an arm under the patient's neck and raising it.

"Dr. Foulis maintains that the only effectual way of raising the base of the tongue, of raising the epiglottis, and of making tense the aryteno-epiglottidean folds at one and the same time, is to act on the base of the tongue and the hyoid bone in the manner he has described.

"All are agreed that in any case of impending death during the administration of an anæsthetic, artificial respiration is the best means of treatment; but artificial respiration is of little value if air is not made to pass freely in and out of the lungs. The object of the paper was to show that the tongue, the epiglottis, and the aryteno-epiglottidean folds occasionally act as valvular impediments at the orifice of the windpipe to the passage of air in and out of the lungs, and that by the use of a simple instrument, such as the glossotilt, or even the handle of a large spoon, it was possible to raise up the dorsum of the tongue from its contact with the posterior pharyngeal wall, and at the same time to raise the epiglottis, and to render tense the aryteno-epiglottidean folds; and that when this was accomplished there could not possibly be any obstruction to the passage of air in and out of the lungs by those structures during the movements of artificial respiration. It was generally taught by surgeons that dragging on the tip of the tongue with catch-forceps was sufficient to effect all this; but Dr. Foulis showed that this was not the case, and that it was not possible to stretch the aryteno-epiglottic folds except by hooking forward the hyoid bone and the base of the tongue; and this could be most easily done by using the simple instrument in the way he had described."

In Dr. Howard's method, if the nares are not clear, air cannot freely enter and pass out of the lungs; hence the great objection to it. Anyone who has been bitten on the finger by a half-unconscious patient struggling for fresh air will not a second time pass his finger down the throat to hook forward the hyoid bone.—I am, etc.,

JAMES FOULIS, M.D.

Edinburgh.

THE NAIL-BRUSH QUESTION.

SIR,—As you have turned the fierce light of publicity on poor little me in a leading article last week, I hope you will permit me to say a word in self-defence.

The object in view is to make clean the space under the nail. Now for this purpose I take it the indications are (1) to keep the space in question as small as possible, and (2) to wash the boundaries of the space with soap and water. The first indication is met partly by keeping the nails trimmed short, but partly, also, by avoiding, under any circumstances, the use of a penknife or other similar instrument for scraping the space in question. Such a practice obviously deepens the space, and renders its capacity for collecting dirty material greater. As regards the second indication, surely the space under the nail is not an exception to every other part of the body, and to make it really clean, therefore, its walls must be washed with soap and water. Now, I submit that for this purpose (I don't know about the grammar, but I cannot forego the alliteration) the only means is me.

The case as stated in your leader seems unduly favourable to the penknife. Now, scraping with a dry knife will no more really clean the space under the nail than scraping with a dry blunt knife would the finger. I pass over the probable septic properties of a knife that has been carried for months (or, perhaps, years) in the waistcoat pocket. To my thinking the use of a knife to the nails is infinitely more dangerous from the septic point of view than the use of even a dirty nail-brush. Moreover, the soap, basin, and towel are all equally with me possible sources of septic trouble if (*horresco referens*) we have been recently used by a surgeon whose hands are contaminated with fæces, or other offensive material.

No, Sir, the nails will be best made clean by never, under any circumstances, using a knife to them, by keeping them short, and by, as far as possible, using clean towel, basin, soap, and me. No one of us can be dispensed with; each may possibly convey contagion, and the moral is, take all possible care to have us all clean; but after washing, and before using the hands for any operation, or for midwifery, dip them in 1-1,000 corrosive sublimate solution.—I am, etc.,

THE NAIL-BRUSH OF AN F.R.C.P.

NAVAL AND MILITARY MEDICAL SERVICES.

PRECEDENCE OF MEDICAL OFFICERS.

THE SURGEON-MAJOR OF A NATIVE INFANTRY REGIMENT IN INDIA writes that his name appears in every regimental list, printed or written, official or private, invariably beneath that of the youngest subaltern doing duty with the battalion; there is nothing whatever to show his relative rank, which an outsider would naturally conclude was junior to the most junior "combatant."

*** This complaint is not a new one, and it is difficult to suggest a remedy. We have heard that, some time before this century, the names of the surgeons of regiments were inserted in the regimental army lists among those of the combatant officers at the point where they took rank or precedence. But such a custom must have ceased long ago, and for many years the medical officers of regiments were put at the bottom of all in the regimental lists; their real status then being, as was cynically observed, just that where their names appeared! We do not think the position of a name in a regimental list is of very much importance; what is wanted is a clear title expressing the actual military rank of the medical officer; it would not then matter much where his name appeared in a list.

BOOKS FOR AMBULANCE CLASSES.

MR. W. STEWART, M.B. (Kirkwall, Orkney), asks to be recommended a book on ambulance work, suitable for volunteer or civil service.

*** *Accidental Injuries*, by James Cantlie (Clowes and Son); *Ambulance Work*, by John Martin; *First Aid to the Injured*, by Esmarch, translated by Princess Christian, are suitable as standard works for ambulance classes. The *Manual of the Medical Staff Corps* is the official book for the training of volunteers in stretcher drill.

Messrs. J. and A. Churchill, 11, New Burlington Street, London, W., are the publishers of the *Medical Directory*.

THE NAVY.

THE following appointments have been made at the Admiralty: A. G. ANDREWS, Surgeon, to the *Partridge*; J. D. HUGHES, Surgeon, to the *Iron Duke*: J. A. MOON, Surgeon, to the *Mistletoe*; S. W. VASEY, Surgeon, to Lisbon Hospital (temporarily); W. G. K. BARNES, to the *Rambler*.

THE MEDICAL STAFF.

SURGEON-MAJOR H. S. MUIR, M.D., is promoted to be Brigade-Surgeon, ranking as Lieutenant-Colonel, *vice* William Tanner, placed on temporary half pay. Dr. Muir entered the service as Assistant Surgeon March 31st, 1864; became Surgeon March 1st, 1873; and Surgeon-Major April 28th, 1876. He served in the war in Afghanistan in 1878-80, and was at the engagement at Shabjui. He was mentioned in despatches for his services, and received the medal for the campaign.

Surgeon S. A. CRICK, M.B., who was placed on half-pay on account of ill-health on November 27th of last year, has been granted retired pay.

Surgeon-Major T. S. COGAN, who is serving in the Bengal Command, has leave of absence for six months on private affairs, and Surgeon H. W. M. KENDALL, also serving in Bengal, has leave for a similar period on medical certificate.

INDIAN MEDICAL SERVICE.

SURGEON-MAJOR W. GRAY, M.B., Bombay Establishment, is appointed Principal of the Grant Medical College, *vice* Brigade-Surgeon H. V. Carter, resigned, Brigade-Surgeon I. B. Lyon continuing to act.

The undermentioned gentlemen, all of the Bombay Establishment, are appointed to the Grant Medical College as follows: Surgeon-Major G. WATERS to be Professor of Pathology and Morbid Anatomy and Professor of Hygiene; Surgeon R. MANSER to be Professor of Medicine and Therapeutics; Surgeon C. H. L. MEYER, M.D., to be Professor of Physiology and Histology.

The undermentioned officers, all of the Bombay Establishment, have been posted to general duty in the districts stated: Surgeon J. G. HOJEL, Bombay Department; Surgeon H. C. L. ARNIM, Poona Department; Surgeon G. S. THOMSON, Mhow Department.

Surgeon RICHARD WOOSNAM, late of the Bombay Establishment, died at Builth, Brecon, on November 27th, aged 73.

THE VOLUNTEERS.

ACTING-SURGEON J. MOYES, M.D., 1st Volunteer Battalion Royal Scots Fusiliers (late the 1st Ayrshire), has resigned his commission, which was dated November 12th, 1887.

Surgeon and Honorary Surgeon-Major A. CAMPBELL, of the 1st Volunteer Battalion Royal Highlanders (late the 1st Forfar), has also resigned; his com-

mission bore date November 14th, 1870; he is permitted to retain his rank and uniform.

Mr. F. St. John Kemm is appointed Acting-Surgeon to the 3rd Volunteer Battalion Somerset Light Infantry (late the 3rd Somerset); and J. F. Porter, M.D., is appointed Acting-Surgeon to the 2nd Volunteer Battalion Yorkshire Regiment (late the 2nd North Riding of Yorkshire).

MEDICO-LEGAL AND MEDICO-ETHICAL.

THE STAFF OF A PAYING HOSPITAL.

Climax writes: In a small town there is a hospital having for its medical staff about half the local practitioners. Paying patients are admitted, but can be treated only by the staff who may charge for medical attendance.

1. Is such an arrangement fair either to the practitioners not connected with the institution or to their patients?

2. Is there anything against strict medical ethics in acting as medical officer for such a hospital?

3. Could the medical staff, with grace to themselves and advantage to the profession, agree that all registered practitioners in the neighbourhood should attend the hospital; the hospital in question, with its present officers, having existed six years, and many new medical men having lately settled in the district?

*** 1. In answer to this, without expressing any opinion on the actual fairness of the arrangement, (for it might be argued that the hospital may be regarded as a sort of partnership between its officers), we think it decidedly better for all parties that such pay hospitals should be thrown open to all respectable medical men in the district.

2. We see nothing contrary to medical ethics in any part of the scheme.

3. The answer to this question seems to us involved in that to the first, except that if (as we presume) the hospital is partly supported by public subscription, the consent of the subscribers would be necessary to any modification of its present constitution.

FEES FOR AFTER-TREATMENT OF MIDWIFERY CASES.

Retired Practitioner asks: Am I entitled to charge for visits paid to the wife of a well-to-do shopkeeper on January 5th, 6th, 7th, 8th, and 9th, she having been confined on January 2nd? She was taken seriously unwell on the 5th, with high temperature, and in accordance with my usual custom of charging for visits after confinement if anything went wrong, I charged her. Am I entitled to charge for a visit to the baby in the middle of the night of January 6th? I have done so, and the patient resists on the plea that it is the custom of the medical profession to include all attendance on the mother and baby in the fee paid for the confinement. Should you advise me to proceed to recover the amount—£1 4s. 6d.?

*** If our correspondent will refer to the *Medico-Chirurgical Tariffs*, published by H. K. Lewis, 136, Gower Street, W.C., he will find on page 14, under the head of "Midwifery," that "the obstetric fee, from long-established custom, is generally understood to include a visit or two during the week after delivery, if within the prescribed distance of an ordinary visit; but for any indisposition in the mother or child subsequent to the seventh day, or when any serious ailment occurs to either within that period, a charge should be made for each visit and detention, as in ordinary cases of disease." The fee, moreover, for the night visit to the baby—to which he is also justly entitled—will be found on page 12.

RECOVERY OF CHARGES FOR DRUGS.

Bruntfield asks whether he can recover a debt in the county court for medicine and attendance. He holds the L.R.C.P.Lond. qualification.

*** A registered medical practitioner is entitled to recover in due course of law, in respect of his practice in medicine, surgery, and midwifery, any expenses, charges in respect of medicaments or other appliances, or any fees to which he may be entitled. The only practitioners who have not this right are Fellows of the College of Physicians.

ASSISTANTS AND INQUEST FEES.

A. C. B. writes: The answer given in the Journal of November 24th to this query, "when a qualified assistant makes a *post-mortem* examination and gives evidence at the inquest, is the principal justified in retaining all the fee?" is one which may give rise to much unpleasantness between employers and assistants, and ought not to be allowed to pass unchallenged. It runs thus: "The fee for making a *post-mortem* examination and attending to give evidence thereon is clearly payable to the practitioner who makes the examination, and not to his employer. What is done with the fee after it has been paid is a matter for arrangement between the parties; but unless this agreement provides for its appropriation the fee belongs to the person who earns it." I would particularly draw attention to the last nine words, and point out how they do not apply to the case of an assistant.

Under ordinary circumstances, a practitioner engages a qualified assistant to perform any duties in the practice which may be allotted to him, and pays him a stated salary for his services. Clearly that assistant's time and abilities are at the disposal of his employer. If, then, deputed to make a *post-mortem* examination and give the necessary evidence at an inquest, why should the assistant retain the fee or even expect his principal to divide it? He just as clearly earns the fee for a midwifery case, but he does not retain that. The mere technical point that a coroner can only pay the fee to the qualified man who makes the examination and gives the evidence cannot alter the fact that a qualified assistant discharges the duties for his employer. I take it that unless an agreement has been entered into respecting any special fees, all fees whatsoever earned in a practice by an assistant belong both morally and legally to the principal. At the same time, if the principal has the "bump of generosity," he will never give rise to the necessity for this question being asked, but make some acknowledgment for any exceptionally arduous duties performed by his assistant.

*** This point was practically answered last week. In law it is, we are assured, clear that these fees are payable only to the person who attends to give evidence. A generally-worded agreement by which all fees earned by the assistant are to be handed over to the principal would probably include these. But unless the agreement is so worded as to include them, he can have no claim to them. We must, however, point out that our opinion only applies to cases in which there is no agreement as to these fees, and that it is always open to a principal to make an agreement to protect himself. If he chooses not to do so, he cannot complain of not receiving fees which he never bargained to get. The letters written to us on this subject show that there is a good deal of laxity in the profession about agreements with assistants and *locum tenens*. In all matters of business it is desirable to have a clear understanding at the outset as to what the parties intend. Neglect to do this is the cause of much litigation. Any of our readers who disagree with our views as to these fees can no doubt get the point decided in a court of law, but we have little doubt of the result of the trial in such a case.

LOCUM TENENS AND INQUEST FEES.

J. H. G.—In deference to our correspondent's earnest appeal we have, at some sacrifice of time, critically examined the additional correspondence, etc., submitted for our consideration, with the unwelcome result that it, and especially Dr. S.'s letter of November 10th, not only confirms but accentuates the justness of our comments in the Journal of November 3rd, which, we would remind him, were based on his own deliberately written statement and correspondence, together with that of Drs. C. and S. We note also with regret that his memory seems to be somewhat defective, otherwise he would scarcely have forgotten that his indefensible letter of October 5th was addressed to Dr. C. prior to his recent illness; and, further, that no conditional offer to refund the inquest fee was made in his communication to the Editor. We regret the fact and the necessity, but a sense of duty to others, as well as to our correspondent himself, reluctantly constrains us to adhere to the unbiassed opinion recorded in the Journal of November 3rd.

UNQUALIFIED ASSISTANTS AND VACCINATION CERTIFICATES.

G. W. Bush, an unqualified assistant lately in the service of William Frederick Haynes, medical practitioner, of Hull, who did not appear, was recently summoned before the Goole petty sessions under the Vaccination Act, 1871, section 7, for having given false certificates of vaccination. Mr. England, clerk to the board of guardians, which had instituted the proceedings, appeared on behalf of that body. He said that, in the absence of the defendant, it was not necessary for him to go into circumstances at all, but simply to say that it was a prosecution against a man named Bush, who had been practising in Goole on behalf of William Frederick Haynes, who is a medical practitioner at Hull. Bush had been in the habit of vaccinating children—of whom there were thirty-six—and giving certificates of successful vaccination signed "W. F. Haynes." The result had been that the children so vaccinated would have to undergo inspection by the public vaccinator, who would give a certificate if he was satisfied, or order the revaccination of the children. Under the section referred to above, Mr. England said the offence was held to be a misdemeanour.

The Chairman asked which was the misdemeanour: the vaccination by the defendant, who was an unqualified man, or the giving of the certificate in the name of another man?

Mr. England said the latter was the offence. There was a woman present as a witness, who saw the defendant sign a certificate in the name of "Haynes," and knew that his name was "Bush."

A warrant was issued for his apprehension.

A. B. C. should communicate with the Council of his local Branch.

No Doubt.—There is nothing illegal in the practice referred to. The other point raised will be duly considered.

Ajax.—The question whether a gentleman holding only the L.R.C.P.Lond. is qualified to hold a union or club appointment depends entirely on the regulations of such union or club.

MEDICO-PARLIAMENTARY.

HOUSE OF COMMONS.—Thursday, November 29th.

Pauper Lunatics.—Mr. Allison asked the President of the Local Government Board whether it was the case that the provisions of 8 and 9 Vict., cap. 117, and 10 and 11 Vict., cap. 33, in reference to the removal of Scotch and Irish paupers to their place of settlement in their own country, did not apply to pauper lunatics; and, if so, whether he would consider the propriety of amending the law in this respect, either by a clause in the Lunacy Bill to be reintroduced next session, or in some other way.—Mr. Ritchie said the view which he believed was generally held was that the statutory provisions relating to the removal of paupers to Scotland and Ireland did not extend to authorise the removal of pauper lunatics whose condition was such as to require that they should be sent to a lunatic asylum. In the case of pauper lunatics who had no settlement in England, the cost of maintenance in an asylum was a charge on the county and not upon the particular union. He could not undertake to propose any

alteration of the law which would extend the powers as to the removal of paupers.

Friday, November 30th.

Pauper Lunatic Asylums.—On the vote of Supply to complete the sum of £493,000 for pauper lunatics (England), Dr. FARQUHARSON suggested that some way might be found of breaking up the large asylums into smaller institutions, where the routine would be less severe, and where more individual attention might be given to the inmates. To associate idiot children with lunatics led to very bad results for the children.—Mr. MOLLOY said that several cases had occurred in which pauper lunatics had been treated by their attendants in the most brutal manner, deaths having resulted in one or two instances. He asked the Home Secretary if he would cause some investigation to be made.—Mr. MATTHEWS said he would be happy to promote investigation. The Lord Chancellor was, of course, the chief authority.—Mr. F. POWELL was of opinion, as a guardian of some experience, that pauper lunatics benefited greatly by their removal from the workhouse to the county asylum, where they could receive the best medical treatment. As regarded the alleged prevalence of brutality in those institutions, he was very sceptical on that subject, and he did not think that allegation was proved by adequate evidence.—Sir W. FOSTER thought it was desirable that no false impression should go forth as to the frequency of cases of brutality in those asylums. No doubt there were instances in which the inmates were treated too roughly; but he believed that a great many of the cases that appeared in the papers and were commented on by the press did not justify the harsh construction that was put upon them. He thought it was very beneficial that lunatics should not be placed in workhouses, where they did not get special treatment, but should be removed to county or borough asylums, where they could get such treatment. At the same time, in many of those asylums they had too many of those unfortunate patients congregated together, to the prejudice of their chances of recovery, because the medical officers, having charge of too many patients, could not give them individually that amount of attention which was necessary for their proper curative treatment. If the Government could introduce a system similar to that adopted in Belgium, the interests of humanity would be served, and the science of the treatment of mental disease also promoted.—Mr. JACKSON pointed out that it would not long be in the power of the Government to deal with that particular question, because he believed that this would be the last time this vote would appear in the Estimates. This matter would in future be dealt with under the Local Government Act by the County Councils.—Sir J. GOLDSMID said his experience, as a visitor of county lunatic asylums, of the work of supervision done by the county magistrates was that no institutions were better managed than the great county lunatic asylums; therefore he regretted to hear the attack which had been made on the doctors of these institutions by another doctor.—Sir W. FOSTER denied that he had made any attack. Nothing was further from his intention.—The vote was agreed to.

Saturday, December 1st.

English Medical Men in Switzerland.—Mr. TAPLING called attention to the position of English medical men residing in Switzerland. This year a law, long in abeyance, had been enforced, and they were not to be allowed to practise without a special diploma.—Dr. FARQUHARSON said that any foreign doctor could practise in England, and it was very hard that an old and effete law should be put into force in Switzerland against English doctors. He thought that the grievance might be remedied by some exercise of diplomatic influence.—Sir J. FERGUSSON said that the question undoubtedly involved a substantial loss to many Englishmen resident in Switzerland, professional and otherwise. Her Majesty's Government had for some time endeavoured to remove the prohibition existing. The Swiss Government, however, had not been very willing to enter into arrangements for granting the right of practice to men holding foreign diplomas, from an apprehension that if the principle were admitted Switzerland would be invaded with medical men from France and Germany, to the serious injury of the Swiss practitioners. The two Governments had, however, approached much nearer an arrangement, and last summer special arrangements had been made in some of the cantons by which English medical men were admitted to practise. The Swiss Government desired that they should have reciprocal advantages in this country, and by the Medical Act of 1886 power could be given to foreign doctors to practise. But this did not satisfy the Swiss Government, and Her Majesty's Government had referred to the colonies to know whether they would be ready to admit Swiss doctors as a reciprocal favour. No answer had yet been received, and a reply was also being awaited from the Swiss Government.—After some remarks from Dr. TANNER and Dr. CLARK, the debate, by the rules of the House, stood adjourned.

Monday, December 3rd.

Dairy and Cowshed Supervision.—Mr. RITCHIE, in answer to Mr. COCHRANE-BAILLIE, said that the sanitary authorities in England and Wales were constituted the local authorities for the supervision of dairies and cowsheds by the Contagious Diseases (Animals) Act, 1886. The regulations for the enforcement of the ventilation, drainage, water-supply, and cleanliness of dairies and cowsheds, which had previously been made by the county justices, were by the Act continued in force pending the making of new regulations by the sanitary authorities. Since the date of the Act, new regulations had been made by nearly 450 authorities. He proposed to communicate with the sanitary authorities in any districts in which there were now no regulations in force as to dairies and cowsheds, with a view to the adoption of regulations; and whenever it might appear, from the reports of the medical officers of health or otherwise, that due supervision of the dairies and cowsheds was not exercised in any particular district, he should not fail to impress upon the sanitary authority how essential it was that this duty should be fully and carefully discharged.

Tuesday, December 4th.

Contagious Diseases Acts in India.—Sir. J. GORST, in reply to Mr. J. STUART, said the Indian Contagious Diseases Acts had been repealed. A Bill had been introduced to repeal the Cantonment Acts, and in the meanwhile the compulsory examination of women and all provisions for licensing and regulating prostitution had been stopped.

Public Health Act Amendment (*Buildings in Streets*) *Bill.*—This Bill passed through Committee.

The Food and Drugs Act.—Mr. RITCHIE, in reply to Mr. COSSHAM, said he was informed by the Board of Inland Revenue, that Dr. Bell, the principal of the Laboratory at Somerset House, was not aware that the conclusions of the local official analysts in respect of samples of lard upon which legal proceedings were taken had in any instance been contradicted by the results obtained in his department, with the exception of one instance of an alleged adulteration with water.

UNIVERSITY INTELLIGENCE.

OXFORD.

PROFESSOR RAY LANKESTER will probably be entrusted with the performance of the duties of the Chair of Human Comparative Anatomy at Oxford in consequence of the prolonged illness of Professor Moseley, the titular occupant of this chair.

CAMBRIDGE.

AT the Congregation on December 6th the following degrees in Medicine were conferred:—M.D.—Rowland Danvers Brunton, of Downing. M.B.—Herbert Elwin Harris and Edward Thornton, both of Christ's College. Mr. Thornton was also admitted to the degree of B.C.

DR. LEA and Mr. Fenton have been appointed members of the State Medicine Sydicate, and Dr. Bradbury a member for the Special Board for Medicine. The Examiners in State Medicine for the diploma in public health are Dr. Hubert Airy, Dr. W. H. Corfield, Dr. T. Stevenson, and Dr. J. F. W. Tatham.

THE GROWTH OF THE MEDICAL SCHOOL.—In the *History of the University of Cambridge* just published by Mr. J. Bass Mullinger, of St. John's College, as a volume of the "*Epoch*" *Series of Church History*, occurs the following passage (page 209): "In connection with the growth of the studies fostered by the Natural Sciences Tripos, it remains to note the remarkable increase in the activity of the medical school during the last ten years. In 1865 the number of M.D. and M.B. degrees conferred was 6, in 1875 it was 12, in 1887 it was 57. The University has recognised and furthered this increase by the foundation of new professorships in physiology, pathology, and surgery, and of lectureships in other branches of professional study. Clinical lectures at Addenbrooke's Hospital, first introduced by Dr. (Sir George) Paget in 1841,

urnish the necessary element of practice; and if we may judge of *Report by the Visitors of University Examinations appointed by he General Medical Council (1886)*, the medical degrees and xaminations of the University now stand second to none in the ingdom as regards professional repute and distinction. In the resent year (1888) over 300" (this should be 400) "undergraduates re pursuing medical study in the University."

LONDON.

M.B. Honours Examinations.—The lists have just been ssued of the graduates who have taken Honours at the M.B. xamination. In medicine the list is headed by three students of niversity College, London—Mr. W. P. May, B.Sc. (scholarship nd gold medal); Mr. Hilarion M. Fernando, B.Sc. (gold medal); Ir. H. P. Dean, B.Sc. (deserving of medal). The only candidate vho obtained a first class in obstetrics is Mr. A. A. Kanthack, .A., B.Sc., of the Liverpool Royal Infirmary and St. Bartholoew's Hospital. An unusual number of candidates have distinguished themselves in forensic medicine; the scholarship and old medal is obtained by Mr. E. H. Starling, of Guy's Hospital; Ir. H. M. Fernando, of University College, London, obtained the econd gold medal, and is declared worthy of a scholarship; and Ir. Alfred Parkin, of Guy's Hospital, is also declared worthy of a cholarship; while Mr. Bedford Pierce, of St. Bartholomew's Hosital, is declared deserving of a medal.

INDIA AND THE COLONIES.

INDIA.

Special officers have been deputed to report on the administraion of the gaols throughout India, with a view to effect more uniformity in their management. The death-rate at present varies from 11 to 72 per 1,000, and the cost of maintenance from Rs. 44 to Rs. 91 per head, while the cases of punishment of offenders against gaol discipline range from 33 to 328 yearly.

The Maharani Surnomoyi, C.I., of Cossimbazaar, has given a donation of 2,000 rupees towards the construction of the new Lady Dufferin Female Hospital in Calcutta.

Dr. Freyer, Civil Surgeon of Bareilly, has, it is stated, chosen to accept the fee of one lakh of rupees from the Rampore Nawab, and to give up Government service.

AUSTRALIA.

An Artesian Mineral Well.—Mr. Slee, the superintendent of diamond drills, reports (*Australasian Medical Gazette*) that while boring at Baltimore, in the Dubbo district, at the depth of 550 feet, an artesian well was tapped, which flowed through tubing 8 feet above the surface, at the rate of 1,000 gallons an hour. The water is believed to resemble that of Carlsbad.

Inebriate Home in Queensland.—The *Australasian Medical Gazette* states that Sir Thomas M'Ilwraith, the Premier, has declared himself in favour of the establishment of a home for inebriates, and has promised to consider the propriety of drafting a Bill during the coming recess. A public meeting was held in Brisbane on October 8th to consider the question, and a resolution affirming the desirability of establishing an asylum for inebriates was adopted.

Proposed Foundling Hospital in Victoria.—Meetings have recently been held in the Town Hall, Melbourne, at which Dr. T. Embling presided, for the purpose of considering the propriety of establishing a Foundling Hospital in Victoria. Dr. Youl, who, the *Australasian Medical Gazette* states, has, as coroner, excellent opportunities for forming an opinion, appears to have stated that infanticide is a not infrequent crime in the colony, from sixty to seventy cases annually remaining undiscovered. One friend of the scheme for a foundling hospital—Mr. Staples—has promised a donation of £1,000, and £200 a year for five years.

The death-rate of Victoria in 1887 was 15.69 *per mille.*

HOSPITAL AND DISPENSARY MANAGEMENT.

GLASGOW WESTERN INFIRMARY.

The fourteenth annual meeting of the qualified contributors to the Glasgow Western Infirmary was held on November 29th, when the Secretary submitted the directors' report. During the year the total number of patients treated was 16,810, and of these 3,604 were indoor. The average daily number of indoor patients was 374; the greatest number of patients in the hospital at one time was 417, and the smallest number was 328. The average period of residence of each patient was 37.92 days. The number of deaths was 304, or 8.4 per cent. of all the cases treated to a termination. Of the fatal cases, however, 52 were of such a hopeless character when brought to the hospital that the patients died within forty-eight hours after admission. Deducting this number as usual, the death-rate was reduced to 7.1 per cent. Amongst the indoor patients there were 474, aged 12 years or under, of whom 358 were surgical and 116 medical cases; 670 children were vaccinated. The report was unanimously adopted, and the thanks of the meeting accorded to the various donors and subscribers, and to the medical and surgical officers.

The following gentlemen were then elected managers: Colonel Sir Donald Matheson, K.C.B.; Messrs. John A. Mathieson, William Newlands, James H. Dickson, John Wilson, Alexander Clapperton, Matthew Arthur, George Munsie, and James S. Napier.

GLASGOW MATERNITY HOSPITAL.

At the annual meeting of the subscribers of the Glasgow Maternity Hospital, Dr. Reid submitted the medical report, in which it was stated that 2,070 women had been confined during the year under the care of the officials of the institution. There had been only 16 deaths; 35 nurses had been trained and received diplomas; 141 students had been certified as having attended the requisite number of cases; and 25 former students and graduates had returned to take extra work during the year. The directors were pleased that the reputation of the hospital as a clinical school in obstetrics was rising year by year, and also that the better it was known by the public the more were its advantages appreciated. Two nurses being trained in connection with the Royal Victoria Institute had been sent to the hospital to be trained in midwifery.

The report was adopted.

PUBLIC HEALTH AND POOR LAW MEDICAL SERVICES.

TENURE OF OFFICE OF MEDICAL OFFICERS OF HEALTH.

At the annual meeting of the Gloucestershire Branch, the following resolution was brought before the meeting by the Branch Council, proposed by Dr. Batten (Gloucester), seconded by Dr. F. Cook (Cheltenham), and carried unanimously:—

"That we, the members of the Gloucestershire Branch of the British Medical Association, have learned with regret that the Dursley Rural Sanitary Authority, in this county, have refused to re-elect their Medical Officer of Health after fifteen years of admitted efficient service, without giving any reason to him; that, in our opinion, the arbitrary exercise in this way by sanitary authorities of powers which are entrusted to them for the public good is unjust to the officers affected and prejudicial to the public interests; and that we earnestly hope that the Government will (in the Bill which they have pledged themselves to bring into Parliament next session for the Constitution of District Councils) provide that medical officers of health shall have the same reasonable security in their tenure of office as the poor-law medical officers enjoy; that copies of the resolution be sent to the President of the Local Government Board, the Parliamentary Bills Committee of the British Medical Association, and the medical journals."

At the quarterly meeting of the Yorkshire Association of Medical Officers of Health, Dr. Buncle moved:—

"That this meeting is satisfied that the practice whereby medical officers are almost universally appointed for a limited period is contrary to the best interests of the public, and has proved a source of great hardship to the medical officers themselves; and consequently respectfully urges on the Local Government Board the importance of promoting such legislation as will ensure to the medical officers of health security of the tenure of their office as long as they discharge their duties satisfactorily."

It was seconded by Dr. Deville, and carried unanimously.

SMALL-POX AND VACCINATION.—At the same meeting Dr. BURMAN read a short paper on the Recent Outbreak of Small-Pox, stating as the result of his thirty years' experience, he had never known a fatal case of small-pox in childhood after primary vaccination, which was, he believed, a protection from the disease until the age of about ten years, revaccination after that age guaranteeing immunity for life.

OPHTHALMIA IN HANWELL SCHOOLS.

IT is reported that the managers of the Hanwell Schools are about to spend between £30,000 and £40,000 in building operations in order to enable them to cope with the spread of ophthalmia in the schools of the central London school district. This malady had at one time decreased, but it is now increasing at a rapid rate, and it is thought necessary that ample means should be adopted for isolation.

HEALTH OF ENGLISH TOWNS.—During the week ending Saturday, December 1st, 5,327 births and 3,210 deaths were registered in the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had been 19.7 and 18.2 in the two preceding weeks, further declined to 17.8 during the week under notice. The rates in the several towns ranged from 13.2 in Hull, 13.5 in Brighton, 13.8 in Nottingham, and 13.9 in Leicester to 23.0 in Bolton, 25.7 in Oldham, 26.7 in Blackburn, and 27.9 in Cardiff. The mean death-rate in the twenty-seven provincial towns was 19.0 per 1,000, and exceeded by 2.5 the rate recorded in London, which was only 16.5 per 1,000. The 3,210 deaths registered during the week under notice in the twenty-eight towns included 526 which were referred to the principal zymotic diseases, against numbers increasing from 432 to 502 in the three preceding weeks; of these, 264 resulted from measles, 59 from scarlet fever, 56 from whooping-cough, 53 from diphtheria, 47 from "fever" (principally enteric), 44 from diarrhœa, and 3 from small-pox. These 526 deaths were equal to annual rate of 2.9 per 1,000; in London the zymotic death-rate was 3.0, whilst in the twenty-seven provincial towns it averaged 2.9 per 1,000, and ranged from 0.0 in Brighton, Norwich, and Wolverhampton to 5.7 in Liverpool, 7.9 in Blackburn, and 10.1 in Cardiff. Measles caused the highest proportional fatality in London, Huddersfield, Oldham, Leeds, Liverpool, Blackburn, and Cadiff; scarlet fever in Blackburn; "fever" in Birkenhead, Oldham, and Halifax. The 53 deaths from diphtheria in the twenty-eight towns included 34 in London, 8 in Manchester, 3 in Liverpool, 2 in Nottingham, and 2 in Oldham. Small-pox caused 2 deaths in Cardiff and 1 in Sheffield, but not one in London or in any of the twenty-five other large towns. No small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals on Saturday, December 1st; these hospitals contained, however, 869 scarlet fever patients on the same date, against 907 and 882 at the end of the two preceding weeks; there were 85 admissions during the week, against numbers declining from 75 to 54 in the three preceding weeks. The death-rate from diseases of the respiratory organs in London was equal to 3.1 per 1,000, and was considerably below the average.

HEALTH OF SCOTCH TOWNS.—In the eight principal Scotch towns, 802 births and 483 deaths were registered during the week ending Saturday, December 1st. The annual rate of mortality in these towns, which had been 19.1 and 17.8 per 1,000 in the two preceding weeks, rose again to 19.1 during the week under notice, and exceeded by 1.3 per 1,000 the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Leith and Edinburgh, and the highest in Greenock and Paisley. The 483 deaths in these Scotch towns during the week included 60 which were referred to the principal zymotic diseases, equal to an annual rate of 2.4 per 1,000, which was 0.5 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Paisley and Greenock. The 200 deaths registered in Glasgow included 7 from scarlet fever, 5 from diphtheria, 6 from whooping-cough, 2 from "fever," 2 from diarrhœa, and 1 from measles. Seven fatal cases of measles occurred in Paisley, against 20, 18, and 13 in the three preceding weeks. The death-rate from diseases of the respiratory organs in these Scotch towns was equal to 3.7 per 1,000, against 3.1 in London.

HEALTH OF IRISH TOWNS.—During the week ending Saturday, December 1st, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 20.7 per 1,000. The lowest rates were recorded in Wexford and Kilkenny, and the highest in Armagh and Lurgan. The death-rate from the principal zymotic diseases in these towns during the week under notice averaged 2.1 per 1,000, against 2.9 in the large English towns during the same period. The 155 deaths registered in Dublin last week were equal to an annual rate of 22.9 per 1,000, against 23.5 and 25.9 in the two preceding weeks. These 155 deaths included 11 which were referred to the principal zymotic diseases, of which 6 resulted from "fever" (principally enteric), 2 from scarlet fever, 1 from diphtheria, and 1 from whooping-cough.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.

F. W. E. K.—Mr. J. Wickham Barnes, 3, Bolt Court, Fleet Street, London, is the Secretary of the Poor-law Medical Officers' Association, to whom application should be made.

GOVERNMENT VACCINE.

ANOTHER PUBLIC VACCINATOR writes: "A Public Vaccinator" appears to have been very successful in the preservation of his lymph. I should be glad to know his method, as I cannot boast of a similar success; indeed, I have long since desisted from the attempt to keep vaccine six months. Many years ago I procured human lymph from the National Vaccine Establishment, but was not always satisfied with it. Of late I have applied for calf vaccine instead, and have not had a failure.

MEDICAL OFFICERS OF HEALTH AND THE COUNTY GOVERNMENT ACT.

A MEMBER writes: I have been medical officer of health to a rural sanitary authority for the last six years, the population of the district being about 12,000. The appointment is made triennially, and I have been recently re-appointed. Will you kindly tell me how the new Local Government Act will affect me?

*** Our correspondent will not be affected by the Local Government Act unless his district should be situated in more than one county. His periodical reports will have to be sent to the County Council, who are empowered to place before the Local Government Board any evidence they can find therein that the Public Health Acts are not properly administered in the district.

CLUBS, AND THE PAYMENT OF POOR-LAW MEDICAL OFFICERS.

DR. HERBERT P. TAYLOR (Bradford-on-Avon) writes: It is desirable that poor-law medical officers should be paid for services rendered, and not by contract. I also consider that it is a crying evil of the club system, that men who at the time of their entrance are fit recipients of medical charity are allowed to remain members when they have risen in the world; also that the fees paid to the doctor are too small, the sick pay often being from 12s. to 24s. a week, while I believe the doctor's fee never exceeds 5s. per annum, even when it reaches that sum. It is assuredly time for medical men to resist such things, and this is the way I think it may be done. Let a tariff similar to that prepared for the late Shropshire Ethical Branch be drawn up, but arranged on a wage basis, say, in classes of 10s., 20s., and 30s. Let this be recognised by the profession; then any man in a club could declare his weekly wage, and the secretary on demand would inform the sick member's medical attendant to what class he belonged. Let the medical man attend and send in his account based on this tariff. Let the patient send this bill to the secretary of the club, and let it be discharged from the common fund of the club. Thus the man gets the advantage of his club, and of his own private doctor; the doctor gets the advantage of being paid for the work done and of being able to make special charges for special services, so often exacted by the thoughtlessness of club patients.

I think this scheme opens a way to supply medical attendance to our poorer neighbours at a fair remuneration. Some such scheme ought to be considered and worked out by an influential body of the profession, and it ought to be set in hand at once, so as to be well digested by the time matters are ripe for its adoption.

Finally, I would strongly urge every poor-law officer and every club doctor to keep as accurate account of all work done for the guardians or the clubs as he does of that done for his private patients. If he did this for one year only, he would at least know what work he had done for a certain remuneration, and he would have valuable figures to quote when he demanded an increase of his pay, to which in many cases he would find he was fairly entitled.

*** Our correspondent's observations with regard to clubs appear to be just. As regards his views concerning the improvement of club management and pay, we fear, under the present general competition, it would not be practicable to get them carried out, and it would be difficult to get members of our profession not connected with club practice to take the matter up.

In reference to his suggestions on poor-law medical reform, we feel sure that neither the central authority nor boards of guardians will go back to the system of payment by case (which has been tried and found wanting), except perhaps in large and thinly populated districts.

A NEW western branch of the Brighton, Hove, and Preston Dispensary was opened on December 3rd by the Right Hon. Viscount Hampden, G.C.B., in the presence of the Lord Bishop of Chichester and many of the committee, governors, and friends. A public luncheon followed.

MEDICAL NEWS.

MEDICAL VACANCIES.

The following Vacancies are announced:

BIRMINGHAM BOROUGH ASYLUM.—Resident Clinical Assistant. No salary. Applications to the Superintendent.

ESSEX LUNATIC ASYLUM, Brentwood.—*Locum Tenens* Assistant Medical Officer. Salary, £10 per month, with board, etc. Applications to the Medical Superintendent.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Assistant Physician. Applications by December 19th to the Secretary.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Registrar and Chloroformist. Salary, £50 per annum. Applications by December 15th to the Secretary.

LONDON THROAT HOSPITAL, Great Portland Street, W.—House-Surgeon. Applications by December 10th to the Secretary.

LUTON FRIENDLY SOCIETIES' MEDICAL INSTITUTE.—Medical Officer. Salary, £200 per annum, with residence. Applications to the Secretary, Mr. T. Keen, 12, Grove Road, Luton, Beds.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich Road, S.E.—Junior Resident Medical Officer. Salary, £30 per annum, with board, etc. Applications by December 15th to the Honorary Secretary.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich Road, S.E.—Senior Resident Medical Officer. Salary, £60 per annum, with board, etc. Applications by December 15th to the Honorary Secretary.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road.—Junior House-Surgeon. Salary, £30 for six months. Applications by December 14th to A. Nixon, Esq., 27, Clement's Lane, E.C.

PORTSMOUTH LUNATIC ASYLUM, Milton, near Portsmouth.—Assistant Medical Officer. Salary, £120 per annum, with apartments, board, etc. Applications by December 15th to the Medical Superintendent.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House-Surgeon. Board, and lodging. Applications by December 15th to the Chairman of the Managing Committee.

ST. GEORGE HANOVER SQUARE PROVIDENT DISPENSARY, Little Grosvenor Street, W.—Surgeon Dentist. Applications by December 8th to the Secretary, 73, Park Street, Grosvenor Square, W.

STAMFORD HILL, STOKE NEWINGTON, ETC., DISPENSARY.—Resident Medical Officer Salary, £105 per annum, and allowance of £50 for fuel and light. Applications by December 14th, to the Honorary Secretary, Dispensary, Stoke Newington, N.

STOCKPORT INFIRMARY.—Assistant Medical Officer. Salary, £70 per annum, with board and lodging. Applications by December 15th to the Secretary.

SUNDERLAND INFIRMARY.—House-Physician. Salary, £80 per annum, rising £10 annually to £100, with board and residence. Applications by December 13th to the Chairman of the Medical Board.

TOWNSHIP OF TOXTETH PARK.—Assistant Medical Officer. Salary, £100 per annum, with board and lodging. Applications by December 19th, to J. Moulding, Esq., Clerk to the Guardians.

UNIVERSITY OF EDINBURGH.—Examiner in Medical Jurisprudence. Salary, £75 per annum, with £10 expenses. Applications by January 14th, 1889, to J. Christison, Esq., Secretary.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician. Board and lodging. Applications by December 20th to the Secretary Superintendent.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Surgeon. Board and lodging. Applications by December 20th to the Secretary Superintendent.

WESTMINSTER HOSPITAL.—Curator of Museum. Salary, £40 per annum. Applications by December 8th to the Secretary.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Assistant. Board, lodging, and washing. Applications by December 10th to the Chairman of the Medical Committee.

MEDICAL APPOINTMENTS.

BALLANCE, Charles, M.B., appointed Assistant Surgeon to the Hospital for Sick Children, Great Ormond Street, *vice* J. H. Morgan, F.R.C.S., promoted.

CALLCOTT, J. T., M.D., M.R.C.S., appointed Superintendent to the Newcastle-upon-Tyne Borough Lunatic Asylum, *vice* R. H. B. Wickham, M.D., resigned.

CHADWICK, Charles M., M.A., M.D.Oxon., M.R.C.P.Lond., appointed Joint Lecturer on Forensic Medicine to the Yorkshire College, Victoria University.

CROCKER, J. Hedley, L.R.C.P.Lond., M.R.C.S., L.S.A.Lond., appointed Honorary Surgeon to the Eccles and Patricroft Hospital.

GIBSON, J. H., M.R.C.S.E., L.R.C.P.L., appointed Medical Superintendent to the Aldershot Lock Hospital.

GUTHRIE, Leonard George, M.A., M.B., B.S.Oxon., M.R.C.S., L.S.A.Lond., appointed Pathologist, Chloroformist, and Registrar to the Paddington Green Children's Hospital.

HUMPHREYS, Herbert, M.R.C.S., L.R.C.P., appointed Medical Superintendent of the Borough of Bradford Fever Hospital.

LANE, J. E., F.R.C.S., appointed Surgeon to Out-Patients to the Lock Hospital, Dean Street, Soho, *vice* Alfred Cooper, F.R.C.S., resigned.

LUMLEY, Charles A., M.R.C.S., L.R.C.P., appointed Assistant House-Surgeon to the Kent and County Hospital, *vice* F. K. Holman, M.R.C.S., resigned.

MORGAN, John H., F.R.C.S., appointed Surgeon to the Hospital for Sick Children, Great Ormond Street, *vice* Howard Marsh, F.R.C.S., resigned.

SMITH, Telford, M.D., B.Ch., appointed Resident Medical Officer to the Grantham Friendly and Trade Societies' Medical Institution, *vice* T. Pritchard, M.D., M.Ch., resigned.

STEPHENS, Richard J., M.R.C.S., L.S.A., appointed Assistant House-Surgeon to the Blackburn and East Lancashire Infirmary.

STEWART, J., L.R.C.P.Edin., appointed Medical Officer to County Antrim Gaol.

STUDENTS' REPRESENTATIVE COUNCIL.—The newly-elected Edinburgh Students' Representative Council has commenced its labours. Their first endeavour must be to overcome the one obstacle which prevents the fine pile of buildings now ready for the Students' Union from being opened—the want of funds. Past Councils have done their best; they arranged bazaars, concerts, balls, and entertainments of all kinds, and the goodly sum of £14,000 was the result. Now, within measurable distance of the end, it seems foolish that the movement should drag. There must be countless old students of Edinburgh whose purse-strings have not yet been loosed—in many cases from want of knowledge of the scheme. If all such would only "rejuvenate" themselves and recall the one defect of their Edinburgh student life, and send their grateful sympathy "in kind" to one of the presidents, the gates of the Union will not long remain closed. In addition to their labours for the Union, the present Council has still further important modifications in the medical curriculum to propose. With prudent guidance they may achieve results of the greatest importance to the University School, and consequently to the Edinburgh Medical School as a whole.

COMPLIMENTARY DINNER TO RETIRING P. M. O. BELFAST DISTRICT.—The medical officers serving in the Belfast District recently entertained Deputy Surgeon-General E. M. Sinclair, who is about to retire, at dinner. The usual loyal and patriotic toasts having been drunk, Surgeon-Major Mollory, in proposing the toast of "The Guest," expressed the regret felt by all the officers present at the retirement of one so deservedly esteemed. Deputy Surgeon-General Sinclair responded in a few well-chosen words. The following were among the guests present: Surgeon-General J. Sinclair; Deputy Surgeons-General Harding and Wall; Brigade-Surgeon McFarland; Surgeons-Major Gasteen, Molloy, Martin, and Nelson; Surgeons Feltham, MacNeece, Flood, Watson, Butt, Daly, Moynihan, and Brown; Captains Burton and Marshall; Drs. Cumming, Smith, J. Smith, McKeown, Walton Brown, and Patrick.

COLO-COLOSTOMY.—Dr. W. Meyer, surgeon to the German Hospital of New York, has described in the *Medical Record* of that city the case of a woman, aged 33, who was proved by laparotomy to be suffering from infiltrating cancer of the colon, a little above the hepatic flexure. Resection of the diseased gut being impossible, Dr. Meyer performed colo-colostomy, thus establishing a connection between the ascending and transverse colon. The patient, with the exception of an attack of jaundice, apparently due to absorption of bloody serum, made a good recovery. The bowels acted spontaneously on the eighth day. She subsequently gained weight, and entered domestic service as a cook.

RAILWAY ACCIDENTS.—The returns just published by the Board of Trade, giving the statistics of accidents and casualties on railways up to the end of September last, show that during that period 74 passengers were killed and 983 injured, which compares favourably with 100 killed and 992 injured in the corresponding period of last year. The servants of companies or contractors also suffered less in mortal injuries, 275 having been killed, as against 297, though the otherwise injured amounted to 1,547, which exceeds the number of the former year by 42.

BURIAL REFORM.—Persons interested in the objects of the Church of England Burial Reform Association are invited to take part in the deputation which is to wait upon the Home Secretary on Tuesday, December 11th, at 1 o'clock, to ask for an inquiry by Royal Commission into the condition of cemeteries and modes of burial, with a view to further legislation. It should be stated that the Association is greatly in need of contributions for carrying on its good work.

TREATMENT OF ECZEMA.—THE following formula is recommended as an application for eczema by Kaposi: ℞ Napthol, 5 grammes; black soap, 50 grammes; powdered chalk, 10 grammes; prepared lard, 100 grammes. The parasites are immediately destroyed by this ointment. Different forms of eruptions, especially scabby eczema, are rapidly cured. The ointment should be rubbed in twice daily. It is free from odour, and does not stain linen.

THE results so far of the Hospital Saturday collection at Wolverhampton show a gratifying increase, and, when the workmen's contributions are all in, it is calculated that the total will reach £2,700.

SUCCESSFUL VACCINATION.—Mr. Richard Harding, public vaccinator of the Radnor District of the Kington Union, has been awarded, for the third time, the Government grant for efficient vaccination.

PRESENTATION.—Mr. Kirk, the surgeon instructor of the Hart Common Ambulance Class, Wigan, has been presented by the members of his class with a valuable travelling bag, with other useful requisites.

IT was unanimously resolved at a meeting of the Hospital Saturday Fund, held on Saturday last, that the fund be registered under "The Companies Act."

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 8.30 P.M.—Dr. B. W. Richardson, F.R.S.: On the Absolute Proofs of Death. Mr. Herbert Allingham: An Important Supplement to the Operation of Inguinal Colotomy.

TUESDAY.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 8.30 P.M.—Mr. A. E. Barker: On Primary Union after Excision of Tubercular Hip-joints. Mr. Bilton Pollard: On Primary Union after Excision of Tubercular Hip-joints.

WEDNESDAY.

EPIDEMIOLOGICAL SOCIETY OF LONDON, 8 P.M.—Mr. C. H. Cooper: On Scarlatina in its Relation to Cow's Milk at Wimbledon and Merton. Mr. Shirley F. Murphy: On the Sanitary Administration of Dairy Farms.

BRITISH GYNÆCOLOGICAL SOCIETY, 8.30 P.M.—Specimens and notes of cases by Dr. Edis, Dr. Granville Bantock, Dr. Bedford Fenwick, Mr. Lawson Tait, Mr. Reeves, and others.

ROYAL MICROSCOPICAL SOCIETY, King's College, W.C., 8 P.M.—Mr J. Rattray: Revision of the genus Auliscus (Ehrb). Dr. F. H. Bowman: Notes on the Frustute of Surirella Gemma.

HUNTERIAN SOCIETY 8 P.M.—Pathological evening:—Dr. Mackenzie and Dr. Davies: Report on Dr. Gilbert's Specimen. The President: Tumour of the Superior Maxilla. Mr. Openshaw: Demonstration of some Anatomical Features distinctive of Right and Left Kidneys. Dr. Carpenter: 1. Umbilical Polypus from an Infant. 2. Malformation of Heart. Dr. Turner: 1. Endocarditis. 2. Malformed Fœtus. And specimens by Dr. Pitt and others.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, 8.30 P.M.—Dr. W. B. Cheadle: On the Various Manifestations of the Rheumatic State as exemplified in Childhood and Early Life. Lecture III.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 8.30 P.M.—Patients and card specimens at 8 P.M. Dr. Rockliffe: 1. Case of Proptosis. 2. Two cases of Tumour of the Eyeball, with Microscopical Sections. Mr. G. Hartridge: A case of Choroiditis. Dr. Bronner: A rare case of Pulsating Exophthalmos. Dr. Rockliffe: On Suppurating Hydatid of the Orbit. Mr. R. W. Doyne: 1. Notes on a Peculiar Form of Degeneration of the Lens. 2. Notes on a case of Recurrent Transient Blindness.

FRIDAY.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, 8.30 P.M.—Specimens to be exhibited at 8 P.M.—Dr. C. Wells: A Hip-joint two years after Intracapsular Fracture. Mr. H. Percy Dunn: 1. Epithelioma of Bladder. 2. Pyonephrosis from Renal Calculus. 3. Nodules on a Child's Liver. Dr. P. S. Abraham: Sections of a Polypus of the Skin. Papers.—Mr. Ballance: A Case of Popliteal Aneurysm. Dr. Scanes Spicer: Some Hysterical (so-called) Affections of the Throat. Mr. R. F. Benham: A Growth in the Larynx preventing Phonation. Dr. J. B. Ball: Remarks on Hysterical Motor Affections of the Vocal Cords.

CLINICAL SOCIETY OF LONDON, 8.30 P.M.—Dr. Arkle and Dr. Bradford: Case of Aortic Aneurysm rupturing into Descending Vena Cava. Dr. Thomas Oliver: On a Cause of Speedy Death in Heart-disease, with case. Mr. J. Hutchinson: Summer Eruption recurring with great severity for many years, but finally getting well. Dr. Biss: Case of Circumscribed Scleroderma. Living Specimens.—Dr. Larder: 1. Lepra Anæsthetica. 2. Lepra Tuberculosa. 3. Spondylitis Deformans. 4. Dentigerous Cyst of Lower Jaw in a Boy.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

CASTLE.—On November 24th, at 31, Portland Terrace, Newport, I.W., the wife of Hutton Castle, M.B.Lond., of a son.

MACDONALD.—On the 1st inst., at the County Asylum, Dorchester, the wife of P. Wm. MacDonald, M.D., Medical Superintendent, of a son.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us *with Duplicate Copies.*

QUERIES.

GAS STOVES.

CALORIFER asks for information about a gas stove recently brought out by the Leeds Patent Floor Warming Stove Company Limited.

TRICYCLES.

COUNTRY DOCTOR asks any reader who has used either the "Juno" tricycle or the "Beat All" tricycle to give him his experience.

SAN DOMINGO.

STAR asks whether San Domingo is a healthy or unhealthy climate; whether fever is prevalent there; what is the usual temperature in June and December; and whether there are many Europeans there.

PREMATURE LACTATION.

JUVENILE wishes to know if it is usual for lactation to commence early in pregnancy. Should anything be done to suppress the milk; and, if so, what is best? He has a patient, pregnant for the second time, five months gone; the breasts are tense and throbbing, they have for a month or more been secreting milk freely. The first child was born at the end of seven months, and then lactation commenced early, but not to quite such an extent as now.

ANSWERS.

M.B., M.A.—A *Code of Medical Ethics* is published by Messrs. J. and A. Churchill, 11, New Burlington Street, London, W., price 3s. 6d.

INQUIRER.—A list of "Coroners for Counties, Boroughs, etc., in England and Wales" is published in Churchill's *Medical Directory* (p. 1084 in Edition of 1888).

DERBY.—Mr. Walter Pye's paper on "An Old-fashioned Method of Trussing Ruptured Infants" with a skein of worsted was published in the JOURNAL on May 28th, 1887, page 1152.

M.B., M.B.C.S.—So far as we know, there has been, happily, no hospital established for this speciality, but it is one which is attended to at all general hospitals.

THE QUEEN'S JUBILEE HOSPITAL.

NON-HOSPITAL.—Our correspondent can only appeal to the tribunal of public opinion.

LOSS OF HAIR.

DR. J. O'CONNOR (Manchester) writes: Let "Caput" try the following: R Glycerine, 3j; eau de Cologne, 3iv; liq. ammoniæ, 3j; ol. origani, 3ss; ol. rosemarini exot., 3ij; tinc. cantharid. 3iv; aquæ camphoræ, ad 3x. M. Brush the roots with a hard brush three times a week.

STOVES OF BEDROOMS.

A MEMBER.—The George calorigen, if gas is available, or small size of Musgrave's slow combustion, or Portway's tortoise stove will probably be found suitable. It should be insisted that the products of combustion should be effectually carried away; merely standing a stove in a large open chimney is not always sufficient protection, and this point is to be specially regarded in the case of bedrooms. A coil or preferably a range of hot water pipes is sometimes the best form of heating arrangement for bedroom use.

PSYCHOLOGICAL MEDICINE.

M.B., M.R.C.S. asks whether it is necessary for success that a gentleman just beginning the practice of lunacy with the above qualifications should pass an examination for a certificate of efficiency in psychological medicine before the Medico-Psychological Association; if so, he asks where a list of works to read can be obtained, and also the extent of subjects required.

*** Not legally necessary, but an unquestionable advantage. Apply for particulars to Dr. J. H. Paul, The Terrace, Camberwell, S.E.

CHILBLAINS.

MR. ROBERT M'BRIDE, M.B., L.& L.M.R.C.S.I. (Gilford, Co. Down) thinks if "S. H. P." tries the following, he will find it most efficacious: R Lin. belladonnæ, 3ij; lin. aconiti, 3j; acidi carbolici, mv; collod. flexil., 3i. M. To be applied with a camel's hair pencil every night to the parts affected. Of course, in addition to the above, the general health has to be looked after;

tonics when they are required; but in the case where the young lady is perfectly healthy I do not think anything else will be required. It is often advisable to keep the parts warm.

DR. G. E. J. GREENE (Ferns, Co. Wexford) writes: "S. H. P." will find the following topical application a useful one, even when the chilblains are broken: ℞ Flex. collod., olei ricini, spt. tereb., āā 3iv. M. To be used twice or thrice daily. As erythema pernio usually results from sluggish circulation with relaxed capillaries (external surroundings being favourable), a mixture containing tr. digit. and liq. strych. would probably be indicated; and as I presume the hands and feet are the parts involved, I should recommend subsequently, by way of prophylaxis, warm gloves and stockings, with the avoidance of artificial heat when the extremities are very cold, circulation being stimulated by exercise and *effleurage*.

DR. BR. NICHOLSON (South Norwood) writes: It is some few years since I wrote the following, and all who have tried it have professed themselves satisfied with the results: ℞ Spirit. camph., tinct. opii, āā 3ij; acid carbol., gr. xl; spirit. vini, 3iv; aquæ, 3iv. M. and S. If the skin be broken it may be useful to weaken it with a little water, and to apply it on lint or with a soft rag.

BEDSORES.

DR. G. E. J. GREENE (Ferns, Co. Wexford) would recommend "M.B." to try an application of equal parts of castor oil and Canada balsam, if he has not done so already. Judging from the patient being confined to bed for ten years, he opines his case is one of paralysis. In such instances, when the neural lesion is severe, bedsores form very readily and the reparative process is exceedingly tardy. Scrupulous cleanliness and suitable air cushions should be prescribed.

ECZEMA RUBRUM.

DR. RUSSELL STURGIS (Boston, U.S.A.) writes: Allow me to suggest the following treatment of eczema rubrum to "An Old Physician." Have a salve made of boric acid, 3ij; salicylic acid, gr.v; lanolin (anhydrous), 3j. Let this be evenly and thickly spread on old linen cloth, and applied to the patches, and covered with a roller bandage. Allow the dressing to remain three or four days before reapplying. Use pure boric acid in place of the salve when there is "weeping" or where there is purulent discharge, applying the acid night and morning after removing the acid applied the time before. The salve above-mentioned I have found excellent in its effects on the eczema due to varicose veins of the legs before an ulcer has had time to form, and it may be of benefit in this case, the cause of which seems not particularly clear. The intense itching will be very much relieved in all probability.

NOTES, LETTERS, ETC.

DR. W. H. EMBLING, Chairman of the Honorary Medical Staff of the Alfred Hospital, Melbourne, desires us to correct a mistake in the name of Dr. Joske, the Resident Medical Officer of the Hospital, who assisted Drs. Gardner and Cox in performing the operation of total extirpation of the larynx mentioned in the JOURNAL (July 21st, 1888, p. 136).

MESSRS. GEORGE MASON AND CO. (Limited) have been awarded a silver medal and also a diploma of merit for the excellence of their dietetic preparations at the late Anglo-Danish Exhibition.

CYCLES OR CARRIAGES.

ANOTHER JUNIOR PARTNER writes: I have read with much interest the letters lately appearing in the JOURNAL about cycling. They, however, all talked about the matter from the "doctor's" point of view. Perhaps my experience, from a patient's, may be interesting to a Junior Partner.

Last winter I was summoned in a hurry to attend a patient in her confinement; the husband rode over for me, and as soon as he had delivered his message rode off home again. The day was perfect for cycling, but the roads were in so bad a state, newly metalled, etc., that I could not possibly go on my tricycle, and I had no bicycle. I had to wait until a horse was ready, with the consequence that I arrived at the house some considerable time after the husband, and found the baby had been born about half an hour. The husband was very anxious about his wife, who is a very delicate woman, so I explained my delay; and he replied, "Ah, I thought you'd have been able to get on your machine and come at once, or I'd have driven over and brought you back with me." I may mention that in this place there are five "doctors," and we all use the tricycle in addition to carriages in our practices.

GLYCERINE SUPPOSITORIES.

To whomsoever the honour of introducing the use of glycerine clysters in constipation belongs, there can now be no doubt that the method is often exceedingly convenient, and is likely to be still more employed in the future. A suggestion made by Dr. Kroell, of Hamburg, in the *Therapeutische Monatshefte* (II, 11), appears worthy of reproduction, since it removes some of the objections to the method; it is to enclose the glycerine in a cone of cocoa-butter; a long, bullet-shaped suppository can thus be made to hold two grammes (more than one drachm) of glycerine. Dr. Kroell has tried these suppositories in fifty cases with satisfactory results, a copious evacuation being obtained in from five minutes to a quarter of an hour; he finds that the dose for adults is two grammes, and for children from one-half to one gramme. Half a gramme is, however, a small dose even for children.

WOLVERIDGE'S "SPECULUM MATRICIS."

MR. J. BLAKE BAILEY (Librarian to the Royal College of Surgeons), has written a letter on this subject to the *Athenæum*, which was published on November 17th. He narrated the history of Dr. Fordyce Barker's copy of the *Speculum Matricis*, lost at the death of Bourgeaud, the copyist. Mr. Bailey then showed that a note in the JOURNAL brought out the information that two other copies existed. One was in the Radford Library, St. Mary's Hospital, Manchester; the second was in Mr. J. L. Jardine's possession. The latter was presented by Mr. Jardine to the Library of the Royal College of Surgeons; some of its pages were missing, and their place supplied by MS. We may add that Mr. Jardine has presented a beautiful manuscript copy to the Library of the Obstetrical Society. Mr. Bailey found the following singular statement in the preface to the College of Surgeons' copy: "Though the title-page may arrive your view in an Irish garb, with her handmaid barefoot and bare-legg'd, or at the best in brogues and kerchers (according to the custome of the countrey), yet be assured it hath an English dress under an Irish mantle, it being never intended for the Irish (though I heartily wish it may be serviceable to them also, if occasion be), whose fruitfulness is such that there is scarce one barren among them."

The reference to the Irish naturally puzzled Mr. Bailey. On reference to the Bodleian catalogue, he found the book entered as *Speculum Matricis Hybernicum, or the Irish Midwives' Handmaid*, Lond., 1670. On examination of this copy, it was discovered that the book had been issued in 1670 with the title as in the Bodleian catalogue, and that in 1671 a new title had been printed, omitting all reference to "Hybernicum."

The Bodleian copy is apparently unique, unless Dr. Barker's be still in existence. The latter is said to have been published in Dublin in 1670, but in all probability it was the same edition as that in the Bodleian.

CREMATION.

J. F. D. writes: The one objection to cremation is the facilities it gives for murder by poison. This difficulty, it seems to me, could be reduced to a minimum by placing the body in a pitched airtight casket and depositing it for, say, six months in a mausoleum; after which time, if nothing to excite suspicion of foul play comes to light, incineration could be proceeded with.

MEDICAL PROVIDENCE.

MEMBER B.M.A. writes: From time to time we notice in the JOURNAL appeals in aid of medical men, in poor circumstances, who have fallen into ill-health, and are permanently incapacitated for work; and it is often asked why these men did not when in health join some society, such as the Medical Sickness, Annuity, and Life Assurance Friendly Society. Well, doubtless in the majority of cases, there has been no attempt to make any such provision, but it is not generally realised by the profession that, in some cases, even although a medical man might be willing to do so, he may not be eligible on account of some personal ailment or hereditary taint. I speak in this case from experience, for, although I am in good health and have been so for many years, the directors of the Medical Sickness Society feel that, due to my family history, they cannot in equity accept me.

The above-mentioned Society is now established on a firm basis. Is there any reason why a little extension should not be made, as in other assurance societies, and "invalid" lives accepted, an increase in the premium being, of course, demanded? I do not know whether the directors could of themselves make this alteration—which, although a radical one, is not a difficult matter—but, if not, might I suggest that at the next annual meeting some of the strong might champion the cause of the weak? As matters stand at present, the strong are strengthened, and the weak are left to manage as best they can or compelled to accept as a charity what in years previous they might have provided against had the way been open to them.

*** The case put in the above letter is unquestionably a strong one. Unfortunately, the matter is difficult and extremely complicated. The system of increasing premiums to cover a probably greater risk is, of course, often adopted in life assurance contracts; and, although there is a large element of chance in the calculations, on the whole a fairly just and correct average estimate may be formed as to how far the existence of certain factors will shorten life. But when sickness risks have to be considered, the difficulty becomes much greater. This is owing to it being necessary to predict how far a life with a family history, say, of phthisis, is likely to exhibit periods of recurring or continuous incapacity. This is obviously almost impossible, and there are certainly no existing data available by which to gauge such a risk. As a consequence, the only safe policy seems to be to decline a class of insurance which might imperil the security of the existing system.

THE COLOUR CENTRE.

DR. E. DONALDSON (Londonderry) writes: In the JOURNAL for November 10th Dr. Mackay, writing about the sense of light, mentions Dr. Wilbrand's theory that there is a special centre for colour, another for form, and a third for light. Some have held that there are special centres for different parts of speech—one for nouns, another for words used in framing propositions. If, however, "the inroads of disease conform, both as regards structure and function, to the law of dissolution, the mode of invasion being from the complex to the simple, and from the special to the general," it seems unnecessary to postulate special centres because in disease nouns are lost before verbs, and colour before form. This conclusion is strengthened by the remark of Dr. Mackay, that "there is not yet any well-constituted case where a hypothetical half-vision colour centre has suffered alone, and other senses have been left 'intact.'"

PROFESSOR GERHARDT'S CHARGE.

DR. ADOLPH RASCH, Physician to the German Hospital and to the Training Hospital (London) writes: Dr. Dudgeon, in a letter published in the JOURNAL of November 24th, and headed "Professor Gerhardt's Charge," gives as his authority "a German physician, a native of Saxony, in practice in London for thirty years or thereabouts." As that description so very well fits my case, I am, with your kind permission, anxious to inform my friends that I am an entire stranger to Dr. Dudgeon, and that he cannot and does not refer to me.

SMOKER'S PALATE.

DR. JOHN REID (Melbourne) writes: Among the immense numbers of smokers whose mouths are daily inspected, the absence of any deviations from the usual appearances in health is somewhat striking. The two cases presently coming under notice will, therefore, probably be of interest in connection with the correspondence relating to cigarette smoking in the JOURNAL. J. B., aged 57, farmer in the north of Victoria (inland), born in Essex, England, well built and steady, but a heavy smoker, has never suffered from illness of any kind, even indigestion. The palate—chiefly the hard palate—is covered with a number of greyish elevations, round and with indentation in centre, of about one-eighth of an inch in diameter, arranged regularly and touching each other, but not merging into each other. Closer inspection led me to look on them as small ulcers.

E. F. S., farmer in the south of Victoria, living by the coast, aged 34, well formed, drinks at times, but not frequently, never suffered from illness, presented a singular state of palate to Mr. B. A leathery, callous palate of a greyish washleather appearance is not so uncommon among smokers, and may be the first stage of the affection here mentioned. It is pretty certain that neither suffered from syphilis, and it is noteworthy that the gums were sound and free from sponginess.

References have failed to give evidence of reported cases in which the palate is studded over, as above described, with the regularity of the squares of a chessboard, without any inconvenience.

My opinion favours the origin of these small ulcers from the heat, and not the tobacco smoke. The pipes smoked were not long, and ordinary twist was smoked, if my memory serves me well. There is the possible origin from ammonia irritation—whose lesion is somewhat similar—which is, I believe, present in tobacco smoke. Climate is out of the question.

A Rich Dispensary Patient.

AN OLD MEMBER writes: As a specimen of the state of the medical faculty, a patient told me recently that an acquaintance of his, owner of twenty cabs, four vans, a greengrocer's and dairy combined, has had his medicines from a dispensary at sixpence per bottle for several months past. The unqualified poachers have never reached this "lowest depth."

Boric Acid and Lanolin.

DR. RUSSELL STURGIS (Boston, U.S.A.) writes: I should like to call your attention to a trifling inaccuracy in your notice of the use of "Boric Acid and Lanolin," etc., p. 896 of the JOURNAL. I use not 8 per cent. but 20 per cent. of boric acid in the ointment, and not 30 per cent. but 80 per cent. of lanolin. The title of my paper should, perhaps, have been "Aquin," etc., aquin or anhydrous lanolin being the base that I have generally used. The name of lanolin was employed as being more widely known than aquin.

Syphilis Contracted through Striking a Blow.

DR. D. S. writes: In reference to "T. H.'s" communication regarding the above interesting case, as given in the JOURNAL of November 24th, might I suggest that it would be interesting to know how many of "T. H.'s" professional brethren agree with him as to the fact of "all the symptoms" referred to undergoing a "marked improvement" under the exhibition of "large doses of potassium iodide" being confirmatory of the diagnosis of syphilis? Again, does "T. H." mean to say that he considers his patient "well," in the sense of cured, or does he mean to put him under a course of mercury, now that he has removed the outward and visible signs of the disorder?

Might I suggest that it would be also interesting to know whether many of the profession—of country practitioners I speak chiefly—still adhere to the idea that iodide of potash is a specific in syphilis—syphilis I say, as perhaps we may soon be led to consider what we now call "tertiary syphilis" to be a result of the dyscrasia produced by syphilis, and not an integral part thereof?

The Registration of Midwives.

MR. SAMUEL BENTON (London) writes: I am glad to notice some correspondence has appeared in the JOURNAL respecting the registration of midwives. Midwives must not be confused with monthly nurses. For the protection of poor lying-in women there is great need for legislation on this subject, and it would further the cause if medical men would urge its importance on members of Parliament.

The Position of the Epiglottis in Inversion.

DR. ALEXANDER DUKE (Dublin) writes: While reading the interesting paper by Dr. Howard on "A New Way of Raising the Epiglottis," it has struck me that the question might now fairly be asked, whether the favourable results occasionally met with by inverting the patient in cases of chloroform syncope (as recommended by Nélaton) might not really be due to the raising of the epiglottis during the carrying out of that procedure, and not to the additional influx of blood to the cerebrum, to which the success was always formerly ascribed.

An Explanation.

DR. J. CLIMENSON DAY (Camden Town) writes: You have done me the honour to review *The More Excellent Way*, and have passed a tolerably sharp *critique*. I must ask you to correct an inadvertence; for, when you say I advocate a certain preparation of arsenious acid, it would have been only fair to add, in "adynamic" cases of fever, etc. If any of your numerous readers will put to the test what has been advanced, they will probably arrive at conclusions somewhat different to your own. I am greatly obliged for your kind wishes that many, especially younger men "just emerged from their hospital studies," may read *The More Excellent Way*, and the more so as you take such pronounced exception to its irritating style, provoking quotations, and sad ignorance of grammar.

COMMUNICATIONS, LETTERS, etc., have been received from:

Dr. B. Nicholson, London; Dr. Norman Kerr, London; Messrs. Hazell, Watson, Viney, and Co., London; Mr. W. Rawes, London; Mr. E. M. Keely, Nottingham; Dr. Tatham, Salford; Dr. F. Hall, Leeds; Mr. F. Morgan, Cullompton; Mr. J. Parsons, Frome; Our Manchester Correspondent; Dr. J. E. Fishbourne, Monte Carlo; Army Medical Officer; Messrs. Hildesheimer and Faulkner, London; Mr. R. Sleman, Dalston; Dr. G. McDowall, Menston, near Leeds; J. Wilding, M.B., Bristol; Mr. J. A. Grindrod, Rochdale; Mr. J. F. Dell, Great Yarmouth; Mr. G. E. J. Greene, Ferns; Mr. R. Harding, New Radnor; Dr. A. G. Barrs, Leeds; Mr. E. Crockett, Wolverhampton; Mr. J. Taylor, Ticehurst; The Honorary Secretary of the British Medical Temperance Association, London; Mr. W. Whitehead, Manchester; Mr. J. B. Stevens, Renfrew; Our Liverpool Correspondent; Mr. H. G. Nicholson, Hereford; Dr. J. A. Rigby, Preston; Dr. G. A. Abrath, Sunderland; The Secretary of the Sanitary Institute, London; Mr. J. Cherry, London; Mr. C. Boyd, London; Dr. Gowers, London; Dr. J. Adams, Hastings; Dr. Collett, Wick; Mr. T. Luson, Taunton; Mr. A. S. Eccles, London; Mr. T. Barclay, Birmingham; Mr. S. C. Smith, Halifax; Mr. J. A. Magrath, Plymouth; Mr. A. W. Mayo Robson, Leeds; Mr. J. H. Gibson, Aldershot; Mr. J. Molony, Dublin; Mr. H. Taylor, Norwich; Dr. R. J. H. Scott, Bath; Mr. J. R. Beardmore, London; Mr. H. Rowe, Leeds; Messrs. Berger, Spence, and Co., London; Dr. Lewers, London; Dr. L. Atthill, London; Mr. J. E. Callagham, Colyton; Mr. Lennox Browne, London; Dr. S. H. Taylor, Willesden; Dr. G. A. Cardew, Cheltenham; Mr. W. D. Smallpeice, London; The *Philadelphia Medical Times*, Philadelphia; Dr. P. S. Abraham, London; Mr. J. Bumpus, London; Mr. A. D. Rowley, London; The Secretary of the British and Foreign Sailors' Society, London; Mr. T. S. Ellis, Gloucester; Tyro; Dr. A. Bronner, Bradford; Mr. R. Davis, London; Mr. J. W. Hunt, Dalston; Mr. H. Bassett, Bristol; Mr. Briscot, London; Mr. F. R. Humphreys, London; Dr. W. Alexander, Tarland, N.B.; Dr. J. Rutherford, Dumfries; Mr. W. E. Price, Ross; Dr. J. A. McWilliam, London; Mr. J. Bland Sutton, London; Mr. W. Barnes, London; Dr. C. Fahlberg, Salbke, Westerhüsen; Mr. W. J. Walsham, London; Dr. A. Duke, Dublin; Mr. J. H. Crocker, Eccles; Mr. E. Harrison, Hull; Mr. J. Moulding, Liverpool; The Actuary of the Clerical, Medical, and General Life Assurance Society, London; Mr. Wheelhouse, Leeds; The Secretary of Jeyes' Sanitary Compound Company, London; Mr. H. P. Wright, Petersfield; Dr. E. H. L. Oliphant, Glasgow; Mr. W. H. Brown, Leeds; Mr. A. H. Benson, Dublin; Dr. W. Pearce, London; Mr. T. Leeds, High Barnet; Staff-Surgeon A. Corrie, H.M.S. *Rupert*, Hull; Mr. F. W. G. Kinneir, Horsham; Dr. E. Berdoe, London; Messrs. J. and A. Churchill, London; Medical Officer of the Local Government Board, London; Dr. T. Laffan, Cashell; Mr. W. Wallace, Aberdeen; Dr. E. H. Jacob, Leeds; Dr. Silk, London; Mr. C. K. C. Herapath, Bristol; Mr. R. C. Morris, Belper; Mr. M. Smale, London; Dr. A. Rasch, London; Mr. James West, London; Mr. A. H. Huth, London; Mr. A. H. W. Ayling, London; Mr. R. S. Miller, Leith; Dr. Parkes, London; Mr. B. Turner, London; Mr. J. M. Richards, London; Mr. S. Plowman, London; Dr. G. Reid, Stafford; Mr. C. J. Wright, Leeds; Mr. G. W. Ridley, Newcastle-on-Tyne; Mr. J. W. Smith, Doncaster; Professor E. M. Crookshank, London; Messrs. W. Bailey and Co., London; Dr. C. B. Taylor, Nottingham; Dr. A. Hill Hassall, San Remo; Sir J. W. Reid, Bath; Mr. G. R. Parker, Lancaster; Mr. J. J. de Z. Marshall, Hastings; Mr. R. D. Batten, London; Dr. McBride, Wigtown; Mr. F. J. Power, Torquay; Mr. W. Hosgood, Cannock; Dr. Petch, York; Mr. J. Edwards, Liverpool; Dr. G. MacDonald, London; Mr. V. J. Magrane, Darlaston; Dr. C. Norman, Dublin; Mr. F. Page, Newcastle-on-Tyne; Mr. J. Hogg, London; Mr. G. Stoker, London; Mr. W. H. Pearce, London; Dr. A. Napier, Crosshill; Messrs. Seabury and Johnson, London; Mr. S. Murphy, London; Mr. H. Humphreys, Keighley; Dr. Sykes, Mexborough; Mr. W. A. Ellis, London; Dr. F. C. Turner, London; Mr. F. Vicars, London; Dr. C. H. Harvey, Ryde; Mr. W. Robinson, London; Surgeon-Major W. H. Cadge, Carlton Colville; Surgeon S. J. Flood, Belfast; Mr. W. Patterson, London; Dr. S. Martin, London; Dr. W. A. Cummins, Cork; Messrs. Burroughs, Wellcome, and Co., London; Dr. T. P. Mules, Manchester; Mr. C. G. Campbell, Saddleworth; Dr. G. E. Shuttleworth, Lancaster; Dr. Guisani, Cork; Dr. E. T. Yeates, London; Mr. T. S. Ellis, Gloucester; Mr. T. H. Toswill, Exeter; Dr. C. M. Chadwick, Leeds; etc.

BOOKS, ETC., RECEIVED.

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A Box of Christmas Cards. London: Messrs. Hildesheimer and Faulkner.

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REMARKS
ON
FAILURE OF THE HEART FROM OVERSTRAIN,

Being the Opening of a Discussion in the Section of Pathology at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By Professor ROY, M.D., F.R.S.;
AND
J. G. ADAMI, M.A., M.R.C.S.,
From the Cambridge Pathological Laboratory.

It has long been known that there is a connection between the work done by the heart and disease of that organ. For example, we may recall the fact that in intra-uterine life, when the right side of the heart is mainly concerned in the circulation of the blood, the valves of the right heart are more liable to disease than those on the left side, while after birth the valves of the left side, which have more work to perform than the right heart, are also more frequently affected.

It is known, also, that certain forms of heart disease, so-called "overstrain" of the heart, are due to the organ being called upon to perform more work than it is capable of compassing without harm to one or other part of its complicated mechanism. The chief recognised cause of this form of overstrain is active or prolonged muscular exertion, which, as we know, involves a higher arterial pressure than the mean normal, and an increased supply of blood to the contracting muscles. It is, moreover, recognised that there are many other conditions besides those mentioned which throw increased work upon the heart, and which may lead to disease of the organ, such as certain forms of acute or chronic renal disease, syphilis, and, in general, all those conditions in which the arterial blood-pressure is higher than normal.

The diseases of the heart which result in such cases are, in some instances, chiefly evident in the valves; while in others the muscular wall of the organ is the part in which the effects of the overwork are most marked. We may mention, also, that in disease of the valves, however produced, the effect of the incompetence or stenosis is to throw more work upon the heart, so that one main result of valvular disease is to increase the work of the organ, or part of the organ. The pathology, therefore, of overwork necessarily underlies the pathology of failure of the heart from disease of its valves.

When, also, from any cause the muscular power of the heart is diminished, whether from imperfect blood-supply, fatty degeneration, or impaired quality of the blood, or from any of the many known causes by which the power of contraction of the heart is impaired, we have a condition in which the relation between the work required of the organ and its power of doing that work is affected in an analogous way to that which occurs when the work of the heart is increased, and its power remains constant.

These considerations induced us to make a series of experiments on the effect upon the heart of variations in the work which it is called upon to perform in conditions of health and disease.

In speaking of the work done by the heart, we refer to the mechanical units of work done by the organ in a certain given time, and which can be found by multiplying the quantity of blood thrown out by the heart by the pressure against which that blood is thrown out; that is, the two factors to be considered are—the quantity of blood expelled by the ventricles in a given time, and the arterial pressure. Thus, in investigating the relation of the work of the heart to the effects of that work upon the organ, it is with these two factors that we have to deal. They can most conveniently be considered separately, and such separate consideration or investigation is, in many cases, desirable, seeing that as causes of disease they do not necessarily go hand-in-hand; indeed, in certain cases one of them may be exclusively active.

Changes in the Blood-Pressure.

Let us take, first of all, the effect upon the heart of changes in the arterial pressure, what we have to say applying equally to the left and to the right heart.

It is, of course, easy to vary the arterial pressure experimentally in animals by many methods. For example, by stimulation of vaso-constrictor nerves the arterial pressure can be raised, while by a section of certain of these, or by stimulation of certain vaso-dilator nerves, the arterial pressure can be lowered, in each case within certain limits. Such methods have various objections, which need not be mentioned here, and we preferred to influence the pressure against which the heart has to force out its contents, by narrowing the aorta at one or other part of that vessel, with or without closure or narrowing of certain of its branches. In order to measure the increased resistance against which the heart has to empty its contents in such an experiment, we found it most convenient and accurate to record graphically the intra-ventricular pressure, by means of some trustworthy pressure-gauge. For such a purpose, we have to hand in our laboratory the instrument already described by Mr. Rolleston,[1] in his paper on the Intra-ventricular Pressure Curve, and which gives, we believe, satisfactory tracings of the changes in pressure of any chamber of the heart with which it is placed in communication. It consists, as

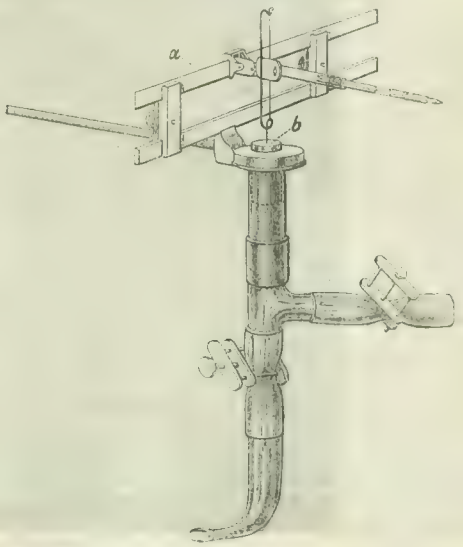


Fig. 1.—Intra-cardiac Pressure-gauge. The glass cannula shown at the lower part of the instrument is introduced into the ventricular cavity, the side branch of the T tube being closed. The instrument is filled with oil or other fluid, which transmits the pressure within the heart to the piston *b*, this latter being in communication with the recording lever (represented broken in the figure).

will be evident from the diagram, of a light piston, which can rise and fall in the carefully bored tube, *b*, in which it moves without appreciable friction, while the space between the piston and the tube in which it oscillates is so narrow that little or no fluid can escape. This piston is attached to a recording lever, whose movements are restrained by the resistance to torsion of a strip of steel, *a*, in such a way that the excursions of the piston and the recording point of the lever, which writes on the blackened surface of a revolving cylinder, correspond to the hydrostatic pressures acting on the under surface of the piston. This is not the place to go into the technical details of this method, which are given in Mr. Rolleston's paper, and we need only add that such pressure-gauge may be connected with any cavity of the heart without any difficulty, the heart being exposed by making a window in the thorax, and the respiration of the animal being carried on artificially. In all our experiments on this subject, the animal—usually the dog—has been under the influence, during the experiment, of an anæsthetic, and has, therefore, suffered no pain.

We can only give here a few of the more striking facts obtained in experiments of the kind above indicated. For example, we may say that as the outflow of the blood from the heart is interfered with, the maximum pressure within the ventricle increases,

[1] *Journal of Physiology*. Vol. viii., 1887, p. 237.

this increase in pressure having a limit, and this limit varying in different animals. The intra-ventricular pressure in the left ventricle during systole, which in the dog is normally something under 130 millimètres mercurial pressure, can, by gradual narrowing of the ascending aorta, be raised to 250 millimètres, 300 millimètres, or even a little more, in certain cases. Beyond a certain point further narrowing, and even complete closure (which of course is only possible for a few seconds without causing death) does not raise the pressure within the ventricle beyond the limit above referred to, which limit varies with the animal and with the condition of the heart at the time. With two successive momentary closures of the aorta the maximum pressure obtained in the left ventricle is the same. With fatigue of the heart, produced either by continued slight narrowing, or often repeated great narrowing, or complete closure of the aorta, this maximum limit gradually falls. We may add also that the curves show a rise in the pressure during diastole, which is relatively less than the rise of systolic pressure. This is well shown by the curve. Such narrowing of the aorta produces a very evident distension of both ventricles, which, nevertheless, go on contracting and expanding in what to the eye seems a perfectly normal manner. Examination of the large veins, however, shows that in them, with the great or extreme narrowing just referred to, there is a very visible wave proceeding from the heart with each ventricular systole; in other words, this narrowing of the aorta produces regurgitation through both mitral and tricuspid valves. The effect, then, of greatly increasing the resistance which the ventricles have to overcome in the evacuation of their contents, is to raise the intra-ventricular pressure during systole to a height varying with the individual heart under observation, and to cause great expansion of the chambers of the heart with regurgitation eventually through the auriculo-ventricular valves.

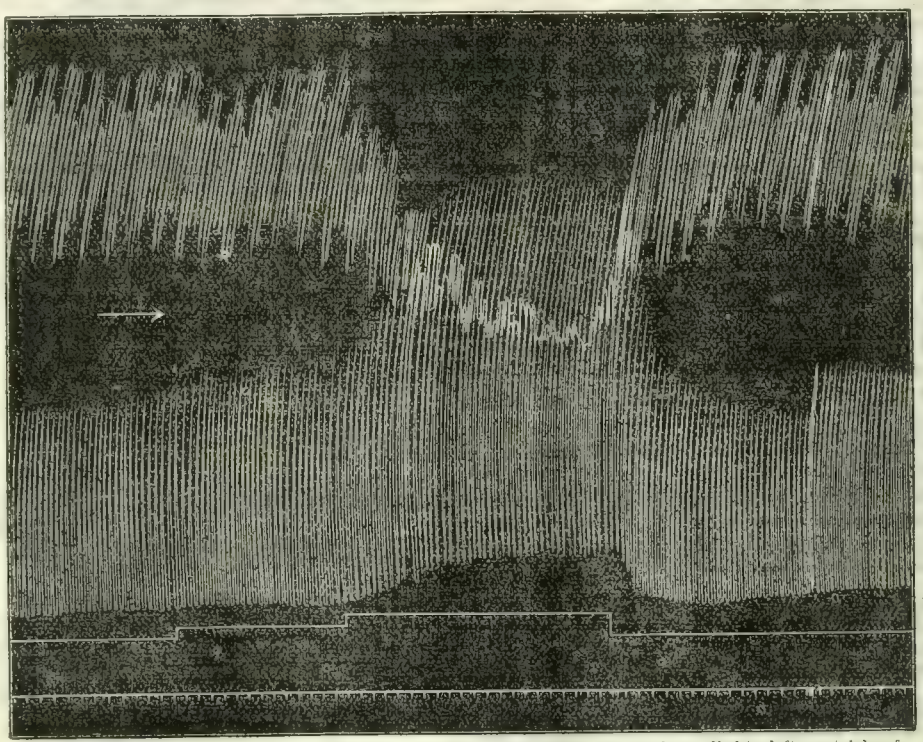


Fig. 2.—Simultaneous tracings of cardiac pressure-gauge and cardiac myograph, applied to left ventricle of dog. The time-curve gives intervals of one second. The signal-curve shows during the slightly raised part the time during which the ascending aorta was slightly constricted, while the middle part of the curve, which is raised higher, gives the time during which the aorta was completely closed. The point of this curve, at which it returns to its original level, indicates the moment when the ligature round the aorta was completely removed. The upper curve was taken by an instrument which permits of a graphic record being obtained of the distance between any two points on the heart wall. [This instrument we hope to describe elsewhere.] The two points on the front of the left ventricle from which the curve was taken lay in a line parallel with the interventricular sulcus, and were situated about halfway between apex and base of the ventricle. Upward movement of the lever point corresponds to approximation of the points chosen—in other words, to contraction of the wall of the ventricle. The individual contractions of the heart, as well as the effect of the respirations, can be readily recognised, together with the great expansion of the ventricle during the period of closure of the aorta. During this time, also, it can be seen that the shortening of the muscular fibres of the ventricle in systole is greatly diminished. The larger curve gives the intraventricular pressure rise of the lower point corresponding to rise of pressure. The slight rise of pressure in systole during the period of slight constriction of the aorta is well shown, as well as the fact that the pressure in diastole remains unchanged. During the period of complete closure of the aorta the systolic pressure soon rises to its maximum limit, which in the case of the heart in question was about 250 millimètres mercurial pressure. During the same period of time the diastolic pressure rises gradually to an extent relatively much less than the rise in systolic pressure.

It may further be noted that the supply of blood to the heart muscle influences the height of this limit. This is shown by the fact that narrowing the aorta raises the maximum pressure obtainable in the right ventricle by narrowing the pulmonary artery. The experiment on which this statement is founded runs as follows:—the pulmonary artery is first narrowed (the pressure-gauge being connected with the right ventricle), and the maximum pressure thereby produced is recorded. When this is repeated shortly after the aorta has been greatly narrowed, a very much higher systolic pressure is found to result. We see no reason to doubt that here, with the increased pressure resulting from constriction of the aorta, the coronary arteries receive an augmented blood-supply, which improves the nutrition of the right ventricle.

After overstrain of the heart produced in this way, the valves are found to present certain anatomical changes, to which we will presently have to refer. In the meantime it is more convenient to proceed to the consideration of the second factor which influences the work of the heart, namely, the quantity of blood thrown out by it in a given time.

Changes in the Amount of Blood Expelled.

Ludwig's *Stromuhr*[2] is capable, it need hardly be said, of giving information on this subject, but it is not specially suited for our purpose, seeing that it gives no indication of the effect on the heart itself of variations in the quantity of blood thrown out by that organ, nor can it be conveniently employed without very serious interference with the circulation in the systemic arteries. The method which we employed is one which permits measurement both of the amount of blood thrown out of the heart in a given time, and the effect on the heart itself of variations in that volume. It consists in enclosing the living and working heart in what is for all practical purposes a rigid air-tight box, the variations in whose contents can be recorded graphically. In other words, it is a cardiac plethysmograph, or oncograph. We will in the following pages refer to it by the name cardiometer.[3]

The construction of this instrument will readily be understood on looking at the diagram. Here, also, we need not trouble you with technical details, and will only say that round the root of the heart is placed a metal ring, which is made in two pieces, for convenience of adjustment, and which is grooved outside, so as to retain in position a ring of india-rubber, something like an ordinary umbrella ring. This double ring having been placed round the root of the heart, the outer or parietal layer of the pericardium is then drawn tight over it, while against it, and firmly pressing the pericardium, are screwed the two halves of the

[2] Stolnikow. *Die Aichung des Blutstromes.* Dubois-Reymond's *Archiv*, 1886.

[3] Both cardiometer and pressure-gauge were made for us by the Cambridge Scientific Instrument Company

lower hemisphere of a spherical box. The upper part of the box is then screwed to the lower half. Attached to the upper hemisphere is a wide cylindrical tube, in which moves a piston, *c*, connected with a recording lever, a loose, inelastic membrane preventing any passage of air or fluid by the side of the piston, while it allows a free oscillation of the latter. Finally, the interior of the instrument having been filled with warm olive oil, and the piston pulled upwards by means of an india-rubber spring, *d*, so as to render the pressure outside the heart subatmospheric, as under normal conditions is the case, tracings of the changes in volume of the heart are recorded by the point of the lever on the blackened surface of a revolving cylinder. When the heart contracts, the point of the lever rises, and when the heart expands the point of the lever falls, while the distance between the position of the lever point before, and that at the end of, systole expresses the amount of blood thrown out by the heart during its contraction. The volume of blood entering

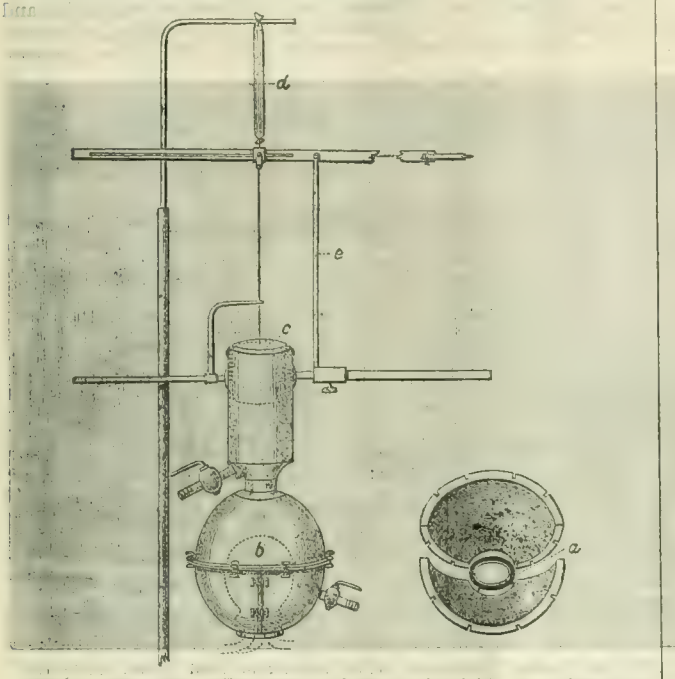


Fig. 3.—Cardiometer. The separate figure to the right shows the parts (seen from above) composing the lower part of the box, and which are represented detached from one another. The oval ring *a*, composed of an inner metal ring surrounded by a circle of india-rubber, is first placed round the root of the heart, as close as possible to the reflection of the pericardium, so that the parietal layer of that membrane is outside and the visceral inside the ring. The two halves of the lower hemisphere are then screwed together, the oval opening at the bottom clasping firmly the india-rubber ring and pressing the pericardium against it. The hollow sphere shown at the lower part of the larger figure replaces the parietal pericardium, forming a cavity sufficiently large to allow the heart (shown by the dotted lines at *b*) to expand and contract freely. The horizontal recording lever rotates round an axis at the top of the support *e*. The rest of the figure is sufficiently described in the text.

or leaving the heart, which corresponds with any given rise or fall of the lever point, is easily obtained by gauging the instrument before or after the experiment. Our observations lead us to believe that this method of investigating the amount of blood thrown out by the heart, and the size of that organ in systole and diastole, is not only easy of application, but is also very accurate—to us, when we first used it, surprisingly so.

We can in the time at our disposal give only a few of the facts obtained by this method. We may say, first of all, that the quantity of blood thrown out by the heart in a given time is liable to very great variations, independently—that is, without any corresponding change—of the arterial blood-pressure.

Let us take, however, first of all, the effect on the heart of changes in the pressure within the arteries. Rise of the arterial pressure produced, for example, by narrowing the descending aorta, a mercurial manometer recording the carotid pressure, does not change the amount of blood thrown out by the heart during the period of raised blood-pressure, as compared with that before or after the period of narrowing. The heart itself, however, is appreciably affected by such change in the blood-pressure. Its size at the end of systole is greater than with normal arterial pressure, that is, there is not so complete an expulsion of blood; while, at the same time, its expansion during diastole is also greater. The *rationale* of this fact appears to be simply that, with a higher resistance to their contraction, the ventricles contract less in systole, while the rise of blood-pressure in the arteries not diminishing the quantity of blood which reaches the heart in a given time, the ventricles must necessarily expand more in diastole, seeing that they contain this increased residual blood in addition to the normal quantity entering from the veins. The result is that, when the arterial pressure rises, the volume of blood in the heart, both at the end of systole and at the end of diastole, is increased. Analogous results are produced when the arterial pressure is raised by other methods. In other words, the effect of

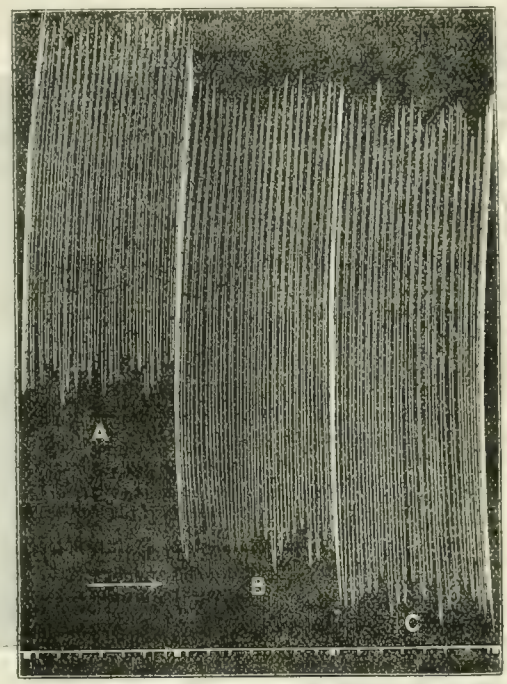


Fig. 4.—Cardiometer tracing, showing the effects of an injection of 50 cubic centimètres of normal salt solution into the external jugular vein of dog. A, before injection; B, after the injection of 30 cubic centimètres; C, after the injection of 50 cubic centimètres (in all) of the solution. The time-curve gives seconds. The increased magnitude of the individual beats, that is, the increased amount of blood thrown out at each contraction, is well seen. The rate of beat is not appreciably altered. The increase in the amount of blood passing through the heart in a given time, resulting from the injection, is about 34 per cent. The figure, moreover, shows that with a greater amount of blood passing into and out of the heart per beat the dilatation of the organ is not purely confined to the diastolic period (base of curve), but affects the heart in systole as well. For further details of mode of measurement see description appended to Fig. 5.

variations in the arterial pressure on the heart is that increased resistance produces diminution of the systolic contraction of the ventricles; and, the quantity of blood entering the heart in any given time remaining the same, this diminished contraction is, *cæteris paribus*, necessarily accompanied by increased expansion in diastole.

We have seen that, in the experiments first referred to, the expansion of the heart so produced leads, if extreme, to functional incompetence of the auriculo-ventricular valves—an effect which is all the more readily produced the more fatigued the heart is.

Let us now consider some of the influences which affect the quantity of blood thrown out by the heart in a given time, and the effects on the organ itself of such variations. It need hardly be said that the larger the quantity of blood which reaches the heart by the veins, the larger the quantity will be which it throws out. In our experiments we find many influences which affect the work of the heart in this way, and which have, curiously

enough, been overlooked by writers on the subject. We may say, first of all, that the quantity of blood within the vascular system influences greatly the volume of blood which the heart has to expel in a given time. This can easily be seen on injecting blood, three-quarter per cent. salt solution, or other appropriate fluid, into one of the veins. For example, we find in one experiment (illustrated by Fig. 4) that injection of 50 cubic centimètres of salt solution produced an increase in the mechanical work done by the heart equal to about 34 per cent.

The calibre of the veins also necessarily affects the quantity of blood which reaches the heart in a given time. This fact can be very well shown by applying gentle pressure to the abdomen, as is well shown by the tracing in Fig. 5. Narrowing of the veins has, therefore, the same effect as increasing the volume of blood in the vascular system.

There are many other ways by which this factor in the work done by the heart can be varied, without any change in the arterial pressure, but we do not propose to occupy your time with this subject, seeing that what concerns us here is the effect of change in the work of the heart, however, produced on the organ itself. It need hardly be said that where the rapidity and force of beat remain constant, any increase in the amount of blood which reaches the heart must necessarily increase the diastolic expansion of the organ. Within physiological limits, there appears to be no great harm in such variations in the diastolic expansion of the heart, which, we may note in passing, are very much greater than is generally supposed. We have no reason to believe that, with an increased degree of expansion in diastole, more energy is expended in throwing out a given volume of blood against a given arterial pressure. Supposing the arterial pressure and the force of the muscular contractions to remain constant, any increase in the diastolic expansion of the ventricle necessarily implies a diminished degree of contraction in systole, although the volume of blood expelled by the heart with each contraction may be, and in physiological conditions always is, increased. This is well seen in Fig. 5. When the work of the heart is raised owing to increase in the volume of the blood reaching it by the veins in a given time, the extent and the efficiency of contraction is increased, although the degree of contraction of the individual muscle fibres at the end of systole is diminished.

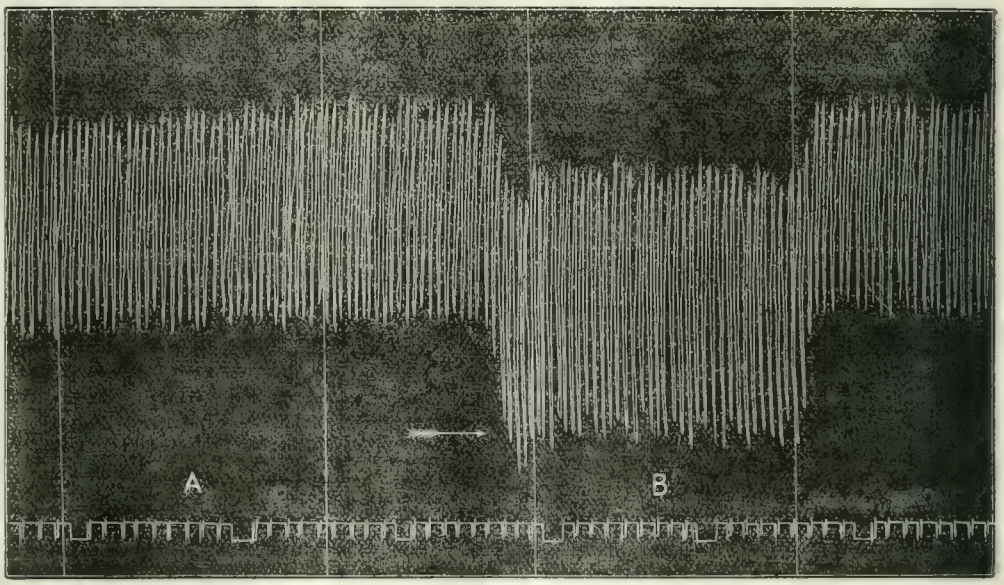


Fig. 5.—Cardiometer tracing, showing effect of abdominal compression on the amount of blood thrown out by the heart. The time-curve gives intervals of one second. During the period between the two vertical lines at A the heart gave 32 contractions, the average height of the movements of the lever-point resulting from these being 27 millimètres. Multiplying 27 by 32 we obtain 864 millimètres of upward movement during that time. Between the vertical lines B, during which the abdomen was being compressed, the heart gave the same number of contractions as during the same period of time before compression. The average height was now 35 millimètres, which number multiplied by 32 gives 1,120 millimètres of upward movement. This is equal to an increase of almost 30 per cent.—more correctly, 29.6. As abdominal pressure does not lower the aortic pressure, this amount represents an equal increase in the work done by the heart. The curve also shows that the increased inflow to the heart, resulting from abdominal pressure, leads to diminished contraction of the heart in systole, as well as to a relatively greater expansion in diastole. The period of compression begins immediately before the third vertical line, and finishes immediately after the fourth.

It is generally asserted that, at the end of each contraction, the ventricle is always completely empty of blood, a view which is evidently opposed to what we have just said as to the varying amount of residual blood in the ventricles at the end of systole.

The following experiment, even were there no other evidence at hand, conclusively shows, we think, that the generally received views upon this subject are erroneous. The experiment consists in introducing the little finger through the apex into the interior of the left ventricle of the living animal, the heart having been exposed. This, at first sight, very difficult operation, is perfectly easy, and need not cause any escape of blood. The finger is introduced in the same way as the cannula of the instrument first described by us—namely, by being pushed through an incision which has penetrated two-thirds of the distance between the pericardium and endocardium. The heart continues to beat, as far as can be seen, quite normally under these circumstances, and by the finger so introduced it can be felt that, at each contraction, the lower part of the ventricular cavity closes completely, the musculi papillares coming into contact with one another; the upper part of the cavity, however, lying between the valves and the papillary muscles does not become emptied.

We must assume that, *cæteris paribus*, beyond a certain limit, increase in the work of the heart due to increase in the volume of blood thrown out in a given time tends to fatigue or weaken the organ.

We find, then, that the work of the heart varies very greatly within physiological limits as a result both of the changes in the arterial pressure and in the amount of blood which reaches the organ, and that variations in the latter are of even more frequent occurrence than in the former. There is also the fact that increase in the work done, other things being equal, produces diminished completeness of contraction in systole, and therefore an increase in the residual blood in the ventricle. This physiological dilatation of the heart with increased work becomes, when excessive, the cause of failure of the organ from overwork or overstrain, as it is generally called; in other words, the heart goes on contracting and sending out all the blood which reaches it (excepting, of course, the residual blood) until the moment when, either from increase in the arterial pressure, or from weakness of the heart muscle resulting from fatigue or from disease of its walls, the muscles at the basis of the ventricles no longer in systole narrow the auriculo-ventricular orifices to a degree which permits of these orifices being closed by their valves, these not being capable of expanding to the same extent as the muscular substance of the heart. This fact is very prettily illustrated by an experiment, we believe, of Cohnheim's, and which we have frequently performed and seen performed; it consists in narrowing the ascending arch of the aorta by a screw clamp while the arterial pressure is recorded by a mercury manometer connected with one of the carotids, the clamp therefore being placed *between* the heart and the point at which the arterial pressure is measured. As the clamp is gradually screwed up there is no corresponding fall in the manometric pressure, such as might *a priori* be expected. What happens is that when the aorta has been narrowed to a considerable extent, which varies in different animals, the arterial pressure suddenly falls, and if the clamp be not removed the animal dies. This continuance of the normal pressure up to the time when the sudden fall occurs is not due to narrowing of any

or all of the systemic arterioles, as has been supposed by some. Our own observations show that all the blood which reaches the heart is thrown out by it into the arteries until incompetence of the auriculo-ventricular valves results from dilatation of the heart.

We do not, of course, for a moment suppose that the causes of heart failure in man ever act with the rapidity or intensity of those present in this experiment. What most usually takes place apparently is that the mitral valve, whether from primary disease or from overstrain, gives way gradually. This gradually-produced regurgitation is in part compensated by rise of pressure in the pulmonary veins, which is kept up until from failure of the right heart the tricuspid gives way.

Let us now consider briefly some of the special pathological conditions of the heart, on which light appears to us to be thrown by what we have stated above. The much discussed question as to the possibility of hypertrophy of the heart in plethora without increased arterial pressure appears to us to be answered by the detailed facts and considerations. They appear to us to offer a sufficiently simple explanation of this form of hypertrophy. We have, however, never seen such cases.

Of acute overstrain of the heart from intense muscular exertion, one of us (R.) has on one occasion had personal experience: when, during convalescence from typhoid, he found himself called upon as a medical man to make a fatiguing and rapid journey with a relieving party over the Mer-de-Glâce to the "Jardin" to attend to a Chamouni guide who had been severely injured by an Alpine accident. The sensations felt are well described by Clifford Allbutt,[4] with whose observations on overstrain of the heart our own results fully coincide. The feeling of want of breath and fulness in the region of the heart, as well as the sense of extreme muscular limpness, are well-marked subjective phenomena.

With regard to the objective phenomena, it did not occur to the one of us personally involved in this matter to percuss out his heart, as was done by the more intelligent Clifford Allbutt, who found the area of dulness increased; but such characteristics of the condition as are appreciable to the non-medical eye led the injured guide in question to remark, "Mais vous êtes essoufflé, Monsieur, il faut prendre du cognac," which treatment with rest was found efficacious, mere rest, however, it may be remarked, not giving the immediate relief obtained from it in cases of breathlessness from ordinary exertion. Swiss guides, who are exposed to extreme fatigue in cutting steps on ice in mountain climbing, are well acquainted with the condition, as has previously and independently been noted by Clifford Allbutt; they have found that cognac gives a fillip to the system at the right time, and with rest gives relief.

Did the time at our disposal admit of it we might say a good deal on the light which, we believe, is thrown by our observations on the pathology of heart failure in chlorosis and some other forms of anæmia and hydræmia. Much might also be said on the effects of disease of the different valves of the heart and the resulting overstrain thereby thrown on the organ, or part of the organ. We need, however, here only mention that dilatation of the heart in such cases, as well as in cases of primary disease of the heart-wall, is recognisable both at the bedside and after death. This dilatation we have shown to be a necessary result of increase in the work of the heart, as a result either of increased arterial pressure or of increased output of the organ, and that failure of the heart only takes place when incompetence of the auriculo-ventricular valves from dilatation of the orifices, makes it impossible for the heart to throw into the arteries all the blood that has reached it by the veins.

We have intentionally avoided referring in the above to the influence on the work of the heart of changes in the rate of beat of the organ. We have purposely also avoided entering on the question of hypertrophy, or of the effect on the heart of the vagus and accelerans. These are matters which we hope to deal with in a future communication.

Affection of the Valves from Overstrain.

We must now return to the relation between overstrain and secondary disease of the valves, and we have first to describe the anatomical changes in the valves which we found to result from artificially produced overstrain, seeing that these appear to us to throw much light on certain forms of valvular disease. If the ligature by which the aorta is narrowed be placed round the ascending portion of the aortic arch, and then either repeatedly tightened for a short time, or by slower, or by continued slight narrowing, failure of the heart and regurgitation through the auriculo-ventricular valves, be produced, we find that, in nearly every case (six cases at least out of seven), certain portions both of the aortic and mitral, as well as the tricuspid valves are the seat of œdematous thickening. In the aortic valves this thickening is most marked along the line of insertion of the flaps; these flaps themselves presenting also in some cases a varying degree of thickening. With regard to the mitral and tricuspid valves the thickening is situated chiefly along those parts of the flaps which are normally in apposition during systole. In other words, the œdema occupies those parts of the valves which are specially liable to become thickened by formation of fibrous tissue, in such diseases as chronic Bright's or syphilis, with secondary hypertrophy and valvular disease of the heart.

In other of our experiments, in which the aorta has been narrowed at a part of its course where there was no possibility of interference with the lymphatics of the heart, there has been no great thickening of the valves, although, in these cases also, we have always found, on killing the animal, some slight thickening along the line of insertion of the aortic valves, and a very characteristic roughening of those parts of the mitral valve which are the seat of œdema in those of our experiments where, besides narrowing the aorta, we presumably interfered, to a certain extent, with the outflow of lymph from the heart. This roughening we could see, with the aid of a hand lens, was due to the distension of the beaded lymphatic vessels of the flaps. Very commonly also a dulness of certain parts of the endocardial covering of the valves led us to suspect a shedding of the endothelium. In all cases there were punctiform ecchymoses along the same parts of the mitral flaps, the rest of the endocardial lining showing only exceptionally any appreciable congestion or ecchymosis, and never being found œdematous by us.

We may note in passing that we are aware that the left segment of the tricuspid valve of the healthy dog usually presents a variable degree of thickening.[5] These anatomical changes in the valves, which result from overstrain, we interpret as indicating an increase in the amount of lymph in certain parts of the valves. That such increase or stagnation of lymph tends to formation of fibrous tissue in the affected part, we know is the case in many other tissues. Of these we may mention the fibrous thickening of the subcutaneous tissue of the arm, in the case of persons where cancer of the axillary glands obstructs the outflow of lymph from the limb.

We are impressed by the fact that the situation of the œdema of the flaps is strikingly identical with that of the fibrous thickening present in the valves of those cases of heart disease which occur in conjunction with abnormally high arterial pressure. We believe the œdema and the fibrous tissue to be due to the same cause, namely, the increase in the quantity of lymph, which is possibly of a purely mechanical nature.

As to the question whether the endothelium be or be not liable to be stripped off the valves in cases of overstrain, and whether such stripping off, if it take place, might not be the cause of deposit of the blood platelets, or of fibrin, and thus lead to socalled "verrucose endocarditis," this is a matter which we cannot discuss here.

Plenty of examples of secondary disease of the valves from overstrain might be given, but we know of none in which the relation between cause and effect appears to us so evident as in the case of the heart changes present in chronic renal disease accompanied by high arterial pressure and hydræmia, both of which, as has been seen, increase the work of the heart. This increased work leads to hypertrophy of the organ; but, over and above this hypertrophy, disease of the valves is of specially common occurrence; Goodhart, for example, in his valuable paper on "Anæmia as a Cause of Heart Disease," remarks that where "there has been prolonged regurgitation on the right side of the heart, the tricuspid flaps are generally considerably thickened."[6] Stenosis apparently never occurs in these cases. He says, also, that seldom, in cases due to a primary muscular fault, and to conse-

[4] *St. George's Hospital Reports*, vol. v, 1870, p. 29.

[5] Reyher, Virchow's *Archiv*, xxi, 1861, p. 85, states that in thirty-three dogs examined he constantly found thickening of the septal flap of the tricuspid valve, and the other valves much more frequently diseased than has generally been supposed. We are acquainted with the appearances described by Reyher, and there is no reason to believe that we have been led into error by mistaking these for the results of acute overstrain.

[6] *Lancet*, vol. i, 1880.

quent failure of the mitral valve by stretching, do we find the condition of the mitral one of simple dilation of the orifice. The chordæ tendineæ and the edges of the valves are usually thickened. There appears to be no stenosis in thsoe cases where the failure is due to senile weakness of the muscle, or to degeneration.

"Take, next," he remarks, "another fact less well known than it ought to be, namely, that in a large number of cases of chronic renal disease there is a notable, and sometimes extreme, thickening of the mitral flaps." "Of 192 consecutive cases of chronic renal disease, 72, or more than one-third, had some thickening either of the mitral or the aortic valves, or both. In 49 of these the mitral was either thickened or actually contracted. The mitral was contracted, and therefore very thick, in 9 cases, and all 9 were from cases of granular contracting kidney; 97 of the 192 cases were granular, and of these 45 had more or less thickening of the valves."

Goodhart states as his opinion that much of the mitral stenosis, where there is no history of rheumatism, and which is so common in women compared with men, is the outcome of the chlorotic, mitral regurgitation which is so commonly met with in girls and young women. With Goodhart's views on this subject we entirely coincide.

Dr. CLIFFORD ALLBUTT expressed his great interest in Professor Roy and Mr. Adami's paper, and his sense of its value in testing or explaining clinical observations. He urged that the study of mathematics and physics was one of the chief needs in the education of young physicians, who proposed to devote themselves to original research.—Surgeon-General MACLEAN asked the attention of the Section to the practical bearings of this question from a military medical point of view. When he became professor of military medicine at Chatham, he was struck by the enormous proportion of soldiers of short service who were constantly passing through Fort Pitt suffering from palpitation without cardiac murmur. This was traced to the immense pressure exerted on the chest of the soldier by tight clothing and ill-contrived accoutrements. A committee was formed, chiefly under the guidance of Professor Parkes, which resulted in a very marked demonstration of heart disease in the army, and led to an improved system of accoutring the soldier. One other feature remains—namely, the system of setting-up drill by the drill sergeant. This subject has been brought about by the "setting-up drill" on the drill ground; it has been brought to notice by Dr. Davis, and is likely soon to be remedied by an improved system of drill.—Dr. WILLIAM HUNTER desired to add his testimony to the great value and importance of Professor Roy's paper. He had had the opportunity of seeing Professor Roy and Mr. Adami engaged in many of their experiments on the heart, and nothing in connection with the subject had struck him as more remarkable than the fact that the heart could be subjected to an amount of manipulation far in excess of what one could *a priori* conceive possible without apparently in any way interfering with its action. The condition of ecchymosis and œdema of the mitral and aortic valves after temporary narrowing of the aorta he had frequently had occasion to observe and verify. The condition appeared to him one of no little importance in throwing light on the mode of production of chronic changes in these valves in cases of increased pressure of long standing such as that met with in chronic Bright's disease.—Dr. BOYES SMITH (Netley) spoke to the profoundly important bearings of Professor Roy's paper, particularly in its bearings on the efficacy of the British army. There was a vast drain on the national exchequer from the results of heart failure in the person of the young British soldier. Acute "overstrain" of the heart seemed to depend upon the conditions attending what Dr. Walshe long ago characterised as the "dynamic" heart. It led to great cardiac disturbance (telling apparently at first upon the right heart), to palpitation, extended heart sounds, extended thrill, fugitive murmurs. The physical signs of organic lesions did not exist, and yet the soldier was, for the time at least, altogether unfit for active military duty. His condition, in a vast number of cases, involved his being invalided from the army, after which, probably from renewed "compensation," or rather from rectification of disturbed dynamic conditions, he sufficiently regained his health to be fit to earn his livelihood in civil life. Dr. Smith entered at some length into the clinical points bearing on the differential diagnosis of conditions of acute heart strain, and noted its causes, and he dwelt with great emphasis on the incalculable value of such researches as Professor Roy had been good enough to lay before the Pathological Section.—Dr. GORDON HARDIE observed constantly in India the supervention of functional palpitation of most severe degree in men in hospital whose only antecedent disease had been simple intermittent fever, possibly a result of malarial neurosis. The palpitation came on in hospital under no conditions of strain, but of repose and loose hospital dress. In his experience of invaliding of the British army the amount of valvular disease, especially aortic, in men apparently in perfect health exceeded anything he could have expected. As regards aortic regurgitation, Dr. Addison, of Guy's Hospital, used to tell his pupils that then it was specially the disease of the heart of paviors and hod-men.—Dr. FINLAYSON (Glasgow) said that when he was asked by the secretary to take part in this discussion he felt that he had nothing more to say on the subject of overstrain of the heart than was quite familiar to all hospital physicians. On reflecting, however, he thought there were perhaps two subjects he could bring forward worthy of remark. A young gentleman had suffered from cardiac symptoms dating from a distinct acute overstrain when a boy at school. The medical attendant took then the somewhat too common optimistic opinion of heart disease in young subjects, that he would get all right when he was about 21. After waiting for years very patiently, he found his cardiac symptoms as bad as ever. On examination the heart was found certainly enlarged and apparently hypertrophied in the left ventricle, without any of the well-known causes being discernible. Distrusting his own examination, with such negative results, Dr. Gairdner's opinion was sought, but he found no other explanation than the overstrain some years before. In this case the peculiar internal distress was relieved for a few minutes by a deep breath, but it was only when this deep sigh occurred involuntarily that the distress passed away for the day. In this relief some explanation of the symptoms in this case might be sought. Dr. Finlayson thought the overstrain of the right ventricle, from bad attacks of whooping-cough, seemed at times the origin of cardiac symptoms in children, sometimes called asthma, sometimes bronchitis, and sometimes recognised as cardiac.—Dr. JOSEPH COATS expressed his appreciation of Dr. Roy's contribution, and more especially of the apparatus devised for registering the quantity of blood expelled by the heart during its systole. The principle of this apparatus was similar to that of his apparatus for registering the volume of the kidney under varying circumstances. Dr. Coats desired to find some physiological explanation of the symptoms of overstrain, more particularly of palpitation. He had not been able to form a proper physiological conception of palpitation, which is the most constant result of overstrain. The promptness with which palpitation occurs, when patients suffering from heart disease ascend a few steps of a stair, is striking, especially in view of the fact that such persons can often walk considerable distances on a level. Dr. Coats also referred to the great variety in ability in the heart of different persons. He believed that the power of survival in acute diseases was largely related to the ability of the heart. He suggested that longevity in man was more dependent on the ability of the heart than on any other factor.—Dr. JOHN LINDSAY STEVEN could not enter upon the physical aspect of this question, but wished to state that, from chemical observations during the past few years, the conviction had been growing upon him that there was a distinct class of heart cases whose origin was distinctly to be attributed to overstrain, the result of laborious occupation of some kind. He referred (in addition to the remarks made at the meeting by Surgeon-General Maclean, of Netley, and Professor Boyes Smith, of Netley) to the observations of Peacock on the Cornwall heart, and to those of German surgeons on the Tübingen heart. Dr. Steven then described a case of heart disease from overstrain, in which he had made a *post-mortem* examination. In conclusion, he referred to the influence of the coronary arteries on the muscular diseases of the heart.—Dr. WILLIAM RUSSELL (Edinburgh) joined in expressing his appreciation of the communication made to the Section. He could not attempt to discuss such a paper immediately after hearing it. Dilatation of the ventricle, and the consequent mitral regurgitation, was well-known now to physicians, and it was important to have it confirmed in this way. The confirmation also of the observations of pathologists as to the site of the early changes in valvular affections was of great interest, and very suggestive.

BERI-BERI is rapidly increasing all over Sumatra. Two steamers containing 300 patients left Acheen for the hospitals at Batavia in a single week.

AN ADDRESS
ON THE
MORBID ANATOMY AND PATHOLOGY OF CHRONIC ALCOHOLISM.

Delivered at the Opening of a Discussion at the Pathological Society of London, December 4th, 1888.

By JOSEPH FRANK PAYNE, M.D.,
Vice-President of the Society; Physician to St. Thomas's Hospital.

[*Concluded from page 1277.*]

MORBID CHANGES PRODUCED BY ALCOHOL IN VARIOUS ORGANS.

Since it is obviously impossible to speak of all the organs which may be altered, I shall confine my remarks to a few, especially the liver and the nervous system, taking the morbid changes in these parts as types of the effects produced in the organs generally.

Effects of Alcoholism as seen in the Liver.—It is generally recognised that one effect of alcohol is to produce accumulation of fat or steatosis in the liver. This change is produced especially by dilute forms of alcohol, and in those who are well fed. The explanation has already been suggested. Only one question occurs to me respecting this condition: Does it ever pass into cirrhosis? Are there not large livers, with a large amount of fat, which show commencing cirrhosis? Or does the fatty change in some way shield the liver tissues from the more serious and irritative action of the spirit? The accumulation of fat is, so far as it goes, evidence of the destruction of some alcohol, if the explanation given above be correct.

Cirrhosis of the Liver.—It would seem as if no pathological process were better known or explained in a more satisfactory way than this. It is generally accepted that concentrated forms of alcoholic drinks, brought into the stomach, are absorbed into the portal vein, and carried to the liver, where inflammation of the interstitial stroma is set up, by which new fibrous tissue is produced. In consequence of the pressure of this tissue, and its subsequent contraction, the liver cells are compressed and destroyed, and are found in various degrees of degeneration loaded with fat, yellow granules, and so on.

To this explanation I am inclined to demur. I would ask, Is a liver ever found with healthy hepatic cells and an inflamed stroma? In the very earliest stages of cirrhosis are not the cells decidedly degenerated? Is it not more reasonable to suppose that the injurious action of alcohol is exerted simultaneously on both parts of the organ; and that, if so, the parenchymatous elements, being more vulnerable than connective tissue, would suffer first? Dr. Lionel Beale, indeed, urged some years ago that the change is essentially atrophic, not inflammatory.

I am also led to raise this question by consideration of a certain very rare form of degeneration of the liver, which is really, I think, produced by alcohol, though the connection has not been recognised. I mean that called in England acute red atrophy. (In Germany the name "red atrophy" is often given to what we call the nutmeg liver.) It is generally admitted to be nearly allied to the acute yellow atrophy, but differs from it, in other respects besides colour. The organ is much reduced in size; the liver cells, as in yellow atrophy, show advanced degeneration and necrosis. Other parts of the organ are of a deep red colour, with little or no liver tissue, and consist chiefly of connective tissue and capillaries deeply engorged, inflamed with infiltration of leucocytes, and showing new formation of fibrous tissue. This short description, founded on a paper by Dr. Moxon in our *Transactions*, and on the only case which I have seen, proves, I think, that the same changes are displayed in an acute form, as cirrhosis shows in a chronic form. The connection with alcohol is perfectly clear, though it was not brought out by Dr. Moxon, nor has it been insisted on in the other cases brought before the Society. We have three cases in all; Dr. Moxon's (vol. xxiii), where two brandy bottles were found under the patient's pillow; Dr. Cayley's (vol. xxxiv), in a drinker of spirits; and Dr. Carrington's (vol. xxxvi), which occurred after hard drinking for six weeks. The last I had the opportunity of examining as a member of the Morbid Growths Committee, which gave it the same name as I have done. Dr. Cayley, indeed, suggested that the atrophic process supervened on a chronic cirrhosis; but, taking the three cases together, it would seem that the parenchymatous and interstitial parts of the organ were concurrently affected; the former undergoing, as the usual law is, atrophy and necrosis; the latter showing ordinary inflammation. But if there was any difference in order of time, the parenchyma would be likely to suffer first. I suggest the same explanation for common cirrhosis, and shall return to the same point in speaking of the nervous system.

Another question of interest bearing on cirrhosis is why is it so comparatively rarely found in the bodies of drunkards. Peters found it in four or five cases only out of seventy persons who died from the excessive use of ardent spirits. What other factor is concurrent with alcohol in producing it? Is it ever set up by the action of any liquors other than distilled spirits or strong wine, such as sherry?

EFFECTS OF ALCOHOL ON THE NERVOUS SYSTEM.

While the functional disturbances produced by alcohol on the brain are the most familiar evidence of its action, and, when excessive, have long been recognised as the most deleterious of its results, the actual textural changes produced by it have only been demonstrated in comparatively recent times.

The demonstration of organic changes in the nervous system began, as was natural, with the brain, and with observation of alterations visible to the naked eye. I will first speak of changes in the meninges.

The dura mater has been very frequently observed to be thickened, the Pacchionian bodies largely developed. Vascular congestion has been frequently described, but the conditions immediately preceding death and the manner in which the necropsy is made influence so decidedly the amount of blood contained in this part that the observation has not any very great value. More rarely a special change of the dura mater has been described—namely, chronic pachymeningitis, sometimes in the form of the so-called pachymeningitis hæmorrhagica, or hæmatoma of the dura mater. This curious condition has been explained by Virchow as produced by a combination of exudative inflammation with hæmorrhage. It is certainly sometimes connected with atrophy of the brain. This is among the rarer results of alcoholic poisoning, though it is described by Lancereaux, Greenfield,[4] Magnan, and others as occurring in cases of chronic alcoholism and delirium tremens, and is also found in chronic dementia and other cases in asylums. Without discussing fully the origin of this condition, I will only say that hæmorrhage into the arachnoid cavity is certainly the most important factor, and capable alone of producing the appearances in question, as is shown by such cases as that recorded by Dr. J. W. Ogle, where the immediate cause was injury in an alcoholic person.[5] Hæmorrhagic pachymeningitis has also been produced artificially in dogs by poisoning them with alcohol in even as short a time as four weeks.[6]

The visceral arachnoid and pia mater must necessarily, for purposes of pathology, be considered together. Thickening and opacity are the most constant changes observed, but in certain cases there is much vascular congestion, with small patches of ecchymosis. But the one most frequent appearance in the subarachnoid spaces, as well as in the arachnoid cavity, and to a certain extent in the internal cavities of the brain, is excess of serum. This is so marked that those accustomed to *post-mortem* examinations would generally say that a drunkard's brain is a wet brain.

Now, it is hardly necessary to point out that a similar condition is very generally met with in the brains of old persons; it is a senile condition. And both in chronic alcoholism and in old age the cause of this accumulation of fluid is the same; namely, it comes from atrophy of the brain-substance. The convolutions look small, the sulci deep, and in most cases the pia mater is easily removed.

If it be granted that atrophy of the brain is at least a common result of alcoholism, though not a distinctive one, it yet remains for consideration what the nature of the wasting process is, whether one of simple atrophy, or some special form of degeneration leading to diminution of size.

The answer to this appears to be that there is no special kind

[4] *Pathol. Trans.*, xxix, p. 1. The specimen is in the Museum of St. Thomas's Hospital.
[5] Ogle, *Pathol. Trans.*, vi, p. 5. Also Prescott Hewett, same vol., p. 10.
[6] Kremiansky and others, quoted in Magnan's *Alcoholism*, p. 15.

of degeneration. The nerve cells are sometimes said to be granular, but in general, no change is described, as at all characteristic of alcoholism. Some observers go so far as to say that the cortical grey matter is very little affected; and one (Wille) refers the degenerative changes almost entirely to the medullary substance. On these points we hope for information from those who have made cerebral pathology a special study.

In a few instances, however, more pronounced changes are met with in the cerebral cortex. The pia mater is adherent to the convolutions, portions of the grey matter being torn off with it. On microscopical examination, patches of degeneration and sclerosis are seen. The inner surface of the ventricles again presents a rough and granular appearance; sometimes with fibrous outgrowths. These are in fact the lesions found in the brain in cases of general paralysis or paralytic dementia.

The relation of chronic alcoholism to general paralysis is a difficult and abstruse question, on which different opinions have been expressed by different observers among those who have had large experience in such diseases. It is only in special practice or special institutions that such experience can be obtained. What I venture to say on this subject is therefore said rather in the way of suggestion.

That so called general paralysis, or paralytic dementia, not now a very uncommon disease, often has for one of its factors excessive indulgence in alcohol can hardly be disputed. But if I take the statistics of general paralysis on the one hand, I do not find any very large proportion of cases regarded as solely or mainly due to this cause, nor, on the other hand, among the sequelæ of final stages of chronic alcoholism, does general paralysis occupy a conspicuous place. The conclusion seems to be that general paralysis is distinct from chronic alcoholism, and that for the production of the former out of the latter some additional cause is necessary.

Such a cause I believe to be excessive functional strain. The three factors of general paralysis are alcohol, functional strain, and in many cases, congenital incapacity to bear strain; in short, a disproportion between functional activity and power of resistance, especially in the higher cortical centres and the tracts connected with them. I emphasise this suggestion because it appears to confirm the conclusion arrived at on other grounds, that the effects of alcohol on the nervous system, and even on the brain, are independent of its functional effect on the nerve cells, but are those of a tissue-poison, acting directly on the protoplasm of various parts. At the same time it remains rather difficult to understand why alcohol so seldom produces inflammation or sclerosis in the brain, the organ which is most susceptible to its physiological effects.

The general subject of the relation of general paralysis to alcohol is one on which I hope we may receive more information from those whose field of observation in asylums has included many cases of each disease.

Changes in the Spinal Cord.—I now pass to the changes produced by, or ascribed to, alcohol in the spinal cord. These are not numerous, or frequently observed. Before the period of microscopical examination, the spinal cord was universally said to be healthy in necropsies of alcoholic persons. Of late years a few cases have been recorded in which there was sclerosis, or degeneration of certain tracts, especially the posterior columns, or posterior part of the lateral column (Magnan).

When attention was drawn to the occurrence of paralysis, especially in the form of paraplegia, in chronic alcoholism, it was thought naturally that this would be due to disease of the spinal cord, but subsequent research has not quite confirmed this expectation. More constant morbid changes have been found in nerves. Nevertheless, in a certain number of cases, alterations have been detected in both. When the alcoholism has passed into paralytic dementia, changes in the cord have been found accompanying the changes before described in the brain. At the same time we have cases (I speak from my own experience) of what is thought to be acute myelitis due to excessive drinking. Are there any records of *post mortem* appearances in such cases?

Changes in the Peripheral Nerves.—Although the actual changes produced by alcohol in the nerves have only lately been observed, the symptoms now referred to them have been longer known, though referred originally to a lesion of the spinal cord. Dr. Wilks was, I think, the first in this country to give a clear description of these symptoms under the name of alcoholic paralysis.

Here I must venture to depart a little from the plan laid down, and say a word or two about the clinical aspect of the nervous disease, especially as it is as yet not universally recognised by the profession.

The earliest symptoms are disturbances of sensation, and, in the first place, hyperæsthesia. There may be peculiar sensation (paræsthesia), such as numbness, tingling, or feeling of pins and needles, or burning, and sensations of boring and stretching, There may be actual pain, but not usually continuous. Later on, all these disturbances give place to anæsthesia, which is often observed to be present in particular areas. Difficulty in locating sensation and retardation in the transmission of sensation have also been described. All these symptoms are evidently referable to cutaneous nerves, but the deeper nerve trunks and muscles are often tender on pressure. The special senses are very rarely affected. If we consider the phenomena relating to muscles, we find a very prominent symptom, and usually an early one, though sometimes absent, is inco-ordination and loss of muscular sense. The knee-jerk is lost at an early stage, and Dr. Gowers refers this phenomenon, apparently with justice, to loss of the muscular sense.

All these phenomena constitute the condition of alcoholic ataxia, which may come on before there is actual paralysis of motion, and may remain, as I can state from personal observation, when actual paralysis, once present, has passed away, though it is probably always accompanied by muscular weakness. It is distinguished from tabes dorsalis, or what is called locomotor ataxia, by several characters, especially by absence of all symptoms connected with the pupil of the eye or with the sphincters. Next, if the affection continue and become more severe, we have the stage of actual motor paralysis. In this there will be entire loss of motor power in the muscles, sometimes quite local, sometimes in all four limbs. The paralysed muscles soon lose faradic irritability, and become impaired in galvanic irritability.

Now I think it is quite clear that the symptoms, of which the above is a bare outline, might be referred to injury of peripheral nerves.

Take first the case of the cutaneous nerves, the function of which is mainly efferent or sensory. The first result of slight injury to a nervous structure, if it do not pass a certain degree of intensity, is to cause its substance to be more easily decomposed —that is, to produce an apparent, or, at least, temporary, exaltation of function, which, in a sensory organ, is expressed as hyperæsthesia. A continuance or higher degree of the same injury will produce total loss of conducting power or anæsthesia. Whether this injury affects nerve endings, or nerve trunks, or both, is a question not yet entirely decided. It is evident that paræsthesia or irregular sensations may also result from injury to sensory nerves.

Now let us consider the case of the muscular nerves (a term which I prefer to that of motor nerves, at least for the present purpose). These nerves have a twofold conducting power: one efferent, transmitting motor impulses; another afferent, transmitting the muscular sense. The sensory or afferent function is assigned to special fibres, which are said to have a special origin. This statement my knowledge is quite inadequate to enable me either to confirm or reject; but for the present purpose it is enough that there are fibres having this function. It would seem as if these fibres were affected by a slighter form of injury than that which is necessary to cause actual motor paralysis. At all events, an injury of these fibres would produce all the symptoms of ataxia, and an injury of the efferent motor fibres would cause paralysis.

Certain other symptoms, which sometimes complicate alcoholic paralysis, are explainable by similar injury of other nerves. One is acceleration of the pulse. This is very notable in many cases. In one of my own, which ended in recovery, the pulse was for a long time not less than 140, independently of occasional fever, and still more rapid pulses have been observed. In a case of a confirmed drinker, whose pulse was usually about 180, and who died of thrombosis of the portal and mesenteric veins, with hardened liver, I found after death nothing to account for the rapid action of the heart. It is clear that a slight degree of injury to the vagus nerve would, in the absence of other causes, be sufficient to account for this acceleration of the heart; but when this observation was made the connection was not thought of.[7] Paralysis of the diaphragm, from affection of the phrenic nerve, may also occur.

It would not be enough to show that nerve changes would account for these symptoms. It must be shown that no other cause accounts for them, and that the nerve changes actually

[7] *Path. Trans.*, xxi, 228.

exist. The only other conceivable cause of all the symptoms described would be an extensive lesion of the spinal cord, affecting both motor and sensory tracts. Such a lesion is not known to occur in these cases, and has in many cases been proved not to be present. Moreover, the supposed nerve lesions have been, in many instances, found in the mixed nerves, including both cutaneous and muscle nerves. In one instance, at least, similar changes have been detected in the trunk of the vagus (Finlay) when the pulse was 160. It is to Lancereaux that the credit belongs both of suggesting this explanation and of establishing its truth.

I will not take up the time of the Society or anticipate the remarks of those who are to follow, and are more competent than I am to speak on this matter, by quoting observations of peripheral neuritis in cases of alcoholic paralysis; but I will refer to those published by Lancereaux, Reginald Thompson, Dreschfeld, Duckworth, Finlay, and others in various publications. More especially in the *Transactions* of our own Society Dr. Hadden (vols. xxxvi and xxxviii), Dr. Hale White (vol. xxxvii) and Dr. Sharkey (this year) have described specimens having the same significance. I will only venture to speak of one point in the pathology of what is called neuritis, and this with reference to other forms of the same lesion, such as diphtheritic and the various toxic forms.

The changes described in the nerves thus affected come under the heads parenchymatous and interstitial. The first include cloudy or granular appearance of the nerve fibres, segmentation of the myeline and collection of it in round and oval masses, sometimes absence of the axis-cylinder, and other similar changes; in fact all the evidence of degeneration, ending in necrosis.

The interstitial changes are seen in the perineurium or endoneurium, either diffused, or mainly external. These tissues may show an increase in the number of nuclei, or infiltration with leucocytes, and are generally thickened. In some cases actual increase of connective tissue has been described. These changes are what are usually described as inflammation leading to hyperplasia.

Very generally, both these changes are found together, but sometimes one group of changes predominates, sometimes the other; and thus the lesion is sometimes described as degeneration, sometimes as inflammation, and there has been a sort of controversy as to by which name it should be called, and which should be regarded as the original or primary change. I would submit that the parenchymatous and interstitial lesions are both produced by the direct action of alcohol, and illustrate the general law that when a toxic or injurious agent affects a mixed organ of the body, it is likely to produce degeneration or necrosis of the parenchymatous elements (nerve, muscle-fibre, epithelium), and what is generally called inflammation (either of the constructive or suppurative form) in the connective tissue, just as in the liver. This does not exclude the possibility of there being a parenchymatous neuritis, such as has been observed in experiments on animals by Ranvier and others; in which there would be formation of new nerve fibres. But as the nerves have never been removed during life from cases recovering, but only after death from fatal cases, in which there was presumably no repair, the nerve fibres show pure degeneration or necrosis.

It is also to be remembered that the change found in certain parts of the nerves may be a secondary degeneration, caused by interruption of the nervous currents by lesion of the nerve at another point. But when interstitial change and nerve degeneration are present, it is not necessary to suppose that the nerve fibres suffer secondarily, being compressed by the hyperplastic connective tissue. On the contrary, there are instances in which the nerve degeneration must be the primary change, and the connective tissue change a consequence of it. For instance, this must be the case in the so-called secondary degeneration of conducting tracts in the spinal cord or nerves, in consequence of injury to the ganglionic tissue with which they are connected. It is clear that the break of communication will at first affect only the nerve fibres, and not the connective tissue surrounding them. Changes in this tissue, that is to say, sclerosis, perineuritis, or interstitial neuritis, must therefore be a consequence of the nerve atrophy. How this leads to connective tissue proliferation is a difficult question. But I have elsewhere attempted to show that it may be partly a consequence of the diminished resistance which favours overgrowth of the tissue which remains; and secondly, that when the nerve fibres are dead, the connective tissue deals with them as with a foreign body. It tends to form a barrier of fibrous tissue around them as if to encapsulate them.

In ordinary neuritis we could only prove which was the initial stage of the disease by examining specimens at different stages, which has not been done, so far as I know. Hence, since we do not know the necessary order of the changes, it is more reasonable, on the whole, to regard them as simultaneous results of the action of alcohol, and to speak of the whole process as alcoholic neuritis.

I can only just allude to the remarkable fact that similar nerve-changes have been demonstrated in chronic arsenic-poisoning, in lead-poisoning, in paralysis from bisulphide of carbon, and in the disease called kakke, while there is great reason to think that the nerve changes of diphtheria and other specific diseases are due to the same morbid process. All these will be forms of multiple peripheral neuritis.

Changes in Other Organs.—I have chosen the liver and the nervous system as typical instances of the injurious effects of alcohol on tissues; and there would be no time to speak of other organs in the same way. I can only, therefore, briefly mention what appear to be the most important points.

With regard to diseases of the kidney, one cannot but feel that the connection of different forms of Bright's disease with drinking requires further elucidation. The general belief in the profession certainly is, or was, that drinking to excess is a rather frequent cause of this disease. But Dr. Dickinson's observations and statistics tell so strongly against this view that further observations are needed if it is to be maintained.

The relation of alcoholism to diseases of the generative organs is a very interesting though little studied subject. One of the oldest beliefs respecting the effects of excessive drinking is that such habits diminish fertility in both sexes, but especially in the male. The Rev. Stephen Hales, in the eighteenth century, even sought to show that the natural increase of the population of London was seriously lessened by the use of distilled spirits. The number of christenings (taken as corresponding to births) in London fell off from 19,370 in 1724 to an average of 14,320 in the three years preceding 1750. Whether these statistics rest on a sound basis I cannot say, but statements to the same effect have often been made. It is also stated that procreation, when one or both parents are inebriated, results in the birth of idiotic or deformed children, and Dr. Langdon Down has brought some such cases before the Society. It has never been shown whether this depends on any organic change in the testicles or the semen, or on the temporary inebriation. A few observations have been made on the condition of the male generative organs by Lancereaux and others. Corresponding conditions in the female sex would, there is every reason to believe, be equally injurious to the offspring. Little positive information has, however, been collected as to the state of the generative organs in female drinkers. Dr. Matthews Duncan's able paper on this subject in the *Edinburgh Medical Journal*, April, 1888, probably contains all that there is at present to say.

The organs of respiration appear, from clinical observation, to be affected by alcoholism. Certainly we often meet with laryngeal and bronchial catarrhs which are chronic and obstinate, and with great probability referred to the direct action of alcohol. In connection with this it may be worth while to recall the fact that alcohol is actually excreted by the lungs, probably partly in an oxidised state, and may therefore have a directly toxic action. Further, arsenic, if given in long courses, seems to have a tendency to produce bronchial catarrh; and cantharidine injected experimentally under the skin of rabbits has produced acute laryngitis. *Post-mortem* observations have shown nothing definite on this point.

With regard to the influence of alcohol on the production of tubercle, the utmost divergence, and indeed contradictory opposition, of opinion prevails. Huss found tubercular phthisis to be rare in drunkards, and that has been the general conclusion drawn from *post-mortem* observations. It has even been thought that drinking freely checks the progress of phthisis, but of this I can find little evidence. On the other hand, the more general impression is that alcoholism is a frequent cause of consumption. On this disputed point we must appeal to the methodised experience of those who have special opportunities of observation. The only new fact in the discussion is, I think, the undoubted frequency of tubercular disease in the subjects of alcoholic paralysis.

Passing over many important and interesting subjects, I will only say a word or two on the relation of chronic alcoholism to the skin. Most of us are familiar with the kind of skin generally associated with advanced alcoholism—soft, smooth, satiny, gene-

rally pale, and sometimes waxy-looking. It appears to depend partly upon accumulation of adipose tissue under the skin, partly, perhaps, upon wasting of the skin itself, or of the epidermis. It is very much like the senile condition of skin. It is stated by Lancereaux to accompany fatty degeneration of the liver, or rather steatosis. I am sorry, however, I have no specimens of skin from alcoholic subjects. The association of chronic hyperæmia of the nose or other parts of the face, and of acne rosacea, with drinking habits, is too well known to need mention, except the expression of a hint that the frequency of such association has been exaggerated. There is only one other skin affection, so far as I know, which has been definitely attributed to the effects of drinking. It is a peculiar brown pigmentation, mottled and variegated, which has been described as occurring in alcoholic persons. It is singular that we had one case at St. Thomas's Hospital of a patient dying of cirrhosis of the liver combined with tuberculosis, in whom a piebald mottled appearance is described as having been present on the genitals. It appeared from the description to have been like the so-called leucoderma, consisting of white patches in the midst of skin showing excess of pigment; but it would be premature, I think, to conclude from a few coincidences that it was produced by alcoholism, since a similar condition certainly often arises without any such cause.

Eczema, psoriasis, and various other diseases have been ascribed, with little ground, to the effects of drinking. The only fact I believe to be established is that drinking habits make such diseases inveterate, and sometimes quite incurable. I have seen eczema in an alcoholic subject pass into general exfoliative dermatitis, on which treatment made absolutely no impression.

But time warns me, and I conclude, to make way for those members who are, I doubt not, going to bring before us facts and materials which will, we may hope, materially advance our knowledge of this difficult and important subject.

ABSTRACT OF
PRESIDENTIAL ADDRESS
ON
A STUDY OF THE MICRO-ORGANISMS IN AIR,
ESPECIALLY THOSE IN SEWER AIR, AND A NEW METHOD OF DEMONSTRATING THEM.

Delivered at the Annual Meeting of the Border Counties Branch of the British Medical Association, held at Penrith.

By J. D. ROBERTSON, M.D.,
Of Penrith.

[Dr. Robertson made some preliminary observations on bacteriological methods, and strongly commended the study to the attention of general practitioners.]

I have chosen the subject of bacteriology for briefly addressing you to-day, and, in so doing, I shall confine myself principally to a study of the micro-organisms in air, sewer air in particular, and to describe a new means employed for the detection of those organisms.

Until quite recently micro-organisms were not believed to exist in air. In Dr. Burdon Sanderson's very able report to the Privy Council in 1870, he states: "Most observers have looked for germs in the atmosphere, but with no success." In Dr. Parkes's *Practical Hygiene*, edition of 1887, it is stated: "It is probable that the microscopic examination of air will give us in future more important information than even the chemical examination."

What was then thought probable has now been more than accomplished, for only a qualitative estimate of the micro-organisms was anticipated; now we have attained to a pretty accurate quantitative analysis.

Twenty-five years ago Pasteur tried the effect of air upon nutrient jelly, which he sterilised and placed in quarter-litre flasks and exposed them to the air of the Jura mountains at various heights. These experiments were not quantitative, and the condition of the air, disturbed or not at the time of the experiment, would lead to variable results; the small size of the flask was also an objection.

Tyndall exposed 100 test tubes containing a sterile fluid medium to the air. This method of experiment, in addition to having the disadvantage of a fluid medium, was exceedingly troublesome to execute, and fallacious, as the results depended very much on the position of the tubes to the currents of air.

Fruedenreich and Miguel adopted the plan of aspirating a definite quantity of air through glass-wool, then mixing the glass-wool with sterilised fluid, which was subdivided and mixed in flasks of sterilised broth, with the view of isolating the organisms, so that each flask contained only one. In those experiments the fluid medium and subdivision led to error.

Koch was the first to employ solid media in the cultivation of the organisms in air. He employed dishes, coated with nutrient jelly, such as I show you, and exposed them to the air. This was still not a quantitative estimate, and the condition of the atmosphere at the time of experiment would lead to very varied results.

Hesse's method was the next improvement. It consisted in aspirating a given quantity of air through glass tubes 2 feet 6 inches in length, and $1\frac{1}{2}$ inch in bore, coated with sterilised peptone jelly. This did not suit my purpose for examining sewer air, as it was too huge for general application; besides the results vary according to the amount of wind at the time of the experiment. Dry, dusty weather gives an exaggerated quantity of colonies per litre of air, and wet weather the reverse.

In addition to those objections, it takes a very long time to aspirate such a quantity as would be necessary to allow of any practical deduction being made. In calm weather, however, and in places where the apparatus can be applied, it gives fairly accurate results, compared with more recent and accurate methods.

A valuable paper appeared last year by Professor Carnelly, Dr. Haldane, and Dr. Anderson, of Dundee, in which they estimate quantitatively the carbonic acid, organic matter, and micro-organisms in dwellings and schools. Hesse's method was employed, and showed that ten litres of open air often gave no results as to micro-organisms, at other times rather less than one organism per litre of air in the town of Dundee.

Professor Carnelly's experiments also show that there appears to be no relationship between the amount of carbonic acid and micro-organisms in the air, and that the number of moulds is usually less than that of bacteria; also that the purer the air, the nearer do the moulds and bacteria approximate in number. In dry, dusty weather in the town of Dundee, the number of bacteria to moulds were 15 to 1.

In the *Philosophical Transactions of the Royal Society of London for 1887*, Dr. Percy Frankland describes a new method of air examination, by aspirating a given quantity of air through glass tubes, such as I show you. A constriction is made in the tube at one end and a plug of glass dust, between two layers of glass-wool, is placed at this constriction. I shall designate that plug as Plug *b*. Another constriction is then made at the other extremity of the tube, at which a plug (Plug *a*), consisting of glass-wool only, is placed. This tube is then sterilised by heat at 160° C., for one hour, three days in succession, and kept in the iron box in which it was sterilised until it is used. The tube is then fixed to a stand, and connected by tubing with an air-pump of known capacity. At any convenient point between the glass tube and the pump there must be fitted on a mercury pressure-gauge, to allow of the air being aspirated at the same pressure as the external air. After a given quantity of air is aspirated in this way, the tube is removed, and broken at a point between the two plugs. The plugs are then separately mixed with a certain quantity of sterilised water, and a part of this water was used to make a plate cultivation in the usual manner. The defect of this method is the inability to mix the plug uniformly with the water, and the subdivision of the fluid.

Dr. Percy Frankland then resorted to the method of mixing the plugs in sterilised flasks of 300 to 400 cc. capacity, containing gelatine peptone. The results of this method were most uniform and satisfactory.

I have deviated from Dr. Frankland's method by mixing the plugs in liquefied nutrient gelatine, and then making plate cultivations with them. The advantages which presented themselves to me by this method were, that I not only could see and note better the particular appearances of the colonies as they developed than by looking from behind upon them, as in the flask method, but also have access to them for microscopical purposes, and avoid any fallacies that might arise from the subdivision of the plug.

The following fifteen experiments on sewer air have been con-

ducted by this modification of Dr. Percy Frankland's, and I believe they are the first recorded experiments upon sewer air for a quantitative estimate of the micro-organisms.

I also append ten experiments upon open air by the same method. These experiments were taken at the same time and under the same circumstances as those of sewer air, for the purpose of comparison.

The strokes per minute, which is one of the points noted in the experiments, indicates the strokes of the piston of the air-pump, which shows the permeability of the plug.

The colonies on Plates (*a*) and (*b*) are those which have been obtained from Plugs (*a*) and (*b*) by plate cultivation.

EXPERIMENTS UPON SEWER AIR.

1. April 13th, 1888. Ten litres of air were aspirated from sewer, at lowest level, in the town of Penrith (Friar Street). Wind, W., strong. Rain during previous 24 hours, 0.14 inch. Strokes per minute, 3.5. After two days' cultivation—total colonies on Plate (*a*), 80, total colonies on Plate (*b*), 0; total moulds on Plate (*a*), 0, total moulds on Plate (*b*), innumerable. The colonies on Plate (*a*) appeared as minute, yellow, liquid points. On the third day, the plate was liquefied. They proved to be sarcina aurantiaca (Fig. 1).

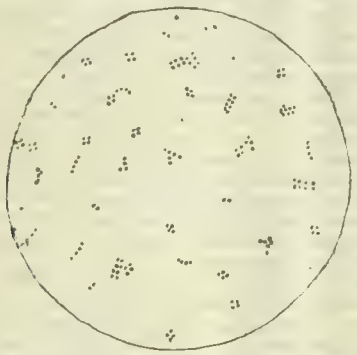


Fig. 1.—Sarcina aurantiaca. × 1050. Reichert 1-15th o.i. Oc.v. Source, sewer air. After four days' cultivation it appeared as yellow, circular liquid colonies. Packets, 2μ. Single cocci, 1μ.

The moulds on Plate (*b*) appeared on the second day, and were penicillium glaucum.

II. April 14th, 1888. Ten litres of air were aspirated from Penrith sewer, at one of the highest points (top of Lowther Street). Day warm; Wind, W., gentle. Rain during previous 24 hours, 0.14 inch. Strokes per minute, 4. After three days' cultivation—total colonies on Plate (*a*), 200; total moulds on Plate (*a*), 0; Plug (*b*) lost. The colonies on plate appeared as small, umbilicated, grey, liquefying points—bacilli.

III. April 14th, 1888. Ten litres of air were aspirated from Penrith sewer, at lowest level (Friar Street). Wind, W., gentle. Rain during previous 24 hours, 0.06 inch. Strokes per minute, 4. After four days' cultivation—total colonies on Plate (*a*), 48; total colonies on Plate (*b*), 4; total moulds on Plate (*a*), 30; total moulds on Plate (*b*), 7. The colonies appeared as cream-white, non-liquid, and yellow-white liquid. The cream-white are long bacilli (Fig. 2); the yellow-white are micrococci—sarcina aurantiaca (Fig. 1).

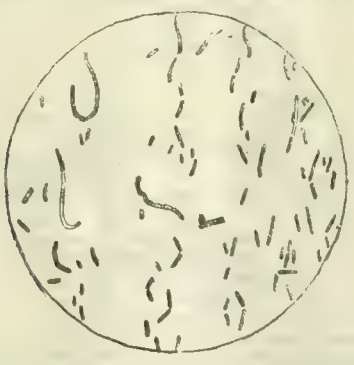


Fig. 2.—A form of bacillus subtilis. × 750. Source, sewer air. Measurement, 2μ broad, 8μ to 10μ long. After 5 days' cultivation on plate, it appeared as a large, white, liquid colony.

IV. April 20th, 1888. Ten litres of air were aspirated from Penrith sewer, at highest point (top of Lowther Street). Wind, S. W., gentle. Rain during previous 24 hours, 0.58 inch. Strokes per minute, 4. After three days' cultivation—total colonies on Plate (*a*), 23; total colonies on Plate (*b*), 13; total moulds on Plate (*a*), 42; total moulds on Plate (*b*), 27. Thirteen of the colonies on Plate (*a*) appeared as greyish-white, sharply-defined circles, with granular centre, and a point in centre, liquefying the jelly (bacterium termo). Four colonies were grey in colour, irregularly circular, and liquefying the jelly. They are small bacilli. Six small creamy colonies, irregular, serrated edges not liquefying the jelly—micrococci. Forty-one of the moulds were aspergillus albus (Fig. 3). One large one was mucor mucedo. The colonies on Plug (*b*) were creamy-white, raised, and non-liquefying. Seen to be micrococci.

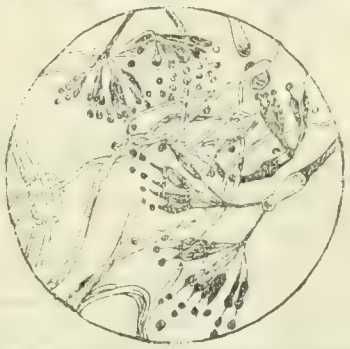


Fig. 3.—Aspergillus albus. ×1050. Reichert 1-15th o.i. Oc.v Source, sewer air.

V. April 20th, 1888. Ten litres of air were aspirated from Penrith sewer, at one of its lowest points (yard of Public Offices, Sandgate). Wind, W., gentle. Rain during previous 24 hours, 0.58 inch. Strokes per minute, 3. After five days' cultivation—total colonies on Plate (*a*), 2; total colonies on Plate (*b*), 6; total moulds on Plate (*a*), 33; total moulds on Plate (*b*), 7. Plate (*a*). One whitish-yellow (gamboge) colony, liquid in centre, consisting of diplococci and short rods. One large, white liquid colony, which is bacillus lœvis (Fig. 4). Thirty of the moulds were aspergillus albus; one, a mucor mucedo; and two, aspergillus glaucus. Plate (*b*), after five days' growth, showed two large, white liquid umbilicated colonies—bacillus lœvis. Three creamy-white colonies, non-liquid—bacteria similar to Fig. 2. One white, radiating colony, firm consistence in centre, measures 1 μ. broad, 4 μ. to 20.0 μ. long. The seven moulds—penicillium glaucum.

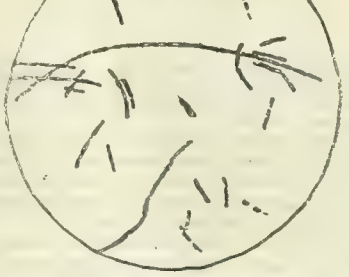


Fig. 4.—Bacillus lœvis. ×1050. Reichert 1-15th o.i. Oc.v. Source, sewer air. After 5 days' growth, white, liquid colony, umbilicated centre, granular.

VI. May 1st, 1888. Ten litres of air aspirated from main drain leading to cesspool of large mansion house. Air taken at first opening in drain from which any ventilation could occur. Rainy day, cold. Wind, N.W. Rain during previous 24 hours, 0.01 inch. Strokes per minute, 3. From six to nine days' cultivation—total colonies on Plate (*a*), 11; total colonies on Plate (*b*), 4: total moulds on Plate (*a*), 64; total moulds on Plate (*b*), 10. On Plate (*a*) four white, circular, non-liquid colonies. Below the jelly are seen to be

spore-like bodies. Probably a torula (Fig. 5). Five small, yellow, non-liquid colonies, depressed on jelly. Very small cocci. One circular grey, liquid colony. One lemon-yellow non-liquid colony, with irregular spreading circumference. Small cocci. Forty-six of the

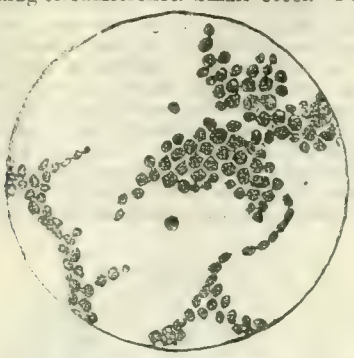


Fig. 5.—Probably a form of yeast. ×750. Measurement 4μ to 5μ. Source, sewer air. After five days' cultivation on plate it appeared as a white, circular, non-liquid colony.

moulds were penicillium glaucum; five, mucor mucedo; thirteen, aspergillus glaucus.

VII. May 5th, 1888. Ten litres of air were aspirated from Penrith sewer, at a middle elevation of the town (middle of Lowther Street). Day warm. Wind, W. Rain in previous 24 hours, 0.62 inch. Strokes per minute, 4. (A very offensive smell proceeded from this drain). After six days' cultivation—total colonies on Plate (*a*), 11; total colonies on Plate (*b*), 12; total moulds on Plate (*a*), 16; total moulds on Plate (*b*), 8. Three grey, liquid colonies appeared on Plate (*a*) depressed, with an outer circle—saccharomyces (Fig. 6).

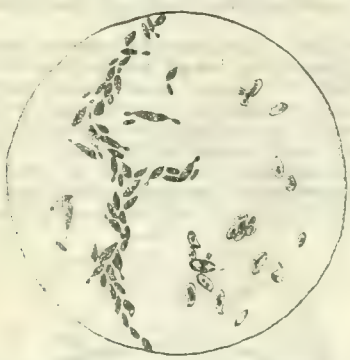


Fig. 6.—Saccharomyces liquefaciens. × 1050. Reichert 1-15th o.i. Oc. v. Source, sewer air. After three days' cultivation, small, cloudy, cupped, circular colonies appeared, rapidly liquefying jelly. On fifth day colonies assume a star-shape.

Also eight yellowish-white, non-liquid, raised colonies—cocci. The sixteen moulds were penicillium glaucum. On Plate (*b*) the twelve colonies were yellow-white, raised, and non-liquefying—micrococci. Six of the moulds were penicillium glaucum; one brown mould—aspergillus glaucus; one mucor.

VIII. May 8th, 1888. Twenty litres of air were aspirated from the upper termination of Penrith sewer at top of Arthur Street. No rain for two days. Wind, W., strong. Strokes per minute, 4. After three days' cultivation—total colonies on Plate (*a*), 6; total colonies on Plate (*b*), 1; total moulds on Plate (*a*), 18; total moulds on Plate (*b*), 10. On Plate (*a*) one circular, sharply defined liquid colony—small cocci; also five creamy-white non-liquid colonies—micrococci. Nine moulds were penicillium glaucum; one brown mould aspergillus glaucus.

IX. May 14th, 1888. Ten litres of air from sewer in lowest level of Penrith (Public Offices yard). No rain for several days. Wind, S.W., mild. Strokes per minute 4. After four days' cultivation—total colonies on Plate (*a*), 8; total colonies on Plate (*b*), 2; total moulds on Plate (*a*), 106; total moulds on Plate (*b*), 36. Two of the colonies in Plate (*a*) were small, green, non-liquid—cocci and rods; six creamy-white non-liquid—micrococci. Six of the moulds on Plate (*a*) were mucors and 100 penicillium glaucum. The two colonies on Plate (*b*) were creamy-white, non-liquid—micrococci. The moulds were thirty penicillium glaucum and six mucors.

X. May 14th, 1888. Ten litres of air were aspirated from Penrith sewer, at one of its highest terminal points (top of Arthur Street). No rain for several days. Wind, S.W., mild. Strokes per minute, 4. After three days' cultivation—total colonies on Plate (*a*), 160, and an innumerable quantity of minute creamy colonies; total colonies on Plate (*b*), 1; total moulds on Plate (*a*), 0; total moulds on Plate (*b*), 2. The 160 colonies were grey, rapidly liquefying colonies (bacillus termo). The minute creamy colonies, which were innumerable, were micrococci. When the cover was removed, the plate chamber had a strong odour of decomposition. The plate was entirely liquefied on the fourth day. The two moulds on Plate (*b*) were penicillium glaucum, and the one colony was green and non-liquid; small cocci and rods.

XI. May 18th, 1888. Ten litres of air were aspirated from Penrith sewer at low level (Old Crown Yard). No wind; rain during previous 24 hours, 0.02 inch (streets being watered). Strokes per minute, 5. After five days' cultivation—total colonies on Plate (*a*), 2; total colonies on Plate (*b*), 0; total moulds on Plate (*a*), 13; total moulds on Plate (*b*), 9. One colony was large, grey, liquid, radiating from centre like a wheel—saccharomyces (Fig. 6); the other colony was small, creamy, and non-liquid—small cocci. The moulds were penicillium glaucum.

XII. May 18th, 1888. Ten litres of air were aspirated from the Penrith sewer at a high level on the opposite side of the town to the other experiments at high levels (Brougham Street). Wind W., gentle. Rain in previous 24 hours, 0.02 inch. Very offensive smell from drain. Strokes per minute, 4.5. After five days' cultivation—total colonies on Plate (*a*), 1; total colonies on Plate (*b*), 2; total moulds on Plate (*a*), 7; total moulds on Plate (*b*), 2. The colony on Plate (*a*) was grey, circular, liquid, cupped, and radiating from central mass—saccharomyces. On Plate (*b*) there was one grey, cupped, irregular circular colony same as above, and one creamy, non-liquid one—cocci. (*a*) Moulds, one mucor, two aspergillus glaucus, and four penicillium glaucum. (*b*) Moulds, one mucor, and one penicillium glaucum.

XIII. June 15th, 1888. Ten litres of air were aspirated from Penrith sewer at lowest point (Old Crown Yard). Day warm, slight showers. Wind, W., slight. Rain previous 24 hours, 0.01 inch. Strokes per minute, 2.2. After five days' cultivation—total colonies on Plate (*a*), 20; total colonies on Plate (*b*), 1; total moulds on Plate (*a*), 8; total moulds on Plate (*b*), 4. The colonies on Plate (*a*) were 7, irregularly circular, grey, depressed, liquid ones—saccharomyces, and 13 white, raised, non-liquid, round ones—small cocci. On Plate (*b*) the one colony was the same as the 13 white ones on Plate (*a*). The moulds were: on Plate (*a*) eight penicillium glaucum; on Plate (*b*) four penicillium glaucum.

XIV. June 15th, 1888. Ten litres of air were aspirated from the Penrith sewer at high level (Beaconside). Wind, W., slight, occasional showers. Rain in previous 24 hours, 0.02 inch. A very offensive smell proceeded from this drain. Strokes per minute, 2. After five days' cultivation—total colonies on Plate (*a*), 3; total colonies on Plate (*b*), 1; total moulds on Plate (*a*), 15; total moulds on Plate (*b*), 7. The colonies on Plate (*a*) were all white, raised, non-liquid, and circular. The one on Plate (*b*) was the same. Those on Plates (*a*) and (*b*) are torulæ (Fig. 7). All the

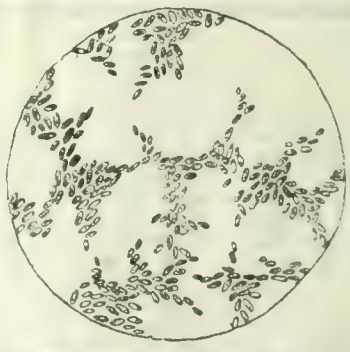


Fig. 7.—Probably a saccharomyces. × 1050. Reichert 1-15th o.i. Oc. v. Source, sewer air. Measures from 2μ to 4μ long, from 1μ to 2μ broad. After five days' cultivation a white, raised, circular, non-liquid colony appeared.

moulds on Plates (*a*) and (*b*) were penicillium glaucum, except one mucor.

XV. June 27th, 1888. Ten litres of air were aspirated from Pen-

rith sewer at lowest level. No rain for several days. Wind, S.W., gentle. Strokes per minute, 2. After four days' cultivation—total colonies on Plate (*a*), 20; total colonies on Plate (*b*), 11; total moulds on Plate (*a*), 360; total moulds on Plate (*b*), 5. The colonies on Plate (*a*) were 14 yellow and non-liquid—micrococci. The remainder were umbilicated, white, and non-liquid—small cocci. A few creamy-white and non-liquid—large cocci, measuring from 1μ. to 3μ. The moulds, Plate (*a*), were all penicillium glaucum. Plate (*b*) 11 creamy colonies, non-liquid as above. The moulds, Plate (*b*), were aspergillus albus.

EXPERIMENTS UPON OPEN AIR.

I. April 13th, 1888. Ten litres of air were aspirated at one of the lowest levels in the town of Penrith (the Friarage Gardens). Wind, W., strong. Rain previous 24 hours, 0.06 inch. Strokes per minute, 3.5. After five days' cultivation—total colonies on Plate (*a*), 2; total colonies on Plate (*b*), 0; total moulds on Plate (*a*), 15; total moulds on Plate (*b*), 2. After two days' cultivation no colonies visible. After five days' cultivation the two colonies were yellowish-white, liquefying the jelly—streptococcus liquefaciens. The fifteen moulds on Plate (*a*) were aspergillus glaucus; the two on Plate (*b*) were penicillium glaucum.

II. April 20th, 1888. Ten litres of air aspirated midway between highest and lowest levels of Penrith (middle of Lowther Street). Wind, W., gentle. Rain, 0.58 inch in previous 24 hours. Strokes per miuute, 3. After five days' cultivation—total colonies on Plate (*a*), 11; total colonies on Plate (*b*), 14; total moulds on Plate (*a*), 80; total moulds on Plate (*b*), 170. The colonies on Plate (*a*) were five greenish-yellow, circular, liquefying, and slightly raised—micrococci single and in tetrads; the remaining six were whitish, non-liquid, and circular—also micrococci. The moulds in both plates were aspergillus glaucus.

III. April 20th, 1888. Ten litres of air aspirated in Friarage Gardens, the low level of the town of Penrith. Wind, W., gentle. 0.58 inch of rain previous night. Strokes per minute, 2.5. Total colonies on Plate (*a*), 40; total colonies on Plate (*b*), 6; total moulds on Plate (*a*), 79; total moulds on Plate (*b*), 57. After five days' cultivation, thirty of the colonies were greenish-yellow, umbilicated, slowly liquefying in centre—diplococci, and packets of four and short rods. The cocci measure 1 μ, the rods 2 μ. to 3 μ. long. The remaining ten were creamy-white, non-liquid—small cocci. On Plate (*b*) one bright orange-yellow colony, non-liquid—small cocci (1 μ. in size), and five green, non-liquefying colonies. The moulds were: (*a*) 77 aspergillus albus and 2 mucors; on Plate (*b*) 50 moulds were aspergillus glaucus and 7 mucors.

IV. May 4th, 1888. Ten litres of air aspirated at level mid-way between high and low levels of Penrith (middle of Lowther Street). Wind, S.W., gentle. Heavy rain; previous 24 hours, 0.22 inch. Strokes per minute, 4. Total colonies on Plate (*a*), 3; total colonies on Plate (*b*), 1; total moulds on Plate (*a*), 7; total moulds on Plate (*b*), 6. After four days' cultivation, on Plate (*a*) the three colonies were yellow, and liquefying—small cocci 0.6 μ. in size. On Plate (*b*), the only colony was grey, liquid, radiating—saccharomyces (Fig. 6). Moulds on Plate (*a*), three were penicillium glaucum, four were aspergillus glaucus; moulds on Plate (*b*), three were penicillium glaucum, one aspergillus glaucus, one mucor.

V. May 14th, 1888. Ten litres of air were aspirated from high level of town (top of Arthur Street). Wind, N.W., mild. No rain for several days. Strokes per minute, 3. Total colonies on Plate (*a*), 86; total colonies on Plate (*b*), 1; total moulds on Plate (*a*), 36; total moulds on Plate (*b*), 20. After six days' cultivation, the 18 colonies on Plate (*a*) were yellow and liquefying, identical with the colony on Plate (*b*)—small cocci, same as in Experiment IV. measuring 0.6 μ. The moulds on Plate (*a*) were 35 aspergillus glaucus and one mucor; on Plate (*b*), 19 aspergillus glaucus and one mucor.

VI. May 18th, 1888. Ten litres of air, aspirated in a yard in low level of Penrith (Old Crown Yard). Calm; no rain for four days. Strokes per minute, 4.5. Total colonies on Plate (*a*), 4; total colonies on Plate (*b*), 0; total moulds on Plate (*a*), 25; total moulds on Plate (*b*), 12. After five days' cultivation, the 4 colonies on Plate (*a*) were three creamy-white, non-liquefying small cocci, measuring 0.5 μ, and one grey, circular, cupped, liquid colony—saccharomyces liquefaciens (Fig. 6).

VII. June 11th, 1888. Ten litres of air were aspirated in low level of Penrith. Rain each day for three days. Wind, S., gentle. Strokes per minute, 3. Total colonies on Plate (*a*), 0; total colonies on Plate (*b*), 2; total moulds on Plate (*a*), 17; total moulds on Plate (*b*), 7. After seven days' cultivation, the two colonies on Plate (*b*) were grey, cupped, liquefying, circular, with radiating appearance—saccharomyces liquefaciens. All the moulds were penicillium glaucum.

VIII. June 15th, 1888. Ten litres of air, aspirated from low level of Penrith (Old Crown Yard). Wind, S., slight; occasional showers. Strokes per minute, 2.2. Total colonies on Plate (*a*), 66; total colonies on Plate (*b*), 111; total moulds on Plate (*a*), 0; total moulds on Plate (*b*), 4. After four days' cultivation, the colonies on both plates were the same—waxy-white, raised, non-liquefying cocci, 0.5 μ. The moulds were all penicillium glaucum.

IX. June 15th, 1888. Ten litres of open air were aspirated from high level of Penrith (Beacon Road). Warm day: slight showers. Wind slight. Strokes per minute, 2.2. Total colonies on Plate (*a*), 3; total colonies on Plate (*b*), 0; total moulds on Plate (*a*), 3; total moulds on Plate (*b*), 3. The colonies on Plate (*a*) were grey, liquid, cupped, and were saccharomyces liquefaciens. The moulds were aspergillus glaucus.

X. June 27th, 1888. Ten litres of open air were aspirated from low level of Penrith. No rain for several days; gentle wind. Strokes per minute, 2. After four days' cultivation—total colonies on Plate (*a*), 220; total colonies on Plate (*b*), 6; total moulds on Plate (*a*), 12; total moulds on Plate (*b*), 60. On Plate (*a*) five waxy-white, raised, non-liquid colonies—cocci, 0.5 μ; the remainder creamy-white, non-liquid—micrococci, 1 μ. in measurement. The moulds were chiefly penicillium glaucum; twelve mucors; six aspergillus niger.

REMARKS.—Before commencing my experiments upon sewer air for micro-organisms, I was told by some bacteriologists that the organisms which could be collected would be so few that the results might prove very unsatisfactory, as the constantly wet state of the sewer would prevent the organisms from being suspended in the air, unless some active fermentative changes were going on.

The above experiments prove that such is not the case. The average number of colonies per litre of sewer air in fifteen experiments was 4.2.

In open air, the results of ten experiments give 5.7 organisms per litre. The organisms in open air are well known to be much greater in number in dry than in wet weather; and particularly so when the atmosphere is disturbed. The experiments I have made with sewer air seem to show that the same influences act upon it.

The drains of the town of Penrith do not receive all the flood water, special drains being provided for that purpose in some parts of the town; nevertheless, the sewers are flushed to a considerable extent in times of rainy weather, and it is this, no doubt, which accounts for the increase in the number of the organisms in dry weather.

A still further analysis of the experiments above recorded shows that the number of organisms per litre of air in the sewers in the low-lying parts of Penrith are less than than those obtained from the sewers in high situations. Namely: seven experiments upon 70 litres of air in the sewers, on the lowest level, give an average of 2.9 organisms per litre of air; eight experiments upon air from the sewers, at high levels, give an average of 5.6 organisms per litre. This shows the very great importance of efficient ventilation of sewers at their highest points.

The prevalent idea that the high situation of a dwelling is a guarantee of its healthfulness is fallacious, should the house be connected with a public system of drainage which is not perfect in its ventilation and trapping. I have repeatedly observed an illustration of this in foreign cities, especially in Italy, where, till lately, little or no attention has been paid to sanitary matters, for the prevalence of fever is much greater in the high parts of the towns there than in the low parts.

My friend Dr. Paget, of Kendal, drew attention some years ago to the greater prevalence of fever of the enteric class during periods of wet weather than in times of drought; no doubt due to the occupation of the sewers by flood water, forcing the gases in the dwellings.

The result of the ten experiments which I have made on open air give entirely opposite results to that of sewer air, as regards the micro-organisms in high and in low situations—namely, six experiments on 60 litres of air in the lowest level of Penrith give an average of 5.9 organisms per litre of air, against 2.9 organisms in the high situations in four experiments.

The above percentage of 5.9 organisms per litre of air in the lower levels is greatly accounted for by the results of one experiment upon the air of a yard, which gave 177 colonies in ten litres of air. The above remarks as to micro-organisms per litre of air

refers only to colonies of bacteria, not to moulds. As far as my experiments go, there appear to be rather more moulds in open air than in sewer air.

The offensive odour which may proceed from a drain is no indication of the number of organisms in its air. In fact, I have found that when the odour was most offensive, I met with exceedingly few organisms. (*See* Experiments VII, XII, XIV.)

This reminds one of the exceedingly offensive smells met with in the towns of Belgium and Holland, which proceed from the canals so numerous there, and also from the ornamental ponds about the mansion-houses in the vicinity of those towns. Still, this state of matters does not seem to be detrimental to health.

As to the nature of the organisms which I have been able to obtain from open air and sewer air, there is a marked preponderance of bacilli in sewer air over that in open air; micrococci being the most common form of organism met with in open air. This will be seen on reference to the experiments.

The deductions which I have made from my experiments can only be regarded as general indications of what probably does exist in this new and most interesting department of bacteriology.

We must hope for a further development of the subject by more extended experiments, both in times of health and disease, and an accurate observation of the organisms which may appear at those times. My experiments were made at a time when no epidemic disease was prevalent.

I am afraid, gentlemen, by the length of my address, I may have wearied some of you who are not so interested as myself in this subject; but, if I have awakened the enthusiasm of any of you to come to the front in this work, the object of my address has been gained.

One of the advantages which the practice of our profession has over any other is the varied interest which it affords us; but, gentlemen, all of us who have practised for twenty-five years know that it is a very trying profession, both to the mind and body; to a conscientious man the responsibility is terrible. The uncertainty of our time and the continual interruptions to which we are subject are very apt to get our minds into a fragmentary condition. We want something beyond amusement and sport to get us out of the routine of our work; and, above all, we require to have our powers of accurate observation trained. No study will accomplish these objects more thoroughly than that of bacteriology. Sir James Paget, in his admirable address at Owens College last year, stated that the common proverb, "seeing is believing," is very fallacious, and that many who, when they say, "I believe what I see," might just as fairly say, "I see what I believe." There can be no doubt as to the truth of this statement. The greatest discoveries which have been made are the result of accurate observation; and doubtless we all have, staring us full in the face, facts which, if we could judge of them aright, would equal in brilliancy any discovery yet made. Although a great deal is supposed to have been accomplished in the science of bacteriology, I may say that comparatively little has really yet been done. The pathway is only being cleared to a science that will continue to revolutionise every branch of our profession.

In conclusion, gentlemen, I have to record my best thanks to Mrs. Robertson for the beautiful sketches which she has made of my microscopic specimens; also to Dr. Percy Frankland for the valuable aid he has offered me in my study of the subject. I am also much indebted to my partner, Dr. Thomson, for the valuable assistance he has afforded me in my laboratory work.

NOTES ON MULTIPLE PERIPHERAL NEURITIS AND ITS OCCURRENCE IN BRASSWORKERS.[1]

By C. W. SUCKLING, M.D.Lond., M.R.C.P.,
Physician to the Queen's Hospital, Birmingham.

In a paper upon Alcoholic Paralysis contained in the June number of the *International Medical Journal* of this year I expressed the opinion that this disease is of more common occurrence than is generally supposed, and that it is often unrecognised. A few days after despatching my paper I met with a rapid succession of cases of multiple neuritis, at one time having four women suffering from alcoholic paralysis in the Queen's Hospital, and seeing several in consultation outside. The symptoms were very much the same in all of the cases when the disease was advanced, and the diagnosis very easy. Some of the symptoms, however, were very uncommon and worthy of notice. In the case of a gentleman who had been a medical student, and who had been addicted to drink for many years, I found paralysis of both sixth nerves, with nystagmus on attempting to direct the eyes to either side. There was absolutely no affection of sensation or motion elsewhere, and the knee-jerks were normal. There was, however, great loss of memory, but not the characteristic form of delusion so common in chronic alcoholism—for example, of having been out walking.

The fact that paralysis of the ocular nerves and optic neuritis may exist without any affection of the limbs in chronic alcoholism is of great interest, and such cases may very readily be wrongly diagnosed. In one case of alcoholic paralysis that recently came under my observation the husband of the patient was told that she was suffering from a tumour of the brain, and that she could not live. The mistake was made from a want of knowledge of the fact that optic neuritis and palsy of ocular muscles may result from chronic intemperance. At the present time I have a man under my care in the workhouse infirmary who was admitted several months ago suffering from ophthalmoplegia externa and double optic neuritis due to chronic alcoholism. The paralysis has completely disappeared, but the man still does not know where he is, and, if asked if he has been out, will enumerate the different public-houses he has visited that morning, and state the several varieties of drink that he has had at each.

A point worthy of notice in the case of women suffering from alcoholic paralysis is the way in which the friends and even the medical attendant are often completely deceived as to the drinking habits of the patient. After making the diagnosis of alcoholic paralysis I have been told by the medical attendant that it was impossible; that he had known the patient for years, and that he was sure she did not drink; yet it has invariably turned out that the patient had been drinking excessively for some years. In one case the husband made inquiries, and found that his household bills had not been paid, and that he was heavily in debt. In bad cases, where the mind is much affected, we find that while the patient is helpless we can deprive her of all alcohol, but as soon as she can get about she again obtains it and ultimately dies. In two cases of multiple neuritis occurring in women, where there were no mental symptoms and no morning sickness or other evidence of alcoholism, I failed to elicit the slightest history of alcoholic excess; and I was obliged, though with great hesitation, to conclude that they were instances of idiopathic multiple neuritis, or that they were possibly due to exposure.

It is remarkable that in alcoholic paralysis, though mental symptoms are so commonly present, yet there may be severe neuritis without any affection of the mind. I recently saw a man who had been a traveller for a local brewery; he had been drinking for years, and had suffered several times from delirium tremens. I found him suffering from dropped feet and hands, with œdema and anæsthesia of the legs; and found also that he was suffering from extensive phthisis, yet his mind was apparently intact and his memory for recent events very good.

The presence of marked mental disturbance is always to be taken to indicate a very slow recovery. It must be remembered that alcohol causes a general chronic meningitis, affecting the convexity of the brain, which may account for the very tardy recovery of mental power in cases of alcoholic dementia. Inebriates are very liable to death from syncope; in two of my cases death occurred suddenly, and in one a slower process of heart failure was the cause of death, the pulse becoming gradually more and more infrequent and feeble.

I lately showed at a medical meeting a boy, aged 14, who was under my care at the Queen's Hospital, and who presented the symptoms of multiple neuritis in its most typical form. He had worked on lead for eighteen months, and, though there was no blue line on the gums, yet there was little doubt that lead-poisoning was the cause of the illness. The boy recovered under the influence of iodide of potassium, massage, and faradisation.

It is well known that lesions of the nervous system may be produced by lead-poisoning, without the production of the blue line in the gums. Anæmia is, however, a constant symptom in lead-poisoning. I was recently called in to see a gentleman who had had two most severe epileptiform attacks, as evidenced by ecchymosis of each conjunctiva. On inquiry, I found that he was partner in a firm of enamel manufacturers, and that he frequently passed through the workshops, and that the office was directly contiguous to the shops. I found also that he was anæmic, but there was no trace of any blue line on the gums, nor had there been

[1] Presented to the Section of Medicine at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

colic or constipation. I expressed a very decided opinion to the effect that lead-poisoning was the cause of the fits, and strongly recommended him to withdraw altogether from the works. I heard some months after that he had followed my advice, and had been perfectly well since.

The pathology of diphtheritic paralysis is perhaps not definitely settled, though peripheral neuritis has been found *post mortem*; but it is certain that, clinically, the affection exactly resembles multiple neuritis from alcoholic or lead poisoning. I have recently had several cases of diphtheritic paralysis in the Queen's Hospital. In all of these, there was dropping of the feet and hands, with abolition of the knee-jerk. Sensory alterations and qualitative electrical changes were also present in each—in fact, the similarity of all these cases with those of alcoholic neuritis was remarked by the students who went round with me. There are no symptoms occurring in diphtheritic paralysis which are not also occasionally met with in alcoholic paralysis. Of course, the mind is not affected in the former affection, nor is it in neuritis from lead-poisoning. The occurrence of anæsthesia and paralysis of the soft palate and fauces, or paralysis of accommodation, is diagnostic of the diphtheritic nature of the affection.

Old people seem to be liable to degenerative changes in the peripheral nerves, perhaps in some cases due to gout, but in others to senile degeneration. I have seen recently two gentlemen of advanced years suffering from the following symptoms. They complained of shooting pains down one leg, affecting chiefly the cutaneous nerves on the front of the thigh, and of weakness of the leg. The knee-jerk was lost on the affected side, but there were no other symptoms. Antipyrin relieved the pain in both cases; but, when I last saw them, the knee-jerk was still absent. These symptoms occurring in men in the prime of life would cause great anxiety, and would probably be regarded as indications of commencing locomotor ataxia. In old people, these symptoms are not of such serious import, changes taking place more slowly in them, and such symptoms probably depend upon neuritis of the nerves of the lumbar plexus. Of course, a careful examination should be made to exclude malignant growths.

I have met with four cases of ataxia in brassworkers; in one case the knee-jerk was lost on both sides, and the case exactly resembled one of locomotor ataxia, except that there were no pupil changes. The ataxia is probably due to a peripheral neuritis, for at the present time I have two cases of multiple neuritis in brassworkers. No cause for the neuritis, except their occupation, can be found, and copper is known to affect the peripheral nerves.

Case I.—The patient, a man, aged 39, has been a brassworker for twenty years. He has been a steady man, and not addicted to drink. About Easter last he began to suffer from pains in his legs, and especially from aching pains in his calves. The pains in the lower extremities were later on followed by slighter pains in the fingers, and still later by weakness in the legs and hands, so that in a few weeks he was unable to walk. There is a well-marked green line on the teeth, the lower half of the body of each tooth being stained of a deep green colour, the typical staining of brassworkers. He complains of his fingers feeling hot, and there is slight tactile anæsthesia in the hands and feet, thermal and painful sensations being normally perceived. There is marked loss of muscular sense in the legs. He suffers from double wrist-drop and foot-drop. The grasp is very feeble, and the fingers slightly flexed at all joints, there being inability to straighten them, or to extend the wrists. The feet are dropped and flaccid; the knee-jerk is lost on both sides. The calf muscles are tender when grasped, but there is not the extreme tenderness so often met with in alcoholic paralysis. There is emaciation of the arms and legs, but no œdema or change in the nails. The bladder and rectum are unaffected, and there is no bedsore. There have been no mental symptoms, no dyspepsia or morning sickness, and he has not had syphilis, rheumatism, or gout. He is not phthisical or diabetic, nor has he been much exposed to cold, nor worked in lead. He has considerably improved since his admission into the Queen's Hospital under the influence of iodide of potassium and massage. On admission, he was quite unable to stand, and now he can walk about the ward, though his gait is of the high action type. The electrical reactions in this case were normal, except that the faradic irritability was a little diminished.

Case II.—W. G., a man, aged 31, a brassfinisher, was admitted into the Birmingham Workhouse Infirmary in June last. On admission, it was found that his gait was ataxic, and that the knee-jerk was lost on both sides. The grasp was very feeble, and he could not fully extend the fingers. The feet were dropped. He complained of numbness in the fingers and toes, and there was some actual anæsthesia in the inner borders of the feet. He had a well-marked green line on the teeth, and had often suffered from attacks of profuse sweating. The pupils responded normally to light and accommodation. There was considerable emaciation of the thighs, legs, and forearms, but no qualitative electrical changes, except that faradic irritability was somewhat diminished. He had been ailing eighteen months before his admission, and had been unable to walk for twelve months. He has greatly improved under the use of massage and the administration of iodide of potassium internally, being now able to walk well without ataxia.

Unless the occurrence of multiple neuritis in brassworkers is borne in mind, cases in which the knee-jerk is lost and ataxia present are at once diagnosed as cases of locomotor ataxia. In brassworkers' ataxia I have not found any affection of the pupils, and relief has always been obtained by giving iodide of potassium. I have not been able to keep any patient long enough under treatment to enable me to say that the knee-jerk is recovered, and that recovery may be complete. The fact that cases occur in which the hands and feet are dropped seems to indicate that the ataxia is an early symptom which may later on be followed by paralysis, or that it is a distinct variety, just as alcoholic ataxia may precede alcoholic paralysis or may exist by itself.

CLINICAL MEMORANDA.

A NOVEL HAIR DISEASE: (?) ACNE MENTAGRA.

R. B., aged 35, has been ten years under observation, remaining unshaven throughout, though previously shaven. At intervals of a few months, he becomes suddenly aware of a tingling spot somewhere on the chin, where he always then finds a small tubercle, from which he extracts a number of diseased hairs, thus obtaining immediate relief. These hairs differ from their neighbours in many important points; they are extracted with very great ease, and give relief instead of pain in the process; they are often surrounded by a glutinous cylinder of rootsheath, and occasionally by a speck of pus outside this; they often have one or two white joint-like spots in their course, at which they very easily break off; the ends are always split up longitudinally into a brush of



from two to six segments, which may extend only down to a joint or nearly to the root; the unsplit part is always dull and coarse, and very easily splits artificially. The relief obtained by extraction is evidently greater in those hairs which are the more diseased, and the patient is greatly relieved by completely denuding a patch varying in size from a split pea to a threepenny piece, which he can accomplish himself solely by the aid of touch. During the next few days the tubercle quite subsides, and for several months recurrence at that particular spot is most certainly warded off, though others in the neighbourhood or at a distance

may perchance be similarly attacked. The patient has been free from every skin disease except acne, to which he has been subject since youth, and which he had in a very pronounced and indurated form on the face and back between the ages of 20 and 26. Under vigorous exercise, kept up for several weeks, the acne almost entirely disappears; and, after several months of unusually vigorous exercise, it recently vanished for the first time in his recollection. During these periods the affection of the beard diminishes markedly or vanishes. On the other hand, a sedentary, studious life invariably sets up the acne on the back, with one or two tubercles on some part of the face, and almost invariably a spot or two of this trouble on the beard—the moustache and whiskers having so far escaped. It is apparently not a tinea or parasitic sycosis, frequent and diligent search with many reagents having failed to bring to light any parasite. It runs quite a different course from those kerion-like or carbuncle-like cases inoculated from cattle, two of which I have recently seen. It has no resemblance to non-parasitic sycosis, except that, being a folliculitis, it shows the glutinous rootsheath and pus. It was not recognised by any one of the six or eight metropolitan skin physicians, to whom I showed some recently extracted hairs about two years ago; and, on the whole, appears to be simply acne of the chin, with a remarkable condition of the hairs not hitherto recognised. I enclose specimens, and will gladly send others to any one specially interested.

Kendal. W. Rushton Parker, M.A., M.D.Cantab.

PATHOLOGICAL MEMORANDA.

EPIDEMIC DIPHTHERIA.

The remarks upon the above subject in the Journal of November 17th, p. 1123, induce me to mention two of my experiences of the etiology of diphtheria. Both support the view that "huge collections of decaying vegetable matter," such as stable manure, may, by disturbance, generate the disease, and may probably be the cause of the present epidemic in the metropolis.

Nearly four years ago an epidemic of diphtheria made its appearance in a town in Cape Colony where I was resident. Very few families escaped the disease, and those who did were, I believe, the possessors of filters, and accustomed to pay some attention to hygiene. There had been no case of diphtheria in the place for at least three years, and certainly no similar epidemic during an antecedent period of ten years. The only cause we could assign for the sudden outbreak was the pollution of the main water stream, which flowed unprotected through the streets in an open furrow. For two or three weeks prior to the first appearance of the disease exceptionally heavy rains had fallen, washing out every exposed privy and kraal, and carrying filth accumulations (in some instances of years) straight into the stream. All the inhabitants were dependent upon this one source for their supply of water. One farmer came to town with his children, and, when about to return, he took a sufficiency of water from the contaminated stream for the homeward journey—a drive of fifteen miles. The three children drank of the water, and within ten days all of them developed diphtheria, of which one died.

Two years ago, when in practice in the Midlands, I was summoned in great haste to see a child aged 2 years. The patient was moribund, and presented most marked laryngeal and other diphtheritic symptoms. Death took place soon after my visit. The only other child of this family, four years of age, was "ailing," the mother said. Her tonsils presented characteristic patches and the *malaise* of diphtheria. Inquiry elicited that the stable adjoining the house had been but recently "cleaned out," at which process both these children had been present, and had been allowed to play in the stable for an hour or two afterwards.

Leytonstone. John Irving, M.D.

TOXICOLOGICAL MEMORANDA.

POISONING BY LABURNUM.

On October 23rd, my principal, Dr. Lambert, and I were called to attend a child, G. R., aged 2½ years, who, three hours previously, had swallowed a large number of the seeds of the common laburnum (*cytisus laburnum*). The mother discovered the seeds about its lips, and promptly administered an emetic of mustard, which caused the child to vomit a large number of the seeds, between thirty and forty. The child, however, gradually became worse, and on our arrival was in a semi-comatose condition, the pupils contracted, and the skin pallid and cold, the pulse feeble and quick (140). There were no convulsions. Emesis was produced by mustard and by irritation of the fauces, with the result that between twenty or thirty of the seeds were ejected. Under the influence of stimulants the child recovered in a few hours.

The peculiar points of the case are (1) that the pupils were contracted, and (2) that there were no convulsions.

Alexander Stewart, L.K.Q.C.P.I., etc.

Bradford.

REPORTS

ON

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

SAMARITAN HOSPITAL FOR WOMEN, BELFAST.

REMOVAL, BY ABDOMINAL SECTION, OF AN ENLARGED FIBROID UTERUS FOR HÆMORRHAGE: RECOVERY.

(Under the care of Dr. W. K. McMordie.)

S. C., aged 30, single, a mill worker, was admitted to the ward on January 26th. For two years previously she had suffered almost continuously from hæmorrhage, and for some months previous to her admission, she was so feeble that she was unable to attend to her work. The uterus was irregularly enlarged to about the size of a sixth-month pregnancy. In her then state the woman could not earn her living, and she had no means of support except her daily work. She was most anxious to have the tumour removed. I explained to her the risks of the operation, and she expressed herself as willing to take the risk, upon my stating that in case of recovery she would be able to return to her work.

Operation, January 29th. First an incision in the median line, about four inches. Having satisfied myself as to the nature and size of the tumour, I enlarged the incision upwards to the upper border of the umbilicus, and downwards towards the symphysis pubis. The incision now measured seven inches. I was now able to draw out the uterus with both ovaries. The ovaries, which were enlarged and soft, I removed separately, in the ordinary way by ligature; I now constricted the base of the tumour by Keith's clamp, and removed the enlarged uterus, which weighed 6½ lbs. The stump I fixed in the lower angle of the incision, the upper part of the incision was brought together by silver wire; I neither washed out nor sponged the peritoneal cavity, and I made no provision for drainage. I dusted the stump with iodoform powder, and covered the abdomen with salicylic wool and a flannel besides. The patient made an excellent recovery on the seventh day, the clamp came away and the sutures were removed. The woman was discharged in excellent health on March 15th.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, December 11th, 1888.

Sir Edward Sieveking, M.D., President, in the Chair.

Primary Union after Excision of Tubercular Hip-joints.—Mr. Arthur E. Barker said the object of his paper was to emphasise certain conclusions put forward by him in his Hunterian Lectures at the Royal College of Surgeons last summer. Briefly stated these were as follows: 1. That scrofulous or, in other words, tubercular joint disease was a local expression of infection of the tissues with the bacillus tuberculosis, and ran, as a rule, a course beginning in hyperplasia and ending in fatty degeneration. 2. That at a certain stage of the disease the *complete* removal of the infected tissues ought to be possible. 3. That if complete removal of the tubercular tissue from the hip were accomplished the resulting wound ought to heal in many instances by first intention throughout, as in the case of the knee, and often even without any necessity for drainage. The great advantages which would flow from such primary union after excision were then briefly discussed. The author then described his first case operated upon after the above propositions were made last June, and showed that they

were justified by the result. The patient was a boy, aged five years, who had been under careful treatment for a year for hip disease, which resulted in destruction of the head of the femur, and the formation of an abscess of the usual kind. After operation on the lines indicated primary union took place without drainage under one dressing, and the patient left hospital on the fourteenth day wearing a double Thomas's splint. The latter was removed in the eighth week after operation, and the child went to the seaside, when he began at once to run about, and has been quite well ever since. Other cases were alluded to in which Mr. Pollard had since obtained similar results as regarded primary union by operating on the same principle.—Mr. BILTON POLLARD, in reading his paper, drew attention to the fact that the wounds necessary for the extirpation of tubercle from joints would heal as rapidly and as permanently as other wounds of a similar size if certain essential conditions were secured: 1, the whole of the tubercular growth must be removed: 2, perfect asepsis must be assured; 3, bleeding must be checked, and the wound made as dry as possible; 4, oozing must be checked by the even elastic support of a wool dressing and a moderately tight bandage; 5, absolute rest of the part must be maintained during the process of healing. The hip-joint was selected for illustration of the views advanced because the author thought that, of all excised joints, the hip had been found the slowest to heal. Four cases of advanced hip-joint disease with caseous abscesses were referred to. Three were operated upon by the anterior incision, and the fourth by a curved incision round the upper and posterior part of the trochanter. Drainage-tubes were not employed in any of the cases. The dressings were changed on the seventh day after the operations, and the wounds were found to have healed by first intention throughout. With the exception of one case in which the acetabulum was perforated, there had been no recurrence of the disease. It was hoped that three of these cases might be brought to the meeting for inspection by the Fellows of the Society.—Mr. HOWARD MARSH had been glad to hear that Mr. Barker's case was in the anteroom, and requested that if possible it might be shown to the Society. The little boy then walked in with a considerable limp and some adductions of the leg which had been operated upon.—Mr. BARKER explained that he had had a fall lately, and had bruised his knee, which accounted in part for the limp; and also that his splint had been discontinued too early when he was no longer under his own observation; and further, that he was not wearing any high-heeled boot.—Mr. CROFT congratulated the authors of the papers most heartily. The success of this treatment might fairly be said to mark an epoch in the surgery of disease of the hip-joint. He could easily remember the condition of treatment seventeen or eighteen years ago, when it was what we should now think deplorable. No operations were then performed until the last stage, and the results were very disappointing to the operating surgeons. In 1880 he had brought a paper before the Clinical Society, treating of forty-five cases, in which he had excised the hip-joint, and the mortality in those cases was 35 per cent. General opinion then was decidedly against early excision. A committee of the Clinical Society was appointed, and reported that it was undesirable to excise the joint unless there was dislocation or a sinus, unless, in fact, the disease was in the last stage. He had continued his practice of early excision, and since then had had fifty-three operations, with a death-rate of only 15 per cent. That, at all events, was a great gain. When he saw the cases before them to-night he felt ashamed that there should have been so many as 15 per cent. Of these fifty-three cases one had been cured within a month, ten within six months, eighteen within a year, and twenty-seven within two years. So far he had been able to make himself certain, and that he considered a very great progress. He envied the authors of the papers, who were able to speak of curing their cases in weeks instead of months; that the wound should be healed in a week would have been an astounding point in practice not long ago. Eight years ago it was a question whether to excise at all. He congratulated English surgeons in recognising that there was such a thing as tubercular disease which could be cured. He had not himself used the anterior incision, the deep sutures, and various other modern improvements.—Mr. BRYANT did not think he could accept Mr. Croft's conclusion that there must be operation in hip-disease at an early stage. More evidence was wanted before that could be decided. The cases that had been shown them were excellent evidence as far as they went, but, of course, the end of these cases had not come yet. He should have been glad to have seen the joints that had been removed, for they must not forget that joints may be repaired; they might have healed without an operation. He was quite ready to admit that there actually was mischief that Nature could not heal; in the case in which a sequestrum of bone had been extracted there was certainly need for an operation. He wished to leave out of account all question of whether there was tubercle or not, and then it was the degree of disorganisation that determined the operation. He was still in favour of expectant treatment in the great bulk of cases. Of course, if early excisions were compared with an equal number of late excisions, it would be *a priori* probable that there would be more recoveries among the early cases. He would remind Mr. Croft that the cases collected by the Committee of the Clinical Society in 1880, which gave a death-rate of 35 per cent., were taken from all the hospitals in London, and at a time when the whole knowledge of the treatment of wounds was very different. He could hardly think Mr. Barker would have wished that his patient should have left off using a splint so soon as eight weeks after the operation. As they had seen, a considerable deformity had resulted from it. It would have been better that he should keep it on for a year. Mr. Pollard had his cases on splints, and he had no doubt would keep them there.—Mr. HULKE felt he ought to begin by congratulating Mr. Barker and Mr. Pollard on the results of their treatment. Still, many cases, if treated with rest in the early stage, would recover without excision, and when they had recovered in that way gained stronger limbs, were more fit for work than cases of excision. When cases of hip-joint disease were spoken of as healing in a few weeks, he supposed the external wound was all that could be referred to; there would be no complete bony union. In his own cases the mortality had never stood as high as at 30 per cent., and did not now reach 15 per cent. He had never been in the habit of cutting off the great trochanter, as he was surprised to learn had been the custom with some operators. He was pleased to hear that Mr. Pollard and Mr. Barker were able to get out the synovial membrane through a post anterior incision, for he should have thought it quite impossible, considering its many folds and recesses. They had heard at a recent meeting how difficult it had been in arthrectomy of the knee when the joint had been laid freely open, and he should have expected it to be much more difficult in the case of the hip. The operation by anterior incision was no new thing; it was introduced by Hüter, who combined it with a drainage-tube at the back of the joint.—Mr. HOWARD MARSH had never seen such good results as the cases they had before them. If they turned back eight or ten years, the operations on the hip-joint were certainly of a much rougher type than at present. His usual method had been by posterior incision, but he thought from these cases that an anterior incision would be better. The operations were not quite new; they had all seen a tubercular joint heal quickly after incision. He had treated a knee by excision, and left the wound untouched for a week, and found it then completely healed. Mr. Barker's case was to him disappointing, for the deformity was considerable. The most important question of all was not the best way of obtaining primary union, but the ultimate conditions of the limb; and the difficult point to decide was what condition could be reached by long rest at first and good nutrition, as compared with early excision, and it must be remembered that some evidence was accumulating against the permanence of tubercular disease.—Mr. CROFT begged to be allowed to remark, *à propos* of what Mr. Hulke had said, that when he admitted a mortality of 15 per cent. in fifty-two patients on whom he had operated, he did not mean that these deaths had been in consequence of the operation; with one exception, in fact, they had been all due to tubercular disease at some time subsequent, and not consequent on the operation.—Mr. C. B. KEETLEY remarked that after he had excised a diseased hip-joint and scraped out the morbid surrounding tissues, the case had done very well for six weeks, but after that, had died suddenly from tubercular meningitis, and he had thus had an opportunity of examining the joint, and found the head of the femur firmly joined to the acetabulum, and hardly any trace of cicatricial tissue left. The use of the drainage tube had not been thoroughly discussed, it had been treated as a thing to be avoided, if possible. He regarded it himself as a safeguard against the mistakes in antiseptic treatment into which it was always conceivable that they might fall. If all the morbid tissues had not been removed, there would be use for the drainage tube in lessening the chance of self-infection. It did not in the least prevent early convalescence: cases might be up and going about in a fortnight on crutches without being the least the worse for a

drainage tube.—Mr. HULKE would be obliged if Mr. Barker in his reply would tell them in more detail how he had found it profitable to fill such a large cavity as was left after excision of the hip with an emulsion of such a strong poison as iodoform.—Mr. G. A. WRIGHT, on being invited by the President to speak, said that he had had considerable opportunities for watching the results of hip disease among the tuberculous population of Manchester. Out of the last 800 cases he had seen he had performed excision in 135. He agreed that the best results would be obtained from rest if the cases were taken in time; but that qualifying clause made the maxim unpractical. He had never seen better cases than what had been shown him that evening. He used drainage tubes himself, and did not get the operation wounds healed so quickly. In these the section of the bone had been above the trochanter; he thought that no better than section through it. The great difficulty was the entire removal of the morbid tissues. He had found it practically impossible either by the anterior incision, which he had used occasionally, or by the posterior. Only little foci of disease might be left, but they were apt to suppurate when some fall or accident to the child gave them an opportunity. The cases Mr. Barker and Mr. Pollard had shown could hardly be called early cases. The difficult point to decide was whether, in cases of this sort, the children could stand the long waste of getting well without the surgeon's knife. He was accustomed, even after excision, to keep on a Thomas's splint for a year, for without it they were liable to many dangers.—Mr. G. H. MAKINS related his experience in Halle in 1879, when Volkmann was performing many excisions in early cases of tubercular hip-joint disease. He removed the synovial membrane most carefully, and used a weight after the operation, but no splint. Many of the cases hopped about the wards in three weeks, supporting themselves on a little truck in front of them, and at first seemed to be healing very well. In 1887, however, the practice was given up, for the ultimate results had been unsatisfactory.—Mr. BARKER thanked the Society for the kind way in which they had received his paper, but could not claim competence to answer all the questions that had been raised. In the matter before them they were all to some extent in the position of learners. The first question was, What was early hip-disease? He was in the same position as everyone else in not wishing to excise the joint until he had given up hope of curing it otherwise. This test case that he had brought forward had had rest to begin with for a year. Before the operation abscesses near the joint had been aspirated, and when the joint was finally laid open it was in advanced disease, and the head of the bone carious throughout. Still he thought the child was better for the operation. He was in favour of using a Thomas splint for months after the operation, as long, in fact, as he could. In this boy's case it had been a mistake of his parents to leave it off; still it made the case, perhaps, more interesting, and he hoped to get his leg right again, but it certainly was not the treatment he advocated. In answer to Mr. Hulke, he remarked that the cavity left after an operation by anterior incision was a very small one, and he agreed that the iodoform emulsion should be used in small quantity. In order to avoid strong germicides in children he had used an abundance of hot water, and only a little iodoform.—Mr. BILTON POLLARD felt he had to return thanks to all who had spoken, and especially to Mr. Wright, who had expressed what he had to say himself. He considered the cases he had shown as rather of late than early disease, since there had been carious bone and abscesses just going to break through the skin. He agreed with Mr. Barker that there was very little cavity left after excision by this plan, for it was filled up by the soft tissues.

MEDICAL SOCIETY OF LONDON.

MONDAY, DECEMBER 10TH, 1888.

SIR WILLIAM MAC CORMAC, F.R.C.S., President, in the Chair.

On the Absolute Signs of Death.—Dr. B. W. RICHARDSON, F.R.S., read a paper on this subject. He opened by saying that in the present day, owing to the discussions that were taking place on the subject of cremation and the disposal of the dead, members of the profession were more frequently being called in in consultation in order to determine if life were actually extinct. He proposed, therefore, in the short essay he was about to read, to state in a very practical form, first, the common circumstances under which the inquiry was demanded; secondly, the methods for determining the absolute proof of death; thirdly, a summary of efficient practical details. Under the first of these heads the author specified the reasons which led the friends of persons supposed to be dead to question the fact of death. These were: (*a*) changes of colour of the dead body; (*b*) retention of warmth; (*c*) movements of parts, or supposed movements; (*d*) retention of life-like expression after death; (*e*) prolonged preservation of the body from putrefactive decomposition; (*f*) suspension of the ordinary phenomena of vital action after some forms of induced narcotism; (*g*) the cataleptic state, traumatic and idiopathic. One other circumstance might also give rise to the inquiry—namely, a request on the part of the person whilst living to be subjected to skilled examination after death, in order to prevent the possibility of living burial. The author twice in his career had been called in to meet this demand or request. The various circumstances which might lead to a doubt as to absolute death, some of them very important and singular, were next described in detail; and then followed the second part, namely, the actual or veritable proofs that had to be made in order to arrive at a satisfactory demonstration that life was extinct. These proofs were named as ten in number. They were taken up in the following order: (1) respiratory failure, including absence of visible movements of the chest, absence of respiratory murmur, and absence of water vapour from the breath; (2) cardiac failure, including absence of arterial pulsation, of cardiac motion, and of cardiac sounds, absence of turgescence or filling of the veins on making pressure between them and the heart; (3) reduction of the temperature of the body below the natural standard; (4) rigor mortis and muscular collapse; (5) coagulation of blood in the veins; (6) putrefactive decomposition; (7) absence of red colour in semi-transparent parts under the influence of a powerful light; (8) absence of muscular contraction under the stimulus of an electric or galvanic current; (9) absence of a red blotch on the skin after the subcutaneous injection of ammonia; (10) absence of signs of rust (oxidation) of a bright steel needle after plunging it deeply into the tissues. In the last part of his paper Dr. Richardson indicated the precise mode in which the practice named above should be directly applied, taking up the steps of the necessary examinations one by one, pointing out the relative values of each, and giving, so to speak, in a condensed form, the diagnostic formula for an absolute proof of death in every doubtful case, without any operative procedure that was itself inimical to life.—The PRESIDENT complimented Dr. Richardson on his interesting and elaborate paper. He thought the method of compressing the veins at the back of the wrist was a very simple and efficient method. He remarked on the fact that execution by electricity had been decided upon in the United States, a fact which, in view of Dr. Richardson's conclusions, might have untoward results.—Dr. ROUTH mentioned that persons who died of pneumonia retained the coloration of the cheeks; and recalled an incident at Clamart which had forcibly impressed the fact upon his memory. Passing on to the question of temperature, he mentioned a case of ovariotomy in which the temperature rose 2° after death, and even the next morning, though it was in the winter, the temperature was still 2° above normal. He also referred to the *post-mortem* movements in patients who had succumbed to Asiatic cholera.—Dr. ALTHAUS alluded to the universal dread felt towards being buried alive. He observed that the occurrence of a *post-mortem* rise of temperature was a recognised fact, notably in tetanus. In other cases, again, there might be a remarkable fall in temperature before life was extinct, so that temperature *per se* could not be relied upon to prove anything. He had known the temperature to go down to 93° within twenty minutes after an apoplectic attack, and the same phenomenon was often observed in wasting diseases and as a consequence of inanition. He mentioned one such recorded case, in which the temperature fell as low as 81° F., though the patient was undoubtedly alive. In his opinion, the only really reliable test, except putrefaction, was the reaction of muscles to electricity. In no disease, short of death, was the contractility of muscles absolutely destroyed all over the body at the same time. He said that very soon after the heart ceased to beat, a steady and perceptible diminution in the extent to which the muscles responded to the electrical current was noticed, and all trace of reaction disappeared in about two hours, certainly within three hours. It persisted longest in powerful men the victims of violent death. He mentioned a case in which this test had proved conclusively that the patient was dead.—The PRESIDENT asked Dr. Richardson how he accounted for the facts observed by himself and others on the battlefield of the occurrence of instantaneous

rigor mortis in soldiers. He had seen them preserve the attitude in which they were at the moment of death, the arms raised as in drinking, or holding the musket, etc.—Dr. RICHARDSON, in reply, observed that he had protested against the introduction of death by electricity as being altogether unreliable. He quoted a series of experiments made on sheep, and showed that while it was possible, by means of a very powerful current, to kill small animals, birds, etc., it was quite otherwise when large animals were experimented with. He said that he had asserted that the colour in the cheeks persisted in death by asphyxia, to which category death from pneumonia belonged. He alluded to the fact that no one could, by will, impose on the survivors any particular method of disposing of the body by cremation or otherwise. He thought the discretion rested with the executor (Dr. Routh claimed that wife or next of kin was the authority in such matters), and suggested that the legal right to leave directions in this respect might fairly be applied for. He denied that rigor mortis ever produced any change in position, all the muscles undergoing the change simultaneously. In reply to the President, he said that the sudden rigor in the cases mentioned was probably due to the immediate coagulation of the albuminous constituent of the body, due to the heat developed by the sudden resistance offered to the circulation.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, DECEMBER 5TH, 1888.

JOHN WILLIAMS, M.D., President, in the Chair.

Specimens.—Dr. CULLINGWORTH: Fœtus, Placenta and portion of Cyst-wall, illustrating the exhibitor's paper on Extra-uterine Fœtation, reported below.

On the Effect of Glycerine on the Quantity of Secretion poured into the Vagina.—This paper, read by Dr. HERMAN, related observations made to see whether the commonly, but not universally, accepted belief, that the local use of glycerine caused a flow of fluid from the vagina, was correct or not. The observations were made with cotton-wool plugs soaked in glycerine, and with pessaries made of gelatine and glycerine. The amount of glycerine inserted into the vagina was weighed; the discharge from the vagina was weighed, and the amount of vaginal discharge from the same patient when glycerine was not used was also ascertained by weight. The result of the observations was in favour of the following conclusions: 1. That when the secretions poured into the vagina were not abundant the local use of glycerine increased them. 2. That when the secretions poured into the vagina were already abundant the local use of glycerine did not increase them.—Dr. CHAMPNEYS asked whether Dr. Herman had estimated the loss on the diapers from evaporation. The conditions were favourable for evaporation, and would confirm the conclusions arrived at in the paper.—Dr. GRIFFITH said that it was important to make sure whether the vaginal secretions were formed in the vagina or were merely retained in that canal. The vagina was anatomically skin, and actually became dry skin in procidentia and cystocele, and then no secretion could be found but what was evidently uterine. Glycerine would then act on the vagina as on any surface skin, irritating it and, by absorbing the moisture in the surface-cells, rendering it more dry than before. In Dr. Klein's opinion, the acidity of vaginal mucus, like that of the sweat, was due to decomposition. After some observations by Dr. BRAXTON HICKS, Dr. HERMAN, in reply, stated that he thought the loss of weight by the napkins or pads due to evaporation was but slight; on the other hand, the perspiration from the skin with which the napkin was in contact, might cause a slight increase in weight. Dr. Herman had used the words "secretion poured into the vagina," which did not imply any opinion as to their source. Whether the secretion was of uterine or vaginal origin, whether it was produced by glandular activity or simple osmosis, he could not tell. He would be obliged if Dr. Griffith could suggest any method, harmless to the patient, by which the excretions of the uterus could be separated from those of the vagina. Dr. Herman believed that the vagina did secrete mucus. In cases of atresia of the vagina at more than one place, collections of mucous fluid were found between the occlusions. In cases of atresia of the os externum, the vagina was as moist as in most other patients. That under pathological conditions the vagina might pour out fluid in abundance needed no demonstration.

Obliteration of the Central Canal of the Spinal Cord in an Early Human Embryo.—This paper was read by Mr. C. B. LOCKWOOD. After a description of the microscopical specimens which illustrated the author's researches, Mr. Lockwood gave reasons why he believed that the appearances were not due to decomposition or soakage. They represented a fault in the process of development. The obliteration of the central canal was confined, in this case, to the dorsal region of the cord. This obliteration appeared to be in some respects an excess of the process of development, in others a retardation of that process. Mr. Lockwood attributed most abnormalities to disease, especially inflammatory processes. The epiblast, from which the dorsal portion of the spinal cord was developed, was particularly exposed to external influences. It lay next the uterine surface for some days in early fœtal life, when the cord was unprotected by the amniotic folds. Gynæcologists could imagine conditions of the uterine surface which might exercise a pernicious influence on the epiblast. Early embryonic defects and diseases of the cord may be frequent, and may account for a variety of well-known affections, such as congenital defects of joints, club-foot, and syringo-myelocele.—Mr. DORAN concluded that the same defects and diseases would account for anencephalous monsters. Acephalous or acardiac monsters were developed in quite another manner, namely, through abnormal vascular communication between twins.—Mr. LOCKWOOD thought that defects in the epiblast partly accounted for anencephalus.

Sequel to a case of Bright's Disease during Pregnancy.—Dr. HERMAN'S original report of the case was published in the twenty-ninth volume of the Society's *Transactions*. The patient, aged 21, had labour induced at about the seventh month on April 18th, 1887. Symptoms of Bright's disease had apparently been present for about two months. She left the hospital about three weeks after delivery. Dr. Herman now reported the termination of the case. The symptoms became worse after her discharge, and she died from acute œdema of the larynx and tongue, in St. George's Hospital, on January 26th, 1888. The report of the necropsy, prepared by Dr. Penrose, was read. There was no œdema of the feet, the superficial veins of the thorax were distended, and there was generally fulness of the neck; the local disease about the larynx was very marked. The brain-tissue was firm, there was no excess of fluid in the ventricles. There were retinal hæmorrhages. The great serous cavities contained a small quantity of fluid. The lungs were œdematous, the left ventricle greatly hypertrophied; the aorta was but little atheromatous. The kidneys were granular, the cortex readily peeling; their weight was nine ounces. The liver was large and fatty, weighing 4 lbs. 4 ozs.; the spleen was large and firm, weighing seven ounces; it contained a small infarct. Dr. Herman noted the rapid production, at a very early age, of granular kidney, and the associated cardio-vascular changes.

Extra-Uterine Fœtation; Abdominal Section eight months after Death of Fœtus; Sac formed by Left Fallopian Tube and Left Broad Ligament; Recovery.—This paper was read by Dr. CULLINGWORTH. The patient was twenty-seven years old, her last confinement happened five years ago. In April, 1887, she menstruated for the last time. In July she quickened, and continued to enlarge and feel the movements of the fœtus till December, when she suffered for an hour with labour pains. Then the movements ceased, and the abdomen decreased in size. Seven months later she was admitted into hospital. An abdominal tumour lay behind the uterus, an eight months' fœtus was found in a sac, composed of the left Fallopian tube and broad ligament. The liquor amnii and umbilical cord had disappeared. The placenta lay in front and was removed without hæmorrhage. The fœtus was firmly adherent to the sac-wall. A portion of the sac was removed, the remainder being stitched to the abdominal wound and drained. The sac closed in well; a small piece, near the incision, sloughed. The patient made an uninterrupted and aseptic recovery, the temperature during convalescence never exceeding 100.4°.—After some observations by Mr. SUTTON, Dr. GRIFFITH asked if the fœtal sac had been found, in this case, to be in the broad ligament or not. Mr. Tait believed that no extra-uterine pregnancy ever advanced near to term, save when the sac was subperitoneal. A specimen in the museum of St. Bartholomew's Hospital almost disproved this theory. Dr. Griffith further asked if Dr. Cullingworth found any advantage in the median incision and the opening of the peritoneal cavity, as it had been shown by Mr. Thornton and others that it was usually better to cut down directly on the sac, and to avoid opening the peritoneum.—Dr. HERMAN noted that in this case the placenta resembled the same structure in cases of extra-uterine gestation removed some time after the death of the child, which had been exhibited before the

Society by Dr. Champneys, Dr. Aust Lawrence, Mr. Thornton, Mr. Doran, and himself. Effusion of blood, which, partially organised, made it more solid, and great diminution in the activity of the circulation in contiguous material structures occurred, so that the placenta could be detached and removed with trifling if any hæmorrhage; hence the slight risk which attended secondary operations. It would be well if we could determine the date at which the changes in the placenta occurred. Litzmann had endeavoured to find out the date at which the maternal circulation might be expected to have ceased, but concluded that it could not be ascertained with certainty. He fully believed that intra-peritoneal, as well as subperitoneal pregnancy, might proceed nearly or quite up to term. He had operated on one such case himself; the placenta was attached to the bladder and anterior abdominal wall.—Dr. CHAMPNEYS said that the statement that all cases of extra-uterine gestation which went quite, or nearly, to term were intra-ligamentous was unfounded. In his own case, described in the Society's *Transactions* for 1887, the fœtus was simply free, kicking about among the bowels. Furious hæmorrhage had occurred, according to Litzmann's statement, from the placental site four months after the death of the child.—Dr. GALABIN asked for the relations of the mass felt behind the uterus. Had the peritoneum been stripped off the back of the uterus by the expanding sac? There was positive evidence that abdominal as well as intra-ligamentous pregnancy might go on to term, or nearly to term. In the case of combined extra-uterine and intra-uterine fœtation in which he had operated, the fœtus was enclosed only in its own thin membranes, and the placenta was attached to the pouch of Douglas and the back of the uterus.—Dr. WILLIAM DUNCAN thought that very many cases of rupture were between the layers of the broad ligament and not into the peritoneal cavity. He had operated on such a case.—Dr. PLAYFAIR approved of Dr. Cullingworth's practice. At the time that the patient was seen by him no other resource but secondary laparotomy was possible, and it had happily proved successful. On the other hand, Dr. Harris's tables of cases of primary operation (before the death of the child) showed a most gratifying success. With increased experience yet better results would be obtained. Dr. Playfair noted the great differences in the state of the fœtus when retained after term. In Dr. Cullingworth's case it was fresh and unchanged, though retained for six months. In the case preserved in the museum of the College of Surgeons, where the fœtus had been retained about fifty years, it was also fresh. Yet he had seen a fœtus transformed, after only a few months' retention, to a mass of adipocere and bone. In older cases it sometimes became mummified or ossified, forming a "lithopædion." Rupture of the tube early in gestation, as in Dr. Cullingworth's case, was by no means necessarily fatal, and often led to the development of an abdominal gestation. He related the case of a lady who was suddenly taken very ill in the street. He was called in to see her, and diagnosed ruptured tubal pregnancy, Dr. Matthews Duncan confirming the diagnosis. Laparotomy was decided upon. The patient, however, rallied completely before the necessary preparations for the operation were made. She left England, but Dr. Playfair had learnt that an abdominal tumour had since developed, and that Dr. Breisky, of Vienna, was about to perform laparotomy.—Dr. CULLINGWORTH, in reply, gave reasons for feeling sure that the pregnancy was originally tubal, and had become a broad ligament gestation through rupture of the tube. Operation without wounding the peritoneum would have been impossible, owing to the relations of the parts. The cessation of the placental circulation had proved most favourable for the operation. Irregular hæmorrhages in the early months of pregnancy, a great aid to diagnosis, had not been observed in this case; no decidua had been expelled. Since the paper was written more ligatures had come away, and the wound had closed. Dr. Playfair's observations on the fate of the fœtus were interesting. When suppuration and graver symptoms occurred, perhaps the fœtus had become adherent to the intestine, septic changes ensuing. He was glad that the President was in accord with him as to the desirability of operating without waiting for symptoms. A patient going about with a dead fœtus in her abdomen was in constant danger, and an operation was most likely to be successful when performed before septic symptoms had set in.

THE annual meeting of the Manchester medical students was held on November 27th. The chair was taken by Mr. Thomas Jones, President.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

FRIDAY, NOVEMBER 30TH, 1888.

J. MAGEE FINNY, M.D., President, in the Chair.

Fracture followed by Gangrene.—Mr. W. I. WHEELER communicated a case of fracture followed by gangrene.

Epithelioma in the Horse.—Dr. R. GLASGOW PATTESON said that epithelioma was excessively rare among domesticated animals, while among wild animals, living either in confinement or in their natural state, it was almost unknown. Mr. Bland Sutton had met with only two examples. One was in a Japanese wolf; the growth occupied the mucous membrane between the gums and the tongue, and presented the appearance of a leathery patch, resembling the chronic superficial glossitis—the so-called "ichthyosis linguæ" which occurred in man. The second growth occurred in the anus of a dog. Mr. McFadyean, Demonstrator of Pathology in the Royal Veterinary College, Edinburgh, had not met with a case; and both he and Mr. Sutton agreed that tumours from the penis of the horse were generally fibromatous or papillomatous. The specimens were obtained from a horse ten years old, from which two previous growths had been removed. The tumour was situated on the inferior aspect of the penis, involving also the sides and part of the upper surface of the organ. It was about two inches and three quarters in length by about an inch and a half in width, the longest axis lying transversely. Its edges were raised, nodular, and everted, the surface irregular, with commencing ulceration. Microscopically it proved to be a typical epithelioma, the "cell-nests" being specially well-marked. Another point of interest in the tumour was that, although originating in a part the epithelium of which normally contained pigment, yet in no portion of the neoplasm could pigmented cells be found. In the available records of veterinary literature he had been unable to meet with a case of epithelioma of the penis.—Professor BENNETT said that the case proved the occurrence of epithelioma in one of the lower animals. It had been long familiar to pathologists that carcinoma, in the form of scirrhus, occurred in the lower animals. These cases were important as tending to disprove an absurd theory that cancer in man was a descendant of syphilis. Now it was certain that neither the horse nor the dog at least could be ever infected with syphilis.

Tubercular Ulceration of the Intestine.—Dr. BEWLEY exhibited, for Dr. JAMES LITTLE, a case of tubercular ulceration of the intestine. The patient had suffered for two years from phthisis, and for the last three months of his life from uncontrollable diarrhœa. The small intestine contained 79 large typical tubercular ulcers, and the large intestine about 30. The lungs showed the ordinary phthisical changes. Dr. Little called attention to the fact that the man, in spite of such lesions, was very considerably fat.

Diseased Heart.—Dr. MACSWINEY gave an account of the following case, and showed the heart. A woman, aged 70, was brought dead to Jervis Street Hospital. At the necropsy nothing to account for death was found in the head or abdomen. The lungs were also healthy. Upon opening the pericardium, which was healthy, the heart was found large, very hard, and having some adipose tissue deposited upon its right upper surface. All its cavities were quite empty; both ventricles were contracted. The right auricle and ventricle were normal; the left auricle was of normal size, but its walls were hypertrophied. The auriculo-ventricular ring was hard, corrugated, greatly narrowed, admitting the tip of one finger. The left ventricle was greatly hypertrophied, and of small dimension in the cavity. The aortic valves were converted into a dense, hard, calcified mass. A small aperture existed in their centre, admitting barely a goose quill; this hole allowed the passage of water from the aorta into the ventricle. No medical history could be obtained. The woman's daughter, however, assured Dr. MacSwiney that her mother "never lay a day," never consulted a doctor, and made no particular complaint of ill-health. There were no external appearances on the body, which was wasted, pointing to the cause of death—neither œdema, dropsy, nor cutaneous venous congestion. There were no atheromatous patches upon the thoracic aorta.

Congenital Malformation in a Mummy.—Professor BENNETT submitted a case of congenital malformation in a mummy. The bones were those of an Egyptian mummy that was many years ago placed in Marsh's library. There was an extraordinary contrast between the two humeri; the left was perfectly normal, and was apparently that of a full-sized man; the other humerus was

very small and stunted, and had at the elbow end this remarkable peculiarity, that it was wider from condyle to condyle than the bone on the sound side, while the distance between the margins of the articular surfaces was a trifle less. The upper extremity of the stunted humerus articulated with a joint which showed traces of chronic rheumatic arthritis. The joint was evidently one in which motion had taken place. He called this a congenital malformation because he did not know any other explanation of the conditions. The bones of the forearms corresponded in length, but the right were a trifle slighter and a little atrophic, but there was no sign of arrested development, nor was the clavicle different from that at the other side. He came across an exactly similar specimen many years ago while dissecting, which was also exhibited.—Mr. FRAZER said there were also found a few pieces of the original mummy case, with the gilding, ornaments, and bandaging, sufficient to show what it was. He was particularly struck by the peculiar perforation at the lower end of the mummy humerus. He found the same thing in the bones disinterred some years ago at Donnybrook, in connection with a Danish massacre that was known to have occurred there.—Mr. LENTAIGNE said it seemed to him that the deformity might have resulted from epiphysary fracture, which often arrested the development of the bone. In both the mummy and the modern bone it was not at all improbable that there might have been a fracture, and if that occurred near the epiphysis in early life it would have caused an arrest of development. If the malformation of the upper arm were congenital he could not see why it should be accompanied with a perfectly natural forearm.—Professor BENNETT, in reply, said that Mr. Jonathan Hutchinson was the leading authority for arrest of development after epiphysary fracture. He did not know a single recorded case of arrested development following epiphysary separation; epiphysary separations always united with great accompanying deformity; but there was not a single trace of any such deformity on either of the bones now before them.

Case of Rare Form of Typhoid Ulceration of Ileum.—Dr. BEWLEY showed the ileum of a patient who had died of hæmorrhage in typhoid fever. The case had been a long one, consisting of a primary attack and two relapses. The ulcers were few in number, eight or ten, and, with the exception of two or three in the cæcum, were confined to the lowest three feet of the ileum. Their surface was smooth, and appeared to be in process of healing, but in the centre of several of them was a fresh ulcer surrounded by thickened and overhanging edges.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, DECEMBER 7TH, 1888.

WILLIAM TRAVERS, M.D., President, in the Chair.

Popliteal Aneurysm.—Mr. C. A. BALLANCE read the following case: H.A., aged 34, French polisher, standing eight or nine hours a day. Late a soldier. Had syphilis in India. Had drunk for years six pints of beer a day. Right femoral artery ligatured by Sir J. Lister in 1881. No trouble with right knee since his present illness began, twelve months previously. A pulsating tumour appeared at the back of the left knee. On August 16th he was admitted to the West London Hospital, having felt a sudden sharp pain in the upper part of the leg, which caused him to fall. He was drunk, but there was no history of a blow on the leg. There was a large pulsating swelling from the upper part of the popliteal space in the middle of the calf. The posterior tibial artery was pulsating. On the 22nd there was ecchymosis all over the lower part of the leg. On the 24th the femoral was ligatured antiseptically with kangaroo tendon, tied in a reef knot. The coats were not ruptured. On September 14th the wound was healed. Measurements: 13½ inches the calf, 14 inches the knee, and 13 inches above; as against 15 inches the calf, 16 inches the knee, and 15 inches above at the time of admission. The patient left the hospital on October 19th, having been six weeks on his back and one week up. Mr. Ballance made a few remarks on aneurysm of both popliteal arteries, and on various methods of treatment, etc.—Mr. KEETLEY mentioned the case of an old man with popliteal aneurysm, of twelve months' duration. He tied the femoral after the fashion of Dr. Nicolas Senn, of Chicago, which consisted in applying two ligatures side by side, with no intervening division of the vessels; also, as in Mr. Ballance's experiments, he tied them loosely, not dividing the middle and inner coats.—Dr. CLIPPINGDALE and Mr. LLOYD each mentioned a case of popliteal aneurysm occurring in both arteries.—After some remarks from Mr. ALDERSON, Mr. BALLANCE, in replying, said after a time carbolic oil became thick, and underwent a chemical change which it was at present impossible fully to analyse, and which rendered the oil unsafe for storing ligatures in for any time. Dr. Koch had shown that carbolic oil was a feeble antiseptic, and he preferred glycerine sublimate 1 in 1,000. He considered digital compression the best form of treatment, but it was only applicable when there were plenty of assistants.

Hysterical Affections of the Throat.—Dr. SCANES SPICER read a paper on some hysterical (so-called) affections of the throat. He said obscure and chronic paræsthesia of the throat, such as sensations of scraping, foreign body, burning, dryness, itching, causing dry, hacking cough, feelings of tension, constriction, ball rising in the throat, were often attributed to hysteria because no abnormal appearances were detected. Until recently no attention was paid to the pathological state of the tissues at the base of the tongue, between the circumvallate papillæ and the epiglottis, such as hypertrophy of the adenoid tissue called the "lingual tonsil," engorged veins, and an anteflected position of the epiglottis, conditions due, in his opinion, to chronic nasal and post-nasal catarrh, mouth-breathing, and carious teeth, producing irritating buccal secretions; improper use of the voice; indulgence in condiments, alcohol, hot drinks, and tobacco. They were also associated with anæmia, chlorosis, dyspepsia, gout, neurasthenia, rheumatism, and a congested portal system. As regards treatment, it was essential to remove nasal obstruction or catarrh, to adopt nasal respiration, to have carious teeth attended to, to keep the mouth rigorously clean, and to avoid the causes mentioned. Depletion of the portal system and salines were indicated, and the reduction of any nodules of adenoid tissue in the situation mentioned was essential. Gargles, sprays, and paints were inefficient; the porcelain galvano-cautery point should be used, the throat having been cocainised. If the nodules were large, a snare or knife and volsella might be used.

Laryngeal Growth.—Mr. BENHAM read a case of a growth in the larynx preventing phonation.

Hysterical Affections of Vocal Cords.—Dr. BALL read remarks on hysterical motor affections of the vocal cords. Phonation was more frequently affected than respiration. Hysterical aphonia might be complete or partial. A rare form was aphonia spastica, the patient making great efforts to speak, but being unable to get air through the glottis. Hysterical stridulous breathing might affect inspiration or expiration, or both. Hysterical cough must be considered in part a motor affection of the glottis. The diagnosis of these affections depended, first, on general considerations which applied to all hysterical affections; secondly, on peculiarities of the symptoms, such as the influence of the emotions, the persistence of the voice for certain acts, as coughing, the disappearance of stridor during sleep, and the presence of marked sensory affections of the pharynx and larynx. The treatment was partly general, partly local.—The PRESIDENT, Dr. BANNING, and Dr. ROBERTS took part in the discussion.—Dr. SPICER and Dr. BALL replied.

NEWCASTLE-ON-TYNE CLINICAL SOCIETY.

THURSDAY, NOVEMBER 29TH, 1888.

W. GLAHOLM BLACK, M.R.C.S., President, in the Chair.

New Members.—Eight gentlemen were elected members of the Society.

Hydatiform Mole.—Dr. A. CAMPBELL showed a specimen of a hydatiform mole from a married woman, aged 27, the mother of three children. There was a history of a fall, followed by hæmorrhage, rigors, vomiting, and severe labour-like pains. On examination, the uterus was found reaching nearly to the umbilicus, with a rigid os, which was dilated with difficulty and the mass removed.

Perforating Ulcer of Intestine.—Dr. H. BRAMWELL showed a specimen of a perforating ulcer of the intestine due to the presence of a concretion in the vermiform appendix. The patient was a boy who had been recently treated for scarlet fever. Symptoms commenced with severe pain in the right iliac region, followed by formation of a phlegmon, and subsequent general peritonitis. The boy survived for thirty-eight days, and died suddenly with acute pain and collapse.

Gall-Stone.—Mr. RUTHERFORD MORISON showed several specimens of gall-stones:—1. Removed with a fæcal accumulation from the rectum of an old lady suffering from obstruction.

The stone was of large size, and had evidently ulcerated through the hepatic flexure of the colon; it was interesting in being facetted, showing that it must have had a companion. 2. A collection of small stones removed by cholecystotomy, with successful result. 3. Large stone removed from the sigmoid flexure by abdominal section in a case of intestinal obstruction. Death in two days.—Dr. MEARNS advocated treatment with olive oil, and mentioned cases in which this plan had succeeded.—Mr. A. WILSON, Mr. T. A. DODD, and the PRESIDENT also made remarks.

Uterine Douche.—Dr. H. S. BAUMGARTNER showed a uterine douche.

Cataract Extraction.—Dr. C. L. LIGHTFOOT read a paper on Cataract Extraction, illustrated by drawings and patients. He strongly advocated the performance of a preliminary iridectomy, and quoted the results of his own practice.—A discussion followed, in which the PRESIDENT, Mr. DODD, Mr. MORISON, Dr. BRAMWELL, Dr. RIDLEY and others took part.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

WEDNESDAY, DECEMBER 5TH, 1888.

JOHN SMITH, M.D., F.R.C.S.E., President, in the Chair.

Gout with unusually numerous Tophaceous Deposits on the Skin.—Professor GRAINGER STEWART showed a man, aged 58, with unusually well-marked evidence of advanced gout, in whom no satisfactory history of causation or heredity could be traced. The patient had apparently suffered from gouty symptoms for twenty years. At the present time, the joints and skin were especially affected, and these parts showed an unusual abundance of the characteristic tophaceous deposits. Lately albumen had been discovered in the urine, and occasionally hyaline casts were detected.

A New Form of Aspirator Syringe was shown by Dr. FOULIS.

A Case of Carcinoma of the Mamma associated with Paget's Disease of the Nipple.—Dr. JOSEPH BELL showed a case of this nature. The tumour appeared to be similar to that recently described by Sir Spencer Wells as alveolar cancer. The patient's aunt had been likewise affected with carcinoma of the mamma.

Surgical Museum Specimens.—Professor CHIENE demonstrated a number of specimens recently added to his Class Museum. These included the following: 1. Six Urinary Calculi from four patients—three from males, one from a female patient. In the latter instance, the calculus had its origin in a foreign body introduced by the patient, aged 20. The operation was undertaken after dilatation had failed. The function of the bladder had not been affected. 2. A series of Tumours, including Exostoses, Fibrocellular and Cartilaginous New Growths, and a Myeloid Sarcoma. 3. Two Tubercular Testes. 4. A Brain, with an Abscess about the size of a walnut, in the Frontal Lobe, from a boy, aged 13, who had sustained an injury to the forehead four months before admission. 5. A Foot removed from a Patient with Locomotor Ataxia, on account of Perforating Ulcer. 6. A Pea coughed up, after remaining, apparently, in a Bronchus for twelve days. 7. A Whistle which had lain in a Child's Intestine for twelve days. Other preparations and specimens were also shown.

A Case of Cure, by Resection of Intestine, of Fæcal Fistula, following Extensive Gangrene of the Transverse Colon.—Mr. J. M. COTTERILL read notes of this remarkable case, with a detailed account of the operation. Mr. Cotterill's paper will shortly be published *in extenso*.

REVIEWS AND NOTICES.

TRANSPORT; THE DIFFERENT METHODS OF LIFTING AND CARRYING THE SICK AND WOUNDED. By G. H. DARWIN, Surgeon, Fourth Division Medical Staff Corps, etc. Manchester: Heywood.

THIS well got up little manual has, the author says, been published at the suggestion of friends, in the hope that it may prove useful alike to ambulance students and to persons suddenly called upon to deal with accidents in large works, mills, mines, etc. We cannot doubt but it will be of service in that direction, and we welcome it as the work of a volunteer medical officer. The author truly remarks that it is only within recent years (little more, really, than a decade) that the police or civilians in general have had any scientific instruction in rendering first aid, or in the removal of persons suddenly overtaken by illness or injury. For that part, indeed, it is only within the past twenty years that military ambulance has been scientifically studied or systematically taught. The institution, he says, of the St. John Ambulance Association (in which the lamented Colonel Duncan played a prominent part) marked the beginning of the dissemination of such knowledge. But the Association, in its work among civilians, merely followed the lead of the instruction and drill already taught in the army. The true beginning of such training in this country dates from the official publication of the manuals *Training of Orderlies*, by Surgeon-Major Andrew Moffit, and *Stretcher-Bearer Drill*, by Surgeon-Major Sandford Moore. These very able officers again derived much of their information and inspiration from German sources, and their original works are now embodied, in a modified form, in the admirable official *Manual for the Medical Staff Corps*. And this leads us to remark that, while Surgeon DARWIN freely borrows both in matter and woodcuts from that manual he never names it (otherwise than in a note under some woodcuts), which is the more surprising because, as a volunteer medical staff corps officer, it is his official textbook from which he has to instruct his men.

Mr. Darwin very properly points out that, although first aid may be skilfully and efficiently rendered to a sick or injured person, all may be subsequently marred or undone by ignorant or clumsy removal. How easily can a simple be transformed into a compound fracture by rough handling! Our best surgical works, he says, while giving full direction as to surgical appliances, scarcely give a hint as to the methods of removing. In such works, of course, it is assumed that the patient had already been placed in a position of fixed rest before being dealt with. His aim, therefore, is not to describe first aid, already fully taught, but to indicate the best methods of removal.

In treating of immediate removal, whether by extemporised or organised appliances, the conditions of space and room, he says, must be taken into account. It is obvious that it is one thing to lift and bear away an injured person in a free and open space, and another to carry him in a winding staircase, in a cramped mine, or in a narrow gangway between machinery, perhaps in motion. So, too, it is clearly vastly more difficult to carry an unconscious person, hanging a dead weight, than one conscious and instinctively giving assistance to the bearer. He gives woodcuts of solitary policemen carrying unconscious persons shoulder high or in their arms, positions, we fear, which could hardly be realised in actual life, unless the bearer were of giant strength, and the person borne unusually light. Indeed, we do not think anyone single-handed can carry an injured person, conscious or unconscious, without considerable risk. When two or more bearers come into play it is very different; they can not only safely lift, but by forming two-, three-, or four-handed seats, steadily bear away their burden. We quite agree that in forming these seats the backs and not the palms of the hands should always be uppermost, otherwise the hands soon get cramped and tired.

In discussing "stretchers" he very justly considers that of Surgeon-Major Faris much the best; in it, instead of movable feet, the under part of the poles are fitted with four rackets, carrying three-inch wooden rollers; these little wheels not only afford a sufficient support to keep the stretcher off the ground, but enable it, loaded or unloaded, to be readily pushed into an ambulance waggon, or otherwise moved about. All stretchers with feet or pegs for support are objectionable; they cannot be pushed about, and the projections constantly break off.

He further notices the two-wheeled stretcher or "Ashford litter" of Mr. Furley, which, for use by the police, or, indeed, in civil life generally, where the roads are good, is an admirable contrivance; but in the rough work of war all such wheeled litters have proved failures. He speaks also of the "hammock" and the "dhoolie" for removals, but these have no practical interest in this or any European country, requiring for their use native bearers accustomed to carry loads on their heads or shoulders.

Finally, he glances at the methods of improvising stretchers in war by using rifles with straw-rope, belts, great coats, etc; these contrivances, although ingenious on paper, have been found very unsatisfactory in the field. On the transport of sick or injured for long distances, he mentions the best methods by country and spring carts, and by rail. He describes the systems of Grund and Zavodovski, illustrated by sections of railway waggons, which we presume he has copied from the *Manual for the Medical Staff Corps*. From the same source we suppose he has also taken

the substance of the chapter on raising and lifting helpless patients in and out of bed.

As a convenient and handy summary of the points on which it treats, we can recommend this book to those who have neither the time nor the opportunity of studying larger works.

ANOTHER WORLD, OR THE FOURTH DIMENSION. By A. T SCHOFIELD, M.D. London: Swan Sonnenschein and Co.

THIS is a lucid introduction to the study of a class of scientific romances with which we have for the past two years been familiarised by the author of *Flatland*, and by Mr. C. Howard Hinton, and others. The theory of the probability of a fourth dimension of space is exciting considerable attention just now, though we believe that mathematicians generally will have none of it. It seems, however, a very fair subject for inquiry, and Dr. SCHOFIELD, in his little work, has treated it in such an interesting manner that no one with a taste for intellectual puzzles will consider he has wasted his time by its perusal. For the benefit of those who have paid no attention to the subject, it may be well to state the theory in its simplest form. The three dimensions of space which are recognised are, of course, length, breadth, and thickness. If we imagine a land of one dimension only—that of length—its inhabitants could have no idea of left and right, but only of forwards and backwards. They could no more understand the possibility of anything out of Lineland than we can imagine a dimension of space above our own. In the same way, in a land of two dimensions, only *lines* could be seen, not cubes, and this would be Flatland, and its inhabitants, of course, could not comprehend solids. To all dwellers in a land of two dimensions, it would seem the greatest nonsense to tell of our cubes, and our author has a very amusing account of an unfortunate square who, having attained the higher knowledge of the cube, attempted to teach the gospel of three dimensions to his fellows without the slightest effect; he was, of course, universally regarded as a monomaniac, and imprisoned accordingly. Why, then, asks Dr. Schofield, reasoning by analogy, may there not be a world as much above our present three-dimension world as it is superior to one of superficies only? Just as we could leave Flatland and become instantly invisible to its inhabitants without changing our form, so might an inhabitant of a four-dimension world leave our own, disappearing at will without changing his form. It will be seen that this theory is at least suggestive and interesting as bearing on some of the problems connected with psychical research. Our author thinks that the probability of a life beyond the grave may be reasonably postulated by the acceptance of this theory. He says: "Let, for example, the body, material and solid, be represented fairly enough by x^3, and the spirit, higher and possessing an unknown power, by x^4. Then $(x^3 + x^4)$ represents the man in life, while $(x^3 + x^4) - x^4$ represents the departure of the spirit (x^4) at death, which returns to its own dimension; while the body (x^3), which is left, returns to the earth to which it belongs." Dr. Schofield has treated a difficult subject in a clear and captivating manner. In a work of about ninety pages, he has managed to open up a great field of inquiry: those who are not disposed to yield assent to his theory can but be grateful to him for the delightful manner in which he has brought the subject under the notice of his readers. Mr. Hinton's books are much deeper, as they go more thoroughly into the mathematical aspects of the question. *Another World* forms the best possible introduction to the larger treatises, and, we must add, is written in a far more lucid style.

NOTES ON BOOKS.

Some Reputed Medicinal Plants of New South Wales. By J. H. MAIDEN, F.L.S. From vol. iii (ser. 2) *Proceedings of the Linnean Society of New South Wales*, pp. 355-393.—In this paper the author gives a list of the indigenous plants of New South Wales which are reputed to have medicinal properties. Some of these are well known in this country as the eucalyptus, the kamala plant, and the pituri plant, while the majority are quite unfamiliar, even by name. Seventy species in all are enumerated, and under each are given references to any literature on the subject which may exist. In most cases our knowledge is very scanty, and the field is almost an untrodden one, although Dr. Bancroft and others have lately contributed a few papers on the action of Australian drugs to the *Proceedings of the Royal Society, New South Wales*. For anyone wishing to work at the physiological or therapeutical actions of Australian drugs, the present paper would form a most useful guide. It is probable that few of these plants will find a permanent place in our materia medica, as the majority of them seem to derive their activity from the presence of tannin, essential oils, bitter principles, and similar bodies, representatives of which are already present in large numbers in our pharmacopœias. Many, however, are active, and would without doubt repay the trouble of investigation. Mr. Maiden's paper is well calculated to stimulate research on the subject.

CHRISTMAS BOOKS.

MESSRS. J. F. SHAW AND CO. have sent us a batch of Christmas books, which arrived too late for notice, with others of a like character, in last week's number. They are all prettily bound, and very fully illustrated. *Out in Forty-Five* is a good tale of the last century for boys, recording Duncan Keith's vow and what came of it. *In All Our Doings*, by G. Stebbing, is a religious book of stories and essays, containing commentaries on the Collects. Dr. Gordon Stables writes a lively boy's book entitled *From Squire to Squatter*, with stories of life at the diggings, kangaroo hunts, and fights with the savages. Other books from the same publishers are *Bishop's Cranworth; or, Rosamond's Lamp*, by Emma Marshall, an authoress for children already favourably known, and *Uncle Steve's Locker*, a particularly well-illustrated story by Brenda, whose popular stories in previous years have been great favourites with young people. *Jingles and Chimes and Nursery Rhymes*, is a very pretty little quarto book of nursery stories with seventy-five illustrations, by Mr. Irwin. The illustrations are exceedingly good, and the nursery rhymes are well-known old favourites.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

ALL-WOOL UNDERWEAR.

A WIDE experience has established the usefulness of clothing the body entirely in underwear woven wholly of wool. A considerable number of the materials in clothing of this sort hitherto in use have been composed of mixed materials, of which the non-conducting power, and therefore the protective value, is diminished by admixture or adulteration with other than pure woollen yarns. The disadvantage of some of the all-wool underclothing which has hitherto been accessible for use has lain in its want of shape and consequent clumsiness; in its tendency to shrink in washing, which often quickly makes it unwearable; and in the roughness of finish. It is satisfactory to find among the goods of home manufacture now being brought into use to supply the distinctly useful object in view, that the defects previously complained of are obviated, while the required desiderata are successfully applied.

The Donegal Industrial Fund, 43, Wigmore Street, W., in the prosecution of its philanthropic work to develop Irish industries, has introduced the "Hygeia" all-wool underwear, made in Ireland on hand frames. This clothing is of fine and soft wool, and is notable in that it is extremely well finished and shaped to fit the figure accurately. Being made on hand frames the "Hygeia" underwear can be modified to suit special requirements. Many medical men who have employed this underwear, or recommended it, have, we understand, written to express their satisfaction with it.

Messrs. Forsyth, of Glasgow, following the same impulse of medical opinion, are also supplying a great variety of hygienic all-wool garments for underwear, among which we especially note abdominal belts woven in a way which makes them both firm and elastic. Their productions include all the varieties necessary for women and children.

Messrs. Hall, of Bury, have introduced a new flannel, which they have named "Ventnor," for underwear. It is extremely fine and soft in texture, and is guaranteed to be absolutely free

from any dye, and thus does not subject the wearer to the trouble sometimes attendant on aniline dyed materials.

"Lanura" is another flannel made of undyed wool, and most suitable for nightdresses, etc., for delicate persons.

These various British manufactures demonstrate that in adopting the all-wool system of clothing we need not necessarily look to foreign markets for our supplies, but that sanitary underwear, having the high recommendations of finish and quality, is now produced at home.

CREAM OF MALT WITH COD-LIVER-OIL AND HYPOPHOSPHITES.

THE use of extract of malted grain, either alone or in combination with cod-liver oil and other medicinal agents, has, of late years, greatly increased, and it will in all probability maintain its position as a valuable remedy.

Messrs. Oppenheimer Bros. and Co., of Sun Street, Finsbury Square, have submitted to our notice a sample of their cream of malt, etc., which contains the combined principles of cod-liver oil, extract of malted barley, malted wheat, and malted oats, with the hypophosphites of lime, soda, and potash, and there is much medical testimony as to its value as a remedial agent.

The preparation is well made; it is not unpalatable, and the combination, or mixture, is permanent. Objection is sometimes made to swallowing extract of malt and the like in a semi-fluid form. This preparation when stirred with water readily mixes with it, and then forms a very perfect emulsion, which is not too sweet, and is not likely to give rise to the least distaste.

EXT. CASCARÆ SAGRADÆ LIQUIDUM INSIPIDUM.

THE nauseous bitterness of the pharmacopœial liquid extract of cascara sagrada is objected to by many patients, and on this account much ingenuity has been expended in making it more palatable in mixture. Messrs. Hockin, Wilson and Co., of New Inn Yard, Tottenham Court Road, have produced a liquid extract from which most of the bitter principles are removed, and which they term "insipidum."

We find that this special preparation, when tasted in the concentrated form, has in some degree a kind of bitterness, but that, when diluted with water (with which it forms a clear mixture) it may quite appropriately be termed insipid, and no objection could be reasonably taken to the taste of the solution. The dose recommended is the same as that of the official liquid extract, and, as far as we can judge, it seems to act in an equally satisfactory manner.

COCA WINE.

VINUM COCÆ is not official in the present *British Pharmacopœia*, but it is a form in which coca is not infrequently prescribed. Messrs. Armbrecht, Nelson, and Co., of Duke Street, W., have prepared several varieties of coca wine. The vehicle for one is sweet Malaga, and this preparation is recommended by them for ladies and children. For gouty and dyspeptic cases they suggest that prepared with Burgundy. They have "Coca Sherry" and "Coca Port" for those who prefer to take coca in these forms, and they have given the term "Medium" to a wine which, they state, is suitable for all cases. We have examined this so-called "medium" coca wine. Its odour is pleasant; and although, as regards taste, it possesses the coca flavour in a marked degree, it is very palatable. The makers adduce medical testimony as to the value of these coca wines in mental or bodily fatigue, and in the treatment of nervous exhaustion with sleeplessness, and of similar affections.

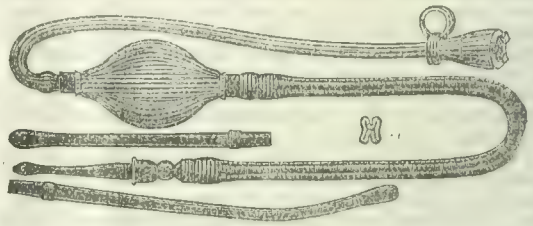
TRITICUMINA FLOUR AND BREAD.

OF the many malted wheat preparations the above are among the most judicious and pleasant which have lately been submitted to us. The grain is very slightly malted, so that but a moderate quantity of the starch is converted into dextrin and maltose, whilst the albuminoids are practically left unchanged; in consequence, the flour, when baked into bread, yields comparatively light, porous, and elastic loaves, free from the stickiness due to an excess of sugar contained in fully malted bread. The whole grain, *minus* the coarser particles of bran, is used, and the preparation is therefore a malted whole-meal flour. It is manufactured by Mr. A. Meaby, Reading.

THE "ALPHA" ENEMA SYRINGE.

THE "Alpha" enema syringe, of which we give an illustration, claims to be the only india-rubber syringe which throws a continuous stream, and to have an advantage over the enemas made of brass, in being less expensive and less liable to get out of order. The following are the special qualities claimed for the "Alpha" syringe:—

It throws a continuous stream of fluid. It does this with less than half the exertion which is required to work the ordinary elastic bulb syringes, many of which tax the strength, even of a man's wrist, after the first few compressions. Powerful pressure must not be used; two fingers and the thumb will give all needful power. It absolutely prevents the admission, and consequent dangerous injection, of air, so common with all intermittent syringes. The continuous flow of the injected fluid through the nozzle, while the syringe is in use, prevents the fæcalised fluids from being drawn back through the rubber tube, which often happens in the use of intermittent syringes, rendering them offensive. The flow is not only continuous, but can be either gentle or



strong, at the easy control of the user. The sinker is noiseless, and obviates the clinking noise so objectionable in syringes having metal sinkers. The rectal and vaginal pipes are non-conductors of heat, and do not chill the injured parts, but are soothing and most agreeable in use. Upon being warmed before a fire, they may either of them be bent and moulded to any required shape. The tip of the vagina pipe is removable to allow the interior to be cleaned if necessary. A further advantage of the "Alpha" syringe is that, by reason of its continuous flow, capable of the nicest graduation, it is also well adapted for use as an eye or nose douche. It is also adapted to the inflation of Barnes's bags, for which purpose a small interchangeable connected socket has been designed.

The price of the "Alpha" syringe is five shillings and sixpence. The additional fittings (eye or nose douches, and uterine douche pipes) are supplied at a small extra cost. The makers and patentees are Messrs. R. Sumner and Co., 50A, Lord Street, Liverpool.

IMPROVED TRUSS FOR THE TREATMENT OF INFANTILE HERNIA.

By JOHN WARD COUSINS, M.D.Lond, F.R.C.S.,
Senior Surgeon to the Royal Portsmouth Hospital and the Portsmouth and South Hants Eye and Ear Infirmary.

IN the BRITISH MEDICAL JOURNAL of September 19th, 1885, I described a new washable truss for the radical cure of infantile hernia. The instrument consisted of an elastic air-cushion, shaped to support evenly and comfortably the lower part of the abdominal surface. A deep notch was made in its lower border for the reception of the external organs, and it was fixed in position by a belt of webbing fastened in the middle line, and also by two lateral bands which encircled the thighs. With this light and simple contrivance, together with the constant attention of a skilful nurse for several months, I have obtained very excellent results in many infantile cases.

My recent experiences, however, have induced me to modify this instrument, as the persistent application of the air-cushion, with belt and buckles, demands so much unremitting care and intelligent attention that its successful employment, especially among the working classes, is often a matter of considerable difficulty. Many of my professional friends have kindly communicated to me their opinions, and have suggested that I should introduce some modifications which would as effectually support the abdominal wall and require less skill and time in its adjustment and removal.

The improved infantile truss is represented in the engraving. I have substituted for the bands and buckles a light metal spring and

metal plates, protected by an india-rubber covering. The spring and air-cushion are shown separately in Figs. 1 and 2, and the truss as it appears in position, is seen in Fig. 3.

Fig. 1.

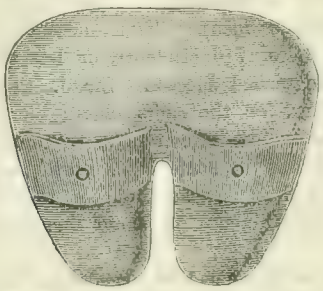


Fig. 2.

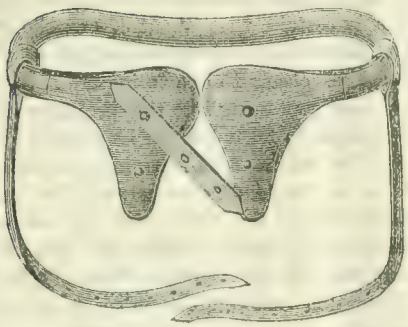
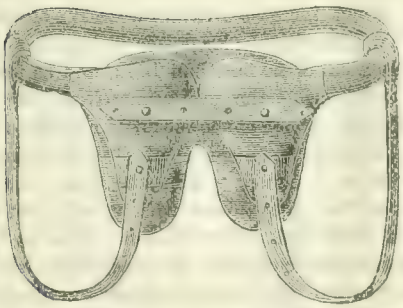


Fig. 3.



The thigh-bands are made of pure india-rubber, and the metal plates are secured to the cushion by passing through strong elastic loops. The instrument is manufactured for me by Mr. Lindsey, of Commercial Road, Portsmouth.

With this new arrangement I find the persistent application of my air-cushion becomes a very easy matter, and when once properly put on, it is not liable to get displaced. Of course the essential ingredient in the treatment of infantile hernia consists in supporting evenly and comfortably, for at least twelve months, the lower part of the abdominal region on either side down to the fold of the thigh. The instrument must be carefully cleansed as often as necessary, and occasionally washed in a weak solution of carbolic acid. If any chafing of the skin occurs, it must be protected by putting the air-cushion into a soft linen cover. The part must also be carefully dried, and then dusted with finely powdered starch and oxide of zinc. When washing the child, the nurse should always support the whole inguinal region with her left hand, and diligently prevent the reappearance of the protrusion.

In very severe cases of congenital inguinal hernia, in which the ruptures are large, and the canals much dilated by the straining and screaming of the child, I always now do an operation for radical cure before commencing any mechanical treatment.

THE HÆMABAROMETER.

THIS apparatus is designed for measuring the specific gravity of the blood clinically, and may also be applied to the determination of the specific gravity of some other fluids, of which only one or two drops are obtainable. The method is identical in principle with that suggested previously by Professor Roy.

The hæmabarometer consists of a leather case containing twenty bottles of about one-ounce capacity filled with standard solutions of glycerine and water of the following specific gravities: 1030, 1033, 1036, 1039, 1042, 1045, 1048, 1050, 1052, 1054, 1056, 1058, 1060, 1062, 1064, 1066, 1069, 1072. A small cylindrical vessel, holding about one drachm, a number of glass pipettes, a piece of caoutchouc tubing, and a spear-pointed needle complete the apparatus.

In employing the method a small drop of blood is obtained from a puncture on the finger, preferably from beside the nail, on the mid-dorsal surface, and this is done without tying the finger or otherwise impeding the circulation. A portion of the blood so obtained is instantly drawn up by suction with the mouth into a fine glass pipette, the extremity of which is bent at a right angle to the stem.

By gently blowing into the pipette through the caoutchouc tubing the blood is projected through a small quantity of one of the standard solutions, poured into the glass vessel. If the stream of blood maintains the horizontal direction, the specific gravity is the same as that of the standard solution selected, and is therefore known. If, however, the stream undergoes deflection as its enters the solution, the process is repeated with solutions of different specific gravities until one is found in which no deflection occurs, or until two solutions are found differing but little in specific gravity, in both of which slight deflection occurs, but in opposite directions.

The errors in observations made by this method may be disregarded, provided that certain precautions be taken. Summed up, these precautions are the following:—

The puncture must be made sufficiently freely; the blood must not be squeezed out, nor must a ligature be on any account applied to the finger. One rapid squeeze with a fairly free puncture does not, however, affect the result in a measurable degree.

A pipette should not be used for more than one observation. To avoid needless annoyance to the patient, it is advisable at the commencement of the observation to draw into the pipette a column of blood, about six centimètres long; a part of this may then be ejected into the standard solution first tried; and if other trials be necessary, the remainder of the same column of blood may be used, provided that none of the watery solution has been allowed to enter the pipette. For comparing the blood specific gravity in different persons or in the same person at different times, it is advisable to take the blood always from the same part of the body, the middle finger being chosen as the most convenient part.

It is not necessary to keep the standard solution at 60° F.; for the results of comparative experiments made with solutions at different temperatures within the ordinary range showed that such variations afforded practically no source of error.

Age and sex are found to affect the specific gravity of the blood in a marked degree; while certain other factors do so to a lesser extent. An account of some of these will be found in the *Journal of Physiology*, vol. viii.

By parallel observation made with this instrument and Dr. Gowers's hæmacytometer, it was found that the specific gravity of blood is roughly proportionate to the relative richness in red corpuscles. It thus offers a rapid method of examining the blood clinically, while the exactness attainable, which may be enhanced by increasing the number of solutions in use, makes it valuable for ascertaining the progress made by anæmic patients who are under treatment.

The apparatus has been made for me by Hawksley, 357, Oxford Street. E. LLOYD JONES.

PRESENTATION.—Dr. R. S. Wallace, of Longsight, Manchester, has been presented with an aneroid barometer by the pupils of the St. John Ambulance class conducted by him. Sixteen pupils presented themselves, all of whom passed. Dr. Edge was the examiner.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st; and notice is hereby given, in accordance with by-law 5, that Branch Secretaries' subscription-accounts close on October 31st, and all unpaid subscriptions must be forwarded, after that date, to the General Secretary, 429, Strand, London. Post Office Orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, DECEMBER 15TH, 1888.

THE WASTE AND SUPPLY OF MEDICAL PRACTITIONERS.

A STATEMENT of the number of students who last month commenced their special studies in the various metropolitan and provincial medical schools of England was published in the JOURNAL for October 20th. From the numbers there given it would appear that 668 students have entered for the full medical curriculum, being about 40 above the average of the previous five years, though 15 less than the number of such entries in October, 1887.

To anyone who considers these figures certain questions naturally present themselves: What is likely to become of these young men? What sort of careers will they probably pursue; and what amount of success may they be expected to achieve? As to the ultimate careers of individual students, it is of course impossible to speak beforehand with any precision, but as to the aggregate welfare in life of the 668 one may already predict with tolerable certainty the proportion of failures and successes which is in store for them. The classical paper on the subject published by Sir James Paget in the *St. Bartholomew's Hospital Reports* for 1869 supplies data which may be used for the inquiry. Of 1,000 of his pupils whose after-careers were known to him, Sir J. Paget found that *(a)* 23 (2.3 per cent.) had in fifteen years achieved distinguished success; *(b)* 66 (6.6 per cent.) had achieved considerable success; *(c)* 507 (50.7 per cent.) had achieved fair success; *(d)* 124 (12.4 per cent.) had had very limited success; *(e)* 56 (5.6 per cent.) had failed entirely; *(f)* 96 (9.6 per cent.) had left the profession; *(g)* 87 (8.7 per cent.) had died within twelve years of commencing practice; and *(h)* 41 (4.1 per cent.) had died during pupilage.

Lately, too, the Dean of St. Mary's Hospital Medical School, Mr. G. P. Field, has occupied himself by tracing the careers of students educated at his school. He found that 1,000 men had joined the hospital up to last May, of whom 284 are present students, so that 716 had to be accounted for in other ways. Of these 716, 17 had left the profession, and 171 had been lost sight of altogether, some probably having also left the profession, and others having doubtless died. In addition to these, 64 were known to be dead, and 12 had failed entirely. These numbers (17, 171, 64, 12) added together amounted to 264, and left 453 (63.2 per cent.) in practice. Of the 453, 371 were in general practice (231 in the country, 99 in London, 31 abroad, whilst 10 were dentists), 48 were in the army and navy, and 34 had achieved the great success of being on hospital staffs as teachers, or were distinguished in various other ways (14 had been elected on the staff of St. Mary's Hospital, 9 were on the staffs of other hospitals, and 11 others were distinguished men). Thus, according to Mr. Field's figures, about 34 of 716 students, or less than 5 per cent., achieved distinguished success. Sir J. Paget's figures give only 2.3 per cent. for the same class; but then he seems to have limited himself to fifteen years of practice, whereas Mr. Field's observations in some cases must have extended over thirty years, which may account for the difference, as distinguished success comes to some men only after tedious waiting.

Of Sir James Paget's 1,000 students, 720 (72 per cent.) were apparently in practice, whilst Mr. Field makes those of his 716 students as thus engaged 63.2 per cent. These figures of the two observers at the oldest and youngest medical schools of London respectively coincide sufficiently to make it tolerably certain that about 470 of the 668 students who have just entered will eventually engage in practice. It at once, therefore, occurs to one to inquire if the number of students now yearly pressing into the profession is more than the number required to fill up vacancies caused by death, and to provide for the wants of the growing population of these islands. So far as England is concerned, the query may be decidedly answered in the affirmative by reference to the figures published in a report issued last spring by the Statistical Committee of the General Medical Council, which gives the information enabling one to speak with certainty as to the distribution of medical practitioners. An abstract of this excellent report was published in the JOURNAL of June 23rd at page 1352, and reference thereto shows that, during the five years from 1881 to 1886, there was in England and Wales a net increase in the profession of 826 members beyond what was requisite to keep pace with the population, that is, an annual excess of no less than 165; and as the number of students now entering the profession (from Scotch and Irish as well as English schools) shows no appreciable diminution, there is little hope that the recent rate of "over-stocking" will be sensibly lessened within the next few years.

Again, as to the practitioners who remain in these islands, the self-same statistical report furnishes copious figures as to their destination, and computes the percentage who go to each county, and to rural and urban practices respectively. And strange are some of the conclusions traced. There was in 1886 an average of one practitioner to 1,662 of the population, taking the whole of England and Wales together. But the departures from this standard were curious, and apparently in many cases capricious. For the purposes of the computation, England and Wales were mapped out into 11 districts; of which 3, namely, London, and the south-eastern and south-western districts of England, had more than their average of medical men; whilst the other eight districts had a deficient supply. Further, there were in the same year 7,120 urban and 9,810 rural practitioners in England and Wales; but, whilst there was to each practitioner in the towns an average of 1,284 persons, there was to each country practitioner an average of 1,936 persons. In Brighton doctors did most abound, for in that town there was one registered practitioner

to only 727 of the population; whilst in London, one practitioner existed to every 939 people; and in Salford there was only one practitioner to every 3,908 persons.

These tables set forth many other similar interesting facts; and show where practitioners are most needed, and where, on the other hand, there is a superabundance of them. They may, therefore, be commended to the careful perusal of all who are wishing to settle, and to practise with success. For their encouragement, also, one may again quote the remarks drawn from his large experience of students and practitioners with which Sir James Paget closed his above-mentioned paper. He wrote, "Nothing appears more certain than that the personal character, the very nature, the will, of each student have far greater force in determining his career than any helps or hindrances whatever. All my recollections would lead me to tell that every student may draw from his daily life a very likely forecast of his life in practice, for it will depend on himself a hundredfold more than on circumstances. The time and the place, the work to be done, and its responsibilities, will change; but the man will be the same, except in so far as he may change himself."

EXAMINATIONS IN OPERATIVE SURGERY.

On November 17th an article appeared in the Journal pointing out that through Mr. Macnamara's and Mr. Pemberton's energy a committee was nominated at the November meeting of the Council of the College of Surgeons, to consider the question of an operative surgery examination for the diploma of Member. The Medical Council has considered the same question. On December 1st the report of the Examination Committee on the reports of the Inspectors of Examinations was presented at a meeting of the Medical Council. The inspectors especially noted the absence of any test in operative skill by the performance of operations on the dead body in the examinations of the Conjoint Board of the Colleges of Physicians and Surgeons, and in all qualifying bodies' examinations in Great Britain, excepting at the Universities of Cambridge and Glasgow. On the other hand, in Ireland all the qualifying examinations included a test in operative surgery on the dead body. Sir John Simon moved an amendment to Professor Humphry's resolution that the report be adopted, which was ultimately carried. This resolution, seconded by Mr. Macnamara, expressed the regret of its proposer that so many English and Scotch licensing bodies did not include an operative surgery test in their examinations, and ultimately this amendment was agreed to with only one dissentient. Dr. Heron Watson moved a counter-amendment, which was lost, expressing his opinion that an operative surgery examination was very advisable, but that it was inexpedient to make such an examination compulsory. The avowed reason for this amendment was the great scarcity of subjects, and this reason is certainly not based on an imaginary evil. We have already, on November 17th, discussed this subject.

We urged the importance of practical surgery examinations, and dwelt on the chief difficulty in establishing them universally in the United Kingdom. The difficulty was that which Dr. Watson indicated at the Medical Council. The necessity for testing operative skill certainly exists. Peculiarly difficult to meet are such cases as that which Mr. Macnamara mentioned, when seconding Sir John Simon's motion. A candidate at Oxford, it was stated in the Examination Committee's report, wrote an excellent paper, but failed absolutely to apply a truss or a tourniquet on the living subject. A student of this type is very familiar to lecturers and demonstrators, and many such men are yearly let loose on the public. Generally they are their own professional enemies, but they may do harm to their patients. It is precisely men of this class who ought to take lessons in operative surgery, and to be examined on the dead body. Such men are always industrious, and ever willing to work and to learn. At a course of operations they are taught precisely that which they must learn, yet cannot teach themselves. The fact that they are to be examined on the subject forces them to take pains in acquiring what, to men of their type, is at first absolutely uncongenial. There is another subject in connection with operative surgery examinations which must not be overlooked. Practical surgery should always be taught by experienced as well as dexterous surgeons. We fear that this is not universally the case in medical schools. If senior surgeons of ability are at hand, why should they not be bound to teach what they have learnt? Unfortunately, operative surgery is too often taught by young demonstrators.

However dexterous a young surgeon may be, he cannot be such a master of manipulation as a more experienced colleague. It may be urged that the senior staff teaches operative surgery in the operating theatre of the hospital; but, in reality, it is hopeless for a student to attempt to gain proficiency in surgery by merely looking at operations. The patient and the surgeon have first to be considered, and should the latter demonstrate as he operates, he will endanger the former and hinder himself.

Tests in operative surgery should be made compulsory for all minimum qualifying examinations. To enable candidates to fit themselves for these tests, the experienced senior surgeons of medical schools should teach operations on the dead subject. Above all, however, there must be subjects at hand for the examinations. There, we admit, lies the difficulty; but surely it is not so insuperable as to justify Dr. Heron Watson's opinion that, owing to this scarcity of subjects, matters should be left as they are, and operative surgery tests not included in the qualifying examinations.

INCREASING MORTALITY FROM CANCER.

In the House of Commons last Tuesday, Mr. Ambrose, Q.C., Member for the Harrow Division of Middlesex, asked the President of the Local Government Board whether "his attention had been directed to the alleged increase of mortality from cancer in England and Wales, and whether he would direct the Medical Department of the Board to institute an inquiry into the extent and causes of the increase." In answer to Mr. Ambrose, Mr. Ritchie said: "The staff of the Medical Department of the Local Government Board does not exceed that which is required for the duties which especially attach to the Board in connection with their executive action. I do not doubt that an inquiry into the causes of the alleged increase of mortality from cancer in England and Wales would be valuable, but the demands on the department in connec-

tion with other duties would not admit of its undertaking such an inquiry."

This is the usual official mode of avoiding trouble. Mr. Ritchie does not doubt that the inquiry might lead to valuable results, but the staff of the Medical Department of the Board is small, and its duties too great to admit of its undertaking others. Why not increase the staff of the Medical Department; or why not entrust the inquiry to one or more competent men not on the staff? The subject is beyond all doubt one of grave national importance. As Sir Spencer Wells said in the Morton Lecture which we published last week and the week before last:—"Notwithstanding the great advance in sanitary science and the prolongation of the average length of human life—in spite of the shortening of the duration and the lowering of the mortality of some diseases, the prevention (almost the stamping out) of others—cancerous diseases, so far from being less prevalent or less fatal, are increasing among us. The increase in the number of deaths from cancer is now, and has been for many years past, greater than the proportional increase of population." And he proved conclusively that this increase is common not only to England and Wales, and in Scotland to nearly the same extent, but also in Ireland, though in smaller proportion. The correspondence between the Collective Investigation Committee of the British Medical Association and the Registrar-General will not be forgotten, and its importance was fully acknowledged by Sir Spencer Wells. The facts that the number of deaths from cancer in England increased from 7,245 in 1861 to 17,113 in 1887, and that the proportion of deaths from cancer to one million persons living had increased from 360 in 1861 to 606 in 1887 in England; in Ireland from 350 in 1877 to 430 in 1887; and in Scotland from 404 in 1861-65 to 540 in 1881-85, are surely of extreme importance. They will probably surprise most of our readers. They have never before been so clearly put before us as in the second Morton Lecture. They have already attracted much public interest, and we are not surprised that the attention of Parliament has been called to them. But we shall be surprised if the matter is allowed to rest; and if the Local Government Board is not strong enough to undertake the duty, either the Board must be strengthened, or the British Medical Association may be urged to undertake a public duty which the Government is incapable of satisfactorily performing.

We are informed that Sir Morell Mackenzie has now formally resigned the diploma of Member of the Royal College of Physicians, and has requested the Registrar of the College to communicate this fact to the Registrar of the General Medical Council.

The question of centralising the nursing staff of the Metropolitan Asylums Board, so as to be of service at any of the hospitals or ships, has been taken in hand by the Metropolitan Asylums Board. We have no doubt that this is a measure which will tend to at once efficiency and economy.

THE WILSON FOX MEMORIAL.

We are informed that the memorial portraits of the late Dr. Wilson Fox will, it is hoped, be furnished in a short time. The commission to paint the portrait was offered to, and accepted by, Mr. Frank Holl only a few weeks before his death. He had not commenced the work, and the committee then, after consideration, asked Mr. Val Prinsep, A.R.A., to undertake it. The first portrait has been already painted by Mr. Val Prinsep, and is entirely satisfactory. He is now at work on the others. The amount subscribed will enable the original proposal to be carried out in its entirety, and in addition a photogravure of the portrait will be sent to each subscriber.

THE MEDICAL SERVICE R.N.

It is stated that twelve vacancies for surgeoncies in the Royal Navy will be offered for competition in January next. The *Army and Navy Gazette* observes that there is a general impression that it was intended to stop the entry of medical officers for the Navy for a year or so, but this was probably only an erroneous inference derived from the report of the Committee on Navy Estimates.

CHRONIC ALCOHOLISM.

We are asked to remind our readers that the debate at the Pathological Society on the morbid anatomy and pathology of chronic alcoholism will be continued at the meeting on Tuesday, December 18th. Drs. Dickinson, Buzzard, Savage, Crooke, Suckling, Finlay, Ormerod, Hadden, Pitt, Sharkey, Pearson, and others are expected to speak. Specimens illustrative of the changes in the nervous, respiratory, and cutaneous systems will be exhibited.

THE DEAF AND DUMB.

Sir William Hart-Dyke has received a deputation to urge the claims of deaf children. They asked for an annual capitation grant to the existing schools or institutions, or the establishment of new ones. It is stated there are about 2,000 untaught deaf children, and that properly trained teachers are required. Teachers of ordinary children, it may be observed, receive considerable grants, while the teachers of the deaf receive nothing. Dr. Symes Thompson, among others, urged the objects of the deputation, and there can indeed be no doubt of the benefits resulting from the oral method of teaching in developing the intellect of children, and in fitting them for following the business of life. Sir William Hart-Dyke declined to commit himself to a definite statement, pending a report of the Royal Commission on the subject, but he was strongly of opinion that, so far as State aid and rate aid were concerned, they ought to be applied to the education of deaf children equally with that of other children. With this proposal we apprehend few will be found to differ.

A MEASURE OF MENTAL FATIGUE.

Mr. Francis Galton has long been endeavouring to determine an exact measure, or at least a practicable one, of each form of human faculty, and, as a measure of fatigue, has devised the following experiment for determining the condition of children in school. The plan recommended by Mr. Galton is as follows: "Let the class take hands all round, the teacher being included in the circle. A watch with a seconds-hand lies on the table before him. All the pupils shut their eyes. When the seconds-hand of the watch comes over a division, the teacher gives a squeeze with his left hand to the right hand of the pupil next to him. That pupil forthwith with his left hand squeezes the right hand of the next pupil, and so on. Thus the squeeze travels round the class, and is finally received by the right hand of the teacher, who then records the elapsed time since he started it. This interval, divided by the number of pupils in the class, gives the average reaction-time of each pupil. The squeeze usually takes about one second of time to pass through each dozen or fifteen persons. It may be expected that there will be uniformity in successive ex-

periments when the pupils are fresh, irregularity and prevalent delay when they are tired." The experiment is a simple one to try; it might be varied by causing the squeeze to be given by the right hand and received by the left; and corrections might be made by removing certain persons from the circuit, and noting their personal susceptibility. The plan is at best but a rough one, and may be rendered valueless by any one child in the circuit. It is only personal observation of each child as to the signs of fatigue that can give trustworthy results, and we should prefer to put confidence in some such physical signs as those described by Dr. Francis Warner in his paper at Glasgow on the examination of school children. In any tests of brain faculty or condition it is very desirable that the criterion "should be purely objective, and observable by the inquirer without questions asked." It is a good thing to bring such matters before teachers, who, as a rule, have given too little attention to the observation of the physical conditions of children.

TESTIMONIAL TO MR. G. P. FIELD.

At a recent meeting of the St. Mary's Hospital Medical School Committee, Mr. Field's resignation of the post of Dean was accepted with universal regret. Mr. Field has held the office for upwards of six years, during which time the school has more than doubled in size. The following resolution was unanimously adopted: "That a testimonial be presented to Mr. Field in recognition of his great services to the hospital school, and that subscriptions be invited for this object from members of the staff, former and present students, and other friends." Gentlemen wishing to subscribe are requested to send their names as soon as possible to Mr. Malcolm Morris, 8, Harley Street, W. The Dean's work for the future will be divided. Mr. Herbert W. Page has been elected Dean, but the financial part of the duties will now be managed by a treasurer, and Mr. Malcolm Morris has been selected for the post. Dr. Sidney Phillips has been reappointed Sub-dean.

ISOLATION OF MEASLES.

A considerable epidemic of measles is prevalent in London, and much difficulty is experienced in dealing with the cases so as to obtain isolation. These cases are not admissible either in the ordinary hospitals or into the hospitals of the Metropolitan Asylums Board, and where they occur among the poor or in mews attached to private dwellings, there is no means either of adequately treating the patients in their own homes or of obtaining their removal, and thus the patients suffer greatly, while the disease spreads. We are glad to see that the Sanitary Committee of Battersea has, on the advice of its medical officer, addressed a communication to the managers of the Metropolitan Asylums Board, asking that arrangements may be made for the reception of cases into their hospitals, and we hope that the suggestion may be adopted. In Wandsworth we observe that there were no less than twelve deaths from measles in a fortnight. Dr. Dickinson, of Wandsworth, observes that the disease in that particular place is likely to be less prevalent now, inasmuch as all the children in the place have had it; but this statement in itself represents a very serious state of things.

COLLEGE OF SURGEONS: PICTORIAL ILLUSTRATIONS OF DISEASE.

We have been asked to make known that the College of Surgeons, in pursuance of their intention to form a collection of pictorial illustrations of disease, will be glad to receive donations under the following heads: 1. Monographs or reprints of papers containing illustrations. If authors can spare two copies, so much the better. 2. Atlases of illustration, whether of pathology or external appearances, and whether old or recent. 3. The *Transactions* of Societies, such as the Pathological, Medico-Chirurgical, Clinical; of these, any odd volumes will be very useful. 4. Original drawings or proofs of engravings and woodcuts; and these should be accompanied by references, and if practicable by descriptions. All gifts should be addressed to the Conservator, Royal College of Surgeons, Lincoln's Inn Fields.

BRITISH NURSES' ASSOCIATION.

An exceedingly interesting *soirée* was given at the Grosvenor Gallery on Friday, December 7th, by this Association, which, although founded only last year, already numbers about 1,600 members, among whom are leading persons in the medical profession and in the nursing profession. The *conversazione* which marks the conclusion of the first year of the Society's existence was very largely attended, and the varied uniforms of the nurses gave a picturesqueness to the scene. There was an interesting show of nursing appliances, and various amusements, musical and pictorial. Among the medical men present were Sir Edward Sieveking, Sir Henry Acland, Sir Guyer Hunter, M.P., Sir J. Crichton Browne, Sir W. Mac Cormac, Sir Andrew Clark, and Mr. Savory. This most useful Society aims at the registration of nurses; at their union for the purposes of co-operation and mutual assistance; at the provision of convalescent homes and other benevolent objects in connection with the occupation of nursing.

PASTES IN DERMATOLOGY.

Since Lassar introduced into dermatological practice the use of salicylic paste, the utility of pastes in irritable conditions of the skin has been abundantly proved. Dr. Gruendler, of Hamburg, has recently[1] made some interesting experiments in Dr. Unna's laboratory on the relative capacity for the absorption of water inherent in various powders, which might be used in the preparation of these pastes. He found that carbonate of magnesia had remarkable qualities in absorbing water, and therefore ought to be an excellent ingredient for the formation of a paste. Unfortunately, however, pastes made of a mixture of fat and carbonate of magnesia do not possess the proper consistence. When, therefore, this highly absorbent quality of carbonate of magnesia is desired, it is advisable to combine it with the other powders commonly used. For example, fifty parts of oxide of zinc or starch may be mixed with ten parts of carbonate of magnesia, and the whole rubbed up with fifty parts of fat to form a paste, or as a simple absorbent powder it may be very conveniently used mixed with oxide of zinc.

SUCCESSFUL SPLENECTOMY.

Dr. Nilsen has now[2] published the details of his case of splenectomy, briefly reported in December, 1886. The patient was last heard of eighteen months after the operation, and was then in good health. The spleen, which was freely movable, lay in the left iliac fossa. The incision reached from a little below the navel downwards for about 4½ inches, and the spleen was found to be quite free from adhesions. A heavy silk ligature was placed round the pedicle 3 inches from the spleen, and on drawing this tight alarming symptoms of collapse set in, but passed off. A heavy clamp was put on above the ligature, and the spleen and pedicle cut away close above the clamp; the pedicle was tied in two parts as high up as possible, the clamp removed, the end of the artery tied with catgut, the ligatures cut very short, and the pedicle dropped back. The peritoneum was not washed out. The highest temperature was 100.4° F., and the woman made a good and rapid recovery from

[1] *Monatsh. f. Prakt. Derm.*, No. 20.
[2] *New York Medical Journal*, No. 943.

the operation, the only difficulties being a great tendency to vomiting for two days, and inability to pass urine unaided for ten days. The spleen measured 7½ inches by nearly 4½ inches, and was 2 inches thick; it weighed a fraction less than two pounds.

THE CONTAGIOUS NATURE OF ALOPECIA AREATA.

THE question of the occasional contagiousness of alopecia areata is a subject as much disputed as the questions connected with its pathology, notwithstanding the common experience that patients who suffer from it do not communicate the disease to others. Nevertheless, medical literature produces from time to time examples of what would seem to be undoubted instances of contagion. In the *Monatsh. f. Prakt. Derm.*, No. 20, there is published by Dr. Eichhoff a paper on this subject, in which the following striking facts are related. Between the years 1876 and 1884 alopecia areata was observed in Dr. Eichhoff's practice only some four to six times in a year. Suddenly he saw from April, 1884, to March, 1886, thirty-six cases; that is to say, something like a small epidemic of alopecia areata occurred at Elberfeld. But a still more remarkable fact was elicited. Ten of these thirty-six patients had had their hair cut by the same barber. Further, seven other patients lived in the same place, out of the town, as did also four other patients in another place. After the attention of the barber above-mentioned had been called to the matter, and all his tools had been disinfected, no more cases occurred; and since 1887 Dr. Eichhoff's practice in this disease has again fallen to the observation of five or six cases a year. He has always treated alopecia areata by antiparasitics, and always with success.

SLOYD AS A MENTAL TRAINING AND AMUSEMENT.

THE Swedish word "slöjd" signifies artistic, skilful capacity, or general dexterity. As an English equivalent, the word sloyd is now used to indicate the method of manual training. As we have already stated, it is thought by those who have had much experience with Swedish sloyd that this mode of manual training possesses a greater number of the essential elements of education than any other kind of manual employment for use in schools. This system of training and instruction has been evolved by Herr Salomon at Nääs, in Sweden, where the work has been carried on for sixteen years. It is claimed that manual instruction in schools should aim principally at "instilling a taste for and love of work in general; inspiring respect for rough, honest, bodily labour; training in habits of order, exactness, cleanliness, and neatness; accustoming to attention, industry, and perseverance; promoting the development of the physical powers; affording a training of the eye in the sense of form." The Swedish system of sloyd, as practised in schools, is intended for boys and girls between ten and thirteen years of age. In carrying out this manual instruction, the tools used, with a few exceptions, are practically the same as those employed by the ordinary carpenter. In Sweden the same room is frequently used for theoretical and manual training. Good lateral light and good ventilation are essential to success. The material used for manipulation is mostly wood; the models are carefully arranged for imitation by the children, so the impressions produced upon the children are mostly by sight and touch. There should be town models for town children, country models for country children; local models may also be used. Each model in the series effects a certain training, stimulating in the child a certain set of movements. In copying these models in wood diligence and progress are obvious to the pupil and teacher alike, as, antecedent and sequent; the result is both visible and useful. The pupil who is physically or mentally slow is made aware of his defects, and these become quickly known to the teacher; for this reason it is desirable that the ordinary teacher of the class should conduct the sloyd work as an opportunity of studying character and improving it. Scientific care is taken in arranging a series of models, so that the work done in copying one model is used in making the next, etc. Progress in the acquired series of movements is thus assured; the results of work are visible and capable of assessment as to relative value. These manipulative processes are designed to give brain-training, and should, therefore, be conducted in school by a "teacher," not by a mechanic, who looks to results of hand processes as the thing to be aimed at. The best maker is not always the best teacher; the original scientific observer is not necessarily the best trainer of the young. We may hope that the "teacher" thinks first of the pupil; the carpenter thinks most of the box to be made. Physical differences among the children in sloyd classes are readily observed; the children in Sweden are taught to work half the time with the left hand. Much of the information here presented to our readers is derived from a pamphlet on *Sloyd as a means of Teaching the Essential Elements of Education*, by Miss Emily Lord; and we refer those of our readers who wish for fuller details to the same source. Miss Lord says: "Now it is calculated in Sweden that the average child cannot learn, between the ages of 10 and 13, all that can be taught in a good series of fifty models in much under 400 hours, limiting the lessons to two a week of two hours' duration, and making fair allowance for the holidays..... It must be remembered that during those three years the children in our elementary schools spent a total of 3,150 hours in school, while as a rule the children of the upper classes at the same age work harder still. Could not the aggregate amount of intellectual instruction be gained in the remaining 2,750 hours?" It seems likely that sloyd as a means of education, and of cultivating mental faculty, may be useful for nervous children who suffer from headaches, insomnia, or excitability when at ordinary school-class work; such children might be transferred to the room for manual instruction. Sloyd as an amusement and mental occupation may also be useful for adults when accident or illness prevents more active work.

BACTERIOLOGY OF SNOW.

WHILE the bacteriology of ice and hailstones has been studied with considerable success by Drs. Fränkel, Bischoff, Mitchell Prudden, Pumpley, Hills, Stoben, A. V. Poehl, Bordone-Ufreduzzi, Bujwid, etc., that of snow has been up to the present almost wholly neglected. Even in Russia the subject has been touched only in a cursory way by Professor A. V. Poehl in a paper on the water-supply of St. Petersburg, in the *Vratch*, Nos. 8 and 9, 1884, p. 119. In it he points out: 1, that snow always contains viable microbes liquefying gelatine; 2, that, when snow falls, the first portions invariably contain greater numbers of bacteria than the subsequent ones (for example, 8,324 per 1 cubic centimètre of snow-water against 3,380 several hours later); 3, that, when snow lies on the ground, the superficial layers become richer in microbes (for example, 780 just after the fall, against 962 about three hours later). The fact is of interest from a sanitary point of view, as Dr. Poehl's researches furnish an additional proof that exposure of microbes to low temperatures does not destroy their vitality; at least, in certain species of micro-organisms. In many countries, such as Russia or Sweden, snow forms, so to speak, a natural ground or soil during several months of the year, receiving excrementitious matter and every possible kind of refuse and filth. In spring, when the snow melts, it is imbibed by the soil, carrying with it all the polluting matters referred to. Hence an interesting question arises: Are such microbes as happen to be present in these matters in any way changed by their contact with snow, or not? This point can be determined only by further bacterioscopic researches. A contribution to the subject has just been published in the *Vratch*, No. 37, 1888, p. 727, by Dr. F. G. Ianovsky, of Kiev, who has examined bacterioscopically, under

Professor K. G. Tritshel's guidance, a February snow in its purest state, collected both immediately and from one to three days after its fall. This observer has found: 1, that even when collected during its fall, snow is invariably found to contain living bacteria in considerable numbers, varying from 34 to 463 per 1 cubic centimètre of snow-water; 2, that their number does not decrease from exposure of snow to low temperatures (—16° C.) for several days; 3, that the following three species of microbes are met with constantly in great numbers: *a*, a large diplococcus composed of ovoid cocci, endowed with energetic motion, and characterised by its rapidly liquefying jelly; the test-tube culture on the third day, forming greenish colonies along the track of the needle, assumes the shape of a funnel-like sac with a whitish flocculent deposit, while on the fifth the whole medium becomes liquefied, the precipitate sinking to the bottom; on agar a pale greyish-white streak is formed at the site of inoculation, on potato a fairly thick white film; *b*, small-sized cocci often arranged two and two, energetically mobile, and slowly growing on jelly without liquefying the medium, the growth proceeding solely along the track of the needle in the shape of a narrow stripe consisting of non-coalescing minute points of a yellow colour, while on the surface the colony is seen as a greyish-white, circular, slightly prominent patch with somewhat fringed edges; on agar the coccus forms a white streak with sinuous edges, on potato a grey film with a brownish tint; *c*, very large cocci liquefying jelly as late as three weeks after inoculation, and growing along the track of the needle in the form of a sharply-defined streak of a beautiful pink colour, with a slightly elevated pink circular patch or "cap" on the surface; on agar the microbe forms a freely-spreading white film with a rosy tint, on potato a thick, tallow-like, pink coat with sharply-defined fringed contours. 4. That the first two species (*a* and *b*) are also met with commonly in the water of the river Dnepr, which flows through the town (*vide* Dr. Ianovsky's bacterioscopic examination of the water, published in the *Meditzinskoïe Obozrenïe*, Nos. 9 and 10, 1888, p. 975), while the peculiar pink micrococcus seems to occur only in snow. 5. That, generally speaking, the microbes liquefying jelly in falling or recently fallen snow are met with invariably in far greater numbers than in snow which has been on the ground for some time; this, in fact, very often contains only such bacteria as do not liquefy gelatine. 6. That the bacteria of snow originate partly from aqueous vapours which are transformed into snow, partly and chiefly from the air, that is, they are carried away by the snow-flakes on their passage through the atmosphere.

INTERMITTENT HYDRONEPHROSIS.

Under this heading, Dr. Leopold Landau, Professor of Gynæcology at the University of Berlin, publishes four cases of a disease but little known (*Berlin. Klinische Wochenschrift*, Nos. 47-8). The definition is limited to those cases where the pelvis of the kidney varies, from time to time, between distension and emptiness, in the absence of other disease which might exhibit this symptom—for example, passage of renal calculus, malignant disease of the bladder, etc. The symptoms described are more or less severe pain in the side, lasting from hours to days, and recurring at intervals, associated with nausea and vomiting, general gastric disturbance, cardialgia, etc. The flow of urine is scanty during and profuse after the attack. The existence of a swelling which sometimes disappears may be known to the patient, or a hard, non-fluctuating tumour, separated from the liver by resonance, may be made out on palpation. As, after a time, the urinary elements of the fluid are reabsorbed, they may not be found by exploratory puncture, but the acidity of the fluid would be enough to fix the diagnosis. Dr. Landau maintains that spasm of the ureter alone would not be enough to account for the largely distended renal sac, and points out how the ureter may be occluded by torsion or tension, when the kidney is abnormally movable, or when pulled upon by prolapsed genitalia with cystocele, or when the ureter is inserted at a more acute angle. Thus, the pelvis is distended until the pressure is sufficient to overcome the obstruction. With each attack it loses elasticity, and dilates gradually into a large sac, which drags the kidney downwards, thus aggravating the mechanical disadvantage of the contained fluid, for the ureter is inserted then at the top of the sac instead of at the bottom, and is also in greater measure pulled upon, twisted, or "kinked.' Finally, neither the recumbent position nor manipulation may be able to effect evacuation, and the cyst becomes permanent and the kidney atrophies. Of the cases, one went on, after repeated attacks, to pyelitis, and is interesting from the fistulous opening then made in the side having persisted discharging clear urine for eight years, with but slight inconvenience to the patient. Two others showed a cessation of the symptoms during pregnancy—when the kidney was kept in position by the gravid uterus. One of them was relieved, on the recurrence of the attacks after confinement, by external pressure by means of an abdominal bandage. All the cases were of women from 30 to 60 years of age.

PARALYSIS AFTER PNEUMONIA.

Dr. B. H. Stephan mentions in the *Weekblad* 25 cases of pneumonia which came under his observation, in which he thinks two points are of special importance. The first is the high death-rate, 9 out of 25 patients, or 36 per cent., dying; the second point is the adynamic or asthenic character of the pneumonia, in which the brain symptoms predominated and the pulmonary affections were secondary. Dr. Stephan thinks that these considerations, and the complications of a typhoid or bilious nature which may arise, point to the conclusion that pneumonia, under certain aspects, must be regarded as "specific fever." He believes that adynamic pneumonia is more frequent now than formerly, which leads him to the conclusion either that the constitution of individuals predisposed to pneumonia must have altered, or that the causes of pneumonia itself are changed. Dr. Stephan considers it not improbable that the first hypothesis may be correct—namely, that the frequency of neurasthenia in the present day shows the weakening of the cerebro-spinal system. A surgeon told Dr. Stephan he had practised blood-letting with the most successful results for thirty years at Drente, but that of late, in Holland, he had become very shy of doing so in inflammatory affections of the chest. The question suggests itself whether former practitioners acted wrongly in their treatment of pneumonia, or whether the physical condition of patients is now altered. Out of the 22 adult patients treated by Dr. Stephan, 20 were men exposed to very decided changes of temperature. The fact is undoubted that more men than women are attacked, and Dr. Stephan considers it very probable that chills and infection are directly connected. The theory that bacteria are a cause of pneumonia appeared to him a plausible explanation. If the pneumococci are only waiting an opportunity to attack us, then the hypothesis that a lesion in the lung is favourable to their development is intelligible. What may happen in the case of traumatism may happen in the case of a chill. In a healthy condition the body is entered by countless bacteria, which are kept in check by the normal resisting power of the healthy tissues, but as soon as the normal equilibrium is upset, one or other of the organs is attacked and becomes the sport of these bacteria. Dr. Stephan mentions two cases of paralysis ushering in the pneumonia; the first was a man, who was suddenly attacked with apoplectic symptoms. In two days the whole of his right lung was solid with pneumonia; the pneumonia ran a regular course, but the paralysis of the arm, leg, and facial muscles did not disappear completely for three months. In the other case, a child of 2 years, the pneumonia was preceded a few hours by strong convulsions, after which symptoms of

meningitis became well marked; the lung disease followed, and the child died on the eleventh day. In conclusion, Dr. Stephan remarks that paralysis has sometimes occurred at the commencement, during the course, or at the end of an attack of pneumonia; and where there has been a necropsy either meningeal symptoms have been found or else there were no macroscopic or microscopic lesions. The most probable explanation of the first category is that the pathological anatomical lesions rest on the extra-pulmonary localisation of the pneumonia poison. In the second, the explanation probably is that the pneumonia poison, either directly or through the medium of the blood vessels, occasions dynamic disturbances in the nerve-centres or nerve-trunks.

SCOTLAND.

GLASGOW PHILOSOPHICAL SOCIETY.

At the meeting of this Society on December 5th, Dr. J. B. Russell in the chair, an address was delivered by the President of the Sanitary and Social Economy Section, Mr. John Honeyman. Referring to various sanitary and social problems, Mr. Honeyman spoke of the regulation of burying grounds, the overcrowding of the poor, and the sewage problem. He urged various reasons against the Corporation meeting the demand for better houses for the poor, insisting that the result would be to create a building monopoly and to drive the ordinary builder from the field.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

The third meeting of this Society was held on December 10th. Dr. Lindsay Steven showed a specimen of mediastinal tumour, and Drs. Clark and Newman showed a specimen of ruptured gall-bladder from a case of impacted gall-stones in the cystic duct. Cases of nerve disease accompanied by choreic movements were brought before the meeting by Professor Gairdner and Dr. Alex. Robertson; and Dr. Finlayson showed sections of pyæmic abscesses in the liver from a case of malignant ulceration of the colon, and also a cerebellar tumour from a boy.

THE DEATH-RATE OF MILD WINTER WEATHER.

Dr. J. B. Russell reported to the Health Committee that, during the fortnight ending December 1st, there were 375 deaths registered, as compared with 411 in the fortnight preceding, representing a death-rate of 18.5 per 1,000 living, in place of 20.3 (or of 17.7 in place of 19.4, according to his estimate of the population). The death-rate for the past week was at the rate of 21 per 1,000, as against 24, 27, and 29 for the corresponding weeks of 1887, 1886, and 1885. As compared with the corresponding fortnight of last year the mean temperature of the past fortnight was 2° F. higher, the rainfall 2.26 inches more, and the death 6.7 per 1,000 less. This contrast illustrated well the difference in public health of a wet, mild winter and one which was even moderately dry and slightly cold.

STUDENTS' REPRESENTATIVE COUNCIL.

At a meeting of the Aberdeen University Students' Representative Council, held on December 8th, arrangements were mads for a conference with delegates from the other Students' Representative councils of the Scottish Universities, to be held at Aberdeen on December 15th. It was also resolved to take steps to procure a portrait of Professor Brazier for presentation to the University.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

A meeting of the Medical Section of this Society was held on December 7th, Dr. Samson Gemmell in the chair. Dr. J. Wallace Anderson introduced a discussion on Anomalous Forms of Measles and Scarlet Fever, basing his remarks on reports of two cases of measles without catarrh, and one case of malignant scarlet fever which died with symptoms resembling those of irritant poisoning. Dr. Allan, of Belvidere Fever Hospital, stated that he had never seen a case of malignant scarlet fever, probably because they died before they could be brought to the hospital. The anomalies of measles were many and puzzling. Dr. Robertson, Hamilton, related a case of measles complicated with diphtheria, and Dr. Milroy, Kilwinning, described an epidemic of measles in which laryngitis with diphtheritic patches on the tonsils was an early and prominent symptom. Dr. McVail, Dr. Gemmell, and others joined in the discussion.

THE EDINBURGH STUDENTS AND SIR MORELL MACKENZIE.

Considerable dissstisfaction has been shown by the Edinburgh University students at the extremely scant representation of the professoriate on the occasion of Sir Morell Mackenzie's address last week. The manifestations, more particularly in the medical class-rooms, have been most pronounced, each professor, in turn, being greeted with a storm of groaning and hissing. In one instance the class had to be dismissed. The *Scotsman* and *Evening Dispatch* have given unusual prominence to the University disturbances, and have brought sweeping allegations of "boycotting" against not only the University professors, but the medical profession generally. The manifestations were not the outcome of a universal feeling. In several instances the noisy evidences of disapprobation were converted by the better sense of the class into a demonstration of the opposite nature. At a meeting of the Students' Representative Council, where the sense of the students might be expected to be more exactly gauged, a vote of censure on one of the Presidents who had declined to sign the address to Sir M. Mackenzie was proposed, but the motion was lost by a distinct majority. It is understood that a resolution deprecating the disturbances will be carried by the Council.

IRELAND.

TESTIMONIAL TO MR. O'GRADY.

The testimonial to Mr. E. T. O'Grady, M.B., F.R.C.S.I., of Dublin, with which his numerous admirers and sympathisers intend shortly to present him, is, we learn, to take the form of a carriage and pair. Those friends who have not already subscribed are invited to send their subscriptions at once to the honorary treasurer, Dr. M. A. Donnelly, 187, Great Brunswick Street, Dublin, as the list is about to be closed.

DEATH OF DR. DENIS O'CONNOR, OF CORK.

We deeply regret to have to report the death of Dr. Denis O'Connor, Vice-President of the British Medical Association, who presided at the last meeting of the British Medical Association at Cork. His presidency was marked by the utmost courtesy and ability. No one was more widely popular throughout the South of Ireland, and his death will be deeply lamented throughout the Association, as well as by his numerous friends in Ireland. The funeral of Dr. O'Connor was attended by the leading members of the medical faculty, as well as by the Mayor and High Sheriff. The service was performed by the Bishop of Cork, and there was a large attendance of the leading Roman Catholic clergy, as well as of representatives of the principal public bodies in Cork. At a meeting of the Dispensary Committee of the Cork Union, the following resolution was adopted:—"That the Committee desire to convey to Dr. O'Connor their sympathy on the death of his much respected and revered father, Dr. Denis O'Connor, who was for many years one of the most kind hearted medical officers of the Cork Union." Alderman Scott, in

seconding the motion, said that the name of Dr. O'Connor was respected and revered throughout the entire city of Cork by every one, rich and poor alike. He attained the highest possible position in his profession in the city, and maintained it for many years. The vast amount of labour which he performed as a public benefactor in connection with the various hospitals and charitable institutions of the city was well known to every member of the community. He had gone to his grave laden with honours, and died actually in harness. He (Alderman Scott) was sure that his family had in their bereavement the sympathy of every citizen in Cork, and the best mark of respect they could pay to his memory was to adjourn the committee. The Committee then adjourned.

INFANT MORTALITY IN THE CORK WORKHOUSE.

Mr. Parker, one of the Cork guardians, recently communicated with the Local Government Board in reference to the high death-rate, as he believed, of the infants in the workhouse, and naturally the Board brought the matter under the notice of the board of guardians. They requested the guardians to send them a return of the number of infants under one year admitted to the workhouse from January 1st last to September 30th, also the number of infants born in the workhouse during the same period, and the number of deaths during the nine months included in the return. Mr. Parker stated in his letter that 14 infants were admitted in a healthy condition during the year, and that all died after a short period; but it appears that 130 children were admitted, of whom 11 died; and 72 were born during the same period, with 11 deaths, so that Mr. Parker's figures are altogether misleading and inaccurate. He believes thoroughly in the boarding-out system of pauper children, which, no doubt, has its advantages, but the guardians wish to let orphaned children be boarded out, but otherwise that there should be some restriction to the system.

BELFAST MEDICAL STUDENTS' ASSOCIATION.

At a meeting of this Association held on December 7th the following office-bearers for the ensuing session were elected: *President*, Dr. O'Neill; *Vice-Presidents*, Dr. Campbell and Dr. Mackisack; *Treasurer*, Mr. J. A. Browne; *Secretary*, Mr. Mitchell. On the following day a large meeting of the Association was held in the theatre of the Royal Hospital for the purpose of considering a memorial to the Senate of the Royal University. The memorial was submitted by Mr. J. M. Hall, and, after full discussion, unanimously adopted. It contained: (1) A prayer that the Senate, in making the forthcoming appointments to examinerships, would consider the claims to representation of the Belfast Medical School, which since 1883 has sent forward about one-half of the candidates for graduation in medicine, yet does not possess a single representative on the Board of Examiners for the degree of M.B. (2) A prayer that the Belfast Hospital for Sick Children, Queen Street, should be recognised as a teaching institution by the Senate. (3) A prayer for various changes in the curriculum, designed not to modify the course or to lower the high standard required by the Royal University, but simply to make the arrangements more convenient and flexible by allowing the student more option in the order and sequence of his classes and hospital terms than is at present permitted.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary meeting of the Council of the College was held on December 13th, when the minutes of the last meeting were read and confirmed.

A recommendation from the Museum Committee, that a pathological artist be employed for the purposes of the Museum, was approved, and Mr. Burgess appointed for a period of three months.

The Museum Committee further recommended that, in reply to applications for permission to make use of the College workrooms, the applicants be informed that the Council are not in a position to permit any investigations which involve experiments on living animals, nor the retention of living animals on the College premises, nor can they defray any expenses incurred in connection with such experiments made elsewhere, but that the Council would be ready to afford them facilities for pursuing at the College such part of their investigations as may be carried out in accordance with the regulations relating to the use of the workrooms.

A report from the Committee of Management was received and adopted. They recommended that the possessor of the diploma in public health of the two Colleges should be described as "Diplomate in Public Health." They also presented a revised schedule of drugs relating to the examination in materia medica and pharmacy.

The Committee on the Question of an Examination in Operative Surgery for the Membership reported that they did not think it desirable at present that such an examination should be instituted.

A report of the proceedings of the General Medical Council was received and entered on the minutes; and the thanks of the Council were tendered to Mr. John Marshall for his very efficient services as its representative.

The following notices of motions have been received:—

Sir Spencer Wells to move: "That the resolution of the Council of May 8th, 1884, regarding the annual meeting of Fellows and Members, be rescinded, and that such annual meetings be discontinued."

Mr. Macnamara to move: "That the President be requested to communicate with the Secretary of State for War in favour of dating commissions of medical officers of the Army Medical Department from the time of their joining Netley."

Sir W. MacCormac to move: "That a certificate be required from candidates for the Diploma of Member of the College of having themselves performed operations on the dead subject to the satisfaction of their teachers."

Sir James Paget to move: "That a *conversazione* be held at the College during the ensuing summer, and that a small Committee be appointed to make the necessary arrangements."

The following gentlemen were elected Examiners under the Combined Scheme, namely:

First Examination.—Elementary Anatomy: Messrs. C. A. Ballance, W. Bruce Clarke, A. Hensman, W. A. Lane, and Charles Stonham. Elementary Physiology: Messrs. W. D. Halliburton, and F. W. Mott.

Second Examination.—Anatomy: Messrs. W. H. Bennett, J. N. C. Davies-Colley, R. J. Godlee, and F. H. Marsh. Physiology: Messrs. C. H. Golding-Bird, B. T. Lowne, and Jeremiah McCarthy.

Third Examination.—Midwifery: Drs. W. Duncan, W. S. Griffith, G. E. Herman, and J. B. Potter.

For the First Professional Examination for the Fellowship.—Anatomy: Messrs. William Anderson, W. H. Bennett, R. J. Godlee, Henry Morris, and Frederic Treves. Physiology: Messrs. C. H. Golding-Bird, B. T. Lowne, Jeremiah McCarthy, and Gerald F. Yeo.

To the list of diaries for 1889 is to be added the A B C Medical Diary and Visiting List (Burroughs, Wellcome, and Co.). This diary, which is published annually, includes also the A B C Materia Medica, containing a good deal of useful information.

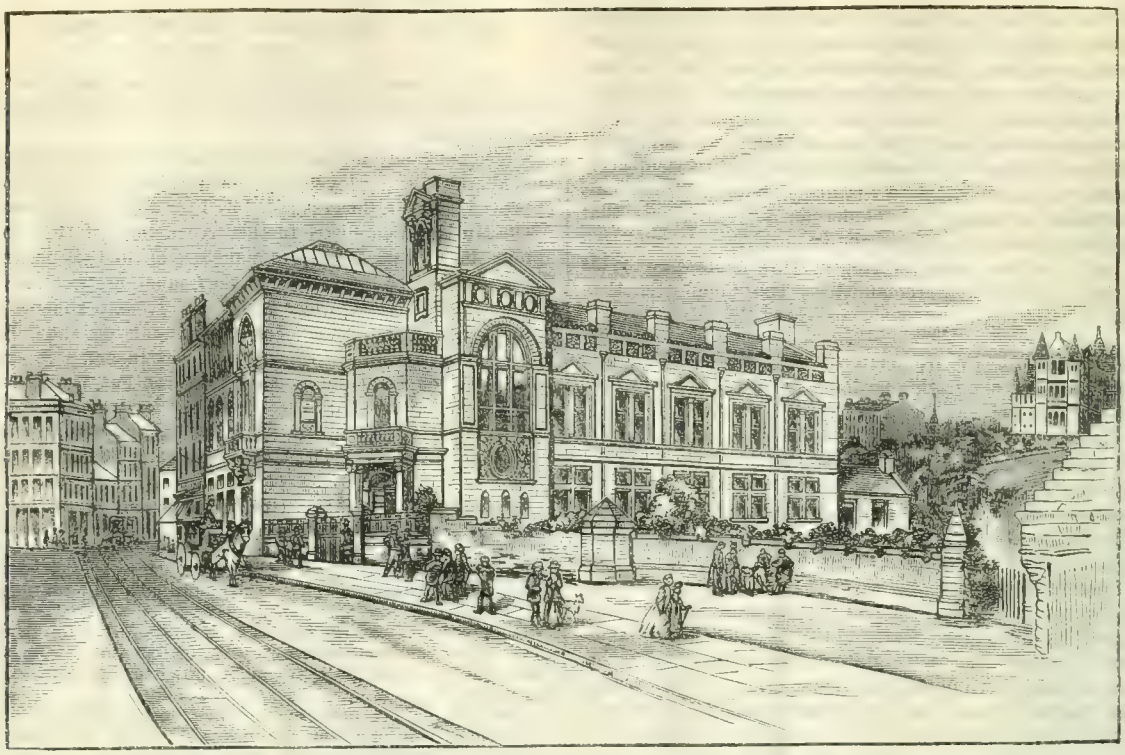
Mr. M. C. Soutter, M.R.C.S.Eng., is a candidate for the Brownswood Park District of the Middlesex County Council.

A decree has been promulgated forbidding the importation into France of saccharin or substances containing saccharin.

The epidemic of scarlet fever at Derby, it is said, shows no sign of abatement, but is rather on the increase. On the last day of November there were 140 cases.

The Fulham Vestry have at last decided to commence forthwith the building of a mortuary, which is greatly needed in the district. The cost is not to exceed £976.

Dr. James Murphy, of Sunderland, has been elected a corresponding member of the Société de Médecine Pratique de Paris.



ANDERSON'S COLLEGE MEDICAL SCHOOL.

SINCE the adoption of the scheme proposed by the Commissioners under the Educational Endowments (Scotland) Act, 1884, the old Anderson's University has become merged into the Glasgow and West of Scotland Technical College, while the Medical Faculty has become a separate and distinct institution, incorporated as Anderson's College Medical School, with memorandum and articles of association.

There is thus perpetuated the Medical Faculty, which dates back to the birth of Anderson's University, in the very beginning of this century. In 1800 Mr. John Burns commenced lectures on anatomy and surgery, which were separated into distinct lectureships in 1828; in 1819 botany was added, and in 1828 the chairs of midwifery, materia medica, and practice of medicine were instituted, followed by medical jurisprudence in 1831, theory or institutes of medicine in 1840, ophthalmic medicine and surgery in 1869, public health in 1878, and aural surgery in 1879.

As an extra-mural medical school, Anderson's University has long held a foremost position, and has provided a medical education at a cost suited to the circumstances of many who would not otherwise have been able to prosecute the study of medicine. Dr. David Livingstone, Dr. Benjamin Ward Richardson, and other distinguished men adorn the roll of its students, who may be found in all quarters of the globe, in positions of usefulness and honour. Its class-rooms have supplied no fewer than fourteen professors for Glasgow University, of whom six are at present teaching there.

The new buildings are situated in Dumbarton Road, near Glasgow University, and immediately to the west of the entrance to the Western Infirmary, one of the wings of which is seen in the illustration. The new school will, it is expected, be ready for occupation in November, 1889. It provides all the accommodation which is usual in an institution of the kind.

The dissecting-room is placed on the second floor, and is entirely lit from the roof. This room is connected with the basement by a hoist, by means of which the subjects are brought to the required level. On this floor are also placed the bone-room and a small dissecting and preparation room. On the first floor are placed the anatomical museum and lecture theatre, private dissecting and operative surgery rooms, surgical and materia medica museums; also library, professors' room, and a smoking room for students. On the ground floor are placed the class rooms for chemistry, physiology and medical jurisprudence, medicine, materia medica, and midwifery, with the necessary professors' rooms; also the chemical, physiological, and medical jurisprudence laboratories, and laboratory of public health. The preparation rooms, furnace room, etc., are placed on the basement floor. The elevation is Italian in style, and the building is intended to be roofed with red tiles.

As subscriptions are still being collected, the Governors hope that all old Anderson's College students and other friends interested in medical education will recognise the claims of an institution whose continued prosperous existence without patronage or privilege argues not only intrinsic merit but public utility. The building, constructed on the best modern principles, and provided with all the appliances requisite for the conduct and management of a fully-equipped medical school, will cost about £9,000. The Secretary and Treasurer is Mr. John Kidston, 50, West Regent Street, Glasgow.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS FOR 1889. ELECTION OF MEMBERS.

MEETINGS of the Council will be held on January 16th, April 17th, July 10th, and October 16th, 1889. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 27th, 1888, March 28th, June 20th, and September 26th, 1889.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary.*

COLLECTIVE INVESTIGATION OF DISEASE.

Reports upon the two remaining inquiries, namely, that into Diphtheria, and that into the Geographical Distribution of certain Diseases, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the Etiology of Phthisis.

A fresh inquiry into the Origin and Mode of Propagation of Epidemics of Diphtheria has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

Border Counties Branch.—The winter meeting of this Branch will be held at the County Hotel, Carlisle, on Thursday, December 20th, at 3.30 P.M. By request of the Council, Professor Chiene, of Edinburgh, will introduce a discussion, the subject selected being "Suppuration: its Causes and Treatment." Notices of papers for reading should be sent to the Honorary Secretary, H. A. Lediard, 41, Lowther Street, Carlisle.

Metropolitan Counties Branch: East London and South Essex District.—The next meeting will be held in the Town Hall, Walthamstow, on Thursday, January 19th, at 8.45 P.M. A paper on Diphtheria, with special reference to Treatment, will be read by A. Ernest Sansom, M.D.—J. W. Hunt, Honorary Secretary, 101, Queen's Road, Dalston.

Metropolitan Counties Branch: South London District.—A meeting of this District will be held at the Wandsworth Infirmary, St. John's Hill, S.W. (Clapham Junction Station), on Wednesday, December 19th, at 8 P.M., Dr. Frederick Taylor, Vice-President of the District, in the chair. Dr. J. B. Neal, Medical Superintendent of the Infirmary, will demonstrate cases of Spinal Sclerosis, and other cases of interest from the wards of the institution. All practitioners will be welcomed.—R. Percy Smith, Honorary Secretary, Bethlem Royal Hospital, S.E.

Aberdeen, Banff, and Kincardine Branch.—The December meeting of this Branch will be held at 198, Union Street, Aberdeen, on Wednesday, the 19th inst., at 8 P.M. Busines: 1. Minutes, nomination of new members, etc. 2. Ballot for the admission of Dr. A. W. Alcock, Surgeon and Naturalist, H.M.S. *Investigator*: Dr. George Rose, 75, King Street, Aberdeen; and Dr. George Gibb, 143, Great Western Road, Aberdeen. 3. Motion by Dr. Urquhart: "That Rule 9 be altered to read as follows: The annual meeting of the Branch shall be held at Aberdeen on the third Saturday of October of each year, and shall be given notice of by circular in the ordinary way." 4. Case of Trismus, by Dr. Gunn, Buxburn. 5. Case of Poisoning by Bromide of Potash, by Dr. Beveridge, Aberdeen. 6. Hyperbolic Lenses for Conical Cornea, by Dr. McKenzie Davidson. 7. Exhibition of Patient after Thyrotomy for Intra-laryngeal Tumour, by Dr. Mackenzie Booth. 8. Dr. Ward Cousins' New Rectal Instruments. 9. Specimen of Fracture of Head of Radius, by Dr. Ogilvie Will.—Robert John Garden and J. Mackenzie Booth, Honorary Secretaries, 231, Union Street, Aberdeen.

GLOUCESTERSHIRE BRANCH.

The annual meeting was held at the County Infirmary, Gloucester, on Tuesday, November 20th, 1888. Dr. Currie, President, occupied the chair, and about twenty-five members were present. Letters of apology were read from Drs. Wilson, Cullen, etc., of Cheltenham, and Mr. Sydney-Turner, Gloucester.

The minutes of last meeting were read and confirmed.

Officers and Council.—It was proposed by Dr. Needham, seconded by Dr. Batten, and carried, that Dr. Soutar and Mr. Bower be re-elected as the scrutineers. The following were declared the officers for 1889: *President:* C. J. Bennett, Cheltenham *Honorary Secretary:* G. Arthur Cardew. *Members of Council* Drs. Batten, Bond, and Mr. Ellis (Gloucester), and Dr. Wilson (Cheltenham).

Sir Morell Mackenzie's Book.—The following resolution was brought before the Branch by the Branch Council, and was proposed from the chair by Dr. Currie, seconded by Mr. Waddy:

"It has been with the deepest regret that we have seen the issue by Sir Morell Mackenzie to the general public of a book, giving medical details of the case of the late German Emperor. We desire to enter the strongest protest possible against the precedent thereby set for a line of action so opposed to the best traditions of our profession, and so injurious to its true interests."

Dr. Soutar proposed an amendment: "That the resolution be not put." After discussion, the amendment was lost by 13 votes against it to 3 for it. The resolution was then put, and carried by 13 votes to 3. It was proposed by Dr. Batten, and seconded by Mr. Wilton: "That the resolution be forwarded in the ordinary course for publication in the Journal." This was carried.

Dursley Sanitary Authority and Dr. Bond.—The resolution printed in the Journal, December 8th, p. 1315 was also brought before the Branch by the Branch Council, and was proposed by Dr. Batten (Gloucester), and seconded by Dr. F. Cook (Cheltenham). Before the resolution was discussed, Dr. Bond made a full statement of the circumstances of his dismissal by the Dursley Rural Sanitary Authority, and of the correspondence that had taken place thereon. He then retired from the room, when a full discussion took place. The motion was put to the vote and carried unanimously. On Dr. Bond's return to the room, the President conveyed to him the sympathy of the meeting at the treatment he had received.

STAFFORDSHIRE BRANCH.

The first general meeting was held at the Railway Hotel, Stoke-on-Trent, on Friday, November 30th, 1888. Mr. F. Boldero, the President, occupied the chair, and thirty-three members were present. A report of the scientific work of the meeting will be published at an early date.

Presentation to Mr. Vincent Jackson.—After the meeting, Mr. Spanton, as Chairman of the Presentation Committee, presented Mr. Vincent Jackson, on behalf of the members of the Branch, with a handsome silver bowl and an illuminated address as a slight recognition of his valuable services as Secretary during a period of fourteen years. Mr. Jackson feelingly thanked the members.

SOUTH-EASTERN BRANCH: EAST KENT DISTRICT.

The last meeting of the above District was held at the Kent and Canterbury Hospital, Canterbury, on Thursday, November 29th, at 3 P.M., Mr. E. J. Schon, of Littlebourne, in the chair.

Next Meeting.—Dr. Fisher was elected Chairman for the next meeting, to be held in Sittingbourne in March, 1889.

Communications.—Dr. Fitzgerald (Folkestone) read a paper on Massage: its Use and Misuse, after which the author gave a practical demonstration.—Mr. T. Whitehead Reid read the history of five successful ovariotomies he had performed, illustrated by specimens, diagrams, and patients.—Mr. Colville (Ashford) read notes of a case of Extra-uterine Pregnancy, in which a large portion of the fœtus was passed *per anum*. The fœtal bones that had been passed were shown.—Mr. C. H. Schon (Bridge) read short notes of a successful case of Traumatic Tetanus treated with hydrate of chloral.—Each of these papers gave rise to discussion, and among those who spoke were Drs. Gogarty, T. Eastes, Messrs. Brian Rigden, F. Wacher, Mayhew, Whitehead Reid, and the Chairman.

METROPOLITAN COUNTIES BRANCH: NORTH LONDON DISTRICT.

The first meeting of this District was held at the Tottenham Hospital, the Green, Tottenham, on Thursday, December 6th, at 8 P.M., Dr. C. Brodie Sewell, President of the Branch, in the chair.

Some interesting cases from the hospital were exhibited.

Dr. Goodhart read a paper on Notes on the Value of certain New Drugs, after which a discussion ensued.

Votes of thanks to Dr. Goodhart and the President were given.

The meeting was well attended, there being twenty-one gentlemen present.

SPECIAL CORRESPONDENCE.

PARIS.

[From our own correspondent.]

The Action of Various Oils on Healthy Animals.—Experiments on the Poisoning of Animals by Different Gases.

M. Daremberg has begun by making a series of experiments on healthy animals, with the view of ascertaining the effect of different oils on tuberculous animals. He found that different oils used as food, and cod-liver oil, may be taken for three months and a half without evil effects by guinea-pigs in daily doses of one cubic centimètre, and by rabbits in doses of three to four cubic centimètres. The oil is easily administered through a glass tube placed in the animal's mouth; the animal usually sucks the tube with avidity. M. Daremberg gave subcutaneous injections

of a quarter, half, or one cubic centimètre of oil every day, every second day, or every four days, into the abdomen, the back, or the paws of guinea-pigs and rabbits. The oil and instruments were previously sterilised. In no case were abscesses observed in the animals, but the injections produced the following results. Nearly all the guinea-pigs died after a varying interval of time; they all presented a similar lesion—namely, fatty perisplenitis. Around the spleen there was a collection of yellowish fat, soluble in ether. The spleen adhered to the kidney and stomach; the stomach adhered to the liver and the parietal peritoneum. Fatty patches were detected on the liver; in some cases the biliary vesicle was completely surrounded by these yellowish masses. In every case there was a yellowish track under the peritoneum, below the costal insertions of the diaphragm on the left, and sometimes on the right side. In no case did the liver adhere to the parietal peritoneum on the right side of the abdomen. The fatty infiltration almost entirely disappeared when the injections were suspended for a certain time, but the adhesions persisted, as M. Daremberg ascertained by examining several animals which were killed. He found these adhesions: first, in a guinea-pig, to which eight and a half cubic centimètres of white cod-liver oil had been given in eighteen days, and which was killed forty-two days after the last injection. Secondly, a guinea-pig, to which seven cubic centimètres of pale cod-liver oil had been given in sixteen days, and which was killed fifty-two days after the last injection. Thirdly, in a guinea-pig to which eight cubic centimètres of brown cod-liver oil had been given in sixteen days, and which was killed sixteen days after the last injection. Fourthly, in a guinea-pig, to which one cubic centimètre of oleic acid (chemically pure) had been given, and which was killed forty-three days after the injection. The amount of oil required to cause death in guinea-pigs varied considerably. One guinea-pig died eight days after receiving four cubic centimètres of white cod-liver oil; another died twenty-three days after two cubic centimètres and a half; a third, which received eighteen cubic centimètres in thirty-six days, survived; it was killed thirty days after the last injection, and was found to present the adhesions in the peritoneum above described. One cubic centimètre of pale cod-liver oil killed one rabbit in six days; five cubic centimètres killed another in thirteen days; twenty-five cubic centimètres killed a third in fifty-two days. Two rabbits, to which six cubic centimètres and a half of brown cod-liver oil had been administered, died in fifteen days; one to which six cubic centimètres had been given died in twenty-five days; another died after receiving nine cubic centimètres in thirty-six days; another, after two cubic centimètres and a half, in six days; another, after four cubic centimetres, in eleven days; another, after six cubic centimètres and a half, in twenty-two days; another, after seven cubic centimètres and a half, in twelve days; another, after four cubic centimètres and a half, in thirty-seven days; and another, after twelve cubic centimètres, in twenty-eight days. A guinea-pig, to which one cubic centimètre of oleic acid, as usually sold, was given, died the same day; another, which received one cubic centimètre and a quarter, died in three days; two others, which received one cubic centimètre, died in four days; another died in fifteen days, after receiving one cubic centimètre; another in seventeen days, after one cubic centimètre and a quarter; another in nine days, after one cubic centimètre; another in eight days, after four cubic centimètres; and another in six days, after four cubic centimètres. One guinea-pig died in seven days, after receiving one cubic centimètre of olive oil; another died in thirteen days, after receiving one cubic centimètre and a half of colza oil; another in thirty-one days, after four cubic centimètres of cotton oil. One died in forty-seven days, after receiving six cubic centimètres of oil of *Fagus sylvatica*; and another died after receiving three-quarters of a cubic centimètre of crude petroleum oil. In the case of rabbits the effects of subcutaneous injections of oil were considerably less severe. After receiving half a cubic centimètre of oil every day for a month these animals were killed. They all presented the fatty lesions and adhesions observed in the guinea-pigs, but in a minor degree; and they appeared to be perfectly healthy. In every case there were oily tracks in the peritoneum, around the liver, kidney, stomach, spleen, and costal insertions of the diaphragm, but there were no adhesions in these organs. The stomach alone was attached by somewhat loose bands to the parietal peritoneum. A few patches of fat were found on the liver and spleen. The fatty infiltration of the large omentum gave it the aspect of a loosely-woven net. The rabbits which received similar doses of crude petroleum oil presented abscesses at the spots where the inoculations were made, and the same fatty lesions, rendered more apparent by the black colour of the oily tracks. Some black spots were also noticed on the lungs. Most of these animals were in good condition at the time of their death. Several of them increased in weight during the period in which the experiments were made.

M. Pasteur has, as is well known, pointed out a method of destroying injurious animals, particularly rabbits, by placing fodder saturated with liquid cultivations of fowl-cholera in front of their warrens. M. Gréhant has lately attempted to determine what quantities of gas or poisonous vapours would produce the same results, and might be employed instead of M. Pasteur's method in certain cases, especially for carnivorous animals, such as the fox. In order to imitate the conditions in which rabbits live in their warrens, M. Gréhant placed these animals in large glass vessels 68 centimètres high, 30 centimètres in diameter, and capable of containing 48 litres. The gas or vapour to be mixed with the air was introduced by a tube at the bottom of the vessel, and escaped through the glass plate which covered the top incompletely. The following experiments were made with different poisonous vapours:—*Carbonic acid:* 1. A mixture composed of 75 parts of carbonic acid and 25 parts of air was introduced into a glass vessel in which a rabbit had been placed. At the end of three minutes the rabbit fell on its side; after six minutes the respiration became slower; after ten minutes the animal was completely anæsthetised. It still breathed, and, on being placed in the open air, it returned to consciousness, and in ten minutes completely recovered. The dose of carbonic acid was, therefore, inadequate. 2. A current of pure carbonic acid was then introduced into the glass vessel. In two minutes the rabbit was seized with severe dyspnœa; it lay on its side, with the eyes protruded, the pupils dilated; in four minutes it expired. It was ascertained by means of the mercury-pump that the vessel contained 92 per cent. of carbonic acid. *Carbonic oxide:* 1. An atmosphere composed of ordinary air and one-fiftieth of carbonic oxide was introduced into a glass vessel containing a rabbit. After two minutes the animal panted; at the end of five minutes its ear became very red; it fell down, but at the end of ten minutes it was still alive. 2. Mixtures of air with one-twenty-fifth, one-twentieth, one-fifteenth of carbonic oxide were successively tried, but proved incapable of causing death in ten minutes. This result was obtained with one-tenth of carbonic oxide. After two minutes and a half the rabbit sank to the ground; at the end of four minutes it was seized with violent convulsions, and in seven minutes the fibrillar contractions in the muscles became general. Ths animal expired at the end of nine minutes. *Sulphuretted hydrogen:* 1. Air mixed with one-fiftieth of this gas was introduced into a vessel. The animal in it was seized with convulsions after forty seconds, and expired in two minutes. 2. One per cent. of sulphuretted hydrogen was employed in another experiment. After three minutes convulsions came on, and after five minutes the animal expired. *Sulphide of carbon:* 1. Some air was made to pass through a *carboteur* with sulphide of carbon by means of F. Gréhant's tube. The mixture of air and gas was introduced into a glass vessel. After a few minutes a rabbit was placed in it. At the end of two minutes it was seized with clonic convulsions amounting to a complete epileptic attack; in four minutes the convulsions became general; in six minutes they ceased. Death ensued in seven minutes. Another rabbit was placed in the vessel, and a rapid current of air, which had passed through a phial containing sulphide of carbon, was introduced. After thirty seconds the animal became agitated; after five minutes clonic convulsions appeared in the front and back limbs. At the end of seven minutes the convulsions continued, and increased until the animal expired, nine minutes after the commencement of the experiment. Ten grammes of sulphide of carbon had been transformed into vapour.

SWITZERLAND.

[FROM OUR OWN CORRESPONDENT.]

Professor Reverdin on Nephrectomy.—Excision in Perforating Ulcer of Foot.—Idiosyncrasy as to Antipyrin.—Subcutaneous Emphysema.—Mixed Eruptive Fever.

AT a recent meeting of the Société Médicale de Genève, Professor Jaques L. Reverdin read a paper on two recent cases of nephrectomy. In the first the patient was a woman, aged 29, with an enormous hydronephrosis on the left side. The operation was

performed, extra-peritoneally, by a vertical incision along the anterior axillary line, the cyst being tapped, and was extirpated together with the kidney. Twenty days later, the woman was discharged in excellent general health, with a small drainage-tube still in her loin. The other patient, a distinguished member of the Swiss medical profession, who had passed through an attack of perityphlitis in 1884, began to suffer from hydronephrosis in 1886. The swelling having been incised soon afterwards, a permanent fistula remained, which discharged first a sweet serous, and later on a fœtid purulent, fluid. Nephrectomy was performed in 1888 in the same way as in the preceding case, but proved exceedingly tedious, on account of firm adhesions. During the separation of the kidney, the peritoneum was accidentally torn. The laceration was at once closed by sutures. The adhesions being very firm, intracapsular enucleation was resorted to. There was so much hæmorrhage during the procedure, that it was necessary to leave a pair of forceps deep in the wound, which was then plugged. The operation was followed by an attack of intestinal obstruction. In order to relieve this, an artificial anus had to be made in the cæcal region, on the tenth day, but the patient died a few hours afterwards. At the necropsy there was found to be general suppurative peritonitis, with old pericæcal adhesions, and sero-sanguinolent effusion in the pelvis. The peritoneum at the site of nephrectomy, however, was relatively healthier than elsewhere.

Dr. L. Gelpke, of Baselland, reports a remarkable case of perforating ulcer of the foot, of neurotic origin, which was cured by excision. The patient was a farmer, aged 42, who, about nineteen years before, had fallen from a height of forty feet, the accident being followed by paresis of the bladder and lower limbs, which lasted eight weeks. A year later, a small circular ulcer appeared on the dorsum of the left foot, which healed spontaneously in twelve months. Nineteen years after the accident, another ulcer made its appearance, this time on the heel of the left foot. This ulcer was also perfectly circular in shape, as if it had been cut out with a punch; it was as large as a florin, the edges being undermined, and the base sloughing. There was considerable decrease of sensibility of the whole left lower limb, the knee-reflex being altogether absent. Faradisation, actual cautery, and absolute rest failing to do any good, the ulcer was excised. The wound was completely healed after five weeks.

Dr. F. Brandenberg, of Zug, relates a singular instance of idiosyncrasy as to antipyrin. A gentleman who was suffering from acute articular rheumatism, and could not tolerate salicylate of soda, took one gramme of antipyrin in powder. About five minutes later there suddenly appeared violent toothache along the whole lower jaw, then headache, an intense "tearing-asunder" pain in the ear and the parts adjoining, with profuse flow of tears and nasal mucus. The symptoms ceased in the reverse order of their appearance, the toothache lasting for three to four hours. To elucidate the matter, Dr. Brandenberg requested the patient, a very intelligent man, to take another dose. The patient consented, but this time took only half a gramme of the drug. In ten minutes, precisely similar symptoms as before developed, the toothache lasting for about twelve hours. Curiously enough, the articular pain had disappeared almost completely before the appearance of the other symptoms.

At a meeting of the Société Vaudoise de Médecine, Dr. Dentan communicated a rare case of general subcutaneous emphysema occurring in a girl of 2, who had been suffering from severe broncho-pneumonia complicating measles. The emphysema commenced about the clavicular regions, and rapidly spread downwards over the whole chest and abdomen, the child dying shortly afterwards. Dr. Dentan thought that the phenomenon was caused by rupture of some pulmonary alveoli with penetration of air into the mediastinum.

Dr. Dentan states further that he recently happened to meet a case of "mixed eruptive fever (*fièvre éruptive mixte*)." A girl, aged 6, fell ill with scarlatina of a rather severe type. On the fifth day there suddenly appeared cough and epistaxis; this was followed on the next day by "typical morbillous eruption." For a couple of days the two rashes were absolutely "superposed." Later on, while the diffuse scarlatinal blush began to subside, the morbilloid patches became quite distinct all over the body. The eruptions disappeared rapidly and simultaneously, giving place to a normal scarlatinal desquamation of four weeks' duration. The case is said to be an instance of the organism being invaded simultaneously by two distinct viruses or pathogenic microbes.

EGYPT.

[FROM OUR OWN CORRESPONDENT.]

The Pilgrimage to Mecca from an Egyptian Doctor's Point of View.—Expedition to Suakin.—Typhoid Fever at Kasr-el-Aini. The Weather and Public Health.

DR. SALEH SOUBHY, a distinguished graduate of Paris, who has lately returned from the pilgrimage to Mecca, reports a state of affairs in that *terra incognita* which should certainly be brought to the notice of the civilised world. On the opposite shores of the Red Sea, at Suakin, blood and treasure are freely poured out in a vain attempt to repress slavery, but in the benighted regions of the Hijáz savagery and fanaticism are allowed to prevail to an extent that, to an ordinary humanitarian, is absolutely appalling. This year, according to Dr. Soubhy, there were about 350,000 pilgrims collected from all parts of the world, but chiefly from Turkey and Egypt, which are the only Mohammedan countries that exercise no sort of supervision over the people whom they permit to proceed to the holy cities of Islam. A large proportion of this multitude consisted consequently of rogues and vagabonds who preyed on the remainder, and while engaged in kidnapping and the importation of slaves did not hesitate at robbery and even murder. The scarcity of water and the burning heat render the pilgrimage trying even to the robust and well nourished, but so great is the confidence of the Faithful, that many infirm and destitute people attempt to perform it, as well as numbers of pregnant women, the result in the latter case being almost invariably abortion and death. The journey from Jidda to Mecca takes forty-eight hours, and from Mecca to Medina fourteen days going, and the same returning. It is during this part of the pilgrimage that the greatest hardships are endured, for the road is extremely precipitous and water bad and scarce; yet it might be entirely avoided, for Medina can be reached in four days from the port of Yanbú by means of a good and well-watered road. The proper way would be for pilgrims to disembark first at Yanbú in order to visit the tomb of the Prophet at Medina; they should then return to the coast, reembark for Jidda, and proceed in due course to complete their pious task at Mecca. One of the principal ceremonies during the pilgrimage consists in sacrificing sheep in commemoration of Isaac's escape from his father's knife. The place where this is done is called Miná, or Monnain, and is about six hours' journey from Mecca towards the holy mountain 'Arafa, where, according to tradition, Adam and Eve first met after their expulsion from the garden of Eden. Here can be seen the stone altar of the patriarch, half cleft in twain by his descending knife, when only just in time the angel Gabriel snatched away his son; and here, also, in perfect preservation, is the imprint on a neighbouring rock of Sarah's agonised form, as with fingers in her ears, she recoiled from the dreadful spectacle of her offspring's impending immolation. This year Dr. Soubhy estimates the number of animals killed at 900,000, but his estimate is probably excessive. The sheep are mostly imported, and having been fed principally on senna are naturally in a wretched condition, their flesh putrefying, it is said, an hour or two after they are killed. The stench from the entrails and offal is described as something appalling, for the site where the sacrifice takes place is a narrow valley, shut in on all sides by lofty hills. The pilgrims remain here several days, and drink for the most part the water of the locality. It is true there is a small supply pumped by steam-power from a comparatively pure source at Moufgerah, but as the diameter of the conduit is only eight centimètres the supply is totally insufficient, even if it was distributed impartially, which is far from being the case. At the end of the ceremony the carcases are collected and buried in pits, but Dr. Soubhy thinks this so-called sanitary measure really aggravates the evil; he recommends burning the refuse, and is of opinion that the value of the resulting animal charcoal would more than cover the cost. The Turkish Government some time ago spent a great deal of money in improving the water supply for pilgrims in the Hijáz generally, but as this interfered with their profits the Bedouins have destroyed all the reservoirs, not even sparing those in connection with the celebrated aqueduct of Zobeyda, the wife of Harún-el-Rashíd. Many a poor pilgrim's life has consequently been sacrificed to their rapacity, for sooner than bestow a draught of water free to a pauper, these inhuman wretches would permit him to expire before their eyes.

The medical arrangements made for the Egyptian troops pro-

ceeding to Suakin by Dr. Rogers Pacha are very complete, and are modelled on the English army plan. As the Dervishes number 5,000 or 6,000 and are strongly entrenched, it is to be feared that their dislodgement will not be effected without heavy loss. The medical staff may consequently look forward to a busy time.

The etiology of typhoid fever is so often obscure, that the following case may be thought worthy of mention. At Kasr-el-Aini Hospital, up to 1884, the drainage was conducted on the old Arab system, that is to say, through uncemented channels in the walls down to percolating cesspits among the foundations. As soon as Dr. Sandwith was appointed to the sanitary service, an attempt was made to remedy this by introducing the pail system; but it was not till some time afterwards that the Public Works Department removed the old latrines and filled in the cesspits. Of the latter no accurate plan existed, but it was supposed that all had been reached, and by 1887 believers in the pythogenic origin of enteric fever considered the inhabitants of Kasr-el-Aini free from all danger of acquiring the disease. Soon afterwards, however, Dr. Herbert Milton, who resided in the hospital, was attacked, and now, I regret to say, one of the lately arrived nursing sisters has developed symptoms which point unmistakably to typhoid. In the part of the hospital where the staff resides there is a recess where some zeirs, or large water jars, are kept. A short time ago one of the sisters drew the attention of the acting medical officer, Dr. Sandwith, to a bad smell issuing from this locality. An investigation was at once ordered, and it was discovered that the recess contained an old latrine which had never been properly stopped up, but was simply loosely covered over with some planks. A long pole could be easily pushed down through the thickness of the wall, and doubtless there is at the bottom a cesspit which has hitherto escaped discovery. The zeirs contained the water-supply for the staff, so it is probable that this was the channel through which, in both cases, the poison was introduced.

The weather is now glorious, and the public health excellent. With the exception of a little diphtheria at Shoubra, there is no infectious disease at present in Cairo. Numbers of winter residents have already arrived, and the season bids fair to be a very successful one. The terminus of the Helouan railway is about to be changed from its present inconvenient site near the citadel to a spot near the centre of the Ismailieh quarter. This should prove a great advantage to the numerous invalids who annually flock to "eat the unrivalled air" of our renowned sanitarium for chest affections.

CORRESPONDENCE.

SIR M. MACKENZIE AND THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE Registrar presents his compliments to the Editor of the BRITISH MEDICAL JOURNAL, and will feel obliged by his insertion in the next issue of the JOURNAL, of the following letter, which appeared in the *Times* of the 12th instant (to-day).

Royal College of Physicians, London, S.W., December 12th.

SIR,—The following paragraph appeared in the second edition of the *Pall Mall Gazette* of the 8th instant:

"George Fitz-James Darker, M.D., F.R.C.S., of St. Thomas's Hospital, who was present at the conclave at the College of Physicians when the decree to boycott Sir Morell Mackenzie was drawn up, writes as follows: 'At that meeting I (in company with five or six others) protested against the decision arrived at—namely, to advise our colleagues in Edinburgh not to recognise Sir M. Mackenzie's visit to that city. I consider this boycotting of an eminent medical man a mean and cowardly action, and unworthy of the profession to which I have the honour to belong.'"

The answer to this statement is full and conclusive.

1. No question relating to Sir Morell Mackenzie has been discussed by the College of Physicians.

2. No meeting of the College has taken place since the 25th of October last.

3. No communications have passed between this College and any other corporate body or persons on the subject.

4. Dr. Darker is quite unknown to the College, and could not have been present at any meeting whatever of that body, had such taken place: moreover, his name does not appear on the *Medical Register*.

There is, therefore, no foundation whatever for the paragraph quoted, which appears to have been designed for some other purpose than the furtherance of justice and truth.—I am, etc.,

HENRY A. PITMAN, Registrar.

Royal College of Physicians, London, S.W., December 11th.

PATHOLOGY OF HÆMORRHOIDS.

SIR,—I see in last week's issue of the JOURNAL Mr. Walter Whitehead has very properly drawn attention to a singular error concerning the pathology of piles. I have not yet had an opportunity of seeing the edition to which he alludes, but am well aware how many writers use the expression "arterial piles," a disease which I believe has never been verified by a *post-mortem* examination, and one which I have certainly not seen in the living body. The following extract I take from my work on diseases of the rectum, published four years ago, as bearing on this point. "The fact of blood escaping in jets has led some high authorities to regard it as arising from some arterial twig.[1] With due deference to such eminent authorities, I am of opinion that they are mistaken, and do not believe that the blood ever comes from the arteries, but that the jet is caused by its being forced as a regurgitant stream through a minute orifice in a vein by the powerful pressure of the abdominal muscles."

I believe that it is this jetting of the blood which has given rise to the assumption that some piles are arterial; but yet a little reflection will show that the jet appearing only when the abdominal muscles act, and the blood of the veins is subjected to pressure, shows that its source must be venous; if arterial, the effect of straining and compression would tend to diminish rather than to promote the spurting.

In many cases of hæmorrhoids the bleeding is of the nature of an oozing from soft vascular patches of mucous membrane, and it often happens when examining these cases that the slightest friction with the finger produces blood exudation. Apart from the evidence afforded from the effect of straining as showing that the blood when it jets comes from a vein, I have on more than one occasion detected the actual opening in the vein from which the blood stream exuded. In one case, that of a woman reduced almost to death's door by hæmorrhage recurring for many months when at stool, I observed on the summit of one of the piles a little adherent clot of blood. On removing this it was found to be blocking up a minute circular opening in the walls of a dilated vein, into the interior of which a fine probe could be readily passed.

In another case in which the jetting was a prominent and serious symptom, I discovered an exactly similar opening after wiping away a protecting clot. On telling the patient to strain down, a minute jet was immediately expelled a distance of several inches. In conclusion, I believe there is no evidence either from life or from *post-mortem* examination, to show that a pile ever consists of varicose arteries, and I trust that Mr. Whitehead's letter may be the means of clearing away a piece of bad pathology.—I am, etc.,

HARRISON CRIPPS.

JUDICIAL EXECUTIONS.

SIR,—If Dr. Barr really doubts the power of a "hempen rope" to act laterally let him repair to the lock of a canal, stand on shore a few feet to the side of the attachment of the tow-rope in the bows of a slowly emerging canal boat, placing the rope outside his body and on a level with his centre of gravity. If he awaits the sudden jerk of the horse on the tow-rope I think he will find the "result" to be a good ducking. Though the "origin" and "insertion" of the rope are reversed in each case, and the velocity greatly diminished, the action is similar to that proposed with the chin-trough, the rope pushing the obstruction before it in attaining the right line, when it is no longer flexible, being, at *the exact moment of check*, I contend, as rigid as a steel rod. I impute no personal animus to Dr. Barr, for we are perfect strangers. I still contend that about nine in ten executions are strangulations, Newgate and Liverpool being the only prisons where the officials know or care enough to direct and control the executioners. Out of five cases reported, three (provincials) were strangulations, but they appear in the report as four suffocations. Another of Dr. Barr's "red-herrings" is the suggestion of the occipito-atlantoid joint, which I never meant to dislocate, as I know well, and have said so before the Committee, that it is between the atlas and axis we must look for that injury. I found by the report that even Berry

[1] *Brodie's Lectures*, vol. iii., p. 561; also *Van Buren Diseases of the Rectum*, p. 31.

asked for time to consider the merits or demerits of the chin-trough, but I well remember Dr. Barr's "indecent haste" to condemn it, his "move-on" style and tone inciting, I thought, one of the Committee to take my part as I quoted. I am glad Dr. Barr admits that the remark was made by one of the members, for, of course, such minor points as this, and the conversation on the subject of prison surgeons and reporters at executions, do not appear in the report. As to the sphygmographic tracings at Currell's pulse, I am as "obstinit" as ever, and qualifying for that jury. If Dr. Barr, instead of writing that the tracings were "still in his possession," had stated that they "were before him," and that Lipski's pulse was, as I stated, 162, *but that Currell's was also the exact same beat*, then I should say that it was a wonderful coincidence, and conclude that I must have dreamt of Dr. Gilbert agreeing with me (about a minute after the body fell) as to the pulse being about 80, that when afterwards joined by Dr. Morgan, we three came to the conclusion that Dr. Haughton's 140 insensibility-pulse theory was all moonshine, and that it was in a trance I adjourned to Wilde's Hotel, where I imagined I wrote down all details, at most half an hour after the interesting performance. However, I have reason to be very thankful when Dr. Barr says, "there could not be much objection to Dr. Marshall trying his chin-trough in an execution," for *that is all I want*, having every reason (except Dr. Barr's adverse prophecies) to expect rupture of the cord from dislocation with a drop representing "half the decapitating energy" or (less) of the "subaural" system; for every surgeon to whom I have shown the chin-trough or its description in your columns is emphatic in his praise of its merciful deadliness. Again I ask, when if ever are the new rules of procedure recommended by the Committee to be adopted by the prison authorities or Home Office? Since the old man was nigh decapitated at Oxford, the first execution took place, as far as I am aware at Newgate on this day week (November 13th), when another old man must have been slowly strangled with "a much *shorter* drop than usual" *(Standard)*, for fear of reopening a suicidal cicatrix in the culprit's throat. Here we have the Committee's reasoning reversed, for it was to spare the public a shock (through unavoidable hæmorrhage from the reopened wound) that the Newgate authorities ordained in this case a short drop with, of course, slow death by suffocation. It is my aim and ambition to put an end to the present precarious system, with its extremes of decapitation and hæmorrhages on one side, and slow strangulation on the other, by establishing a swift, safe, and sure system, requiring but little variations of drop, and to promote such a necessary reform I shall not shrink from any inconvenience in personally conducting a trial or trials of my invention.—I am, etc.,

JOHN J. DE ZOUCHE MARSHALL.

Hastings, November 21st.

THE INOCULABILITY OF LEPROSY.

SIR,—Allow me to say a few words in defence of Dr. Arning. In England and on the Continent he has been severely blamed for inoculating Keanu, an Hawaiian, with leprosy. Surely such an attack is most unjust. This able physician is world-known for his long and skilful labour in behalf of the leper. He has lived among lepers for years, liable himself to become a leper. He has sedulously applied the microscope, and that with delicate care, to soil, water, food, air, vaccine matter, etc., that he might, if possible, discover the cause of leprosy's rapid progress in the Hawaiian islands. And what is the return he gets for this faithful devotion to his profession? He is publicly accused of cruelty and heartlessness for inoculating with leprosy a condemned murderer, who, to save his life, submitted willingly and gladly to the experiment.

Suppose, for a moment, that Keanu had reasoned thus: "I readily submit to inoculation with leprosy, not only because I shall save myself from immediate death, but also for a higher reason. I have killed one man, and deep is my sorrow; should I by this inoculation become a leper, such a result may tend to save the lives of many." How far such thoughts were in the mind of Keanu we cannot say—most probably they were not there at all; but this we can say, the great benefits arising from such a result were well in the mind of Dr. Arning, who simply carried out a compact made between Keanu and the State. The State, which could take life for the terror of evil doers, could also grant life in order to stay, if possible, in some degree, the advance of the most terrible disease that tortures man.

Dr. Arning, in a letter received by me a few days ago (December 3rd), gives the following important particulars, and asks a very reasonable question: "The experiment was performed after mature deliberation, and on the authority of the advisers of the Crown and the Privy Council of State; influential foreigners, laymen, and learned judges reporting in committee on the subject. It was done with the condemned criminal's written consent, and with all such due care and exactness as to really advance our knowledge of the obscure disease. Will it not stand as having been done in the interests, not against the laws, of humanity?"—I am, etc.,

H. P. WRIGHT, Rector of Greatham.

December 12th, 1888.

P.S.—I have publicly stated that this "terrible experiment goes far to prove that leprosy is contagious." By that I meant, admitting that Keanu was long beyond the age when leprosy generally appears, his present condition is substantial evidence for the possibility of the direct contagion of leprosy. "The question (says Dr. Arning) could only definitely be settled by the inoculation of a healthy individual of untainted nationality in a country free from leprosy."

SURGERY AT THE UNIVERSITY OF LONDON.

SIR,—It is not surprising that one of the speakers during the discussion on the inspectors' reports at the meeting of the General Medical Council on December 1st found fault with the examination in surgery held as part of the examination for the degree of M.B. by the University of London. In framing the regulations for this degree it seems to have been assumed that all undergraduates who passed the M.B. examination would proceed to the examination for the degree of Bachelor of Surgery. This, however, has proved to be the exception rather than the rule. The two examinations taken together constitute a very complete, if needlessly severe, test. The M.B. alone does not guarantee an adequate knowledge of surgery, as there is no practical examination, and no test of operative skill. The B.S. is a thoroughly practical examination, consisting of a paper on surgical anatomy, clinical and *viva voce* examinations, and operative surgery, in fact, an ideally good examination according to the inspectorial standard (*quantum valeat*).

Is it not high time that the Senate of the University of London followed the example of the Scotch and other English universities, and refused to grant the degree of M.B. until the examination for the degree of B.S. has been passed? Otherwise it will incur a condemnation as sweeping and as well deserved as that most justly passed on the Conjoint Board for England.—I am, etc.,

M.D., B.S.LOND.

NAVAL AND MILITARY MEDICAL SERVICES.

MILITARY AMBULANCE IN SCOTLAND.

AT a recent meeting of the members of the West of Scotland Tactical Society, Surgeon-Major Mather, 1st Lanark Artillery Volunteers, delivered on address on "Military Ambulance in its Present Stage." After referring to the necessity and advantages of ambulance corps in time of war, and describing the defective condition of affairs in the Crimea, he said they had abundant evidence to show that even in the volunteer force they required an ambulance corps. At present the regulations only allowed two men per company of a volunteer battalion for ambulance work, but he urged that means should be afforded to every volunteer corps to turn out an ambulance detachment on the shortest notice. For this purpose they must have a movable field hospital and a central hospital for Scotland, similar to that at Aldershot, in connection with the volunteer forces. At present the volunteers were not fit coadjutors of the regular army. They had ambulance corps, but they were only half trained, and they had no equipment. Dr. Mather then described the weeks' training undergone by the Edinburgh Medical Staff Corps at Aldershot, and asked why such work had not been long ago introduced into Scotland. There could be no question of its necessity, and the organisation of an army should be in all points thorough.

THE NAVAL MEDICAL SERVICE.

PHYSICIAN B. asks: Is it advisable for a man to enter the Naval Medical Service without a private income; or, in other words, is it possible for a surgeon in the Navy to live comfortably on his pay alone?

A QUESTION OF PRECEDENCE.

SURGEON-MAJOR writes: The question of precedence, asked by the "Volun-

teer Surgeon," in the JOURNAL of November 17th, last, is answered authoritatively and completely in the Warrant of February 15th, 1888.

The instructions issued by the Secretary of State in connection with that warrant, state, par. 7: "That the acceptance of appointments in the Army Medical Reserve will in no way modify the position of medical officers in the regiment or corps of the auxiliary forces to which they belong."

Under these circumstances, "Volunteer Surgeon" retains his command, even though his junior (in his battalion) may hold a higher rank in the Reserve, which higher rank is of no importance whatever, until he be called upon to undertake staff duties away from his battalion, under the pressure of a national emergency.

A MODIFIED REGIMENTAL SYSTEM.

AN "Army Medical Officer," writing in support of this proposal, thinks the remarks of a "Surgeon" in a recent number of the JOURNAL are anything but weighty, and seem to confound the modified with the old regimental system. He goes on to say that if the authorities consult the well-known wishes of regimental officers and soldiers, and their families, they will certainly attach a medical officer to each battalion for a prescribed period. What civilian would change his medical attendant every few months? How can the military be blamed if they object to be constantly handed over from one medical officer to another? A permanent medical officer would be welcomed in a regiment, and the majority of army surgeons would equally welcome a return to a modified regimental system. He thinks the recent isolation of the department has produced much friction and strained relationship with other branches of the service. Of course, there are unpleasant regiments and ill-conditioned commanding officers, but the great majority are quite otherwise.

There seems to be only one argument against attaching medical officers to regiments, and that is an economical one. Surely this can be overcome when every other consideration is in its favour. He hopes that not merely surgeons, but surgeon-majors will be held eligible to be so attached.

THE NAVY.

THE following appointments have been made at the Admiralty: Deputy Inspector-General W. H. LLOYD, to Hong Kong Hospital; A. T. RIMELL, Surgeon, to the *Amphion*; R. B. WRIGHTON, M.D., to be Surgeon and Agent at Orfordness, in addition to Aldeburgh, Sizewell, and Thorpe; EAST APTHORP, Surgeon, to the *Cambridge*; W. G. K. BARNES, Surgeon, to the *Rambler*; R. H. MORE, M.D., Fleet-Surgeon, to Cape of Good Hope Hospital; J. F. STONE, Fleet-Surgeon, to Plymouth Hospital; G. A. CAMPBELL, Fleet-Surgeon, to the *St. Vincent*; H. W. D, WALSH, Staff-Surgeon, to the *Devastation*.

THE MEDICAL STAFF.

SURGEON-GENERAL H. B. HASSARD, C.B., has been granted retired pay. He entered the service as Assistant Surgeon on March 14th, 1851; became Surgeon January 26th, 1858; Surgeon-Major March 14th, 1871; Deputy Surgeon-General February 13th, 1879; and Surgeon-General November 20th, 1884. He attained the age of 60 on November 29th, from whence his retirement dates. He served in the Kaffir war of 1851-53, and had his horse shot during an engagement in the Waterkloof (medal); in the campaign against the tribes on the Black Mountains, on the North-West Frontier of India, in 1868 (medal with clasp); and with the Cabul Field Force during the war in Afghanistan in 1878-80; for this campaign he was mentioned in despatches, received the Afghan medal, and was nominated a Companion of the Order of the Bath. Towards the end of 1884 he was appointed principal medical officer in Ireland, and held that position till his retirement.

Surgeon-Major J. A. CAMPBELL has retired on temporary half pay on account of ill-health. Entering as Assistant Surgeon on March 31st, 1865, he was made Surgeon March 1st, 1873, and Surgeon-Major March 2nd, 1880. He has no war record.

Surgeon JOHN P. CARMODY, M.D., has also retired on half pay on account of ill-health. His commission dates from March 6th, 1880. He also has had no war experience.

Deputy Surgeon-General J. WARREN, whose promotion from Brigade-Surgeon is announced in the JOURNAL of November 10th, has been appointed Principal Medical Officer of the Woolwich District.

Surgeon-General LUDOVICK CHARLES STEWART died on December 5th, at St. George's Terrace, Regent's Park, aged 69. His commissions were as follows:—Assistant-Surgeon, June 18th, 1841; Surgeon, June 11th, 1852; Surgeon-Major, June 8th, 1861; Deputy Surgeon-General, March 9th, 1867; Surgeon-General, April 26th, 1876. He was placed on retired pay August 21st, 1879. From Hart's *Army List* we learn that he served with the 29th Regiment throughout the Punjaub campaign in 1848-49, including the passage of the Chenal, and the battles of Chillianwallah and Goojerat; for this he received a medal with two clasps.

THE VOLUNTEERS.

SURGEON J. D. HARRIS, 1st Volunteer Battalion, Devonshire Regiment (late the 1st Devonshire), has been granted the honorary rank of Surgeon-Major.

Surgeon R. A. JACKSON, of the 20th Middlesex (Artists'), has resigned his commission, which was dated June 7th, 1876.

Mr. S. S. HOYLAND, who joined the 1st Volunteer Battalion of the Suffolk Regiment (late the 1st Suffolk) as a Lieutenant May 9th, 1885, is now appointed Acting-Surgeon to the same corps.

Mr. JAMES HODGES is appointed Acting-Surgeon to the 2nd Volunteer Battalion Suffolk Regiment (late the 6th Suffolk).

PRESENTATIONS.—Dr. H. B. Donkin, Dean of the Westminster Hospital Medical School, has been presented by the students, on the occasion of his recent marriage, "as a token of warm appreciation and regard," with a wedding present. The subscribers, who numbered upwards of a hundred, included nearly all the students attending the hospital.—Dr. Crighton, medical officer to the Brymbo Colliery, near Wrexham, has been presented by the workmen with a gold watch bearing a suitable inscription.

MEDICO-LEGAL AND MEDICO-ETHICAL.

UNINHABITABLE HOUSES.

[Before Mr. Justice HAWKINS and a Common Jury.]

BAKER v. BURTON.

THIS was an action to recover £22 10s. rent due under the following circumstances. In February, 1886, the defendant, a medical man, entered into an agreement with a Mr. Sage to take No. 1 Flat, Maclise Mansions, Kensington, from February 11th for a term of seven years. The defendant and his family took possession of the flat, and paid the rent down to Michaelmas, 1887. In December, 1886, the basement became flooded from the sewers, but the defendant made no complaint as to that. In January, 1887, Sage assigned the property by way of mortgage to the plaintiff. In August, 1887, the basement of the premises was again flooded, and, according to the case set up by the defendant, the stench from the refuse that remained after the water had run off gave him and his family diarrhœa, accompanied by sickness, so that it was impossible for him to live in the house, which he quitted, refusing to pay any more rent. The defendant contended that it had been virtually agreed between himself and Sage before he signed the agreement of February, 1886, that the premises were in a good sanitary condition, and that he (Sage) would see that the drains were all right, which was a part of the contract not fulfilled by the plaintiff, and that he was, therefore, entitled to repudiate.

The learned judge, in summing up to the jury, said that a man was not entitled to go out of premises that he had taken because, in his opinion, they were uninhabitable. If he had entered into a bargain upon the faith of a statement which was false, he was at liberty to repudiate the bargain altogether, or let it go on; in that case he would be as much bound as if there had been no misrepresentation at all. The defendant should have let the landlord know at once that the drains were not all right. It was known in December, 1886, and the defendant did not repudiate the contract then, but paid rent until August, 1887.

A series of questions was left to the jury, and on their findings judgment was entered for the plaintiff for the amount claimed.

PARTNERS AND PATIENTS.

H. asks for advice under the following circumstances:—A. is senior partner in a firm, B. junior. B. has at different times treated an old patient of A.'s. While under treatment at B.'s surgery, is recommended to lie up. B. next sees the patient entered as under treatment at home by A., the attack being the same one, and no remark whatever being made to B., either by A. or patient. A. has agreed to surrender the patients in B.'s district to him, in order that A. may start in a new district with a better class of patients. A. has on several occasions taken patients without reference to B., while under the latter's care and without any explanation on either A. or patient's side or grounds for complaint. H. especially wishes for advice as to the case in point.

*** In consequence of the inexactness and insufficiency of detail, we are in doubt as to the real points on which "H." seeks advice. We must, therefore, assume (1) that the respective partners A. and B. reside in distinct establishments, with a separate surgery attached; (2) that B., finding that an old patient of A., the senior partner, who was under treatment by and at the surgery of B., the junior, the latter was chafed and dissatisfied on discovering that the patient in question had again placed himself under the care of A. without intimating, as he ought to have done, the fact to B., for that, we apprehend, will prove to be the case, of which the latter might have easily satisfied himself either by putting the question direct to the patient, or by courteous inquiry from the senior partner A., but has failed to do so. In regard to A. having on various occasions taken charge of patients who were under the care of B. without any explanation either on the part of A. or patients, B. is not sufficiently explicit to enable us to express a definite opinion on the question. We would, therefore, simply remark that if A. was cognisant of the fact that B. was *de facto* in attendance upon them, B. should courteously protest. At the same time we would strongly advise B. to cultivate friendly and confidential relations with his senior.

CHANGE OF ADDRESS.

A MEMBER, who is about to change his residence, wishes to be advised as to the most correct way of letting *bonâ fide* patients know. He proposes to send cards to them, notifying the change, and have a small brass plate placed on the door of the house he is leaving.

*** We do not think that any reasonable objection can be urged against the transmission of a card to *bonâ fide* patients, with simple notification of the change of address, nor to the proposed small plate on the door of the vacated residence.

RESPONSIBILITY OF EMPLOYERS.

W. W. writes: During the snowfall of last February, the following occurred. Farmer K. left home to attend a neighbouring sale. Before leaving, he gave directions that his servant boy (about 15 years, I think) should, in his absence, take one of the horses, known to be vicious, and proceed to a near wood for some purpose or other. The boy complied. He mounted, but had only got a short distance from the house when the horse threw and kicked him, inflicting an incised wound and exposing the cranium. K.'s sister sent for me. I attended, sutured and dressed the injury. The room where the patient lay was small, ill-ventilated, with low ceiling. I pressed for his removal to a hospital, but he refused, and now states that K. encouraged him to refuse. Instead, K. sent him to his (boy's) mother's at his own request. This was no advantage; the wound took about five weeks to heal, during which time I regularly attended. I sent note of charges for professional attendance to K. He brought it back, and said he had nothing to do with it. Is he not responsible as an employer; who ought to pay?

*** If K.'s sister can be shown to have been acting as his agent, he might be made responsible for payment for the medical services rendered at her request. The boy's statement as to K.'s objection to the hospital might be evidence that K. recognised his liability to pay the doctor, but it would of course be necessary to call the boy as a witness; and before commencing any proceedings, it would be well to ascertain exactly what he will say.

SICK AND BURIAL SOCIETY FOR CHILDREN.

In Doubt asks for an opinion on the following case; in the first place, as to whether the act is a legal one; in the second place, if legal, whether you consider it consistent with the status of the medical profession. A medical man in a town not far from here, has commenced a Sick and Burial Society, on his own account, for children, the parents paying a certain amount per week, for which premium the child or children receive medicine and attendance; in case of death, the parents receive a certain amount, in proportion to the amount of premium paid. Each member has to be entered six months before he or she is entitled to benefit. The weekly pence are collected by a paid collector, and handed over to the medical man, who pays the collector a percentage on the collections; the remainder the doctor retains for the purpose of paying himself for medicine and attendance, and to meet any claims in case of death.

*** Although there is nothing illegal in the act of the medical man referred to, it is one that the Council of the College of which he is a member may, we think, be induced to take cognisance. We would therefore advise "In Doubt" to obtain the necessary proofs in the form of printed papers, and other information that will convey a clear and correct view of the case, and forward them to the authorities in question, with a note soliciting their attention thereto. Probably, if the letter be signed by two or more local practitioners, it will have greater weight, but such is not absolutely essential

OBLIGATION NOT TO PRACTISE WITHIN A RADIUS.

B. takes S. as his unqualified assistant, he offers him £150 per annum, and house rent free. S., in return, to give his services, and agrees not to practise against B. within a radius of two miles (S. gives no bond, and no penalty is mentioned). One month after the agreement is signed by both parties, B. becomes bankrupt. Two years later, B., owing S. £40 salary, wrongfully dismisses S.; can B. recover damages from S. if he chooses to practise within the two miles? Or can B.'s trustee proceed (B. since being an undischarged bankrupt) against S.? S. is now qualified.

*** The absence of a bond does not prevent damages being reasonable, but the court or jury would have to say how much they are. The fact of the party claiming the damages being in the legal position stated and liable to pay compensation to the defendant for wrongful dismissal and for salary overdue, would most likely be taken into consideration in estimating the amount of damages. It is a nice question whether the action should be brought by B. or his trustee, but it could undoubtedly be brought by one or other.

"THE DOCTOR'S WIFE."

Sigma writes: "Cosmopolitan's" note, and your reply in the Journal of November 24th, have doubtless afforded satisfaction to many. I hope that the two paragraphs may be widely read, and may those whom they affect, mark, learn, and inwardly digest. For years I have contended that the practice of calling upon new residents in a neighbourhood is discreditable to a medical man, and derogatory to the profession to which he belongs. Still, there are some who do it. I have no particular desire to ventilate a private complaint in your columns, but in mentioning the subjoined facts I hope to direct attention to the, I fear, growing evil with the hope of drawing forth a word of advice from you. In a suburb there reside several doctors; some months ago there arrived from a country district another medical gentleman who, on settling down, instead of making an early call upon his professional brethren, who would probably have received him cordially, eschewed that excellent plan and began operations by calling upon his non-medical neighbours. The suburb mentioned is a rapidly growing one, and new arrivals are of frequent occurrence, but few are denied the pleasure of an early visit from Dr. X. or the doctor's wife, with an invitation to lunch or dinner. In some instances, as several have remarked, before the furniture had arrived.

An amusing incident occurred not long since. A patient of my own, who was expecting to be confined ere long, was calling upon a young married lady (also expecting), when Mrs. X. entered. In the course of conversation, Mrs. X. remarked that "Dr. X. was such a successful accoucheur, and ladies like him so much." This gentleman was asked to attend in her confinement a patient of Dr. Z., who was absent through illness, and he did. Some time afterwards Dr. Z., who had returned, was called to see one of the lady's children. On the following day Dr. X. called, and on being told that Dr. Z. had returned, and as he had been for some time the family medical attendant they would probably send for him on future occasions, Dr. X. showed his annoyance by indiscreetly saying: "Well, Mrs. ——, most married ladies prefer a married medical man!"

Can an act like the following be called dignified, or is it in any way likely to increase respect for the profession? Recently a concert was given by amateurs for the poor in the parish. The medical man of whom I have spoken, stepped from among the audience, approached the gentleman who had the management of the affair and with whom he was not personally acquainted, and offered his services as chairman. The conductor, with surprise, replied, that as it was not a music hall and as the ladies and gentlemen who were giving the concert had provided their audience with programmes, a chairman was scarcely necessary.

Dr. X. is not an M.D., his medical qualification being the L.R.C.P.Edin.; nevertheless, the local directory, a work often consulted by new residents, bears the letters M.D. after his name. Now, sir, I would ask when cases similar to those cited are constantly arising, are men who hold their profession in too high honour to associate it with any form of touting, to ignore professionally the doers of such acts, or are they to overlook those breaches of medical etiquette, and trust that the force of example and the influence of society may rectify these trifling eccentricities.

*** The letter of "Sigma," containing, as it does its own simple moral, renders it unnecessary that we should do more than note that "Dr. X.," in omitting to fulfil the intra-professional obligation (so clearly laid down in the ethical code) to call on the resident practitioners of ——, and notify his intention to practise in the locality, committed a breach of the accepted custom.

CONSULTATION HOURS.

Inquirer writes: A firm of publishers proposes to issue a new Medical Directory for London; at the end of the form to be filled up is a space for "consultation hours. "Kindly give your opinion as to this innovation, which, to me, seems to savour of advertisement."

*** We fail to recognise any objection to the proposed innovation in the new Medical Directory for London, relative to which "Inquirer" solicits our opinion, and we are not inclined to look upon it with disfavour, since it will, we think, tend to supply an oft experienced want for the information of patients living at a distance from the residence of a practitioner, special or otherwise, whom they are desirous to consult, but of whose hours for advice at home they are ignorant, and, consequently, not infrequently arrive at his house too late for the day, and have to return disappointed. The French medical directories contain such information, although the practice of professional men is there so strict as not to allow of dispensing medicines.

LUNACY FEES.

Member asks: A. is a parochial medical officer for the parish of B. C. is a pauper on said parish, and was certified a lunatic by A. A. sent in his bill of £1 1s., in addition to his parochial salary. The Board refuse to pay the guinea. Can A. recover said fee in court of law?

*** The right to recover anything extra depends on the terms of the agreement under which A. was appointed. Without seeing these, it is impossible to advise with certainty, but the fact of certain extras being specified and allowed for makes it improbable that any others are payable.

A CONTESTED ELECTION.

"A." writes: A club appointment is thrown open in consequence of the resignation of the present medical officer. His reason for resigning is based upon the grounds of my own complaint. A. and B. are proposed as surgeons, to be balloted for in December. B. goes round personally, or sends his representative from house to house touting for votes, in the town and surrounding villages. During the last election he both brought from and returned to their homes in carriages, members from the country. "A." wishes to know whether or not this is a breach of professional etiquette, and against the laws of the College of Physicians. "A." would be glad of your opinion as to what steps to take.

*** There cannot, we think, be a doubt but that the alleged course of procedure by "B." in "personally, or by his representative, canvassing for votes from house to house in the town and surrounding villages," was derogatory to himself and incompatible with the dignity of the profession, but prejudicial to the true interests of the club in question, the surgeoncy of which, and especially under the exceptional circumstances referred to, few would care to have at any price; for the members of a club so unwisely and inconsistently wooed will, it may be anticipated, prove more than usually exacting in their demands upon the time, the patience, and the temper of their medical officers. If, therefore, the petty, hard-worked for subscriptions derivable from clubs are not absolutely essential to our correspondent, we would counsel him to seek for a higher and independent class of practice. At the same time, in a purely rural practice, the acceptance of the office of surgeon to a club is sometimes almost imposed by the surrounding circumstances.

ASSISTANTS AND INQUESTS FEES.

Mr. Percival Turner (Adam Street, W.C.) writes: I am often called upon to express an opinion on the question raised in the Journal, as to who is entitled to the fees for inquests or *post-mortem* examinations, and since your remark that such fees belong to the assistant or *locum tenens*, as the case may be, I have had several fresh inquiries. My own opinion has always been, and still is, that the assistant or *locum tenens* has no right or title whatever thereto, and in this view I am supported by very many experienced practitioners, and also by a large number of experienced *locum tenens* to whom I have specially addressed inquiries on the point lately. Any professional work done by an assistant or *locum tenens* is most certainly done for and on behalf of his principal for whom he is deputy, and I fail to see on what grounds a deputy is warranted in appropriating to his own use any fees earned for professional services, whether expressly provided for in any agreement or not; his whole time and attention are due to his absent principal, and all moneys received or earned by him for any professional work should certainly be ac-

counted for in the books of the practice, and are in my opinion the sole property of the principal The matter being one of considerable importance to the profession generally, and one which is constantly recurring, I think it would be well if some definite decision could be arrived at once for all, say by carrying a test case into court, and I shall be happy to give a contribution towards the expenses of such a case, or to hear from any member of the profession willing to co-operate in any way likely to lead to some better understanding on the matter.

A LIBERAL PATIENT.

P.S. writes: In cases where professional services are paid for by an honorarium at the end of the year, if the amount offered is in excess of what is considered to be an equivalent for the services rendered, should it be accepted in full, even if the people are not in affluent circumstances? How should an honorarium be acknowledged, by ordinary receipt or by letter?

*** In response to our correspondent's exceptional inquiry, we assume that, although "the people in question are not in affluent circumstances," they are, nevertheless, sufficiently conversant with their own pecuniary position and personal estimation of the value received to justify them in presenting the tendered "honorarium" for the professional services rendered by "P.S.," and which we would counsel him to accept, and to acknowledge "by letter.'

WANT OF COURTESY TO A SUPERSEDED PRACTITIONER.

If "F. K.'s" lengthy statement of the facts of the case be correct, there cannot, we regret to think, be any reasonable doubt that the other gentleman, in assenting (with the knowledge that "F. K." was in attendance thereon), not only to visit, but to accept charge of the patient without any previous communication with "F. K.," committed a breach of professional etiquette; indeed, he inferentially admits as much in his reply to the protest made by "F. K." The mere fact that he had been a friend of the family in question for many years afforded no justification for ignoring his plain duty to the practitioner in attendance.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.—Tuesday, December 11th.

Public Health Acts Amendment (Buildings in Streets) Bill.—On the order for the third reading of this Bill, the Earl of WEMYSS asked that the stage might be postponed for a week, which was agreed to.

HOUSE OF COMMONS.—Friday, December 7th.

The Scotch Universities Bill.—Mr. W. H. SMITH, in reply to Mr. MARJORIBANKS, said he thought he could not add to the suggestion he had formerly made, that the Scotch Universities Bill should be discussed *pari passu* with the Appropriation Bill. He had received a memorial signed by twenty-two Scotch members asking him to proceed with it, and a memorial signed by twenty-one Scotch members asking him not to proceed with it.—Mr. HUNTER understood the numbers were the other way.

Compulsory Notification of Infectious Disease.—Mr. RITCHIE, in answer to Sir WALTER FOSTER, said that the Local Government Board had received communications from several towns in which the system of compulsory notification of disease had been adopted suggesting that the Board should undertake the collection and issue of weekly returns as to cases of infectious sickness in those towns. He could not state definitely what number of sanitary authorities would undertake to furnish the returns, but the number would probably be about thirty. The Act was not at present compulsory, and there might be very considerable danger of defeating the ends of the hon. gentleman if they were prematurely to publish accounts as to the condition of infectious diseases in towns. But he hoped that they might be able to legislate on this subject next session, and then all reasons for not publishing the returns would have ceased.

Lady Doctors in India.—Sir J. GORST, in answer to Mr. W. M'LAREN, said the Secretary of State had considered the report of the Surgeon-General of Bombay on civil hospitals, which was of a most satisfactory character as regards the services of the lady doctors. It was decided in 1886 that the appointments in the Cama Hospital should be temporary only, and should be revised at the end of five years in the light of the experience gained and the progress of medical education in India. The Secretary of State did not propose to shorten the period of probation which was then decided on.

Monday, December 10th.

Insanitary Condition of Cradley District.—Mr. RITCHIE, in reply to a question from Mr. CONYBEARE as to what steps it was proposed to take in reference to the insanitary condition of the Cradley district, said there had been several inspections by inspectors of the Local Government Board. Dr. Parsons's report of October last confirmed that of Mr. Barnett as to the sanitary condition of Cradley. Dr. Parsons had an interview with the sanitary authority on November 9th, and impressed upon them the importance of the adoption of an improved construction of privies, and urged them to obtain the urban powers necessary for dealing more satisfactorily with some of the existing conditions. In the absence of a formal complaint, the Board could do no more.

Haslar Hospital.—Commander BETHELL asked the First Lord of the Admiralty whether it was a fact that out of 429 surgical cases in Haslar Hospital 276 were cases of venereal disease; and if he could state whether that proportion showed an increase of cases of venereal disease in that hospital since the suspension of the Contagious Diseases Acts.—Lord G. HAMILTON said there were at present 392 surgical cases under treatment at Haslar Hospital, of which 239 were venereal. The proportion of venereal diseases to other surgical cases had increased since the suspension of the Contagious Diseases Acts, as the following percentages showed: for the four years prior to the suspension of the Acts—1879, 44.09; 1880, 41.31; 1881, 41.84; 1882, 42.2. For the four years subsequent to the suspension of the Acts—1884, 60.96; 1885, 55.17; 1886, 53.58; 1887, 56.56.

Pauper Lunatics (Ireland).—On the vote to complete £104,460 for pauper lunatics (Ireland), Mr. A. O'CONNOR called attention to the absence of proper accommodation in the workhouses to enable lunatics to be separated from other inmates and from children. In one case he had seen four imbecile women in a shed used as a covered playground by children. Promises had been made by successive Chief Secretaries that better arrangements should be made, but nothing had been done.—Dr. TANNER also urged the great need for better classification as a means of facilitating recovery.—Mr. A. J. BALFOUR said difficulties had arisen both in England and Ireland with regard to the classification of lunatics in workhouses. He would see that the powers of the Local Government Board were used in the direction suggested.—The vote was agreed to.

Tuesday, December 11th.

Sanitary Condition of the Royal Barracks, Dublin.—Sir W. BARTTELOT asked whether the attention of the Secretary of State for War had been called to the death of Captain Speid from typhoid fever contracted in Dublin Barracks, and what steps were being taken to improve the sanitary condition of the barracks.—Mr. E. STANHOPE said he was aware of the unfortunate death of the officer referred to; nobody could regret more than he did the necessity of retaining troops in the Royal Barracks. Nearly all the recommendations of the Commission under Sir C. Cameron had been carried out.

Mortality from Cancer.—Mr. RITCHIE, in answer to Mr. AMBROSE, said the staff of the Medical Department of the Local Government Board did not exceed that which was required for the duties which specially attached to the Board in connection with their executive action. He did not doubt that an inquiry into the causes of the alleged increase of mortality from cancer in England and Wales would be valuable; but the demands on the department in connection with other duties would not admit of its undertaking such an inquiry.

Wednesday, December 12th.

Scotch Lunacy Commission.—On the vote to complete £5,990 for the Lunacy Commission (Scotland), Dr. FARQUHARSON said the English lunacy system might be improved by borrowing from Scotland small lunacy districts, with resident commissioners making frequent visits to lunatics, and by increasing the number of commissioners in proportion to the number of lunatics; and the Scotch system might borrow from that of England the restriction that commissioners should not engage in private medical practice.

Board of Supervision.—Mr. HUNTER moved the reduction of the vote of £29,347 for the Board of Supervision, as a protest against cumulative penalties being enforced in vaccination prosecutions, but it was negatived by 178 to 80, and, after some further conversation, the vote was agreed to.

Cruelty to Children Prevention Bill.—On the order for the second reading of this Bill, the ATTORNEY-GENERAL said the Bill contained so much debatable matter, and would require so much amendment, that it would not be fair to ask the House to consider it at this period of the session.—Mr. MUNDELLA said he was taken by surprise, and put the Bill down for Monday next.

A SERIOUS epidemic of cholera prevails in the Philippine archipelago.

UNIVERSITY INTELLIGENCE.

OXFORD.

THE electors for the Linacre Professorship of Human and Comparative Anatomy have appointed Mr. W. Hatchett Jackson, M.A., of New College, to be Deputy Professor for the period of one year.

CAMBRIDGE.

FRANCIS DARWIN, M.A., M.B., has been elected to a Fellowship at Christ's College in succession to Dr. Vines.

Dr. Hill, Master of Downing College, has been appointed University Lecturer in Advanced Human Anatomy under the new scheme.

Walter Gardiner, M.A., Fellow of Clare College, has been appointed University Lecturer in Botany in succession to Mr. F. Darwin, appointed University Reader.

Dr. Guillemard, recently appointed University Lecturer in Geography, has been obliged to resign in consequence of ill-health. Applications for the vacant post are to be sent to Dr. Ferrers, Master of Gonville and Caius College, by January 8th, 1889.

A grace was passed on December 13th empowering the Museums and Lecture Rooms Syndicate to take the first steps towards improved provision for the departments of human anatomy and physiology.

There are eighty candidates for the Third M.B. Examination (Parts I and II) just commenced.

LONDON.

M.B. EXAMINATION.—EXAMINATION FOR HONOURS.

Medicine.

First Class.—W. P. May, B.Sc. (Scholarship and Gold Medal), University College; H. M. Fernando, B.Sc. (Gold Medal), University College; *H. P. Dean, B.Sc., University College; P. Ashworth, B.Sc., Owens College and Manchester Royal Infirmary, and A. Parkin, Guy's Hospital (equal); J. H. Abram, University Colleges, Liverpool and London, B. Pierce, St. Bartholomew's Hospital, and J. Wilkie, St. Bartholomew's and Brompton Consumption Hospitals (equal).

Second Class.—H. J. Macevoy, B.Sc., St. Thomas's Hospital; J. L. Roberts, B.A., B.Sc., Guy's Hospital; J. J. Clarke, St. Mary's Hospital; J. R. Bradford, D.Sc., University College; A. A. Kanthack, B.A., B.Sc., Liverpool Royal Infirmary and St. Bartholomew's Hospital, and E. H. Starling, Guy's Hospital (equal).

Third Class.—G. H. O'Reilly, Northampton General Infirmary and King's College; W. G. Willoughby, St. Bartholomew's Hospital; F. R. Blaxall, University College, H. E. L. Canney, University College, and H. Williams, St. Bartholomew's Hospital (equal); L. W. D. Mair, St. Bartholomew's Hospital, and G. B. M. White, University College (equal).

Obstetric Medicine.

First Class.—A. A. Kanthack (Gold Medal), Liverpool Royal Infirmary and St. Bartholomew's Hospital.

Second Class.—G. W. Sutherland, B.A.Syd., University College, London, and University of Edinburgh; Helen Webb, London School of Medicine and Royal Free Hospital; H. P. Dean, University College, and J. L. Roberts, Guy's Hospital (equal); P. Ashworth, Owens College and Manchester Royal Infirmary, and J. L. Firth, University College (equal).

Third Class.—E. O. Ashe, London Hospital, H. Duncan, St. Thomas's Hospital and Cambridge, and A. Parkin, Guy's Hospital (equal); S. K. Alcock, St. Bartholomew's Hospital.

Forensic Medicine.

First Class.—E. H. Starling (Scholarship and Gold Medal), Guy's Hospital; †H. M. Fernando (Gold Medal), University College; †A. Parkin, Guy's Hospital; *B. Pierce, St. Bartholomew's Hospital; H. E. L. Canney, University College.

Second Class.—J. Wilkie, St. Bartholomew's and Brompton Consumption Hospitals; J. E. Gould, University College; H. P. Dean, University College, and A. A. Kanthack, Liverpool Royal Infirmary and St. Bartholomew's Hospital (equal); W. G. Willoughby, St. Bartholomew's Hospital; E. O. Ashe, London Hospital, P. Ashworth, Owens College and Manchester Royal Infirmary, and B. Melland, Owens College and Manchester Royal Infirmary (equal).

Third Class.—H. A. Sansom, St. Thomas's Hospital; W. P. May, University College, and W. C. Swayne, Bristol Medical School and Guy's Hospital (equal); A. Lyndon, St. Bartholomew's Hospital, and G. H. O'Reilly, Northampton General Infirmary and King's College (equal); H. Duncan, St. Thomas's Hospital and Cambridge, and G. W. Sutherland, University College, London, and University of Edinburgh (equal).

* Obtained the number of marks qualifying for a Gold Medal.

† Obtained the number of marks qualifying for the University Scholarship.

B.S. EXAMINATION.

First Division.—P. Ashworth, B.Sc., Owens College and Manchester Royal Infirmary; A. T. Brown, Guy's Hospital; H. E. Crook, Guy's Hospital; H. E. Cuff, Guy's Hospital; H. P. Dean, B.Sc., University College; E. W. Goodall, M.D., Guy's Hospital; A. A. Kanthack, B.A., B.Sc., University College, Liverpool, and St. Bartholomew's Hospital; E. Moss, Guy's Hospital; A. Parkin, Guy's Hospital; E. H. Starling, Guy's Hospital.

Second Division.—R. Bird, St. Bartholomew's Hospital; E. H. Brock, Guy's Hospital; F. Edge, B.Sc., Owens College and Manchester Royal Infirmary; P. Leech, Owens College; G. B. Smith, Guy's Hospital; R. V. Solly, St. Thomas's Hospital; J. E. Thompson, Owens College; W. E. Tresidder, Guy's Hospital; J. A. Wheeler, Guy's Hospital.

M.S. EXAMINATION.

A. Carless, King's College; L. A. Dunn (Gold Medal), Guy's Hospital; C. Gross, M.D., Guy's Hospital.

DURHAM.

FACULTY OF MEDICINE.

AT Convocation holden on Tuesday, December 11th, the following were recommended for the degree of Doctor in Medicine for practitioners of fifteen years' standing:

E. Hussey, L.R.C.P.(Edin.), L.R.C.S.(Edin.); W. Bennett, L.R.C.P.(Edin.), L.R.C.S.(Edin.); J. Utting, M.R.C.S., L.S.A.; C. F. Webb, F.R.C.P.(Edin.), F.R.C.S.(Edin.), M.R.C.S.

The following were recommended for the degree of M.D.:

G. T. Giddings, M.B., M.R.C.S.; A. J. H. Montague, M.B., L.R.C.P.(Lond.), M.R.C.S., L.S.A.; A. C. A. Packman, M.B., M.R.C.S.; H. Renney, M.B., B.S.; J. N. Richardson, M.B., M.R.C.S.; W. O. Travis, M.B., M.R.C.S., L.S.A.; J. Wilding, M.B., L.R.C.P.(Lond.), M.R.C.S., L.S.A.; J. P. Williams-Freeman, M.B., M.R.C.S., L.S.A.

The following were recommended for the degree of Master in Surgery (M.S.), old Regulations:

E. H. Gibbon, M.B., M.R.C.S., L.S.A., College of Medicine, Newcastle-upon-Tyne; A. Lingard, M.R.C.S., L.S.A., St. Thomas's Hospital.

The following were recommended for the degree of Bachelor in Medicine (M.B.):

W. H. Coates, L.R.C.P., L.S.A., London Hospital; A. Lingard, M.R.C.S. L.S.A., St. Thomas's Hospital; H. Fawcett, College of Medicine, Newcastle-upon-Tyne; G. Newstead, College of Medicine, Newcastle-upon-Tyne; G. A. Robinson, London Hospital; P. S. Webster, M.R.C.S., L.R.C.P.(Lond.), London Hospital; J. W. Sandoe, M.R.C.S., Guy's Hospital, London; A. J. Gregory, M.R.C.S., L.S.A., London Hospital; C. N. Loveley, London Hospital; T. M. Kimpster, College of Medicine, Newcastle-upon-Tyne; L. A. McNabb, College of Medicine, Newcastle-upon-Tyne; G. S. McLoughlin, College of Medicine, Newcastle-upon-Tyne; A. M. Jones, M.R.C.S., L.S.A., Guy's Hospital, London; L. W. Keiffenheim, Guy's Hospital, London.

The following were recommended for the degree of Bachelor in Surgery (B.S.):

H. Fawcett, College of Medicine, Newcastle-upon-Tyne; A. J. Gregory, M.R.C.S., L.S.A., London Hospital; T. M. Kimpster, College of Medicine, Newcastle-upon-Tyne; L. W. Keiffenheim, Guy's Hospital, London; L. A. McNabb, College of Medicine, Newcastle-upon-Tyne; G. Newstead, College of Medicine, Newcastle-upon-Tyne; J. W. Sandoe, M.R.C.S., Guy's Hospital, London; G. A. Robinson, London Hospital; R. Thompson, M.R.C.S., L.R.C.P., Guy's Hospital, London; L. A. Baine, College of Medicine, Newcastle-upon-Tyne.

OBITUARY.

DENIS CHARLES O'CONNOR, LL.D.Camb., A.B., M.D.Dub.

Dr. DENIS O'CONNOR, whose death it becomes our duty to record, has stood forth amongst the medical profession of Cork as a skilful and successful practitioner, and his reputation has extended far beyond the bounds of his native county. Dr. O'Connor was born in Bandon in the year 1808, and received his early education at a school endowed by the Duke of Devonshire in that town. He entered Trinity College, Dublin, in 1826, where he distinguished himself at the sessional examinations and bore off the poor honours which were then attainable by the yet unemancipated Roman Catholics. Three years after he became a student of Trinity College he commenced the study of medicine, and obtained the degree of A.B. in 1830. In 1833 he obtained the licence of the Royal College of Surgeons, and the year after the degree of M.D., T.C.D. Thus qualified he proceeded to Paris, where he derived experience which was most beneficial to him in his subsequent career. He spent a short time in London also, and in 1838 he settled down to practise in Cork.

A few years afterwards he obtained an appointment as medical officer of the Cork workhouse, a position in which his zeal, ability and philanthropy won him the admiration of all who knew him, especially during the famine of 1846 and 1847, when his services were exceedingly valuable. In 1861 he published an interesting pamphlet, recording his experiences of that dark period, and of his labours under the Poor Law Board. Dr. O'Connor, on the opening of the Queen's College in Cork, was appointed Professor of the Practice of Medicine, a post he held till his death, and during the meeting of the British Medical Association in Cork in 1879 was chosen the president of the Association.

In consideration of his services to the Association he had conferred upon him the honorary degree of M.D. of the Queen's University in Ireland, and in 1880 the degree of LL.D. of Cambridge University. From his establishment as a practitioner in

Cork, Dr. O'Connor's career was most successful. He was prominently identified with the Mercy Hospital, and a member of several local societies. Dr. O'Connor is well described as being a genial gentleman, a warm friend, and a kind, generous, and considerate friend to the poor.

HOSPITAL AND DISPENSARY MANAGEMENT.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.

THE surgeons of the Birmingham and Midland Eye Hospital have published a letter expressing their disagreement with the restrictions imposed by the donor of the recent munificent gift of £5,000 to the Eye Hospital on any increase of the beds for the next five years. They say that they view with dismay the effect of these restrictions on the work of the hospital, inasmuch as they cannot properly do their duty as surgeons to the rapidly increasing number of serious cases coming daily under their care without a corresponding increase in in-patient accommodation. They express the hope that either the donor will relax the conditions, or the public will come forward to supplement his action, either by endowing beds, or by increasing the income of the hospital to the point at which the restrictions cease to operate; otherwise the relief which the hospital is morally bound to afford to those seeking its aid will be seriously curtailed at a point where it is perhaps most important that it should be efficient. They point out that while the donor has completely relieved the committee of financial embarrassment, no corresponding relief is given to the surgeons in a matter concerning which they feel the greatest anxiety.

THE GENERAL HOSPITAL, BIRMINGHAM.

SOME important additions have been made to the structure of the General Hospital at the expense of Mr. J. C. Holden, with a view to improve the sanitary arrangements of several of the wards. Sanitary annexes have been made to two buildings at the rear, the ventilation of the wards and the accessory compartments have been considerably improved. The work has cost about £1,300, and is an instalment of the sanitary improvements of the hospital recommended in the comprehensive report prepared on the subject in 1887 by the late Mr. Eassie. The generosity of this donor has exerted itself in a wise and valuable direction.

GLASGOW VICTORIA INFIRMARY.

THE first annual meeting of the court of contributors of this infirmary was held in Glasgow on December 6th, and was presided over by Lord Provost Sir James King. The report of the Executive Committee was read, detailing the history of the movement for the erection of the infirmary, of which an account has already appeared in the JOURNAL of November 24th. In speaking of the report, the Lord Provost referred to the large amount of support directly given to such institutions by the working classes, and to the advantage to be derived by giving them a share of the control and of the responsibility of keeping them up.

HEREFORD GENERAL INFIRMARY.

THE new wing was opened by Lady Elizabeth Biddulph on November 29th in commemoration of the Queen's jubilee. The building consists of two stories. The ward is on the ground-floor; it is 72 feet long, 27 wide, 13 feet 6 inches high, and is lighted by lofty windows, seven on each side; it contains sixteen cots, with a nurses' room, lavatories, and bath room adjoining. On the upper floor are six cubicles, four larger rooms, with lavatories and bath room for nurses, and an isolation ward containing four cots. Children up to 12 and 13 years will be admitted. The expenditure on the whole building was £2,880, the work being carried out by Mr. Collins, builder, Tewkesbury, from plans prepared by Mr. Kempson, F.R.I.B.A., Hereford. The number of beds in the infirmary is now increased to 103.

PROVISION FOR INCURABLES.

THE annual report of the Royal Hospital for Incurables states that improvements have been made in the men's quarters during the year; that to the seaside house at St. Leonard's patients were sent in parties of ten each for a stay of six weeks, and this sojourn was especially acceptable in the winter months. The pensions allotted to persons on the outdoor list were at the present annual rate of £10,680.

GUY'S HOSPITAL.

THE public appeal on behalf of Guy's Hospital has resulted in a generous response. Already £97,000 has been subscribed; some beds have already been reopened, and there is every prospect that the governors will find themselves able to open the 600 beds which the hospital contains.

STIRLING ROYAL INFIRMARY.

LAST year the number of in-patients of this infirmary was 202, and the number of out-patients 1,908. The average daily number in the wards was between 16 and 17, and 8 cases terminated fatally.

AYR COUNTY ASYLUM.

THE number of patients treated in Ayr County Hospital during the last year was 485, 49 more than in the previous year, while 1,562 had been treated at the dispensary, an increase of 228.

BRENTWOOD COUNTY ASYLUM.

THE extension of the County Asylum at Brentwood, to accommodate 462 males, which has been in course of construction for the past two years, is now completed.

A COTTAGE hospital, owing its existence principally to the exertions of the mayor, Mr. Jones, has been opened at Carnarvon by Mrs. Assheton Smith.

PUBLIC HEALTH AND POOR LAW MEDICAL SERVICES.

POOR-RELIEF AND PUBLIC HEALTH IN SCOTLAND.

ACCORDING to the forty-third annual report of the Board of Supervision, recently issued, there are in Scotland 468 parishes that have poor-houses, either singly or in combination, having an aggregate population of 2,920,876, according to the last census. The number of poor-houses is 66, providing accommodation for 15,748 inmates. Including the population which has a right to send paupers to the poor-houses of other parishes, accommodation is provided for a total population of 3,540,063, while for a total population of 195,510, poor-houses are not yet available. According to the experience of those charged with the administration of the poor-law, it is hurtful to grant relief, except in the poor-house, to the following classes: (1) mothers of illegitimate children, including widows with legitimate families who may fall into immoral habits; (2) deserted wives (unless the parochial board are satisfied that there is no collusion between husband and wife, and that the deserted wife is respectable); (3) persons having grown-up families settled either in this country or abroad; (4) persons having collateral relatives in comfortable circumstances; (5) wives of persons sentenced to terms of imprisonment or penal servitude; (6) and generally all persons of idle, immoral, or dissipated habits. The information before the Board clearly establishes that a judicious but firm and vigilant use of the poor-house test has a marked effect in diminishing pauperism, that it is not attended with any evil consequences, such as the increase of crime or vagrancy; that the great majority of the paupers by whom the offer of the poor-house has been refused become either self-supporting or are supported by their relatives. They lay it down as an axiom that cases of the test class are rare in which outdoor relief is not directly pernicious either to the recipient or his neighbours. The total amount to be distributed from the Parliamentary grant for medical relief is £19,982, which includes £663 7s. 9d. in respect of trained sick-nursing in poor-houses, and the total sum expended on medical relief to the poor in all parishes, whether participating in the Parliamentary grant or not, is £41,107, the year ending May 14th, 1888. This sum is equal to 2.64 pence per head of the population. The amount distributed in aid of the cost of maintenance of pauper lunatics was £89,072 2s. 6d., being an increase over the previous year of

£813 6s. 5d. The Board report that there is constant danger of recurrence of collapse of the whole system of administering relief to the poor in the highland districts of Lewis and Harris, due to the difficulty of collecting the poor-rates, and that some effectual and permanent remedy is urgently needed. The total number of registered and casual poor relieved on January 14th last, including dependents, was 98,753, being 2.47 per cent. of the population, and 0.32 per cent. less than at the same date in 1878. During the year ending May 14th, 1888, the total amount of money received was £930,563, of which £774,416 was raised by assessment, £110,675 was contributed by the Treasury, £45,472 was voluntary contributions, church collections, etc. In addition, £13,840 was borrowed on security of rates. The sum expended was £887,867, a decrease of £11,268. The cost of maintaining the lunatic poor has increased £121,351 since 1867, and £1,024 since last year. Applicants to the number of 3,682 were refused relief during the year, of whom 113 were subsequently relieved by order of the sheriff. The number who refused relief in the poor-house was 8,751. There is an increase of 280 in the number of poor relieved over the past year. During the year, 28,816 pauper children were receiving education, at a cost to parochial boards of £17,111, and 25,199 children were also receiving education under Section 69 of the Education Act, at a cost to boards of £12,956. The number of orphan and deserted children chargeable during the year was 6,778, of whom 3,486 were orphans, and 1,573 were deserted.

During the year applications for loans were recommended to the extent of £128,374, for the execution of water-works, for sewage and drainage works, and for the erection of hospitals. A general and considerable improvement has been effected in the sanitary arrangements of fishing villages, mainly on the east coast. The Board concludes its report by narrating the steps it took to impress upon local authorities the need of prompt and decisive measures in advance for the protection of the population against small-pox, and their satisfaction that in no instance did small-pox become epidemic. They also directed attention to the need of sanitary measures to prevent transmission of tuberculosis from cattle to man.

THE HEALTH OF PAISLEY.

During November the death-rate of Paisley was 33.3 per 1,000. At the monthly meeting of the Commissioners, held on December 10th, a long discussion ensued on a motion to increase the cleansing and sanitary staff of the town. It was admitted during the discussion that overcrowding was one of the chief causes of the high death-rate. The motion was referred to the Police Commissioners to consider and report in committee, as well as the question of the probable cause of the high death-rate.

PROPOSED BURIAL REFORM.

The Home Secretary on Tuesday last received a deputation from the Church of England Burial Reform Association, to ask for an inquiry by Royal Commission into the condition of cemeteries and modes of burial, with a view to further legislation. Among those present were the Duke of Westminsters, Mr. Byron Reed, M.P., Mr. Bartley, M.P., Canon Duckworth, Sir Spencer Wells, F.R.S., Sir Alexander Gordon, Colonel Gildea, Mr. Seymour Hayden, Dr. Sykes, Mr. Wollaston Pym, Dr. Danford Thomas, Dr. H. W. Hubbard, and the Rev. F. Laurence, hon. sec. The Duke of Westminster, in introducing the deputation, said the society had done a good deal for several years past in creating a public opinion on this question of burial reform. The memorial had been numerously and influentially signed, among the signatories being three archbishops, twenty-seven bishops, and many of the highest and most representative people in England and Scotland. Several other gentlemen also urged the views of the association on the Home Secretary. Mr. Matthews, in replying, said that legislation on the question must of course be approached with the greatest possible caution, because they could hardly avoid running counter to a great deal of traditional feeling. The subject was a most important one, and had exercised his mind for some time past. He could only say that it would receive careful consideration, and if it could be found possible to meet the wishes of the deputation, he should be extremely glad. He had already directed that special precautions should be taken to prevent abuses, and he would see that in future the inspection of the burial grounds should be efficient. He might mention that during the last eight years Dr. Hoffman had visited as inspector no less than 1,500 burial grounds.

EPIDEMIC MEASLES.

We have received from Dr. Walford, the medical officer of health for Cardiff, the following information respecting the epidemic of measles which has been prevalent in Cardiff since the early part of October, having gradually spread into the urban district from the surrounding neighbourhood. The following is the number of deaths during each week: week ending October 13th, 1; October 20th, 2; October 27th, 8; November 3rd, 6; November 10th, 7; November 17th, 13; November 24th, 7; December 1st, 17; December 8th, 16. It will be seen from the above that 77 deaths occurred.

The population of Cardiff, estimated upon the basis of the number of inhabited houses, amounts now to 125,831. Every available precaution has been taken to prevent the further spread of the disease: notices have been sent to managers of schools requiring them to exclude certain scholars for a specified time; verbal and written instructions were given to parents and guardians of patients. The disease continuing to spread, Dr. Walford advised the sanitary authority to exert the powers conferred by the 98th Article of the Education Code, and to close the public elementary schools in the district for a period of one month. The authority has adopted this course, and has also advised the proprietors of certain private schools and the managers of Sunday schools to close. During the vacation the schools will be thoroughly disinfected. It is hoped, therefore, that these measures will have the effect of arresting the spread of measles in the town.

SCARLET FEVER IN THE MIDLANDS.

A serious epidemic of scarlet fever is raging at Derby, and a householder has been fined for failing to report to the sanitary authority the existence of scarlet fever in his family. Both the infirmary and the infectious hospital are said to be full of patients, and there are cases in other institutions.

Health of English Towns.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 5,817 births and 3,359 deaths were registered during the week ending Saturday, December 8th. The annual rate of mortality in these towns, which had declined in the three preceding weeks from 19.7 to 17.8 per 1,000, rose again to 18.6 during the week under notice. The rates in the several towns ranged from 9.2 in Derby, 13.0 in Birkenhead, 13.1 in Sunderland, and 14.7 in Bristol, in Hull, and in Preston to 23.6 in Liverpool, 24.8 in Plymouth, 26.3 in Blackburn, and 29.8 in Cardiff. In the twenty-seven provincial towns the mean death-rate was 19.4 per 1,000, and exceeded by 1.6 the rate recorded in London, which was only 17.8 per 1,000. The 3,359 deaths registered during the week under notice in the twenty-eight towns included 277 which were referred to measles, 70 to scarlet fever, 50 to whooping-cough, 48 to diphtheria, 41 to diarrhœa, 40 to "fever" (principally enteric), and not one to small-pox; in all, 526 deaths resulted from these principal zymotic diseases, against numbers increasing from 432 to 526 in the four preceding weeks. These 526 deaths were equal to an annual rate of 2.9 per 1,000; in London the zymotic death-rate was 3.0, while it averaged 2.8 per 1,000 in the twenty-seven provincial towns, and ranged from 0.0 in Plymouth, in Wolverhampton, and in Halifax to 5.8 in Liverpool, 6.7 in Salford, 9.2 in Blackburn, and 11.5 in Cardiff. Measles caused the highest proportional fatality in Leicester, Portsmouth, Leeds, Oldham, Liverpool, Blackburn, and Cardiff; scarlet fever in Sheffield, Derby, and Blackburn; and whooping-cough in Birmingham and Cardiff. Of the 48 deaths from diphtheria recorded during the week under notice in the twenty-eight towns, 35 occurred in London, 3 in Nottingham, 2 in Birmingham, 2 in Salford, and 2 in Newcastle-upon-Tyne. No fatal case of small-pox was recorded during the week, either in London or in any of the twenty-seven provincial towns. No small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals during the week ending Saturday, December 8th; these hospitals contained, however, 848 scarlet fever patients at the end of last week, against numbers declining from 907 to 869 at the end of the three preceding weeks; there were 71 admissions during the week, against 54 and 85 in the two previous weeks. The death-rate from diseases of the respiratory organs in London was equal to 3.4 per 1,000, and was considerably below the average.

HEALTH OF SCOTCH TOWNS.—During the week ending Saturday, December 8th, 807 births and 487 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had been 17.8 and 19.1 per 1,000 in the two preceding weeks, further rose to 19.3 during the week under notice, and exceeded by 0.7 per 1,000 the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Dundee and Leith, and the highest in Greenock and Paisley. The 487 deaths in these towns during the week included 49 which were referred to the principal zymotic diseases, equal to an annual rate of 1.9 per 1,000, which was 1.0 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Glasgow and Greenock. The 211 deaths registered in Glasgow during the week included 10 from scarlet fever, 7 from diphtheria, 5 from whooping-cough, 3 from measles, 3 from diarrhœa, and 1 from "fever." Four fatal cases of measles and 3 of diphtheria were recorded in Greenock. The death-rate from diseases of the respiratory organs in these Scotch towns during the week under notice was equal to 4.7 per 1,000, against 3.4 in London.

HEALTH OF IRISH TOWNS.—In the sixteen principal town districts of Ireland the deaths registered during the week ending Saturday, December 8th, were equal to an annual rate of 22.4 per 1,000. The lowest rates were recorded in Wexford and Waterford, and the highest in Dundalk and Armagh. The death-rate from the principal zymotic diseases averaged 2.6 per 1,000 in these towns during the week under notice, against 2.9 in the twenty-eight large English towns during the same period. The 183 deaths registered in Dublin during last week were equal to an annual rate of 27.0 per 1,000, against 25.9 and 22.9 in the two preceding weeks. These 183 deaths included 13 which resulted from the principal zymotic diseases (equal to an annual rate of 1.9 per 1,000), of which 8 were referred to "fever," and 1 each to measles, scarlet fever, diphtheria, whooping-cough, and diarrhœa.

MEDICAL OFFICERS OF HEALTH AND THE LOCAL GOVERNMENT BILL.

"QUERY" cannot be re-appointed to any county district unless he is legally qualified in the practice of medicine, surgery, and midwifery, except the Local Government Board, for reasons brought to their notice, may see fit to allow the election. This requirement will come into operation as soon as the district is a county district.

MEDICAL NEWS.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations on November 20th, 21st, 22nd, and 23rd, were, at a meeting of the Council on December 13th, admitted Fellows of the College.

Adams, John, L.R.C.P.Ed., 184, Aldersgate Street, E.C., Membership dated July, 25th, 1872.
Brodie, Charles Gordon, L.R.C.P.Lond., 30, Harley Street, January 24th, 1883.
Codd, Arthur Frederick Gambell, 2, Melrose Terrace, West Kensington Park, April 18th, 1882.
Coombe, Russell, L.R.C.P.Ed., Devon and Exeter Hospital, July 23rd, 1886.
Deakin, James, L.S.A., 6, Great Ormond Street, W.C., January 20th, 1879.
Douglas, Claude, L.R.C.P.Lond., 12, New Walk, Leicester, November 19th, 1873.
Gooddy, Edward Samuel, L.R.C.P.Lond., 89, Lambeth Palace Road, October 30th, 1885.
Johnson, Raymond, M.B.Lond., 131, Gower Street, W.C., July 31st, 1885.
Lucy, Reginald Horace, M.B.Ed., 8, College Yard, Worcester, May 4th, 1886.
Rawes, William, M.B.Durh., Neder, Newcastle-under-Lyne, August 3rd, 1885.
Spicer, William Thomas Holmes, M.B.Cantab., 6A, Bedford Square, W.C., January 24th, 1884.
Stabb, Ewen Carthew, L.R.C.P.Lond., 19, Vincent Square, S.W., July 28th, 1886.
Taylor, Alfred Ernest, M.B.Lond., Norwood House, Southall, July 29th, 1881.

Thirty-one candidates presented themselves for examination, of whom sixteen passed, including three candidates who have not yet attained the legal age (25), and fifteen were referred.

The following gentleman, who passed the necessary examination on May 25th, 26th, 27th, and 28th, 1887, having attained the legal age of 25 years, was also admitted a Fellow of the College.

Rowell, George, L.R.C.P.Lond., Guy's Hospital, S.E., July 30th, 1886.

The following gentlemen, having passed the necessary examinations, and having obtained Medical Qualification, were admitted Members of the College.

Bryden, Frank William Augustine, L.S.A., 45, Trinity Square, S.E.
Cox, William Alfred Spencer, L.S.A., Heald Place, Rusholme, Manchester.
Hayward, Gerald Cobden, L.S.A., 90, Huddleston Road, Tufnell Park.
Jubb, Frank, L.R.C.P.I., Akeds Road, Halifax, Yorks.
Manners, William Francis, L.S.A., 105, Fentiman Road, South Lambeth.
Potter, Paul de Cresse, L.S.A., Ringley Parsonage, Stoneclough, Manchester.

SOCIETY OF APOTHECARIES OF LONDON.—The following gentlemen having satisfied the Court of Examiners as to their knowledge of the Science and Practice of Medicine, Surgery, and Midwifery, received Certificates entitling them to practise as Licentiates of the Society, in November, 1888.

Holt, Henry Mainwaring, Yorkshire College, Leeds.
Marshall, Charles Frederic, Owens College, Manchester.
Cox, William Alfred Spencer, Owens College, Manchester.
Coates, William Henry, London Hospital.
Farquharson, George Sinclair, London Hospital.
De Butts, Arthur John, St. Mary's Hospital.
Manners, William Francis, University of Cambridge and St. Thomas's Hospital,
Gunn, Frank Walter, King's College.
Basu, Bâman Dâs, Lahore University, Calcutta.
Hayward, Gerald Cobden, Middlesex Hospital.
Spratley, Ernest Richard Woody, University College, Liverpool.
Dodd, Charles Edward, University College, Liverpool.

MEDICAL VACANCIES.

The following Vacancies are announced:

BALLYMENA UNION.—Medical Officer for Ballymena Dispensary. Salary, £120 per annum, and fees. Applications to Mr. James Mallaghan, J.P., Honorary Secretary. Election on January 3rd.

CHORLTON-UPON-MEDLOCK DISPENSARY, Manchester.—Honorary Medical Officer. Applications by December 20th to W. Stones, Esq., Honorary Secretary, 113, Market Street, Manchester.

EVELINA HOSPITAL, Southwark.—Physician to Out-Patients. Applications by December 29th, to the Committee of Management.

GENERAL HOSPITAL, Birmingham, Assistant House-Surgeon. Board, lodging and washing. Applications by December 29th to the House Governor.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Assistant Physician. Applications by December 19th to the Secretary.

LEICESTER UNITED FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Non-Resident Medical Officer. Salary, £200 per annum with unfurnished house, cab and other fees. Applications by December 26th to the Secretary. 114, High Cross Street, Leicester.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Registrar and Chloroformist. Salary, £50 per annum. Applications by December 15th to the Secretary.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich Road, S.E.—Junior Resident Medical Officer. Salary, £30 per annum, with board, etc. Applications by December 15th to the Honorary Secretary.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich Road, S.E.—Senior Resident Medical Officer. Salary, £60 per annum, with board, etc. Applications by December 15th to the Honorary Secretary.

PORTSMOUTH LUNATIC ASYLUM, Milton, near Portsmouth.—Assistant Medical Officer. Salary, £120 per annum, with apartments, board, etc. Applications by December 15th to the Medical Superintendent.

QUEEN'S COLLEGE, Cork.—Professor of Practice of Medicine. Candidates should forward applications with testimonials, to the Under Secretary, Dublin Castle, by December 20th. Appointment to be held for a period not exceeding seven years.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House-Surgeon. Board, and lodging. Applications by December 15th to the Chairman of the Managing Committee.

STOCKPORT INFIRMARY.—Assistant Medical Officer. Salary, £70 per annum, with board and lodging. Applications by December 18th to the Secretary.

TOWNSHIP OF TOXTETH PARK.—Assistant Medical Officer. Salary, £100 per annum, with board and lodging. Applications by December 19th, to J. Moulding, Esq., Clerk to the Guardians.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician. Board and lodging. Applications by December 20th to the Secretary Superintendent.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Surgeon. Board and lodging. Applications by December 20th to the Secretary Superintendent.

MEDICAL APPOINTMENTS.

ALTHORP, C. F. M., M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Physician to the Bradford Infirmary and Dispensary, *vice* J. C. Vaughan, M.B., resigned.

BRAY, H. A., M.R.C.S., L.R.C.P.Lond, appointed House-Surgeon to the King's College Hospital.

BREEN, Henry, L.R.C.S.I., and L.M., appointed Medical Officer to the Derrylin Dispensary, Linaskea Union, *vice* C. G. Westropp, L.R.C.P., L.M.Edin., resigned.

BRYETT, L. T. F., M.R.C.S., L.R.C.P., L.S.A.Lond., appointed House-Physician to the King's College Hospital.

CHEATLE, A. H., M.R.C.S., L.R.C.P.Lond., appointed Assistant House Accoucheur to the King's College Hospital.

CHEATLE, G. L., M.R.C.S., L.S.A., appointed House-Physician to the King's College Hospital.

FINUCANE, Morgan, M.R.C.S., appointed Resident Clinical Assistant to the Birmingham Borough Asylum, *vice* Percy Pope, M.R.C.S., resigned.

GRAY, Miss Sarah, appointed Clinical Assistant to the Metropolitan Asylums Board Eastern Hospitals.

GREEN, T. H., M.D., F.R.C.P., appointed Physician to the Hospital for Consumption, Brompton, *vice* Douglas Powell, M.D., F.R.C.P.

HUGHES, S. Henry, M.R.C.S.Eng., L.R.C.P., L.S.A.Lond., appointed House-Surgeon to the Royal Westminster Ophthalmic Hospital, *vice* F. O'Kinealy, M.R.C.S.Eng., L.R.C.P.Lond., resigned.

HUMPHREYS, G. H., M.R.C.S., L.R.C.P.Lond., appointed Resident Medical Superintendent to the Bradford Fever Hospital, *vice* S. E. Evans, L.R.C.P. and S.Edin., resigned.

JOHNSTON, Francis, M.B.Glas., appointed Honorary Surgeon to the Wirral Hospital for Sick Children, Birkenhead, *vice* George Barfoot, deceased.

KEELE, J. R., L.R.C.P., M.R.C.S., appointed Assistant Surgeon to the Royal South Hants Infirmary, Southampton, *vice* H. Wynter Shettle, L.R.C.P., M.R.C.S., resigned.

LLOYD, Jordan, M.B., C.M., F.R.C.S.Eng., appointed Acting Surgeon to the Birmingham and Midland Free Hospital for Sick Children, *vice* G. Elkington, M.R.C.S., resigned.

MACKENZIE, A. C., L.R.C.P. and S.Edin., appointed House-Surgeon to the Dover Hospital and Dispensary, *vice* Charles Wood, M.R.C.S.Eng., L.S.A., resigned.

MILLS-ROBERTS, R. H., M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Surgeon to the Stroud General Hospital, *vice* M. C. Moxham, M.R.C.S.Eng., L.R.C.P., resigned.

ORR, A. A., M.B., B.S.Oxon., M.R.C.S., appointed Honorary Surgeon to the Kensington Dispensary, *vice* J. K. Barton, M.R.C.S.Eng., L.R.C.P.Lond., resigned.

PAGDEN, T., M.B.Lond., M.R.C.S.Eng., appointed House-Surgeon to the Royal Hants County Hospital, Winchester.

PENNY, J., M.R.C.S., L.R.C.P.Lond., appointed House Accoucheur to the King's College Hospital.

READ, Henry G., M.R.C.S., L.R.C.P.Lond., L.S.A., L.D.S.Eng., appointed Dental Surgeon to the National Dental Hospital, *vice* Thomas Gaddes, resigned.

SHETTLE, H. Wynter, L.R.C.P., M.R.C.S., appointed Surgeon to the Royal South Hants Infirmary, Southampton, *vice* G. A. K. Lake, M.D., M.R.C.S., resigned.

STEPHENS, R. J., M.R.C.S., L.S.A., appointed Junior House-Surgeon to the Blackburn and East Lancashire Infirmary, *vice* Dr. Wheatley, resigned.

TATLOCK, B. B., F.R.S.E., F.I.C., appointed City Analyst for Perth, *vice* Dr. Wallace.

THOMSON, W. S., M.D., F.R.C.S., appointed Honorary Surgeon to the Kensington Dispensary, *vice* W. Tyrrell, M.R.C.S.Eng., L.R.C.P.Lond., resigned.

WALLIS, C. J. Boyd, appointed Surgeon-Dentist to the St. George's Hanover Square Provident Dispensary, *vice* Mr. H. J. Kluht, resigned.

WARD, H. P., M.R.C.S., L.S.A., appointed House-Surgeon to the King's College Hospital.

WEISS, Felix Henri, appointed Dean of the National Dental Hospital and College, *vice* Thomas Gaddes, resigned.

WHITE, E. R., M.R.C.S., L.R.C.P.Lond., appointed House-Surgeon to the King's College Hospital.

WILSON, Charles, M.B.Lond., L.R.C.P., M.R.C.S., appointed House-Physician to the London Hospital.

HOSPITAL SUNDAY FUND.—The annual meeting of the Metropolitan Hospital Sunday Fund, held at the Mansion House, received a very favourable report of the work of the Council, the amount of money collected last year being slightly larger than any that had been received before. Five per cent. of the fund will in the future be devoted to the purchase of surgical appliances, instead of 4 per cent. The most important incident was the carrying of a resolution moved by Mr. A. L. Cohen, a leading member of financial circles in the city, for the formation of sub-committees consisting of three leading members of the chief professions and banking and commercial firms in London, to canvass for donations, and the result of these contributions to be advertised under the respective heading of the profession or business, namely, the Bankers' subscription, the Stock Exchange subscription, the Corn Exchange subscription, etc. If this resolution, which proceeds from a very able and energetic person, be well carried out, as no doubt it will be, a considerable accession to the income may be expected from this source. Sir Polydore de Keyser, the Rev. W. G. Pascoe, and the Rev. James Baillie were appointed to fill vacancies in the Council.

ANTIPYRIN AND NITROUS ETHER.—When a solution of antipyrin is mixed with spiritus ætheris nitrosi, a nitrous compound of antipyrin is formed, which crystallises out in bright green acicular crystals. It has been very positively asserted that this compound is extremely poisonous. In consequence of an action for malpraxis, the properties of this body have been carefully tested by Dr. Ludwig Bremer, of New York, who has given it as his opinion that it is not poisonous; and the editor of the *National Druggist*, who has given the compound to animals and has taken it himself, is of the same opinion.

SUNDAY SCHOOL SUBSCRIPTIONS TO HOSPITALS.—The Sunday school children of Birmingham have now for nine years raised a Sunday School Fund for the benefit of the hospitals. Five hundred schools have this year contributed to the fund sums varying from 2s. 1d. to £24 each. This year's collection amounts to £337. Since it has been started something like £2,235 has been the net result in the shape of contributions to the Birmingham Children's Hospital from this source. This suffices to keep five beds going for a year, and means the relief of sixty in-patients, independently of out-patients. The arrangements made are such as to prevent this movement conflicting with the interests of the Hospital Saturday and Sunday Funds.

BEQUESTS.—A citizen of Glasgow, who died recently, Mr. Wm. Baxter, has left £2,500 to the University of Glasgow to found a demonstratorship of geology, and £50 each to the Western and Royal Infirmaries, Dumfries Infirmary, Widows' and Old Man's Friend Societies, and the Old Woman's Friend Society, as well as all his geological and other specimens to the Town Council of Dumfries, in trust for the community, with £50 towards a free library in the same town. The Royal Infirmary of Glasgow has also received £400 by the will of the late Mr. Findlay, of Dennistoun, Glasgow, who has also left £400 to Quarrier's Orphan Homes, £100 to Barnardo's Homes, £100 to the Glasgow Asylum for the Blind, as well as other bequests to other institutions.

"ABSINTHISM."—At a recent meeting of the Academy of Medicine, M. Dujardin-Beaumetz reported the results of M. Mairet's experiments with absinthe and alcohol introduced into the stomach. He found that absinthe only determined epileptiform attacks when taken in sufficient quantities to cause complete intoxication, and when the doses were continued for several consecutive days. The attacks only occurred when the animal's life was seriously endangered. M. Mairet considered that the epileptiform attacks were due to the alcohol contained in absinthe, epilepsy being quite as frequently met with in acute alcoholism as in acute absinthism.

MEDICAL PHOTOGRAPHS.—Messrs. Done and Ball, successors to Brown, Barnes and Bell, photographers to the Queen, are issuing from their studios, 12, Baker Street, Portman Square, W., a new series of medical photographs of remarkable excellence. Among the series are strikingly good portraits of Sir William Bowman, Sir Henry Thompson, Dr. George Johnson, Dr. Handfield Jones, Dr. Pye-Smith, and others. It is proposed to extend the series. Those already issued are of first rate merit.

DIAGNOSIS OF ACTINOMYCOSIS (?).—A case is noted in *La Semaine Médicale* in which M. N. Matschinski recognised the fungus of actinomycosis in the expectoration of a patient suffering from pneumonia and typhoid fever. He was looking for the pneumococcus, and found instead what he believed to be the rosettes of actinomyces; the patient succumbed to this complication of diseases, and at the base of the right lung was found a cavity containing pus, in which the actinomyces were also found.

THE DOG'S BEST FRIEND.—On Saturday last a replica of a picture exhibited at the Royal Academy was placed in the board room of King's College Hospital. It records an incident at the hospital on Sunday morning, July 31st, 1887, when a disabled collie was led to the front entrance by two fox terriers, who barked till help came. The picture, which is, we understand, the gift of a lady to the governors of the institution, will form a permanent memorial of an interesting incident in the annals of this institution.

THE French Minister of War has requested the directors of the sanitary administration to provide all officers and soldiers on active service with dressings, to consist of a strip of fine linen from seven to ten feet long, two small antiseptic compresses, and a safety pin, which are to be enclosed in an oil-skin wrapping. A similar system has been long adopted in some other armies.

GLASGOW MAGDALENE INSTITUTION.—The annual meeting of the Glasgow Magdalene Institution was held on December 10th, the Lord Provost presiding. The report showed that the cases dealt with, including those remaining in the Homes on October 31st, numbered 292, the average number resident during the year being 155. The number of inmates restored to parents and friends was 45; placed in situations 36; and 1 sent abroad.

SURGEON-MAJOR G. WATERS, L.R.C.S., L.R.C.P., has been appointed First Physician and Surgeon, R. Manser, M.R.C.S., L. S.A., Second Physician, to the Jamsetjee Jejeebhoy Hospital.

THE SURGICAL AID SOCIETY.—The report presented at the annual meeting, presided over by the Lord Mayor, showed that during the first ten years of the existence of the society the patients assisted numbered 7,286; in the second ten years they had reached 29,110; and in the third ten years they reached the total of 37,597, making a total aggregate of 73,933 persons relieved since the establishment of the society.

ECZEMA OF THE EYELIDS.—In chronic, long, persistent eczema of the eyelids, which is not associated with a scrofulous constitution, Dr. Unna recommends a weak resorcin ointment. His formula is cold cream 10.0, resorcin 0.2, to be gently rubbed into the eyelids three or four times a day.

M. LANGIER described to a recent meeting of the Académie de Médecine of Paris a case of suicide, in which a woman had inflicted 140 wounds upon herself. Of this number, only six, inflicted on the neck or abdomen, were serious; each of these, however, would alone have been capable of causing death.

THE foundation stone of the Hereford new Victoria Eye and Ear Hospital (to be built in commemoration of the Queen's jubilee at a cost of about £2,500) was laid on December 6th by the Countess of Chesterfield.

SUCCESSFUL VACCINATION.—Dr. W. H. Torbock, of Polruan, Cornwall, has received, for the second time, the Government grant for successful vaccination in the fourth and fifth districts of the Liskeard Union.

STRAY AND RABID DOGS.—According to official statistics just issued, 1,139 stray dogs were captured in London by the police during the last month. Of this number, 13 were mad or ferocious dogs, killed in the streets.

THE professorship of obstetric theory in the Paris Faculty has been replaced by a professorship of clinical obstetrics.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 8.30 P.M.—Clinical Night. Dr. J. Hughlings Jackson, F.R.S.: Case of Paralysis of Lower Part of Trapezius. Dr. Seymour Taylor: Injury of Brachial Plexus. The President (Sir William Mac Cormac): Case of Osteoplastic Resection of Foot. Mr. John H. Morgan: Peculiar Deformity of Upper Extremity. Dr. Angel Money: Cases of Neuro-muscular Irritability in Children. Dr. Fowler: Cirsoid Aneurysm. Mr. Bernard Pitts: Slow-growing Tumour of Upper Jaw. Dr. Acland: Acne Varioliformis.

TUESDAY.

PATHOLOGICAL SOCIETY OF LONDON, 8.30 P.M.—Mr. Hutchinson: Skeleton of a Short-Limbed Dwarf. Adjourned debate on the Pathology of Chronic Alcoholism; Drs. Dickinson, Buzzard, Savage, Sharkey, Finlay, Ormerod, Hadden, Pearson, and others will take part in the discussion or show illustrative specimens.

WEDNESDAY.

ROYAL METEOROLOGICAL SOCIETY (30, Great George Street, Westminster, S.W.), 7 P.M.—Mr. Charles Harding: Note on the Prolonged Spell of Cold Weather from September, 1887, to October, 1888. Rev. T. A. Preston: Report on the Phenological Observations for 1888. Captain D. Wilson-Barker: A Winter's Weather at Massowah.

THURSDAY.

THE SANITARY INSTITUTE (Parkes Museum, 74A, Margaret Street, W.), 5 P.M.—Mr. Ernest Hart: On the New Local Government Act and the County Councils, especially in Relation to Sanitary Administration.

NEUROLOGICAL SOCIETY OF LONDON, National Hospital for the Paralysed and Epileptic, Queen Square, 8.30 P.M.—Discussion on Cerebral Localisation in its Practical Relations. Introduced by David Ferrier, M.D., F.R.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

EVANS.—On December 5th, at 13, Westbourne Park Road, Bayswater, W., the wife of W. T. Evans, M.B., C.M.Edin., of a daughter.

HERRING.—November 28th, at St. Mary's House, Atherstone, the wife of Dr. J. F. Herring, of a daughter.

DEATHS.

BOYLE.—On the 6th instant, at Newquay, Cornwall, Thomas Boyle, M.R.C.S. Eng., L.S.A., aged 54.

HERRING.—December 10th, at St. Mary's House, Atherstone, Hettie, the beloved wife of Dr. J. F. Herring, aged 26 years.

SMITH.—On December 5th, at 27, Wilson Patten Street, Warrington, in his 77th year, Joseph Smith, M.D., J.P.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour *us with Duplicate Copies.*

QUERIES.

BUNIONS.

SCOT asks for information as to the season at Neuenahr, and whether Dr. Schmidt still practises there?

PERIOSTITIS writes: After the normal repair of a Pott's fracture, a patient has a slightly raised painful spot, about the size of an orange, on the inner side of the tibia, about two inches above the ankle-joint, which renders walking very difficult, and has now existed eight months. I have tried rest, water dressing, poultice, lin. iodi., oleate of mercury, and lin. saponis cum opio, all to no purpose. I shall feel obliged if any member can give me a hint which will help me out of the difficulty. The patient declines to see a consultant.

W. T. asks for information as to the best treatment for "bunions."

ANSWERS.

I. F. D.—The question is too vaguely worded.

DEPUTY LIEUTENANT.—According to the *Encyclopædia Britannica*, lord lieutenants of counties are officers who, upon any invasion or rebellion, have power to raise the militia, and to give commissions to colonels and other officers, and to arm and form them into regiments, troops, and companies. Under the lord-lieutenants, are deputy-lieutenants, who possess the same power; these are chosen by the lord-lieutenants, out of the principal gentlemen of each county, and presented to the sovereign for approbation.

NOTES, LETTERS, ETC.

ERRATUM.—In the report of the proceedings of the Royal Academy of Medicine in Ireland on page 1223, second column, line 15, for tannin read savin.

TO RENDER THE HANDS ASEPTIC.

D. H. G. writes: There is another mistake, I think, made in rendering the hands aseptic, and that is washing them in hot water after a *post-mortem* or any other operation that makes the hands offensive. Hot water relaxes the skin, and it becomes more absorbent, retaining its foul odour, and I presume septic condition, much longer than when cold water is used.

STERILISED MILK.

DR. A. DUNBAR WALKER (56, Ladbroke Grove Road, W.) writes: In the JOURNAL of December 8th, page 1304, you refer to sterilised milk being made in St. Petersburg, and distributed in that capital to the Children's Hospital, and for the use of private families. You further remark, that it might be made available for passage steamships and yachts. For the information of your readers, I may mention that sterilised milk can be procured in London in tins of one and two quarts, and that for more than a year it has been successfully used in many of the steamship companies. The milk is procured from Norway, and is sterilised by a process known as Dahls. The head depôt for the milk is 11, John Street, Minories, E.C.

THE TREATMENT OF YELLOW FEVER.

DR. JASPER CARGILL, (St. Andrew, Jamaica) writes: In the JOURNAL of October 20th, 1888, I observe notice of "a new method of treating yellow fever," proposed by Dr. George Sternberg. "He points out that in this disease the vomited matters, the contents of the intestines and the urine are highly acid." Having in view this acid condition peculiar to yellow fever, he adopts a treatment, namely, large doses of an alkaline mixture with small quantities of perchloride of mercury, which treatment has been very satisfactorily tested by Dr. Raphael Weiss, in the Garcini Hospital, Havaunah. In August, 1877, in a letter to the late Dr. James Thompson, of Leamington, a copy of which will be found in the *Lancet*, of October 27th, 1877, I stated, in referring to certain cases of yellow fever under my care: "In all cases of recovery the urine suddenly becomes alkaline, as soon as the albumen and acidity disappear; the urine then effervesces on the addition of nitric acid. Black vomit and the fæces are both acid. Does this sudden alkalinity point out any treatment as likely to counteract this extremely acid condition of the system?"

Dr. George Sternberg, seems to have answered my question as "his new method of treating yellow fever, founded on theoretical considerations is reported to have met with an encouraging amount of success." I observe that

thirteen patients, treated by Dr. Raphael Weiss in the Garcini Hospital, Havannah, all recovered under the alkaline treatment; very encouraging indeed considering the extremely high mortality in yellow fever.

British Medical Benevolent Fund.

Mr. Edward East (Upper Berkeley Street, W.), Honorary Secretary of the British Medical Benevolent Fund, begs to acknowledge the receipt of a box of clothes, sent in the first instance to the Royal Medical Benevolent College from "Anon," and, in answer to "Anon's" query, begs to say that he is wanting now any sort of ladies' hats, bonnets, jackets, dresses (ordinary or evening), underwear, boots, shoes, or stockings, and can find a welcome for anything. Nothing wearable comes amiss.

Men's great coats and clothes of all descriptions can be made use of at once, and in consequence of the change in the weather and the probability of a cold Christmas Mr. East would welcome any sent, and distribute them at once.

Mr. East would take this opportunity of thanking those kind friends who have contributed to his store during the past year, and assures them that his gratitude may most aptly be described as "a lively sense of favours to come."

An Appeal.

Mr. Wm. Vincent (Belle Vue Rise, Norwich) writes: I am sorry that circumstances have prevented me acknowledging further donations in response to the appeal made in your columns October 27th. The total amount received has been £16 14s. 6d., and an overcoat, suit of clothes, and two packages from the north of Scotland. The resources have been husbanded and disbursed by my colleague Mr. Councillor Shorten under the advice and sanction of Lieutenant-Colonel Bignold.

We should be glad of a little further help, as an application to a benevolent fund was unsuccessful. In conclusion, I beg to acknowledge 10s. from H. and C. K., £1 and suit of clothes from W. H. P., and overcoat from H. N. H.

Retention of Urine.

Dr. Hugh Taylor (Norwich) writes: The case of retention of urine described in the Journal of December 1st reminds me forcibly of a somewhat similar one which occurred to me some five years ago.

A lad about 6 years of age was brought to me, suffering from retention of urine, in great pain. On examining the penis, I found it very much swollen, quite into the pubes, and at first sight I thought I had an ordinary case of paraphimosis to deal with, but I soon saw that such was not the case. I was at a loss to know what caused the retention, and what the œdema of the penis was really due to. I most carefully examined the penis, and at last saw a small white speck, not bigger than a small pin's head, on the surface of the penis. I with difficulty seized hold of this with the forceps, and was most agreeably surprised, and greatly astonished, upon making traction, to find a long piece of white cotton was being pulled away with the forceps. I found no sign of a rim, or mark where the piece of cotton had been tied around the penis, as it had completely embedded itself in the skin of that organ, and unless I had espied the small spec on the skin, I should have been left in ignorance of the cause of the retention. The child made a good recovery.

This case shows how important in all cases of retention of urine, particularly those accompanied with great swelling of the penis in children, it is to make a thorough and minute examination of that organ itself, for if I had not fortunately done this it is quite within the bounds of possibility things might have turned out rather disastrously for both patient and doctor.

A Puzzling Presentation.

Dr. Alfred Kershaw (Farnworth) writes: On September 26th I was called to Mrs. P., who was in the eighth month of pregnancy. Upon arrival I found the pains were frequent and the hæmorrhage profuse. Upon examination I found, filling up the os and protruding into the vagina, something which I took to be the placenta. With some difficulty I insinuated my hand past this and into the uterus, when to my astonishment I found the placenta forming the condition known as partial placenta prævia. I turned, and delivered the woman of a hydrocephalic monster, with spina bifida, etc. The integuments of the abdomen were entirely wanting, the liver and bowels being completely exposed. The liver was enlarged, and it was this organ which had been protruding through the os, and which I had taken to be placenta.

The Occurrence of Hæmatoma of the Ear in Football Players.

Asylum Medical Superintendent writes: I read with the utmost pleasure the interesting history and details of operation supplied to the Journal of December 8th, by Mr. Southam, of the Manchester Royal Infirmary, on the above subject. For several years I have heard the doctrine preached, that only amongst insane persons, or those who have been insane, could an example of aural hæmatoma be found. I was always sceptical on the point, and whenever I tried to sustain my unorthodox opinion was often reminded that I was arguing against all evidence on the subject so well known as the "crumpled ear of insanity." In my opinion Mr. Southam's graphic account completely demolishes the theory that this form of injury is peculiar to the insane

In some of the textbooks on mental disease I find it stated that the deformity is oftenest seen amongst general paralytics. Such has not been my experience, for out of about twenty cases, two only I can recall in general paralytics and three instances were double examples amongst chronic maniacs.

That aural hæmatoma is of traumatic origin I never had a doubt, and until asylum superintendents place that injury in the same category with black eyes and broken ribs, I fear that the majority of cases will still be found within the walls of asylums. I trust, now Mr. Southam has opened up the subject so ably, that asylum superintendents and other members of the British Medical Association will contribute their views on a matter of much importance to the ears of long-suffering lunatics, and also to those who are still unbelievers amongst the ranks of specialists in mental disease.

The new way of Raising the Epiglottis.

Mr. A. Carson Smyth, M.B., C.M. (Belfast) writes:—Perhaps an account of the following case would interest those who have read the article on the above subject, by Dr. Howard, in the Journal of November 17th.

On October 24th a baby of four months was carried to Dr. Milligan, with a history of being choked by a jujube. It was apparently lifeless, cyanosed, body and limbs quite limp, and made no effort at respiration. Wishing assistance, Dr. Milligan sent for me, in the meantime performing artificial respiration by Marshall Hall's method, having endeavoured to remove the foreign body from the larynx with fingers and laryngeal forceps. When I arrived, there had occurred one or two respiratory efforts. As I had just finished reading Dr. Howard's article, we immediately put the method into practice, and were rewarded by an almost instant improvement, the baby soon making several deep respirations, which soon became more regular in character. It remained quite flaccid for at least an hour, and conscio sness was not restored until after two hours' treatment, during which time the respiration was much more satisfactory while Dr. Howard's method was exercised than in any other way.

The improvement obtained on adopting the method described by Dr. Howard was so marked that it was not only noticed by Dr. Milligan and myself, but also by several onlookers. The baby made a good recovery.

The Symbol ℥.

Dr. C. M. Jessop writes: Until the publication of the last *Pharmacopœia* there was, I apprehend, no difficulty as to the meaning of the above symbol. I always understood that for dispensing troy or apothecaries' weight was used, and that for the purchase of drugs in bulk avoirdupois weight was used, as well also in the preparation of officinal compounds. In my pupil days I prepared and made nearly every compound in the *Pharmacopœia*, and used avoirdupois weights, not apothecaries'.

If the Pharmacopœia Committee wished to do away with symbols it would have said so, and defined the number of grains in a pound as 7,000, because there are that number of grains of water in a gallon. Then an ounce would have had no place in a prescription when weight was intended. But I read their instructions to mean that for the compounding of officinal preparations only avoirdupois weight shall be used, and the weight of that ounce shall be 437.5 grains.

If this be the case, the Committee has not upset the old relations between fluid and solid measures and weights, which is easy to understand and recollect when prescribing is concerned, but accurately defined the strength of the preparations it has sanctioned for use. Certainly I should not expect a dispenser to use an avoirdupois weight for half an ounce of a solid in an eight-ounce mixture. As the Committee has not forbidden the use of apothecaries' weights, custom clearly retains them along with the well-known symbols.

Dr. John Irving (Leytonstone) writes: I have always looked upon the ℥ as a multiple of the symbol ʒ. No one would think of weighing out 54.68 grains of any solid as the equivalent of ʒj. Why should ℥j = 437.5 grains? True 480 minims of distilled water at 60° F. weigh 437.5 grains, but that is no reason why, if we apply the symbols to dry drugs, we should make one of them less than eight times the value of the ʒ, while we hold the latter to be equal to three scruples, the ℈j being 20 grains.

Government Vaccine.

J. J. G. writes: I am glad to be able to endorse the satisfactory experience of "A Public Vaccinator" recorded in the Journal of November 24th (page 1200) regarding the reliability of the lymph supplied from the Government establishment at Whitehall. Like many others, I have occasionally run short of lymph, and written to Whitchall for a small supply—usually of calf-lymph. I do not remember one case of failure.

Your correspondent who subscribes himself "Twenty-five Years a Public Vaccinator in the Country"[1] threatens to boycott the Government establishment and resort to a private firm. Let me give him my experience of the latter sort. Some time ago, during a small-pox scare, I telegraphed to the nearest calf-lymph agency for a supply, and on the same day I received a dozen well-filled tubes, not one of which I can safely say produced a satisfactory vesicle, and the large majority failed altogether.

Twelve Years a Public Vaccinator in the Country writes: I have used Government vaccine for twelve years, and have always found it most reliable, but I never vaccinate more than three or four children from a single well-filled capillary tube; if I attempted more, I should expect the same result as your correspondent, "Twenty-five Years a Public Vaccinator."

Charles H. Haycroft (Bon, North Devon) writes: I really cannot think it is always the fault of the Government vaccine, when the arms have not satisfactorily taken, as we are so often told. I have been public vaccinator for over six years, and vaccinate biannually, and always derive my fresh supply of vaccine from the National Vaccine Establishment; up to the present time, I have not yet met with any lymph from that source which has disappointed me in its results; but was it ever expected that two tubes should contain sufficient lymph to properly vaccinate thirteen children with four places each?

Hæmorrhage after a Glycerine Clyster.

Frank Broadbent (Collingham, Notts) writes, in answer to the question by "Q.," whether a teaspoonful of glycerine *per rectum*, given after thirteen days' constipation in typhoid fever, was justifiable; that in his opinion the hæmorrhage was in all probability caused by the treatment, for the effect of glycerine *per rectum* is to cause violent peristaltic action only, and consequently the thirteen days' accumulation would be hurried over the ulcerated bowel in a hardened state. If, when "Q." found constipation present, he had given a small dose of castor oil, or even on the thirteenth day had done so, the fæces would have been softened, and the injury would have been avoided.

Accidental Vaccination.

Dr. Alex. Morison (Newark, New Jersey, U.S.A.) writes: In the Journal of October 27th, Dr. Page gives notes and photograph of a by no means rare condition, but which, met with at the outset of a medical career, might prove a puzzle to the young practitioner, especially if the vesicle has become pustular and been broken. Visiting in the north of Ireland a few years ago, I was asked to see a somewhat similar case. In this instance a mother had been vaccinated by her baby scratching her cheek.

Here in the States, where vaccination is only compulsory on entering school, children are often four to six years of age before being vaccinated; and during the past fall several instances have come under my notice where children have accidentally vaccinated one another, generally through sleeping together. In one case a mosquito acted the part of surgeon. While accidental self-vaccination, the observation of which played no unimportant part in the introduction of vaccination, is easily explained and understood, it is not so easy to account for the not infrequent occurrence of secondary vesicles on the same child by inoculation from the primary vesicle.

[1] Journal, November 3rd, p. 1031.

Some time ago, while surgeon of one of the Atlantic liners, I attended a little girl, aged 3 years, who was suffering from retention of urine, following on very painful micturition. She had been vaccinated fully two weeks before coming on board, and the arm then was still swollen and painful. There was a secondary vesicle at the right side of the nose. No urine had been passed for twenty-four hours, except a slight dribble while asleep. On examination, the orifice of the urethra was found to be closed by the swelling from a vesicle situated immediately posterior to it. Cocaine was applied to cause shrinkage and allow of dilatation, but chloroform had to be given ere anything could be done. A small catheter was at last passed and retained, cooling lotions being applied till the swelling went down. Here there was a history of threadworms, which led to the scratching. In this case, as in others I have observed, the child was strumous, which may or may not have been a coincidence.

Hypertrophied Hymen.

Dr. Mulville Thomson (Bradford-on-Avon, Wilts) writes: A few weeks since a young woman, accompanied by a female relative (both strangers to me), came from a considerable distance for advice, the exact ailment not being very evident. After much circumlocution she admitted having recently lost her situation through being suspected of being *enceinte*; that a young man with whom she was keeping company had acted improperly with her in June last; that she had not been regular since; and that she was considerably stouter in front than formerly. I casually examined the abdomen, which was prominent, and remarked that I had no doubt her mistress's surmises were correct, and that her ailments were due to that state, and she had better make arrangements accordingly—an opinion which did not apparently surprise either the young woman or her friend. However, I suggested her coming to me again in a week's time, when I would examine her more minutely. She did so, and on my endeavouring to make a vaginal examination I found no orifice whatever except what would admit a No. 4 catheter, and even that gave her much pain. The hymen was completely hypertrophied, and apparently as solid as the perineum, from which there was no distinction, the other external organs being likewise very deficient.

A few days afterwards, with the assistance of a friend, I passed in a bent director down to the floor of the vagina, and made upon it, under chloroform, a longitudinal incision, opening into a very fairly-sized vaginal passage. She made an excellent recovery, has since menstruated painlessly, and is now back in her place, much gratified at so happy a termination to her trouble.

A Correction.

Dr. Symons Eccles desires to correct an error which occurred at page 1212 in the Journal of December 1st in the sphygmographic tracings illustrating his paper. The third diagram of both series, "Example H. After temperature records before abdominal kneading," and "Example B. After abdominal kneading," have been printed upside down.

Dr. Solomon C. Smith (Halifax), who has also noted this mistake, writes: For the consolation of your compositor I may add that he sins in good company. A well-known textbook of medicine got, at any rate, to its third edition with the woodcut illustrating its description of a sphygmographic trace in an inverted position, much to the confusion of the text. Proof-readers are conversant with many languages, but we can hardly expect them to correct our sphygmograms.

Retention of Urine.

Dr. Joshua Parsons (Frome) writes: While other cases of retention of urine from mechanical causes are in the memory of your readers, the following—more curious, I admit, than useful—may interest them. I was called to a man, aged 84, suffering from retention. On attempting to pass a catheter I found, in the place of a penis, a round, firm mass about the size and colour of a cricket ball, connected with the pubis by a small, firmly constricted neck. On further examination, I discovered, projecting from this neck, the shanks of two door-keys, the bows of which were causing the constriction. It appears the old man suffered much inconvenience from the rubbing of his clothes against the prepuce, and before going out for a walk had arranged the keys to keep it back. Before his return he was unable to remove them. With much trouble I managed to pass a flexible strip of copper between the skin and the keys, and, after nearly a night's work, to file through the keys on both sides and get them away. No ill effects ensued.

COMMUNICATIONS, LETTERS, etc., have been received from:

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Orient Line Guide. Third Edition. Edited by W. J. Loftie, B.A., F.S.A. London: Sampson Low, Marston, Searle, and Rivington, Limited. 1888.

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Anningson, J. W., Esq.	11, Yorkshire Street, Burnley
Archer, A. M., M.D.	90, Westgate Flags, Chester
Archer, R. S., M.D.	141, Breckfield Road North, Liverpool
Armstrong, James, M.B.	84, Rodney Street, Liverpool
Armstrong, John, Esq.	Park House, Harpurhey, Manchester
Armstrong, Wm., Esq.	Hendham House, Harpurhey, Manchester
Ashby, Henry, M.D.	13, St. John Street, Manchester
Ashworth, H., Esq.	27, Stanley Street, Bury
Ashworth, J. W., Esq.	Heaton Moor, Stockport
Aspinall, Thomas, Esq.	Turton Towers, near Bolton
Aspinall, William, M.D.	Haslingden
Atkinson, James, Esq.	Mirion House, Crewe
Averill, Charles, Esq.	Infirmary, Macclesfield
Bagley, S., Esq.	West Gorton, Manchester
Baildon, F. J., M.D.	57, Hoghton Street, Southport
Bailey, F. J., Esq.	51, Grove Street, Liverpool
Bain, W., Esq.	Stoneleigh, Heaton Chapel, Stockport
Baker, J. Wright, Esq.	22, Hawkshead Street, Southport
Bale, W., Esq.	Birch House, Heaton Norris, Stockport
Ball, John A., M.B.	Becket House, Wantage
Ballantyne, J. T., M.B.	Green Street, Darwen
Banks, W. M., M.D.	28, Rodney Street, Liverpool
Bark, J., Esq.	42, Balliol Road, Bootle
Barlow, W. H., M.D.	Harpurhey, Manchester
Barnardo, F. A. E., Esq.	Birkdale, Southport
Barnes, J. J., Esq.	24, Blackburn Road, Bolton
Barnish, William C., Esq.	23, King Street, Wigan
Barr, James, Esq.	103, Pike's Lane, Bolton
Barr, James, M.D.	1, St. Domingo Grove, Liverpool
Barr, John, M.B.	Lynnewood House, Rishton, Blackburn
Barr, W. H., Esq.	The Infirmary, Bury
Barron, A., M.B.	31, Rodney Street, Liverpool
Barron, George B., M.D.	Summerseat, Southport
Barrow, R. W., Esq.	Hawkshead Villa, Hoylake
Basil, M. M., M.D.	Oxford Road, Manchester
Bastable, J. B. L., Esq.	99, Lark Hill, Blackburn
Baxter, J. C., Esq.	Robson Street, Everton, Liverpool
Beaman, E. H., Esq.	Southport
Bean, D., Esq.	Rydal Mount, Mossley, Manchester
Beattie, G. W., M.D.	Peel House, Failsworth, Manchester
Beaver, R. A., Esq.	23, Alexandra Road, Waterloo, Lancs
Bell, William, Esq.	St. George's Mount, New Brighton
Bennett, J. M., M.D.	2, Princes Road, Liverpool
Benson, M., M.D.	5, Dicconson Street, Wigan
Bentley, J. W., Esq.	157, Brimmington Rise, Stockport
Bernard, A., M.B.	57, Rodney Street, Liverpool
Berry, W., Esq.	Great George Street, Wigan
Bibby, John, Esq.	Bamber Bridge, Preston
Bickersteth, E. R., Esq.	2, Rodney Street, Liverpool
Bickerton, T. H., Esq.	86, Rodney Street, Liverpool
Birch, E. A., Esq.	8, Grove Terrace, Longsight
Bishop, E. S., Esq.	6, Stockport Road, Manchester
Blackburn, W., Esq.	172, Manchester Road, Nottingham
Blackmore, Alfred, Esq.	Byrom House, Quay Street, Manchester
Bland, Henry, Esq.	Lee Cottage, Shawclough, Rochdale (resigned)
Blayney, J. H., Esq.	Irkdale House, Middleton
Bligh, John, M.D.	109, Mount Pleasant, Liverpool

Blore, I., Esq. .. .. 1, Brunswick Street, Cheetham Hill
Blower, B., Esq. .. .. West Kirby, near Liverpool
Boddy, Hugh W., M.D. .. Crumpsall Terrace, Cheetham Hill, Manchester
Booth, P. L., Esq. .. . 10, Hartington Street, Barrow-in-Furness
Booth, T. Carter, Esq. .. .. Stalybridge, Manchester
Boutflower, Andrew, Esq. .. Strangeways, Manchester
Bowden, E. C., Esq. .. .. Warrington
Bowen, Essex, M.D. .. .. Grange Mount, Birkenhead
Bowen, J. A., M.D. .. .. 16, Ribbesdale Place, Preston
Bowman, G., M.D. .. .. Old Trafford, Manchester
Bowring, George, Esq. .. . 324, Oxford Street, Manchester
Boyd, S. McC., Esq. .. .. Oldham Road, Manchester
Brabazon W. P., M.D. .. Brook House, Lymm
Braddon, C. H., M.D. .. .. Cheetham Hill, Manchester
Bradley, Robert, Esq. .. .. Bentham, near Lancaster
Bradley, W. E., M.B. .. .. Farnworth, Bolton
Bradshaw, T. R., M.D. .. 50, Catherine Street, Liverpool
Brady, Chas. M., Esq. .. 44, Dicconson Street, Wigan
Brady, J. B. J., Esq. .. .. 174, Upper Parliament Street, Liverpool
Braid, George F., M.B. .. Infirmary, Warrington
Braidwood, P. M., M.D. .. Delamere Terrace, Birkenhead
Brannigan, R. A., M.D. .. 109, Upper Parliament Street, Liverpool
Brewer, Chas. S., Esq. .. 7, Park Road East, Birkenhead
Briant, A. J., Esq. .. .. Helsby, Cheshire
Bride, John, M D. .. .. Wilmslow, Cheshire
Brierley, J. B., M.D. .. .. Alma House, Old Trafford, Manchester
Brierley, T. B., Esq. .. .. Tattenhall, Cheshire
Briggs, H., M.B. .. .. 17, Rodney Street, Liverpool
Briggs, H., M.D. .. .. 47, Leyland Road, Southport
Bristow, W. M., Esq. .. .. Seacombe, Cheshire
Broadbent, G. Harry, Esq. .. 8, Ardwick Green, Manchester
Broadbent, John, Esq. .. .. 8. Sunny Bank, Alexandra Road, Manchester
Brodribb, F. B., Esq. .. .. Colne, Lancashire
Brooke, H. A. G., M.B. .. Addison House, Victoria Park, Manchester
Broomhead, C., M.D. .. .. 2, Barker Street, Oldham
Brown, Lewis, Esq. .. .. 28, Chorley Old Road, Bolton
Brown, J., Esq. .. .. Burnwood House, Mount Pleasant, Bacup
Brown, R. C., M.B. .. .. 27, Winckley Square, Preston
Browne, E. A., Esq. .. .. 39, Rodney Street, Liverpool
Browne, Henry, M.D. .. .. Heaton Mersey, Manchester
Brydone-Jack, W. D., Esq. .. Sandbach, Cheshire
Buckley, Samuel, Esq. .. .. Ebor House, Broughton Park, Manchester
Burnett, W. E. S., Esq. .. Mottram-in-Longendale Manchester
Burns, John, Esq. .. . Fulledge House, Burnley
Burton, J. E., Esq. .. .. 64, Rodney Street, Liverpool
Bury, J. S., M.D. .. .. 13, Eccles Old Road, Pendleton, Manchester
Bushby, T., M.B. .. .. 67, Rodney Street, Liverpool
Butcher, A. H., Esq. .. .. Elmsleа, Park Road East, Birkenhead
Butters, John, Esq. .. .. 4, Berkeley Street, Liverpool
Buxton, E., Esq. .. .. Great Crosby, Liverpool
Byrne, G., Esq. .. .. Sunwick, Wilbraham Rd.,Chorlton-cum-Hardy
Byrne, J. J., Esq. .. .. 8, Havelock Terrace, Moor Park, Preston
Caldwell, S. J. B., Esq. .. 103, Bradford Street, Liverpool
Cameron, A. H. F., Esq. .. 10, Shiel Road, Liverpool
Cameron, John, M.D. .. .. 4, Rodney Street, Liverpool
Campbell, C. G., Esq. .. .. Upper Mill, Saddleworth
Campbell, W. Macfie, M.D. .. 1, Princes' Gate East, Liverpool
Campion, H., Esq. .. .. 264, Oxford Street, Manchester
Cardwell, T., Esq. .. .. Poulton Street, Kirkham
Carrington, B., M.D. .. .. St. Mary's Lodge, Eccles, Manchester
Carruthers, W. H., M.D. .. Halton, Runcorn
Carson, T. J., Esq. .. .. 117, Union Street, Oldham
Carter, W., M.D. .. .. 78, Rodney Street, Liverpool
Cassidy, D. M., M.D. .. .. County Asylum, Lancaster
Caton, R., M.D. .. .. 86, Rodney Street, Liverpool
Cayzer, T., Esq. .. .. Mayfield, Aigburth, Liverpool
Chadwick, John, Esq. .. .. Butterworth Hall, Milnrow, Rochdale
Chain, Alex., Esq. .. .. 10. Juvenal Street, Liverpool
Chambers, A. E., Esq. .. .. Denton, Manchester
Chisholm, J. M., M.D. .. The White House, Woolton, Liverpool
Chisholm, K. M. Esq. .. .. Rock House, Radcliffe, Manchester
Christison, J., M.D. .. .. 15, Winckley Square, Preston
Clark, John B , M.D. .. .. St. Georges Road, Waterloo, Liverpool
Clark A. C , M.D. .. .. 5, Adelphi Terrace, Salford, Manchester
Clarke, John C , M.B. .. .. 41, Long Causeway, Farnworth
Clarke, R. A W , Esq. .. .. Wellington House, Moses Gate, Bolton
Clarkson, J. Booth, Esq. .. 51, Hereford Road, Bayswater
Clayton, J. S., M.B. .. .. Infirmary, Blackburn
Clayton, Richard, Esq. .. .. Ewbank House, Accrington
Clegg, J., Esq. .. .. Holly Villas, Flixton, Manchester
Clegg, W. J., M.D. .. .. 5, Regent Street, Bacup
Clegg, W. T., Esq. .. .. 76, Edge Lane, Liverpool
Coates, W., Esq. .. .. 14, Bradshaw Street, Moss Side, Manchester
Cooke, T., Esq. .. .. Old Square, Ashton-under-Lyne
Coles, R. W., Esq. .. .. 87, Greengate Street, Oldham
Collier, J., M.B. .. .. 17, St. John Street, Manchester
Collins, A. W., M.B. .. .. 7, Rodney Street, Liverpool (resigned)
Collins, F. H., M.D. .. .. 75, Withington Road, Manchester
Conry, John T. C., Esq. .. Eccles, Manchester
Cooper, W., Esq. .. .. Springfield, Appleton, Widnes
Corns, J., M.D. .. .. 121, Union Street, Oldham
Cornwall, W. C., Esq. .. .. 18, Hamilton Square, Birkenhead [Moors
Cosgrave, A., Esq. .. .. 30, Bradshaw Brow, The Oaks, Bolton-le-
Costine, David D., M.D .. 235, Boundary Street, Liverpool
Corte, A. A., Esq. .. .. 6, Paradise Street, Blackburn
Court, W., Esq. .. .. 17, Fold's Road, Bolton
Coutts, J. A., M.D. .. .. Waterfoot, Manchester
Cox, F., M.B. .. .. 30, Gilda Brook Road, Eccles
Cox, J. J., M.D. .. .. Gilda Brook Road, Eccles
Craigmile, A., M.D. .. .. Cluny, Manor Road, Liscard, Cheshire
Cran. Jas., Esq. .. .. Townfield House, Great Harwood
Crawford, Joseph D., Esq. .. 40, Rodney Street, Liverpool

Crean, R., M.D. .. .. Montague House, Higher Broughton, Manchstr.
Cregeen, J. N., Esq. .. .. 2A, Prince's Road, Liverpool
Crew, E., Esq. .. .. Alderley Edge, Manchester
Crockwell, W. H. B., M.D. .. 30, Moss Lane West, Manchester
Crompton, F., Esq. .. .. Stanley Place, Bury
Crozier, Wm., Esq. .. .. 139, Queen's Road, Liverpool
Crutchley, H., M.D. .. .. Holmcroft, Alsager
Cullingworth, C. J., M.D. .. 46, Brook Street, Grosvenor Square, W.
Daly, R. A. Shelton, Esq. .. 225, Stretford Road, Manchester
Dalziel, W. R., M.B. .. .. North Dispensary, Liverpool
Dambrill-Davies, W. R., Esq. .. Alderley Edge, Cheshire
Daniel, James, Esq. .. .. Cheadle, Cheshire
Darwin, G. H. Esq. .. .. The Cedars, Didsbury
Davidson, A., M.D. .. .. 2, Gambier Terrace, Liverpool
Davidson, J. H., M.D .. .. County Asylum, Chester
Davidson, John K., Esq. .. 26, King Street, Blackburn
Davies, E. T., M.D. .. .. 61, Shaw Street, Liverpool
Davies-Colley, Thos., M.D. .. Newton, Chester
Dawson, T., Esq. .. .. 26, Rodney Street, Liverpool
Day, Percy H., Esq. .. .. Poulton-de-Fylde, Lancashire.
Deakin, J., Esq. .. ..
Dean, Charles W., Esq. .. .. Infirmary, Lancaster
Dean, T. N., Esq. .. .. 5, Apsley Place, Ardwick, Manchester
Dearden, R. J., Esq. .. .. 174, Oxford Road, Manchester
Dearden, W. F., Esq. .. .. Daisy Bank, Crumpsall
Denton, T. W., M.D. .. .. Newbold, Chester
Derham, B., M.D. .. .. 110, St. George's Road, Bolton
Derham, W., M.B. .. .. Albert Terrace, Preston
Derham, T., M.D. .. .. 84, Manchester Road, Bolton
Dewhurst, W., Esq. .. .. Garstang.
Dickinson, F. H., M.D. .. 162, Bedford Street, Liverpool
Dickinson, J. B., M.D. .. 53, Grosvenor Square, Stalybridge
Dimond, J. E., Esq. .. .. 157, Breckfield Road North, Liverpool
Dobb, Jas., Esq. .. .. Golborne, Newton-le-Willows
Dobie, W. M., M.D. .. .. 22, Upper Northgate, Chester
Dobie, W. H., M.B. .. .. Northgate House, Chester
Donald, A., M.D. .. .. 274, Oxford Road, Manchester
Douglas, A. Latham, Esq. .. 48, Croxteth Road, Sefton Park, Liverpool
Dowse, J. G., Esq. .. .. Longsight, Manchester
Doyle, A. E., M.B. .. .. Birch House, Leigh
Dreschfeld, J., M.D. .. .. Oxford Road, Manchester
Dreaper, W. G., Esq. .. .. Grand Hotel, Montreux, Suisse
Dumbreck, Alex., M.B., .. Skelmersdale, Ormskirk
Dunbar, R. P., M.D. .. .. 16, St. Alban's Place, Blackburn
Duncan, J., M.B. .. .. 16, Richmond Street, Ashton-under-Lyne
Duncan, Wm., M.D. .. .. Prospect House, Tyldesley, Manchester
Eames, T. B., Esq. .. .. Barnfield House, Stonecliugh, Manchester
Earle, J., Esq. .. .. 1, Thomas Street, Cheetham Hill, Manchester
Eason, A. M., Esq. .. .. Park Villa, Lytham
Eccles, E., Esq. .. .. New Town, Longridge, Preston
Eccles, R., M.D. .. .. 314, Kensington, Liverpool
Edge, A. M., M.D. .. .. 252, Oxford Street, Manchester
Edge, J. J., Esq. .. .. 17, Mottram Road, Hyde
Edlin, H. C., Esq. .. .. Middlemore House, Levenshulme
Edwards, J. H., Esq. .. .. 17, Stretford Road, Manchester
Elliott, J. W., Esq. .. .. Rocky Lane, Liverpool
Emmett, W. H., Esq. .. .. Winterhey House, Horwich, Bolton-le-Moors
Evans, A. L., Esq. .. .. Hawarden, Chester
Evans, J. H., Esq. .. .. Waterloo, Liverpool
Evans, T. C., Esq. .. .. 1, Rose Vale, Liverpool
Eyton-Jones, Thos., M.D. .. Grosvenor Lodge, Wrexham
Fairclough, J. J. K., M.D. .. 414, Stretford Road, Old Trafford, Manchester
Faulkner, J. T., M.D. .. .. Chester Road, Stretford, Manchester
Fawsitt, T., Esq. .. .. 46, Union Street West, Oldham
Fay, T. W. W., Esq. .. .. 3, Canning Street, Liverpool
Fennell, T., Esq. .. .. Knutsford, Cheshire
Ferguson, John, Esq. .. .. 266, Stockport Road, Manchester
Ferguson, J. H., Esq. .. .. 53, Manchester Road, Bolton
Fernie, H. M., Esq. .. .. Park Green, Macclesfield
Fiddes, Thos., M.D. .. .. Penwood, Urmston, Manchester
Finegan, J. H., M.D. .. .. 48, Rodney Street, Liverpool
Firth, R. H., Esq., Surg. M.S. .. Dagshai, Punjaub, India
Fisher, Alfred, Esq. .. .. Northern Hospital, Liverpool
Fisher, L., M.D. .. .. Lytham, Preston
FitzPatrick, W. H., M.D. .. Hazel Mount, Stonycroft, Liverpool
Fleetwood, W. J., Esq. .. 63, Walton Vale, Aintree, Liverpool
Fletcher, John, Esq. .. .. 103, Wellington Road N., Heaton-Norris
Fletcher, J. H., Esq. .. .. 89, Manchester Street, Oldham
Flitcroft, T. E., Esq. .. .. Nuttall House, Mereball Street, Bolton
Floyd, T. S., M.D. .. .. 11, Devonshire Road, Birkenhead
Folkes, F. H., Esq. .. .. Dukinfield
Fort, T., Esq. .. .. 31, Rochdale Road, Oldham
Foster, S. W., Esq. .. .. Barrow, near Chester
Fox, E. A. Esq. .. .. 12, Rylands Street, Warrington
Fraser, P., M.B. .. .. Clough House, Leyland, Lancashire
Freeman, A., M.D. .. .. 260, Oxford Road, Manchester (San Remo.)
Gallimore, T., M.D. .. .. Whitchurch, Salop
Garlick, Saxon, Esq. .. .. Hollinwood, near Manchester
Garner, J. E., M.D. .. .. 18, Winckley Square, Preston
Garstang, W., M.D. .. .. Springwell House, Blackburn
Garstang, E. W. H., Esq. .. The Heath, Knutsford, Cheshire
Garthside, J., Esq. .. .. 6, Wellington Field, Liverpool
Gaskell, R. A., Esq. .. .. 69, Church Street, St. Helen's
Gellatly, Andrew, M.B. .. .. Fairfield, Manchester
Gemmell, John E., M B. .. 7, Rodney Street, Liverpool
Gilbertson, J. B., M.D. .. .. 2, Starkie Street, Winckley Square, Preston
Gilchrist, R. M., M.B. .. .. 304, Derby Street, Bolton
Gill, Stanley A., Esq. .. .. Formby, Liverpool
Gillibrand, W., Esq. .. .. Parkfield House, Chorley Road, Bolton
Glascott, C. E., M.D. .. .. 23, St. John Street, Manchester
Glazebrook, N. S., Esq. .. .. Hayman's Green, West Derby, Liverpool
Glynn, T. R., M.D. .. .. 62, Rodney Street, Liverpool

Godson, A., M.B. .. .. Cheadle House, Cheadle
Gordon, E., M.D. .. .. 246, Wellington Road South, Stockport
Gornall, J. H., Esq. .. .. Ribbesdale House, Latchford
Gorst, Henry, Esq. .. .. Huyton
Goulden, Jas. Hy. Oswald, Esq. .. 8, Greek Street, Stockport
Graham, C. R., Esq. .. .. 12, Queen Street, Wigan
Graham, W., M.D. .. .. Tonge, Middleton, Manchester
Granger, F. M., Esq. .. .. 18, Nicholas Street, Chester
Graydon, S., M.D. .. .. Carahor, Withington, Manchester
Gray, Robert A., M.D. .. St. John's Lodge, Blackburn
Greenhalgh, H., Esq. .. .. 64, Bill Lane, Bury
Greenhalgh, T., Esq. .. .. Birch House, Heaton Norris, Stockport
Gregory, John, Esq. .. .. Rusholme, Manchester (resigned)
Griffith, A. H., M.D. .. .. Oxford Road, Manchester
Grime, John, M.D. .. .. 31, Great Bolton Street, Blackburn
Grime, T. J., M.B. .. .. Hawes R.S.O., Wensleydale
Grimes, John, M.D. .. .. Grassendale, Liverpool
Grimsdale, T. B., M.B. .. 59, Rodney Street, Liverpool
Grindrod, John A., Esq. .. Norden, Rochdale
Grossmann, K. A., M.D. .. 70, Rodney Street, Liverpool
Guest, A. H., Esq. .. .. 76, Dorset Street, Hulme, Manchester
Guest, E. S., Esq. .. .. 251, Oxford Road, Manchester
Gwatkin, Owen, Esq. .. .. 97, Hyde Road, West Gorton
Haining, W., M.D. .. .. 82, Foregate Street, Chester
Hakes, James, Esq. .. . Latrigg, Aigburth Road, Liverpool
Hall, Egerton F., M.D .. The Ash Trees, Prescot
Hall, James, Esq. .. .. Fox Street, Preston
Hall, James, M.D. .. .. Bolton (dead)
Hall, Richard S., M.D. .. Bedford House, Ince, Wigan
Hall, Wm., Esq. .. .. Thornbreak, Lancaster
Hall, William, jun., M.D. .. Stonewell, Lancaster
Hamill, J. W., jun., M.D. .. 1, Grove St., Higher Broughton, Manchester
Hamilton, A., Esq. .. .. Ashton-under-Lyne
Hamilton, A., Esq. .. .. 16, Whitefriars, Chester
Hamilton, R., Esq .. .. 1, Princes Road, Liverpool
Hamilton, T. T., Esq. .. .. 109, East View, Bury
Hammond, J. H., Esq. .. Winckley Square, Preston
Handyside, Arthur, Esq. .. Earlstown
Hardie, James, M.D. .. .. Wrenwood, Higher Broughton, Manchester
Harker, John, M.D. .. .. King Street, Lancaster
Harris, Alfred C. E., M.B. .. Devonshire Road, Birkenhead
Harris, James A., M.D. .. St. George's House, Chorley, Lancashire
Harris, Robert, M.B. .. .. 25, Duke Street, Southport
Harris, Thos., M.D. .. .. 98, Mosley Street, Manchester
Harrison G., Esq. .. .. 13, Whitefriars, Chester
Harrison, James, Esq. .. ..
Harrison, John F., Esq. .. Wellington Road South, Stockport
Harrison, Reginald, Esq. .. 41, Rodney Street, Liverpool
Harrisson. D., Esq. .. .. 70, Rodney Street, Liverpool
Harthan, J., Esq. .. .. 89, City Road, Manchester
Hartley, D., Esq. .. .. Fern House, Accrington
Hartley, Robert, Esq. .. .. Ashleigh Orrell, Wigan
Harvey, Henry, M.B. .. .. 57, Wavertree Terrace, Picton Rd., Liverpool
Haslam, Geo., M.D. .. ..
Hasler, J. C., Esq. .. .. 47, Eanam, Blackburn
Hassall, John, M.D. .. .. High Street, Northwich, Cheshire
Hawksley, H. L., Esq. .. .. 76, Row Lane, Southport
Hayward, T. E , M.D. .. Haydock, St. Helen's
Heap, S., Esq. .. .. 70, Spotland Road, Rochdale
Heath, W. R., Esq. .. .. 46, Hoghton Street, Southport
Heathcote, Godfrey, Esq. .. 83, Grosvenor Street, Manchester
Heathcote, Ralph, Esq. .. 7, Chatham Street, Piccadilly, Manchester
Heckscher, M., M.D. .. .. 327, Oxford Road, Manchester
Hendry, D., Esq. .. .. 241, Boundary Street, Liverpool
Hendry, J. A., Esq. .. .. 244, Westminster Road, Liverpool
Heslop, W. J., Esq. .. .. 366, Stretford Road, Manchester
Henry, J., M.D. .. .. 107, Drake Street, Rochdale
Hepworth, F., Esq. .. .. Eccles, Manchester
Hewer, Edward, Esq. .. .. Sissinghurst Formby, Lancashire
Hewitt, John, Esq. .. .. 75, Lever Street, Manchester
Heyworth, J., Esq. .. .. Manchester Road, Hollinwood
Hicks, J. S., Esq. .. .. 2, Erskine Street, Liverpool
Hickson, A. T., M.D .. .. Asylum, Rainhill
Higgins, S. McCulloch, Esq. .. 23, Durning Road, Liverpool
Higginson. A., Esq. .. .. Vernon Street, Bolton
Hill, C., M.D. .. .. 26, Great Mersey Street, Liverpool
Hirst, A., Esq. .. . Clarks Hill, Prestwich, Manchester
Heath, F. A., Esq. .. .. 118, Portland Street, Manchester
Hodgkinson, A., M.B. .. .. Claremont, Higher Broughton, Manchester
Hodgson, G. G., Esq. .. .. 71, Merton Road, Bootle
Hodgson, J., M.B. .. .. 149, King Street, Oldham
Hodgson, J. B., M.D. .. .. 64, Fishergate, Preston
Hodgson, W. J., M.D. .. .. Wellington Terrace, Rochdale
Holland, C. T., Esq. .. .. 86, Princes Road, Liverpool
Hollinworth, J., Esq. .. .. Lees, near Manchester
Holmes, F., Esq. .. .. 3, Stockport Road, Manchester
Holmes, I., Esq. .. .. Breck Hey, Oakfield Road, Liverpool
Holmes, J., M.D. .. .. Ouselhurst, Radcliffe, Manchester
Hope, E. W., M.D. .. .. Municipal Offices, Dale Street, Liverpool
Hopper, A. M., Esq. .. .. 63, Rodney Street, Liverpool
Hopwood, R., Esq. .. .. Portland Place, Stalybridge
Hopwood, W. F., Esq. .. .. Portland Place, Stalybridge
Horrocks, W., Esq. .. .. St. Ann's Lodge, Turton, Bolton
Horrocks, W. H., Esq. .. .. Shoreham Blundell Sands, Liverpool
Houlgrave, A., Esq. .. .. 1, Marine Crescent, Waterloo, Liverpool
Howard, J. Fielden, M.D .. Sandycroft, Shaw, Oldham
Howard, R., Esq. .. .. Stockley Place, Hyde, Manchester
Howarth, G., Esq. .. .. Derby Street, Bolton
Hudson, F., Esq. .. .. 70, Wellington Road South, Stockport
Hudson, John, Esq. .. .. Ebor House. Bradford, Manchester
Hughes, James B., Esq. .. Roe Street, Macclesfield
Hughes, W. H., Esq. .. .. Latchford House, Ashton-under-Lyne

Hunt, J. M., M.B. .. .. 31, Rocky Lane, Liverpool
Hunt, Robert, Esq. .. .. Park View, Preston New Road, Blackburn
Husband, W. E., Esq. .. .. 56, Bury New Road, Manchester.
Hutchinson, R., Esq. .. .. Heswall, Cheshire
Hutton, H. R., M.B. .. .. 8a, St. John Street, Manchester
Hyrons, E. A., Esq. .. .. Fernleigh, Pedmore, Stourbridge
Ideson, J. J., Esq. .. .. Colne, Lancashire
Ilderton, H. P., Esq. .. .. Fairfield, Manchester
Imlach, F., M.D. .. .. 16, Canning Street, Liverpoo
Irvin, J. H., Esq. .. .. Queen's Square, Lancaster
Irvine, W., M.D. .. .. 18, Peel Street, Liverpool
Jackson, Edward, Esq. .. .. Wheelton, Chorley
Jackson, Edwin, Esq. .. .. Whalley Range, Manchester
Jackson, E. S., M.B. .. .. Carnforth, Lancashire
Jackson, T. W., Esq. .. .. 13, St. Georges Street, Chorley
Jackson, S., Esq. .. .. Werneth Brow, Oldham
Jackson, William, Esq. .. .. Chestnut Villa, Bolton-le-Sands
James, David, M.D. .. .. Glengarry House, Bingley, Yorks.
Jardine, James, M.B. .. .. Horuby House, Heywood
Johnson, C., Esq. .. .. 31, Castle Street, Lancaster
Johnson, J. Mercer, M.D. .. 2, Boaler Street, Liverpool
Johnson, Thomas M., M.D. .. 251, Chapel Street, Salford
Johnston, B. R., M.D. .. .. Hulme Dispensary, Manchester
Johnston, F., M.B., ... Claughton, Birkenhead
Johnston, John, M.D. .. .. Manchester Road, Bolton
Johnstone, G. W., Esq. .. .. Fisher House, Orrell, Wigan
Joll, B. B., M.B. .. .. Woolton
Jones, Arthur, Esq. .. .. 22, Hoghton Street, Southport
Jones, A. Emrys, M.D. .. St. John Street, Manchester
Jones, A., Esq. .. .. Ivy House, Ormskirk
Jones, Benjamin, Esq. .. .. Leigh, Lancashire
Jones, David, Esq. .. .. 71, Everton Road, Liverpool
Jones, E. E., Esq. .. .. The Dispensary, Chorlton-upon-Medlock
Jones, J. H., Esq. .. .. Stretford Road, Manchester
Jones, Leslie H., M.D. .. .. Limefield, Cheetham, Manchester
Jones, Robert, Esq. .. .. 26, St. George's Square, Liverpool
Jones, R., Esq. .. .. 19, Stretford Road, Manchester
Jones, R. Hughes, Esq. .. 110, Princes Road, Liverpool
Jones, Thomas, M.B. .. . 96, Mosley Street, Manchester
Jones, Theobald E., Esq. .. Chapel-en-le-Frith
Jones, W. O., Esq. .. .. Bowdon
Jordan, F. W., Esq. .. .. Astley House, Heaton Chapel, Stockport
Joseph, George W., Esq .. 5, Bold Street, Warrington
Joynson, G. T., Esq. .. .. Northwich
Judson, T. R., Esq. .. .. West Derby, Liverpool
Keay, J., M.D. .. .. Tiviot Dale, Stockport
Kennedy, John, M.D. .. .. 1, Farnham Place, Stretford Rd., Manchester
Kenyon, George A., M.B. .. Chester
Kershaw, A., Esq. .. .. Eastfield, Farnworth, Bolton
Kershaw, John, Esq. .. .. Sedgley Mount, Prestwich
Kershaw, Joseph, Esq. .. .. 60, Oxford Street, All Saints, Manchester
Kershaw, W. E. E., Esq. .. Beech House, Middleton
Keyworth, A. F., Esq. .. .. Springfield House, Marple, near Stockport
King, G. M., Esq., ... 3 Grosvenor Terrace, Fulwood, Preston
King, H. W., M.D. .. .. 18, Newgate Street, Chester
King, J., M.B. .. .. 108, Chapel Street, Bedford-Leigh
Kingsbury, E., M.B. .. .. 3, Brighton Parade, Blackpool
Kingsbury, G. C., M.D. .. 3, Brighton Parade, Blackpool
Kirk, Joseph. Esq. .. .. Ivy Cottage, Hindley, Wigan
Kitchen, C. F. H., Esq. .. 98, York Street, Cheetham, Manchester
Knott, William, M.D. .. .. West Terrace, North Ormsby, Middlesborough
Knowles, Edward, M.D. .. 19, Church Road, Birkenhead
Knowles, H. W., Esq. .. .. 24, Westfield Street, St. Helens
Knox, C., Esq. .. .. 59, Grange Mount, Birkenhead
Lamb, J., Esq. .. .. 18, Price Street,, Birkenhead
Laimbeer, F. J., Esq. .. .. Stonycroft, Liverpool
Langdon, J. W., Esq. .. .. 26A, Winckley Square, Preston
Lambert, James, M.D. .. .. 80, Price Street, Birkenhead
Langshaw, J. P., Esq. .. .. Elmside, Lancaster
Larkin, F. C., Esq. .. .. 2, Fitzclarence Street, Liverpool
Latham, W., Esq. .. .. The Poplars, Ashton-in-Makerfield
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Lawson, S., Esq. .. .. Brierfield, Burnley
Lax, William, Esq. .. .. St. Helens Road, Ormskirk
Leach, Abraham, Esq. .. .. Waterhead, Oldham
Leach, Abraham, jun., Esq. .. 220, Manchester Street, Oldham
Leah, T. C., Esq. .. .. Norbury House, Hyde, Cheshire
Ledward, R., W., M.D. .. .. 114, York St., Cheetham, Manchester (resgnd.)
Lee, C. G., Esq. .. .. 73, Rodney Street, Liverpool
Lee, Edmund, Esq. .. .. 421, Rochdale Road, Manchester
Leech. D. J., M.D. .. .. 96, Mosley Street, Manchester
Lees, J. E., M.B. .. .. Elton, Bury
Lees, Wm., Esq. .. .. Royal Infirmary, Chester
Leigh, Herbert S., Esq. .. 239, Waterloo Road, Cheetham, Manchester
Leigh, T. D., Esq. .. .. 4, Shaw Street, Liverpool
Lenihan, P. J., Esq. .. .. 253, Regent Road, Salford
Lewis, Sigismund, M.D. .. .. 155, Duke Street, Liverpool
Ley, H. R., Esq. .. .. County Asylum, Prestwich, Manchester
Liebstein, H. J., M.D. .. Northwich
Lightbourne, J. A., M.D. .. 17, Winckley Square, Preston
Limrick, W. S., Esq. .. . 5, Waterloo Road, Waterloo, near Liverpool
Little, D., M.D. .. .. 21, St. John Street, Manchester
Livsey, A. E., Esq .. .. 3, Carisbrooke Road, Liverpool
Livy, J., M.D .. .. St. George's Terrace, Bolton
Logan, J. R., M.B. .. .. 62. Harrington Road, Sefton Park, Liverpool
Longton, E. J., M.D. .. .. The Priory, Southport
Lonie, John, M.D. .. .. 261, North Road, Preston
Looker, J. E., Esq. .. .. Crescent, Levenshulme, Manchester
Lowe, A. J., Esq. .. .. Boothstown, near Manchester
Lowndes, F. W., Esq. .. .. 40, Knight Street, Liverpool
Lowndes, H., Esq. .. .. 1, Catherine Street, Liverpool
Lowther, R., M.D. .. .. Fernleigh, Grange over Sands

Lucas, Samuel A., Esq. .. .. 239, Boundary Street, Liverpool
Luckman, E., Esq. .. .. 63, Oxford Road, Bowdon, Cheshire
Lund, E., Esq. .. .. 22, St. John Street, Manchester
McAfee, W., M.D. .. .. West Kirby, Birkenhead
Macalister, C. J., M.B. .. 18, Alexandra Terrace, Princes Rd., Liverpool
Maccall, W. N., M.D. .. .. Hope Bank, Kersal, Manchester
McArdle, E. L., Esq. .. .. 339, Upper Parliament Street, Liverpool
McCheane, W., Esq. .. .. 37, Shaw Street, Everton, Liverpool
McClelland, J., M.D. .. .. Sefton Drive, Liverpool
Macdonald, A. D., M.D. .. 26, Spellow Lane, Liverpool
Macfie, C., M.D. .. .. 240, St. George's Road, Bolton
MacGill, G., Esq. .. .. Hollinbrook House, Littleborough, Manchester

McGowan, S. A., M.D. .. .. 15, King Street, Oldham
McGeagh, W., M.D. .. .. 20, Spellow Lane, Liverpool
McIntosh, L. M., M.B. .. 3, Brighton Parade, Blackpool
Mackay, J. D., M.B. .. .. Hornby, Lancaster
McKeown, D., M.D. .. .. 25, St. John Street, Manchester
Maclaren, C., M.D. .. .. 73, Walmersley Road, Bury
Maclaren, Murray, M.B. .. St. John's, N.B., Canada
MacLean, C. A., Esq. .. .. Monte Video
Maclean, K., Esq. .. .. 23, Greek Street, Stockport
McLiesh, N., M.B. .. .. 74, Cooper Street, Bolton
McMurray, J., M.D. .. .. 354, Westminster Road, Liverpool
McNaught, James, M.D. .. Boothfold, Newchurch, Manchester
McNaughtan, T., M.D. .. 3, Queen's Square, Blackpool
McNicoll, E. Day, Esq. .. 15, Manchester Street, Southport
McNicoll, Robert, Esq. .. Hardshaw Street, St. Helen's
Macvie, W., M.B. .. .. West View, Stanley Road, Bootle
Magee, W. J., Esq. .. .. 76, Hampson Street, Bolton
Makinson, W., Esq. .. .. 46, Bury New Road, Manchester
Mallett, F. B., M.D. .. .. Newport House, Bolton
Mallett, W. J., M.D. .. .. 63, Burlington Street, Manchester
Manifold, W. H., Esq. .. .. 45, Rodney Street, Liverpool
Mann, J. B., Esq. .. .. 2, Great Bridgwater Street, Manchester
Mann, J. Dixon, M.D. .. .. 16, St. John St., Manchester
March, H. Colley, M.D. .. 2, West Street, Rochdale
Marsden, H. H., Esq. .. .. 71, Hoghton Street, Southport
Marsh, J. Holt, Esq. .. .. Hilton Lane, Little Hulton, Bolton
Marsh, J. J., Esq. .. .. Beaconsfield, Ormskirk
Marsh, N. K., Esq. .. .. 44, Bedford Street Liverpool
Marsh, W. Aspinall, Esq. .. Skelmersdale, Ormskirk
Marshall, A., M.D. .. .. 26, Winckley Square, Preston
Marshall, B., Esq. .. .. Bolton Old Road, Atherton
Martin, Johnson, M.D. .. Farnworth, Bolton
Martin, J. M. H., M.D. .. Arnheim, Park gate, Blackburn
Martin, Richard J., Esq. .. Atherton, Manchester
Martin, W. Y., M.D. .. .. The Limes, Walkden, Bolton-le-Moors
Martland, E. W., M.D. .. 1, Clegg Street, Oldham
Massiah, B. J., M.D. .. .. Didsbury
Mathews, W., Esq. .. .. Beam Street, Nantwich
Mathews, Frank, Esq. .. .. Manor House, Nantwich
Matthews, James, Esq. .. .. Yealand-Conyers, near Carnforth
Matthews, Joseph, Esq. .. Esplanade, Waterloo, Liverpool
Mayne, F. Walter, Esq. .. Urmston
Meacham, J. J., Esq. .. .. 47, Churnet Road, Rochdale Road, Manchester
Melland, Fred., Esq. .. .. Victoria Park, Manchester
Meeson, Alfred, Esq. .. .. 2, Peel Street, Liverpool
Merriman, W. S., Esq. .. .. Heath House, Knutsford
Miller, A. P., Esq. .. .. Carr Road, Nelson-in-Marsden, Lancashire
Miller, Hugh, M.D. .. .. 26, Hamilton Square, Birkenhead
Mockett, G. T., Esq. .. .. Tyldesley (resigned)
Moir, G. C. A., Esq. .. .. 288, Westminster Road, Liverpool
Monks, E. H., Esq. .. .. 29, Alexandra Road, Southport
Moore, E., M.D. .. .. 21, Pitt Street, Preston
Moore, Thomas, Esq. .. .. Hazel Grove, Stockport
Moore, W. G., Esq. .. .. Everton Valley, Liverpool
Moore, W. H., Esq. .. .. 30, Great Mersey Street, Liverpool
Moorhouse, Edward Dobson, Esq. 153, Chester Road, Manchester
Moreton, J. E., Esq. .. .. Tarvin, Chester
Moreton, John, S., Esq. .. Tarvin, Chester
Moreton, Thomas, Esq. .. .. Ivanhoe, Hartford
Morgan, J. E., M.D. .. .. 1, St. Peter's Square, Manchester
Morgan, L. A., M.D. .. .. 118, Mount Pleasant, Liverpool
Moritz, S., M.D. .. .. 155, York Street, Cheetham, Manchester
Morris, G., Esq. .. .. High Street, Skelmersdale, Ormskirk
Morris, J. H., Esq. .. .. 22, The Crescent, Salford
Morris, Walter, Esq. .. .. Dean's Lea, Derby Street, Bolton
Morrish, R. A., Esq. .. .. 20, Island Road, Garston, Liverpool
Moss, H., M.D. .. .. Moody House, Congleton
Mould, G. W., Esq. .. .. Royal Asylum, Cheadle
Mules, P. H., M.D. .. .. Delamere Road, Bowdon
Munro, Seymour H., M.D. .. Nantwich
Murphy, C. O., Esq. .. .. Italian Villa, Alexandra Park, Manchester
Murphy, H. A., Esq. .. .. Beech House, Halliwell New Road, Bolton
Murray, H. G., Esq. .. .. County Asylum, Prestwich
Murray, R. A., M.B. .. .. 18, Wellington Road South, Stockport
Musson, W. E., Esq. .. .. Mayfield, Clitheroe
Nall, S., M.D. .. .. Disley, near Stockport
Napier, T. W. A., M.B. .. Darlington House, Egremont
Nesfield, Stephen, M.D. .. 1, Richmond Place, Stretford Rd., Manchester
Neville, J. J., Esq. .. .. St. George's Road, Chorley
Nevins, J. B., M.D. .. .. 3, Abercromby Square, Liverpool
Newton-Clare, E. S., Esq. .. 2, Priory Villas, Calne, Wilts
Newton, G., Esq. .. .. Dukinfield Lodge, Dukinfield, Cheshire
Newton, John, Esq. .. ..
Nichol, J. C., Esq. .. .. 223, Stretford Road, Manchester
Nisbet, J. T., M.B. .. .. 175, Lodge Lane, Sefton Park, Liverpool
Niven, James, M.B. .. .. 56, Union Street West, Oldham
O'Donnell, W., Esq. .. .. 30, Darlington Street, Wigan
Ogden, C., Esq. .. .. Drake Street, Rochdale
Ogilvie J M.B. .. .. 128, St George's Road, Bolton

O'Gorman, R. P., Esq. .. .. 64, Broad Street, Pendleton, Manchester
O'Grady, W. F., Esq. .. .. Swinton, Manchester
O'Hagan, J. J., Esq. .. .. 40, Palmerston Road, Garston
O'Keefe, J. M., Esq. .. .. Widnes, Lancashire
Oliver, John B., Esq. .. .. 59, Parkfield Road, Liverpool
O'Reilly, M. W., M.D. .. .. 102, Grange Road, Birkenhead
O'Sullivan, D. A., Esq. .. Oak Mount, Burnley
Owen, R. H., Esq., M.D. .. Fellenberg, 41, Park Crescent, Southport
Owen, S. H., M.D. .. .. Brooks Bar, Manchester
Packer, J. M., M.D. .. .. Huyton, Liverpool
Page, D., M.D. .. .. Lunecliffe, Lancaster
Paget, W. S., M.D. .. .. Victoria Road, Great Crosby, Liverpool
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Parker, G. R., Esq. .. .. 34, King Street, Lancaster
Parker, Robert, Esq. .. .. Malpas, Cheshire
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Parker, Rushton, M.B. .. .. 59, Rodney Street, Liverpool
Parkinson, R. T., M.D. .. Oxford Road, Manchester
Parks, John, Esq. .. .. Bank House, Bury
Parry, Thomas S., M.B. .. 10, Upper Northgate Street, Chester
Patchett, E. J., Esq. .. .. 80, Rishton Lane, Bolton
Paterson, A. M., M.D. .. University College, Dundee
Paton, Robert, Esq. .. .. 77, Lever Street, Manchester
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Patrick, Robert, Esq. .. .. 46, Derby Road, Bolton
Patterson, J. N., Esq. .. .. Earlstown, Lancashire
Patterson, Thomas, M.D. .. 521, Middleton Road, Oldham
Paul, F. T., Esq. .. .. 38, Rodney Street, Liverpool
Pearson, H. L., Esq. .. .. Devon House, Bedford Road, Rock Ferry
Peirce, F., M.D. .. .. Hoylake, Birkenhead
Philips, E. J. M., Esq. .. 33, Rodney Street, Liverpool
Pierce, F. M., M.D. .. .. 27, St. John Street, Manchester
Pigg, Thomas, M.D. .. .. Parsonage Nook, Withington, Manchester
Pilkington, J. E., Esq. .. 1, Hulme Place, Salford, Manchester
Pinder, G. H., Esq. .. .. 98, Great Clowes Street, Manchester
Pinder, T. H., Esq. .. .. Alexandra Road, Manchester
Pinck, C. H., Esq. .. .. Nelson, near Burnley
Pinkerton, C., M.D. .. .. 26, Hoghton Street, Southport
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Price, John L., Esq. .. .. Standish, Wigan
Price, T., Esq. .. .. 22, Great Ancoats Street, Manchester
Priestley, J., Esq. .. . 149, Wimslow Road, Manchester
Pritchard, H., Esq. .. .. Beechwood, Lilley Road, Fairfield, Liverpool
Pusey, Chauncy, Esq. .. .. 71, Rodney Street, Liverpool
Railton, T. C., M.D. .. .. 340, Oxford Road, Manchester
Ransome, Arthur, M.D. .. Bowdon, Manchester
Raverty, G. A., Esq. .. .. 422, Stanley Road, Bootle, Liverpool
Rawdon, H. G., M.D. .. .. 42, Rodney Street, Liverpool
Rayner, A. C., M.D. .. .. 58, Pole Street, Preston
Rayner, E., M.D. .. .. Teviotdale, Stockport
Reid, J., M.D. .. .. Hardshaw Street, St. Helens
Renshaw, C. J., M.D. .. .. Beech House, Ashton upon-Mersey
Renshaw, J. W., Esq. .. .. Ash House, Stretford, Manchester
Renshaw, W. A., M.D. .. Altrincham
Reynolds, E. S., Esq. .. .. Royal Infirmary, Manchester
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Rhodes, F., M.D. .. .. Crefeld Villa, Withington, Manchester
Rhodes, J. W., Esq. .. .. Didsbury, Manchester
Rhodes, T. W., M.D. .. .. 471, Oxford Street, Manchester
Rich, A. C., M.B. .. .. 67, Catherine Street, Liverpool (dead
Richardson, W. B., Esq. .. 33, Victoria Street, Blackpool
Richardson, R. J., M.D. .. 321, West Derby Road, Liverpool
Richmond, C. E., Esq. .. .. 31, Bold Street, Warrington
Ricketts, J., Esq. .. .. Talbot Street, Southport
Riding, E., Esq. .. .. Bromborough, Cheshire
Rigby, W. B., Esq. .. .. Gorton, Manchester
Rigg, John, M.D. .. .. 56, Fishergate, Preston
Roberts, D. Lloyd, M.D. .. 11, St. John Street, Manchester
Roberts, Edward, Esq. .. Royal Eye Hospital, Manchester
Roberts, J., M.D. .. .. Abbey Square, Chester
Roberts, N. E., M.B. .. .. 24, Mulgrave Street, Liverpool
Roberts, R. G., M.D. .. .. Croxteth Lodge, Sefton Park, Liverpool
Roberts, Sir William, M.D. .. 89, Mosley Street, Manchester
Robertson, G., M.B. .. .. 2, Union Street, Oldham
Robertson, Robert, M.D. .. 11, Oxford Street, Liverpool
Robinson, E., Esq. .. .. Dunkinfield
Robinson, John, M.B. .. .. The Belvidere, Runcorn
Robinson, John, Esq. .. .. Frodsham
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Roe, Leyland, M.D. .. .. Wellington Road, Eccles
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Rogerson, J. T., Esq. .. .. Heaton Norris
Rose, J., Esq. .. .. St. George Square, Liverpool
Ross, A. McL., M.B. .. .. 14, Faulkner Street, Liverpool
Ross, James, M.D. .. .. Stanley Grove, Oxford Road, Manchester
Rothwell, C., Esq. .. .. 40, Gt. George's Place, Bolton
Rowe, W. P., Esq. .. .. 32, Oxford Street, Liverpool
Royle, P., M.D. .. .. 27, Lever Street, Manchester
Russel, J. C., M.D. .. .. 43, Portland Street, Southport
Russell, D., M.D. .. .. Vine House, Neston, near Chester
Samuels, A., M.D. .. .. 53, Shaw Street, Liverpool

Saul, W. Wingate, M.D. .. Lancaster
Saville, J. G., Esq. .. Radcliffe, Manchester
Schofield, G. E., M.D. .. Lytham Road, Blackpool
Schofield, G. T., Esq. .. Stamford Road, Mossley
Scott, B., M.B. .. 50, Ardwick Green, Manchester
Scott, John, M.B. .. 249, Upper Brook Street, Manchester
Scott, W. S. Jebb, Esq. .. Woolton, Liverpool
Scowcroft, J. E., M.D. .. Manchester Road, Bolton
Scowcroft, W., Esq. .. Royal Asylum, Cheadle
Segar, J., M.D. .. 158, Lord Street, Southport
Sellers, R. B., M.D. .. John Street, Rochdale, Lancashire
Sellers, W., M.D., jun. .. Bank House, Radcliffe, Manchester
Sephton, Richard E.q. .. Culcheth, Warrington
Sephton, Robert, Esq. .. Park House, Atherton, Manchester
Sergeant, E., Esq. .. Town Hall, Bolton
Serra, C.L., M.D. .. The Limes, Eccles
Servaes, F. C., M.B. .. 124, Princes Road, Liverpool
Settle, R., M.D. .. 52, Bridge Street, Bolton
Shackleton, J., Esq. .. Bridge Mills, Whitworth, Rochdale
Shain, J. M., Esq. .. 47, Pembroke Place, Liverpool
Sharp, H., Esq. .. South Shore, Blackpool
Sharples, T., Esq. .. Wellfield House, Farrington, Preston
Shaw, T., Esq. .. Kirkham, near Preston
Shaw, W. W., Esq. .. Kirkham, Lancashire
Shearman, W. M., Esq. .. Somerville, Irlam-on-the Heights, Manchester
Shears, C. H. B., Esq. .. 11, St. James's Road, Rodney Street, Liverpool
Sheldon, E. M., Esq. .. 223, Boundary Street, Liverpool
Sherratt, J. S., Esq. .. Warrington
Shuttleworth, G.E., M.D. .. Royal Albert Asylum, Lancaster.
Sidebotham, G. W., Esq. .. 11, Church Street, Hyde, Manchester
Sidebottom, R. B., Esq, .. Manor House, Mottram
Simpson, H., M.D. .. 2, St. Peter's Square, Manchester
Sinclair, W., M.D. .. 2, Hartington Street, Barrow-in-Furness
Sinclair, W. J., M.D .. Oxford Road, Manchester
Smart, D., Esq. .. Toxteth Park Workhouse, Liverpool
Smith, C. E., Esq. .. Avenham House, Stretford, near Manchester
Smith, D. T., M.B. .. 36, Church Street, Preston
Smith, Edwards, M.B. .. 12, Folds Road, Bolton
Smith, G. W., Esq. .. 6, Aytoun Street, Manchester
Smith, H., Esq. .. Blackrod, Chorley
Smith, John, Esq. .. 28, Chorlton Road Manchester
Smith, Joseph Kellett, Esq. .. 23, Russell Street, Liverpool
Smith, J. Turville, Esq. .. Warrington
Smith, Robert C., M.D. .. 29, Pin Mill Brow, Ardwick, Manchester
Smith, T. H., Esq. .. Reddish Green, Stockport
Smith, T., M.D. .. Woodley, near Stockport
Smith, T. Starkey, M.D. .. Lynton House, Warrington
Smith, W., M.D. .. 48, Gilda Brook Road, Eccles, Manchester
Smithard, C. L., Esq. .. 383, Oldham Road, Manchester
Smithies, J. J., Esq. .. Clitheroe
Somerville, John, Esq. .. Park Street, Macclesfield
Somerville, T. A., Esq. .. The Grove, Wilmslow
Southam, F. A., M.B. .. Oxford Road, Manchester
Sparrow, R. Lancelot, Esq. .. 326, Earlswood Terrace, Hollinwood
Spooner, W., Esq. .. Fairview Road, Oxton, Birkenhead
Sprakeling, R. J., Esq. .. 58, Merton Road, Bootle, Liverpool
Stallard, J. P., M.D. .. 176, Oxford Road, Manchester
Stanfield, W., M.D. .. Providence House, Lees, Oldham
Stansfield, Geo. S., Esq. .. 1, Moray Place, Price Street, Birkenhead
Stark, P. W., M.D. .. Barrow-in-Furness
Steell, G., M.D. .. 8A, St. John Street, Manchester
Steeves, G. W., M.D. .. 53, Parkfield Road, Liverpool
Steinthal, W. O., M.D. .. The Crescent, Rochdale
Stephenson, W. H., M.D. .. 67, Ainsworth Street, Blackburn
Stevenson, G., M.D .. Holly Bank, Stretford, Manchester
Steward, A., Esq .. Mulberry House, Oldham Road, Manchester
Stewart, A., M.D. .. Brunswick Terrace, Pendleton
Stewart, Andrew, Esq. .. 2, Christchurch Road, Birkenhead
Stocks, A. W., Esq. .. 24, Crescent, Salford, Manchester
Stone, G., Esq. .. 88, Rodney Street, Liverpool
Stolterforth, Henry, M.D. .. 60, Watergate Street, Chester
Stothard, W. J., Esq. .. Palatine Road, Didsbury, Manchester
Storar, Wm. M., Esq. .. Sutton-by-Greater-Chester
Street, C. T., Esq. .. Haydock Lodge, Newton-le-Willows
Stuart, J. B., Esq. .. Standishgate House, Wigan
Sunderland, E., Esq. .. Higher Bridge Street, Bolton
Sutcliffe, A. E., Esq. .. 345, Stretford Road, Manchester
Sutcliffe, J., Esq. .. Grosvenor House, Stalybridge
Sutherland, James, M.D. .. 325, Gt. Ancoat's Street, Manchester
Tatham, J. F. W., M.B. .. Enderley, Kersal
Taylor, Alfred, Esq. .. 6, Market Street, Little Lever, near Bolton
Taylor, G. G. Stopford, Esq. .. 97, Shaw Street, Liverpool
Taylor, Herbert, M.D. .. 69, Balliol Road, Bootle
Taylor, James, Esq. .. 22, Newgate Street, Chester
Taylor, J. J. B., M.B. .. Lightbourne House, Ulverstone
Taylor, R. Hibbert, M.D. .. 1, Percy Street, Liverpool
Telford, A. B., Esq. .. 38, Longfield Place, Bury
Telford, S., M.D. .. 242, Upper Parliament Street, Liverpool
Thomas, H. Thelwall, Esq. .. 47, Everton Road, Liverpool
Thompson, A., M.D. .. Lightburne, Ulverstone
Thomson, G., M.D. .. 5, Huddersfield Road, Oldham
Thomson, W., Esq. .. Wrenbury, Nantwich
Thorburn, W., M.D. .. Rusholme, Manchester
Thornley, J., M.D. .. 246, Halliwell Road, Bolton
Thorp, Charles W., Esq. .. Dobroyd, Todmorden
Tinker, F. H., Esq. .. Brookland House, Hyde, Cheshire
Tisdall, J. J., Esq. .. 29, Marmaduke Street, Liverpool
Torrop, J. S., M.D., .. Heywood, Manchester
Trimble, J. C., Esq. .. Louth House, Bamber Bridge
Trimble, R., M.D. .. 24, Winckley Square, Preston
Turnbull, James M., M.D. .. Spa Hotel, Tunbridge Wells
Turner, G. E. W., Esq. .. 235, Wellington Rd. South, Stockport
Turner, Herod, Esq. .. 1, Spotland Road, Rochdale
Twyford, E. P., M.D. .. St. Helens
Tyrer, R., Esq. .. Rainhill, Prescot
Tytler, P., M.D. .. 106, York Street, Cheetham, Manchester
Utting, John, Esq. .. Woodlands, Anfield, Liverpool
Vacher, Francis, Esq. .. 35, Hamilton Square, Birkenhead
Vaughan, A. E., Esq. .. Crewe
Vernon, H. H., M.D. .. 39, York Road, Birkdale
Wahltuch, A., M.D. .. Grove House, Moss Lane East, Manchester
Walby, T., Esq. .. 82, Old Hall Street, Liverpool
Walker, George, M.D. .. 11, Hamilton Square, Birkenhead
Walker, G. C., M.D. .. 19, Preston Road, Park Avenue, Southport
Walker, G. Edward, Esq. .. 43, Rodney Street, Liverpool
Wallace, J., M.D. .. 1, Gambier Terrace, Liverpool
Wallis, J. A., M.B. .. Whittingham, Preston
Walls, J., M.D., .. Flexton, near Manchester
Walls, W., Esq. .. 46, Swan Street, Manchester
Walmsley, F. H., Esq. .. Belmont, Higher Broughton, Manchester
Walsh, John, Esq. .. Judd falls, Stoneyhurst, Blackburn
Walter, W., M.D. .. 20, St. John Street, Manchester
Warburton, J. W., M.D. .. 114, Prince's Road, Liverpool
Ward, J. D., M.D. .. Upper Brook Street, Manchester
Waters, A. T. H., M.D. .. 69, Bedford Street, Liverpool
Waters, E., M.D. .. 14, Nicholas Street, Chester
Watkins, John W., M.D. .. Stoneleigh, Newton-le-Willows
Watson, John, M.D. .. 182, Stockport Road, Manchester
Watson, W. C., M.D. .. Foregate Street, Chester
Wearing, Allan, Esq. .. 45, King Street, Blackburn
Wearing, R., Esq. .. High Street, Wavertree, Liverpool
Weaver, F. P., M.D. .. East Bank, Frodsham
Webster, B., M.D. .. Moreton Palms, Alderley Edge
Weightman, A. E., Esq. .. 4, Livingstone Place, Edinburgh
Welch, Henry, M.D. .. Blackpool
Welsh, A., M.D. .. Whitworth, Rochdale
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Ball, J. B., M.D.	54, Wimpole Street
Ballard, Edward, M.D.	12, Highbury Terrace, N.
Banks, Henry, Esq.	226, Mare Street, Hackney, E.
Banning, R. J., M.D.	Bushey, near Watford, Herts
Bantock, George G., M.D.	12, Granville Place, Portman Square, W
Barker, A. E. J., Esq.	87, Harley Street, W.
Barker, Alfred J., M.D.,	20, Beaulieu Villas, Finsbury Park, N.
Barlow, Robert, Esq.	Albion Road, Dalston, E.
Barlow, Thomas, M.D.	10, Wimpole Street, W.
Barlow, T. C., Esq.	88, Dalston Lane, E.
Barnardo, T. J., Esq.	The Cedars, South Hackney, E.
Barnes, Edward C., Esq.	198, Hammersmith Road, W.
Barnes, J. Wickham, Esq.	3, Bolt Court, Fleet Street, E.C.
Barnes, Robert, M.D.	15, Harley Street, W.
Barnes, R. S. Fancourt, M.D.	7, Queen Anne Street, W.
Barraclough, R. W. S., M.D.	34, Dulwich road, Herne Hill, S.E.
Barratt, Joseph G., M.D.	Abbeyville, Netley Abbey, Hants
Barron, H. J., M.D.	The Hawthorns, Church End, Finchley, N
Barrow, A. Boyce, M.B.	17, Welbeck Street, W.
Bartlett, Edward, Esq.,	38, Connaught Square, W.
Barwell, Richard, Esq	55, Wimpole Street, W.
Bastian, H. Charlton, M.D., F.R.S.	20, Queen Anne Street, W.
Bate, George P., M.D.	412, Bethnal Green Road, N.
Bateman, A. G., M.B.	64, Longridge Road, S.W.
Bates, H. L., Esq.	St. Albans
Batterbury, R. L., M.D.	Berkhampstead
Beach, Fletcher, M.B.	Asylum, Darenth, Dartford
Beale, E. Clifford, M.B.	23, Upper Berkeley Street, W.
Beale, Lionel S., M.B., F.R.S.	61, Grosvenor Street, W.
Beardmore, G. R., Esq.	125 Upper Street, N.
Bedlow, J., Esq.	99, Rectory Road, Hackney, E.
Beevor, Charles E., M.D.	33, Harley Street, W.
Behrend, H., Esq.	26, Norfolk Crescent, W.
Bellamy, Edward, Esq.	17, Wimpole Street, W.
Bennett, A. Hughes, M.D.	76, Wimpole Street, W.
Bennett, Charles H., M.D.	College House, Hammersmith, W.
Bennett, Sir J. Risdon, M.D., LL.D. F.R.S.	22 Cavendish Square, W

Bennett, W. C. Storer, Esq. .. 17, George Street, Hanover Square, W.
Bennett, William H., Esq. .. 1, Chesterfield Street, Mayfair, W.
Benton, Samuel, Esq. .. .. 2, Bennett Street, St. James's, S.W.
Berry, Frederick H., M.B. .. Watford
Berry, James, E.S. .. .. 60, Welbeck Street, W.
Berry, O. W., Esq. .. .. Bracondale House, Wimbledon Hill, S.W
Bertolacci, J. H., Esq. .. .. Swaziland, Transvaal
Best, W. J., Esq. .. .. 3, Cambridge Terrace, Dover
Biggs, J. M., Esq. .. .. Child's Hill, N.W.
Biggs, M. G. Esq., ... 101, Northcote Road, New Wandsworth, S.W.
Birch, George, Esq. .. .. Sussex House, Lower Clapton, E.
Bird, George, M.D. .. .. 49, Welbeck Street, W.
Birkett, E. Ll., M.D. .. .. 48, Russell Square, W.C.
Bishop, George H., Esq. .. 11, Clement's Lane, E.C.
Biss, Cecil Y., M.D. .. .. 135, Harley Street, W.
Bisshopp, F. R. B., M.B. .. Lonsdale Gardens, Tunbridge Wells
Bisshopp, James, Esq. .. .. Tunbridge Wells
Black, James, M.B. .. .. 16, Wimpole Street, W.
Blackmore, George H., Esq. .. 165, Goldhawk Road, Hammersmith, W.
Blackstone, Joseph, Esq. .. 6, Albert Terrace, Regent's Park, N.W.
Blair, Archibald, Esq. .. .. Leiston, Suffolk
Blake, William H., M.B. .. Harpenden, Herts
Bland, A. R. H., M.D. .. 33, Rosary Gardens, South Kensington, S.W.
Blandford, George F., M.D. .. 71, Grosvenor Street W.
Bonney, W. A., M.D. .. .. 145, Beaufort Street, Chelsea, S.W.
Booth, E. H., M.D. .. .. 29, Seville Road, Worthing
Bossey, Alfred, H., Esq. .. 136, Stoke Newington Road, N.
Bott, W. Gibson, Esq. .. .. 414, Clapham Road, S.W.
Boulton, Percy, M.D. .. .. 6, Seymour Street, W.
Bower, Richard N., Esq. .. Ivel Lodge, Sandy, Beds
Bowkett, T. E., Esq. .. .. 145, East India Road, E.
Bowman, Sir Wm Bart., F.R.S. .. 5, Clifford Street, New Bond Street, W
Boyd, C., Esq. .. .. 108, Denmark Hill, S.E.
Boyd, J. P., Esq. .. .. 273, Lavender Hill, S.W.
Brace, William H., M.D. .. 7, Queen's Gate Terrace, S.W.
Bradshaw, James D., M.B. .. 30, George Street, Hanover Square, W
Brailey, William A., M.D. .. 11, Old Burlington Street, W.
Braine, F. Woodhouse, Esq. .. 56, Maddox Street, W.
Branthwaite, Harrison, Esq. .. High Shot House, Twickenham
Branthwaite R. W., Esq. .. Rickmansworth
Brett, Alfred T., M.D. .. .. Watford House, Watford, Herts
Brewer, A. H., Esq. .. .. 136, Richmond Road, Dalston
Bridges, John H., M.B. .. Local Government Board, Whitehall
Bridgwater, Thos. M.B., L.L.D. .. Harrow
Bright, John M., M.D. .. The Glen, Forest Hill, S.E.
Bristowe, John S., M.D., F.R.S. .. 13, Old Burlington Street, W.
Broadbent, William H., M.D. .. 34, Seymour Street, W.
Brock, J. H. E., M.D., B.S. .. 115, Adelaide Road, South Hampstead, N.W.
Brockett, A. A., Esq. .. .. 5, De Crespigny Terrace, Denmark Hill, S.E.
Brodhurst, Bernard E., Esq., .. 20, Grosvenor Street, W.
Brodie, George B., M.D. .. 2, Chesterfield Street, Mayfair, W.
Brookfield, John S., M.D. .. 2, Devonshire Villas, Brondesbury, N.W.
Brown, Augustus, M.D. .. 10, Chichester Place, Kemp Town, Brighton
Brown, Charles Gage, M.D. .. 88, Sloane Street, S.W.
Brown, Frederick G., Esq. .. 17, Finsbury Circus, E.C.
Brown, George, Esq. .. .. 1, Langham Place, W.
Brown, James, M.B. .. .. 23, High Street, Tring
Brown, John, Esq. .. .. Belmont Lodge, St. John's Hill, Wandsworth
Brown, Lewis D., Esq. .. .. Henley Vila, Ealing, W.
Brown, Thomas, Esq. .. 236, Kennington Park Road, S.E.
Browne, G. B., Esq. .. .. 80, Wimpole Street, W.
Browne, Sir J. Crichton, M.D., LL.D., F.R.S. .. .. 7, Cumberland Terr., Regent's Park N.W.
Browne, Lennox, Esq. .. .. 36, Weymouth Street, W.
Brownfield, M., Esq. .. .. 171, East India Road, E.
Bruce, J. Mitchell, M.D. .. 70, Harley Street, W.
Bruce, R., Esq. .. .. 22, City Road, E.C.
Brunton, John, M.D. .. .. 21, Euston Road, N.W.
Brunton, Linton B., Esq. .. 644, Commercial Road, E
Brunton, T. Lauder, M.D., F.R.S. 10, Stratford Place, W.
Bryant, Thomas, Esq. .. .. 65, Grosvenor Street, W.
Bucknill, John C., M.D., F.R.S. .. Kila er, Bournemouth
Bullock, J. E., M.D. .. .. 87, Ladbroke Grove, W.
Buncombe, Charles H., Esq. .. City of London Infirmary, Bow Road, E.
Burchell, Peter L., M.B. .. Theydon Bois, Essex
Burger, Alexander, M.D. .. 49, Finsbury Square, E.C.
Burnet, R. W., M.D. .. .. 6, Upper Wimpole Street, W.
Burney, W. C. S., Esq. .. Infirmary, Greenwich, S.E.
Burton, Robert, M.D. .. .. 1, Gloucester Villas, Hanwell, W.
Butler, Ebenezer R., M.D., Surg.-Maj. .. .. .. 147, Cromwell Road, S.W.
Butler-Smythe, A. C., Esq. .. 35, Brook Street, W.
Butlin, Henry T., Esq. .. 82, Harley Street, W.
Buxton, D. W., M.D. .. .. 82, Mortimer Street, W.
Buzzard, Thomas, M.D. .. 56, Grosvenor Street, W.
Cable, George H., Esq. .. Royal Hill, Greenwich
Cadman, A. W., Esq. .. .. 21, Regent Street, Nottingham
Canton, Frederick, Esq. .. 24, Upper Wimpole Street, W.
Carter, Albert, Esq. .. .. 338, South Lambeth Road, S.W.
Carter, Charles Thomas, Esq. .. Hadley
Cartwright, Samuel, Esq. .. 32, Old Burlington Street, W.
Carvell, J. M., Esq. .. .. 208, Bow Common Lane, E.
Carver, Eustace J., Esq. .. Fair Lawn, 635, Fulham Road, S.W.
Case, Henry, Esq. .. .. Asylum, Leavesden, Watford
Case, William, Esq. .. .. 26, Westbourne Road, Arundel Square, N.
Caskie, John B., M.D. .. 19, Tyndale Place, Islington, N.
Cathcart, Samuel, Esq. .. Dial House, Tottenham
Cayley, Henry, Esq. .. .. Watford
Cayley, William, M.D. .. .. 27, Wimpole Street, W.
Chalmers, J., M.D. .. .. 29, Keppel Street, Russell Sq., W.C. (dead)
Chance, Edward J., Esq. .. 14, Russell Square, W.C.
Chance, Frank, M.B .. .. Burleigh House, Sydenham, S.E.

Chapman, C.W., Esq. .. .. Denham House, Goldhawk Road, W.
Charlesworth, G. H., Esq. .. 23, North Street, Wandsworth, S.W.
Cheadle, W. B., M.D. .. .. 19, Portman Street, W.
Cheyne, W. R., Esq. .. .. 27, Nottingham Place, W.
Cheyne, W. Watson, M.B. .. 59, Welbeck Street, W.
Cholmeley, William, M.D. .. 63, Grosvenor Street, W.
Christie, T. B., M.D., F.R.S.E. .. Royal Indian Asylum, Ealing, W.
Church, W. S., M.D. .. .. 130, Harley Street, W.
Churchill, F., M.B. .. .. 4, Cranley Gardens, Queen's Gate, S.W.
Clapton, Edward, M.D. .. 10A, St. Thomas's Street, S.E.
Claremont, Claude C., Esq. .. Millbrook House, Hampstead Road, N.W.
Clark, Sir Andrew, Bart., M.D., F.R.S. .. .. .. 16, Cavendish Square, W.
Clark, Andrew, Esq. .. .. 19, Cavendish Place, W.
Clark, F., Esq. .. .. 13, Fenchurch Street, E.C.
Clark, Willington, Esq. .. 9, Gatestone Park, Upper Norwood, S.E.
Clarke, Benjamin, Esq. .. 1, Arbutus Place, Upper Clapton, E.
Clarke, W. Bruce, M.B. .. 46, Harley Street, W
Clayton, Sir Oscar .. .. 5, Harley Street, W.
Cleveland, W. F., M.D. .. Stuart Villa, 199, Maida Vale, W.
Clifford, M., Esq. .. .. 58, Clifton Gardens, Maida Vale, W.
Clippingdale, S. D., M.D. .. 18, Notting Hill Terrace, W.
Clutton, H. H., M.B .. .. 2, Portland Place, W.
Cobbold, Charles S. W., M.D. .. 29, Woodstock Road, Chiswick, W.
Cockell, F. E., junr., Esq. .. 176, Richmond Road, Dalston, E.
Cockle, John, M.D. .. .. 8, Suffolk Street, Pall Mall, S.W.
Codd, Henry Robinson, Esq. .. Iver, Bucks
Coffin, R. J. Maitland, Esq. .. Alwington House, Baron's Court, S.W.
Coffin, Thomas W., Esq. .. 22, Upper Park Road, Haverstock Hill, N.W
Cogswell, Charles, M.D. .. 47, York Terrace, Regent's Park, N.W.
Cohen, A., M.D. .. .. 195, Sutherland Avenue, Maida Vale, W.
Coles, J. W., Esq. .. .. 197 & 9, Camberwell New Road, S.E.
Collie, Alexander, M.D. .. Fever Hospital, Homerton, E.
Colquhoun, W. B., Esq. .. 212, Evering Road, Upper Clapton, E.
Cook, John, M.D. .. .. 1, Nottingham Terrace, N.W.
Cooke Thomas Esq. .. .. 40, Brunswick Square, W.C.
Coombe, Albert T., Esq. .. 81, Clarendon Road, Notting Hill, W.
Coombe, R. Gorton, Esq. .. Southminster, Maldon, Essex
Cooper, Alfred, Esq. .. .. 9, Henrietta Street, Cavendish Square, W.
Cooper, Arthur, Esq. .. .. 20, Old Burlington Street, W.
Cooper, Frank W., Esq. .. Leytonstone, E.
Cooper, Herbert, Esq. .. .. 3, Rosslyn Terrace, Hampstead, N.W.
Corfield, W. H., M.D. .. .. 19, Savile Row, W.
Corner, F. M., Esq. .. .. Manor House, East India Road, E.
Corner, Matthew, M.D. .. 113, Mile End Road, E
Cornish, W. R., Esq., Surg.-Genl. 8, Cresswell Gardens, S.W.
Cory, Robert, M.D. .. .. 73, Palace Road, Albert Embankment, S.E.
Cotman, J. S. E., Esq. .. 140, Minories, E.
Cottle, E. Wyndham, M.B. .. 3, Savile Row, W.
Coulson, Walter John, Esq. .. 17, Harley Street, W.
Couper, John, M.D. .. .. 80, Grosvenor Street, W.
Coupland, Sidney, M.D. .. 14, Weymouth Street, W.
Cowell, George, Esq. .. .. 3, Cavendish Place, W.
Cox, F. A., M.B. .. .. 50, South Street, Park Lane, W.
Crabb, James, M.D. .. .. 409, Holloway Road, N.
Craigie, John H., Esq. .. .. 13, Savile Row, W.
Cree, Edward H., M.D .. 1, Pemberton Villas, St. John's Park, N.
Cree, William E., Esq. .. 2, Pemberton Villas, St. John's Park, N.
Creed, Thomas, M.D. .. 6, Croom's Hill, Greenwich, S.E.
Creighton, Charles, M.D. .. 28, Great Ormond Street, W.C.
Cresswell, F., Esq. .. .. Winchmore Hill, N.
Cribb, Henry, Esq. .. .. Bishop Stortford
Cripps, W. Harrison, Esq. .. 2, Stratford Place, W.
Critchett, G. Anderson, Esq. .. 21, Harley Street, W.
Crocker, H. R., M.D. .. .. 121, Harley Street, W.
Croft, John, Esq. .. .. 48, Brook Street, W
Crosby, Thomas B., M.D. .. 21, Gordon Square, W.C.
Cross, Robert, M.D. .. .. 42, Craven Street, Strand, W.C.
Cumberbatch, L. T., M.D .. 25, Cadogan Place, S.W.
Curgenven, J. Brendon, Esq. .. 11, Craven Hill Gardens, W.
Dakin, W. R., M.D. .. .. 57, Welbeck Street, W.
Dalby, Sir William B., M.B. .. 18, Savile Row, W.
Dale, George C., M.D. .. Ivy Lodge, Upper Tooting, S.W.
Daly, Frederick H., M.D. .. 185, Amhurst Road, Hackney Downs, E.
Daniel, W. Clement, M.D. .. Epsom
Daniell, R. T., M.B. .. .. 20, Cathcart Road, West Brompton, S.W.
Dâvar, F. E., Esq. .. .. Bombay, India
Davidson, Charles, M.D. .. 29, Cassland Road, South Hackney, E.
Davies, A. T., M.B. .. .. 23, Finsbury Square, E.C.
Davies, Gomer, Esq. .. .. 9, Pembridge Villas, Bayswater, W.
Davis, Maurice, M.D. .. .. 11, Brunswick Square, W.C.
Davison, James, M.D. .. 8, Oxford Terrace, Upper Holloway Road, N.
Davson, S. H., M.D. .. .. Camden Villa, 203, Maida Vale, W.
Day, William H., M.D. .. 10, Manchester Square, W.
Day, William H., Esq. .. .. 29, Leigh Road, Highbury Park, N.
Day, W. W., M.D. .. .. Church Street, Lower Edmonton
DeBrent, Mortimer J., Esq., .. 36, Victoria Road, Clapham Common, S.W
De la Cour, George F., M.D. .. 282, Camden Road, N.W.
Délépine, Sheridan, Esq. .. 6, Chapel Place, Cavendish Square, W.
Dent, Clinton T., Esq. .. 61, Brook Street, W.
De Watteville, Baron A., M.D. .. 30, Welbeck Street, W.
Dickinson, Thomas, Esq. .. 33, Sloane Street, S.W.
Dickinson, W. H., M.D. .. 9, Chesterfield Street, W.
Dickson, Walter, M.D., R.N. .. Belvedere Road, Upper Norwood
Dingley, A., Esq .. .. 7, Argyle Square, W.C.
Dingley, William, Esq. .. .. 277, Camden Road, N.
Dixon, James, Esq. .. .. Harrow Lands, Dorking.
Dobell, H., M. D. .. .. Bournemouth.
Dodsworth, F. C., Esq. .. Arlington Park, Gunnersbury
Doran, Alban H. G., Esq. .. 9, Granville Place, W.
Douglas-Lithgow, R. A., Esq. .. 27A, Lowndes Street, S.W.
Down, J. Langdon H., M.D. .. 81, Harley Street, W.

Downes, Howard, Esq. .. 14, St. Mary's Road, Highbury, N.
Dowse, Thomas S., M.D. .. 14, Welbeck Street, W.
Drage, Charles, M.D. .. .. Hatfield, Herts.
Drake, Arthur J., Esq. .. .. Stratford, E.
Drake, Charles H., Esq. .. 204, Brixton Hill, S.W.
Drewitt, F. D., M.D. .. .. 52, Brook Street, W.
Drysdale, Charles R., M.D. .. 23, Sackville Street, W.
Duckworth, Sir Dyce, M.D. .. 11, Grafton Street, W.
Dudfield, T. O., M.D. .. .. 14, Ashburn Place, South Kensington, S.W.
Dudley, J. Gardiner, M.D. .. 71, Belgrave Road, S.W.
Duffin, A. B., M.D. .. .. 18, Devonshire Street, W.
Duka, Theodore, M.D. .. .. 55, Nevern Square, S.W.
Dumbleton, Charles E., Esq. .. 9, Robert Street, Hampstead Road, N.W.
Duncan, B. A., M.D. .. .. 29, Wimpole Street, W.
Duncan, Henry M., M.D. .. 98, Abbey Road, South Hampstead, N.W.
Duncan, James, M.B. .. .. 8, Henrietta Street, Covent Garden, W.C.
Duncan, J. Matthews, M.D., LL.D., F.R.S.E. .. .. .. 71, Brook Street, W.
Duncan, W. A., M.D. .. .. 6, Harley Street, W.
Dunn, H. Percy, Esq .. .. 3, St. Stephen's Road, W.
Dunn, R. W., Esq. .. .. 13, Surrey Street, W.C. (dead)
Du Pasquier, Claudius F. Esq. .. Church Road, Upper Norwood, S.E.
Durham, Arthur E., Esq. .. 82, Brook Street, W.
Durham, Frederick, M.B. .. 82, Brook Street, W.
East, Edward, Esq .. .. 16, Upper Berkeley Street, W.
Eastes, George, M.B. .. .. 35, Gloucester Place, Hyde Park, W.
Easton, John, M.D. .. .. 19, Norfolk Crescent, Hyde Park, W.
Eccles, A. S., M.B. .. .. 34, Leinster Square, W.
Edis, Arthur W., M.D. .. 22, Wimpole Street, W.
Edmunds, James, M.D. .. 8, Grafton Street, Bond Street, W.
Edmunds, Walter, M.D. .. 79, Lambeth Palace Road, S.E.
Edridge-Green, F. W., M.B. .. 21, Belsize Square, N.W.
Edwardes, E. J., M.D. .. 16, Acacia Road N.W.
Edwards, F. Swinford, Esq. .. 93, Wimpole Street, W.
Edwards, Thomas E., Esq. .. 98, Gloucester Crescent, Hyde Park, W.
Ellis, W. A., Esq., ... 14, Grosvenor Road, Westminster, S.W.
Elliot, H. F., Esq. .. .. Brook House, Snaresbrook, E.
English, E., Esq. .. .. 1, Manor Road, Stoke Newington
English, T. J., M.D. .. .. 128, Fulham Road, S.W.
Erichsen, J. E., Esq., F.R.S. .. 6, Cavendish Place, W.
Evans, Griffith, M.D. .. .. 208, Burrage Road, Plumstead
Evans, John T., jun., M.D. .. Hertford
Evans, William Thomas, M.B. .. 13, Westbourne Park Road, W.
Eve, Frederick S., Esq. .. 15, Finsbury Circus, E.C.
Eve, R. W., M.B. .. .. Tyrwhitt House, 101, Lewisham High Road, S.E.

Evershed, A., M.D. .. .. 10, Mansfield Villas, Hampstead, N.W.
Ewart, William, M.D. .. 33, Curzon Street, W.
Fairbank, John, Esq. .. .. 18, George Street, Hanover Square, W.
Farquharson, Robert, M.D., M.P. Migvie Lodge, Porchester Gardens, W.
Fair, Ernest, Esq. .. .. St. Helier's Uxbridge Road, Ealing, W.
Fayrer, Sir Joseph, K.C.S.I., M.D. 53, Wimpole Street, W.
Fegan, Richard, M.D. .. .. Westcombe Park, Blackheath, S.E.
Felce, Stamford, Esq. .. .. Kenmure Lodge, Elgin Avenue, St. Peter's Park, W.

Fenton, Frederick E., Esq. .. Ealing, W.
Fenton, Geo., Esq. .. .. 28, Gt. Smith Street, Westminster, S.W.
Fenwick, B., M.D. .. .. 6, West Street, E.C.
Ferrier, David, M.D., F.R.S. .. 34, Cavendish Square, W.
Ferris, John Spencer, M.B. .. High Street, Uxbridge
Field, George P., Esq. .. .. 34, Wimpole Street, W.
Field, Oliver, M.B. .. .. 39, High Street, Clapham, S.W.
Fincham, George F., M.D. .. 13, Belgrave Road, S.W.
Finlay, David W., M.D. .. 9, Lower Berkeley Street, W.
Finzi, J. M., Esq. .. .. 99, Sutherland Avenue, W.
Fisher, F. C., Esq. .. .. King's Langley, Herts
Fisher, T. J., M.D. .. .. 48, Cassland Road, South Hackney, E.
Fogo, James Surg.-Gen., M.S. .. 14, Palace Gardens Terrace, Kensington, W.
Forbes, D. M., Esq. .. .. 204, Hoxton Road, N.
Ford, James, M.D. .. .. Eltham, Kent
Forman, E. Baxter, M.D. .. 156, Stoke Newington Road, N.
Foster, Oswald H., M.B. .. Hitchin
Fotherby, H. A., Esq. .. .. 42, Perham Road, West Kensington, S.W.
Fotherby, Henry I., M.D. .. 3, Finsbury Square, E.C.
Fothergill, J. Milner, M.D. .. 3, Henrietta Street, W.C. (dead)
Foulerton, John, M.D. .. 6, Devonshire Terrace, Notting Hill, W.
Fountaine, D. O., Esq. .. 225, Camden Road, N.W.
Fowler, Charles O., M.D. .. Thornton Heath
Fraser, P. W., Esq. .. .. 27, Gaisford Road, Kentish Town, N.W.
Freeman, William H., Esq. .. 21, St. George's Square, S.W.
Friend, H. E., Esq. .. .. 30, Talbot Road, Westbourne Park, W.
Frost, William A., Esq. .. .. 17, Queen Anne Street, W.
Frye, J. H. J., Esq. .. .. 888, Old Kent Road, S.E.
Fulcher, G. F., M.B. .. .. Chingford, Essex
Fuller, C. C., Esq. .. .. 10, St. Andrew's Place, N.W.
Fuller, William, Esq. .. .. Stoke, Guildford, Surrey
Gambier, Thomas, Esq. .. Stockleigh Road, St. Leonard's-on-Sea
Gant, Frederick J., Esq. .. 16, Connaught Square, W.
Garlick, William, Esq. .. .. 11, Well Road, Hampstead, N.W.
Garman, C. E., Esq. .. .. 143, Bow Road, E.
Garman, H. V., Esq. .. .. Kent House, Bow Road E.
Gaven, James A., Esq. .. 27, South Street, Thurloe Square, S.W.
Gawith, James J., Esq. .. .. 23, Westbourne Park Terrace, W.
Gell, H. W., M.B. .. .. 43, Albion Street, Hyde Park, W.
Gervis, F. H., Esq. .. .. 1, Fellowes Road, Haverstock Hill, N.W.
Gervis, Henry, M.D. .. .. 40, Harley Street, W.
Gibbings, Alfred T., M.D. .. 93, Richmond Road, Dalston, E.
Gibbings, Ashley, Esq. .. 18, Stratford Place, W.
Gibbon, Septimus, M.B. .. 39, Oxford Terrace, W.
Gibbons, R. A., M.D. .. .. 29, Cadogan Place, S.W.
Gibson, John R., Esq. .. .. 10, Russell Square, W.C.
Gimson, Thomas S., Esq. .. 32, Fitzroy Square, W.

Goddard, C. E., Esq. .. .. Wembly, Harrow
Goddard, Eugene, M.D. .. 106, Highbury New Park, N.
Godlee, Rickman J., M.B. .. 81, Wimpole Street, W.
Godson, Charles, Esq. .. .. 1, Astwood Road, Cromwell Road, W
Godson, Clement, M.D. .. 9, Grosvenor Street, W.
Goodchild, John, Esq. .. .. 23, Thurloe Road, Hampstead, N.W.
Goodchild, John A., Esq. .. 23, Thurloe Road, Hampstead, N.W.
Goodhart, James F., M.D .. 25, Weymouth Street, W.
Gordon, C. A., M.D., C.B., Surg.-Gen. 25, Westbourne Square, W.
Goude, H., M.D. .. .. Small Pox Hospital, Highgate Hill, N.
Gould, A. P., M.B. .. .. 16, Queen Anne Street, W.
Gover, Robert M., M.D. .. 41, St. Quintin Avenue, North Kensington, W
Gowers, William R., M.D. .. 50, Queen Anne Street, W.
Gowlland, Peter, Esq. .. .. 34, Finsbury Square, E.C.
Grant, Alexander, M.D. .. 370, Commercial Road, E.
Grant, J. Dundas, M.D. .. 17, Finsbury Square, E.C.
Graves, F. G., M.D. .. .. 14, Chichester Road, W.
Green, T. Henry, M.D. .. 74, Wimpole Street, W.
Greenwood, Arthur, Esq. .. 3, Hornsey Rise Gardens, N.
Greenwood, E. C., Esq. .. 19, St. John's Wood Park, N.W.
Greenwood, George, Esq. .. Riseley, Bush Hill Park, Enfield
Greenwood, Major, jun., M.D. .. 18, Queen's Road, Dalston, E.
Greet, W. A., Esq. .. .. 1, Penton Place, King's Cross Road, W.C.
Gregson, George, Esq. .. 63, Harley Street, W.
Griffith, John T., M.D. .. Talfourd House, Camberwell, S.E.
Griffith, W. S. A., M.B. .. 114, Harley Street, W.
Grigg, W. C., M.D. .. .. 27, Curzon Street, Mayfair, W.
Gristock, W., M.D. .. .. 6, Finchley Road, N.W.
Gross, Charles, Esq. .. .. East Dulwich Grove, Champion Hill, S.E.
Grosvenor, Alfred O., M.D. .. Priory Road, West Hampstead, N.W.
Grosvenor, G. F., M.D. .. 121, Ladbroke Grove, W.
Grubb, J. S., Esq. .. .. Silsoe Villa, Uxbridge Road, Ealing, W.
Gubb, A. S., M.D. .. .. 29, Gower Street, W.C.
Gull, Sir Wm. W., Bart., M.D., D.C.L., F.R.S. .. .. 74, Brook Street, W.
Gunn, R. M., M.B. .. .. 54, Queen Anne Street, W.
Gwynn, Edmund, M.D. .. 2, Rosslyn Hill, N.W.
Habershon, Samuel O., M.D. .. 70, Brook Street, W.
Hadden, Walter B., M.D. .. 21, Welbeck Street, W.
Haig, Alexander, M.B. .. Woodcroft, Grove Park, Lee, S.E.
Hall, Frederick, Esq. .. .. 1, Jermyn Street, S.W.
Hall, F. de Havilland, M.D. .. 47, Wimpole Street, W.
Haliburton, W. D., M.D. .. 25, Maitland Park Villas, Haverstock Hill, N.W.
Hamilton, J. Lawrence, Esq. .. 1, Bathurst Street, Sussex Square, W.
Handfield-Jones, C. M., M.D. .. 24, Montague Square, W.
Hare, Charles J., M.D. .. 15, Manchester Square, W.
Harle, Ezra, Esq. .. .. Eagle Villa, Darnley Road, Hackney, E.
Harper, Gerald S., M.B. .. 5, Hertford Street, W.
Harries, A. J., M.D. .. .. 12, Pall Mall East, S.W
Harris, C. J., Esq. .. .. 4, Kilburn Priory, N.W.
Harris, Vincent D., M.D. .. 31, Wimpole Street, W.
Hart, Ernest, Esq. .. .. 38, Wimpole Street, W.
Hartley, E., Esq. .. .. 31, Warwick Square, S.W.
Hartt, C. H., Esq. .. .. 5, Romney Terrace, Greenwich, S.E.
Harthorne, B. F., Esq. .. Blenheim Lodge, Chiswick, W.
Haslam, W. D., M.D. .. .. 19, Mecklenburgh Square, W.C.
Haward, E., M.D. .. .. 9, Wimpole Street, W.
Hawkins, H. P., M.B. .. .. St. Thomas's Hospital, S.E.
Hawksley, Thomas, M.D. .. 11, Victoria Mansions, S.W.
Hayes, T. C., M.D. .. .. 17, Clarges Street, W.
Hayward, H. Howard, Esq. .. 38, Harley Street, W.
Heath, Christopher, Esq. .. 36, Cavendish Square, W.
Hemming, W. B., Esq. .. 5, Norland Terrace, Notting Hill
Henry, Alex., M.D. .. .. 132, Highbury Hill, N.
Henty, George, M.D .. .. 302, Camden Road, N.
Herman, G. E., M.B. .. .. 20, Harley Street, W.
Heron, George A., M.D. .. 57, Harley Street, W.
Herringham, W. P., M.B. .. 22, Bedford Square, W.C.
Hess, Augustus, M.D. .. 14, City Road, E.C.
Hewby, J. P., Esq. .. .. 31, Blenheim Crescent, W.
Hewitt, F. W., M.D. .. .. 10, George Street, Hanover Square, W.
Hewitt, W. M. Graily, M.D. .. 36, Berkeley Square, W.
Hickman, William, M.B. .. 1, Dorset Square, N.W.
Hicks, G. Borlase, Esq. .. 149, Amhurst Road, Hackney, E.
Hicks, J. Braxton, M.D., F.R.S. 24, George Street, Hanover Square, W.
Higgens, Charles, Esq. .. 38, Brook Street, W.
Hill, A. W., Esq. .. .. Terowie, S. Australia
Hill, Berkeley, M.B. .. 66, Wimpole Street, W.
Hill, Frederick A., M.D. .. Glengarry, West End Lane, N.W.
Hill, Samuel, M.D. .. .. 22, Mecklenburgh Square, W.C.
Hill, T. Harvey, Esq. .. 34, St. John Street, Oxford
Hill, William B., Esq. .. 105, Camberwell Road, S.E.
Hilliard, R. Harvey, M.D. .. Aylesbury, Bucks
Hills, A. P., Esq. .. .. Carlton House, Bridge Road, Battersea, S.W.
Hobson, John M., M.D. .. 65, Lower Addiscombe Road, Croydon
Hogg, A. J., Esq. .. .. Westbourne Villa, Ealing, W.
Hodges, Herbert B., Esq. .. Watton, Hertford
Holding, Charles, Esq. .. 107, Victoria Street, S.W.
Holman, William H., M.B. .. 68, Adelaide Road, South Hampstead, N.W.
Holt, Barnard, Esq. .. .. 14, Savile Row, W.
Hood, D. W. Charles, M.D. .. 43, Green Street, W.
Hope, Wm., M.D. .. .. 56, Curzon Street, Mayfair, W.
Horrocks, P., M.D. .. .. 9, St. Thomas's Street, E.C.
Horsley, Prof. Victor, F.R.S. .. 80, Park Street, W.
Hoskin, Theophilus, Esq. .. 186, Amhurst Road, E.
Houchin, E. K., Esq. .. .. 23, High Street, Stepney, E.
Hovell, T. M., Esq. .. .. 3, Mansfield Street, Cavendish Square, W.
Howell, Horace S., M.D. .. 18, Boundary Road, St. John's Wood, N.W.
Howell, T. A. Ives, Esq. .. West Hill, Wandsworth, S.W.
Howse, Henry G., M.S. .. 59, Brook Street, W.
Hubbard, H. W., Esq. .. .. 19, Elgin Crescent, Notting Hill, W.
Huggard, W. R., M.D. .. Davos Platz, Switzerland

Hulke, John W., Esq., F.R.S. .. 10, Old Burlington Street, W.
Humby, Edwin, M.D. .. 83, Hamilton Terrace, St. John's Wood, N.W.
Hume, F. H., M. D. .. 53, Devonshire Street, Islington N.
Humphreys, F. W., Esq. .. 24, Sinclair Gardens, W.
Hunt, Joseph W., M.D. .. 101, Queen's Road, Dalston, E.
Hunter, Sir Guyer, M.D., M.P. .. 21, Norfolk Crescent, W.
Hutchinson, Jonathan, Esq. F.R.S. 15, Cavendish Square, W.
Hutchinson, S. J., Esq. .. 64, Brook Street, W.
Hutton, R. J., Esq. .. Stapleton House, Stapleton Hall Road, N.
Ibbetson, George A., Esq. .. 19A, Hanover Square, W.
Inman, R. E., Esq. .. .. 243, Hackney Road, E.
Irving, John, M.D. .. .. Holly Lodge, Leytonstone, E.
Jackman, T. S. H., Esq. .. 11, Stoke Newington Road, N.
Jackson, George E. C., Esq. .. Marlborough House, 17, Poland Street W.
Jackson, J. Hughlings M.D., F.R.S. .. .. .. 3, Manchester Square, W.
Jackson, P. J. Esq. .. .. 216, Great Dover Street, S.E.
Jackson, Robert A., Esq. .. 13, Ladbroke Grove, Notting Hill, W.
Jacobson, W. H. A., M.Ch. .. 66, Great Cumberland Place, W.
Jacques, Edwin, M.D... .. 206, Brixton Road, S.W.
Jagielski, Victor, M.D. .. 54, York Terrace, Regent's Park, N.W.
James, John, M.B. .. .. 11, Thurloe Square, S.W.
James, Joseph B., Esq. .. 47, Jamaica Road, Bermondsey, S.E.
James, M. Prosser, M.D. .. 3, Deanery Street, Park Lane, W.
James, W. Culver, M.D .. 11, Marloes Road, Kensington, W.
Jamieson, A. A., M.D. .. 26, Lowndes Street, S.W.
Jardine, James, M.B. .. .. 1, Larkfield Road, Richmond
Jeken, Jas., Esq. .. .. Eltham, Kent
Jenner, Sir Wm., Bart., K.C.B., M.D., D.C.L., F.R.S. .. 63, Brook Street, W. (resigned)
Jennings, C. E., Esq. .. .. 15, Upper Brook Street, W.
Jepson, Octavius, M.D. .. Elmfield, Newlands Park, Sydenham, S.E.
Jessop, W. H. H., M.B. .. 73, Harley Street, W.
Johnson, George, M.D., F.R.S. .. 11, Savile Row, W.
Johnston, Joseph, M.D., Brig.-Surg. M.S. .. .. .. 24, St. John's Wood Park, N.W.
Johnston, W. B.. M.D. .. 157, Jamaica Road, Bermondsey, S.E.
Jones, A. O'Brien, Esq. .. The Shrubbery, Epsom
Jones, Edward A., Esq. .. 413, Kingsland Road, N.
Jones, Philip W., Esq... .. Enfield
Jones, Sydney, Esq. .. .. 16, George Street, Hanover Square, W
Jones, T. Ridge, M.D... .. 4, Chesham Place, S.W.
Jones, W., Esq. .. .. Sycamore House, Edmonton
Juler, Henry E. Esq. .. . 77 Wimpole Street, W.
Keen, E., Esq. .. .. 16, Finsbury Circus, E.C.
Keetley, C. B., Esq. .. .. 10, George Street, Hanover Square, W.C.
Kelly, Bernard, M.D. .. .. 12, Plough Road, Rotherhithe, S.E.
Kennedy, Alfred E., Esq. .. Plaistow
Kennedy, D., M.D. .. .. 100, Burdett Road, E.
Kerr, Norman S., M.D. .. 42, Grove Road, N.W.
Keess, Jas., M.D., Surg.-Maj. R.I.M.D. .. .. ..
Key, A. Cooper, Esq. .. .. 30, Wilton Place, S.W.
Kialmark, Henry W., Esq. .. 5, Pembridge Gardens, W.
King, W. Talbot, M.D. .. Glynes Villa, Amhurst Park, Stamford Hill N
Kingdon, John A., Esq. .. 2, Bank Buildings, E.C.
Kirby, Alfred, Esq. .. .. 71, High Street, Deptford, S.E.
Kisch, Albert, Esq. .. .. 186, Sutherland Avenue, Maida Hill, W.
Knight, G. D., M.B. .. .. 410, Brixton Road, S.W.
Lamb, W. H., M.B. .. .. 46, Kensington Park Gardens, W.
Lang, Wm., Esq. .. .. 26, Upper Wimpole Street, W.
Langmore, John C., M.B. .. 20, Oxford Terrace, W.
Langston, Thomas, Esq. .. 29, Broadway, Westminster, S.W.
Langton, John, Esq. .. .. 2, Harley Street, W.
Latham, C. L., Esq. .. .. 442, Hackney Road, E.
Law, W. T., M.D. .. .. 9, Norfolk Crescent, Hyde Park, W.
Lawrance, F., Esq. .. .. 1, St. Albans Terrace, Hammersmith, W.
Lawrence, Henry Cripps, Esq. .. 49, Oxford Terrace, Hyde Park, W.
Lawrence, L. A., Esq... .. Maresfield Gardens, South Hampstead, N.W.
Lawson, George, Esq. .. .. 12, Harley Street, W.
Lee, Henry, Esq. .. .. 9, Savile Row, W.
Lees, David B., M.D. .. .. 22, Weymouth Street, W.
Leigh, William, Esq. .. .. Chiswick, W.
Lemon, O., Esq. .. .. King's Langley, Herts
Leonard, Henry J., M.B. .. 279, Camden Road, N.
Lewers, A. H. N., M.D. .. 60, Wimpole Street, W.
Lichtenberg, George, M.D. .. 47, Finsbury Square, E.C.
Ligertwood, Thomas, M.D. .. Royal Hospital, Chelsea, S.W.
Lipscomb, John T. N., M.D. .. St. Alban's
Lipscomb, Richard N., Esq. .. 52, Cambridge Road, Brighton
Littlejohn, Saltern J., M.B. .. Hanwell, W.
Liveing, Edward, M.D. .. 52, Queen Anne Street, W.
Liveing, Robert, M.D... .. 11, Manchester Square, W.
Llewellyn, Ernest Evan, Esq. .. 152, Whitechapel Road, E.
Llewellyn, Evan, Esq. .. .. The Limes, Bow Road, E.
Loane, Joseph, Esq. .. .. 1, Dock Street, Whitechapel, E.
Lockhart, W., Esq. .. .. 67, Granville Park, Blackheath, S.E.
Lockwood, C. B., Esq... .. 19, Upper Berkeley Street, W.
Lomas, William, M.D... .. 5, Pall Mall, S.W.
Longhurst, A. K., Esq. .. Mount Park Road, Ealing, W.
Longstaff, George B. M.B. .. West Hill Road, Wandsworth, S.W.
Lowne, Benjamin T., Esq. .. 65, Cambridge Gardens, W. (resigned)
Lubbock, Montague, M.D. .. 19, Grosvenor Street, W.
Lucas, R. Clement, M.B. .. 18, Finsbury Square, E.C
Lucey, W. Cubitt, M.D. .. The Elms, Bush Hill Park, Enfield
Lunn, J. R., Esq. .. .. Marylebone Infirmary, Notting Hill, W
Lynch, J. Roche, Esq .. .. 8, Boyne Terrace, Holland Park, W.
McAndrew, James J., Esq. .. 125, Three Colt Street, Limehouse, E.
Mac Cormac, Sir William .. 13, Harley Street, W.
MacCormack, M. J., M.B., Surg.-Maj. 15, Pembridge Place, Bayswater, W.
MacDonagh, J. A., Esq. .. 64, Parliament Hill Road, Hampstead, N.W.
McDonnell, W. Campbell, Esq. .. Park House, Park Lane, Stoke Newington, N

Macfee, John, M.D. .. .. 176, Commercial Road, E
Mackellar, A. O., M.D. .. 22, George Street, Hanover Square, W.
McKellar, Peter H., M.B. .. Fever Hospital, Stockwell, S.W.
Mackenzie, F. M., Esq. .. 29, Hans Place, S.W.
Mackenzie, G. Welland, Esq. .. 13, William Street, Lowndes Square, S.W.
Mackenzie, H. W. G., M.B. .. St. Thomas's Hospital, S.E.
Mackenzie, J. Ingleby, M.B. .. 47B, Welbeck Street, W.
Mackenzie, Sir Morell, M.D. .. 19, Harley Street, W.
Mackenzie, Stephen, M.D. .. 18, Cavendish Square, W.
Mackern, J., M.D. .. .. 30, Cambridge Street, Hyde Park, W.
Mackinlay, J. G., Esq. .. 15, Stratford Place, W.
Mackintosh, George D. Esq. .. 46, Grove Road, Victoria Park, E.
Maclagan, T. J., M.D. .. 9, Cadogan Place, S.W.
Maclaren, Alexander C., Esq. .. 60, Harley Street, W.
Maclean, Allan, Esq. .. .. Harpenden Hall, St. Albans
Macnamara, Charles, Esq. .. 13, Grosvenor Street, W.
Macpherson, John, M.D .. 35, Curzon Street, W.
Macpherson, Peter, M.D .. 81, Queen's Road, Brownswood Park, N.
Madge, Henry M. M.D. .. 4, Upper Wimpole Street, W
Maguire, R., M.D. .. .. St. Mary's Hospital, W.
Mair, R.S., M.D. .. .. 28, Ledbury Road, Bayswater, W.
Malcolm, John D., M.B. .. 24, Bryanstone Street, W.
Male, Herbert C., M.B. .. Shaftesbury House, Grays, Essex
Mapother, E.D., M.D. .. 32, Cavendish Square, W.
Markey, E. C., Brig.-Surg. M.S. Junior United Service Club, St. James's Street, S.W.
Marsh, Howard, Esq. .. .. 30, Bruton Street, W.
Marshall, Francis, J., Esq. .. St. George's Hospital, S.W.
Marshall, John, Esq., F.R.S. .. 10, Savile Row, W
Marshall, John, Esq. .. .. 143, Grange Road, Bermondsey, S.E.
Marshall, William G., Esq. .. Asylum, Colney Hatch, N.
Martin, Henry Arthur, M.D. .. 1, Philbeach Gardens, S.W.
Martin, Henry C., M.D. .. 11, Somers Place, W.
Martin, Sidney H. C., M.D. .. 60, Gower Street, W.C.
Mason, J. Wallis, Esq. .. 1, Osnaburgh Terrace, Regent's Park, N.W.
Massey, Hugh H., Esq. .. 2, North Terrace, Camberwell S.E.
May, E. Hooper, M.D. .. Tottenham
May, G. Parker, M.D. .. Maldon, Essex
May, Lewis J., Esq. .. .. Seven Sisters' Road, N.
May, W. Costall, Esq. .. 52, Tregunter Road, S.W.
Meagher, J. S., Esq. .. .. 10, Manchester Street, W.
Medwin, A. G., M.D. .. .. 34, Bruton Street, W.
Meiklejohn, J. W. S., M.D. .. 105, Holland Road, W.
Mennell, Z., Esq. .. .. Oxford House, Shepherd's Bush Road, W.
Meredith, W. A., M.B. .. 6, Queen Anne Street, W.
Merriman, J. J., Esq. .. .. 45, Kensington Square, W.
Metcalfe, Edmund, Esq. .. 55, Clifton Gardens, Maida Vale, W.
Mickle, William J., M.D. .. Grove Hall, Bow, E.
Mickley, George, M.B. .. St. Luke's Hospital, E.C.
Mifsud, A. E., Esq. .. .. Valletta, Malta
Millar, John, Esq., ... Bethnal House, Cambridge Road, E.
Miller, A., M.D. .. .. 5, Grosvenor Street, W.
Miller, H. P., Esq. .. .. 100, Stoke Newington Road, N.
Milne, R. M.D. .. .. 22, Mornington Road, Bow Road, E.
Milson, R. H., M.D. .. 88, Finchley Road, N.W.
Mitchell, Robert N., M.D. .. Wickham Road, Lewisham, S.E.
Mitcheson, J. H., Esq., .. Bridport Hall, Edmonton
Mivart, F. St. G., Esq. .. Beaumont, Warple Road, Wimbledon
Money, Angel, M.D. .. .. 24, Harley Street, W.
Monro, Henry, M.D. .. .. 14, Upper Wimpole Street, W.
Morgan, John H., Esq. .. 68, Grosvenor Street, W.
Morison, Alexander, M.D. .. 115, Green Lanes, N.
Morison, B. G., M.B. .. .. 70, Marquess Road, N.
Morison, John, M.D. .. .. Victoria Street, St. Albans
Morris, Henry, M.B. .. .. 2, Mansfield Street, W.
Morris, James, M.D. .. .. 13, Somers Place, Hyde Park, W.
Morris, Malcolm A., Esq. .. 8, Harley Street, W.
Morton, Thomas, M.D. .. 15, Greville Road, Kilburn, N.W.
Moullin, C. W. Mansell, M.D. .. 80, Porchester Terrace, W.
Moullin, J. A. Mansell, M.B. .. 69, Wimpole Street. W.
Mowat, George, Esq. .. .. 49, St. Peter's Street, St. Albans
Muir, James, C. P., Esq. .. 94, Ladbroke Grove, W.
Mumford, W.L., M.D. .. 60, Fetter Lane, E.C.
Mummery, J. H., Esq. .. 10, Cavendish Place, W.
Murphy, S. F., Esq. .. .. 41, Queen Anne Street, W.
Murphy, Thomas C., Esq. .. 28, Brunswick Square, W.C.
Murray, A. D., M.B. .. Rickmansworth
Murrell, William, M.D. .. 38, Weymouth Street, W.
Musgrave, J. T., Esq. .. .. Irlam Villa, Finchley Road, N.W.
Myers, Arthur B. R., Surg.-Maj. .. 43, Gloucester Street, S.W.
Neale, R. M.D. .. .. 60, Boundary Road, N.W.
Nettleship, Edward, Esq. .. 5, Wimpole Street, W.
Nicholson, Emilius R. M.D. .. 89, Camden Road, N.W.
Nicholson, Wm., M.D. .. 2, Kent Villas, East Greenwich, S.E.
Nicoll, T. V , Esq .. .. Glenarm House, Upper Clapton, E
Nix, Edward J., M.D. .. 143, Gt. Portland Stree W
Norton, John, Esq. .. .. 38, John Street, Bedford Row, W.C.
Nunn, T. W., Esq. .. .. 8, Stratford Place, W.
O'Bryen, James, M.D... .. 19, Champion Park, Sydenham, S.E.
Odell, William, Esq. .. .. Hertford
Ogilvie, Chas. F., M.D., Surg.-Mj. Waltham Road, Croydon
Oliver, F. H., Esq. .. .. 2, Kingsland Road, E.
Oppenheim, Lewis, Esq. .. 27, Cleveland Gardens, Hyde Park, W
Ord, William M., M.D. .. 37, Upper Brook Street, W.
Orwin, Arthur W., M.D. .. 15, Weymouth Street, W.
Oswald, J. W. J., M.D. .. 245, Kennington Road, S.E.
Oswald, R. J. W., Esq. .. 212, Clapham Road, S.W.
Owen, Edmund, M.B. .. .. 49, Seymour Street, W.
Owen, Isambard, M.D. .. 5, Hertford Street, W.
Paget, Sir Jas., Bt., D.C.L., F.R.S. 1, Harewood Place, W.
Paramore, Richard, M.D. .. 2, Gordon Square, W.C.
Parker, Wm., Esq. .. .. 3, Tollington Park, Holloway, N.

Parker, Robert W., Esq., .. 8, Old Cavendish Street, W.
Parrott, Edward J., Esq. .. Hayes, Middlesex
Parsons, Sidney, Esq., .. 78, Kensington Park Road, W.
Patten, Charles A., Esq. .. Marpool House, Ealing, W.
Paul, John H., M.D. .. .. The Terrace, Camberwell, S.E.
Paul, J. Liston, M.D. .. 43, Queensborough Terrace, W.
Pavy, Frederick W., M.D., F.R.S. 35, Grosvenor Street, W.
Payne, J. Frank, M.D. .. 78, Wimpole Street, W.
Pearce, Walter, M.B. .. .. 63, Montague Square, W.
Pearse, W. E. G., Esq. .. 24, Bessborough Gardens, S.W.
Pedler, George H., Esq. .. 6, Trevor Terrace, Knightsbridge S.W.
Pedley, R. D., Esq. .. .. Idmiston Road, W. Norwood, S.E.
Pepper, A. J., Esq. .. .. 13, Wimpole Street, W.
Pergal, Arthur, M.D. .. Station Road, New Barnet
Pettifer, Edmund H. Esq. .. 32, Newington Green, N.
Phillips, C. F. D., M.D. .. 10, Henrietta Street, Cavendish Square, W.
Phillips, John, M.B. .. .. 125, Harley Street, W.
Phillips, Sidney, M.D. .. .. 21, Upper Berkeley Street, W.
Philpot, J. H., M.D. .. .. 13, South Eaton Place, S.W.
Picard, P. Kirkpatrick, M.D. .. 59, Abbey Road, N.W.
Pitt, G. N., M.D. .. .. 10, St. Thomas's Street, S.E.
Pitts, Bernard, M.B. .. .. 31, Harley Street, W.
Plaister, W. H., Esq. .. .. Pembury House, Tottenham, N.
Platt, W. H., M.D. .. .. West End Lane, Hampstead.
Playfair, W. S., M.D. .. .. 31, George Street, Hanover Square, W.
Plowman, S., Esq. .. .. 2, The Residence, St. Thomas's Hospital, S.E.

Pocock, F. E., M.D. .. .. The Limes, St. Mark's Rd., Notting Hill, W.
Pocock, Walter, Esq. .. .. 58, Brixton Hill, S.W.
Poland, John, Esq .. .. 16, St. Thomas's Street, Southwark, S.E.
Pollock, James E., M.D. .. 52, Upper Brook Street, W.
Pollock, Robert J., Esq. .. Oak Lodge, Wimbledon Park, S.W.
Poore, G. V., M.D. .. .. 30, Wimpole Street, W.
Pope, Edward, Esq. .. .. Tring, Herts
Pope, H. Campbell, M.D. . 280, Goldhawk Road, Shepherd's Bush, W.
Port, Heinrich, M.D. .. .. 48, Finsbury Square, E.C.
Potter, George, W., M.D. .. 3, Belsize Terrace, N.W.
Powdrell, John, Esq. .. .. 160, Euston Road, N.W.
Powell, R. Douglas, M.D. .. 62, Wimpole Street, Cavendish Square, W.
Power, Henry, M.B. .. .. 37A, Gt. Cumberland Place, Hyde Park, W.
Pratt, G. A., Esq. .. .. Wolverhampton.
Preston, W. J., M.D. .. .. 4, Abercorn Place, N.W.
Price, J. A. P., M.B. .. .. 41, Castle Street, Reading
Pridham, Charles W., Esq. .. 62, Hogarth Road, S.W.
Priestley, R. C., M.B. .. .. 65, Upper Berkeley Street, W.
Priestley, W. O., M.D. .. 17, Hertford Street, Mayfair, W.
Pritchard, Urban, M.D. .. 3, George Street, Hanover Square, W.
Purves, W. Laidlaw, M.D. .. 20, Stratford Place, Oxford Street, W.
Purvis, J. P., Esq. .. .. 38, Royal Hill, Greenwich, S.E.
Pye, Walter, Esq. .. .. 4, Sackville Street, W.
Pye-Smith, Philip H., M.D. .. 54, Harley Street, W.
Quain, Richard, M.D., F.R.S. .. 67, Harley Street, W.
Ralfe, C. H., M.D. .. .. 26, Queen Anne Street, W.
Randall, John, M.D. .. .. 204, Adelaide Road, N.W.
Rasch, Adolphus, M.D. .. 7, South Street, Finsbury, E.C.
Rayner, Henry, M.D. .. .. Leam, Leamington
Rayner, J. A., Esq. .. .. 346, Kingsland Crescent, E.
Read, Thomas L., Esq. .. 11, Petersham Terrace, Kensington, S.W.
Reilly, F. J., Esq. .. .. 154, Globe Road, E.
Reynolds, J. Russell, M.D., F.R.S. 38, Grosvenor Street, W.
Rice, George, M.B. .. .. Sutton, Surrey
Richardson, Benj. W., M.D., F.R.S. 25, Manchester Square, W.
Rickards, Walter, M.D. .. 8, Cavendish Place, W.
Rigden, Walter, Esq. .. .. 16, Thurloe Place S.W.
Ring, E. Cuthbert, Esq. .. 55, New Bond Street, W.
Ring, John, M.D. .. .. 12, Cambridge Gardens, Kilburn, N.W.
Ringer, Sydney, M.D. .. .. 15, Cavendish Place, W.
Rivington, Walter, Esq. .. 22, Finsbury Square, E.C.
Roberts, Arthur, Esq. .. .. 30, Kensington Square, W.
Roberts, David W., M.D. .. 56, Manchester Street, W.
Roberts, Frederick T., M.D. .. 102, Harley Street, W.
Roberts, J. Coryton, Esq. .. Avenue House, Peckham Rye, S.E.
Roberts, Henry W., Esq. .. Wickham Terrace, Lewisham High Rd., S.E.
Roberts, John D., Esq. .. Uxbridge Road, Ealing
Roberts, T., Esq. .. .. Tredegar Road, Bow, E.
Robinson, A. H., M.D. .. Mile End Infirmary, Bancroft Road, E.
Robinson, Thomas, M.D. .. 5, Woburn Square, W.C.
Roe, A. D., M.B. .. .. 47, West Hill, Wandsworth, S.W.
Roeckel, W. J., M.B. .. .. 7, Grosvenor Street, W.
Rogers, Braithwaite, M.D. .. 2, Upper Westbourne Terrace, W.
Rogers, George A., Esq. .. 164, High Street, Shadwell, E.
Rogers, Hildyard, Esq. .. 43, Uxbridge Road, W.
Rogers, Joseph, M.D. .. .. 27, Heath Street, Hampstead, N.W.
Rogers, William R., M.D. .. 56, Berners Street, Oxford Street, W.
Rogers-Harrison, C. H., Esq. .. 55, Stockwell Road, S.W.
Rogers Tillstone, H., M.B. .. 11, Englefield Road, N.
Rose, Henry Cooper, M.D. .. Hampstead, N.W.
Rose, W., M.B. .. .. 50, Harley Street, W.
Routh, Amand, J. McC., M.D. .. 6, Upper Montagu Street, W.
Routh, C. H. F., M.D. .. 52 Montagu Square, W.
Royston, Charles, M.D. .. 1, St. Stephen's Crescent, Westbourne Pk., W.
Rudyard, Alfred T., M.D. .. Watford, Herts
Rugg, B. Alfred, Esq. .. .. Park Avenue, Wood Green, N.
Rugg, G. L., Esq. .. .. Ivy Bank, Crown Hill, West Norwood, S.E.
Rutherfoord, H. T., M.B. .. 46, Queen Anne Street, W.
Rygate, John J., M.B. .. .. 126, Cannon Street Road, E.
Rymer, J. Francis, Esq. .. 1, Ashford Road, Maidstone
Salter, J. H., Esq. .. .. Tolleshunt D'Arcy, Essex
Sanders, J. W., M.D. .. .. Bethnal Green Infirmary, E.
Sandwell, Edward, Esq. .. 10, Soho Street, W.
Sangster, C., Esq. .. .. 148, Lambeth Road, S.E.
Sansom, Arthur E., M.D. .. 84, Harley Street, W

Saul, William, M.D. .. .. 44, Bedford Square, W.C.
Saunders, Charles, E., M.D. .. County Asylum, Hayward's Heath
Saunders, Sir Edwin .. .. 13A, George Street, Hanover Square, W.
Savage, George H., M.D. .. 3, Henrietta Street, Cavendish Square, W.
Savill, T. D., M.D. .. .. Paddington Infirmary, Harrow Road, W.
Schmidt, Alfred E., Esq. .. 150, Bethnal Green Road, E.
Schofield, F., M.D. .. .. Camberwell House, Camberwell, S.E.
Scott, Francis, Esq. .. .. Upper Edmonton
Scott, John, Esq. .. .. 10, Tavistock Square, W.C.
Sedgwick, Leonard W., M.D. .. 2, Gloucester Terrace, W.
Semon, Felix, M.D. .. .. 39, Wimpole Street, W.
Semple, Robert H., M.D. .. 8, Torrington Square, W.C.
Sequeira, H. L., Esq. .. .. 34, Jewry Street, Aldgate, E.C. (dead)
Sequeira, James S., Esq. .. Crescent House, Cassland Road, E.
Seton, David E., M.D. .. 110, Cromwell Road, South Kensington, S.W.
Sewell, C. Brodie, M.D. .. 21, Cavendish Square, W.
Sewill, H., Esq. .. .. 40, Wimpole Street, W.
Shadwell, St. Clair, B., Esq. .. Lynhurst, Walthamstow
Sharkey, Seymour J., M.D. .. 2, Portland Place, W.
Shaw, G., Esq. .. .. Enfield Highway
Shaw, James, F.R.C.S., Insp. Genl. of Hospitals .. .. 68, Thicket Road, Anerley, S.E.
Sheehy, W. H. P., Esq. .. 4, Claremont Square, N.
Sheldon, T., M.D. .. .. 123, Cornwall Road, Notting Hill, W.
Shelly, C. E., M.B. .. .. Hertford
Shemmonds, J. O., Esq. .. 27, Cambridge Road, Kilburn, N.W.
Shepherd, W. G., M.D. .. 30, Myddelton Square, E.C.
Sheppard, W., Esq. .. .. 67, Eaton Rise, Ealing, W.
Sheppard, W. J., M.D. .. Laurel House, Putney, S.W.
Shillitoe, Buxton, Esq. .. 2, Frederick Place, Old Jewry, E.C.
Shillitoe, Richard, Esq. .. Hitchin
Sibley, S. W., Esq. .. .. 7, Harley Street, W.
Sieveking, Sir Edward H., M.D. .. 17, Manchester Square, W.
Silcock, A. Q., M.D. .. .. 101, Harley Street, W.
Simms, Frederick, M.B. .. 6, Mandeville Place, W.
Simpson, G., Esq. .. .. 763, Old Kent Road, S.E.
Slight, George, M.D. .. .. 3, Clifford Street, New Bond Street, W.
Slimon, William, M.B. .. 4, York Place, Bow Road, E.
Slyman, William D., Esq. .. 26, Caversham Road, N.W.
Smale, M. A., Esq. .. .. 89, Seymour Street, Hyde Park, W.
Smith, Alder H., M.B. .. .. Christ Hospital, E.C.
Smith, E. Noble, Esq. .. .. 24, Queen Anne Street, W.
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Smith, G., Esq. .. .. The Acacias, Upper Clapton, E.
Smith, T. Gilbart, M.D. .. 68, Harley Street, W.
Smith, Herbert A., Esq. .. 9, Grange Park Terrace, Ealing
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Smith, John, M.D. .. .. Lindores, Highfield Park, Rockferry, Cheshire
Smith, Protheroe, M.D. .. Queen's Hotel, Farnborough
Smith, Richard T., M.D. .. 53, Haverstock Hill, N.W.
Smith, Roland D., Esq. .. 1, Clapton Square, E.
Smith, R. Percy, M.D. .. Bethlem Royal Hospital. St. George's Road
Smith, Walter, M.D. .. .. 2, Stanhope Terrace, Regent's Park, N.W.
Smith, W. Johnson, Esq. .. Seamen's Hospital, Greenwich
Snell, Edward A., M.B. .. 70, City Road, E.C.
Solly, E., M.D. .. .. St. Thomas's Hospital, S.E.
Soutter, Mansfield C., Esq. .. 8, Cumberland Terrace, Finsbury Park, N.
Spicer, Scanes, M.D. .. .. 28, Welbeck Street, W.
Spokes, P. Sidney, Esq. .. 59, Queen Anne Street, W.
Spooner, F. H., M.D. .. .. Maitland Lodge, Clapton, E.
Staples, J. H. P., M.D. .. 9, Burwood Place, Norfolk Crescent, W.
Startin, James, Esq. .. .. 17, Sackville Street, W.
Steele, Russell, M.D. .. .. Hemel Hempstead
Steele, W. C., Esq. .. .. 1, Florence Terrace, Ealing Common, W.
Stephens, L. E. W., Esq. .. Emsworth, Hants
Stevenson, T., M.D. .. .. 45, Gresham Road, S.W.
Stewart, A., Esq. .. .. 48, Cornhill, E.C.
Stewart, H. C., Esq. .. .. 22, North Bank, N.W.
Stewart, William E., Esq. .. 16, Harley Street, W.
Stewart, W. R. H., Esq. .. 41, Devonshire Street, Portland Place, W.
Stilwell, Henry, M.D. .. .. Hillingdon, Uxbridge
Stiven, E. W. F., M.D. .. Harrow
Stocker, Alonzo H., M.D. .. Peckham House, Peckham, S.E.
Stoker, George, Esq. .. .. 14, Hertford Street, Mayfair, W.
Stokes, Henry F., Esq. .. 2, Highbury Crescent, N.
Stowers, James H., M.D. .. 23, Finsbury Circus, E.C.
Stowers, Nowell, Esq. .. .. 166, Clapham Road, S.W.
Strange, W. Heath, M.D. .. 2, Avenue, Belsize Park, N.W.
Strugnell, F. W., Esq. .. .. 45, Highate Road, N.W.
Sturge, H. H., Esq. .. .. Tembu House, New Eltham, S.E.
Sutherland, Henry, M.D. .. 6, Richmond Terrace, Whitehall, S.W.
Sweeting, R. D. R., Esq. .. Fever Hospital, Fulham, S.W.
Swindell, Joseph J., Esq. .. North End, Finchley, N.
Sykes, J. F. J., M.B. .. .. 171, Camden Road, N.W.
Sylvester, Henry, T., M.D. .. 7, Bessborough Gardens, Pimlico, S.W.
Symonds, C. J., Esq. .. .. 26, Weymouth Street, W.
Sympson, E. M., Esq. .. .. James Street, Lincoln
Tait, Edward, M.B. .. .. 54, Highbury Park, N.
Tait, Edward W., Esq. .. .. 54, Highbury Park, N.
Tanner, John, M.D. .. .. 19, Queen Anne Street, W.
Tapson, J. A., Esq. .. .. 83, High Street, Clapham, S.W.
Tatham, John, M.D. .. .. 12, George Street, Hanover Square, W
Tatham, Robert G., Esq. .. 69, East India Road, E.
Tay, Waren, Esq. .. .. 4, Finsbury Square, E.C.
Taylor, Charles, M.D. .. .. 21, Canfield Gardens, Finchley Road, N.W.
Taylor, F. M.D. .. .. 11, St. Thomas's Street, S.E.
Taylor, Frank, M.B. .. .. Perry Hill, Catford, S.E.
Taylor, Thomas, Esq. .. .. Bocking, Braintree
Tegart, Edward, Esq. .. .. 49, Jermyn Street, S.W.
Tenison, E. Ryan, M.D., R.N. .. 215, Uxbridge Road, W.
Thin, George, M.D. .. .. 22, Queen Anne Street, W.
Thomas, G. Danford P., M.D. .. Park Lodge, Paddington, W.

Thompson, Alfred B., Esq. .. 18, Serjeant's Inn, E.C.
Thompson, E. Symes, M.D. .. 33, Cavendish Square, W.
Thompson, Sir Henry .. .. 35, Wimpole Street, W.
Thomson, G. J. Crawford, Esq. .. 111, Sinclair Road, W.
Thomson, W. Sinclair, M.D. .. 40, Ladbroke Grove, W
Thornton, J. K., M.B. .. .. 22, Portman Street, W.
Thorowgood, J. C., M.D. .. 61, Welbeck Street, W.
Thorp, Henry J., Esq. .. .. 29, Southwark Bridge Road, S.E.
Thudichum, J. L. W., M.D. .. 11, Pembroke Gardens, W
Thyne, Thomas, M.D. .. .. Wood Street, High Barnet
Tidswell, H. H., Esq. .. .. St. Oswald's House, Stony Stratford
Tidy, C. M., M.B. .. .. 3, Mandeville Place, Manchester Square, W.
Tilley, Samuel, Esq. .. .. The Cedars, Cranford, Middlesex
Tilt, Edward J., M.D. .. .. 27, Seymour Street, W.
Timms, Godwin W., M.D. .. 9, Wimpole Street, W.
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Tomes, Charles S., Esq., F.R.S. .. 37, Cavendish Square, W.
Tomes, Sir John, F.R.S. .. Caterham Valley
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Townsend, T. S., Esq. .. .. 68, Queen's Gate, Kensington, S.W.
Trapp, J. B., Esq. .. .. 57, Darnley Road, E.
Travers, William, M.D. .. 2, Phillimore Gardens, W.
Treves, F. Esq. .. .. 6, Wimpole Street, W.
Tripe, John W., M.D. .. 232, Richmond Road, Hackney, E.
Truman, Edwin T., Esq. .. .. 25, Old Burlington Street, W.
Tubby, A. H., M.B., B.S.Lond., F.R.C.S.Eng. .. .. 66, Great Cumberland Place, Hyde Park, W.
Tucker, Anthony C., Esq. .. 56, Richmond Road, Barnsbury, N.
Tuke, C. M., Esq. .. .. Ranelagh House, Chiswick, W.
Tuke, D. Hack, M.D. .. .. Lyndon Lodge, Hanwell, W.
Tuke, T. Harrington, M.D. .. 37, Albemarle Street, W.
Turner, F. C., M.D. .. .. 15, Finsbury Square, E.C.
Turner, J. Smith, Esq. .. 12, George Street, Hanover Square, W.
Turner, Walter P., Esq. .. Leytonstone
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Tweed, J. J., Esq. .. .. 14, Upper Brook Street, W.
Ure, John, M.D. .. .. East Dulwich Green, S.E.
Vasey, Charles, Esq. .. .. 112, Cambridge Gardens, W.
Veale, Henry, M.D., Dep.-Surg.-Gen. .. .. 26, Claverton Street, S.W.
Venning, Edgcombe, Esq. .. 30, Cadogan Place, S.W.
Verdon, W., M.D. .. .. 410, Brixton Road, S.W.
Verdon, Michael J., Esq. .. 37, Craven Street W.C.
Verley, Reginald L., Esq. .. 288, Devonshire Street, W.
Vinen, E. H., M.D. .. .. 22, Gordon Road West, Ealing, W
Waggett, John, M.D. .. .. Perivale, Bournemouth
Waite, Charles D., M.B. .. 3, Old Burlington Street, W.
Wake, E. G., M.D. .. .. Lewisham House, Dartmouth Park Hill, N.
Wakefield, Thomas, M.B. .. 37, Nottingham Place, W.
Walford, Walter G., M.D. .. 49, Finchley New Road, N.W.
Walker, A. D., M.D. .. .. 56, Ladbroke Grove Road, W.
Walker, Basil W., M.D. .. 1, Garway Road, Leinster Square, W.
Walker, Chas. R., M.D. .. Grove Road, Leytonstone
Walker, Horace, Esq. .. .. 143, Hammersmith Road, W.
Walker, James P., M.D., Surg.-Genl. .. .. .. 32, Bedford Square, W.C.
Walker, John R., Esq. .. 28, Portsdown Road, W.
Walker, Joseph, M.D. .. .. 22 Grosvenor Street, W.
Wall, Reginald B., Esq. .. 72, Bishop's Road, W.
Wallace, Frederick, Esq. .. 96, Cazenove Road, Upper Clapton, E.
Wallace, Richard U., M.B. .. Craven Park, Stamford Hill, N.
Walsham, W. J., M.B. .. .. 27, Weymouth Street, W.
Walshe, Walter H., M.D. .. 41, Hyde Park Square, W.
Walters, F. R., M.D. .. .. 20, Finsbury Circus, E.C.
Walton, Haynes, Esq. .. .. 1, Brook Street, W.
Ward, A. O., M.B. .. .. Brook Place, Lower Totteaham, N.
Warn, Reuben T., Esq. .. 37, Highgate Road, N.W.
Warner, Percy, Esq. .. .. Woodford, Essex
Watkins, Charles S., Esq. .. 16, King William Street, W.C.
Watkins, Edwin T., M.D. .. 61, Guildford Street, W.C.
Watson, John, M.D. .. .. 23, Woburn Square, W.C.
Watson, W. Spencer, Esq. .. 7, Henrietta Street, Cavendish Square, W.
Watson, W. Tyndale, M.D. .. Tottenham
Way, John, M.D. .. .. 4, Eaton Square, S.W.
Webb, Frederick E., Esq. .. 113, Maida Vale, W.
Weber, Hermann, M.D. .. 10, Grosvenor Street, W.
Webster, F. R., Esq. .. .. St. Alban's
Welch, Charles, Esq. .. .. 377, Hackney Road, E.
Welch, Charles H., Esq. .. 40, Upper Rock Gardens, Brighton
Welch, Samuel, Esq. .. .. 254, Victoria Park Road, E.
Weller, George, Esq. .. .. The Mall, Wanstead, E.
Wells, C., M.D. .. .. 69, Finchley New Road, N.W.
Wells, S. S. D., Inspector-General R.N. .. .. 6, Leigham Terrace, Plymouth
West, Samuel, M.D. .. .. 15, Wimpole Street, W.
Westcott, W. W., M.B. .. 4, Torriano Avenue, Camden Town, N.W.
Wharry, H. G. O., Esq. .. Thornton Heath
Wharton, H. T., Esq. .. .. 39, St. George's Road, Kilburn, N.W.
Wheeler, Daniel, Esq. .. .. Chelmsford
Wheeler, Thomas, Esq. .. Bexley, Kent
Whistler, W. McNeill, M.D. .. 28, Wimpole Street, W.
Whitcombe, P. Percival, Esq. .. 161, Earl's Court Road, S.W
White, O. M., Esq. .. .. Fletcher House, Tottenham.
White, T. Charters, Esq. .. 32, Belgrave Road, S.W.
White, T. D., Esq. .. .. 31, Chippenham Road, St. Peter's Park, W.
White, W. Hale, M.D. .. .. 65, Harley Street, W.
White, W. Henry, M.D. .. 43, Weymouth Street, W.
Whitmarsh, John L., Esq. .. 7, Fulham Road, S.W.
Whitmore, W. T., Esq. .. 7, Arlington Street, S.W.
Wigmore, W., Esq. .. .. 130, Inverness Terrace, W.
Wightwick, F. P., M.B. .. St. Johns, Horsleydown, S.E.
Wilbe, Richard H., M.D. .. 21, Finchley Road, N.W.

Wilkins, H. G. G., Esq. .. 1, Windsor Road, Ealing, W.
Willcocks, Frederick, M.D. .. 14, Mandeville Place, W.
Willett, Edmund, M.D. .. 6, Anson Road, Tufnell Park, N.
Willett, E. Sparshall, M.D. .. Wyke House, Isleworth, W.
Williams, C. Theodore, M.D. .. 2, Upper Brook Street, W.
Williams, Dawson, M.D. .. 25, Old Burlington Street W.
Williams, H. W., M.D. .. 7, Chapel Place, Cavendish Square, W.
Williams, John, M.D. .. .. 11, Queen Anne Street, W.
Williams, W. Rhys, M.D. .. 95, St. George's Road, S.W.
Willis, A. K., Esq. .. .. West End Lane, West Hampstead, N.W.
Willis, Julian, Esq. .. .. 64, Sutherland Avenue, W.
Willoughby, E. F., M.B. .. Bratton Lodge, Green Lanes, N.
Wilson, Samuel, Esq. .. .. 155, Mare Street, Hackney, E.
Wilson, W., Esq. .. .. 7, Eaton Gardens, Haven Green, Ealing, W.
Winslow, H. F., M.D. .. .. 14, York Place, W.
Wise, Alfred T. T., M.D. .. Kursaal de la Maloja, Switzerland
Wise, Charles H., M.D. .. Walthamstow
Woakes, Edward, M.D. .. 78, Harley Street, W.
Wolff, Abraham, Esq. .. .. 48, Gloucester Gardens, W.
Wood, Edward, Esq. .. .. Glebe Lodge, Windmill Hill, Enfield
Wood, John, Esq., F.R.S. .. 61, Wimpole Street, W.
Wood, T. Outterson, M.D. .. 40, Margaret Street, Cavendish Square, W.
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Woodhouse, R. H., Esq. .. 1, Hanover Square W.
Woodroffe, J. F., M.D. .. 31, Mildmay Park, N.
Woods, Hugh, M.D. .. .. 11, Archway Road, Highgate, N.
Woods, J. F., Esq. .. .. Hoxton House Asylum, Hoxton, N.
Worley, W. C., Esq. .. .. 103, Green Lanes, N.
Wright, Francis J., M.D. .. Northumberland House, Finsbury Park, N.
Wylie, A., M.D. .. .. 307, Clapham Road, S.W.
Wyman, W. S., M.D. .. .. Putney, S.W.
Yarrow, G. E., M.D. .. .. 87, Old Street, E.C.
Yeo, I. B., M.D. .. .. 44, Hertford Street, Mayfair, W.
Young, E. P., Esq. .. .. 30, Westbourne Square, W.

MEMBERS UNATTACHED. (780.)

Abercrombie, John, M.D. .. 23, Upper Wimpole Street, W.
Abraham, P. S., M.D. .. .. 11, Nottingham Place, W.
Achard, A. L., Esq. .. .. 73, Welbeck Street, W.
Ackland, W. R., Esq. .. .. Charing Cross Hospital, W.C.
Acland, T. D., M.D. .. .. 77, Brook Street, W.
Adams, C. E., Esq. .. .. 7, Dagmar Villas, Gipsy Road, W. Norwood
Adams, G. N., M.D. .. 37, Chesterton Road, North Kensington W.
Airy, H., M.D. .. .. Local Government Board, Whitehall, S.W.
Allchin, William H., M.B. .. 5, Chandos Street, Cavendish Square, W.
Allen, J. W., Esq. .. .. 113, Fairfax Road, N.W.
Allen, T., Esq. .. .. Mill Hill Park, W.
Allen, W. H., Esq. .. .. Stanmore, Middlesex
Allt, N. W., Esq. .. .. 424, Clapham Rise, S.W.
Ambrose, R., Esq. .. .. Mount Place, Whitechapel Road, E.
Anderson, A. F., M.D. .. .. 54, Beauchamp Place, South Kensington, S.W.
Anderson, Jas., Esq. .. .. 12, Heathfield Road, Mill Hill Park, W.
Anderson, J., M.D., C.I.E. .. 105, Gloucester Place, W.
Anderson, M. J. B., Esq. .. 120, Lavender Hill, S.W.
Andrew, W. W., M.B. .. .. Hendon, N.W.
Andrews, Henry C., M.D. .. 11, Addison Terrace, W.
Archer, E. L., M.B. .. .. 103, Earl's Court Road, W.
Arkle, C., M.D. .. .. University College Hospital, Gower St., W.C.
Armitage, E. H., Esq. .. .. 39, Grosvenor Street, W.
Armstrong, A. J. M., Esq. .. North-Western Hospital, Haverstock Hill, N.W.
Arnott, S., Esq. .. .. 146, Brixton Road, S.W.
Arthur, W., Esq. .. .. 92, Oakley Street, S.W.
Ashdown, H. H., Esq. .. .. 49, Upper Bedford Place, W.C.
Ashton, J. Thornhill, Esq. .. 76, Elgin Crescent West, W.
Ayres, C. J., Esq. .. .. 15, Grosvenor Road, S.W.
Ayling, A. H. W., Esq. .. 94, Great Portland Street, W.
Bailey, R. G., Esq. .. .. 117, Mount View Road, Stroud Green, N.
Bailey, H. F., Esq. .. .. The Hollies, Lee Terrace, Blackheath, S.E.
Baker, J. B., Esq. .. .. 27, Bassett Road, North Kensington, W.
Baker, J. P., Esq. .. .. 1, Harewood Square, N.W.
Ballance, C. A., M.B. .. .. 56, Harley Street, W.
Barber, H. V., M.A. .. .. 1, Somerfield Road, Finsbury Park, N.
Barbour, J., M.D. .. .. 118, Newington Causeway, S.E.
Barker, J. C., Esq. .. .. 252, Mile End Road, E.
Barker, William L., Esq. .. 22, Cheyne Row, Chelsea, S.W.
Barnes, J. J. F., Esq. .. .. 83, Caversham Road, N.W.
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Barrett, A. E., Esq. .. .. 25, Clarendon Road, W.
Barrett, J., Esq., M.D. .. (travelling)
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Barry, C. J., Esq. .. .. 2, Fulham Park Road, S.W.
Barry, F. W., Esq. .. .. Local Government Board, Whitehall, S.W.
Bartlett, J. P., Esq. .. .. 12, Summer Place, Onslow Square, S.W.
Bartlett, H., M.D. .. .. Defoe Road, Tooting
Bateman, A. G., M.B. .. .. 63, Longridge Road, S.W.
Bateman, F. A. N., Esq. .. 62, Pall Mall, S.W.
Batten, Geo. B., M.B. .. .. Lordship Lane, Dulwich, S.E.
Batteson, John, Esq. .. .. 25, Bow Road, E.
Battle, W. H., Esq. .. .. 6, Harley Street, W.
Beaton, R. M., M.B. .. .. 183, Kentish Town Road, N.W.
Beecham, Wm. Esq. .. .. 77, Bethune Road, Stoke Newington, N.
Beevor, Sir Hugh R., Bart., M.D. King's College Chambers, W.C.
Bell, Alfred J., Esq. .. .. 1A, Cavendish Road, N.W.
Bell, G. C., Esq. .. .. 34, High Road, Leytonstone, E.
Bell, W. J. Noel, Esq. .. .. 316, Clapham Road, W.
Benham, F. L., M.D. .. .. 93, Elizabeth Street, S.W.
Benham, R. Fitzroy, Esq. .. Baron's Court, S.W.
Benoly, N., M.D. .. .. 46, Kenninghall Road, Clapton, E.
Benson, A., M.B. .. .. 20, Clifton Road, Maida Vale, W.

Bensley, E. C., Esq. .. .. 127, Fellows Road, South Hampstead, N.W.
Bentham, S., Esq. .. .. 223, Brixton Road, S.W.
Berdoe, Edward, Esq. .. .. Victoria Park Gate, E.
Berry, David, M.B. .. .. 117, Goldhawk Road, W.
Berry, H. T., Esq. .. .. 66, Pembridge Villas, Bayswater, W.
Berton, E. Denny, M.B. .. 46, Canonbury Square, N.
Best, G. P., M.D. .. .. 43, Cedars Road, Clapham, S.W.
Bhabha, Rev. S. D .. .. St. Catherine's Park, S.E.
Bigger, W. G., M.B. .. .. 6, Queen's Pk. Gdns., Streatham Com., S.W.
Birch, S. B., M.D. .. .. 61, Harley Street, W.
Bird, G. G., Esq. .. .. 22, St. Mary's Terrace, Paddington, W.
Black, J. Watt, M.D. .. .. 15, Clarges Street, W.
Blackley, John G., M.B. .. 2, Gordon Street, Gordon Square, W.C.
Blake, J. F., Esq. .. .. Terrace House, Camberwell Green, S.E.
Blight, W. L., M.D. .. .. Guy's Hospital, S.E.
Blok, M., Esq. .. .. 175, Albion Road, Stoke Newington, N.
Bluett, G. M., Esq. .. .. Bedford Park, Chiswick
Bond, J. W., M.D. .. .. 207, New Cross Road, S.E.
Bond, W. A., M.D. .. .. St. Thomas's Hospital, S.E.
Bookless, J. P., M.D. .. .. 58, Queen's Gate Terrace, S.W.
Booth, J. B., Esq. .. .. Manor House, Streatham, S.W.
Boothroyd, J. S., M.D. .. .. 271, Brockley Road, S.E.
Bower, E., M.D .. .. 166, Peckham Rye, S.E.
Boxall, R., M.D. .. .. 6, Nottingham Terrace, York Gate, N.W.
Boyd, A. J., M.D. .. .. High Street, Ware, Herts
Boyd, Stanley, M.B. .. .. 27, Gower Street W.C.
Boys, A. H., Esq. .. .. Chequer Street, St. Albans
Brabant, T. H., Esq. .. .. 35, St. George's Road, S.W.
Braga, J. F., Esq. .. .. 67, Shepherds Bush Road, W.
Brickwell, J., Esq. .. .. Sawbridgeworth
Bridges, J. H., M.B. .. .. Local Government Board, Whitehall, S.W.
Briscoe, J. F., Esq. .. .. 10, Sumner Terrace, Onslow Square, S.W.
Brockway, A. B., Esq. .. .. St. Thomas's Hospital, S.E.
Brodie, David, M.D. .. .. c.o. F. H. Butler, Esq., 148, Brompton Road, S.W.
Brodrick, H. E., M.B. .. .. Chelsea Hospital for Women, Fulham Road, S.W.
Brooks, J. H., M.B. .. .. Mile End Infirmary, E.
Brown, F. N., Esq. .. .. 49, Catherine Street, Buckingham Gate, S.W.
Brown, J. A., Esq. .. .. 13, Bassett Road, North Kensington, W.
Brown, L. H., Esq. .. .. Pendilo, Cazenove Road, Stamford Hill, N.
Brown, T. L., Esq. .. .. 4, Shepperton Road, N.
Browne, J. W., M.B. .. .. 8, Norland Place, Notting Hill, W.
Browne, O. A., M.B. .. .. 6A, Bedford Square, W.C.
Bruce, R. M., Esq. .. .. Northern Hospital, Winchmore Hill, N.
Bunch, J. J., Esq. .. .. 36, Gloucester Crescent, Regent's Pk., N.W.
Buckell, F. J., M.B. .. .. 32, Canonbury Square, N.
Bulstrode, H. T., M.B. .. .. St. Thomas's Hospital, S.E.
Burns, J. N., M.B. .. .. Hornsey, N.
Burrell, E., M.D. .. .. 20, Endsleigh Street, W.C.
Burrows, T. E., M.D. .. .. 67, Holborn Viaduct, E.C.
Burt, A., Esq. .. .. 97, Uxbridge Road, W.
Burton, W. E., Esq. .. .. 24, Wimpole Street, W.
Bury, G. W. F., Esq. .. .. Welland House, New Barnet
Bush, R. H., M.D. .. .. 6, Gloucester Terrace, W.
Button, H. H. W., Esq. .. .. 133, Grange Road, S.E.
Cahill, J., Esq. .. .. 12, Seville Street, Lowndes Square
Caiger, F. F., M.D. .. .. Northern Hospital, Winchmore Hill, N.
Callaway, J., Esq. .. .. 20, Dalston Lane, E.
Cameron, C. H. H., Esq. .. Lochiel, Harlesden, N.W.
Cameron, J., M.D. .. .. Guildford House, Hendon
Campbell, Chas. M., M.D. .. 31, Hereford Square, S.W.
Campbell, H. J., Esq. .. .. Guy's Hospital, S.E.
Campbell, W. F., Esq. .. .. 88, Junction Road, Holloway, N.W.
Carless, A., Esq. .. .. 15, Stratford Place, W.
Carr, J. W., M.D., F.R.C.S.E. .. Victoria Hospital for Children, Chelsea, S.W.
Carter, C. H., M.D. .. .. 45, Great Cumberland Place, W.
Carter, R. B., Esq. .. .. 27, Queen Anne Street, W.
Cashel, E. B., Esq., F.R.C.S.I. .. 43, Bessboro' Gardens, S.W.
Cavafy, John, M.D. .. .. 2, Upper Berkeley Street, Portman Square, W.
Chambers, J. L., Esq. .. .. 249, Hackney Road, E.
Chant, T., Esq. .. .. 208, Adelaide Road, N.W.
Chapman, C., Esq. .. .. 13, Carlton Hill, N.W.
Charles, T. C., M.D. .. .. 9, Albert Mansions, Victoria Street, S.W.
Child, W. L., M.D. .. .. Kensal Green, W.
Chittenden, T. H., Esq. .. Whitwell, near Welwyn, Herts
Christie, A. K., M.B. .. .. 12, Colebrooke Row, N.
Clark, W. F., Esq. .. .. Cheshunt, Herts
Clarke, J. A., Esq. .. .. Bushey
Clemow, A. H., M.B. .. .. 12, Talgarth Road, West Kensington, W.
Coall, R. H., Esq. .. .. 44, Bedford Square, W.C.
Coates, G., M.B. .. .. 30, Brechin Place, S.W.
Coates, W. H., Esq. .. .. Philip Lane, Tottenham, N.
Cock, W., Esq. .. .. Queen's Road, Peckham, S.E.
Cockey, E. P., M.D. .. .. St. Mary's Hospital, W.
Cocks, Benjamin, Esq. .. .. Buntingford, Herts
Coker, O. C., Esq. .. .. 49, Uxbridge Road, W.
Colbourne, L., M.D. .. .. 121, Cannon Street, E.C.
Collier, M. P. M., M.B. .. .. 28, New Cavendish Street, W.
Collins, F., Esq. .. .. 66, Adelaide Road, N.W.
Collyer, J. R., Esq. .. .. Windmill Hill, Enfield
Colman, W. S., Esq. .. .. National Hospital, Queen's Square, W.C.
Comyn, J. S., M.D. .. .. 32, Dawson Place, Bayswater, W.
Cook, A. H., Esq. .. .. Denning Road, Hampstead, N.W.
Cooke, R. H., Esq. .. .. 73, Church Street, Stoke Newington, N.
Cooper, G. O. W., M.B. .. 5, Cranley Gardens, S.W.
Cooper R. T., M.D. .. .. 17, Stanley Gardens, W.
Corlett, J. B., M.D. .. .. 226, South Lambeth Road, S.W.
Cotton, Holland J., M.D. .. 109, Sloane Street, S.W.
Coutts, J. A., M.B. .. .. 64, Welbeck Street, W.
Crampton, T. H., Esq. .. .. 30, Myddelton Square, E.C.
Cran, John, M.D. .. .. Broadhurst Gardens, South Hampstead, N.W.

Creed, Chas. P., Esq. .. .. Rathkeale House, Girdlers Road, West Kensington, W.
Crookshank, E., M.B. .. .. 24, Manchester Square, W.
Crowdy, F. H., Esq. .. .. South Grove, Highgate, N.
Cullimore, D. H., M.D. .. .. 27, Welbeck Street, W.
Cumberbatch, A. E., M.B. .. 17, Queen Anne Street, W.
Dallaway, J., M.D. .. .. 5, Duchess Street, W.
Dalton, E. N., M.D. .. .. Selhurst Road, South Norwood, S.E.
Dalton, Norman M.D. .. .. 18, Clements Inn, W.C.
Danaher, J. W., Esq. .. .. Manor House, Plaistow
Davidson, D. M., M.B. .. .. 55, Queen's Road, Finsbury Park, N.
Davies-Colley, J. N. C., M.B. .. 36, Harley Street, W.
Davies, Sidney, M.D. .. .. 216, Burrage Road, Plumstead, S.E.
Davies, T. G. D., Esq. .. .. 26, Hatton Garden, E.C.
Davies, William, Esq. .. .. 111, King's Road, Peckham, S.E.
Davis, C. D., Esq. .. .. 9, Lambert Road, Brixton Road, S.W.
Davy, Richard, Esq. .. .. 33, Welbeck Street, W.
Dawson, R., M.D. .. .. P. & O. West End Office, Cockspur St., S.W.
Dawson, W. E., Esq. .. .. 29, Chiswell Street. E.C.
Day, J. R., Esq. .. .. 121, Camden Road, N.W.
Delepine, Sheridan, M.B. .. 6, Chapel Place, Cavendish Square, W.
De Lisle, S. E., Esq. .. .. Three Counties Asylum, Stotfold, Baldock
Dell, J. F., Esq. .. .. 88, Dalston Lane, E.
Denton, T. J., M.D. .. .. 195, Loughborough Road, S.W.
Dewar, John, Esq. .. .. 132, Sloane Street, S.W.
Dickson, C. C., Esq. .. .. Bowmont House, Willesden Lane, N.W.
Dixon, John, M.B. .. .. 39, Gloucester Road, Finsbury Park, N.
Dixon, John, M.D. .. .. 133, Jamaica Road, S.E.
Dixon, W. E., Esq. .. .. 164, Westbourne Terrace, W.
Dobson, L.C.I., Esq. .. .. Cumberland House, Hanwell, W.
Dodson, A. E., Esq. .. .. Earlsfield, Tooting, S.W.
Don Bavand, E. J., Esq. .. 115, Richmond Road, E.
Donelan, J., M.B. .. .. 4, Argyll Street, Regent Street, W.
Dove, J. B. R., M.B. .. .. Pinner
Dow, H. B., M.D. .. .. 9, Pembridge Square, W.
Duncan, A., M.D. .. .. 29, Wimpole Street, W.
Duncan, A. G., M.B. .. .. Carlton House, Amhurst Park, Stamford Hill, N
Duncan, G. C., M.D. .. .. 7, Wimpole Street, W.
Duncan, James, M.B. .. .. 8, Henrietta Street, W.C.
Dunlop, R. B., Esq. .. .. 3, Broadhurst Gardens, N.W.
Dunn, L. A., M.B. .. .. 15, St. Thomas's Street, S.E.
Durno, J., M.D. .. .. 178, Cold Harbour Lane, Camberwell, S.E.
Dutt, W. K., Esq. .. .. 70, Portsdown Road, Maida Vale, W.
Dutton, T., M.D. .. .. Colville Gardens, Bayswater, W.
Dwyer, H. H., Esq. .. .. 5, Pembroke Villas, W.
Eagle, H. F. C., Esq. .. .. 217, Bethnal Green Road, E.
Edridge-Green, F. W., M.B. .. 21, Belsize Square, N.W.
Ensor, E. T., M.D. .. .. 23, Chesterton Road, W.
Evans, D. T., Esq. .. .. Baldock
Evans, G., M.D. .. .. 208, Burrage Road, Plumstead
Evans, H. N., M.B. .. .. 3, Thurlow Road, N.W.
Evans, J. A. M., M.B. .. .. 123, Finborough Road, S.W.
Evans, T., sen., Esq. .. .. 3, Trinity Square, E.C.
Evans, N., M.D. .. .. Cheshunt, Herts.
Evans, T. C., Esq. .. .. 105, Camden Street, W.
Ewart, C. Theodore, M.D. .. Leavesden Asylum, near Watford
Fairweather, D., M.B. .. .. Southgate Road, Wood Green, N.
Faraker, J. J., Esq. .. .. 14, Plough Road, Rotherhithe, S.E.
Farmer, C., Esq. .. .. 128, Battersea Park Road, S.W.
Fearnley, William, Esq. .. .. 86, Elgin Road, W.
Fearnside, Dr. H. .. .. De Vere Mansions West, De Vere Gardens, W.
Fell, J. W., M.D. .. .. 63, Tollington Park, N.
Fendick, T. R., Esq. .. .. 65, Fore Street, E.C.
Fennell, J. P., Esq. .. .. 18, Hungerford Road, N.
Fennings, Allen, M.D. .. .. 72, Ladbroke Grove, W.
Fenwick, E. H., Esq. .. .. 5, Old Burlington Street, W
Fenwick, Samuel, M.D. .. .. 29, Harley Street, W.
Fernie, W. T., M.D. .. .. 51, Seymour Street, W.
Flack, James, Esq. .. .. Belle Vue, Cleveland Road, Snaresbrook, E.
Fleming, P., Esq. .. .. 35, Regent's Park Road, N.W.
Forbes, Litton, Esq. .. .. 22, Old Burlington Street, W.
Forsyth, A., M.D. .. .. 11, Park Terrace, Greenwich, S.E.
Fowler, J. K., M.B. .. .. 35, Clarges Street, W.
Fowler, W., M.A. .. .. 145, Bishopsgate Street Without, E.C.
Fox, J. T., Esq. .. .. 7, Port Vale Terrace, Hertford
Fox, R. H., M.D. .. .. 43, Finsbury Circus, E.C.
Frampton, T. H. T., Esq. .. 62, Gloucester Terrace, Hyde Park, W.
Francis, C. R., M.B. .. .. 17, Mowbray Road, Brondesbury, N. W.
Francis, J. A., Esq. .. .. 65, Cambridge Gdns., North Kensington, W.
Fraser, P., M.D. .. .. 77, Breakspear Road, Brockley, S.E.
Fuller, H. R., M.B., ... 45, Curzon Street, W.
Fyfe, Andrew, M.D. .. .. 42, Montpellier Square, S.W.
Gabe, J. R., Esq. .. .. 16, Mecklenburg Square, W.C.
Gabriel, L. M., M.B. .. .. Hospital for Sick Children, Gt. Ormond St. W.C.
Gallie, Chas. P., M.B. .. .. 129, Camberwell Road, S.E.
Galloway, A. W., Esq. .. .. 79, New North Road, N.
Galton, J. C., Esq. .. .. 45, Great Marlborough Street, W.
Gamgee, A., M.D., F.R.S. .. 17, Great Cumberland Place, W.
Gardner, W. H., Esq. .. .. Junior Athenæum Club, Piccadilly, W.
Garrod, A. B., M.D., F.R.S. .. 10, Harley Street, W.
Garrod, A. E., M.D. .. .. 9, Chandos Street, W.
Garson, J. G., M.D. .. .. 14, Suffolk Street, Pall Mall, S.W.
Gauld, W., M.D. .. .. 101, Balfour Road, Highbury, N.
Gayton, W., M.D. .. .. North Western Hospital, Haverstock Hill, N.W.
Gee, S., M.D. .. .. 31, Upper Brook Street, W.
Gerard, J., M.B. .. .. 52, Camden Square, N.W.
Gibson, J. H., M.D. .. .. 56, Maida Vale, W.
Gill, W., Esq. .. .. 11, Russell Square, W.C.
Gimblett, W. H., Esq. .. .. 63, Milsom Road, West Kensington, W.
Godfrey, F., M.D. .. .. 5, Compton Terrace, N.
Godrich, F. Esq. .. .. 11, Victoria Grove, Fulham Road, S.W
Godwin, Ashton, M.D. .. .. 28 Brompton Crescent, S.W.

Goldie, Robert W., Esq. .. Poplar and Stepney Sick Asylum, Bromley-by-Bow
Gordon, H. A., M.D. .. 46, George Street, Portman Square, W.
Gould, W. R., Esq. .. 11, Lamb's Conduit Street, W.C.
Grant, J. E. R., Esq. .. South-Eastern Railway Co., London Bridge, [S.E.
Grant, L., M.D. .. 9, Western Villas, New Southgate, N.
Grant, W. F., M.D. .. 38, Green Street, Bethnal Green, E.
Granville, J. Mortimer, M.D. .. 14, Hanover Square, W. (resigned)
Grattan, Matthew H., M.D. .. Ongar
Gray, John H., M.B. .. Bentley House, St. James's Road, Upper Tooting, S.W.

Green, A. W., Esq. .. 7, Bouverie Street, E.C.
Greenwood, J., M.D. .. 48, Canonbury Square, N.
Gregory, G. S., Esq. .. Vernon Chambers, Southampton Row, W.C.
Griffin, J. H., Esq. .. Park Place Villas, Paddington, W.
Griffith, G. de Correquer, Esq. .. 34, St. George's Square, S.W.
Griffiths, H. T., M.D. .. 25 Kensington Square, W.
Gross, Asher, Esq. .. 7, Southside, Clapham Common, S.W.
Grosvenor, W., Esq. .. 9, Greville Place, Maida Vale, W
Hale, C. D. B., Esq. .. 8, Sussex Gardens, W.
Hall, A. R., M.D. .. Shoot-up-Hill, Brondesbury, N.W.
Hall, Ed. T., Esq. .. Blacklands House, Chelsea, S.W.
Hall, John, M.D. .. Monkridge, Crouch End Hill, N.
Hall, W. W., M.B. .. 9, High Street, Kilburn, N.W.
Hamill, R. J., M.D. .. 295, Vauxhall Bridge Road, S.W.
Hamilton, F. D., Esq. .. 5, Bell Green, Sydenham, S.E.
Hamilton, J., M.D. .. 60, Sydney Street, S.W.
Hamlin, W. T., Esq. .. 121, Tredegar Road, Bow, E.
Harding, J. A., Esq. .. Osman House, Fortis Green, N.
Hardy, H. Nelson, Esq. .. The Grove, Dulwich, S.E.
Hare, E. H., Esq. .. 46, Weston Park, Crouch End, N.
Hare, Lancelot, Esq. .. 23, Prince's Street, Cavendish Square, W.
Hare, R. W., M.B. .. 24, Elsworthy Road, Primrose Hill, N.W.
Hargreaves, M. K., M.D. .. Kingston Road, Merton, S.W.
Harley, George, M.D., F.R.S. .. 25, Harley Street, W.
Harper, J., M.D. .. 7, Drayton Terrace, Roland Gardens, S.W.
Harrer, C., M.D. .. 34, City Road, E.C.
Harris, A. W., Esq. .. Holborn Infirmary, Archway Road, N.
Harris, J. Russell, M.D. .. 13, Surrey Street, W.C.
Harrison, R. C., Esq .. 13, Sandringham Gardens, Ealing, W.
Hartridge, G., Esq. .. 65, Green Street, Grosvenor Square, W.
Harvey, F. G., Esq. .. 32, Golden Square, W.
Harvey, W. T., Esq., .. 8, Bruce Road, Bromley, E.
Harwood, S. S., M.D. .. 46, Mansfield Road, N.W.
Hastings, E. B., Esq. .. East London Hosp. for Children, Shadwell, E.
Hastings, G., M.D. .. 103, Gloucester Place, W.
Haviland, H. J., M.D. .. 9, George Street, Hanover Square, W.
Haward, J. W., Esq. .. 16, Savile Row, W.
Haycock, H. E., Esq. .. Whitwell, Welwyn
Haynes, J. R., Esq. .. Sunbury House, Limerston Street, Chelsea
Hazel, W. F., Esq. .. 71, Oakley Square, N.W.
Heath, James, M.B. .. Bletchenden, Lower Edmonton
Heath, W. L., M.B. .. 88, Cromwell Road, South Kensington
Hebert, P. Z., M.D. .. 35, Berners Street, W.
Henderson, A. M., M.D. .. 6, Hampstead Lane, Highgate, N.
Hensley, P. J., M.D. .. 4, Henrietta Street, W.
Hern, W., Esq. .. 18, Stratford Place, W.
Herschell, G., M.D. .. 5, West Street, Finsbury Circus, E.C.
Hewkley, F., Esq. .. 156, Lordship Road, Stoke Newington, N.
Heyward, H., Esq. .. The Chestnuts, East Dulwich Grove, S.E.
Hill, G. W., M.B. .. 37, Cornwall Road, W.
Hill, J. Higham, M.D. .. 2, Bedford Square, W.C.
Hill, J. R., Esq. .. Peterboro House, Fulham, S.W.
Hitch, Fred., Esq. .. 338, Barking Road, Plaistow
Hoare, A., Esq. .. 37, Fleet Street, E.C.
Hockridge, T. G., M.D. .. 27, Tysoe Street, W.C.
Hogan, J. C., M.D., .. 3, Redcliffe Gardens, South Kensington
Hogg, Jabez, Esq. .. 1, Bedford Square, W.C.
Holland, Edmund, M.D .. Titchfield Terrace, N.W.
Hollings, E., M.D. .. 4, Gordon Street, W.C.
Holman, W., Esq. .. 25, Larkhall Rise, S.W.
Holmes, W. Reid, M.B. .. 25, Brewer Street, Regent Street, W.
Holt, William, Esq. .. 44, Plato Road, Brixton, S.W.
Holthouse, C., Esq. .. 5, Bloomsbury Square, W.C.
Holthouse, E. H., M.D. .. 85, Gower Street, W.C.
Hood, W. P., M.D. .. 11, Seymour Street, Portman Square, W.
Horden, J. O., M.B. .. 18, Messina Avenue, Kilburn, N.W.
Horsman, G. C., Esq. .. 27, King Street, Portman Square, W.
Hovell, D. de Berdt, M.D. .. Elstree, Herts (dead)
Howard, E., Esq. .. 1, Devonshire Road, S.W.
Howse, A., Esq. .. St. John's, Barking Road, E.
Huddart C. H. C., M.B. .. 77, Redcliffe Gardens, S.W.
Hughes, E. A., Esq. .. 91, Onslow Gardens, S.W.
Humphreys, F. R., Esq. .. 79, Queen's Crescent, Haverstock Hill, N.W.
Humphreys, J. H., M.D. .. 158, Cromwell Road, S.W.
Hunt, Alfred, Esq., .. Bridge Road, Hammersmith, W.
Hutchinson, T. Cayley, Esq. .. 83, Elgin Crescent, W.
Hutton, E. R. Esq. .. West Green Road, Tottenham
Isaac, G. W., M.B. .. 7, Mornington Crescent, N.W.
Jackson, A. M., M.B. .. Surrey County Asylum, Tooting, S.W.
Jackson, Robt. A., Esq. .. 13, Ladbroke Grove, Notting Hill, W.
Jacob, E. L., Esq. .. 9, Altenburg Gardens, Clapham Common, S.W.
Jakins, P. S., Esq. .. 9, Osnaburgh Street, N.W.
Jaynes, V. A., Esq. .. 157, Jamaica Road, S.E.
Jessop, C. M., Deputy Surgeon-General (retired) .. 98, Sutherland Avenue, W.
Jewell, C. C., M.B. .. 204, Great Portland Street, W.
Johnson, G. L., Esq. .. Netherall Terrace, South Hampstead, N.W.
Johnson, W. B., Esq. .. 157, Jamaica Road, S.E.
Johnston, J., M.D., .. 11, Chester Place, Hyde Park Square, W.
Johnston, M., Esq. .. 29, Compton Terrace, Highbury, N.
Jolly, S. A., Esq. .. 19, Goldsmith Gardens, Acton, W.

E

Jollye, A. D., Esq. .. 18, Lorrimore Square, Walworth, S.E.
Jones, C. Handfield, M.B., F.R.S. .. 24, Montagu Square, W.
Jones, H. J., M.D. .. 92, Elgin Crescent, Notting Hill, W.
Jones, H. Macnaughton, M.D. .. 141, Harley Street, W.
Jones, John, Esq. .. 60, King Street, W.
Jones, J. Thoresby, Esq. .. 34, Maryland Road, W.
Jones, R. Mansell, Esq. .. Woodstock House, Balham Hill, S.W
Jones, T., M.D. .. Albert Square, Clapham Road, S.W.
Jones, T. W. C., Esq. .. 6, Westbourne Street, W.
Keen, W., M.D. .. 209, King's Road, Chelsea, S.W
Keith, S., M.B. .. 42, Charles Street, Berkeley Square, W.
Keith, T., M.D. .. 42, Charles Street, Berkeley Square, W.
Kellgren, A. S., M.B. .. Victoria Lodge, Francis Street, S.W.
Kelly, J. H., M.D. .. 84, The Grove, Hammersmith, W.
Kempster, H., M.B. .. Lavender Hill, Clapham Junction, S.W.
Kendall, W. Horatio, Esq. .. 6, Philbeach Gardens, S.W.
Kenny, A. S., Esq. .. 41, Guildford Street, W.C.
Kent, Thomas J., Esq. .. 89, Piccadilly, W.
Kenwood, H. R., M.B. .. 14, Leinster Square, W.
Kerans, T. G., M.D. .. 14, Cleveland Square, W.
Keser, T., M.D. .. 60, Queen Anne Street, W.
King, Joseph, Esq. .. Greenhill, Hampstead, N.W.
Kite, J. A., Esq. .. Welwyn
Klein, E. L., M.D. .. 19, Earl's Court Square, S.W.
Knaggs, H. V., Esq. .. 189, Camden Road, N.W.
Knox, J., M.D. .. Bethnal Green Infirmary, E.
Ladell, W. J. S., Esq. .. Springfield House, Canonbury Road, N.
Laidlaw, R., M.B. .. 126, Green Lanes, Stoke Newington, N.
Lambert, W. E., Esq. .. 27, Craven Street, W.C.
Lane, J. E., Esq. .. 10, Cambridge Street, Hyde Park, W.
Lane, W. A., M.B. .. 14, St. Thomas's Street, S.E.
Lane, W. B., Esq. .. 42, Great Russell Street, W.C.
Langford, P. P., M.D .. Park Lodge, East Finchley
Lankester, H. H., M.D. .. 23a, Elm Park Gardens, South Kensington, S.W.
Leeson, A. E., M.D. .. 22, Dorset Square, N.W.
Leeson, J. F., M.D. .. 353, Kennington Road, S.E.
Leeson, Oliver J., Esq. .. Collingwood House, Cromwell Road, S.W.
Leftwich, R. W., M.D. .. 107, Brixton Road, S.E.
Leith-Napier, A. D., M.D., M.R.C.P.Lond. .. 3, Beaufort Gardens, S.W.
Leslie, R., M.B. .. St. George's Club, Hanover Square, W.
Lewis, Lewis, Esq. .. 112, Brixton Road, S.W.
Lewis, P. K., Esq. .. 6, Queen's Crescent, N.W.
Lingard, A., Esq. .. 49, Lambeth Palace Road, S.E.
Lister, Sir Joseph, Bart., M.B., LL.D., F.R.S. .. 12, Park Crescent, Portland Place, W.
Little, J. F., Esq. .. 60, Wellbeck Street, Cavendish Square
Livermore, W. L., Esq. .. 76, Ferme Park Road, Hornsey, N.
Lloyd, Robert H., M.D. .. Lambeth Infirmary, S.E.
Lloyd, Samuel, M.D. .. 4, High Street, Bloomsbury, W.C.
Longhurst, A. E. T., M.D. .. 22, Wilton Street, W.
Lord, Dr. .. St. Ann's Villas, Notting Hill, W.
Lough, J. J., M.B. .. 389, City Road, E.C.
Lovett, Samuel R., Esq. .. 13, Great Russell Street, W.C.
Low, R. Bruce, M.D. .. Local Government Board, Whitehall, S.W.
Low, R. M. P., M.B. .. 2, Nevern Road, S.W.
Lowe, J., M.D. .. 42, Green Street, W.
Lucy, R. H., MB. .. Medical Department, General Post Office, E.C.
Luff, A. P., Esq. .. 35, Westbourne Terrace, Hyde Park, W.
Lund G. M.D. .. De Crespigny Park, S.E.
Macauley, W. R., Esq. .. 55, Oxford Terrace, W.
McClure, T., M.D. .. Grove Hill, Woodford, Essex
MacDonald, G. M., M.D .. 47, Queen Anne Street, W.
McDonnell, Joseph, Esq. .. 401, Old Kent Road, S.E.
McDonnell, W. C., Esq. .. Park House, Park Lane, Stoke Newington, N.
Macfarlane A. W., M.D. .. 6, Manchester Square, W.
MacGilvray, W. J. H., Esq. .. 716, Harrow Road, W
McGregor, D., Esq. ..
McHardy, M. M., Esq. .. 5, Savile Row, W
MacIver, Donald, M.D. .. Oriental Club, Hanover Square, W
McKelvie, R., M.D. .. 90, Finchley Road, N.W.
McKinsky, R., M.D. .. 170, Finborough Road, S.W.
Mackintosh, Donald, M.D. .. 10, Lancaster Road, Belsize Park, W.
Mackintosh, G.D., M.D. .. 46, Gore Road, Victoria Park, E.
Mackintosh, Hugh, M.D. .. 84, Brompton Road, S.W.
McLearn, J. C., M.D .. Holborn Infirmary, Archway Road, N
Maclenose, N. M., M.B. .. 24, Devonshire Street, W.
McMullen, William, Esq .. 319A, Brixton Road, S.W.
MacMunn, James, Esq .. 2, Alexandra Road, Hornsey, N.
McMunn, J. A., M.B. .. Royal Hospital, Chelsea, S.W.
MacRae, Alexander C., M.D. .. 119, Westbourne Terrace, W.
Macready, J., Esq. .. 71, Queen Anne Street W.
Mahon, G. A. D., Esq. .. 2, Challoner Street, West Kensington, W.
Makeham, H. W. P., Esq. .. 330, New Cross Road, S.E.
Makins, G. H., Esq. .. 12, Queen Street, Mayfair, W.
Marcet, William, M.D. .. Flowermead, Wimbledon Park, S.W.
Marriott, H., Esq. .. University College Hospital, W.C.
Marsh, E. A., Esq. .. Bedford Road, Clapham, S.W
Marsh, T. C., Esq. .. 56, Fitzroy Street, W.
Marshall, F., Esq. .. 20, Frith Street, Soho
Marshall, J. B., Esq., .. Nightingale Road, Clapton, E.
Masters, J. Alfred, Esq. .. Westall House, Brook Green W.
Matheson, Farquhar, M.B. .. 11, Soho Square, W.
Matheson, J., M.D. .. 14, Gibson Square, N.
Maude, F., M.B. .. 2, Coppermill Lane, Walthamstow
Maudsley, Henry, M.D. .. 9, Hanover Square, W
Maughan, J. Esq. .. 56, Albany Street, Regent's Park, N.W
Maxwell, James L., M.D. .. 104 Petherton Road, Highbury, N.
May, Harry, M.D. .. Ware
May, James, Esq. .. St. Anne's Road, Stamford Hill, N.
May, W. P., Esq. .. Goldburn, Eltham Road, Blackheath, S.E
Maybury, H. M., M.D. .. 303, Upper Street, Islington, N.

Meehan, W., Esq. .. 9, Taunton Place, N.W.
Meggison, T. C., M.B. .. Belgrave House, Upper Norwood, S.E.
Menzies, D., M.B. .. 1, Broadley Terrace, Blandford Square, N.W.
Menzies, J. H., Esq. .. 1, Gwendwr Road, West Kensington, W.
Merces, J., Esq. .. 63, Drayton Park, N.
Mercier, C. A., Esq. .. The Flower House, Southend, Catford
Merryweather, J. W. C., Esq. .. 13, Marlboro Road, Gunnersbury
Michael, G., M.B. .. 188, Commercial Road, E.
Middleton, R. W., M.B. .. Fulham Road, S.W.
Mifsud, A. E., Esq. .. 59, Guilford Street, Russell Square, W.C.
Miller, J. D., M.D. .. 2, Norland Place, Holland Park, W.
Miley, M., M.B. .. 21, Belsize Avenue, N.W.
Miller, J., M.B. .. 136, South Lambeth Road, S.W.
Millican, Kenneth W., Esq. .. 58, Welbeck Street, W.
Milligan, W., Esq. .. 1, Queen Anne's Avenue, S. Tottenham, N.
Mills, Samuel, Esq. .. 8, Suffolk Place, Pall Mall, S.W.
Milne, A., Esq. .. 8, Kempsford Gardens, S.W.
Mitchell, C. P., Esq. .. 24, DeVere Gardens, Kensington, W.
Monti, P., Esq. .. 8, Young Street, W.
Moore, A., Esq. .. Augusta House, East India Road, E.
Moore, S. H. Esq. .. Chelsea Infirmary, Cale Street, S.W.
Morgan, J., Esq., .. 3, Sussex Place, Hyde Park Gardens, W.
Morris, C. A., M.B. .. 29, Brownswood Park, N.
Morton, Andrew S., M.B. .. 14, Maitland Park Villas, W.
Morton, Jas., M.B. .. 44, Whiteheads Grove, Chelsea, S.W.
Mosse, H. R., M.D. .. Hobart House, Clapham Common, S.W.
Mulcahy, T. A., Esq. .. 43A, Fetter Lane, E.C.
Murray, C. S., Esq. .. 34, Gloucester Place, Portman Square, W.
Murray, H. M., M.D. .. 27 Savile Row, W.
Murray, John, M.D. .. 17, Westbourne Square, W.
Muspratt, C. D., Esq. .. The Infirmary, East Dulwich Grove, S.E.
Myers, A. T., M.D. .. 9, Lower Berkeley Street, W.
Napier, A. D. Leith, M.D. .. 3, Beaufort Gardens, S.W.
Neale, A. J., M.B. .. 7, King Edward Street, E.C.
Neville, T., M.D. .. 85, Pimlico Road, S.W.
Nichol, F. E., M.B. .. 37, Wynnstay Gardens, Kensington, W.
Nicholson, William, M.D. .. 2, Kent Villas, East Greenwich, S.E.
Noad, G. W., M.D. .. 47, Stroud Green Road, N.
Noble, J. B., Esq. .. 33, Trinity Square, S.E.
Noott W. M., Esq. .. 8, Kensington Park Road, W.
Norman, F., Esq. .. 3, Holland Road, Brixton, S.W.
Norman, J. W., Esq. .. 41, Westmoreland Road, Bayswater, W.
Norton, Arthur T., Esq. .. 101, Harley Street, W.
Norton, G. Everitt, Esq. .. 63, Upper Gloucester Place, W.
Norton, R. R., Esq. .. Grove Lodge, Tottenham, N.
Nowell, B., Esq. .. Auriol Road, West Kensington, W.
Oakes, A., M.D. .. 99, Priory Road, N.W.
O'Connor, Bernard, M.B. .. Greenhill Park, Harlesden, N.W.
O'Connor, T. B., Esq. .. 168, Piccadilly, W.
Odhams, G. F., M.B. .. 10, Lloyd Street, Lloyd Square, W.C.
Oldfield, Frank, Esq. .. 174A, Boyson Road, S.E.
Oliver, James, M.D., F.R.S Edin. .. 18, Gordon Square, W.C.
Oliver J. Ferens, M.D. .. 2, Hertford Gardens, Albert Bridge, S.W.
Openshaw, T. H., M.B. .. 21, Gower Street, W.C.
Orford, John, Esq. .. 50, Guilford Street, W.C.
Orr, A. A., M.B. .. 204 Earl's Court Road, S.W.
Orton, G. H., M.B. .. 1A, Campden Hill Road, W.
Owen, Rayley, Esq. .. 61, Cleveland Square, Hyde Park, W
Owen, William Esq. .. 201, Bethnal Green Road, E.
Page, H. W., Esq. .. 146, Harley Street, W.
Palmer, James F., Esq. .. 8, Royal Avenue, Chelsea College, S.W.
Parkes, L. C., M.D. .. 65, Cadogan Square, S.W.
Parr, G. C., M.D. .. 18, Upper Phillimore Place, W.
Parsons, H. F., M.D. .. Whitehall, S.W
Parsons, J. I., Esq. .. 90, Redcliffe Gardens, South Kensington
Patmore, T. D., Esq. .. H.M. Convict Prison, Wormwood Scrubbs
Peake, S., Esq. .. 118, Percy Road, Shepherd's Bush, W.
Pearce, F., Esq. .. 7, Marquess Road, Canonbury, N.
Pearcey, W., M.B. .. 214, Lewisham High Road, S.E.
Pearse, F. T., Esq. .. Watford, Herts
Pearse, G. E. L., Esq. .. 4, Princes Mansions, S.W.
Pearson, David R., M.D. .. 23, Upper Phillimore Place, W.
Peck, R. H., M.B. .. 78, Addison Rood, Kensington, W.
Pedley, F. Newland, Esq. .. 32, Devonshire Place, W.
Peakivil, J. H., Esq. .. Albert Road, Battersea Park, S.W.
Penny, W. J., Esq .. 6, Chandos Street, Cavendish Square, W.
Penrose, F. G., M.D. .. 24, Clarges Street, W.
Phibbs, R. F., Esq. .. 30, Sutherland Avenue, W.
Phillips, G. T., Esq. .. 24, Leinster Square, W.
Philpot, H. J., Esq. .. 14, Finsbury Circus, E.C.
Pick, T. Pickering, F.R.C.S. .. 18, Portman Street, W.
Pickett, Jacob, M.D. .. Colville Square, W.
Pidcock, G. D., M.B. .. Hampstead, N.W.
Piesse, C. H., Esq. .. 2, Cassiobury Road, Fulham, S.W.
Pilkington, F. S., Esq. .. 18, Trinity Square, S.E.
Pine, J. M. G., M.D. .. 49, Redcliffe Gardens, S.W.
Pitt, F. D., Esq. .. 55, Shaftesbury Road, Hammersmith, W.
Pook, W. J., Esq. .. 2, Hemingford Road, N.
Porter, W. E., M.B. .. Morningside, Bounds Green Road, New Southgate, N.
Pott, F. H., Esq. .. 81, Cornwall Gardens, W.
Potter, J. B., M.D. .. 20, George Street, Hanover Square, W.
Potts, Wm , Esq. .. 2, Albert Terrace, N.W.
Poulain, Victor, M.D. .. 124, Fulham Road, S.W.
Powell, J., Esq. .. 2, Springfield Terrace, Bowes Park, Wood Green, N.
Powell, J. A., M.D. .. 4, Holford Place, Pentonville, N.
Powell, Josiah T., M.D. .. 347, City Road, E.C.
Powell, S. K., M.D. .. 7, Thayer Street, W.
Power, Thomas, Esq. .. 44, West Ferry Road, Millwall, E.
Preston, H. F., Esq. .. Bethnal Green Workhouse, Victoria Park, E.
Propert, J. L., Esq , M.B .. 112, Gloucester Place, Portman Square, W.

Pugh, J. H , Esq. .. 46, Marsham Street, Westminster, S.W.
Purkiss, Arthur, M.D. .. 53, Kew Bridge Road, Middlesex
Radcliffe, C. B., M.D. .. 25, Cavendish Square, W.
Ramskill, Jabez S., M.D. .. 5, St. Helen's Place, E.C.
Ransford, G., M.D. .. 27, Gloucester Place, W.
Rawes, W., Esq. .. London Hospital, E.
Rawlings, H. A., Esq. .. 189, Sutherland Gardens, W.
Rayner, W., Esq. .. 4, Dorset Square, W.
Read, M., Esq. .. 63, Batters a Rise, S.W.
Reed, G., M.D., .. 59. Canonbury Park North, N.
Rees, W., Esq. .. 129, Queen's Crescent, Haverstock Hill, N.W.
Reeves, H. A., Esq. .. 78, Grosvenor Street, W.
Reid, A. M.D. .. 29, Canonbury Park North, N.
Reid, John, M.D. .. 12, Bridge Avenue, Hammersmith
Reid, James, M.D. .. Buckingham Palace, S.W.
Reid, Robert W., M.D. .. 7, Palace Road, S.W.
Rendall, P., M.D. .. 20, Ladbroke Square, W.
Renner, Charles, M.D. .. 186, Marylebone Road, W.
Richards, D., Esq. .. Wealdstone, Harrow
Richardson, G., M.D. .. Upper Richmond Road, Putney, S.W.
Richardson, Timothy, Esq. .. 394, Commercial Road, E.
Ridge, J. J., M.D. .. Enfield
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Robarts, H. P., Esq. .. 31, Great Coram Street, Brunswick Sq., W.C.
Roberts, C., Esq. .. 63, Curzon Street, W.
Roberts, C. H., Esq. .. 211, Kensal Road, W.
Robinson, H. B., M.B. .. St. Thomas's Hospital, S.E.
Robinson, T., Esq. .. 9, Princes Street, W.
Rogers, G. P., Esq. .. 11, Amersham Road, New Cross, S.E.
Romaine, R. S., Esq. .. c.o. Bywater and Co., 79, Queen Victoria Street, E.C.
Ross, D. M., Esq. .. 54, Upper Berkeley Street, W.
Ross, J. A., Esq. .. 14, Cavendish Road, Regent's Park, N.W.
Rout, C., Esq. .. Hornsey Park Road, N.
Rowland, J. T., M.D. .. 30, Gilston Road, S.W.
Roy, W., M.D. .. 73, Highbury New Park, N.
Rugg, George P., M.D. .. Stockwell Villa, Clapham Road, S.W.
Russell, J. S. R., M.B. .. National Hospital, Queen's Square, W.C.
Russell, R. H., Esq. .. 12, Doughty Street, W.C.
Ryle, Reginald J., M.B. .. Hadley Green, Barnet
Sanctuary, T., M.D. .. 36, Russell Road, Kensington, W.
Sanders, J. W., M.D. .. The Infirmary, St. George's in-the-East, E.
Sanderson, Hugh J., M.D. .. 26, Upper Berkeley Street, W.
Sargent, D. W., Esq. .. 9, Dorrell Place, Brixton Road, S.W.
Satchell, W. A., M.D. .. 4, Rosslyn Gardens, Hampstead, N.W.
Savage, J., Esq. .. 11, Avonmore Road, Kensington, W.
Sayer, T., M.D. .. 43, Ampthill Square, N.W.
Scarth, Isaac, Esq. .. 29, Amwell Street, E.C.
Scatliff, P. M., Esq. .. Melford Road, Lordship Lane, E.C.
Schacht, F. F., M.B. .. 158, Earls Court Road, S.W.
Schäfer, E. A., Esq., F.R.S .. 149, Harley Street, W.
Schofield, A. T., Esq. .. 141, Westbourne Terrace, W.
Scott, F , Esq. .. Addison House, Upper Edmonton
Scott, Harry, Esq. .. 8, Queen Anne's Gate, S.W.
Sedgwick, W., Esq. .. 101, Gloucester Place, W.
Shadwell, H. W., Esq. .. 12, Goldsmith Gardens, Acton, W.
Sharpe, H. J., Esq. .. 1, Queen Street, Worship Street, E.C.
Shepard, W. L., Esq. .. 2, Willes Road, Kentish Town, N.W.
Shepherd, Frederick, Esq. .. 33, King Henry's Road N.W.
Shepherd, J. B., Esq. .. 8A, New Cavendish Street, W.
Shout, A. C., Esq. .. 22, Upper Park Road, Haverstock Hill, N W
Sieveking, H. E., Esq. .. 17, Manchester Square, W.
Simpson, G. A. G., Esq. .. Churchfield Road, Acton, W.
Sinclair, J. E., Esq. .. 1, Princes Street, Storeys Gate, S.W.
Skinner, D. S., M.D .. Harrow Road, Willesden, N.W.
Skipper, E., M.D. .. 74, Tollington Park, N.
Skipton, A., Esq. .. 434, Liverpool Road, N.
Slater, C., M.B. .. Northwich Terrace, N.W.
Smallpeice, W. D., Esq. .. 42, Queen Anne's Gate, S.W.
Smith, Charles Wyatt, Esq. .. 149, High Street, Poplar, E.
Smith, E. B., Esq. .. 27, Harley Street, Cavendish Square W.
Smith, E. S., Esq. .. 10, Kensington Gardens Square, W.
Smith, Eustace, M.D. .. 6, George Street, Hanover Square, W.
Smith, H., Esq. .. 82, Wimpole Street, W.
Smith, J. A., M.B. .. 30, Cavendish Road, Brondesbury, N.W.
Smith, Thomas, Esq. .. 5, Stratford Place, Oxford Street, W
Smith, W. R., M.D. .. 74, Great Russell Street, W.C.
Smith, W. Wilberforce, M.D. .. 14, Stratford Place, W.
Smithson, A. E., M.B. .. Children's Hospital, Shadwell
Smyth, R. V. B., Esq. .. Shenley, Barnet, Herts.
Snell, Edmund G. C., Esq. .. 102, Bonner Road, Victoria Park, E.
Snow, Herbert L., M.D. .. 40, Norfolk Terrace, W
Somers, J. E., Esq. .. 33, Westbourne Terrace, W.
Southcombe, A. G., Esq. .. 42, St. Oswalds Road, West Brompton, S.W.
Spence, J. S., M.D. .. Oxford Ho., 329, Goldhawk Rd., Shepherd's Bush
Spencer, W. G., M.B. .. 94, Wimpole Street, W.
Spicer, F., M.D. .. 282, Camden Road, N.W.
Spicer, W. T. H., Esq. .. 6A, Bedford Square, W.C.
Squire, Balmanno, M.B. .. 24, Weymouth Street, W.
Squire, W., M.D. .. 6, Orchard Street, W.
Stanger, G. E., Esq. .. 82, Brook Green, West Kensington, W.
Steavenson, W. E., M.D. .. 39, Welbeck Street, W.
Steele, Frank, Esq. .. 22, Bloomsbury Street, W.C.
Steele, J. C., M.D. .. Guy's Hospital, S.E.
Stevenson, James, M.D. .. 466, Edgware Road W.
Stevenson, N., Esq. .. 51, Wimpole Street, W.
Stewart, William, M.D. .. 37, Southwick Street, W.
Stewart, W. R. H., Esq. .. 41, Devonshire Street, W.
Sirens, B. H. L., M.D. .. 11, Kensington Gardens Square, W.
Stone, W. D , M.D. .. 19, Oxford Terrace, Hyde Park, W.
Stone, W. H., Esq. .. 3, The Sanctuary, Westminster

Stonham, C., Esq. .. .. University College, W.C.
Stormont, H. J., Esq. .. .. 6, Belsize Crescent, N.W.
Stott, T. S., Esq. .. .. 1, Highgate Road, N.W.
Stubbs, P. B. T., Esq. .. .. The Terrace, Hammersmith, W.
Sturges, Octavius, M.D. .. 85, Wimpole Street, W.
Sumner, J. H. S., Esq. .. 19, Guilford Street, Russell Square, W.C.
Sunderland, Septimus, M.D. .. 155, Gloucester Road, S.W.
Sutton, H. G., M.B. .. .. 9, Finsbury Square, E.C.
Swaby-Smith, C., Esq. .. .. 23, Dulwich Road, Herne Hill, S.E.
Swain, E., Esq. .. .. Three Counties Asylum, near Baldock.
Swindlehurst, T. Newton, Esq. .. 66, Rye Lane, Peckham, S.E.
Sworn, H. G., Esq. .. .. 15, Albion Road, N.
Sydney, H., M.D. .. .. Pownall Gardens, Hounslow
Tanner, C. K. D., M.D., M.P. .. 78, Ebury Street, S.W.
Tapson, Alfred J., M.B .. 36, Gloucester Gardens, W.
Targett, J. H., Esq. .. .. 15, St. Thomas's Street, S.E.
Taylor, A. E , M.B. .. .. Westminster Hospital, S.W.
Taylor, H., M.B. .. .. 180, Kennington Park Road, S.E.
Taylor, Sidney H., M.D. .. 7, Park Avenue, Willesden Green, N.W.
Tench, E. B., Esq. .. .. 2, Edith Road, West Kensington, W.
Thane, G. D., Esq. .. .. University College, Gower Street, W.C.
Thelwall, L., Esq. .. .. 145, Seven Sisters Road, N.
Thomas, A. W., Esq. .. .. Bolingbroke Grove, Wandsworth, S.W.
Thomas, B. W., Esq. .. .. Welwyn, Herts
Thomas, R. W., Esq. .. .. Rye Lane, Peckham, S.E.
Thomas, W. J., M.B. .. .. Hemel Hempstead
Thompson, C. H., M.D. .. Metropolitan Hospital, Kingsland Road., E.
Thompson, T. W., Esq. .. 2c, Hyde Park Mansions, N.W.
Thomson, H. W., Esq. .. .. 57, Queen's Road, Brownswood Park, N.
Thorn, W., Esq. .. .. 87, Harrow Road, W.
Thorne, R. Thorne, M.D. .. 45, Inverness Terrace, W.
Thorne, W. B., Esq. .. .. 5, Gledhow Gardens, S.W.
Thornton, Wm. Pugin, Esq. .. 38, Chester Square, S.W.
Threadgale, R. E., M.D. .. Brondesbury Road. Kilburn
Thurnam, F. W., M.B. .. .. 40, South Grove, Highgate, N.
Tidey, S. A., Esq. .. .. Glenelg, Acton, W.
Tilley, A., Esq. .. .. Marlborough House, Garlinge Road, West-Hampstead, N.W.
Toller, E., Esq. .. .. 10, Royal Crescent, Holland Park, W.
Tomlin, R. F., Esq. .. .. Lordship Lane, Wood Green, N.
Tonge-Smith, W., M.D. .. 66, Queen's Road, Kensington Gardens, W.
Topping, J. P., M.B. .. .. 257, Romford Road, Forest Gate, E.
Townsend, M., Esq. .. .. 27, Upper Phillimore Place, Kensington, W.
Tunstall, A. C., M.D. .. . 2, Victoria Park Road, E.
Turle, J., M.D . .. North Finchley, N.W.
Turner, G. R., Esq. .. .. 40, Green Street, Park Lane, W. [N.W.
Turner, N. H., Esq. .. .. Queen Charlotte's Hospital, Marylebone Rd.,
Turtle, F., M.D. .. .. Woodford
Turtle, J. H., M.D. .. .. 35, High Street, Homerton, E.
Tyrrell, W., Esq. .. .. 95, Cromwell Road, S.W.
Vallance, T. J., M.D. .. .. Stratford, E.
Vance, W. J., Esq. .. .. North Woolwich, E.
Venis, W. Esq. .. .. Fountain Court, Temple, E.C.
Vintras, Achille, M.D. .. 19A, Hanover Square, W.
Vivian, R. T., Esq. .. .. Chase Side, Southgate, N.
Voelcker, A. F., Esq. .. .. 39, Argyle Road, Kensington, N.
Wagstaff, J. P., Esq. .. .. 61, Acre Lane, Brixton, S.W.
Wallace, W , M.B. .. .. 86, Chelsea Gardens, S.W.
Waller, A. D., M.D. .. .. 29, Abbey Road, N.W.
Walmsley, F. H., M.D. .. Leavesden Asylum, near Watford
Warner, Francis, M.D. .. 24, Harley Street, W.
Warren, W. P., Esq. .. .. St. James' Lodge, Enfield Highway
Waterhouse, W. D., Esq. .. 18, Woodchurch Road, Hampstead, N.W.
Watson, T. Boswall, M.B. .. 202, Tufnell Park Road, N.
Weakley, S. J. J., Esq. .. .. Forest Gate, E.
Webb, V. G., Esq. .. .. Brandon Lodge, Wood Green, N.
Webb, W. E., M.D. .. .. 17, Whitehall Place, S.W.
Webber, E. S., M.B. .. .. Sawbridgeworth, Herts
Webber, W. L., Esq. .. .. 8, Kensington Crescent, W.
Webster, G. A., M.B. .. ..
Webster, H. W., M.D. .. .. St. George's Infirmary, Fulham, S.W.
Webster, R. M., Esq. .. .. Rutland House, Colney Hatch Lane, N.
Weir, W., M.B. .. .. Gatestone, Upper Norwood, S.E.
Wells, J. R., Esq. .. .. 4, Pierrepoint Road, Acton, W.
Wells, Sir Thos. Spencer, Bart. .. 3, Upper Grosvenor Street, W.
West, J. A., Esq. .. .. 113, King Henry's Road, N.W.
Westland, A., M.D. .. .. 17, Belsize Park, N.W.
Wethered, F. J., M.B. .. .. 34, Welbeck Street, W.
Wharry, R., M.D. .. .. 6, Gordon Square, W.C.
Wheeler, J., M.D. .. .. 1, Pembridge Gardens, W.
Whitefoord, C. C., Esq. .. 117, Albany Street, N.W.
White, E. A., Esq. .. .. 1, Highbury Place, Islington, N.
White, T. D., Esq. .. .. 31, Chippenham Road, St. Peter's Park, W.
Whitelam, R , Esq. .. .. 12, Westfield Terrace, Fulham, S.W.
Whitlock, J. E. N., Esq. .. 4, Kensal Place, Kensal Green, W.
Wickham, O. A., Esq. .. .. 18, Arundel Square, Barnsbury, N.
Wilkins, G. H., Esq. .. .. 134, Brixton Road, S.W
Wilks, S., M.D., F.R.S. .. 72, Grosvenor Street, W.
Willans, W. Blundell, Esq. .. Much Hadham, Herts
Willett, A., Esq. .. .. 36, Wimpole Street, W.
Willett, E. W., M.B. .. .. 60, Welbeck Street, W.
Williams, A. H , M.B. .. .. Chest Hospital, Brompton, S.W.
Williams, A. L., Esq. .. .. 1, Brunswick Terrace, Campden Hill, W.
Williams, E. Lloyd, Esq. .. 2 James Street, Buckingham Gate, S.W.
Williams, G. R., Esq. .. .. 20, Ferme Park Road, Stroud Green, N.
Williams, J. F., Esq. .. .. St. Saviour's Infirmary, Westmoreland Road, Walworth S.E.
Williams-Freeman, J. P., M.B. .. 82, George Street, Portman Square, W.
Wilson, D., M.D. .. .. Sparrow House, Bushey, Herts
Wilson, F. W., M.D. .. .. Leicester Road, East Finchley, N.
Wilson, John, Esq. .. .. Harpenden.
Wilson, W., M.B. .. .. 184, Goldhawk Road, W.
Wilson, W., M.B. .. .. Park House, Heouth Park, Forest Hill, S.E.
Wilson, W., M.D. .. .. 6, Philip Lane, London Wall, E.C.
Wingrave, V. H. W., Esq. .. 3, Vernon Chambers, Southampton Buildings, W.C.
Witten, E. W., Esq. .. .. 22, Bardolphambrer Holloway, N.
Wolfenden, R. N., M.D. .. 19, Upper Wimpole Street, W.
Wood, N. T., Esq. .. .. 34, Hill Street Knightsbridge, S.W.
Woodforde, Alfred, Esq. .. Plaistow
Woodhouse, A. E. C., Esq. .. 1, Hanover Square, W.
Wordley, A. W., Esq. .. .. 8, Great Suffolk Street, S.E.
Worthington, S., Esq. .. .. Pattensweir, Enfield, N.
Wright, C. St. John, M.B. .. St. John's Road, Hornsey Rise, N.
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Blumer, W. P., Esq.	Burn House, Durham Road, Sunderland
Bolton, W. T., Esq.	Prospect House, Ebchester Hill, *viâ* Newcastle-on-Tyne
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Squance, T. C , M.D. .. .. 4, Beauclerc Terrace, Sunderland
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Stewart, D., M.D. .. .. Hexham
Stewart, Peter, M.B. .. .. Langley Moor, near Durham
Strachan, B., M.B. .. .. 12, Dundas Street, Monkwearmouth
Sutherland, J. R., Esq... .. West Rainton, Fence Houses, Durham
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Wear, A. T., M.D. .. .. 33, Westmoreland Road, Newcastle-on-Tyne
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Young, Moffatt, M.D. .. .. 19, South Scarboro' Street, West Hartlepool

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Campbell, J., M.B.	Coundon, Bishop Auckland
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Laing, R., Esq.	29, Waterloo Road, Blyth, Northumberland
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Laws, C. U., Esq.	5, Winchester Terrace, Newcastle-on-Tyne
Liston, H., Esq.	46, Tatham Street, Sunderland
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Lund, T., M.B.	Shildon, near Darlington
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Shelley, R. W., Esq.	1, Ward Terrace, Sunderland
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Kevin, C., M.D.	144, Donegal Pass, Belfast
Kidd, A., M.D.	Ballymena

Ledlie, A., Esq. .. .. 95, Crumlin Road, Belfast
Lewers, Hugh, M.D. .. .. 257, Shankhill Road, Belfast
Leslie, R. W., M.D. .. .. Strandtown, Belfast
Lindsay, J. A., M.D. .. .. 37, Victoria Place, Belfast
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Morton, S., M.B. .. .. Wellesley Villa, Croydon
Nankivell, A. Wolcot, Esq. .. St. Bartholomew's Hospital, Chatham
Napper, Albert, Esq. .. .. 2, Chichester Place, Guildford
Napper, A. Arthur, Esq. .. Broad Oak, Cranleigh
Nash, C., Esq. .. .. The Hospital, Gravesend
Newington, Herbert F. H., Esq. .. Ticehurst, Sussex
Newth, Alfred, H., M.D. .. Haywards Heath
Nicholls, F., M.D. .. .. 73, High Street, Croydon
Nicholson, Arthur, M.D. .. 98, Montpelier Road, Brighton
Nisbett, R. Innes, Esq. .. .. Overcliff, Gravesend
Noad, Henry Carden, Esq. . Chesham Lodge, Lower Norwood
Oldham, C. J., Esq. .. .. 1, Brunswick Place, Brighton
Oldman, Charles E., M.D. .. The Grange, Blechingley
Oliver, C. P., Esq .. .. 5, Rocky Hill Terrace, Maidstone
Ord, George Rice, Esq. .. Streatham Hill, S.W.
Ormsby, John, M.D. .. .. 7, Effingham Crescent, Dover
Osborn, Ashby G., Esq. . 2, Priory Road, Dover
Oxley, A. R., M.A., M.B. .. Conisbro,' Leigham Court Road, Streatham Common, S.W.
Pardington, G. L., M.D. .. The Spa, Tunbridge Wells
Parish, F., Esq. .. .. 14, The Steyne, Worthing
Parsons, Charles, M.D. .. .. 2, St. James's Street, Dover
Parsons, Francis Henry, M.D. .. The Hurst, West Worthing
Paul, John H., M.D. .. .. The Terrace, Camberwell, S.E.
Paxton, Francis Valentine, M.B. .. West Street Chichester
Pearse, A., Bruce, Esq. .. 3, Delta Villas, Walmer, Deal
Pearce, Henry, Esq. .. .. Hurstpierpoint
Penfold, F. W. H., Esq. .. Rainham, Kent
Penfold, Henry, Esq. .. .. 7. Brunswick Place, Brighton
Penhall, John T., M.D. .. .. 5, Eversfield Place, St. Leonards-on-Sea
Perkins, Charles E. Steele, M.B. .. 80, Kirkdale Road, Sydenham
Perry, C. E., M.D. .. .. 11, Bouverie Place, Folkestone
Phelps, Philip, Esq. .. .. Ashford, Kent
Phillips, W. A., M.D. .. .. 4, Court Street. Faversham
Philpot, Chas. W., M.B. .. 58, North End, Croydon
Pinching, C. J. W., Esq. . 76, New Road, Gravesend
Pittock, George M., M.B. .. 23, Cecil Square, Margate
Plimmer, H. G., Esq. .. .. Waldegrave Road, Upper Norwood, S.E.
Plomley, John Fred, M.D. .. Maidstone
Pocock, C. J., Esq. .. .. 49, Church Road, West Brighton
Pollock, W., M.B. .. . 43, Terminus Road, Eastbourne
Pope, H. F. M., Esq. .. .. West Malling, Kent
Poole, George Kenneth, M.D., Surg.-Major M.S. .. .. 30, Anerley Hill, Upper Norwood
Porter, William Elliot, Esq. .. Lindfield, Sussex
Prangley, H. J., Esq. .. .. 16, Anerley Road, Anerley, S.E.
Price, William P., M.D. .. 1, Ethelbert Crescent, Margate
Purvis, Prior, M.D. .. .. 5, Lansdown Place, Blackheath, S.E.
Rand, John, Esq. .. .. Walton House, Grove Hill, Dulwich

Ranking, John E., M.D. .. 18A, Mount Ephraim Road, Tunbridge Wells
Raven, Thomas F., Esq. .. Barfield House, Broadstairs
Raw, W. E., Esq. .. .. Rutland House, Oakfield Road, Anerley, S.E.
Ray, E. Reynolds, Esq. .. Dulwich, S.E.
Reid, T. Whitehead, Esq. .. 34, St. George's Place, Canterbury
Richardson, A. J., M.D. .. 45, St. John's Terrace, West Brighton
Richardson, C. B., M.D. .. Station Road, Aldrington, near Brighton
Richardson, Thomas Arthur, Esq... 24, London Road, Croydon
Richmond, Onslow R., Esq. .. Lodgewood, Gravesend
Richmond, S., M.D. .. .. Greenhithe, Kent
Rigden, George, Esq. .. .. 60, Burgate Street, Canterbury
Rix, Benjamin, Esq. .. .. 2, Mount Ephraim Road, Tunbridge Wells
Robbs, C. E., Esq. .. .. Lodgewood, Gravesend
Roberts, Bransby, M.D. .. Badlesmere House, Eastbourne
Roberts, Henry William, Esq. .. Ashdown Villa, Wickham Terrace, Lewisham High Road, S.E. [Dulwich, S.E.
Robertson, W. B., M.B. .. St. Anne's, Thurlow Park Road, West
Robinson, John, M.D. .. .. Midhurst, Sussex
Robinson, Maj. K., M.D. .. Priory Gate, Dover
Robson-Roose, E. C., M.D. .. 45, Hill Street, Berkeley Square, W.
Rogers, Robert James, Esq. .. 40, Cannon Place, Brighton
Roper, Alfred George, Esq. .. Arundel House, London Road, Croydon
Roper, Arthur, Esq .. .. Lewisham Hill, S.E.
Ross, D. M., M.D. .. .. 9, Pavilion Parade, Brighton
Ross, John Harris, M.D. .. 8, St. George's Place, Brighton
Rosser, Walter, M.D. .. .. George Street, Croydon
Roth, Bernard Mathios Simon, Esq. F.R.C.S. .. .. .. 29, Queen Anne Street, W.
Routh, A. C., Esq. .. .. 33, Marina, St. Leonard's-on-Sea
Rowe, T. Smith, M.D. .. .. Union Crescent, Margate
Russell, F. R., M.B. .. .. High Street, Guildford
Rutter, Joseph, M.D. .. .. Codrington House, Brighton
Rymer, J. F., Esq. .. .. 1, Ashford Road, Maidstone
Salzmann, F. W., Esq. .. .. 18, Montpelier Road, Brighton
Sams, J. Sutton, Esq. .. .. Eltham Road, Lee, S.E.
Sanderson, R., M.B. .. .. 32, Montpellier Road, Brighton
Saunders, Edwin Dawes, Esq. .. Tenterden, Ashford
Schollick, T. J., Esq. .. .. 13, Haydon Place, Guildford
Schön, James Edward, Esq. .. Littlebourn, Wingham, Kent
Scott, A., Esq. .. .. 15, German Place, Brighton
Scott, J., M.D. .. .. Bromley, Kent
Sedgwick, Charles, Esq. .. Hollingbourn, Maidstone
Sells, C. J., Esq. .. .. White Hall, Guildford
Shaw, Wm., M.D. .. .. Tonbridge Road, Maidstone
Simpson, W. S., Esq. .. .. 104, Marine Parade, Worthing
Slaughter, Thomas G., Esq. .. Bolsover, near Chesterfield (dead)
Slaughter, G. M., Esq., Dep. Surg.-Gen. .. .. .. Farningham
Sloman, Herbert, Esq. .. .. 27, West Street, Farnham
Sloman, Samuel G., Esq. .. Farnham
Sloman, Samuel G., jun. .. 30, West Street, Farnham
Smith, C. E., M.D., Dep. Surg.-Genl. .. .. .. 26, Marine Parade, Worthing
Smith, E. Noble, Esq. .. .. 24, Queen Anne Street, Cavendish Square
Smith, G. J. Malcolm, M.D. .. Howard Lodge, Hurstpierpoint
Smith, J., Esq. .. .. Christchurch Road, Streatham Hill, S.W.
Smith, John P. M., Esq. .. 118, Western Road, Brighton
Smith, Samuel Parsons, L.K.Q.C.P. Park Hyrst, Addiscombe Road, Croydon
Smith, W. H. M., Esq. .. 22, London Road, Croydon
Smith, W. W., Esq. .. .. Sittingbourne
Smithers, Bartholomew D., Esq. .. Bridge House, Crookham, Hants
Snow, L. M., Esq. .. .. Prospect House, Brabourne, Kent
Soper, William, Esq. .. .. 307, Clapham Road, London
Spencer, W. H., M.D. .. .. 11, Warrior Square, St. Leonard's-on-Sea
Spurrell, Flaxman, Esq. .. Belvedere, Lessness Heath, Kent
Stamford, William, Esq. .. Collingwood House, Tunbridge Wells
Starling, E. A., M.B. .. .. 36, Culverley Road, Tunbridge Wells
Stedman, A., Esq. .. .. The Croft, Great Bookham, Leatherhead
Stone, H. S., M.B. .. .. Holmfield, Reigate
Stowers James Herbert, M.D. .. 23, Finsbury Circus, E.C.
Strang, William Douglas, Esq. .. 13, Queen Adelaide Road, Penge
Strong, Henry John, M.D. .. Whitgift House, Croydon
Styan, Thos. G., M.B. .. .. 1, Chapel Place, Ramsgate
Sutcliff, Joseph H., Esq. .. Ripley, Woking Station
Sutton, William, M.D. .. .. Camden Crescent, Dover
Swales, Edward, Esq. .. .. Sheerness
Tamplin, Charles Harris, Esq. .. 44, Royal Road, Ramsgate
Tannahill, T. F., M.B. .. .. H.M. Prison, Borstal, Rochester
Tapson, John, M.D. .. .. 13, St. German's Place, Blackheath, S.E.
Taylor, Henry S., Esq. .. 15, Quarry Street, Guildford
Taylor, John, Esq. .. .. Ticehurst, Hawkhurst
Taylor, W. H., M.D. .. .. Tudor House, Anerley, S.E.
Thompson, Henry George, M.D. .. 8, Addiscombe Villas, Croydon
Thornton, B., Esq. .. .. 14, Cecil Square, Margate
Thornton, W. P., Esq. .. .. 38, Chester Square, S.W.
Thurston, Edward Whitfield, Esq... 8, Elwick Road, Ashford
Ticehurst, A. R., Esq. .. .. Silchester House, St. Leonard's-on-Sea
Tomkins, Charles P., L.K.Q.C.P. .. The Old Manor House, Wallington
Travers, O. R., Esq. .. .. San Nicolas, St. Leonard's-on-Sea
Trent, Thomas, Esq. .. .. Tooting
Treutler, William John, M.B. .. Fletching, Uckfield
Treves, W. Knight, Esq. .. 31, Dalby Square, Cliftonville, Margate
Tribe, H. J. B., Esq. .. .. 25, Paddock Terrace, Chatham
Trollope, Thomas, M.D. .. 9, Maze Hill, St. Leonard's-on-Sea
Trower, Arthur, Esq. .. .. 1, Drayton Terrace, South Kensington, S.W
Tuke, Montague, Esq. .. .. Sutton Valence, Staplehurst
Turner, Arthur N., Esq. .. Egremont House, Thicket Road, Penge, S.E.
Turner, John Sidney, Esq. .. Stanton Ho., Anerley Rd., Up. Norwood, S.E.
Turner, Richard, Esq. .. .. 22, School Hill, Lewes
Tyacke, Nicholas, M.D. .. Westgate Chichester
Tyson, William Joseph, M.D .. 10, Langhorne Gardens, Folkestone
Underwood, John, M.D. .. 41, Robertson Street, Hastings

Uhthoff, J. Caldwell, M.D. .. 46, Western Road, Hove, Brighton
Upton, Herbert C., Esq .. 28, Medina Villas, Hove, Brighton
Vernon, Mark H. H., Esq. .. Horsham
Verrall, Thomas Jenner, Esq. .. 95, Western Road, Brighton
Vipan, C., Esq. .. .. Ford Bank, Dane Road, St. Leonard's-on-Sea
Vise, C., M.D. .. .. General Hospital, Tunbridge Wells
Wacher, Frank, Esq. .. .. Kingsbridge, Canterbury
Wagstaffe, W. W., M.B. .. Purleigh, St. John's Hill, Sevenoaks
Wales, J., Esq., Brig.-Surg. M.S. Mowbray Road, Upper Norwood, S.E.
Walker, George E., Esq. .. 4, St. Mary's Vale, Chatham
Wallis, F. M., Esq. .. .. Barrack Hall, Bexhill, Hastings
Wallis, H., Esq. .. .. Alfriston, Polegate, Sussex
Wallis, Percy E., Esq. .. Old Stone House, East Grinstead
Wallis, William, Esq. .. .. Oak Lea, Hartfield, Tunbridge Wells
Wallis, W., Esq. .. .. Groombridge, Sussex
Walter, Clement C., Esq. .. Pencester Road, Dover
Walters, John, M.D. .. .. Church Street, Reigate
Watson, George Samuel, Esq. .. Mount Ephraim Road, Tunbridge Wells
Watson, William, Esq. .. .. Theobald House, Rochester
Weekes, Henry, Esq. .. .. Mansion House, Brompton, Chatham
Weir, W., M.B. .. .. Gatestone, Upper Norwood, S.E.
Wheeler, F. J., Esq. .. .. Parkhurst Road, Bexley
Wheeler, Thomas, Esq. .. Bridge House, Bexley, S.E.
White, E. A., M.D. .. .. 14, Cecil Sq., Margate
White, E. W., M.D. .. .. Kent Lunatic Asylum, near Canterbury
White, P. H., M.B. .. .. Ryde House, Woking
White, R., M.B. .. .. 7, Clarendon Place, Maidstone
White, S. S., M.D. .. .. 41, Warrior Street, St. Leonard's-on-Sea
Whitling, Henry T., Esq. .. Croydon
Whittle, E. G., M.B. .. .. 65, Dyke Road, Brighton
Wiles, J., Dep.-Surg.-Gen. .. 2nd Reg. District Depôt, Guildford
Wilkin, John F., M.D. .. .. Beckenham
Wilkinson, J. Cooper, Esq. .. Ashford
Wilks, George, M.B. .. .. Ashford
Wills, J. P., M.B. .. .. Bexhill, near Hastings
Williams, S. W. Duckworth, M.D. .. 78, King's Road, Brighton
Williams, Hutchins, Esq. .. Bloomville, Lee
Wilson, Claud, M.D. .. .. Tunbridge Wells
Wilson, W., M.B. .. .. Dartmouth Road, Forest Hill, S.E.
Winter-Fisher, S., M.D. .. 136, Marine Parade, Brighton
Winter, John N., Esq. .. .. 28, Montpelier Road, Brighton
Wintle, H., M.D. .. .. Church Road, Forest Hill, S.E.
Wood, C., Esq. .. .. The Hospital, Dover
Wood, E. J., M.B. .. .. Lees Lodge, Yalding, Kent
Worship, John Lucas, Esq. .. Manor House, Riverhead
Wray, Charles, Esq. .. .. North End, Croydon
Yate, Frederick, Esq. .. .. Godalming
Young, E., Esq. .. .. Hall House, Hawkhurst
Young, W. W., M.D. .. .. Aldershot

MEMBERS UNATTACHED (314).

Adey, C. A., M.D. .. .. St. Leonard's-on-Sea (dead)
Air, A. C., Jun., Esq .. .. 2, Bellevue South Norwood
Aird, T. W., Esq. .. . 26, Ross Road, Wallington
Alban, E., Esq. .. .. Lindfield, Sussex
Alexander, T. A., M.B. .. Church Street, Epsom
Alliott, A. J., M.D. .. .. St. John's Hill, Sevenoaks
Anderson, H. B., M.B. .. 25, Westbourne Villas, West Brighton
Andrew, G., M.D. .. .. The Terrace, Gravesend
Anwyl, H. J. N., Esq. .. Chartham, Canterbury
Ardagh, W. A., M.D. .. .. Haslemere, Surrey
Ashurst, W. R., M.D. .. .. Farningham
Atkey, W. T., Esq. .. .. Walton Lodge, Worthing
Atkins, F., Esq. .. .. Plumstead
Austin, J. A., Esq. .. .. West Norwood Lodge, S.E.
Austin, Thomas J., Esq. .. Crescent Road, South Norwood Park, S.E
Ayres, A. R. A., Esq. .. .. Walmer Villa, Preston Park, Brighton
Baker, C. E., Esq. .. .. Tenterden
Barnes, A. R., M.B. .. .. Pevensey
Barnett, F. S., Esq. .. .. 19, High Street, Lewisham, S.E
Batten, G. B., M.B. .. .. 2, Mayfield, Lordship Lane, S.E.
Batty, W. E. L., Esq. .. .. Tunbridge Wells
Beard, F., M.B. .. .. Westwood, Brighton Road, Croydon
Bell, W. R., M.D. .. .. Woodland Lodge, Blackheath
Bennett, E., Esq. .. .. Luton Road, Chatham
Bevan, R., Esq. .. .. Cobb's Hall, Lydd, Kent
Beverley, J. M., M.D. .. .. Littlehampton, Sussex
Biggs, J. S., M.D. .. .. Surrey County Asylum, Tooting
Billinghurst, H., M.D. .. .. Stedham Hall, Midhurst
Bird, W. V., M.D. .. .. 4, Eaton Villas, West Brighton
Blaker, E. S., Esq. .. .. 30, Marmora Road, Honor Oak, S.E.
Blaney, R., M.B. .. .. 3, Beaconsfield Terrace, Hastings
Bloxam, G. E., Esq. .. .. Wimbledon
Booth, J. B., Esq. .. .. Manor House, Streatham
Bostock, A. S., Esq. .. .. North Pallant, Chichester
Bosworth, J. R., Esq. .. .. Sutton, Surrey
Bowes, W. H., M.B. .. .. 7, Marine Terrace, Herne Bay
Boyes, J. F., M.B. .. .. Cliftonville, Brighton
Bradley, C. L., Esq. .. .. 23, Albany Villas, Hove, Brighton (resigned)
Branfoot H. S., M.B. .. .. 41, Norfolk Square, Brighton
Brigham, J. K., M.D. .. .. 33, West Hill, Sydenham, S.E.
Bridges, A. C., Esq. .. .. 29, York Place, Brighton
Brookhouse, C. T., Esq. .. 42, Manor Road, New Cross, S.E.
Brown, C. H., M.B. .. .. Godalming
Browne, Charles, Esq. .. .. Springhurst, Bickley
Brownrigg, J. A., Esq. .. .. Heath House, Milford, Surrey
Bryan, F. C., Esq. .. .. Littlehampton
Bull, J. W., M.D. .. .. Chislehurst
Bunn, C. G., Esq. .. .. Ferndale, Central Hill, Upper Norwood
Campbell, Wm., Esq. .. .. 40, Wellington Square, Hastings
Carpenter, E., Esq. .. .. Albemarle Road, Beckenham

Carter, C. H., Esq. .. .. St. Helen's Road, Hastings
Chaffey, W. C., M.B. .. .. North Street, Brighton
Chalmers, T. D. Esq. .. .. Southborough, Tunbridge Wells
Chatterton, W., Esq. .. .. Bromley, Kent
Clark, R., Esq. .. .. Lee Park, Blackheath
Clarke, C. F., Esq. .. .. 124, Crescent Road, Plumstead
Clarke, Ernest, M.B. .. .. 21, Lee Terrace, Blackheath
Clarke, T. F., Esq. .. .. Dartford, Kent
Clitherow, R. E., Esq. .. Lancaster House, Peckham Rye, S.E.
Cock, Edward, Esq. .. .. Dean Street South, S.E.
Coleman, C. A., M.D. .. .. Streatham Common, S.W.
Collingridge, W., M.B. .. .. 65, Tressillian Road, St. John's, S.E.
Collins, W. Grosett, M.D. .. Midhurst
Cones, J. A., Esq. .. .. Burgess Hill, Sussex
Connor, J. H. T., Esq. .. .. St. John's Hill, Battersea Rise
Cook, P. I., M.D. .. .. 17, Tyson Road, Forest Hill, S.E.
Cooper, P., Esq. .. .. Blackheath, S.E.
Copeman, S. A. M., M.B. .. 134, York Road, Lambeth, S.E.
Coryn, W. J., Esq. .. .. Acre Lane, Brixton, S.E.
Coveney, J. H., Esq. .. .. The Roost, Hawkhurst
Craig, James, M.B. .. .. Cliftonville, Beckenham
Crane, C. R., Esq. .. .. Preston, Brighton
Cressy, W. E., M.B. .. .. Wallington
Cripps, C. C., M.D. .. .. 187, Camberwell Grove, S.E.
Culhane, F. W. S., Esq. .. 124, Mount Pleasant Road, Hastings
Curtis, W. K. Esq. .. .. Burgate Street, Canterbury
Daldy, F. S., Esq. .. .. Horsham
Davies, R. C. N., Esq. .. .. Rye
Davis, G. W., M.B. .. .. Station Road, Sidcup
Davis, Theodore, Esq. .. .. Devon House, Caterham Valley
Dill, John F. Gordon, Esq. .. 6, Brunswick Place, Hove, Brighton
Dill, R., M.D. .. .. 19, Regency Square, Brighton
Dodd, H. A., Esq. .. .. 12, Selborne Road, West Brighton
Donaldson, W., Esq. .. .. St. Mary Cray, Kent
Dorin, A. F. L., Esq. .. .. 344, Clapham Road, S.W.
Doubleday, James, Esq. .. .. Chiddingfold, Godalming
Drew, H. W., Esq. .. .. General Hospital, Croydon
Duke, Benjamin, Esq. .. .. Windmill Road, Clapham Common, S.W.
Dunbar, J. J. M., M.D. .. .. Hedingham House, Clapham Common, S.W.
Edwards, E. N., Esq. .. .. Goldsmith Road, Brighton
Ellery-Trewhella, H., M.D. .. South Norwood, S.E.
Elliot, John, Esq. .. .. Belvedere
Elliot, Norman, Esq. .. .. 93, Denmark Hill, S.E.
Erskine, W., M.D. .. .. Peak Hill, Sydenham
Evershed, C. L., Esq. .. .. Arundel
Eyre, J. J., Esq. .. .. Albemarle Road, Beckenham
Fairland, S. T., Esq. .. .. Woolwich
Farr, G. F., Esq. .. .. Slade House, Kennington Road, S.E.
Field, A. T., Esq. .. .. Lenham, near Maidstone
Fitzmaurice, R. Esq. .. .. Lindfield, Sussex
Ford, R. G., Esq. .. .. 178, Stanstead Road, Forest Hill, S.E.
Forsyth, Alexander, M.D. .. .. 11, Park Terrace, Greenwich
Fox, F. G. T., Esq. .. .. 2 Queen Adelaide Road, Penge, S.E.
Fraser, Frank, Esq. .. .. Tonbridge, Kent
Frazer, Kenneth, M.D. .. .. 28, Burlington Place, Eastbourne
Frazer, Robert F., L.K.Q.C.P. .. 5, Sisters Terrace, Lavender Hill, Clapham
Frith, B. G., Esq. .. .. 29, Cornwallis Gardens, Hastings
Garnham, R. W., Esq. .. .. 273, Milkwood Road, Herne Hill, S.E.
Gasquet, J. R., Esq. .. .. 127, Eastern Road, Brighton
George, W. H., Esq. .. .. North Street, Midhurst
Gooding, Ralph, M.D. .. .. Blackheath
Grayling, Francis, Esq. .. .. Sittingbourne
Griffin, T. Esq. .. .. Bognor, Sussex
Griggs, W., Esq. .. .. 11, Tressillian Crescent, St. John's, S.E.
Greenwood, T. F., Esq. .. 3, Castledown Terrace, Hastings
Habgood, Wm., Esq. .. .. Banstead Asylum, Sutton
Harrison, G., Esq. .. .. Rosendale Lodge, Streatham Hill, S.W.
Harvey, T. P., Esq. .. .. 147, London, Road, St. Leonard's
Hatfield, W. H., Esq. .. .. Stanstead Road, Forest Hill, S.E.
Haughton, E., M.D. .. .. Upper Norwood
Head, P. T., Esq. .. .. Danehurst, Eastbourne
Head, R. L. B., Esq. .. .. 135, Hartfield Road, Wimbledon
Heath, C. J., Esq. .. .. 1, Eastcombe Villas, Blackheath, S.E.
Heath, Richard, M.D. .. .. St. Leonard's-on-Sea
Hewetson, J., M.B. .. .. Care of Dr. Stone, Holmfield, Reigate
Hewett, Sir Prescott G., Bart. .. Horsham
Hilder, R., Esq. .. .. Teviot House, Upper Tooting
Hill, H. Gardiner, Esq. .. Cane Hill Asylum, Purley
Hillier, T. E., M.B. .. .. General Hospital, Tunbridge Wells
Hitchins, T. J., Esq. .. .. Crawley, Sussex
Hogg, Chas., M.D. .. .. Chesham Road, Brighton
Hooley, A., Esq. .. .. Cobham, Surrey
Hoskins, Ethelbert, Esq. .. Turner's Hill, Sussex
Hurd-Wood, John, M.D. .. Leatherhead
Ievers, E., M.D. .. .. Tunbridge
Ilott, H. J., M.D. .. .. Bromley
Ilott, J. J., Esq. .. .. 26, Tweedy Road, Bromley
Ince, J., M.D. .. .. Farningham, Kent
Jeaffreson, J. L., Esq. ..
Jefferies, W. R. S., M.D. .. Chatham, Kent
Johnstone, Athol A. W., Esq. .. 61, Dyke Road, Brighton
Jowers, F. W., Esq. .. .. 27, Old Steine, Brighton
King, J. B., M.D. .. .. 5, Old Steine, Brighton
King, Thomas W., M.D. .. Purbrook, Dorking
Lacy, T. W., Esq. .. .. 6, Yorke Crescent, Woolwich, S.E.
Lancaster, H. F., M.D. .. 275, Lewisham High Road, S.E.
Land, W. J., Esq. .. .. Tunbridge
Langdale, H. M., Esq. .. Uckfield, Sussex
Law, J., M.D. .. .. Sydenham
Lawrence, H. M., Esq. .. Hadlow, near Tunbridge
Lawson, R. L., Esq. .. .. Barry Road, East Dulwich, S.E.
Leigh, T., Esq. .. .. Grand Parade, Brighton

Lemon, H. M., M.D. .. .. 18, Derwent Road, Anerley, S.E.
Leslie, J. L., M.D. .. .. Bexley Heath, Kent
Lewis, C. F., Esq. .. .. Henfield
Lipscombe, A. A., Esq. .. King Street, Maidstone
Lowdell, S. P., Esq. .. .. East Grinstead
Lownds, T. M., M.D. .. .. Egham
Lund, G., M.D. .. .. De Crespigny Park, S.E.
Lyddon, R., Esq. .. .. The Limes, Deal
Lyle, T., M.D. .. .. 6, Park Crescent, Brighton
McCombie, J., M.D. .. .. Deptford Hospital, S.E.
MacDougall, H. A. H., Esq. .. Sutton Valence, Staplehurst
MacGavin, J., Esq. .. .. 72, Trafalgar Road, Greenwich, S.E.
Mackintosh, F. J., Esq. .. 5, Salford Terrace, Tonbridge
Macnamara, G. H., Esq. .. East Grinstead
McNaul, H. H., M.B. .. .. Dartford
McNiece, H., Esq. .. .. Carshalton
Mansfield, C. J., M.B. .. Byron Road, Worthing
Markham, W. Orlando, M.D. .. 21, Nightingale Lane, Clapham
Marriott, O. D., M.B. .. .. Sevenoaks
Martin, F., M.D. .. .. Holmhurst, Southend Road, Beckenham
Mason, R., Esq. .. .. 7, Rectory Place, Woolwich
Mathews, R., Esq. .. .. Bickley
Maunsell, John, M.D. .. .. 99, St. John's Hill, Wandsworth
Maxwell, T., M.D. .. .. 23, Woolwich Common
May, Augustus S., Esq. .. 4, Gresham Villas, Forest Hill, S.E.
Michael, W. H., Esq., Q.C. .. Foxgrove Road, Beckenham
Michie, W. A., M.D. .. .. 45A, Blackheath Road, Greenwich, S.E.
Midwinter, E. J. H., Esq. .. Croydon Road, Anerley, S.E.
Mitchell, T. A., Esq. .. .. Catford, S.E.
Moody, J. M., Esq. .. .. Purley, R.S.O., Surrey
Moore, T., Esq. .. .. 6, Lee Terrace, Blackheath, S.E.
Morgan, Charles, Esq. .. .. Bromley
Morgan, G., Esq. .. .. West Street, Brighton
Morgan, W. P., M.D. .. .. Seaford, Sussex
Morris, Edward, Esq. .. .. Fernhurst, Haslemere
Morris, J., Esq. .. .. Brighton
Morris, W. W., M.B. .. .. Whitstable, Kent
Muggeridge, H. H., Esq. .. Ashford, Kent
Mundie, G., M.D. .. .. Canterbury, Kent
Murchison, F., M.B. .. .. Peckham House, Peckham, S.E.
Newbigging, R. P., Esq. .. 95, Crystal Palace Road, East Dulwich, S.E.
Newington, A. S. L., Esq. .. Ticehurst, Hawkhurst
Newman, A. P., M.D. .. .. Crawley, Sussex
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Dobie, William, M.D.	..	Queen Street, Keighley
Dobson, J., Esq.	..	Leeds
Dolan, Thomas M., M.D.	..	Horton House, Halifax
Dowker, F. W., Esq.	..	Helmsley
Drake, F. H., Esq.	..	Headingley, Leeds
Draper, William, Esq.	..	St. Leonard's, York
Drury, A., M.B.	..	Landon House, Halifax
Dyson, William, M.D.	..	Gell Street, Sheffield
Eastwood, J. W., M.D.	..	Dinsdale Park, Darlington
Eddison, J. E., M.D.	..	Park Square, Leeds
Ellerton, J., Esq.	..	Middlesbrough, Yorks
Ellerton, J. F., Esq.	..	Aberford, Leeds
Ellis, W. H., Esq.	..	Shipley Hall, Shipley
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Favell, Richard, Esq.	..	Glossop Road, Sheffield
Favell, William Fisher, Esq.	..	Glossop Road, Sheffield
Forsyth, Robert, M.D.	..	Birstall, Leeds
Foster, John, M.D.	..	113, Horton Lane, Bradford
Fothergill, T. P., M.D.	..	Bedale
Garrard, W. A., Esq.	..	Wellgate, Rotherham
Giddings, W. Kitto, M.D.	..	Calverley, Leeds
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Grabham, Charles, M.B.	..	Pontefract
Greenwood, J. W., Esq.	..	Ossett, Wakefield
Gwynne, C. Nelson., M.B.	..	London Road, Sheffield
Haigh, T. A., Esq.	..	Meltham, Huddersfield
Hall, F., M.D.	..	North Street, Leeds
Hall, J. A., Esq.	..	Lockwood, Huddersfield
Hall, John, Esq.	..	40, Victoria Street, Sheffield
Hall, William, Esq.	..	Headingley, near Leeds
Hallam, W., Esq.	..	The Wicker, Sheffield
Handcock, George, Esq.	..	Chapeltown Road, Leeds
Hardwicke, H. J., M.D.	..	Sharrow, Sheffield (resigned)
Hargreaves, Edmund, M.B.	..	2, Eyre Street, Sheffield
Hargreaves, J. B., Esq.	..	Armley, Leeds
Harrison, J. W., Esq.	..	Cemetery Road, Sheffield
Hartley, Reginald, Esq.	..	Thirsk
Hartley, R. M., Esq.	..	Leeds
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Hawthorn, H. J., Esq.	..	Ecclesfield, Sheffield
Heald, B. Gray, Esq.	..	East Street, Leeds
Hebden, John, Esq.	..	3, Princess Terrace, Ripon
Hellier, J. B., Esq.	..	1, De Grey Terrace, Leeds
Hewetson, H. B., Esq.	..	Hanover Square, Leeds
Hewetson, Richard, Esq.	..	Bootham, York
Hick, Henry, Esq.	..	The Laurels, Monk Fryston, South Milford, Yorks
Hinchliffe, Matthew, M.D.	..	Wellington Road, Dewsbury
Hindle, F. T., Esq.	..	Askerne, Doncaster
Hingston, J. T., Esq.	..	North Riding Asylum, Clifton, York
Hirst, S. C., Esq.	..	Bowling, Bradford
Hobson, L. J., M.D.	..	Scarborough Lodge, Victoria Park, Harrogate
Holdsworth, S., M.D.	..	West Parade, Wakefield
Hollings, Robert, M.D.	..	Grove House, Wakefield
Horne, J. F., Esq.	..	Barnsley
Horne, John, M.D.	..	47, Albemarle Crescent, Scarborough
Howard, James, Esq.	..	Normanton
Hunt, H. J., Esq.	..	Harrogate
Hunter, W. L., M.B.	..	Pudsey
Hutchinson, C. F., M.D.	..	Monte Carlo
Ingham, Amos, M.D.	..	Haworth, near Keighley
Inkster, S. M., M.D.	..	Fulwood Road, Sheffield
Irving, J., M.B.	..	2, Greenhead Road, Huddersfield
Jackson, Arthur, Esq.	..	Wilkinson Street, Sheffield
Jackson, Ed., M.B.	..	81, Osborne Road, Newcastle
Jacob, Ernest Henry, M.D.	..	12, Park Street, Leeds
Jalland, W. H., Esq.	..	St. Leonard's House, Museum Street, York
Jefferson, R. P., Esq.	..	39, Leopold Street, Leeds
Jessop, T. R., Esq.	..	Park Square, Leeds
Johnson T., Esq.	..	Knottingley
Johnson, W. J., Esq.	..	Bawtry
Johnston, J., Esq.	..	13, Whetley Hill, Bradford
Johnston, S., M.D	..	Bradford
Johnstone, Thomas, M.D.	..	The Grove, Ilkley
Jones, A. O., M.D.	..	Harrogate
Jones, W. M., Esq.	..	Wath-upon-Dearne
Jubb, Abraham, Esq.	..	Aked's Road, Halifax
Kebbell, Alfred, Esq.	..	Flaxton, York
Keeling, J. H., M.D.	..	Glossop Road, Sheffield
Keighley, R. D., Esq.	..	Batley, near Dewsbury
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Knaggs, Samuel, Esq.	..	Huddersfield
Knight, H. J., Esq.	..	Rotherham
Lambert, J., Esq.	..	358, Leeds Road, Bradford
Lambert, John, Esq.	..	Farsley, Leeds
Laver, A. H., Esq.	..	Cemetery Road, Sheffield
Laverick, John V., Esq.	..	Poplar House, Hinderwell
Leach, Matthew, Esq.	..	26, Surrey Street, Sheffield
Leak, Thomas Mallorie, Esq.	..	Hemsworth, Pontefract
Lee, F. B., Esq.	..	The Grove, Leversedge
Lewis, W. B., Esq.	..	West Riding Asylum, Wakefield
Libbey, H. Cornelius, Esq.	..	Lightcliffe, near Halifax
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Lyth, J. B., Esq.	..	Fern Bank, Doncaster Road, Rotherham
McCracken, John, Esq.	..	Easingwold, Yorks
McDowall, John Greig, M.B.	..	West Riding Asylum, Menston, near Leeds
McGill, A. F., Esq.	..	Leeds
MacGregor, A. G., Esq.	..	Girlington, Bradford
MacGregor, Peter, Esq.	..	Huddersfield
McKenzie, L. S., Esq.	..	Bradford
McSheehy, E. L., M.D.	..	5, Hermitage Villas, West Hill, Highgate, N.
Major, H. C., M.B.	..	Bradford
March, F. K., Esq.	..	Tennyson Place, Bradford
Margetson, W. E., Esq.	..	Dewsbury
Marshall, J. I. F., Esq.	..	28, St. Saviour's Gate, York
Martin, J., Esq.	..	Huddersfield
Martin, John, Esq.	..	York
Martin, J. W., M.D.	..	Brunswick Street, Sheffield
Mason, W. H., Esq.	..	Leeds
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Mead, E. P., M.D.	..	Whitby
Meade, Richard H., Esq.	..	Bradford
Miall, P. E., Esq.	..	Bradford

Millhouse, G., Esq. .. .. 4, Church Street, Kirkstall, Leeds
Mitchell, S., M.D. .. .. South Yorks Asylum, Wadsley, near Sheffield
Mossop, Isaac, Esq. .. .. Hallfield Road, Bradford
Muil, William, M.D. .. .. Kirby-Moorside
Murray, J. Ivor, M.D. .. .. 8, Huntress Row, Scarborough
Myrtle, J. Aitken, M.D. .. Harrogate
Myrtle, A. S., M.D. .. .. Harrogate
Nevitt, J. G., Esq. .. .. Chapel Allerton, Leeds
Nickols, Thomas, Esq. .. .. New Wortley
North, Samuel W., Esq. .. York
Nunneley, John A., M.B. .. 22, Park Place, Leed
Nuttall, Radcliffe, Esq. .. Bradford
Oakley, John, Esq. .. .. Holly House, Halita
Oates, J. H., Esq. .. . Manor Place, Dewsbury
Oliver, G., M.D. .. .. West End Park, Harrogate
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Payne, Henry, Esq. .. .. Loxley, near Sheffield
Percival ,Thomas, Esq. .. Knottingley
Pickles, J. J., Esq. .. .. 105, Camp Road, Leeds
Pinder, W. M., M.D. .. .. Horsforth, Leeds
Porritt, N., Esq. .. .. New North Road, Huddersfield
Porter, William S., M.D. .. Glossop Road, Sheffield
Price, W. N., M.D. .. .. Mount Pleasant, Leeds (dead)
Pye-Smith, R. J., Esq. .. .. Sheffield
Rabagliati, A. C. Francisco, M.D. .. 9, Walmer Villas, Bradford
Raines, A., M.B. .. .. 2 Clementhorpe Terrace, York
Ramsay, James, M.D. .. .. High Petergate, York
Ramskill, Josiah, Esq. .. .. 29, Meadow Lane, Leeds
Rockitt, Edward Bass, Esq. . Boston, Lincolnshire
Rockless, Alfred, Esq. .. .. 2, Bromsgrove Road, Sheffield
Rhodes, G. W., Esq. .. .. Huddersfield
Richardson, Charles, Esq. .. North Street, Leeds
Richardson, J. N., Esq. .. Headingley, Leeds
Roberts, Arthur, Esq. .. .. 85, Skipton Road, Keighley
Roberts, W. Lake, Esq. . 28, Peel Square, Bradford
Robinson, Edmund, Esq. .. 42, Park Square, Leeds
Robinson, George, Esq. .. .. Burngreave Road, Sheffield
Robson, A. W. Mayo, Esq. .. Leeds
Rowe, H., Esq. .. .. Leeds
Rowley, C. O., Esq. .. .. Barnsley
Saddler, M. T., M.D. .. .. Barnsley
Sattergood, Thomas, Esq. .. Park Square, Leeds
Scott, Thomas, M.D. .. .. Ilkley
Sewgal, E. Fowler, M.B. .. Marsh, Huddersfield
Shann, F., Esq. .. .. 69, Petergate, York
Shann, H. C., Esq. .. .. 71, Micklegate, York
Shaw, Geo. H., Esq. .. .. Atterclifie, near Sheffield
Sibera, Henry A., M.D. .. .. Glossop Road, Sheffield
Sime, Robert, Esq. .. .. Eccleshell, Sheffield
Sinclair, David, M.B. .. .. Great Horton, Bradford
Skinner, E., Esq. .. .. Eldon House, Sheffield
Sloan, J., M.D. .. .. Bramley, Leeds
Smailes, Thomas, Esq. .. .. Honley, near Huddersfield
Smith, J. W., Esq .. .. Hallgate, Doncaster
Smith, S. C., M.D. .. .. St. John's House, Halifax
Smith, P. A., M.D. .. .. Weiburn, Castle Howard
Smith, W. J., Esq. .. .. Parkgate, Rotherham
Snell, S., Esq. .. .. 17, Eyre Street, Sheffield
Spencer, H. E., Esq. .. .. York
Spowart, Thomas, Esq. .. .. 249, Pitsmoor, Sheffield
Stanger, William, Esq. .. .. Wakefield
Statter, A. W., Esq. .. .. Croft House, Rotherham
Stewart, W., Esq. .. .. Highfield House, Barnsley
Storrs, Robert, Esq. .. .. Hallgate, Doncaster
Strickland, F. J., Esq. .. .. 14, Ward's End, Halifax
Swanson, George Isles, M.D. .. Lawrence House, York
Sykes, John, M.D .. .. Doncaster
Sykes, John, M.B. .. .. St. John's House, Cleckheaton, Yorks
Sykes, William, Esq. .. .. Mexborough, Rotherham
Symes, E. West, M.D. .. .. Hope Hall, Halifax
Tacey, W. G., Esq. .. .. 6, Manningham Lane, Bradford
Tait, Lawson, Esq. .. .. 7, Great Charles Street, Birmingham
Taylor, C. Henry, Esq. .. 28, Manor Road, Bradford
Taylor, G. Stamp, Esq. .. .. Clifton House, Beeston Hill, Leeds
Taylor, G. Stopford, Esq. .. 74, Norfolk Road, Sheffield
Taylor, Joseph, Esq. .. .. Hathersage, Sheffield
Taylor, John William, M.D .. Rothsay House, Scarborough
Taylor, W. C. E., Esq. .. .. 34, Queen Street, Scarborough
Teale, J. W., Esq. .. .. St. Nicholas Parade, Scarborough
Teale, Thomas Pridgin, M.B. .. 20, Park Row, Leeds
Thomas, W. R., M.D. .. .. Little Forest House, Bournemouth
Thorpe, G. K., Esq. .. .. Sheffield
Todd, G. D., Esq. .. .. Gowthorpe, Selby, Yorkshire
Topham, A. S., Esq. .. .. 36, Prescot Street, Halifax
Tordoff, Hardy, Esq. .. .. 30, St. Paul's Street, Leeds
Trotter, C. J., Esq. .. .. Holmfirth, Huddersfield
Waddington, Frank, Esq. .. Armley, Leeds
Walker, B., Esq. .. .. Masborough
Walker, J. B., M.D. .. .. Prospect House, Golcar, Huddersfield
Walker, J. H., Esq. .. .. Pickering, near York
Walker, T., Esq. .. .. Bond Street, Wakefield
Wallis, F., Esq. .. .. 22, Priory Place, Doncaster
Walton, R. S., Esq. .. .. Hebden Bridge, near Manchester
Ward, Alfred, M.B. .. .. Anston, near Rotherham, Nottingham
Ward, H., Esq. .. .. Stocksbridge Hall, near Sheffield
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Wheelhouse, C. G., Esq. .. Hillary Place, Leeds
Wigin, George William, Esq. .. Methley, Leeds
Wiley, A. O., Esq. .. .. Knaresbro
Willey, C. H., M.D. .. .. 53, Wolstenholme Road Sharrow, Sheffield
Williams, Isaac Mennell, Esq. .. 48, Micklegate, York
Williams, Neville, Esq. .. .. Sydenham House, Harrogate
Wilmot, Thomas, Esq. .. .. 18, Lumb Lane, Bradford
Wilson, A. C. J., Esq. .. .. Penistone, Yorkshire
Wilson, J. M., M.D. .. .. 51, Hall Gate, Doncaster
Wood, Arthur, Esq. .. .. Kirby-Moorside
Wright, C. J., Esq. .. .. Lynton Villa, Virginia Road, Leeds
Wright, E. A., M.B. .. .. Huddersfield
Wright, F., Esq. .. .. Stamford Bridge
Wright, J. H., Esq. .. .. Halifax
Wylie, W., M.D. .. .. Skipton in Craven
Young, J., M.D. .. .. 91, Hanover Street, Sheffield

MEMBERS UNATTACHED. (172.)

Alexander, W., M.D. .. .. Halifax (dead)
Aitken, J. H., M.B. .. .. Batley
Alderton, H. C., Esq. .. .. Barnoldswick, Leeds
Allan, J., Esq. .. .. Beckett Street, Leeds
Allbutt, Henry A., Esq. .. 24, Park Square, Leeds
Arbuckle, H. W., M.D. .. Thorne, near Doncaster
Atkin, C., Esq. .. .. General Infirmary, Sheffield
Atkinson, Edward Tweddell, Esq. Richmond, Yorks
Atkinson, G. P., Esq. .. Pontefract
Atkinson, G. T. A., Esq. .. North Park Road, Harrogate
Bacon, A. T., Esq. .. .. West Field, Leeds
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Bates, W. R., Esq. .. .. Addingham, Leeds
Batho, R., M.D. .. .. Pontefract
Bell Rev. David M.D .. Goole (dead)
Birch, De Burgh, M.D. .. 16, De Gray Terrace, Leeds
Bird, W., Esq. .. .. Brierfield, near Burnley
Black, J. G., Esq. .. .. 7, Cambridge Crescent, Harrogate
Blair, Robert, M.D. .. .. Anglesey House, Goole
Bowker, E. H., Esq. .. .. Robin Hood's Bay, *via* Scarborough
Brand, A. T., Esq. .. .. Driffield
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Candler, W. H., Esq. .. .. The Dispensary, York
Carr, J. A., Esq. .. .. Kirkpax, near Leeds
Carter, H. V., M.D. .. .. 2 Belgrave Crescent, Scarborough
Carter, T., Esq. .. .. Richmond
Carter, W. R., M.B. .. .. Rastrick, Yorks
Cassels, J. G., M.B. .. .. Askern, near Doncaster
Cassidy, C. G., M.B. .. .. Hummanby, Yorks
Cautley, W. Clapham, Esq. .. Killinghall, Ripley
Chadwick, C. M., Esq. .. 3, Park Square, Leeds
Chestnutt, J., Esq. .. .. Howden
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Clark, M. R., Esq. .. .. Harthill, Sheffield
Clarke, John C., Esq. .. .. Bank House, Morley, near Leeds
Clarke, H. J., M.D. .. .. 20, Hall Gate, Doncaster
Clarkson, F. R., Esq. .. .. Tockwith, near York
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Coward, F. A., Esq. .. .. Huddersfield
Craig, J. W., M.D. .. .. Bingley
Croft, E. D., Esq. .. .. 8, Clarendon Road, Leeds
Cross, T. B., Esq. .. .. 6, Queen Street, Scarborough
Cundall, T. W., Esq. .. .. Acaster Malbis, York
Dale, F., Esq. .. .. 4, Belvoir Terrace, Scarborough
Dalton, H., M.D. .. .. Harrogate (dead)
Davidson, W., Esq. .. .. Holme-on-Spalding-Moor, Yorks
Davies, H. H., Esq. .. .. Snainton, York
Davy, J., M.D. .. .. 156, Osborne Place, Halifax
Denning, John Vere C., Esq .. West Vale, Greetland, Halifax
Denton, A. H., Esq. .. .. St. Philip's Road, Sheffield (resigned
Denby, W., Esq. .. .. Infirmary, Bradford
Dimmock, A. F., M.B. .. .. Victoria Avenue, Harrogate
Dobson, H., M.D. .. .. Craiglands, Ilkley
Dobson, T., M.D. .. .. Holbeck, Leeds
Dummere, H. H., Esq. .. .. Woodseats, Sheffield
Dunn, John, Esq. .. .. 32, North Parade, Halifax
Dunn, W. J. R., Esq. .. .. Queensbury, near Bradford
Edgar, J. W., M.D. .. .. Settle, Yorkshire
Edward, J., Esq. .. .. H.M. Prison, Leeds
Edwards, P., Esq. .. .. Fever Hospital, Sheffield
Ellis, E., Esq. .. .. Osborne House, Halifax
Ellis, W. H., Esq. .. .. Shipley Hall, Yorkshire
Fairman, J. B., Esq. .. .. Conistro, by Rotherham
Fairweather, A. F. A., M.D. .. Pocklington, Yorks
Farrow, F., Esq. .. .. Brook Street, Cleckheaton, Yorks
Faulkner, C. I., Esq. .. .. Escrick, near York
Fisher, G. E., Esq. .. .. Crofts House, Rotheram
Fletcher, H. B., Esq. .. .. Dronfield
Fordham, W. H., Esq. .. .. 132, Victoria Road, Heeley Sheffield
Forsyth, R., Esq. .. .. Birstall, near Leeds
Frobisher, W. M., Esq. .. .. 189, Woodhouse Lane, Leeds

Gahagan, F. E., M.B. ..	Stanningley, Leeds
Gibson, J., M.B. ..	West Vale, Halifax
Gillies, Jas., Esq. ..	5, The Crescent, Selby, Yorks
Gowring, B. C., Esq. ..	Weirfield, Penistone
Greenbury, F. G., M.B. ..	733, Manchester Road, Bradford
Granger, E. B., Esq. ..	Grassington, Skipton
Haley, William Henry, Esq. ..	Claremont House, Wakefield
Hallilay, John, Esq. ..	Burley Road, Leeds
Halliwell, R. N., Esq. ..	Dewsbury
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Hamilton, A. A., Esq. ..	Crowle, by Doncaster
Hamilton, R., Esq. ..	Cawood, Selby
Harral, Chas. H., Esq. ..	Kirkgate, Leeds.
Harrison, A., Esq ..	Sharrow Lane, Sheffield
Harrison, Joseph, Esq. ..	2, Hustler Terrace, Bradford
Hartley, Joshua, Esq. ..	New Malton
Hebblethwaite, Harold, Esq. ..	Burley-in Wharfedale
Henderson, J., M.B. ..	Hutton Buscel, York
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Hick, J., Esq. ..	Borough Fever Hospital, Leeds
Higher, R. C., M.B. ..	Bridlington, Yorks
Holmes F., Esq. ..	Burmantofts, Leeds
Holt, J., Esq. ..	Castleford, Normanton
Holwell, E. B., Esq. ..	34, Park Square, Leeds
Honeyburn, R., M.B. ..	Idle, Yorkshire
Hood, Wm., Esq. ..	28, Castle Gate, York
Horsfall, John, Esq. ..	Leeds
Horsfall, Thos., Esq. ..	Bedale, Yorkshire
Hudson, O. H., Esq. ..	Meersbrook Edge, near Sheffield
Hunt, L. G., Esq. ..	Sheffield
Hunt, R., Esq. ..	Camp Road, Leeds
Ireland, Thos. B., Esq. ..	Tadcaster
Jackson, Alfred, Esq. ..	Market Weighton
Jackson, T., Esq. ..	Welton, near Brough
Johnson, C. J. B., Esq. ..	Kirkby Overton, Wetherby, York
Johnson, W. J., Esq. ..	Bawtry
Johnston, J., Esq. ..	Bradford
Johnston, J. Somerville, Esq. ..	Burngreave Road, Sheffield
Johnstone, J. J., M.B. ..	Tadcaster, Yorks
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Kilbride, John, Esq. ..	Westgate, Bradford
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Koch, W. V. M., Esq. ..	Royston, near Barnsley
Littlewood, Harry, Esq. ..	The General Infirmary, Leeds
Lazenby, J. M., M.B. ..	Long Preston, Leeds
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Lownds, H. A., Esq. ..	Kirkburton, near Huddersfield
Lyon, A. C., Esq. ..	Bawtry
McAndrew, J., M.B. ..	Halifax Old Road, Huddersfield
McGregor, A. G., M.D. ..	Girlington Road, Bradford
Maclachlan, J. C., Esq. ..	Halifax
McLean, C. J. R., M.B ..	Yeadon, Leeds
McLintock, J., M.D. ..	Town Hall, Bradford
MacMaster, James, M.B. ..	Castleford
McMillan, H., Esq. ..	Sheffield Road, Barnsley
Macvie, A., M.D. ..	Baildon, Yorkshire
Major, Herbert C., M.D. ..	Bradford
Malcolm, C., Esq. ..	20, Park Row, Leeds
Mason, W. H., Esq. ..	Leeds
Marshall, W. L. W., Esq. ..	26, New North Road, Huddersfield
Mathews, Samson, M.D. ..	240, Duke Street, Sheffield
Matthews. R. H., Esq. ..	404, London Road, Sheffield
Mayo, F. H. Esq. ..	Headingley, Leeds
Meade, H., Esq. ..	Eldon Mount, Bradford
Megginson, A. M., M.B. ..	Scarborough
Mercer, R., Esq. ..	Manningham, Bradford
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Morton, T. H., M.D. ..	Don House, Brightside, Sheffield
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Munro, A. B., M.D. ..	Bradford
Murray, Jas., M.B. ..	H.M. Prison, Wakefield
Musgrave, F. E., M.B. ..	181, Belle Vue Road, Leeds
Nicholson, C., Esq. ..	62, Bootham, York
Oglesby, H. N., Esq. ..	52, Nunnery Lane, York
Oldroyd, J. H., Esq. ..	Huddersfield
Orr, Hugh, Esq. ..	Grove House, Filey, Yorkshire
Parke, J. L., Esq. jun. ..	Mirfield, Huddersfield
Pearson, J., M.B. ..	Lodge Moor Hospital, Sheffield
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Purdy, J. R., Esq. ..	Oulton, near Leeds
Reader, J., Esq. ..	Westgate End House, Wakefield
Rennie, F., M.D. ..	Boston Spa, Yorks
Rhodes, G. S., Esq. ..	The Cables, Saltburn-by-the-Sea
Richardson, W. J., M.D. ..	6, Lord Street, Halifax
Richmond, J., M.B. ..	Marsden, near Huddersfield
Ridpath, D., M.D. ..	7, New North Road, Huddersfield
Ritchie, D. W. Leone, Esq. ..	Saltburn-by-the-Sea
Ritchie, Thomas, Esq. ..	Otley
Roberts, A. M., Esq. ..	Attercliffe, Sheffield
Roberts, E., Esq. ..	3, Chorley Lane, Leeds
Roberts, S., M.B. ..	Glossop Road, Sheffield
Robertson, T. Murray, M.D. ..	Owston Ferry, Rotherham
Rose, R. D., Esq. ..	St. Leonard's House, York
Roulston, Wm, M.D. ..	Southgate, Wakefield
Rowe, H., Esq. ..	Leeds
Russell. W. B., M.B. ..	Hospital and Dispensary, Scarborough
Salter, F. W., Esq. ..	9, Lyddon Terrace, Leeds
Sedgwick, James, M.D. ..	Ladywell House, Borough Bridge
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REMARKS ON A CASE OF ANEURYSM OF THE EXTERNAL ILIAC ARTERY; DIGITAL AND INSTRUMENTAL COMPRESSION; COMPLETE CURE.

By ARTHUR E. BARKER, F.R.C.S.,

Surgeon to University College Hospital, and Teacher of Practical Surgery in University College.

THE cure of the case of aneurysm now to be recorded must, I think, be credited to digital compression of the afferent artery, although at the moment of consolidation compression had been discontinued.

H. D., aged 48, a porter, was admitted into University College Hospital, under my care, on April 7th, 1887, suffering from a large aneurysm of the left external iliac artery. His personal history was excellent. He was splendidly developed, was over six feet high, and had suffered from no illness of any kind, except gonorrhœa at the age of 20, until the present affection, which commenced about one year before admission. Syphilis, gout, rheumatism, and arterial degeneration were strongly negatived, both in his personal and family history.

About twelve months ago a small lump was noticed in his left groin, which had steadily increased to its present size. Its appearance was attributed to a severe strain in lifting. The tumour, which presented all the typical features of an aneurysm, was about 5 inches in its vertical diameter. Its inner border, which was perfectly defined, reached nearly to the pubic spine, its outer almost to the anterior iliac spine. All pulsation could be stopped by pressure just below the bifurcation of the aorta, and also more easily by the point of the finger placed over the line of the external iliac artery, but below the upper border of the aneurysm, as though the vessel were compressed easily against the latter. This fact, taken with the shape of the tumour, suggested that the latter was of the sacculated variety, and probably sprung from the posterior aspect of the artery. The portion of the swelling lying below Poupart's ligament tapered somewhat. The whole tumour showed very forcible expansile pulsation, and looked very formidable. The veins on the front and side of the thigh were enlarged, and the limb was found to be larger than its fellow. There was very slight pitting on pressure over the thigh. During the last two or three months the leg had sometimes become quite numb, and he had suffered much pain after exercise, especially down the front of the thigh. This had been sufficient to keep the patient awake at night occasionally. Careful examination failed to detect any abnormality in the heart, lungs, or kidneys.

From the fact that the circulation in this aneurysm could be easily controlled by pressure over one comparatively superficial spot on its upper border, and from the probability of its being sacculated, I was led to hope that it might be cured by digital compression, in spite of its formidable dimensions and appearance. I was further encouraged by successful results in two cases already published in the BRITISH MEDICAL JOURNAL (1883 and 1884), in one of which I was able to effect consolidation of a popliteal aneurysm in six hours and a quarter, and in the other in eight hours, by digital compression. The present case, however, appeared to offer a much severer test of this method than either of the two first, on account of the size of the sac and afferent vessel and its seat in the abdomen, as well as the very forcible heart-stroke which had to be contended against. The first thing to be done, then, was to reduce the latter as far as possible by rest in bed, low diet, and free purgation, which was accordingly kept up from April 7th to 13th, with the result that the arterial tension was very considerably lowered, and that the expansile stroke in the aneurysm became distinctly less angry. The reduction of food never quite reached Mr. Tufnell's regimen, but was not far from it.

On April 13th, having secured the ready services of several of our students, to whom I desire here to express my indebtedness for their zeal and patience, digital compression was commenced at 10.45 A.M. The points pressed upon varied between the bifurcation of the aorta and the before-mentioned spot on the border of the tumour at which the circulation was most easily controlled. Each pair of students took twenty minutes, relieving each other every five minutes or so. The patient bore the compression well until evening, when he became irritable, and the skin grew tender and red. Compression was stopped at 8.45, when it was noted that there was an impression that the tumour was somewhat better defined and perhaps smaller. He slept well after a small dose of morphine.

On the 15th digital compression was carried out in the same way for five hours and a half. After the first hour great numbness was felt in the leg, which was then wrapped in wool, and a little later the patient felt sick. When compression had ceased I felt sure there was some improvement in the aneurysm as to size and hardness.

On the 18th digital compression for six hours was better borne, and apparently with some further benefit to the aneurysm.

On the 19th, after consultation with Mr. Heath, I determined to try instrumental compression, and accordingly began with Carte's abdominal instrument, which I kept in good position for three hours myself. After this the patient found the pain unbearable, and asked for a discontinuance of this treatment, and that the artery should be ligatured. All this compression appeared to have benefited the aneurysm somewhat, but the expansile pulsation in it was still very formidable.

On the 20th the patient was prepared for operation and put under the influence of chloroform. This seemed to produce considerable excitement, so that when he was on the operating table I was obliged to wait for about ten minutes, feeling, as I pointed out to those present, that there would be considerable risk in dissection in the neighbourhood of so large an aneurysm pulsating violently at about 120 per minute. At the end of about ten minutes, however, when deeply narcotised, the pulse quieted down considerably, and the skin incision was made. While drying this out with a sponge before dividing the external oblique, the patient made a brisk movement with his leg, and immediately afterwards I noticed that all pulsation had ceased in the tumour. This was difficult to believe at first, but was perfectly obvious to all present on careful examination. Nothing remained now but to close the skin wound and put the patient to bed, where the chloroform was continued for a quarter of an hour longer. This consolidation was permanent, and the aneurysm contracted in the usual way from day to day. The skin wound healed by first intention under one dressing, and the patient left the hospital three weeks after operation. He was seen quite well later on on his return from the seaside, the aneurysm being solid and much shrunken.

As to the exact mechanism of the sudden consolidation in this case, many interesting hypotheses might be suggested. My own belief, however, is that during the three periods of digital and one of instrumental compression, a certain amount of clotting must have taken place in the sac, and that during the struggling and vascular excitement incidental to the administration of the chloroform some of this clot was dislodged from its bed, and was carried into the lower orifice of the aneurysm, completely blocking it and causing consolidation behind it in the tumour. The rapid churning up and down in the sac just before I made the incision in the skin was very remarkable and disturbing, as I pointed out to those present, and necessitated a pause of several minutes before I could venture to use a knife so close to the tumour. Such a disturbance of the circulation would, I think, be very likely to produce displacement of existing clot, especially if accompanied, as in this case, by brisk movements of the thigh, which could hardly fail to affect the shape of the sac, inasmuch as the latter was crossed in its middle by Poupart's ligament.

This case, taken together with the two others alluded to above, have encouraged me to place considerable reliance upon digital compression for the cure of aneurysms. At the same time the risks of ligature of arteries have been so reduced of late years by aseptic surgery, that I should not be inclined to persist too long with the digital treatment, but would have recourse to the ligature when the latter had had a fair trial for a reasonable time. We can hardly shut our eyes to the fact, however, that there are some patients who have an almost unconquerable aversion to any form of cutting operation, and who will readily submit to the delay and inconvenience associated with the milder method rather

than permit recourse to the ligature. For such, digital compression will always have great attractions.

This case also suggests whether the older practice of manipulation of the aneurysm with a view to dislodgment of clots might not more frequently be resorted to, at all events in those cases where the disease is situated in the lower half of the body or at the shoulder.

AN ADDRESS
ON
THE TEACHING OF ANATOMY.

Delivered in the Section of Anatomy at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

By C. B. LOCKWOOD, F.R.C.S.,

Surgeon to the Great Northern Hospital; Demonstrator of Anatomy and Operative Surgery in St. Bartholomew's Hospital; Hunterian Professor Royal College of Surgeons of England.

THIS is a favourable time for a discussion upon the teaching of anatomy, and this Anatomical and Physiological Section is particularly qualified for the task. Questions of medical education and reform have come to the front, and the position and claims of the science, which is the foundation of medicine and of surgery, and, I might add, of physiology, call for recognition.

Since you have done me the honour to consider me competent to open this debate, I propose, without further preface, to endeavour to indicate some of the questions which are ripe for discussion.

It is an elementary rule of controversy which lays down that terms should be defined and propositions proved. I am fully aware of the danger of attempting definitions, yet, to facilitate this debate, the risk must be faced; and, in the first place, it is necessary to say what is meant by anatomy.

The science of anatomy is of such extent that I propose to limit myself to a branch of it, namely, human anatomy. If by human anatomy is meant a bare account of the physical characters, structure, and relations of the elements which compose the human body, I would maintain that such a soulless thing is unworthy of being called a science.

Science, Lord Bacon says, is the interpretation of Nature. Anatomists have ceased to be content with structure, they also aim at its interpretation. The success of their efforts is witnessed by the history of the great veins, of the genito-urinary system, of the pineal and pituitary bodies, and, indeed, by the history of almost any part of the human frame.

A due appreciation of any of the systems which have been mentioned calls for a knowledge of biology, for they have been, and are being, elucidated with information from every class of the vertebrate kingdom, and I might add, with much from the invertebrata. Besides this, we must add comparative embryology, which is the very soul and essence of scientific anatomy. Nor does this comprehend all. Histology and microscopic anatomy ought to be mentioned; also the art of dissection and of anatomical preparation.

Although in some schools histology has fallen into the hands of the physiologist, it is certainly the province of the anatomist. Perhaps it has been relegated to another department because it is hardly a study for the anatomical room, and requires a separate place where perfect cleanliness prevails, and where special apparatus can be fitted. However, we would think that the physiologists have enough to do with pure physiology. Histology is best taught by an anatomist, and in a room of its own, which forms a convenient adjunct to the anatomical department.

But placing this aside, a very wide extension has already been claimed for human anatomy. Considered as a science and a training, a vast deal comes within the province of its teachers. However, I take it that we are met here to state how much pertains to medicine, and, further, how that which does pertain ought be taught and by whom. The last would be a most difficult question to discuss. If we look upon anatomy as an independent science, it must be taught by those who devote themselves to it alone; but if we look upon it, as I do, as being ancillary to medicine and surgery, then surgeons and physicians are by far the best qualified to focus it upon those subjects.

It would be improper to assume the province of determining the value of any particular part of anatomy; but, ordinarily, the time allowed by the medical curriculum places a limit upon the amount which can be imparted. Many of us earnestly wish that the time was longer, but until that consummation is attained we must deal with things as they are. It is therefore necessary to make a choice, and it seems rational to choose that which is likely to prove of practical use in medicine and surgery. I do not propose to take account of that sort of anatomical teaching which is circumscribed by the requirements of examining bodies, or, indeed, of particular examiners. It deserves the epithet of "cramming," and ought to be discouraged. It ought to be recognised that an examination, besides being a test of knowledge, is educational, and that the questions which are asked determine the direction in which studies are pursued. Examiners who appreciate this truism do much to improve medical education. I fear we shall never make examinations a test of wisdom or of character.

In our schools anatomy is taught in two ways, by lecture and by demonstration. Concerning the former method I presume to say but little. The more scientific part of anatomy ought, I think, to be the province of the lecturer. The minute details of anatomy are hard to show to the crowds who fill the theatres of prosperous schools; they are perfectly well suited for demonstration to small classes. Such a division of labour merely requires an adequate staff of demonstrators.

As usually lectured upon, human anatomy is an analytical study, and this doubtless accounts for much of its difficulty. Minds which have acquired everything synthetically are at a loss when called upon to unravel the intricacies of the human body, and confronted with a mass of unexplained detail many are discouraged at the outset. The case would often be otherwise if a beginning was made with the simplest problems, and if these were gradually elaborated. As an example of what I mean, let me instance the peritoneum and the relations of the blood-vessels to it. How few ever understand the relation of, say, the splenic artery to the greater and lesser sacs, or how it reaches the spleen. This becomes easy when we proceed synthetically, and show the stomach suspended from the spine by its simple straight mesentery, with numerous gastric arteries passing though it to reach the stomach (Fig. 1). In the next stage the mesogastrium bent,

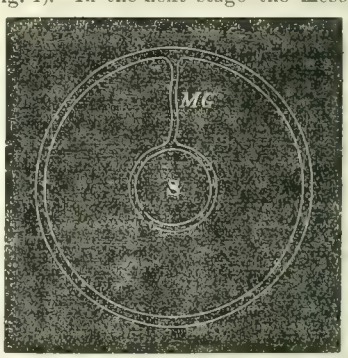


Diagram 1.—*S*, stomach; *M G*, mesogastrium.

with its convexity to the left and its concavity to the right (Fig. 2), and a greater and lesser sac formed. Finally, the spleen

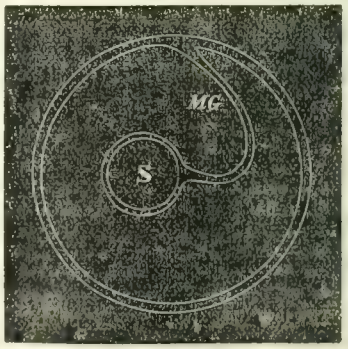


Diagram 2.—*S*, stomach; *M G*, mesogastrium.

appearing in the mesogastrium (Fig. 3), and appropriating one of the gastric arteries for its own supply. Nothing now remains but to give new and puzzling names to the various parts of the mesogastrium and of the splenic artery. Similar synthetical methods are applicable to the hepatic artery and to others, and, I might further add, to other parts of the body, especially the nervous, genito-urinary, and vascular systems. Moreover, it may not be out of place to add that synthetic methods of this nature are the clue to fresh discoveries.

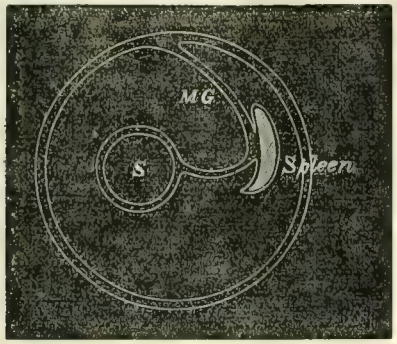


Diagram 3.—*S*, stomach; *M G*, mesogastrium.

In addition to the more scientific branches of human anatomy, topographical anatomy is peculiarly suitable for being lectured upon; moreover, it has the advantage of being of the greatest and most immediate practical value. Frozen sections have of late years added to the practicability of this branch, and are an excellent method of demonstration. Scotch anatomists deserve great praise for the share they have taken in promoting this branch of anatomy.

Looked at from another standpoint, anatomy, properly taught, affords an admirable training. In the first place, it cultivates the powers of observation in a high degree; and in the second, affords a much-needed opportunity of learning manual dexterity and the use of instruments, and also familiarity with the appearance, texture, and consistence of the different tissues. These can only be acquired in the dissecting-room and by individual exertion. To make anatomy a training of this kind, and to teach students how to learn for themselves, and, I add, to teach them how to learn for the rest of their lives, a large teaching staff is necessary, and an abundant supply of material.

The first of these desiderata is easily achieved; it is merely a question of reward. Adequate remuneration and due promotion procure a staff large enough to teach students how to observe, and also how to learn for themselves. The London schools are well provided with demonstrators, and where proper organisation obtains, each student receives individual attention.

The supply of suitable material is a more difficult problem. In London a student can be supplied with three parts in a winter session, and industrious men occasionally complete the whole body before the end of May. Where an adequate supply is wanting, prepared specimens and diagrams are most inadequate substitutes for dissection. The former may in a trifling degree assist in training the powers of observation, but they leave all the rest undone.

As for diagrams, I cannot help thinking that our philosophers ought to make an addition to the seven material fallacies, and add the fallacy of the diagram. I remember once being asked whether the lesser sciatic nerve supplied the knee-joint! "Why do you ask?" "Because So-and-so says it does!" "Did So-and-so show it to you?" "No; but he drew it upon the slate!" That alone was adequate evidence. Students have ill-developed critical faculties, and whatever enables them, as they think, to learn easily, is popular. Perhaps the most popular of all is the positive, dogmatic, unscientific teacher.

While the matter and manner of teaching have been briefly mentioned, nothing has been said concerning the recipients; but it must be evident that no method of anatomical teaching can be attended with success which has not a due regard for the idiosyncrasies of those who are taught. Sometimes men who have taken honours at our universities are quite at a loss to learn anatomy. Their memories and thoughts seem trained in another groove; they are able to learn by heart, but cannot acquire those mental pictures which anatomy requires. Such faults as these are soon redressed when their cause has been recognised.

Finally, the hardest part of our task as teachers is done when we have taught our pupils to observe and think for themselves—a task, I confess, hard to achieve, but full of interest to ourselves and highly conducive to their success.

THE VALUE OF NERVE STRETCHING IN LEPROSY: BASED ON ONE HUNDRED CASES.

By BEAVEN RAKE, M.D.Lond.,
Medical Superintendent of the Trinidad Leper Asylum.

This paper forms part of a Government report on leprosy in Trinidad. It was undertaken in consequence of some reports from India which have spoken very highly of the value of nerve stretching in leprosy.

Thus Lawrie (quoted by Horsley in Heath's *Dictionary of Surgery*) reports thirty cases in which the operation was done for anæsthesia, and says they were all successful.

Downes also, in a paper read before the Medical Society of London on May 20th, 1886, mentions thirty-two cases of leprosy in Kashmir in which the operation was done. He says that they all were benefited by the operation, and that in some the ulcers healed completely, and sensation was nearly restored to its normal state.

The most probable explanation of the influence of nerve stretching on ulceration, neuralgia, or other conditions seems to be that given by Mr. Marshall in his Bradshawe Lecture in December, 1883, and based on the experiments of Mr. Victor Horsley. The latter has shown that when the great sciatic nerve is stretched, the stretching is observed to affect the sacral plexus, and passes to the roots of the nerves, disturbing the dura mater and shaking the cord through the ligamentum denticulatum. Thus the ganglia of the cord are probably affected, and an excitation of the vaso-motor centres or trophic centres is produced.

I repeated the experiment on the dead body, and found that when the lumbar dura mater was exposed from behind, no movement was to be seen on stretching the sciatic nerve. When, however, a window was cut in the dura mater, a distinct downward dragging of the cord was observed when forcible tension was exerted on the sciatic.

This theory of a shaking of the trophic and other centres seems to me to derive additional support from two observations which I have made during the past year:

1. That stretching of the great sciatic seems to be attended with better results than stretching of such a nerve as the median, which is nearer the periphery.

2. That sometimes after stretching a nerve on one side of the body, sensation appears to be improved on both sides. This would look as if in these cases a greater "nerve-storm" had taken place, the ganglia of both sides being shaken or affected. This of course might depend on various factors, such as greater force employed in the stretching, or looser sheaths or surroundings of the nerves.

I now come to my personal experience of the operation. This is based on 100 operations performed on sixty patients. The particulars of the various cases are condensed in an appendix to this paper, and the whole is summarised in a short table.

It will be seen that the sciatic has been stretched twenty-six times, the external popliteal eleven, the median forty, the ulnar at the elbow eighteen, the ulnar above the wrist four times, and the supra-orbital once.

It will be well to notice shortly the various reasons for operation. I should mention at starting that a nerve was often stretched for more than one reason, such as pain and ulceration, but in the table the most prominent symptom has been taken as the reason for operation—ulceration.

Various nerves were stretched for ulceration in thirty-eight cases. As a rule, more or less good effect was observed, especially in perforating ulcer of the sole. The ulcer in these cases often healed in a few days.

Of course an obvious fallacy here is that the stretching of the sciatic necessitates remaining in bed for some days; so that it is difficult to estimate how much of the good result is due to this

One Hundred Cases of Nerve Stretching.

No.	Name.	Age. M	Age. F	Country.	Form of Leprosy.	Time Affected.	Nerve Stretched	Date of Operation.	Date of Last Examination.	Reason for Operation.	State of Nerve when Exposed.	Result.	Remarks.
1	James Alfred	77	—	Africa	A	3	L median	Oct. 15, 1886	Jan. 9, 1888	Anæsthesia of hand. Pain in course of median	Rather swollen	Some increase of sensation in palm. More movement of fingers. Relief of pain	—
2	Juan Campo	43	—	Margarita	,,	16	,,	Oct. 18, 1886	,,	Anæsthesia	Slightly enlarged	No difference	When tested with eyes shut, sensation appeared slightly improved immediately after operation.
3	William Shaw	16	—	Trinidad	,,	2	R median	,,	,,	,,	Enlarged	Sensation seems better on both sides	—
4	James Alfred	77	—	Africa	,,	3	R ulnar above wrist	Oct. 22, 1886	,,	Anæsthesia: 4th and 5th fingers	Reddish: a little thickened	No difference in course of ulnar	General result as in No. 1.
5	Raturan	68	—	India	M	10	L median	,,	Dec. 27, 1886	Swelling and ulceration: 1st and 2nd fingers	Very swollen: flabby	No difference in ulceration	—
6	James Roland	12	—	Trinidad	,,	1	L ulnar above wrist	Oct. 25, 1886	Jan. 9, 1888	Anæsthesia in course of ulnar, and contraction of 4th and 5th fingers	Somewhat enlarged	No difference	There appeared to be a temporary lessening of anæsthesia a month after operation.
7	Chevy Apollon	48	—	France	A	4	L median	,,	Dec. 20, 1886	Pain in palm and anæsthesia of fingers	Nerve thickened. Juice from exposed nerve was collected and strained but no bacilli found	,,	There appeared to be slight temporary increase of sensation in palm after operation, but he said fingers became more anæsthetic.
8	Mahadeer	50	—	India	,,	6	,,	Nov. 1, 1886	Jan. 11, 1888	Anæsthesia	Somewhat enlarged	,,	Anæsthesia on right side of body seems less since operation.
9	Charles Vesprey	21	—	Trinidad	M	6	R sciatic	Nov. 3, 1886	Nov. 29, 1886	Painful gangrenous ulcer of foot	Normal. Nerve examined *post mortem* May 6, 1887: No evidence of having been stretched was found	Ulcer covered with thick healthy granulations. No odour or pain	In consequence of the relief he got from this operation, he asked that the left sciatic might be stretched
10	Ramdial	30	—	India	A	5	L median	Nov. 5, 1886	Aug. 29, 1887	Anæsthesia and contraction of fingers. Ulcer on left forefinger	Not noted	No change in anæsthesia or contraction. Ulcer healed	—
11	Parial	41	—	,,	M	7	L sciatic	Nov. 9, 1886	Dec. 1, 1886	Painful ulcer at back of heel	Not seen	Ulcer nearly healed: not painful	Some yellow fibres found *post mortem* in nerve. No other change.
12	,,	,,	—	,,	,,	,,	L median	,,	Dec. 3, 1886	Ulceration of thumb and fingers. Hyperæsthesia	Much thickened. Enlarged comes nervi mediani running along it	Ulcers on fingers healed	No difference found *post mortem* between medians of two sides.
13	Joahce	36	—	,,	,,	4	R sciatic	Nov. 12, 1886	Jan. 11, 1888	Painful ulcer under right great toe. Skin tense and painful over shin	Normal	Granulating incision sole of foot. Not painful	Ulcer healed by Dec. 20, 1886, but foot became swollen again on Feb. 9, 1887, and ulcer had to be incised. Several pieces of dead bone removed from foot since then.
14	Joseph Brown	39	—	Trinidad	A	22	,,	Nov. 17, 1886	Dec. 11, 1886	Ulcer on right sole: Pain and swelling of foot and leg	Not enlarged	Ulcer smaller. Pain almost gone. Leg less swollen	—
15	Sewradge	50	—	India	,,	8	L sciatic	Nov. 22, 1886	Jan. 9, 1888	Numerous sinuses of foot leading to dead bone	Not seen	Only one small sinus running in about ½ in. small ulcer top of great toe. No change in anæsthesia	Numerous necrosed fragments of tarsal bones removed on Dec. 1, 1886. Stretching seemed to facilitate separation of dead bone.
16	Gobadan	50	—	,,	,,	1	R median	Nov. 20, 1886	Jan. 13, 1888	Anæsthesia	Slightly enlarged	No difference	Only slight sensation of pain when nerve was stretched.
17	Charles Vesprey	21	—	Trinidad	M	6	L sciatic	,,	April 29, 1887	Large offensive ulcer on dorsum of left foot. Pain and swelling of foot	Normal	Ulcer becoming gangrenous	Operation done at his own request. The ulcer became a little cleaner for a few weeks after operation.
18	Robin Gobonia	18	—	Venezuela	T	9	L median	Dec. 1, 1886	Jan. 9, 1888	To watch effect on tuberculation of hand	Enlarged: mottled	No effect	—
19	Takee	31	—	India	A	7	R median	,,	Jan. 13, 1888	Sinus and swelling of finger. Anæsthesia	Slightly thickened	No difference in sensation	Finger had to be amputated.
20	Niamat	18	—	,,	,,	4	L sciatic	Dec. 3, 1886	Feb. 2, 1887	Pain in foot and round ulcer at back of heel	Normal	Ulcer spreading again. Granulations dark and indolent	The ulcer healed by Dec. 11, and there was no pain, but a fortnight later he got a blow which caused a hæmatoma and started the ulcer again,
21	Bheekha	40	—	,,	,,	11	,,	,,	Jan. 11, 1888	Perforating ulcer over ball of great toe. (Says he has had it 11 years.) Pain in foot	Not seen	Ulcer smaller: ½ by ½ in. No pain	Ulcer had been incised since operation.

22	Robin Gobonia	18	—	Venezuela	T	9	R ulnar above wrist	Dec. 8, 1886	Jan. 9, 1888	To watch effect in tuberculation	Not noted	No effect	—
23	Gopee	34	—	India	A	17	L median	Dec. 11, 1886	,,	For anæsthesia and to watch effect on effusion in wrist	Reddish: rather swollen	No effect: circumference of wrist the same (7 in.) as at time of operation	Not the least sensation when nerve was stretched without chloroform
24	,,	34	—	,,	,,	,,	L ulnar above wrist	Dec. 17, 1886	,,	,, ,,	,,	,, ,,	,, ,,
25	Henry Hart	30	—	Trinidad	,,	21	R sciatic	,,	Dec. 27, 1886	Intensely painful ulcer of foot	Not seen	Ulcer healed. No pain in foot or leg	—
26	Bundhoo	56	—	India	,,	6	R external popliteal	Dec. 24, 1886	Jan. 13, 1888	For anæsthesia and wasting of muscles in peroneal region. Ankle flail-like	Slightly swollen	Sensation good. Circumference of leg has increased ½ in. on right side, ⅛ in. on left. Ankle firmer, walks a great deal in his garden	Hyperæsthesia in course of nerve two days after operation passing into ordinary sensation in two days more.
27	Mahadeer	50	—	,,	,,	8	L ulnar at elbow	,,	Jan. 11, 1888	Anæsthesia	Not noted	No difference	No complaint of pain when nerve was stretched.
28	Assee	38	—	China	M	1	R sciatic	Dec. 31, 1886	Jan. 9, 1888	Sinuses and swelling about stump of great toe. Gangrenous ulcer of middle toe. Swelling of foot. Pain up leg and thigh	Not seen	Ulcers about ½ in. diameter over stump of great and little toes. No difference in sensation between two feet	Pain disappeared in about 3 weeks. Dead bone removed from foot.
29	Juman	40	—	India	A	1	L ulnar at elbow	,,	Jan. 11, 1888	Anæsthesia of forearm and hand	Normal	No difference	—
30	Malaivo	55	—	,,	,,	4	R sciatic	Jan. 1, 1887	Jan. 26, 1887	Two deep perforating ulcers of foot with much pain and swelling	Not seen	Commencing gangrene of of foot	Leg amputated on Jan. 27, 1887. Stump healed in two months.
31	Moses Wilson	15	—	Africa	,,	17	L sciatic	Jan. 8, 1887	Jan. 11, 1888	Three painful perforating ulcers of sole	Normal	Ulcer over heel shallower That over great toe healed Small ulcer ¼ × ½ in. over 4th metatarsal. No difference in sensation. No pain	Since operation several incisions were made, and a good deal of dead bone removed from foot.
32	Bessessar	45	—	India	,,	16	,,	Jan. 12, 1887	Jan. 13, 1888	Perforating ulcer over ball of great toe	,,	Ulcer about ¼ in. broad and deep. No difference in sensation	Ulcer healed entirely in a month but soon broke out again and we encouraged it with poultices.
33	David Congo	54	—	Africa	,,	25	L ulnar at elbow	Jan. 13, 1887	Jan. 28, 1887	Complete anæsthesia	Enlarged	Says he has a little sensation down L ulnar, but his statements are not trustworthy. [Has right hemiplegia]	There was not the least evidence of sensation or pricking, tapping or stretching the exposed nerve.
34	Torkee	84	—	India	,,	7	L sciatic	Jan. 19, 1887	Jan. 13, 1888	Perforating ulcer over ball of great toe	Normal	Ulcers healed: but another on outer side of foot	Since operation great toe was amputated and ulcer freely incised; also much dead bone removed, the foot been split up between the metatarsal bones.
35	John Saunders	21	—	Trinidad	M	4	L ulnar at elbow	Jan. 26, 1887	Jan. 9, 1888	To watch effect on tuberculation of 4th finger and stump of 5th (amputated at same time) also on healing of stump	Thickened: about ¾ in. diameter	No difference: stump of 5th finger nearly healed	Stump of 5th finger became gangrenous after amputation.
36	SylvestreAugustc	42	—	St. Vncnt.	A	9	R sciatic	,,	Aug. 12, 1887	Painful perforating ulcer of foot	Normal. Considerable hæmorrhage from comes nervi ischiadici	Ulcer same size and still paintul	Temporary relief of pain.
37	Bolai	41	—	India	,,	2	L external popliteal	Jan. 31, 1887	Jan. 13, 1888	To watch effect on anæsthetic *tâches*	Normal	*Tâches* same size and still anæsthetic	Two days after operation there was hyperæsthesia over *tâches*, then good sensation for about 3 months.
38	Boodhoo	44	—	,,	,,	8	R sciatic	,,	Jan. 11, 1888	Deep perforating ulcer of heel	Not seen	Ulcer firmly healed. Anæsthesia the same	Ulcer healed by March 2, 1887.
39	Mungaroo	32	—	,,	,,	7	L sciatic	Feb. 9, 1887	,,	Perforating ulcer over ball of great toe	Normal	Perforating ulcer ½ in. broad and deep. Anæsthesia the same	Ulcer was fairly healed by Feb. 21, 1887, we got it open after with poultices. Freely incised.
40	Mootee	44	—	,,	M	7	R ulnar at elbow	Feb. 11, 1887	,,	Sinus and swelling of 4th finger	Not noted	Swelling gone down. Finger firmly healed. No difference in sensation	No complaint whatever when nerve was stretched
41	Ramdial	30	—	,,	A	5	L ulnar at elbow	Feb. 14, 1887	Aug. 29, 1887	Anæsthesia of forearm and hand	,,	No difference in sensation in hand. A little sensation in upper half of forearm	Seven days after the operation, a little sensation on ulnar side of hand was noted.
42	Henry Hart	30	—	Trinidad	,,	21	R external popliteal	Feb. 21, 1887	Jan. 9, 1888	Great pain in sole. Asks to amputation	Normal	Ulcer about ¼ in. diameter outer side of sole. No pain. No difference in sensation	Large T incision made in sole at time of operation. Pain much less in 4 days: almost gone in 11.
43	Khadoo	46	—	India	,,	8	L sciatic	March 9, 1887	,,	Ulcer of sole 3 × 2 in. Foot œdematous, painful	Distended blood-vessels lying on nerve	Ulcer 1 in. in diameter outer side of sole. Rest healed No difference in sensation	Sinus in foot was freely slit up outwards; foot being half amputated. Patient was put on iodide and mercury for suspicious ulcer of skin.

No.	Name.	Age. M	Age. F	Country.	Form of Leprosy.	Time Afflicted.	Nerve Stretched	Date of Operation.	Date of Last Examination.	Reason for Operation.	State of Nerve when Exposed.	Result.	Remarks.
44	Seedial	46	—	India	M	4	R external popliteal	March 9, 1887	Jan. 13, 1888	Tension and pain over shin. Anæsthesia of sole	Enlarged	Skin less tense. No pain. Good sensation in foot. Dorsum becoming tuberculated	—
45	,,	46	—	,,	M	4	L external popliteal	,,	,,	,, ,,	,,	,, ,,	—
46	Niamat	19	—	Trinidad	A	5	,,	April 1, 1887	Jan. 4, 1888	Ulcer back of heel very painful. Asks for amputation	Not noted	Ulcer congested, indolent. About $2\frac{1}{2} \times 2\frac{1}{2}$ in. Not painful	Ulcer became smaller 3 days after operation, but soon increased in size again.
47	James Boland	12	—	,,	M	1	R sciatic	April 20, 1887	Jan. 9, 1888	Perforating ulcer over base of 2nd metatarsal about 1 in. diameter and 1 in. deep. Swelling and pain of foot and leg	Normal	Ulcer still about 1 in. deep, but diameter much less. Another ulcer $2 \times \frac{3}{4}$ in. has formed over outer side of sole. No difference in sensation. Pain gone	Piece of bone came away 2 weeks after operation and pain then vanished.
48	Boodhoo	44	—	India	A	8	R median	May 2, 1887	Jan. 11, 1888	Painful ulceration (from burn) of fingers of right hand	Slightly enlarged	Fingers firmly healed. Anæsthesia the same	Joint of one finger was opened, that finger eventually healed.
49	Imamkhan	47	—	,,	A	11	L median	May 4, 1887	Jan. 13, 1888	Swelling of hand and pain up arm after thecal abcess of index finger	Swollen: dull-looking	Finger fixed: swelling gone: anæsthesia the same	Six incisions made in hand and finger: also much slough removed.
50	Elvira Archibald	—	8	Trinidad	M	1	,,	May 11, 1887	Jan. 11, 1888	To watch effect on tuberculation and for anæsthesia of fingers	Enlarged	No effect on tuberculation. Anæsthesia gone from fingers	—
51	Robin Gobonia	18	—	Venezuela	T	9	L ulnar at elbow	,,	Jan. 9, 1888	To watch effect on tuberculation	Not noted	No effect	—
52	Elvira Archibald	—	8	Trinidad	M	1	R median	May 25, 1887	Jan. 11, 1888	To watch effect upon tuberculation and for anæsthesia of fingers	Slightly enlarged	No effect on tuberculation. Anæsthesia gone from fingers	—
53	Luckea	—	60	India	A	4	L median	May 27, 1887	Jan. 4, 1888	Anæsthesia	Not noted	No difference	—
54	Luchmon	37	—	,,	A	$2\frac{1}{2}$	R median	June 1, 1887	Jan. 16, 1888	Painful crack over 1st interphalangeal joint of middle finger, exposing tendon	Very much thickened: $\frac{1}{2}$ in. diameter	Finger healed. Sensation appears somewhat improved	—
55	Joseph de Freitas	50	—	Madeira	A	$\frac{3}{4}$	L median	,,	Jan. 4, 1888	Anæsthesia	Slightly enlarged	No difference	—
56	,,	50	—	,,	A	$\frac{3}{4}$	R ulnar at elbow	,,	,,	,,	Contained some yellow streaks	,,	—
57	Julian Brown	20	—	Trinidad	M	6	R median	June 6, 1887	Jan. 11, 1888	To watch effect on tuberculation	Somewhat enlarged	No effect	—
58	Mootee	44	—	India	M	7	L median	June 10, 1887	,,	To hasten healing of stump and perhaps prevent necrosis of metacarpal bone	Not enlarged	Stump firmly healed. No difference in anæsthesia	Sinus running down stump to palm had to be slit up.
59	Sampul	35	—	,,	M	$1\frac{1}{2}$	,,	June 13, 1887	Aug. 29, 1887	To try effect on swelling of hand and fingers	,,	Circumferences of hands and fingers have all increased from $\frac{1}{4}$ to $\frac{1}{2}$ in. Sensation less	Both hands and fingers increased *pari passu* after operation. No difference whatever between 2 sides.
60	,,	35	—	,,	M	$1\frac{1}{2}$	R ulnar at elbow	,,	,,	,, ,,	Enlarged	,, ,,	,, ,,
61	Matilda William	—	14	Trinidad	T	$\frac{1}{2}$	L sciatic	,,	Jan. 4, 1888	For sloughing ulcer of heel and swelling of leg and foot	Normal	Ulcer firmly healed. Anæsthesia remains	Ulcer healed in 2 months.
62	Cecilia Joseph	—	48	,,	A	4	R sciatic	June 27, 1887	,,	For 3 perforating ulcers of foot	,,	Ulcer still over plantar surface of great toe $\frac{1}{2}$ in. broad and deep. Others healed	A sinus incised since operation.
63	,,	—	48	,,	A	4	L median	,,	,,	Ulcers on palm and 4th fingers	Somewhat enlarged	Ulcers firmly healed. No difference in anæsthesia	Fragments of necrosed bone removed from finger on July 8, 1887. Stretching seemed to facilitate separation of bone.
64	Elizabeth Gibbs	—	16	,,	T	1	R ulnar at elbow	,,	,,	To watch effect on tuberculation	Normal	No effect	—
65	Elizabeth Noel	—	16	,,	T	6	L median	July 4, 1887	,,	,, ,,	Not much enlarged	,,	Strong carbolic acid applied to nerve.
66	Dalalee	45	—	India	M	1	R ulnar at elbow	July 15, 1887	Jan. 11, 1888	To watch effect on tuberculation and anæsthesia	A good deal thickened	,,	—
67	,,	45	—	,,	M	1	R external popliteal	,,	,,	,, ,,	Normal	,,	—
68	,,	45	—	,,	M	1	L median	,,	,,	,, ,,	A good deal thickened	,,	—
69	Karuseah	—	40	,,	A	4	L ulnar at elbow	July 19, 1887	Dec. 5, 1887	Anæsthesia	Not enlarged	No difference	Strong carbolic acid.
70	,,	—	40	,,	A	4	L external popliteal	,,	,,	For ulcer over external malleolus	,,	Ulcer quite healed	Ulcer healed in 3 months.
71	,,	—	40	,,	A	4	R median	,,	,,	Anæsthesia	,,	No difference	Strong carbolic acid.
72	Paulina Victor	—	20	Trinidad	A	10	L sciatic	Aug. 2, 1887	Jan. 4, 1888	Chronic ulcer on sole 3×2 in. Swelling of leg: circumference $15\frac{1}{4}$ in. Foot painful	Normal	Ulcer $2\frac{3}{4} \times 2$ in. Circumference of leg $13\frac{1}{2}$ in. No change in sensation. Pain gone	—

73	Sylvestre Auguste	42	—	St. Vincent	A	9	R external popliteal	Aug. 23, 1887	Jan. 9, 1888	Pain in course of nerve	Much enlarged	Still pain below knee	Nerve touched with carbolic acid. Pain temporarily relieved 14 days after operation.
74	,,	42	—	,,	A	9	L median	,,	,,	Anæsthesia of hand	Rather atrophied	No difference	—
75	Leonce Dasent	52	—	Trinidad	M	¾	R median	Aug. 26, 1887	Jan. 4, 1888	To watch effect on tuberculation of hand and fingers	A good deal thickened	,,	Strong carbolic acid.
76	,,	52	—	,,	M	¾	L ulnar at elbow	,,	,,	,, ,,	,,	,,	,,
77	Cidas	50	—	India	M	1	L sciatic	Sept. 5, 1887	Jan. 13, 1888	For perforating ulcer outer side of sole	Normal	Ulcer in same state. No difference in sensation	—
78	,,	50	—	,,	M	1	L median	,,	,,	Anæsthesia	Thickened	No difference	Strong carbolic acid.
79	William Toussaint	18	—	Trinidad	T	1	R median	Sept. 13, 1887	Jan. 9, 1888	To watch effect on tuberculation	Slightly enlarged	,,	,,
80	,,	18	—	,,	T	1	L ulnar at elbow	,,	,,	,, ,,	,,	,,	,,
81	Robert Dixon	34	—	,,	A	1	R median	Sept. 19, 1887	Jan. 11, 1888	For diminished sensation	Much thickened	,,	Strong carbolic acid applied. There appeared to be slight temporary improvement three weeks after operation.
82	Madoosingh	40	—	India	A	3	L sciatic	Sept. 23, 1887	Jan. 4, 1888	Perforating ulcer over heel ½ in. deep. Superficial ulcer over inner malleolus. Foot swollen, completely anæsthetic	Normal	Perforating ulcer has filled up to lower surface of thickened epidermis. Ulcer over malleolus has healed. No difference in sensation	—
83	,,	40	—	,,	A	3	R external popliteal	,,	,,	Swelling of foot with ulcer of middle toe. Complete anæsthesia	Much thickened	Ulcer healed. No difference in sensation	—
84	,,	40	—	,,	A	3	L median	,,	,,	Anæsthesia	,,	Hyperæsthesia in palm and fingers	—
85	John Miller	26	—	Trinidad	A	5	R median	Oct. 7, 1887	Jan. 2, 1888	For diminished sensation	Not noted	Says he feels a little better in hand and fingers, except 4th and 5th, since operation	Says he feels more to radial side of 4th finger than to ulnar.
86	John William	30	—	,,	T	11	,,	Oct. 10, 1887	Oct. 13, 1887	,, ,,	A good deal thickened	No difference	Median rubbed with strong carbolic acid; ulnar not. Died on Dec. 27. No difference found in stretched nerve *post mortem*.
87	,,	30	—	,,	T	11	L ulnar at elbow	,,	,,	,, ,,	Rather thickened	,,	,, ,,
88	Bheekhoo	39	—	India	A	9	L sciatic	Oct. 16, 1887	Jan. 11, 1888	For painful perforating ulcer near bases of toes	Normal	Ulcer much smaller; about ¼ in. diameter. No pain	Much increase of discharge from ulcer on foot 4 days after operation.
89	,,	39	—	,,	A	9	R ulnar at elbow	,,	,,	For anæsthesia	Not noted	No difference	—
90	,,	39	—	,,	A	9	L median	,,	,,	,,	,,	,,	—
91	Matilda William	—	14	Trinidad	T	½	R median	Oct. 21, 1887	Jan. 4, 1888	Painful ulceration of tips of fingers with destruction of nails	Somewhat enlarged	Ulceration less. New nails are growing. Pain gone. Sensation improved in fingers	Strong carbolic acid.
92	,,	—	14	,,	T	½	L median	,,	,,	,, ,,	Very much enlarged	,, ,,	,, ,,
93	James Fraser	36	—	,,	A	4	R sciatic	Oct. 24, 1887	Jan. 11, 1888	Pain in foot and numerous sinuses discharging offensive pus	Normal	Foot quite healed. First metatarsal much thickened. No pain. No difference in sensation	Hardly any pain two days after operation. Foot had to be incised again and dead bone removed. Suppuration in foot seemed increased after stretching.
94	,,	36	—	,,	A	4	R median	,,	,,	Anæsthesia	Much swollen	No difference	Rubbed with strong carbolic acid. There appeared to be temporary return of sensation in hand 7 days after operation.
95	Seecrafge	50	—	India	A	8	L median	Nov. 2, 1887	Jan. 9, 1888	For diminished sensation	Thickened	No difference. General sensation perhaps a little better	Nerve lightly scarified longitudinally and strong carbolic acid rubbed in.
96	,,	50	—	,,	A	8	R ulnar at elbow	,,	,,	,, ,,	,,	,, ,,	,,
97	Robert Dixon	34	—	Trinidad	A	1	R supra-orbital	Nov. 7, 1887	Jan. 11, 1888	For supra-orbital neuralgia and lachrymation	Thickened; about ½ in. diameter	No pain. Lachrymation less. Nerve still feels a little thickened beneath skin	Asked for operation. Nerve rubbed with strong carbolic acid. All pain gone two days after operation.
98	,,	34	—	,,	A	1	L ulnar at elbow	,,	,,	For anæsthesia	Very thickened	No difference	Strong carbolic acid. Appeared to be slight temporary improvement seven days after operation.
99	Joseph Brown	39	—	,,	A	22	R external popliteal	Nov. 28, 1887	Jan. 9, 1888	Swelling and pain in foot and leg	Enlarged	Pain gone. Swelling less.	All pain went two days after operation.
100	Summar	15	—	India	A	9	L median	Nov. 29, 1887	Jan. 13, 1888	Swelling. Sinus and pain middle finger	A good deal of fat adherent	Finger healed except small ulcer. Contracted; no pain. No change in anæsthesia	Finger well in ten days, with exception of small sinus.

rest. Still the growth of granulations, increased discharge, and thin white cicatrix at the edge of the ulcer within a few days seem to indicate a direct trophic influence more rapid in its effect than mere rest.

It is, however, a curious fact that the patients often prefer to keep these perforating ulcers open, and either ask to have them incised or put on poultices of their own accord. They seem to get obscure internal symptoms in some cases after the healing of an ulcer; indeed, I remember one case in 1884 in which a patient died almost suddenly after the healing of some tuberculated ulcers of the legs. Large white kidneys were found *post mortem*.

The question has been a good deal discussed in the medical journals lately, as to whether it is always safe to heal long-standing ulcers of the legs in other diseases. Certainly, as regards leprosy, I should be prepared to give a very doubtful answer.

Pain.—Perhaps the most striking results were obtained in those cases in which nerve stretching was done for pain, especially pain associated with perforating ulcer. Nine cases fall under this head.

The most striking are Nos. 14 and 25, which have been already referred to (*Lancet*, September 17th, p. 593). In both of these the pain was so severe that the patients begged for amputation; but after the nerves were stretched, the pain vanished almost immediately.

In Case No. 30, also referred to in the same place, there was temporary relief from pain, but the ulcers became gangrenous, and the leg was amputated at the patient's request. The posterior tibial nerve was greatly thickened and gelatinous-looking. The stump healed in two months, and the patient (an active, intelligent coolie) was soon about the ward again on a wooden leg, helping in the dressing of the other cases, as was his custom before he lost his leg.

Another satisfactory case was No. 9, in which the right sciatic was stretched for a painful perforating ulcer of the foot. The ulcer became cleaner, the pain vanished, and the relief was so great that the patient asked that the operation might be repeated on the left side for a similar condition of that foot. Here, however, the result was not so marked; for though the ulcer became a little cleaner for a few weeks, gangrene eventually set in in both feet, and the patient sank five months later.

In two cases in which the pain recurred four months and one year respectively after the sciatic had been stretched, the external popliteal of the same side was stretched with good result (*vide* Cases 20 and 46, and 14 and 99).

In one case of supra-orbital thickening and neuralgia, probably associated with syphilis, mercury and iodide of potassium were given for four months without much result, after which the supra-orbital was stretched with immediate relief to the pain. The thickening remained.

Anæsthesia.—The operation has been done for anæsthesia in thirty-three cases, but I cannot say that the results are very encouraging. In many, no effect whatever was produced; indeed, in some old-standing cases, the nerve was exposed without chloroform, and stretched, tapped, or pricked without the least complaint of pain or even sensation. In some of the earlier cases (such as Nos. 3 and 26) there appeared to be some improvement of sensation a year after the operation, and in several other cases slight temporary improvement was noted. On the whole, however, the results cannot be considered satisfactory, and the question is complicated by the difficulty in getting consistent answers from patients, even when tested with their eyes covered. In some cases, sensation appears to be dispersed, as it were, laterally; the patient, when requested to put his finger on the part touched, indicating a place to one side of the correct one.

It yet remains to be seen how long any improvement in sensation may continue; at present, I have noted it in one or two cases a little over a year after the operation.

Tuberculation.—In eighteen cases nerves were stretched with the object of watching whether any trophic effect would be produced on the growth of tubercles or general infiltration of the skin. Comparative measurements of fingers on the two sides were made, but no effect whatever could be traced to the operation.

Necrosis.—In two cases (Nos. 15 and 63) the stretching seemed to facilitate the separation of necrosed bone. There was increased discharge from the sinuses, and fragments of bone were removed ten days and eleven days respectively after the operation. After this the ulcer nearly healed in the first case, and quite in the second.

Taking, now, the general results of the operation, there was more or less relief in forty-seven cases, no relief in forty-nine cases, and a doubtful result in four cases. Roughly, then, in one hundred cases operated on, without any particular selection, it may be considered that more or less relief was given in half. The nerve, when exposed, was found to be enlarged in forty-eight, or nearly half the cases; in thirty-four it was not enlarged, and in eighteen its condition was not noted. The most commonly enlarged was the median; after that the ulnar and external popliteal. The sciatic I never found thickened.

Primary union was not obtained in many cases; indeed, I applied strong carbolic acid to some of the more thickened nerves and even lightly scarified them longitudinally, with the idea of destroying to some extent the bacilli, but I found no better result after this proceeding.

In the necropsies of some patients who died from other causes at longer or shorter periods after the operation I found no naked-eye changes in the nerves which had been stretched, nor did I find any adhesions even when the incision had granulated up from the bottom. In one case only after operation the patient complained of pain beginning in the cicatrix over the sciatic and travelling down the thigh. In him the cicatrix is a good deal depressed, and it may perhaps be necessary to divide adhesions at some future date.

In conclusion, I would sum up my experience thus:

1. The great sciatic is the most satisfactory nerve to stretch, for it is nearest the spinal ganglia and commands the supply of the whole leg and foot and the back of the thigh.

2. The chief indications for the operation are perforating ulcer, some cases of necrosis and pain whether associated with perforating ulcer or with peripheral neuritis without ulcer.

Analysis of Operations.

	Tuberculated.		Anæsthetic.		Mixed.		Total.
	M.	F.	M.	F.	M.	F.	
Total cases	7	5	57	7	22	2	100
Total patients operated on ...	3	3	36	4	13	1	60
Nerves stretched:							
Sciatic	—	1	17	2	6	—	26
External popliteal	—	—	7	1	3	—	11
Median	3	3	22	3	7	2	40
Ulnar at elbow	3	1	8	1	5	—	18
,, above wrist	1	—	2	—	1	—	4
Supra-orbital	—	—	1	—	—	—	1
							100
Reasons for operation:							
Ulceration	—	3	21	4	10	—	38
Pain	—	—	7	—	2	—	9
Anæsthesia	2	—	27	3	1	—	33
Tuberculation	5	2	—	—	9	2	18
Necrosis	—	—	2	—	—	—	2
							100
Results of operation:							
Relief...	—	3	30	4	10	—	47
No relief	7	2	24	3	11	2	49
Doubtful	—	—	3	—	1	—	4
							100
State of nerve when exposed:							
Enlarged	5	3	27	1	10	2	48
Not enlarged	—	2	18	5	9	—	34
Not noted	2	—	12	1	3	—	18
							100

THE VICTORIA HOUSE AND NURSES' HOME, ALEXANDRIA.—The report of this institution, a memorial of Her Majesty's Jubilee, which has among its objects that of providing trained English nurses on moderate terms to nurse the sick, and cheap and respectable lodging for women of any nationality, shows that from July 1st, 1887, to November 30th, 1888, no less than 308 have passed through the home. Of these sixty-two were English, the remainder consisting of other nationalities. Two English-trained nurses live in the home, and are sent out as nurses. The Khedive has presented to the committee a site of over 2,000 square yards for a special building, and about £3,000 is required. Subscriptions will be gratefully received either by Sir Charles Cookson, K.C.M.G., C.B., H.M. Consul and Judge, Alexandria, or by the honorary treasurer, Mr. S. H. Caron, of Messrs. Caron and Co., Alexandria.

A SPHYGMOGRAPH FOR CONTINUOUS TRACINGS.

By J. C. VAUGHAN, M.B.,
House-Physician to the Bradford Infirmary, Yorkshire.

Some time ago, while resident physician to Professor T. R. Fraser's wards in the Royal Infirmary, Edinburgh, my attention was directed in a special way to the examination of the pulse. Marey's sphygmograph was the instrument used, and many cases of mitral disease with very irregular cardiac action came under observation. In these cases it was the practice to obtain at one sitting a series of tracings showing all the variations of rhythm presented by the pulse. Ever since, in observing similar cases, I have followed the same plan, and in the hospital here I have, by the courtesy of the honorary medical staff, had abundant opportunity of comparing the results yielded by short tracings with those given by continuous tracings as regards their respective value as clinical records.

Working with Marey's or Dudgeon's instrument, one has sometimes to wait long before the tracings obtained fairly represent the modes of irregularity shown by the heart, and it not infrequently happens that tracings taken within half a minute of each other (*vide* Figs. 1 and 2) show characters so widely different that it would be exceedingly difficult to recognise them as representations of cardiac rhythm so nearly related in point of time. The time and trouble required to obtain a fairly representative series of tracings is often considerable; while, at the same time, the method of procedure and the conclusions drawn as to the character and degree of irregularity are necessarily to a certain extent arbitrary and indefinite, and seem to be open to the objection that the sphygmographic records are in themselves short, incomplete, and disconnected. And, if this may be said of a series of disconnected tracings, it seems fair to say that, in cases of irregular heart action, no single tracing of any such series can be held to represent with any definite degree of accuracy and completeness the character of the heart's action at the time. But if the tracings were not disconnected their joint value as a continuous tracing would be much greater.

Considering the matter from this point of view, it seemed to me that, if sphygmography be of value, it would be well if we had some convenient method by which we could obtain a continuous tracing extending over several minutes, and showing at a glance the characters of several hundred pulse waves, and of all the phases of abnormality or irregularity present, and the dominant as well as the intercurrent variations of cardiac rhythm—showing these in their true time relations to each other, and giving a fair representation of the *average* character of the work done by the heart. And surely a method of sphygmography would, for purposes of clinical study and demonstration, be preferable which would enable us thus to measure more accurately the conditions with which we deal, and which would give us as results not the gleanings from observations of a few seconds' duration—recording only a few pulse-beats—a period during which an irregular heart may be found at its best or at its worst, but a good representation of the *average* quality of the heart's work.

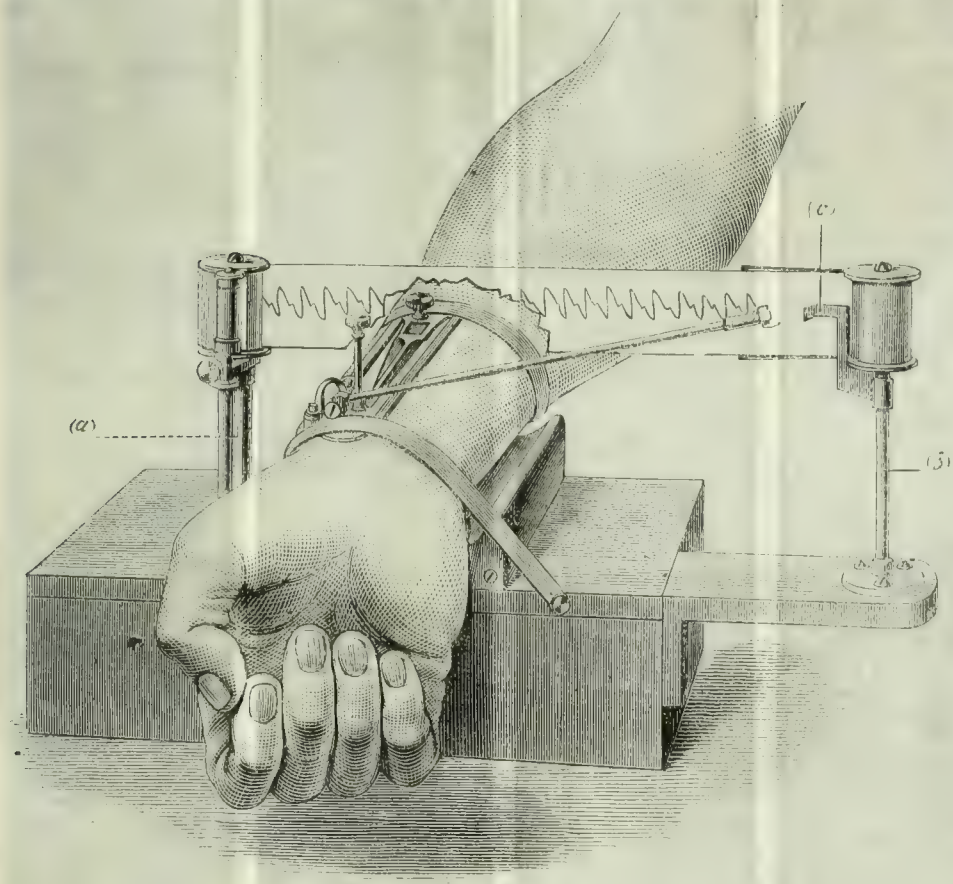


Fig. 3.—Sphygmograph applied for Continuous Tracing.

Some such average may, of course, be obtained by multiplying tracings taken with Marey's or Dudgeon's instrument; but it seemed to me that a continuous tracing offered clearer results and a fuller and wider view of conditions under observation than any to be obtained by tying together in a more or less arbitrary way observations consisting of detached parts in separate short tracings. Accordingly, thinking that a sphygmograph answering the purpose in view may prove useful, I devised the instrument figured, and it was made for me by Mr. Alexander Fraser, of 7, Lothian Street, Edinburgh. It consists of the following parts:—

1. A frame carrying a recording lever, and constructed somewhat on the same principle as Marey's instrument. The lever moves at right-angles to the long axis of the frame; at its free end it carries a glass cup having a capillary writing-point, and containing ink. Over the attached end of the lever is a small spring, which does not touch the lever except the latter is thrown up very powerfully, when it checks any excessive range of movement.

2. A sliding hand-rest, fitting on to the box containing the driving machinery, and allowing the hand to be put into any suitable position.

3. The paper-carrying apparatus, consisting of (1) an upright (*a*) carrying two milled cylinders, which, on being rotated, draw a ribbon of tracing paper off a reel placed on a second upright (*b*), and past the writing point. Standing out from (*b*) is a brass plate (almost hidden in the illustration), over which the paper is drawn, a tension spring (*c*) keeping the paper flat and sufficiently taut to allow an even writing surface for the pen, which writes against the brass plate. The reel will hold a ribbon of paper long enough to last for several minutes, and a trigger starts and stops the driving machinery. The two uprights and the bracket on which *b* stands can be taken off at will, so that the instrument could be readily put into a small compass, and, when packed, could



Fig. 4.—Continuous tracing (one-third full length) from case of extreme mitral lesion.

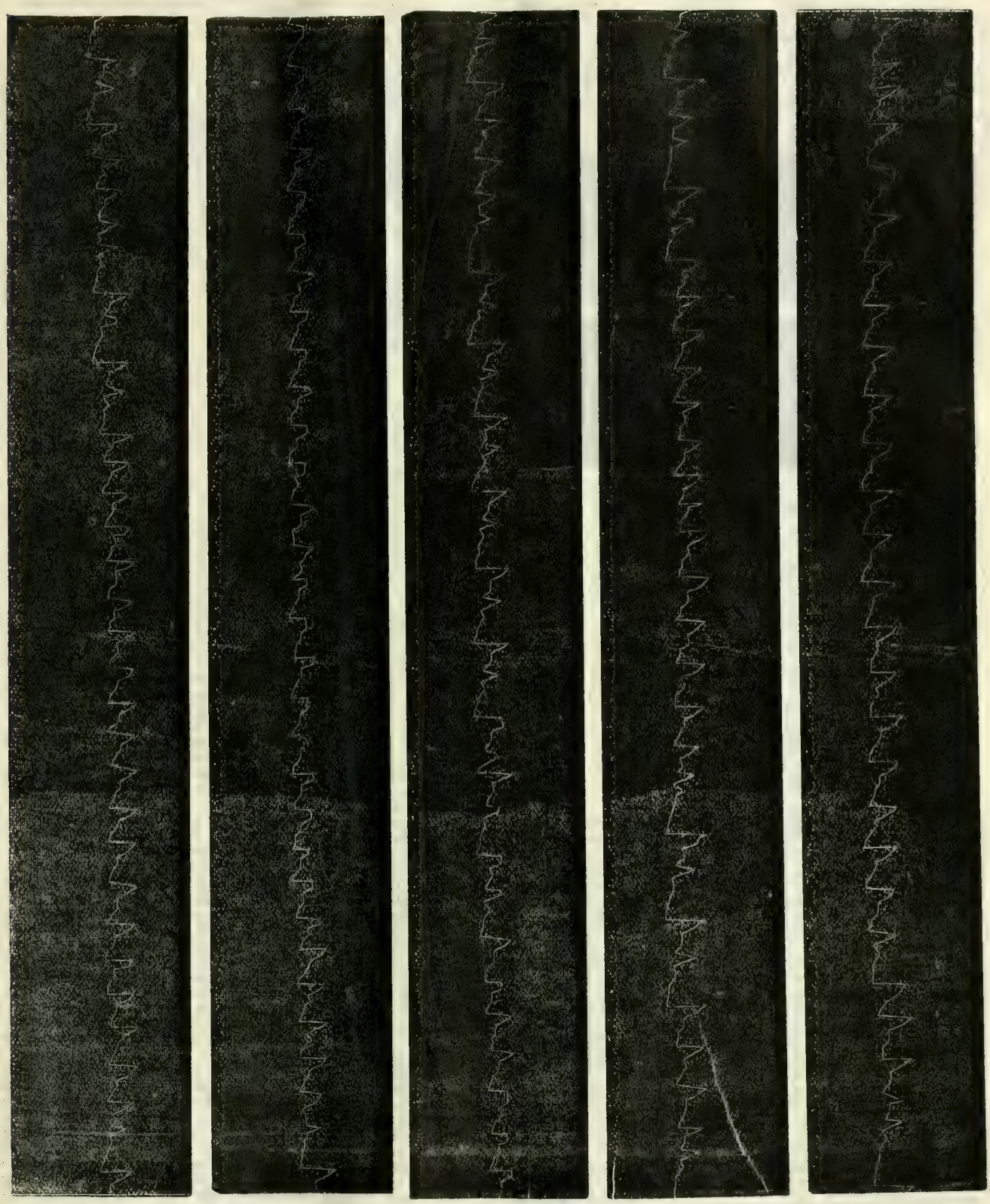
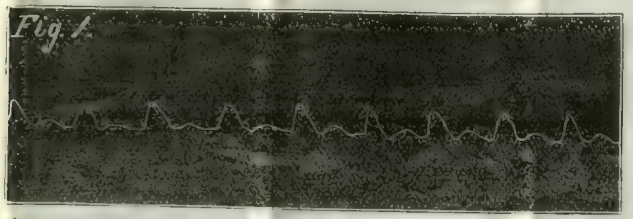
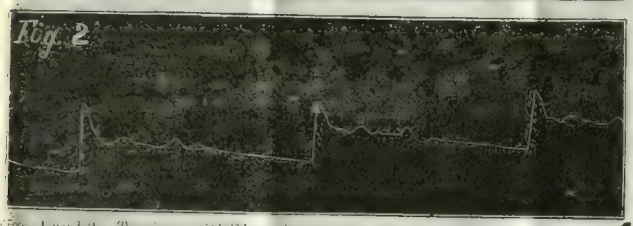


Fig. 5.—Continuous tracing (one-fifth full length) from a case of fatty heart in an asthmatic patient showing pulse-waves over exactly two minutes.

be very conveniently carried. The necessity for smoking and varnishing paper is done away with by the use of ink, and the tracings show that the friction between the writing point and the paper is scarcely more than in other sphygmographs; and, as regards their merits as sphygmograms, the tracings speak for themselves.[1]

The instrument was devised in October, 1886, and made in December of the same year. Since then repeated trials, permitted by the courtesy of the honorary medical staff and made in the





Figs. 1 and 2.—Tracings with Marey's instrument from same artery within half a minute of each other, without moving the sphygmograph.

hospital here, have brought me to the belief that it may prove useful, more especially for purposes of observation, and for demonstration of the pulse phenomena of heart disease.

In conclusion I must express my obligations to Professor Fraser for his kindly encouragement, to Dr. G. L. Gulland for the drawing, and to Mr. Alexander Fraser, of Lothian Street, for many valuable suggestions, and for the successful carrying out of the mechanical part of the work.

THE DISTRIBUTION OF PARALYSIS AND ANÆSTHESIA IN INJURIES OF THE CERVICAL REGION OF THE SPINAL CORD.[2]

By WILLIAM THORBURN, F.R.C.S.Eng.,
Surgical Registrar, Manchester Royal Infirmary, etc.

GENTLEMEN—Having been thrown by circumstances into connection with a large number of legal investigations relating to railway accidents, and having hence been led to take a special interest in spinal injuries, I have been much impressed by the vagueness of the usually received accounts of these affections, and have endeavoured to ascertain more accurately than is commonly done the reason and the import of some of the more complex collections of symptoms which they present to us. In order to obtain reliable data, I have carefully observed a large number of serious cases which have come under my observation as Surgical Registrar in the Manchester Royal Infirmary, the staff of which hospital has kindly allowed me to use the cases which have there presented themselves. Among others, I have now watched nineteen cases of injury in the region of the cord from which arise the nerves of the brachial plexus, and I have been led to certain results which appear to me to possess both a purely scientific and a medico-legal interest.

To-day I propose to bring before you some of these results, and, in doing so, may say that the cases which I have now briefly to bring under your notice will be found reported *in extenso* in a paper which I published in *Brain* in January, 1887, and in a second communication in the same journal.

The only two points in which I shall endeavour to-day to interest you are the distribution of the paralysis and of the anæsthesia observed in injuries at various levels of the brachial enlargement of the cord—that is, from the fourth cervical to the first dorsal vertebra.

First, then, as regards the paralysis, I find that with a little care it is possible to ascertain very accurately—much more accurately than is usually done—the exact extent of the paralysis produced in crushes of the cord at different levels, and also to trace the course of the ascending myelitis which frequently ensues upon such injuries by observing the way in which the muscles of the upper limb become subsequently paralysed. Such an examination has led me to assign a definite order to the spinal nuclei, if I may so call them, of the brachial enlargement—an arrangement which I have tabulated in the following manner:

Arrangement of the Muscular Nuclei of the Brachial Enlargement of the Spinal Cord.

Supra-spinatus and infra-spinatus Teres minor (?)	4th cervical nerve.
Biceps Brachialis anticus Deltoid	5th cervical nerve.
Supinator longus Supinator brevis (?)	
Subscapularis Pronators Teres major Latissimus dorsi Pectoralis major Triceps Serratus magnus	6th cervical nerve.
Extensors of the wrist	7th cervical nerve.
Flexors of the wrist	8th cervical nerve.
Interossei Other intrinsic muscles of the hand	1st dorsal nerve.

That there are certain gaps and probably some inaccuracies in this table I cannot doubt, but that in the main it will be found to hold good I am the more convinced by the fact that the results obtained tally closely with observations on the anatomy and physiology of the cord made in various other ways. Several of the muscles referred to—notably the pectoralis major—are certainly supplied from more than one level of the cord, but the nature of my inquiry permits only of recognising the chief of these levels—that is, the one from which are derived the nerve fibres supplying the functionally most powerful part of the muscle. I would further point out that, as I shall shortly explain more fully, the limbs of patients affected by the various combinations of partial paralysis acquire certain characteristic positions, so much so, that in one or two of the better marked instances it has been possible to diagnose the exact seat of the lesion by a mere glance at the attitude of the patient's limb. Time will allow of my mentioning only a few of the cases on which my conclusions are based, but these few will serve to indicate the nature of the evidence.

Commencing then at the upper part of the region to which we have referred, I have had two cases in which there was found at the *post-mortem* examination a fracture-dislocation between the fourth and fifth cervical vertebræ, with a complete crush of the cord above the level of the fifth cervical nerve roots. In both of these cases the upper limbs appeared to be completely paralysed as regards both their extrinsic and intrinsic muscles. In one of them the levator anguli scapulæ and trapezius were found not to be paralysed, the former distinctly contracting when the patient took a deep breath, but both of these muscles are undoubtedly innervated from above the brachial enlargement. Unfortunately, these were among my earlier cases, and the condition of the supra- and infra-spinati muscles was not noted, but from reasons which I shall shortly give I can assign both of these muscles to the fourth cervical nerve root, and the teres minor probably accompanies them.

Passing downwards I come next to a remarkable and most instructive group of cases, most typically represented by a man who survived for twenty-six days a fracture-dislocation of the fifth cervical vertebra. Unlike the majority of these dislocations the upper vertebra—the fifth—was displaced backward, and in such a manner that the fifth cervical nerve roots, which, it will be remembered, arise above that vertebra, were uninjured, and the cord was crushed below these roots. Now, on admission, and for a considerable period thereafter, this man did not present complete paralysis of the upper limbs. The trunk and lower extremities were affected as usual in such injuries, but the arms

[1] The tracings sent are only one-third of their original length. The drawing is that of the instrument as first used. A neater model can easily be produced.

[2] Read in the Section of Surgery, at the Annual Meeting of the British Medical Association, held in Glasgow, August, 1888.

maintained always the position shown in the engraving which I now hand to you, and which is taken from a photograph of the patient.



Fig. 1.—Showing the position of the upper limbs in a case of complete crush of the spinal cord immediately below the fifth cervical nerve roots.—*From a photograph.*

You will see (Fig. 1) that there is abduction with elevation and external rotation of the humerus, flexion of the elbow and supination of the wrist; and if you consider for a moment the action of the muscles of the limb, you will notice that this is due to tonic contraction of the supra- and infra-spinati muscles with the deltoid, biceps, brachialis anticus, and supinators in presence of paralysis of the other limb muscles; and that this is so is further proved by the fact that these muscles only retained their power of contraction. This case, then, is almost the exact antithesis of the lesion met with in the so-called Erb's paralysis or in Duchenne's obstetrical paralysis, where, the fifth cervical root being torn or crushed, the muscles which in my case are paralysed, remain sound, and those which in my patient present tonic contraction are paralysed. Now, in Erb's paralysis, which, for reasons upon which we cannot now enter, is almost certainly due to rupture of the fifth cervical root, the supra- and infra-spinati muscles escape injury, whereas in Duchenne's obstetrical paralysis, which, as I have elsewhere shown, includes also the fourth root, those two muscles are paralysed. Hence, then, we must assign the spinati muscles (with possibly the teres minor) to the fourth root and the deltoid, biceps, brachialis anticus, and supinators to the fifth. The latter group, which I shall take the liberty of calling the "fifth root group," is, as we shall shortly see, the key to the whole position.

The above observation is, however, confirmed by other of my cases, namely:—

1. A comminuted fracture of the fifth and sixth cervical vertebræ, in which the cord was obliquely crushed in such a manner that the fifth cervical root entirely escaped injury on the left side, whereas on the right the injury extended rather higher, crushing the fifth root and that portion of the cord from which it arises. This condition is shown in this drawing (Fig. 2).

Now in this case, on the right side the upper limb was completely paralysed, whereas on the left side the muscles composing the "fifth root group" were intact, and although on the right side the upper limb was quite flaccid, on the left it had exactly the position which is represented in my first figure.

2. I had a case of fracture-dislocation of the fourth and fifth vertebræ in which the cord was not at all compressed, but had hæmorrhages into its central grey matter. The patient lived only a few hours, and there was no satisfactory examination, but it was noted that whereas the left upper extremity was absolutely paralysed, the right deltoid and biceps were still capable of contracting, the condition of the supinator being unnoted.

3. Other cases which I shall quote later will be found further to illustrate this paralysis below the "fifth root group" although they would not alone have so readily allowed of its identification. Also the above symptoms have been observed by other writers, but have never been fully described, nor has their significance been noticed. Thus in the *London Hospital Reports* for 1866, Mr. Jonathan Hutchinson mentions a case in which a man had partial paralysis of the right arm, but could raise the limb although he could not grasp, and still more clearly another case of crush opposite the fifth cervical vertebra in which the arms were raised to a level with the shoulders and the forearms flexed by the biceps. Again, in the *St. Thomas's Hospital Reports* for 1870, Mr. Churchill describes a case of fracture of the fifth cervical arch with crush of the cord, where the patient had but slight power of moving the shoulders and upper arms. In the latter paper is also described a case of dislocation forwards of the sixth cervical vertebra, where there was impaired movement of the arms attributed to a desire to keep the spine immovable, the upper arms were raised to a right angle with the body, and, to quote the writer's words, "the forearms were flexed so as to relax the muscles and to support the head;" there was at the same time hyperæsthesia of the radial side of the upper limbs. Clearly this is a case of irritation of the fifth root centres, with paralysis below them.

We are, however, I believe able to go further than this, and to establish the relative positions of the nuclei in the "fifth root group." Thus returning to the case of which you have a photograph, we found that about the fifteenth day, to quote the notes, "the contraction of the deltoid muscles, which had maintained the abducted position of the arms, ceased, and the elbows fell to the sides, the elbow joints themselves remaining flexed," a condition which continued until death. From various clinical reasons, and from the *post-mortem* appearances, there can be no doubt that

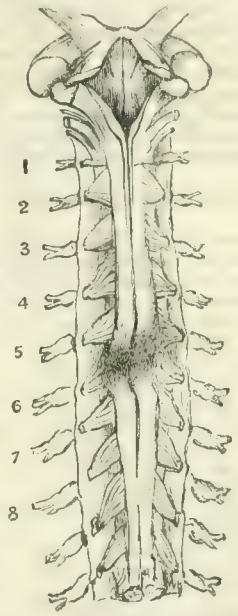


Fig. 2.—Showing the condition of the spinal cord in a case where the deltoid, biceps, and supinator longus had escaped paralysis on the left side only.

during this time there was ascending myelitis, and it would thus appear that first the nuclei for the supinators, and then those for the deltoids were thereby involved, so that we arrange these nuclei as shown in the table.

Let me now briefly mention other cases illustrating and confirming these points.

1. In a case where there was no *post-mortem* examination, the patient dying a few hours after injury, the limbs were paralysed, but the arms were held abducted, with the elbows flexed, the hands lying on the epigastrium, and prone. Here the lesion had reached so high as to involve the nuclei for the supinators, leaving the deltoid and biceps.

2. In another case, which also died very early, and where, also, there was no *post-mortem* examination, all the muscles of the upper limbs were paralysed, except the flexors of the elbows. The limbs lay quietly by the sides, but, on being told to move them, the patient bent the elbows without other change. Here the destruction extended so as to include the deltoid nuclei. Between the biceps and the brachialis anticus I cannot differentiate.

3. There was a case of fracture-dislocation of the fifth cervical vertebra, in which "the left upper limb was abducted, with the

elbow flexed and the hand across the chest, the right being completely flaccid. On the left side he had the power of voluntary contraction of the biceps, supinator longus, and deltoid, but not of the other limb muscles, whereas on the right side all the muscles were paralysed. On the left side the supra-spinatus and infra-spinatus could be made to contract, on the right they could not." Hence the damage to the cord included the nuclei of the fourth root on the right side, but spared those of the fourth and fifth on the left.

4. I had another case of fracture-dislocation of the sixth cervical vertebra, with very extensive hæmorrhage into the cord, extending for some distance above the lesion. On admission, "the left upper limb was entirely paralysed and flaccid;" on the right side the shoulder was abducted, and rotated somewhat outwards, the elbow being flexed, and the wrist and fingers flaccid. In a few hours both limbs were quite paralysed, and death followed after forty hours, when the hæmorrhage in the cord was found to reach as high as the third cervical nerve roots. This hæmorrhage must have extended after admission into and beyond the nuclei for the fifth root of the right side.

And now let us go a little further. J. E. C. was admitted to the infirmary with an injury afterwards found to consist of a partial dislocation of the fifth cervical vertebra, with some compression of the cord and hæmorrhage into its substance, but with no injury to nerve roots. I cannot now take time to give in detail the various symptoms observed during the twenty-nine days for which he survived, but must state briefly that:

1. When first seen, the intrinsic muscles of the hands and the flexors of the wrist were completely paralysed; none of the other muscles of the upper limbs had entirely lost their functions, but those of the "fifth root group" were distinctly the most powerful. That the cord was only partially destroyed was proved by the fact that the lower part of the body was not absolutely anæsthetic.

2. On the second day the extensors of the wrist were completely paralysed.

3. Between this and the fourth day the pectoralis major, latissimus dorsi, teres major, and pronators ceased to act.

4. After this the subscapularis and the muscles of the "fifth root group" alone remained to the patient. His limbs then lay close to his side with the elbows flexed. It will be observed that the retention of the "tonus" of the subscapularis modifies in an important direction the attitude shown in Fig. 1 by preventing the abduction and outward rotation of the humerus.

5. On the sixth day we could no longer distinguish any contractions of the subscapularis or supinator longus. After this the limbs still usually lay by the sides, owing, doubtless, to already commencing paralysis of the deltoid; but at times, especially in sleep, the patient would abduct the arms.

6. About the twelfth day he ceased to be able to abduct the humerus, and the biceps was beginning to fail.

7. On the fourteenth day the limbs were absolutely paralysed.

From this case we are able to trace the ascending lesion, picking off in succession the various nuclei; and, reading the lesson conveyed in reverse order, it will be found to confirm my table to the extent that it fixes for us, from above downwards: (1) biceps; (2) deltoid; (3) supinators and subscapularis; (4) pronators, teres major, latissimus dorsi, and pectoralis major; (5) extensors of the wrist; (6) flexors of the wrist and intrinsic muscles of the hand. The most important omissions are the triceps and serratus magnus, as to which no information is yielded.

The next case is one in which was found a dislocation forwards of the last cervical vertebra, with a crush of the cord at the seat of injury and subsequent ascending myelitis, life lasting for thirty-one days. On admission we found the upper limbs lying "across the chest, with the elbows close to the sides, and flexed," as shown in Fig. 3. "On both sides the flexors of the wrist and fingers were completely paralysed; on the right side the extensors were also paralysed, but on the left they retained very slight power. The triceps, pectoralis major, and serratus magnus, could be felt to contract on both sides, but only very feebly so. The deltoid, biceps, and supinator longus were more powerful than any of the other muscles of the upper limb, but were also weak."

On the twenty-second day almost all the muscles of the right limb were paralysed; but the patient could still rotate the humerus outwards, the supra- and infra-spinati being felt to contract, and could feebly flex the elbow; but neither the biceps nor the supinator longus could be felt to contract, and he had lost all power over the deltoid. On the left side there was obvious contraction of the spinati, deltoid, and biceps, and he had feeble power of supination and pronation. Here, then, we find the lesion at first causing complete paralysis only as high as the flexors of the wrist on the left and the extensors also on the right side, and at the end of three weeks all muscles below the flexors of the elbow are paralysed on the right side, and these are very feeble, whereas on the left side the fourth and fifth root groups and the subscapularis and pronators retain a little power.

The application to the table is obvious, and there is some indication that the serratus magnus, triceps, and pectoralis major are about equally affected, and should, therefore, be placed near together. The position of the pectoralis major being already defined indicates that of the other two muscles. The sketch shows how the action of the subscapularis and pectoralis major modifies the attitude characteristic of the "fifth root group" by preventing abduction and external rotation of the humerus.

Lastly, J. S. sustained a fracture of the anterior and upper part of the first dorsal vertebra, with displacement forwards of the last cervical, and subsequent ascending myelitis. Life remained for ten days. To relate the sequence of events as briefly as possible:—

1. At first there was paralysis only of the intrinsic muscles of the hand, the interossei, and possibly the extensor communis digitorum.

2. At first, also, the flexors of the wrist were distinctly feebler than the extensors.

3. On the third day both flexors and extensors of the wrist were paralysed.

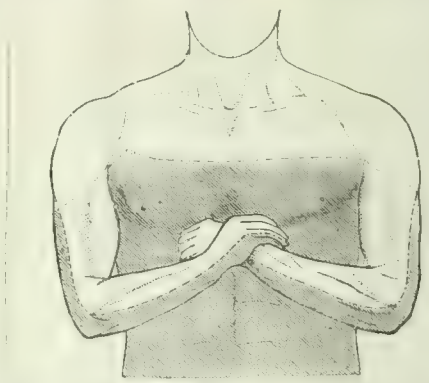


Fig. 3.—Showing the position of the upper limbs and the distribution of anæsthesia in a case of crush of the spinal cord, in which hæmorrhage had extended partially into the territory of the sixth cervical nerve root.—*From a sketch.*

4. On the sixth day the triceps and pectoralis major were paralysed, and he ceased to rotate the wrist.

5. The latissimus dorsi failed on the seventh day.

6. The teres major and subscapularis had at that time become very feeble, and external rotation with abduction of the humerus was noticed.

7. The "fifth root group" remained until the end.

Thus, then, this very complete case, which I regret to have had to describe so briefly, coincides with our arrangement, except in so far as the rotators of the wrist are concerned, and it warrants us in provisionally arranging the teres major, latissimus dorsi, pectoralis major, and triceps in the order there given, this group not having been hitherto differentiated.

I had wished next to discuss the arrangement of the anæsthesia, but fear that time will not permit. Briefly, I may say that all my cases bear out most clearly the conclusions so ably presented by Dr. Ross in a paper in *Brain* for January, 1888, on "The Segmental Distribution of Sensory Disorders;" that is, the outer parts of the limb are supplied by the higher roots, the inner by the lower in continuous order. Thus I find that the fifth root usually supplies the outer side of the limb down to about the styloid process of the radius; the first dorsal extends to the styloid process of the ulna, and the other nerves divide the intermediate region. By noting the limits of the anæsthesia we are able to confirm the position of the lesion.

And now let me bring before you a few more complicated cases of injury in this region, which will serve to show how the already

acquired knowledge enables us to define clearly the seat of any given lesion.

R. M. was admitted with an obvious dislocation of the fifth cervical vertebra to the right, the neck being clearly bent over. He had on both sides the symptoms of a partial destruction of the cord below the fifth cervical roots, the lower limbs and trunk being almost but not quite paralysed. For reasons which I cannot now give in detail I was able to demonstrate that the cord was more injured on the right than on the left side. But the fifth root had entirely escaped injury on the right side, so that sensation was perfect on the outer side of the right limb, and the "fifth root group" had escaped paralysis. On the left side, on the other hand, the "fifth root group" was entirely paralysed; and the outer side of the limb was absolutely anæsthetic, whereas the remainder of it was only partially so. By means of extension we reduced the dislocation, and the left elbow, which had before been straight, then became flexed, showing that in some way we had relieved the left fifth root. Still the patient showed on the right side an intact fifth root, with partial destruction below it; on the left side partial paralysis below the fifth root, but more complete paralysis of that root itself. The attitude is shown in this figure (Fig. 4), which demonstrates very well the different

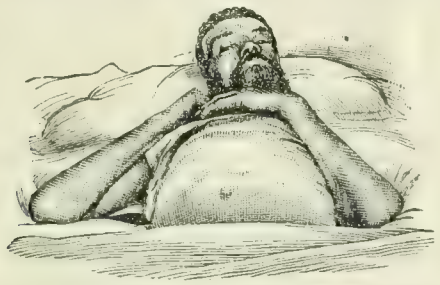


Fig. 4.—Showing the position of the limbs in a case in which the fifth cervical nerve root was injured on the left but not on the right side.—*From a photograph.*

position of the two limbs. In this case the diagnosis which seemed most probable is indicated by this diagram (Fig. 5), showing dislocation of the fifth cervical vertebra to the right, crushing of the cord below the fifth roots more marked on the right side, entire escape of the right fifth root, but over-stretching or partial tearing of the left fifth root, which would be partially relieved by reduction. The man gradually recovered, and can now (after eighteen months) do some light work. He has a good deal of atrophy of the upper limbs, and on the right side the "reaction of degeneration" in all muscles but those of the "fifth root group;" on the left side there is no such reaction in any muscles.

Another man had a fall upon his hands, followed by coldness, weakness, and spastic symptoms in the lower limbs and a peculiar spasm of the upper limbs, which lasted for about a fortnight. During this period he says the limbs were held close to the sides with the elbows flexed, the hands in front of the chest and the wrists and fingers partially flexed. I saw him two months after the accident; he had then spastic symptoms in the lower limbs, hyperæsthesia of the dorsal divisions of the sixth and seventh cervical nerves, no sensory affection of the limbs. There was some weakness of the muscles of the upper limbs, most marked in the flexors of the wrist. Fifteen months later he had lost all his sensory symptoms, but had obvious wasting of both triceps muscles; and an electric examination showed a varying degree of activity in the muscles tested. The best was the biceps, then came the flexors of the wrist, then its extensors, and the worst was the triceps. Here I should diagnose a small central hæmorrhage about the nuclei for the triceps and extensors of the wrist. From this we get in the early stage paralysis of these nuclei, and spasm of those above and below, and you will see that spasm of the pectoralis major, latissimus dorsi, teres major, and biceps will produce the position occupied by the arms and forearms, and spasm of the flexors of the wrists and fingers that occupied by the hands. Later on we find partial paralysis of the triceps and extensors of the wrist, and, to a less extent, of the flexors of the wrist, so that there may have been slight extension downwards. The hyperæsthesia corresponds to this localisation.

Another man fell upon his back, and developed immediately paralysis of both triceps muscles, with weakness of the extensors and flexors of the wrist; the flexors of the wrist were more powerful on the right than on the left side, but abduction of the humerus was weakened on the right side. There were no sensory symptoms, and recovery was soon complete. Diagnosis: a small central hæmorrhage about the triceps nuclei, extending down to those for the extensors and flexors of the wrist, but a little lower on the left than on the right side, so that the left flexors were the weaker, and on the right side extending up so as partially to weaken the adductors of the humerus, the pectoralis major, latissimus dorsi, teres major, and subscapularis. Again this coincides with the table.

Again, J. B. sustained a spinal injury causing paralysis, partial anæsthesia, etc., of the lower part of the body, contraction of both pupils, especially of the right, marked feebleness of the flexors of the wrist and fingers but no other paralysis of the upper limbs (the intrinsic muscles of the hand were not noted). Diagnosis: A hæmorrhage in the lower part of the brachial enlargement, rather larger on the right side, affecting the nuclei for the flexors of the wrist and fingers and the descending fibres of the cord. Death ensued in forty-eight hours, and at the *post-mortem* examination we found this hæmorrhage exactly as predicted in the lowest cervical and upper dorsal regions. It occupied the central canal, was about an inch and a half long, and on the right side extended very slightly into the anterior cornu.

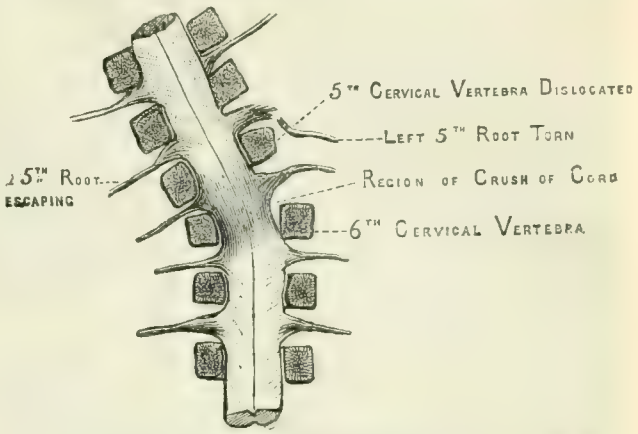


Fig. 5.—Diagram of the supposed nature of the injury in the case represented by Fig 4.

W. H. received an injury to the spine, causing complete paralysis of the left arm and leg, almost complete paralysis of the right leg, and paralysis of the right arm, except the rhomboids, supra- and infra-spinati, biceps, deltoid, and supinators, which were unaffected. The left pupil was more contracted than the right; anæsthesia was more marked on the right side of the body. Diagnosis: Hæmorrhage into the spinal cord,' more extensive on the left side, and sparing the "fifth root nuclei" of the right side. About a week later these nuclei were also paralysed by myelitic changes. Partial recovery then followed, the right limb regaining more power than the left.

I have thus run over a few out of a large number of cases of injury in the region of the brachial enlargement of the cord, and hope that I have been able to show you that in all cases, however complex the symptoms may appear, we are able, by means of a careful consideration of the distribution of the paralysis and anæsthesia to obtain a definite diagnosis. In this way many of the cases usually described as "concussion" of the cord may, I believe, be much more accurately diagnosed. Of a total of about 350 railway accidents of all kinds and 50 spinal injuries due to various causes which have come under my observation, I have never yet seen an instance in which *spinal* symptoms were present where I could not definitely postulate some gross injury—fracture, hæmatomyelia, meningeal hæmorrhage, myelitis, meningitis, or sprain with pressure upon certain nerve roots, without requiring to fall back upon the unknown "molecular" changes supposed to constitute concussion, and hence I am strongly led to believe that such observation will enable us to detect many cases of imposture, in which symptoms are irreconcilable with any definitely localisable lesion.

THE Birmingham Hospital Sunday collection amounts to £4,455 13s. 4d.

TOXICOLOGICAL MEMORANDA.

LARGE DOSES OF MORPHINE.

In conjunction with the case reported under the above heading in the JOURNAL of December 8th, I think the following will prove of interest.

E. F., a married woman, aged 36, came under my care as a home-patient of the Royal Surrey County Hospital in the beginning of March, 1882. She was suffering from carcinoma uteri, and was confined to bed. For the relief of pain, which was severe and constant with recurring paroxysms, she was taking 12 minims of chlorodyne in a mixture three times a day, and two or three grain opium pills in the twenty-four hours, and an occasional dose of half a drachm of tincture of opium in a draught.

On March 15th a pill containing 3 grains of opium was ordered to be taken occasionally, as well as the chlorodyne mixture. On April 3rd 3 grains of acetate of morphine in a pill was ordered instead of the opium, and a mixture containing citrate of iron and ammonia with tincture of nux vomica and infusion of calumba instead of the chlorodyne mixture. On April 10th the patient was ordered to take the morphine pill regularly three times a day, and on April 14th to take it four times a day, and on April 21st five times a day, and on May 17th the pill was ordered to be taken every four hours, so that the patient was now taking 18 grains of acetate of morphine in the twenty-four hours.

On May 23rd 4 grains was put in each pill, and on June 7th this pill was ordered to be taken seven times in the twenty-four hours. On June 21st two pills, each of which contained 3 grains of acetate of morphine, were ordered to be taken every four hours, so that the patient was now taking 36 grains in the twenty-four hours. On July 11th two pills, 3 grains in each pill, were ordered to be taken seven times a day, and on July 17th two pills, each containing 5 grains of acetate of morphine, were ordered to be taken six times a day. On August 26th a mixture containing half an ounce of liquor morphiæ was ordered to be taken three times a day, in addition to the pills, so that the patient was now having 66 grains of acetate of morphine in the twenty-four hours. This she continued to take until she died on September 12th.

REMARKS.—In this case the morphine was given in the form of pills instead of by subcutaneous injection, because the patient could not be trusted to give herself the injection, and it was easier to control the administration. Beyond the relief of pain, which was almost complete, no other effect was produced by these large doses of morphine. There was no more constipation than might be expected from the loss of appetite and confinement to bed, and a teaspoonful of the compound liquorice powder always had the effect of moving the bowels. At one time ergot was necessary for the control of hæmorrhage, and there were two slight attacks of cystitis, for which alkalies and henbane were given. The skin was dry, harsh, and very dark. Where a patient is suffering from an incurable disease, especially if of a cancerous nature, it seems to me that the medical attendant often gives anodynes far too grudgingly, and if the drug is freely supplied, an overdose is much less likely to be taken. RYDING MARSH, M.D. Lond.

Brighton.

OBSTETRIC MEMORANDA.

A CASE OF QUADRUPLETS.

ABOUT one o'clock on November 3rd I was summoned to attend Mrs. McG., who had been suddenly seized with labour pains; when I reached the house, I found her on her hands and knees on the floor, with a child just newly born with its cord still unligatured. This having been done in the usual way, I got the mother placed in bed in the usual obstetrical position. The pains were extremely feeble at this time—in fact, all but absent—but she informed me she thought "there was still another child to come away."

On examining the abdomen externally, great distension could be observed, and a considerable amount of bulging and irregularity visible, giving me reason to believe I had to deal with a case of twins. On examining digitally, I found in the first place that the perineum had been lacerated, which she afterwards told me had been done at a former labour by an unskilled midwife, of whom we have quite a plethora in this town. High up in the vagina the smooth surface of a second sac could be distinctly felt, and as the descent seemed protracted, owing to the absence of any uterine effort, this I carefully ruptured, and a second child was born and ligatured in the usual way. A few minutes after this the pains reappeared, but only feebly, and on examining, a third amniotic sac could be felt. Owing to the weakness of the pains this I again ruptured. A third child was born. The pains shortly afterwards became more pronounced, and again membranes could be felt. In this case the fourth child was quickly expelled, the membranes only being torn as the head passed from the vulva.

In this case it may be noted that the vertex presented in each case, that each child was contained within its own amniotic sac, that each child was born alive, and that they were all about the same size, measuring about 12 to 13 inches long, and weighing from 2½ to 3 lbs. They were all perfectly formed in every respect, even to the nails on the fingers and toes.

There was only one placenta, but it was an extremely large one, oval in form, and measuring about 17 inches long by about 9 inches in width; the umbilical cords (on which a distinguishing knot had been placed at each birth) were all of an average thickness, and were all implanted by a common trunk near to its centre, each bifurcating close to its fœtal surface. I had no difficulty whatever in removing the whole mass entire, and the mother sustained no more than an average loss of blood, and has since made an excellent recovery. There is really nothing worthy of remark concerning either of the parents, who are people about 35 years of age, and on neither side is there any history of plural births.

It is quite clear to my mind, judging from the date for which I was engaged to attend her, and from the mother's calculations, that the labour took place about a month before full term, this being doubtless due to the great distension setting up premature reflex action.

The children, it is hardly necessary to add, all died soon afterwards, the last two being rather weaker, living for twenty and twenty-one hours, and the first two for forty-three and forty-four hours. They were all too weak to take the necessary nourishment, which had to be given by the spoon, and after the impetus from the mother had subsided, they died of inanition.[1]

Monkwearmouth. W. SOMERVILLE, L.F.P.S.G.

REPORTS

ON

HOSPITAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

SUNDERLAND INFIRMARY.

CASE OF EXTRA-UTERINE FŒTATION.

(Under the care of Mr. T. F. HOPGOOD, Surgeon to the Sunderland Infirmary, etc.)

MRS. H., aged 31, came to consult me on May 28th, 1888. She said she had had several children, and that she was three months pregnant, and that, for the last day or two, she had had a quantity of discharge and considerable pain, and that she was afraid she was going to "part with it." I ordered her to keep quiet and take a mixture of opium and sulphuric acid. The next day her mother came to say the discharge was much better, but that she was in great pain. Chlorodyne was added to the mixture, and if she was no better her mother promised to let me know, and I would see her at home. This I did on May 30th, when I found her suffering from intense pain, with considerable discharge of clots the size of a two-shilling piece. There was increase of temperature, and great distension of the abdomen. Her countenance was anxious, and her pulse was 120. She lay on her back, with knees drawn up, and unable to turn in bed without help.

Upon vaginal examination the os uteri was found soft, and behind the uterus could be felt a swelling of irregular shape. The vagina was full of clots of blood, and there was a free discharge of blood going on.

A mixture of ergot and sulphuric acid was ordered, and morphine pills to relieve the pain. She continued to improve under this treatment until June 9th, when she appeared quite well, but violent pain came on again in the bowels, with severe flooding and violent sickness. The temperature rose to 104° F. There was

[1] I had the honour a few days afterwards to receive from Her Majesty on behalf of the mother a donation of £3.

great pain over the whole abdomen, with tympanites, and severe vomiting, everything having returned.

Upon vaginal examination the enlargement behind the uterus had increased in size, and was tender on pressure. Ordered to apply poultices over abdomen. Effervescing mixture with morphine and hydrocyanic acid, and pil. morph. every four hours.

As I felt convinced that this was a case of extra-uterine fœtation, there being present flooding, signs of peritonitis, milk in the breasts, and the enlargement behind the uterus, which had increased in size, I determined to pass the sound into the uterus. This I did on the following day, June 10th, when I found the uterus slightly increased in size, and not so movable as normal. Hæmorrhage was not increased upon passing the sound. From this time the sickness left her, the pain gradually became less, the temperature fell to normal, and she once more was up and about; but she was cautioned, and told that her case was a serious one, and that if there was any return of the pain and flooding, something more must be done to relieve her, and I would advise her to go to the infirmary. From this time until her admission into the infirmary she had pain now and again, and more or less loss of blood. It was brown at first, but afterwards became redder again.

She was admitted into hospital on July 7th, and the house-surgeon, Dr. Gray, reported:—

"Has had four confinements, last four years ago. The first three children are all healthy, the last died of spina bifida or hydrocephalus. Was well until eight weeks ago, when she was seized with pain in abdomen, accompanied with hæmorrhage from vagina; the pain was griping in character. Seven weeks ago it began again, with severe loss of blood, when Dr. Hopgood was sent for. The patient has not noticed any change in the breasts lately. The bowels irregular, require aperients occasionally. Lysuria at times. Sound passes two inches and a half. Uterus normal in position. Fulness in Douglas's pouch, which is ridged to the left side; there is a swelling, hard and tender, upon pressure.

"July 10th. During the afternoon of this day the patient has suffered considerable pain in the abdomen, and has been slightly sick. Temperature did not increase. There is considerable discharge.

"July 11th. The pain continued through the night. Swelling in Douglas's pouch not so prominent. Sickness in afternoon. Still a little hæmorrhage.

"July 13th. As she was not so well in the morning, pain having increased, abdominal section was performed in the evening at 5 P.M. Chloroform was administered. Upon opening the abdomen a clot was found loose amongst the intestines. A cyst was felt, and was opened, and contained some recent clots, and also some old ones. The Fallopian tubes seemed to have been the seat of a tubal pregnancy, which was ruptured, and a secondary sac was found, and this had again ruptured. It contained a firm plum-coloured mass, which appeared to be part of the placenta. No fœtus was found. The sac behind Douglas's pouch contained *débris*. A portion of the sac was adherent to the intestines. Upon introducing the hand blood flowed freely from the sac behind the uterus, but ceased when the uterus was let fall into position. The sac adherent to the intestines was stitched to the abdominal wound, the remaining portion of the wound was closed, with the exception of the lower angle, through which a glass drainage-tube was inserted. Morphine sup., gr. i, was introduced into the rectum. The parts were dressed with dry dressing and iodoform. 10 P.M. Pulse 90, temperature 96.3°. Two ounces of blood in sponges and tube. Complains of little pain.

"July 14th. Pulse 102, temperature 99.0°, evening temperature 98.2°. Dressed twice in the day. Little blood removed, about two drachms, in the evening.

"July 15th. Dressed once. Small quantity of blood removed; a small quantity of calcareous matter came through the tube. Two stitches removed.

"July 16th. Glass tube removed and gutta-percha tube introduced, as it was considered the moving of glass tube had caused a little more hæmorrhage. Complains of cough; slight bronchitis present. Ordered ipecac. and chloric ether mixture.

"July 18th. Enemas stopped as patient is taking food by mouth. Remaining sutures removed from abdominal wound. Drainage-tube removed also.

"July 20th. Allowed fish, milk, and beef-tea. The abdominal wound is healed, excepting over site of sac, which is now healthy and granulating. From this time the patient continued to improve until now, August 12th, when she is quite well."

There are several points of interest in this case—namely, the rupture of the Fallopian tube, which, no doubt, took place when I first saw her, when she was suffering from an attack of peritonitis. After this a new sac formed around the partially separated placenta, and connected with the intestine; and, lastly, the finding of no fœtus.

The fact of severe hæmorrhage upon disturbing the parts contra-indicated any great search after the fœtus. Another interesting point was the peristaltic action of the portion of the intestine joined to the sac when the wound was dressed, and the fear of a formation of a hernia in this part, but such has not been the case, for the seat of the wound is as firm or firmer than in all cases of abdominal section.

The temperature fell after the operation to 96.3°, and rose to 100° on the fifth day, after which it was never above 99°.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

FRIDAY, DECEMBER 14TH, 1888.

W. H. BROADBENT, M.D., F.R.C.P., President, in the Chair.

Aortic Aneurysm Rupturing into the Descending Vena Cava.—Dr. C. ARKLE and Dr. J. R. BRADFORD contributed this case. The patient, J. W., aged 61, shoemaker, was admitted into University College Hospital, under Dr. Ringer, October 20th, 1887, complaining of pain in the chest and difficulty of breathing. History: He had enjoyed good health up to February, 1887, when he began to have attacks of pain in the right mammary region. This was also accompanied by dyspnœa on exertion. There was no history of syphilis or rheumatism. He had had winter cough for six years. Present state: There was great cyanosis of the face; and a collar of œdema round the neck, with great œdema of the right arm, and slight œdema of the chest on the right side. The abdomen and the legs were quite natural. There were dilated veins at the borders of the sternum, and lower margin of the thorax. The respirations were 40, laboured. Pulse 106. The chest was rigid, barrel-shaped. There was visible pulsation in the second and third right interspaces. The heart's apex beat in the sixth space, just outside the nipple line. A systolic thrill was felt over the area of visible pulsation, and on auscultation over the same area a loud murmur was heard. The murmur was harsh in character, occupied both systolic and diastolic periods, but had an exacerbation in its intensity during the systole. It never became inaudible, but existed during the whole of the cardiac cycle. The urine contained a trace of albumen. The day after admission the patient got out of bed, and on the nurse reaching him he was found to be moribund. At the *post-mortem* inspection a large aneurysm of the ascending and transverse portions of the arch of the aorta was found, communicating with the vena cava superior about one inch and a-half from its commencement by a small opening, evidently of some age. A second aneurysm was found at the junction of the thoracic and abdominal aorta. The collateral venous circulation, arising from obstruction in the vena cava superior, was dissected out and described. Remarks: 1. The rarity of the occurrence—Seven cases were mentioned by Dr. Peacock in vol. xix of the Pathological Society's *Transactions*. Dr. F. C. Turner reported a case occurring at the London Hospital in 1885; and in 1887 Dr. Gulliver showed a similar case at the Pathological Society. These two cases were to be found in vols. xxxvi and xxxviii of that Society's *Transactions*. 2. The question as to when the rupture occurred: This probably took place ten days before death, when the patient was seized with sudden pain in the neck, and rapidly became very cyanotic, with extreme œdema of the neck and right arm. The characters of the opening with its rounded edges did not agree with the hypothesis that it occurred at the time of death, and would fit in much better with the view that it occurred some ten days previously. 3. The significance of the murmur heard over the aneurysm during life: The murmur was continuous, but diminished in intensity during the last part of the diastolic period, and increased during the systole. It had a peculiarly harsh quality, resembling the *bruits* described in the case of arterio-venous aneurysms occurring elsewhere.—The PRESIDENT asked whether the vena cava was occluded below the point of rupture. In what degree was it patent or obliterated? Apparently the chief force of the aortic blood-stream had been directed into the veins of the right upper half of the body.—Dr. HADDEN had seen two cases, which were under Dr. Bristowe's

care, and had made a *post-mortem* examination in one of the cases. In both cases there was the double murmur mentioned in the paper, which he considered almost diagnostic. The only condition liable to be mistaken for it was a very vascular growth.—Dr. C. TURNER said that in his cases the vena cava was completely obstructed by the aneurysm.—Dr. OLIVER (Newcastle-upon-Tyne) met with many cases of aneurysm in his part of the country. He had not seen a case exactly like this one, but had known the aneurysm to rupture into the right auricle. He inquired if inequality of the pupils had been noticed in such cases. He had seen it in atheroma of the aorta, and thought it might be due to the fact of branches of the sympathetic nerve going to the heart being stretched and irritated.—Dr. FINLAY had never found a diastolic murmur over aortic aneurysm, except when the aortic valves themselves were also incompetent.—Dr. ARKLE, in reply, said that the vena cava was not occluded between the aneurysmal opening and the heart.

Cause of Speedy Death in Heart Disease.—Dr. OLIVER (Newcastle-upon-Tyne) read a paper on this subject, in which he drew attention to gastro-enteritis as a not infrequent cause of the rapidly fatal termination of cardiac disease. He gave a brief record of three cases out of seven or eight which had come under his notice within the last few years. The patients were all upwards of 30 years of age, were all men, and in none of them, either from the previous history or during the course of the illness, could anything be found likely to lead one to suspect that death would be induced by the setting up of a rapidly fatal form of gastro-enteritis. In all the symptoms were of an acute character; they frequently developed very quickly, and death preceded by collapse occurred either in a few hours or within a few days. The first symptoms complained of were pains over the region of the stomach, and vomiting. Although aortic and mitral regurgitation were the forms of cardiac disease present in all his cases, Dr. Oliver was not inclined to exempt other forms of heart disease from the tendency to end thus. Convallaria had been the drug taken during life by most of the patients; but as death from gastritis had occurred in some of his cases in which digitalis alone had been taken, while in others no cardiac tonic at all had been prescribed or taken, it was clear that convallaria, even in those cases where death had ensued, was not altogether to blame for the gastritis. The writer thought that heart disease and gastro-enteritis stood in some obscure causal relationship to each other.—The PRESIDENT considered the Society much indebted to Dr. Oliver. He thought this mode of death might be more common in cases of cardiac disease than was generally supposed. He would ask how far the *post-mortem* records of hospitals bore out Dr. Oliver's views?—Dr. ANGEL MONEY said it was not rare to find the gastric mucous membrane covered with slime and red with points of vascular turgescence in cases of chronic heart disease. He had noticed vomiting and chronic diarrhœa, with a perfectly clean tongue, in some cases of heart disease.—Dr. BARLOW thought that some of the most fatal cases which he had seen had been those in which the tongue was absolutely clean. He would have liked to have seen the state of the stomach in Dr. Oliver's cases. He himself showed a specimen removed from a child suffering from aortic and mitral disease, who had died from uncontrollable vomiting. After death there were found to be hæmorrhagic ulcers in the stomach and duodenum, one of which had almost perforated. Often, however, nothing was found to account for the symptoms. He was not quite satisfied as to the accuracy of Dr. Oliver's explanation.—Dr. MORISON inquired whether Dr. Oliver's patients had been subject to attacks of vomiting, or whether these were solitary attacks in the course of a long illness. He suggested that the vomiting was probably reflex and the congestion secondary, and doubted if death was due to the gastric condition.—Dr. PERCY KIDD mentioned the case of a young woman, very anæmic, suffering from mitral stenosis, who had symptoms of gastritis, and whose symptoms had on several occasions been completely relieved by digitalis or strophanthus, given in small doses for a week or two.—Dr. K. FOWLER asked whether any microscopical examination had been made of the heart muscular fibre. In a recent paper in the *Practitioner*, several cases of chronic heart disease had been attributed to fatty degeneration of the cardiac muscular substance. Why was acute gastritis diagnosed in Dr. Oliver's cases?—The PRESIDENT said that in cases of long-continued blood-stasis from mitral disease the congestion of the viscera was great, and the vomiting that went with it was common enough; but such were scarcely cases similar to those described in Dr. Oliver's paper. It must not be forgotten, too, that embolism of the abdominal vessels was not rare in cases of heart disease.—Dr. OLIVER, in reply, said that the gastritis he had mentioned was not that of long-standing heart disease. He had seen the stomach in many cases of that kind. In his cases the stomach was markedly red, inflamed in patches, without there being much aortic or mitral regurgitation. Neither had the gastritis been caused by the drugs used; it appeared to come reflexly from the heart itself.

Form of Eruption Allied to Kaposi's Disease and to Prurigo Estivalis Adolescentium.—Mr. JONATHAN HUTCHINSON read this paper. The case upon which it was chiefly based was that of a lad who had been under the observation of the author from the age of 8 to that of 20. It was illustrated by a portrait taken at the former age, which showed the face covered with vesications which ulcerated and left scars. The eruption was especially severe in the ears, but it affected, in addition to the whole face, the backs of the hands, and at times sparingly the whole body. It had begun at the age of two, by vesications on the face and hands, and it had been remarkable throughout its course for a tendency to relapse in summer. In winter it usually got well. During six years under Mr. Hutchinson's observation it had never been wholly cured, excepting in cold weather, but the attacks, quite independently of treatment, became less and less severe, and finally ceased. The lad had now for more than a year been nearly well, but his face was scarred all over as if from severe small-pox, and his ears were reduced to gristle covered by thin scar. Through the whole of this long liability to skin disease, the lad remained in good health. He never suffered from ordinary chilblains, but the spots on his hands ulcerated and left small scars. There were in the family other brothers and sisters, but none of them suffered in a similar manner. Mr. Hutchinson said that he brought the case before the Society, partly because after a very long duration it was now complete, whilst the excellent portrait by Burgess enabled all to realise its original condition, but chiefly because it showed, he thought, a connecting link between Kaposi's disease and certain other maladies. Essentially it was an example of a vesicating inflammation of exposed parts produced by exposure to sun. The essential feature of Kaposi's disease was the same liability, but the morbid changes proceeded to yet greater lengths. It was, however, unwise to isolate extreme forms of disease, and disassociate them wholly from those of lesser severity which led up to them. Another alliance which the present case had, and one perhaps more close, was with what the speaker had many years ago described as prurigo adolescentium, or prurigo æstivalis. Although it seemed somewhat absurd to call a condition attended by large vesications as in the present instance, a prurigo, yet he felt sure that all graduations might be found between the two maladies. As an illustration of this latter affection he referred to a portrait published by the New Sydenham Society. In that case, as in this, a young boy was attacked by an erythematous papular eruption on the face and hands, which was always worse in summer, which troubled him from infancy till the age of twenty, and finally left him covered with scars. Mr. Hutchinson had seen many similar but less severe examples of the same. One which he believed to be similar had been shown by Dr. Perry at a meeting of the Dermatological Society. In it also the patient had got rid of the disease on completing adult age, but with the ears much damaged, and the face covered with little scars. The cases differed from Kaposi's disease in that there was no tendency to freckles or stigmata. He did not by any means contend that they were identical with that malady, but that they were interesting and important examples of an allied condition, or in other words, of a disorder of the same regions induced by similar causes. He believed that the condition had not yet been described excepting in connection with the New Sydenham Society's portrait, which, although similar, was not an exact parallel.—Dr. MONEY had never seen the eruption so severe as in Mr. Hutchinson's case. He thought it was very similar to the condition produced in many people who climbed snow mountains in the summer. In some cases he had witnessed there was a very marked neurosis, and he would ask if Mr. Hutchinson had noticed this in his case.—Mr. G. EASTES remarked that the eruption in the portrait sent round by Mr. Hutchinson was as marked on parts of the skin covered by clothes as on exposed surfaces; a fact which scarcely agreed with the supposition that the eruption was caused by exposure to the sun.—The PRESIDENT remarked that the cases were examples of a special tissue idiosyncrasy. Had the affection been one of the gastric or pulmonary mucous membrane, it might

have carried off the patients.—Mr. HUTCHINSON, in reply, said that the rash began on parts of the body exposed to the sun, and then spread to other parts, as in Kaposi's disease. It was not due to the sun alone, but to the heat of the weather as well; in fact it was a summer, not a sun, eruption. He had not found any special neurosis in members of either of his patients' families.

Circumscribed Scleroderma (Addison's Keloid), with Remarks upon the Etiology of the Disease.—Dr. BISS described this case. The patient was a girl, aged 15, who was also the subject of congenital stenosis of the pulmonary artery. She had never suffered from any illness except whooping-cough until four years ago, when a whitish indurated patch appeared on the outer side of the right arm a little above the elbow, which had gradually extended up to the shoulder, following, roughly speaking, the course of the musculo-spiral nerve. Vascular mottling was observable around the indurated patch and pigmentation like that of a fading bruise, especially at the upper (newest) part. Occasional itching had been felt in the affected region, with frequent cramp-like pain running down to the fingers, and on a few occasions, flexor spasms of the index finger and thumb. The muscles adjacent to the skin lesion were much wasted, especially the deltoid and triceps; and some wasting, though to a much less degree, had taken place in the extensor muscles of the forearm. No other portion of the skin in any situation was altered. Tactile sensibility was preserved in the affected area, all the motions of the limb were easily and perfectly performed, but the grasp of the hand appeared to be somewhat weaker when compared with its fellow. The faradic excitability of all the muscles was unaffected, as also their galvanic reactions. A loud, rough systolic *bruit* was heard all over the precordia, most intense at the second left cartilage, but not conducted into the carotids; and there was a definite impulse at the lower part of the sternum. The second sound was clear in every situation, and free from *bruit;* nothing abnormal was found in any other organ. The treatment was the administration of liq. arsenicalis, with galvanism and massage, daily, of the whole limb, but no improvement was noted. The possible etiological relations of the disease were briefly discussed, it being supposed that intra-uterine endocarditis of rheumatic origin was the cause of the pulmonary stenosis found in this patient. The coincidence of rheumatism and of valvular lesions, noted by other observers, was alluded to; as also of cold and wet having been in some cases noted as the apparently exciting cause of scleroderma. The fibrotic indurative character of the lesions was compared with those characteristic of rheumatism, and the influence of that disease upon the lower layers of the integument, as in erythema nodosum, and the subcutaneous nodules noted by Dr. Barlow and other observers was quoted. The neurotic theory of causation was briefly examined; the asymmetry of the lesion, its correspondence with the course of the musculo-spiral nerve, the wasted muscles being those supplied by that nerve and its branches, and the sensory and motor symptoms connected with the area of distribution of those nerves were pointed out as links of evidence possibly indicating neurotic influence. The cause of the muscular atrophy was then considered, and after central and peripheral nerve-causes had been discussed and set aside, it was contended that the contraction of the sclerotic tissue formed upon and between muscles, nerves, etc., and the pressure thus brought to bear upon the nerves, blood-vessels, and lymph channels of the affected parts, was the true explanation of this atrophy.—Mr. HUTCHINSON said that his experience would not bear out the idea that any connection existed between the disease and rheumatism. He did not think it began in connection with any special exposure. Diffuse scleroderma often occurred after cold, but not that limited form of the disease. No hypothesis whatever had been suggested to him by the friends of his patients. The only remarkable feature worth mentioning was the manner in which the disease was always limited to the area first attacked, with only the very rarest exceptions. It never spread. He thought the atrophy in the subjacent muscles was due to something more than the pressure of the skin. Some nerve influence was present to cause the defect, and this was proved by the concomitant existence of atrophy of nerves, bones, etc. The atrophy was only absent in slight superficial cases, occurring in elderly people. The severer cases occurred early in life. There was doubtless much nerve affection, but he did not think that was due to pressure on the nervous system itself. He mentioned that he had never met with a perfectly bilaterally symmetrical case of the local disease: it might be bilateral, but even then was far from symmetrical. The diffuse form was often symmetrical. He ascribed the lesion to some central influence brought to bear on the vasomotor nerves, just as in herpes zoster the sensory nerves were attacked. He had seen a few cases of herpes zoster in which the affection was bilaterally symmetrical.—Dr. BISS, in reply, explained that he did not wish to convey that the atrophy was caused by skin pressure alone, but by extension of the process deeper between the muscles and to the nerves. In support of the hypothetical association with rheumatism, he quoted a case from Addison's recorded cases, in which the outbreak of the disease followed closely on exposure.

Living Specimen.—Mr. JOHN H. MORGAN showed a patient, aged 19, who 4½ years ago received a compound comminuted fracture of the skull, two inches above the external angular process of the right parietal bone. He was not unconscious after the accident, but after reaching home on foot became insensible, and remained so for three or four weeks. Several small pieces of bone were removed by the surgeon, and fifteen others came away with discharges. A week or fortnight after regaining his senses he had his first fit: others had since occurred at frequent intervals, becoming more frequent until in the past year there had been one or two daily, and before the operation he had ten and twelve fits daily. The fits lasted from a few seconds to two minutes or more; there was no aura, and he was not always unconscious; there was sometimes foaming at the mouth; there were general convulsions followed by rigidity. He did not bite his tongue or pass urine. The optic discs were normal. *Operation.*—On July 19th an irregular quadrilateral of bone was removed and an almost equal expanse of dura matter, together with the cicatrix of dura mater and adherent portion of the brain. The wound healed perfectly. He had no fits for three weeks, when they recurred and had continued, but less severe and less frequent than before.

PATHOLOGICAL SOCIETY OF LONDON.

TUESDAY, DECEMBER 18TH, 1888.

WILLIAM MORRANT BAKER, Esq., F.R.C.S., Vice-President, in the Chair.

ADJOURNED DEBATE ON MORBID ANATOMY AND PATHOLOGY OF CHRONIC ALCOHOLISM.

Dr. DICKINSON showed a drawing of a liver with enormous increase of connective tissue. He insisted on the overgrowth of fibrous tissue as the essential part of cirrhosis of the liver and of granular degeneration of the kidney. He had often seen what appeared to him to be irresistible evidence of this new growth in the cirrhotic liver and granular kidney of childhood, where the new growth was very profuse and highly nucleated. He had satisfied himself that new vessels were developed in this new tissue. Whatever might be the minute anatomy of cirrhosis of the liver, there could be no doubt as to the effect of alcohol in causing it. In the course of the circulation alcohol reached the liver first, and the kidney only after distance and dilution. In a comparison between 149 persons whose occupations made them conversant with drink —potmen, brewers, etc.—and the same number of persons not so conversant, cirrhosis of the liver presented itself in 22 of the traders in drink, in 8 of the others. Thus the evidence as regards the liver was clear enough, and might be taken to imply also that the class regarded as the more intemperate were not suspected without reason. With regard to the kidney there was no such evidence; the total of renal disease was not greater in the drink class than in the others, while granular degeneration in particular was only slightly increased—31 against 27. A similar conclusion was reached by examining persons dead of delirium tremens, with whom renal disease was not more frequent than in persons taken by chance who had died from accident. The effect of alcohol on the kidney was not to be entirely ignored, but had been overrated. The fact appeared to be that the liver was acted on chiefly by alcohol, the kidney by a variety of causes, of which alcohol might be one, the others being heredity, climate, gout, lead, etc., upon which it would be foreign to the present purpose to dwell. A point of interest as between the liver and kidney was the fact that the two seldom became fibrotic together. Only one-seventh of persons with granular kidneys had cirrhosed livers, showing that the two diseases were probably due to different causes. Next, as to tubercle as a result of alcoholism; the observations already referred to showed a greater frequency of tubercle in every organ liable to it in persons trading in drink as compared with others. In the lung this amounted to a proportion of three to two; in other organs the preponderance of tubercle

with drink was still greater, so that no doubt could be entertained that drink promoted tubercle, instead of, as had been thought by some, preventing it. In conclusion, another point of view was proposed to the Society. Alcohol undoubtedly caused many diseases. Were there none, or no morbid conditions, which it tended to prevent? Good health was a medium state, neither too little nor too much of anything; not too much fat or too little, the brain not acting to mania, or sluggish to melancholy; the heart not overstimulated or over-inhibited; the bowels regular, not too active; the urine sufficient, but not profuse, and so on. Thus if alcohol caused a departure from health in one direction, might it not prevent departure in an opposite direction? If alcohol prevented oxidation, it should be good where oxidation was in relative excess. In short, as alcohol produced some disorders, might it not prevent their contraries, if such there were? In the cases spoken of, drink appeared to retard adhesive and plastic processes, and replace them by suppurating ones. It was conceivable that this, though generally injurious, might in certain circumstances be beneficial. The facts indicated that endocarditis was less frequent in the drink traders than in others. Without pretending to speak otherwise than doubtfully on these points, they were suggested for the consideration of the Society.

Dr. BUZZARD would not discuss the clinical aspects of alcoholic neuritis, which were now very generally recognised, except to draw attention to the fact that alongside of the complete immunity of the functions of the bladder and rectum usually observed in these cases, there was in females an almost constant suppression of the catamenia during the many months of illness usually involved. He had not seen any reference to this circumstance, which had forced itself upon his attention in numerous instances. Agreeing with Dr. Payne that the accleration of the heart's action was probably due to lesion of the vagus, he suggested that the pneumonia which occasionally terminated cases of this kind, might probably be due to a similar cause. Dr. Payne had referred to the two kinds of microscopical changes in the peripheral nerves, and had remarked that, although very generally the changes were found together, sometimes the signs of parenchymatous degeneration, at others those of interstitial inflammation predominated. Both, however, he had gone on to say, he believed to be produced by the direct action of alcohol. Dr. Buzzard could not acquiesce in this view. He pointed out that we had not to do here with universal or even very widely spread changes in the nerve fibres. As a rule, where death had given the opportunity of observation, it was found that the spinal cord, the roots of nerves, the plexuses and the proximal portions of the nerve trunks to the extremities were perfectly free from pathological changes, which were confined, to a greater or less extent, to the periphery of the nerves. This surely was not what might be expected as a result of alcohol in the current of the blood, permeating equally all tissues of the body. Moreover, although, as Dr. Payne had justly remarked, the parenchymatous and interstitial changes usually went together, they did not always do so. The exceptions, indeed, pointed out by Strümpell and others were so striking that it had been seriously suggested by Erb that we had to do with two distinct diseases—a degenerative atrophy of peripheral nerve fibres and an interstitial neuritis having no connection with the former. Were the action of alcohol direct, the exclusive affection of one structure was hardly conceivable, especially as the fatal issue showed that the cases in which this occurred were of severe, not slight character. Dr. Buzzard had long felt that notwithstanding the absence of observable lesion, there was probably some change in the cord which brought about the coincident and limited affection of the periphery of so many nerves, and some years ago (Harveian Lectures, 1885) he had suggested that it was upon vasomotor centres in the bulb and cord that the toxic action of the alcohol was primarily excited. It was of common observation that the commencement of alcoholic inebriation was flushing of the face, indicating that the cervical sympathetic was becoming paralysed. This was a temporary and passing influence. One would conceive that the effect of repeated and, so to speak, permanent toxic action of the same kind would be to cause more or less enduring alteration in the calibre of minute arteries; those in which the muscular element was relatively most developed. These belonged to the periphery of the arterial system, and corresponded generally with the periphery of nerve fibres. It was conceivable that the supply of blood to the periphery of nerves might in this way be modified by an irritative influence excited by alcohol or vasomotor centres in the bulb and cord, and according as certain sets of vasomotor or vasodilator fibres were affected, the tone of a vascular area would be changed in the direction of constriction or dilatation. Notable diminution of blood-supply long continued would occasion starvation and degeneration of the elements of nerve-fibre, whilst arterial dilatation would cause blood-stasis and inflammation. The limited œdema so often observed in cases of alcoholic neuritis bore concurrent testimony in favour of this view. Dr. Buzzard concluded by discussing the etymological meaning of the term "itis." Professor Kontos, the greatest living authority, had told him that it had a merely adjectival significance, that one must consider some such word as the Greek "nosos," "disease," understood. Neuritis would thus mean simply disease of the nerves; myelitis, disease of the cord, without specially signifying inflammation.

Dr. PITT read an essay based on the *post-mortem* records of Guy's Hospital during the last twenty years, which seemed to show the following facts: That the greater number of cirrhotic livers were large livers owing to the presence of fat; that death occured in such cases at about the age of 46 years, whereas the owners of small cirrhotic livers lived about 3 years longer; that in hard drinkers about 50 per cent. had hypertrophied kidneys, but without showing morbid change, and that in only 25 per cent. had the kidneys undergone morbid change; that in as many as 22½ per cent. of those dying with cirrhosis, acute tuberculosis had been found *post mortem*, and that the younger the patient with cirrhosis was, the more liable was he to have tubercle as well; that three cases of acute yellow atrophy appeared to have been due to alcohol; and that he had also twice seen sections from cirrhotic livers which showed changes similar to those occurring in acute yellow atrophy; that cancer had once occurred in a cirrhotic liver. With reference to other diseases which seemed to have some relation to alcohol, there had been three cases of acute cerebral meningitis, one of suppurating meningitis, and three cases of pachymeningitis.

Dr. FINLAY said that the appearances presented by the microscopic specimens which he was showing bore out in detail much of what had been said by Dr. Payne as to the pathological changes found in certain parts of the nervous system in alcoholic paralysis. The specimens were furnished by two patients who died in the Middlesex Hospital, the one being a female, aged 28, the other a male, aged 51. They were typical cases of the disease, both as regarded history and symptoms. The specimens belonging to the first case were a transverse section of the plantar nerve, in which were seen degenerative changes in most of the nerve fibres, with great thickening of the perineurium and general infiltration with leucocytes. He had depicted the appearances seen in drawings which he exhibited to the Society. A longitudinal section of the same nerve showed enormous increase in the nuclei of the nerve sheaths and infiltration with leucocytes. A section of one of the extensor muscles of the wrists showed a very remarkable appearance; the muscle fibres were wasted, and the interstitial spaces crowded with leucocytes and nuclei. Appearances very similar in character were found in the second case. Sections of the cord were shown, and they were healthy, though he did not deny that degenerations there might occur. The pathological changes found in the nerves were as complete in cases in which the cord seemed perfectly healthy as in those in which changes had been reported. The fact of changes being found in the vagus was an interesting one; he had found it once, and so had Dr. Sharkey, and the great acceleration of pulse from 72 to 160 in a few days brought the pathological changes into line with the symptoms in an instructive way; the same remark might be made as regarded the phrenic nerve. In the first he examined he found no change, notwithstanding that the diaphragm was paralysed, but that was probably because he did not take the section of the nerve near enough to the muscle. In a later case he found well-marked change near the diaphragm. In reference to the question of the order of the changes in different parts of a nerve he would submit whether, on the whole, the probability was not in favour of the parenchymatous change being first, and the inflammation of the perineurium secondary. He thought this from the fact that of the cases which he had observed, the one of longest standing was the only one which showed marked inflammatory appearances in the surroundings of the nerve and in the muscles. The degenerative appearance in the parenchyma of the nerves was equally marked in all. One of the most interesting points in connection with alcoholic paralysis was its association with tubercular disease. He thought this a causal connection, and he believed the excess in alcoholic indulgence led to both. It was quite true that persons suffering from phthisis, or having a tendency to the

disease, might be benefited by a certain amount of alcohol, but this was the regulated use of alcohol, and was a very different thing from the Bacchanalian bouts of drinking indulged in by the patients whose organs were now being discussed. Besides this latter kind of drinking might be the cause of other lapses from morality and hygienic conditions of life which might reduce vital power and determine the access of phthisis, especially in persons predisposed to the disease. In conclusion, he said he had been brought into contact with five cases of alcoholic paralysis of great severity, and of these four had died and one had recovered. Of the fatal cases two had phthisis and two had not. The liver was fatty and cirrhotic in all, and the nerve roots unaffected. Of course, it was impossible to generalise from a small number of cases, but the aggregate of experience brought forward would help towards some valuable generalisations, and could not fail to be useful to future workers in the investigation of the pathological changes produced by alcohol on the nervous system.

Dr. SAVAGE said: I approach this subject with some diffidence when addressing the Pathological Society, as my experience is chiefly clinical, yet I presume that there is a pathology beyond mere rags and tatters of humanity, and I shall address myself, in the few words which I have to say, to the more general side of the pathological effects of alcohol on the nervous centres, more especially on the higher or mental centres. During the past seventeen years, out of 4,000 patients admitted into Bethlem of whom I have records, only 133 have given drink as the cause of their insanity. This is a very small proportion, and is not to be considered as at all representing the proportion of insanity produced by excess of stimulants; but in Bethlem, the patients being specially selected from the more deserving classes, many drunkards are thus excluded. The cases admitted provided good examples of the various nervous disorders produced by alcoholic poisoning, both acute and chronic. I was surprised to find that, of these 133, less than one-fifth had any insane relations, so that the persons so affected did not come from the nervously unstable. Thus drink produced insanity in many who were otherwise fairly stable. Drink, on the other hand, can be shown to be the starting-point of neuroses in the individual and also in the family. Again, of those becoming insane as the result of alcohol, only a very small proportion were suffering from general paralysis. To return more in detail to the subject of Dr. Payne's paper, I agree with his divisions, and I have for years been in the habit of teaching that there may first of all be simple disorder of function, next malnutrition, and lastly there may be disease or degeneration of the tissues, and with each of these stages special symptoms are to be met with. First, then, alcohol may produce confusion of ideas, gradually becoming delirium; these states of confusion or delirium may by repetition become more or less habitual or may lead to still greater nervous instability, which is recognised as mania, or partial weakness of mind; in these cases the delirious aspect may be retained from the first and remain for weeks or months. If such cases die little or nothing is found to account for the mental state, beyond changes in the brain-cells, which are similar to those met with in old age or in states of exhaustion, such as seen after typhoid fever. In the next group of cases we have to recognise alteration in the general nutrition which is more lasting in its effects, and also more widespread in its evidences. In some, the milder cases, the alcohol seems to loosen the nervous fibre so that the more human, moral, and social relationships are disregarded, and there is emotional instability, loss of memory, want of energy, will, power, and lack of judgment, so that domestic troubles frequently result, leading to further distress of mind and body, and sleep, the brain-food, is wanting or unrefreshing. In another group of cases falling, I believe, under this heading of malnutrition (with, or frequently without, any of the social disorders) are the patients who are annoyed by sensory troubles of one kind or another; thus there may be uneasy skin sensations, giving rise to ideas that electricity is being used to injure or annoy the patient, or that some unknown "influence" is exerted from without by some evil-minded persons for their own objects. Hallucinations of smell may lead to ideas of poisoning, and visions of insects or of devils may give rise to other fancies of persecution; while hallucinations of hearing may start the thought that there are watchers about, anxious to injure or annoy. From one or more of these being present a whole fabric of delusions may arise, generally anti-social and dangerous. It may happen that these or similar symptoms may be quite acute in their onset, and may pass off rapidly, pointing to their production by an ephemeral cause in these cases. I fancy the changes in the tissues are more marked than in group 1, though I have never had the opportunity of examining any such case in its earlier stages. There may be other evidences of malnutrition depending on disease of some of the nerves. I am inclined to think that a fairly large group of persons suffering from hallucinational and delusional insanity owe this in great part to peripheral neuritis of alcoholic origin. I could, did time permit, give very good clinical examples. Such changes in nutrition lead very gradually into those in which there is distinct tissue-waste and disease, and I would first state that wasting seems to me to be the chief characteristic of these cases. I do not know of any stage of hypertrophy preceding the wasting; but this may occur in cases in their earlier stages. In these cases there is progressive loss of power of one or all the faculties, and with it general wasting of the brain, so that the convolutions appear to be numerous, and are separate and distinct, narrow at their edges, the calvaria often marked by Pacchionian bodies, the dura mater often rather thick and adherent, the arachnoid with thickened milky spots, excess of fluid, at times hæmatomata, and I have several times met with a clear filmy membrane lining the middle fossa at the base of the brain, evidently allied to the above membranes. It is interesting to note that pachymeningitic membranes are proved now to depend on wasting, and not on inflammation, and they occur under these conditions in general paralysis and in alcoholic dementia. It is well to remember that towards the end of life an acute inflammatory process, associated with maniacal excitement, may come on, and rapidly kill the patient. Having briefly considered, and in no novel way, I fear, the pathology of general insanity and alcoholic excess, I must pass to the most important and most debated question as to the relationship between alcoholic excess and the production of general paralysis. Many authors consider that it is the chief cause; and Dr. Mickle, from his experience, which is chiefly drawn from old soldiers, takes it to be the great exciting cause. Dr. Maudsley does not speak so definitely, but believes it to be associated with the disease, and most writers, English and foreign, trace a connection between intemperance and the increase in this disease which has been so marked of late. I rather agree with Dr. Payne that strain, that is, wear and tear under conditions in which repair cannot be effected, is the real cause of general paralysis, and that drink may in some cases directly, and in more indirectly, have a causative effect. General paralysis is a disease of those who lead active lives; it is more common in races who eat meat and take stimulants, such as alcohol; it occurs in city dwellers, whether working with the highest or only the ordinary mental faculties. I find that of the last 103 general paralytics admitted under me at Bethlem, only seven had distinct histories of alcoholic excesses before the onset of the disease. These numbers are smaller than I expected, and at first sight are puzzling, as we shall see in a minute. The symptoms of drunkenness have been compared to those of an attack of insanity; but I would rather with Wilks say that in early alcoholism you see all the possible symptoms met with in early general paralysis. The same functions are disordered in the same way, and yet the functional disorder does not so frequently lead to organic change along the same lines as one would have expected. The reason seems to be that alcohol is very unstable and easily got rid of, so that the highly vascular organ, the brain, has a power of self-repair which is astonishing. It is seen that with more stable causes of disorder, similarly happy results do not follow. Thus lead poisoning is not uncommon as a cause of general paralysis, and local syphilitic lesions are still more potent in leading to permanent degeneration. It is interesting to me that not only are the mental symptoms met with in alcoholism and general paralysis parallel, but there are further bodily likenesses. Thus there is a group of general paralytics who have a very beery aspect, while another group have all the looks of the spirit-drinker, even to the capillary stasis about the face. To sum up this part, then, I would say that though alcoholic excess is common in general paralysis, and may be in some cases the predisposing, in others and larger numbers the exciting cause of the mental symptoms first noticed in general paralysis, yet I do not find that more than 7 per cent. depend on alcohol alone as a cause. Neurosis in the parents may appear as intemperance in the children, but drink in the parent very often appears as one of the forms of mental weakness or instability in the offspring. Thus idiocy and moral defect and tendency to break down at critical periods of life are noticeable in the children of parents who have been given to alcoholic excess. I have no time now to discuss the relative frequency with which the various signs of mental

disorder occur in alcoholic insanity, but I must say that poisonings, persecutions, tabetic weakness, and local or general nerve pains and false interpretation of these are specially common, and that the changes vary from slight malnutrition to wasting, allied to senile decay.

Dr. SHARKEY: Dr. Payne, in his introduction to this debate, raised the difficult question—Is the poisonous action of alcohol first exerted upon the specialised, parenchymatous tissues of the organs, or upon the connective tissue which forms their framework, or upon both concurrently? If this question be taken as referring only to such anatomical alterations as we can appreciate by means of the microscope, I think it can be shown that, in the case of the liver at any rate, the poison acts upon the portal vein and upon the connective tissue which surrounds it in the first instance, and that the liver-cells in its immediate neighbourhood may for a long time remain healthy. I have tried to demonstrate this by means of two sections, the first showing the dilatation of the portal vessels and development of young connective tissue in the early stage of cirrhosis, and the second showing healthy liver-cells lying alongside enormous strands of firm connective tissue in the advanced stage of the disease. In other organs, the spinal cord for instance, I have seen the vascular and parenchymatous changes side by side. But it is very probable that, owing to inheritance and acquired peculiarities, individuals may differ in this respect, and that one person's connective tissue and vessels may fall a more easy prey to the destructive action of alcohol than those of another, while in others the parenchymatous elements may be the more vulnerable; but it is an undoubted fact that death of the liver-cells may occur even over very wide areas in cirrhosis. It seems to me, however, to be very uncertain what the deadly agent is in such cases, for this necrosis may certainly take place after patients have remained for long periods in hospital without drinking any alcohol. May not some other poison, either organic or inorganic, have gained access to and killed the cells? I show a specimen to-night where many colonies of micrococci are to be seen amongst the necrotic cells and in the connective tissue strands, in order to draw attention to this point and to suggest further investigation of such cases. Observers still differ as to the effects of alcohol on the kidney, some holding that it is not a frequent cause of disease. My experience in the *post-mortem* room for the last ten or twelve years has left me strongly imbued with the opinion that it is a potent factor in the production of chronic renal disease, though its injurious effects are far more frequently exemplified in cirrhosis of the liver. With regard to the action of alcohol on the nervous system, it seems probable, from the observations hitherto published, that it falls most intensely upon peripheral nerves and muscles, and much less, though to a certain extent, upon the central nervous system. Of course I am speaking of the palpable anatomical alterations, for the functional disturbances of centres which leave no trace behind are often very severe. So widespread may be the effects of alcohol on nerves that it is a question whether any nerve is beyond its reach. In the last volume of our *Transactions* I reported a case in which, in addition to the nerves and muscles of the limbs, the phrenic and pneumogastric nerves, together with the muscles they supply, were affected. But it is probable that even nerves of special sense may not escape. Some authorities suppose that certain cases of tobacco amblyopia, so called, are really cases of alcoholic amblyopia, though I am not aware that any indubitable case of this axial change of the optic nerve in alcoholism has been published. I must here mention a case which came under my care of what I believe to be alcoholic retinitis. I need not narrate the case, for Dr. Ord has published it in the *Lancet* for February 11th, 1888. Suffice it to say that it was the most severe case of alcoholic paralysis which I have seen recover. Though at one period of her illness she had a trace of albumen, it became quite clear before she left St. Thomas's Hospital—where she remained for sixteen months—that she had no chronic renal disease. Dr. Ord remarks, in his account of the case (for she was under his care during the greater part of her illness): "The question arises whether the retinal changes were due to renal mischief or were possibly due to a peripheral neuritis of alcoholic origin." Dr. Ord had not then seen the note which Mr. Nettleship was good enough to make for me just before the patient left the hospital. It is as follows: "Much better in health; says vision is quite good. Ophthalmoscopic examination of right eye (atropised) shows two kinds of changes: (*a*) Scattered, usually oval, dirty white spots in neighbourhood of optic disc, more above than below; all are beneath vessels; pigment around them is rather intensified, but there is no definite collection; surface of some of them is a little granular or glistening; their exact nature cannot be decided by the ophthalmoscope, but they might be deposits between retina and choroid. (*b*) Ordinary bright, white (frosted silver) confluent dots, grouped chiefly along large vessels above and below yellow spot, but scattered in other parts; optic disc of healthy colour and transparency; vessels normal; retina round disc slightly thickened and filmy (parallactic movements); none of the pigment spots so commonly seen after renal retinitis, except one at the periphery. Though the silver white spots (*b*) are usually near to large vessels, they are never in front of them, nor are they arranged about yellow spot at all, as is usual in renal cases. Left eye, similar changes, but less abundant. If seen now for the first time the changes would hardly suggest albuminuric retinitis, nor do they agree with any common type." Dr. Mott reported, at the last meeting of the Society, a case of fatty degeneration of the heart and sudden death in a drunkard. As I have demonstrated that inflammation of the pneumogastric and of the heart's muscle occurs in alcoholism, I would suggest that the cardiac degeneration may be the result of alcoholic neuritis, just as the muscles of the limbs degenerate as a consequence of disease of their nerves. Phthisis is frequent in cases of alcoholic poisoning, and, as Dr. Payne said, it is almost the rule in alcoholic paralysis. Two factors are required to produce phthisis: first, the bacillus tuberculosis; and, secondly, a soil rendered suitable by lowered vitality and nutrition. May the second factor be supplied in alcoholic paralysis cases by the inflammation of branches of the vagus or other nerve going to the lung? This would only be another instance of the effect of nerves on nutrition. I might touch on other points, but I have already appropriated far more than my share of the time allotted to this discussion.

Specimens illustrative of the Effects of Alcohol, shown by Dr. FINLAY: 1. Transverse section of plantar nerve showing degenerative and inflammatory changes. 2. Longitudinal sections of plantar nerve, showing increase of nuclei and infiltration with leucocytes. 3. Longitudinal section of phrenic nerve where it is passing into the substance of the diaphragm, showing exactly similar changes to those seen in the nerves of the extremities. 4. Longitudinal section of phrenic nerve, higher up, showing degeneration of nerve-fibres, with segmentation of the myelin. 5. Transverse section of extensor carpi radialis longior muscle, showing increase of nuclei of sarcolemma, and infiltration with leucocytes. 6. Section of spinal cord in lumbar region from a case of alcoholic neuritis, showing absolutely no abnormal changes. 7. Longitudinal section of musculo-spiral nerve, with well-marked segmentation of myelin. 8. Longitudinal section of phrenic nerve, with slightly similar changes.—Dr. HADDEN: Section of muscle, showing round-celled interstitial growth. Teased preparation of anterior tibial nerve, showing the nerve-fibres in various stages of degeneration.—Dr. ORMEROD: Longitudinal section of nerve (osmic acid preparation), showing breaking up of the myelin. Series of sections of spinal cord showing no changes. Section of muscle showing increase of nuclei. Transverse section of nerve showing interstitial thickening of endoneurium.—Dr. PITT: 1. Hypertrophic cirrhosis of liver, showing similar changes to acute yellow atrophy. 2. Section of peripheral nerve, showing interstitial inflammatory changes.—Dr. SHARKEY: Sections of liver. 1. Showing early dilatation of portal vein. 2. Advanced cirrhosis, showing healthy liver cells alongside thick strands of connective tissue. 3. Puckered capsule in advanced cirrhosis. 4. Section of kidney from a case of severe alcoholism, showing extreme congestion. 5. Section of popliteal nerve, with marked inflammatory changes. 6. Section of phrenic nerve as it enters the diaphragm showing similar changes.—Mr. D'ARCY POWER: Cast of right leg from a case of alcoholic neuritis.

Specimens.—Drawings of microscopical sections by Dr. FINLAY and Dr. SHARKEY. Drawing of liver by Dr. DICKINSON.

Skeleton of a Short-limbed Dwarf.—Mr. HUTCHINSON exhibited the skeleton of a short-limbed dwarf, with drawings from two similar cases. He said that dwarfs might be classified into, first, those in whom all parts were proportionate, and next, those in whom the development of the limbs only, or at any rate chiefly, had been arrested. The latter group might be again divided into those in whom the lower extremities had alone failed to grow, the arms being of natural length. Whether there were any cases in which the upper extremities were short, whilst the lower ones were of natural length, he did not know. The skeleton which was brought before the Society had been borrowed from the Norwich

Museum, through the kindness of Mr. Cadge and Mr. Cross. It was that of a man who was hung for the attempted murder of his wife and child more than twenty years ago; and the records of his trial and execution showed that he had exhibited a great want of human feeling as regards his crime. The skeleton showed that the vertebræ, ribs, and head were of natural size, and without any very special peculiarity as regards form. The hands and feet were small, but not malformed. The long bones of the four extremities were, however, very peculiar, being short, thick, very strong, with ridges and prominences as marked as those of a powerful quadruped. The articulation of the clavicle to the sternum, instead of being vertical presented a long sloping surface. None of the bones were bent as in rickets, and although the pelvis was so small that it would only just admit a flat hand, yet it did not display any rickety alterations in shape. With this skeleton were exhibited two engravings, taken from the illustrated catalogue of the Dupuytren collection of Paris. One was that of an adult who had died after Cæsarean section, the other that of a fœtus at term. They showed bones of somewhat similar formation, with great shortening of the limbs, but without bending. Neither of them had the peculiarity of the clavicle which the Norwich skeleton showed. In illustration of the fact that some dwarfs had the lower limbs only short, and the upper of normal length, another drawing was exhibited. Remarking that he thought the subject of the osteology of adult dwarfs had not received the attention which it deserved, Mr. Hutchinson stated that he should be glad to be informed as to where to find other skeletons. Especially he was anxious to have information as to dwarfs among the lower animals. He expressed a strong belief that the changes shown had nothing to do with the ordinary causes of rickets, nor, he thought, could it be said that they were the result simply of an arrest of development in a pathological sense. The changes were too symmetrical, too much of the nature of hypertrophy, and above all the state of the sterno-clavicular joints was too peculiar to admit of such an explanation. He was inclined to attribute them to some more recondite influence than either of those named, and to regard them as evidences of tendency to retrogression of type.—Mr. SHATTOCK said that during the discussion by the Society on rickets in 1881 the relation of this class of cases was considered, and the conclusion was arrived at that they were peculiar cases of rickets, described by Parrot under the name of "achondroplasia;" and that in some of them disease or absence of the thyroid body had been observed. He further mentioned some cases of Mr. Horsley's, where excision of the thyroid body from children and animals had produced shortening of the long bones.—Mr. R. W. PARKER considered the case to be one of rickets; that specimens of fœtal rickets were only found in cases of premature birth or in very young children who never lived long. He suggested that the specimen should be referred to a sub-committee to report upon.—Mr. BLAND SUTTON seconded this suggestion.—Mr. HUTCHINSON, in reply, said that he should be most glad that the skeleton should be subjected to the criticism of a committee. He was familiar with the conditions denominated fœtal rickets, and referred to by Mr. Shattock, and believed it quite possible that some of the specimens so named might be of the same nature as the Norwich skeleton. None of them, however, so far as he was aware, showed the adult condition, and, concerning those which really resembled this case, he denied the appropriateness of the term rickets. In reply to Mr. Parker, he wholly dissented from his opinion, and challenged him to find in the skeleton a single feature indicative of post-natal rickets. When dwarfing occurred in true rickets, it was due not to shortening, but to bending, of bones. The upper limbs were scarcely ever affected, and the bones, so far from being very thick as in this instance, were usually somewhat slender.—The CHAIRMAN then nominated Messrs. Jonathan Hutchinson, R. W. Parker, Bland Sutton, and Shattock, as a Subcommittee to consider the specimen.

MEDICAL SOCIETY OF LONDON.

MONDAY, DECEMBER 17TH, 1888.

SIR WILLIAM MAC CORMAC, F.R.C.S., President, in the Chair.

CLINICAL EVENING.

Case of Paralysis of Lower Part of Trapezius.—Dr. J. HUGHLINGS JACKSON showed a girl, aged 14, who exhibited a curious deformity of the shoulder (wing scapula), due to paralysis of the lower part of the trapezius muscle, consequent on injury.—Dr. BEEVOR added that the serratus also appeared weaker than on the healthy side, but reacted to faradism. He concurred in the diagnosis as to the cause of the displacement.—Dr. JACKSON, in reply, said that he was, of course, unable to say absolutely that the paralysis was due to the fall. He mentioned that this paralysis had been described by Duchenne, in his *Physiology of Movement*, twenty years ago, but that hitherto he had not met with such a case.

Osteoplastic Resection of Foot.—The PRESIDENT presented a patient on whom he had performed Mickulicz's osteoplastic resection of the foot. The patient, a young man aged 20, had received a severe injury to the heel in January, 1887; the soft parts forming the posterior part of the sole and the coverings of the os calcis were almost completely detached from the bone, remaining connected only by a narrow pedicle. An attempt was made to bring about union, but eventually the whole pad of the heel sloughed off, leaving the bone exposed. By degrees this became covered with granulation tissue, and a small portion exfoliated. The heel was drawn up and covered by a thin, very painful, cicatrix, the central portion of which refused to heal. (Fig. 1.) When the

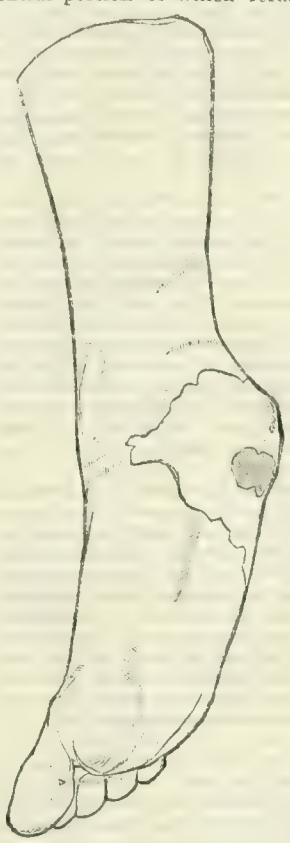


Fig. 1.—Condition of the heel and equinus position after the injury.

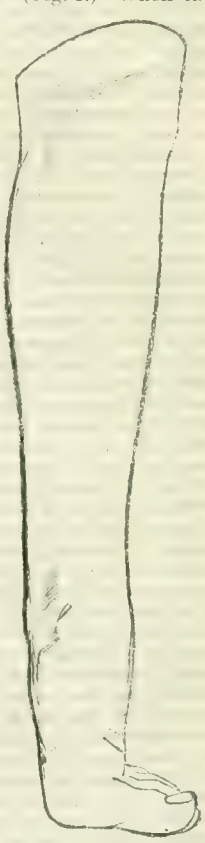


Fig. 2.—Stump after Mickulicz's osteoplastic amputation.

patient was admitted to St. Thomas's Hospital in June, 1888, the foot was quite useless, and very painful. It was evident that no apparatus could be adapted to bring the foot into a right position, and even if this could have been accomplished he could not walk on the foot, as there was no soft covering to the heel. It was therefore decided to perform the operation already described in the JOURNAL for May 5th last, namely, to amputate the heel from the foot and leg, and unite the cut surfaces of the tibia and fibula with the sawn surfaces of the scaphoid and cuboid, the result being a complete equinus, the patient afterwards walking on the ends of the metatarsal bones and the soft parts covering them. (Fig. 2.) This afforded a very solid and admirable support for the body, and possessed a certain amount of elasticity or "give" in it. The patient made a good recovery, bony union of the sawn surfaces occurred, and the stump (which was two inches longer than the opposite limb) would enable the patient to earn his living. The

only possible alternative—amputation of the leg—would not possibly have secured so good a stump.

Case of Arrested Development of Arm.—Mr. J. H. MORGAN showed a child which had been brought to the hospital on account of an arrested development of the right upper extremity. The child was born at full term. The scapula was of normal size, but at the apex of the spine was a deep pucker of skin attaching it at this point to the bone. There was an abbreviated humerus, articulating normally with a glenoid cavity. A very short forearm, in which the two bones were represented, was joined to this rudimentary humerus, and the whole extremity was covered by healthy skin, with excessive amount of subcutaneous fat. The hand was represented by four digits. The thumb was present, but occupied the position of the index finger; and the remaining digits represented apparently the second, third, and fourth respectively. The index was absent. Child otherwise healthy and well formed. He said there was a history of fright of the mother during pregnancy, but he did not attach much importance to that statement.—Dr. HADDEN said he had met with a child the subject of a similar but symmetrical deformity.—Mr. BERNARD PITTS asked whether the head of the humerus could be felt in the normal position.—Dr. BEEVOR asked whether the thumb was frequently absent in such cases.—Dr. HARRIS asked why Mr. Morgan declined to accept the statement as to the influence of the fright, and mentioned two cases of deformity in which he had elicited a history of fright during pregnancy.—Mr. MORGAN, in reply, said he could not enter into the discussion of the effects of maternal impressions. His experience did not permit of his answering Dr. Beevor's question at present.

Case of Slow-Growing Tumour of the Upper Jaw.—Mr. BERNARD PITTS showed a young woman who, years ago, had suffered from pain in the upper jaw from decayed stumps, which were extracted and a plate applied. Twelve years since she had already noticed an increase in size of the left side of the upper jaw, which had slowly but steadily gone on increasing. The growth at present extended along the whole of the left alveolus and the hard palate. He discussed the possible nature of the growth, and asked for suggestions as to the propriety of operative interference. Subject to such suggestions, he proposed to keep the patient under observation and interfere later on if necessary.—The PRESIDENT commended the course proposed by Mr. Pitts. It certainly felt very much like a hyperostosis, and, in that case, no great inconvenience might result from its presence.

Cases of Aortic Stenosis with Tracheal Murmurs.—Dr. FOWLER showed two men, the subjects of aortic stenosis, in whom a peculiar puffing murmur, high in tone, was audible over the trachea. He suggested that this was due to the compression exerted on the lung by the hypertrophied left ventricle during contraction.—Dr. BISS and Dr. HADDEN questioned the explanation as to the cause of the murmur, and Dr. ORMEROD thought he could distinguish two murmurs, one aortic and the other a "puffing" murmur audible only during respiration.—Dr. FOWLER, in reply, said that in the first case the murmur audible over the trachea had the same characters as the aortic murmur, but was modified, in that it did not take on the characteristics by which they were usually recognisable.

Case of Excision of the Condyle of the Maxilla for Ankylosis.—Mr. HERBERT ALLINGHAM showed a lad on whom he had performed this operation, the details of which he had given at the last meeting. The boy could now open his mouth to a considerable extent, and the operation had proved highly successful.

Next Meeting.—The PRESIDENT announced that the next meeting would take place on January 7th, when Dr. Gowers would deliver the first Lettsomian Lecture on "Syphilis of the Nervous System."

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

THURSDAY, DECEMBER 13TH, 1888.

J. W. HULKE, F.R.S., President, in the Chair.

Case of Pulsating Exophthalmos.—Dr. A. BRONNER read the notes of this case. The patient was a farmer, aged 66, who, at the age of 1 year, had sustained an injury to his head through a fall, which immediately resulted in protrusion of the right eye. Pulsation and protrusion of it had been noticed ever since to such an extent that he could never quite close the lids, but it had never caused him any trouble; his general health had always been good, and he had led an active life. The right orbit was larger than the left, and the right globe was dislocated downwards, forwards, and outwards, but could easily be replaced; it pulsated synchronously with the pulse. The movements of the globe were very limited in all directions, but there was no strabismus, and the sight was good; the cornea, iris, media, and fundus were practically normal, except for a few striæ in the lens. On auscultation of the eyeball a roaring continuous *bruit* could be heard, increased during the systole, and almost stopped by pressure on the carotid in the neck. A short time after these observations were made he had an obscure illness, in consequence of which the eye receded a good deal, and the *bruit* became much less marked. The case was clearly one of arterio-venous communication between the internal carotid artery and the cavernous sinus, of traumatic origin. The distinctly continuous *bruit*, the fact that the eye could fall back into the socket so readily, and the absence of past or recent papillitis, were proofs against any other diagnosis. The case was of great importance, as showing that such a condition might become and remain stationary during so long a period as sixty-five years.—The PRESIDENT agreed in the diagnosis of aneurysmal varix; it could be neither a neoplasm, an arterial aneurysm, nor a varicose aneurysm; for in the latter case it would certainly have become larger. It was interesting to see that it had gone on so many years without giving trouble, and it agreed in this with the similar lesions seen in the limbs. The patient was not conscious of a sound, and yet on stethoscopy a loud roaring was heard. He referred to one of the first cases of the kind he had seen, in a woman, and the common carotid was tied. In that instance the roaring was so loud that the husband could not sleep with his head on the same pillow. In Dr. Bronner's case the patient had probably become quite habituated to the sound, owing to its extremely long duration.—Mr. LAWFORD asked what the nature of the illness was during which the proptosis receded, and what was supposed to have been the cause of that recession.—Mr. DOYNE thought that the absence of any sign of papillitis was not of much value, as he had certainly witnessed complete recovery from that condition so that no trace of its existence could be detected.—Dr. JAMES ANDERSON mentioned the case of a girl who had recurrent optic neuritis. She had had three attacks, and perfect vision after them. Between the first and second attacks a very loud murmur was heard on auscultation over the eyeball, and it was audible to the patient; before disappearing the murmur changed its character, and became rough. There was no aneurysm in this case, but there was some spinal cord disease, as the patient subsequently developed paraplegia and paralysis of one shoulder.—Dr. BRONNER, in reply, stated that the illness from which the patient had previously suffered was of hepatic, and not cranial, nature. If papillitis had been present, it ought not to have subsided, for it could only have been due to arterial obstruction.

Suppurating Hydatid Cyst of Orbit.—Dr. ROCKLIFFE communicated this case. The patient, a labourer, aged 33, had first noticed an affection of the sight of the left eye in 1882. He had several attacks of inflammation in it, and the vision gradually deteriorated, till in April, 1887, he was quite blind with it. There was then marked protrusion, some ptosis, and the action of all the ocular muscles, except the external rectus, was very limited; nothing definite was made out as to the condition of the orbit. Eighteen months later, having had more attacks of pain, the patient consented to an operation. An exploratory puncture with a scalpel having given no result, the orbit was more freely opened up, and the eye being removed, a suppurating hydatid cyst was found at the apex of the orbit. The rarity of the affection and the difficulties of diagnosis were briefly alluded to.—Mr. BRAILEY asked if there were hydatids in other parts of the body. In one case he had seen, it would have been impossible to have made the diagnosis if the bosses caused by the development of hepatic hydatids could not have been felt. He thought that in Dr. Rockliffe's case the hydatid had developed in the substance of one of the ocular muscles.—The PRESIDENT had seen only three or four cases, and he thought an absolutely certain diagnosis could not be made. In one of these cases there had been suppuration. He did not see how suppuration could be caused by rupture of a daughter cyst.—Dr. ROCKLIFFE in reply said the patient attributed the suppuration to a blow with a piece of iron. No hydatids could be found elsewhere. He thought the cyst had developed behind the eye, and had not been attached to the muscles, for the patient had free movement in every direction.

A Peculiar Form of Degeneration of Lens.—Mr. DOYNE gave a brief account of a case where there was a difference in refraction of eleven dioptres between the periphery and the centre of the lens. This produced an appearance of nuclear opacity, which,

however, was only apparent, due to the reflection of some of the light rays as they entered a denser medium. The lens was everywhere perfectly transparent. The patient was 70 years of age, and the condition had been developing for some years.—Mr. HARTRIDGE asked if the condition could not have been congenital. He referred to a case in a girl, aged 17, in whom there was an obvious difference of refraction between the centre and periphery of the lens, the former looking like a globule of oil.—Dr. BRONNER thought that many cases were ascribed to conical cornea and astigmatism which were really due to irregularities in the lens. The keratoscope, an instrument not used sufficiently, would show the cornea to be normal, proving that the error of refraction was in the lens.—Mr. DOYNE replied that he did not think the case was congenital, for the patient certainly saw very much better when she was young, and he had positive evidence that the defect had much increased of late.

A Case of Recurrent Transient Blindness.—Mr. DOYNE read the notes of this case. The patient had been invalided home from India after malarial fever; before his return, he had a sudden attack of blindness, which completely cleared in five minutes. Another attack came on suddenly soon after his arrival in England, while drying himself after his morning bath, which had not quite passed off three weeks later. When he first came under notice, two days after the attack, the upper half of the field of vision was restored. There was a dense white fog in the upper half of the fundus, completely veiling the choroid, but in which the retinal vessels stood out brilliantly. There was no plugging of any of the retinal vessels, and the cause of the attack seemed doubtful.—Dr. ANDERSON had recorded a case of almost symmetrical loss of the lower half of both fields of vision. The patient was the subject of ague, and the trouble came on after a long ride. The patient also had hemianæsthesia and undoubtedly had a lesion, probably vascular, affecting the visual area in the brain.—Dr. BERRY said these cases were often diagnosed as embolic, whereas they were cases of spasmodic constriction of the arteries of the retina, producing either blindness or scotomata. In one case he had actually seen the condition of constriction shortly after it had developed, and there was an œdema corresponding precisely to the scotoma. He believed that there was a very intimate connection between some of these cases and glaucoma. Certainly embolism could not disappear so quickly.—The PRESIDENT said it seemed difficult to believe that arterial spasm could last for several months.—Mr. LAWFORD asked if the patient had taken large doses of quinine, as that might cause spasm.—Mr. DOYNE thought that Dr. Berry's explanation was more plausible than that of embolism, but his case was exactly analogous to one reported by Dr. Mules last session. The patient had taken quinine, but he did not know in what doses as a rule quinine produced a long-continued narrowing of the vessel.

Card Specimens.—The following patients and card specimens were shown: Dr. ROCKLIFFE: 1. Case of Proptosis. 2. Two Cases of Tumour of the Eyeball, with Microscopical Sections.—Mr. G. HARTRIDGE: A Case of Choroiditis—Messrs. CRITCHETT and JULER: Case of Double Pseudoglioma.—Mr. JULER: Reuss's Diaphanoscope.

Presentation to the Library.—At the commencement of the meeting the PRESIDENT announced that a work descriptive of the various German ophthalmic hospitals had been most kindly presented to the library of the Society by Professor von Zehender, an honorary member and former Bowman Lecturer.

BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, NOVEMBER 28TH, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., President, in the Chair.

Removal of the Uterine Appendages.—Dr. HEYWOOD SMITH exhibited the appendages which he had removed from a patient aged 28. She had had an attack of peritonitis seven years previously, and another two years ago. There had been total amenorrhœa for many months. There was very little disorganisation of the ovaries themselves, but both tubes were found to be occluded about an inch from the uterine end. They were a little large and swollen, but not distended. The amenorrhœa, failing disorganisation of the ovaries, pointed to the blocking of both tubes.—Dr. BANTOCK was of opinion that leaving a small portion of the ovary had nothing to do with the return of menstruation. It was the fact, however, that menstruation did occur in some cases after the ovaries had been removed on both sides, and the tubes also.—Mr. LAWSON TAIT said, if menstruation was dependent on the ovaries, surely the proportion of the function must bear some relation to the amount of the organ left. As a matter of fact, it did not do so. In the case of a double ovarian tumour, in which disease had abolished every trace of ovulation tissue, menstruation was nearly always found to be entirely unaffected. There were many arguments against the idea that ovulation was the cause of menstruation. Hysterectomy, with complete removal of the tubes and ovaries, did not always put a stop to menstruation.

Fibroma of the Nympha.—Dr. RUTHERFOORD showed a small fibroma which he had removed from a woman. Such tumours were rare.

Fœtus with Meningocele.—Dr. RUTHERFOORD also exhibited a fœtus with a large tumour, extending from the upper part of the occipital bone to about the middle of the dorsal region of the spine, and going completely round the neck. The mother had aborted three weeks before the birth of the fœtus. A double placenta was found with two sacs. The other was much smaller than the one belonging to the fœtus produced, and was quite bleached.

Papillary Cyst of the Ovary.—Dr. MANSELL-MOULLIN exhibited a cyst of the ovary, the interior of which was covered with papillomatous growths. It had burrowed extensively beneath the peritoneum, covering the colon and the bladder. The parovarium was shown very clearly between the tube and the ovary. The tumour had been successfully enucleated.

Fibroid Polypi.—The PRESIDENT exhibited polypi which he had recently removed from two patients. In both cases there had been a prolonged history of menorrhagia with floodings, and much muco-sanguineous discharge between whiles. The polypi were removed by torsion in both instances.—Dr. ROUTH and Dr. BARNES made some remarks.

Encysted Serous Peritonitis (Pelvic in Origin).—Dr. OLIVER recorded two cases in which definitely cystic swellings had developed in association with symptoms dependent upon inflammation of the pelvic peritoneum. In one case the cystic tumour was central, pyriform in shape, and reached to above the umbilicus. This swelling appeared to take its origin from the fundus uteri, and was coextensive with this organ. In the other case the swelling was right-sided, and with its disappearance the uterus gradually became deviated to the right side of the pelvis. Both tumours gradually disappeared.—The PRESIDENT said that a knowledge of this condition was not at all general. He had recently had two cases under his care, which had been considered by himself and others as very probably of the kind described. In one instance he had drawn off a pint and a half of fluid by means of a long cannula pushed through the posterior *cul de sac*. The result to the patient had been most satisfactory. Of course, he could only guess at the diagnosis.—Dr. BANTOCK regretted that Dr. Oliver had failed to produce any evidence which, to his mind, seemed satisfactory. Without a *post-mortem* examination they were still in the dark as to the actual condition in the two cases quoted. He had met with one case only which at all bore out the idea of encysted serous peritonitis, and that, he thought, was tubercular and not inflammatory.—Mr. LAWSON TAIT was pleased to find he was not the only person who was sceptical as to the existence of this condition. Abdominal surgery had destroyed a good many things which were believed in before, and he was inclined to think encysted serous peritonitis must take a back place. Such a disease as Dr. Oliver had described he had never met. Mere pelvic examination could not be permitted to establish such a condition. At least one operation or *post mortem* experience must be brought forward, and the Strasburg case mentioned by Dr. Oliver was clearly one of the cases of congenital cysts which he (Mr. Tait) had previously described at length and brought before the Society.—Dr. OLIVER replied.

CAMBRIDGE MEDICAL SOCIETY.

FRIDAY, NOVEMBER 2ND, 1888.

HENRY STEAR, M.R.C.S., President, in the Chair.

Valvular Disease of the Heart resulting from Overstrain.—Professor ROY, M.D., F.R.S., and Mr. ADAMI, M.A., M.R.C.S., presented a communication on this subject, in which the anatomical changes produced in the cardiac valves by overstrain (see JOURNAL, December 15th, p. 1321) were fully described. There had been much discussion as to whether the valves in the normal state were supplied with blood-vessels. In the healthy valves of an adult dog,

the authors' observations had convinced them that vessels in the form of capillary loops were present only along the line of insertion of the valves. The nutrition of the valves was therefore largely dependent on the lymphatics. The epithelium covering the valves was composed of two kinds of cells. By far the greater part of the cellular lining consisted of the ordinary flat cells with more or less wavy outline forming the "endothelium" of the vascular system in general. These differed in size at different parts of the valves, and between them were to be seen "pseudo-stomata" varying in numbers in different hearts and in different parts of the valve surface. But besides these there was found on the surface of the normal valves a number of more granular cells staining much more deeply with silver than the ordinary ones. They frequently showed apertures, either in their substance or between their margin and the adjacent black line marking the edge of the neighbouring cells. These cells evidently corresponded to those described by Ranvier and others as being situated at openings through the endothelial layer into the subjacent lymph-canalicular system. By their power of contraction and expansion, they might be reasonably supposed to influence the quantity, and possibly the quality, of the fluid which passed them by the pseudo-stomata to carry on the nutrition of the valves. As an illustration of the anatomical changes in the valves resulting from acute overstrain, the authors showed the heart of a dog killed that afternoon, the aorta of which had been considerably narrowed for about half an hour before death. The mitral was the valve mainly affected. Along the free margins of both segments there was a number of red ecchymotic patches, which were evidently due to the presence of blood between the folds of the endocardium covering the flaps. There was also slight, though perfectly well-marked, thickening and opacity of the segments. The situation of the œdematous thickening and the ecchymoses corresponded exactly to the seat of fibrous tissue formation in its early stages in cases of chronic overstrain with secondary valve disease in man. The fact that the ecchymoses and thickening in the animal's heart were situated at parts of the flaps where there were no blood-vessels sufficed to show that the increased quantity of lymph, as well as the large masses of red blood corpuscles in the substance of the valve, must have resulted from increased percolation through the epithelial covering of the valves. Such increased flooding of certain parts of the valves with lymph would of itself suffice to produce new formation of fibrous tissue in cases where with chronic overstrain the increased flooding with lymph was permanent; for example, in chronic Bright's disease, syphilis, etc., or with oft-repeated overstrain where the causes (such as excessive muscular exertion, etc.) were intermittent. The new formation of fibrous tissue in the valves of the heart as a result of overstrain, which was the commonest cause of stenosis of the mitral and aortic orifices, ought not therefore to be called chronic interstitial endocarditis. The authors suggested the designation "valvular pachynsis," which implied coarseness of texture as well as thickening, as expressing the condition of the valves and chordæ tendineæ due to the development in them of low forms of connective tissue as the result of overstrain. The term "pachynsis" implied no theory as to the nature of the anatomical changes, and might be applied to non-inflammatory thickenings of connective tissue in other parts.

Perforating Ulcer of the Duodenum.—Dr. BRADBURY showed this specimen from a servant girl, aged 20, who died a few hours after admission to the hospital. The previous history showed symptoms of anæmia, and a week before death pain after food. There was vomiting on the morning of admission and constipation, for which castor oil had been taken. The necropsy revealed a typical punched-out ulcer on the anterior surface of the duodenum half an inch from the pylorus.

Sarcoma of Uterus.—Mr. GRIFFITHS showed a specimen of sarcoma of the uterus. It involved the uterine mucous membrane and the inner parts of the muscular wall of the body of the uterus, and had extended a short distance along the interior of the right Fallopian tube. A large secondary growth had formed in the posterior wall of the cervix uteri and a number of others in the lungs. The patient was a woman, aged 33, who had had six children; two months after her last confinement she noticed a bloody, alternating with a whitish, discharge from the vagina. Hæmorrhage became profuse, and the patient suffered from very marked attacks of dyspnœa from anæmia. Death occurred a few months after the commencement of the disease.

Specimen.—Mr. WILSON (Ely) showed a specimen of Anencephalic Fœtus.

LIVERPOOL MEDICAL INSTITUTION.

THURSDAY, NOVEMBER 22ND, 1888.

WM. CARTER, M.D., F.R.C.P., President, in the Chair.

Monstrosity.—Mr. ROBERT JONES showed a child, aged six months, with a congenital tumour, globular in form, and about the size of a tennis ball, situated on the back between the scapulæ. It was mostly soft, but from its most prominent part there projected a structure resembling a child's forearm, and bearing at its extremity three fingers with well-formed nails. Structures resembling a humerus and a scapula could also be felt in the tumour. —DR. BRADSHAW remarked that if the case was one of fœtal inclusion, it was almost unique as regards the situation of the parasite on the dorsal aspect of the host.—Dr. A. BARRON thought the tumour might be connected with the shoulder-girdle, and might be due to a segmentation of the anterior limb, a condition occasionally observed in the lower animals.

Forceps or Turning.—Dr. ARMSTRONG read a paper "On the Management of Difficult Labour in some cases of Abnormal Pelvis." He recommended the use of forceps in cases of uniformly and of obliquely contracted pelvis, where the conjugate at the brim measured from three and a quarter inches to four inches, and the head was engaged in the brim. Version was to be preferred in cases of rickety pelvis with marked projection of the sacral promontory, and a conjugate from two inches and three-quarters to four inches, and with the head lying extended in the transverse diameter and freely movable above the brim. In cases of rickety pelvis so narrow as to necessitate the induction of premature labour, delivery was best accomplished by turning, as there was so little room to use the forceps. He showed Tarnier's and Simpson's axis-traction forceps, and also a pair designed by Mr. Rawdon for premature cases, where there was no room to use the ordinary forceps. He also referred to Dr. Sloan's compression-forceps for cases in which the narrow diameter of the head was engaged in the narrowed conjugate at the brim of a rickety flat pelvis. He desired a discussion as to what cases were suitable for forceps and what for version, and as to the most suitable form of forceps to employ.—Dr. MACFIE CAMPBELL said his experience of Tarnier's forceps had not impressed him favourably. He preferred the axis-traction principle applied to Simpson's blades. It was, moreover, difficult to clean properly any forceps to which fixed traction rods were attached.—Dr. BRIGGS said that in premature labour brought about early, Nature, as a rule, completed delivery unaided; and in the later weeks, delivery by version often resulted in the death of the fœtus, which would probably have been averted by the use of the forceps.—Dr. GLYNN WHITTLE considered that, where the forceps had failed, the following conditions were favourable for turning: (1) that the conjugate was not less than three inches and a quarter; (2) that the membranes had remained intact until shortly before the forceps had been applied; and (3) that the forceps had not been used more than an hour, nor had engaged the head too firmly in the brim. Great force, or prolonged efforts with instruments, were dangerous to the child as well as to the mother; and it had been shown by Dr. Macfie Campbell and others that, in many of these cases, the head would pass downwards with greater safety to both mother and child.—Dr. CREGEEN said that his experience had led him to adopt version in cases of uniform and figure-of-eight pelvis, where the head was arrested above the brim, and he could not deliver by the forceps. He directed the after-coming head in such a way that the occiput should engage the widest side of the pelvis. Should the head fail to pass, craniotomy was performed.—Dr. MACDONALD narrated a case in which he successfully used the long forceps with antisepticised tapes for axis traction. A good working rule was, anterior fontanelle the lower, turning; posterior the lower, forceps.—Dr. WESTLEY also spoke, and Dr. ARMSTRONG replied.

MIDLAND MEDICAL SOCIETY.

WEDNESDAY, NOVEMBER 28TH, 1888.

E. B. WHITCOMBE, M.R.C.S., in the Chair.

Mercurial Tremor.—Dr. SUCKLING showed a man, aged 44, who had been a barometer maker for twenty-two years, and who now suffered from well-marked mercurial tremor. The patient first noticed trembling in the hands twelve years before; the tremor would cease when his hands were at rest, and was always aggravated by effort. The tremor gradually became worse, and extended to the legs, so that walking became very awkward and difficult. About four years previously his speech became slurred

and the tremor affected the head. In his work he was constantly handling mercury, and he had had to go into hospital several times, and, after a few weeks of treatment, would return to his work. The tremor was rhythmical and fine; it affected the head and trunk, the upper and lower extremities, and the facial muscles. It was very slightly perceptible when the muscles were at rest, but became violent on effort, the patient being unable to lift a glass of water to his mouth without scattering it all about. There was no nystagmus, no paralysis, no anæsthesia, and no alteration of the reflexes. The intellect was unaffected.

Intracranial Growth with Peculiar Percussion Note.—Dr. SUCKLING showed a boy, aged 6, who had received a blow on the head three years before, and who, early in the present year, began to complain of headache. The headache gradually increased in intensity and was paroxysmal, being followed by vomiting and giddiness. Two months after the onset of headache, the right side was found to be stiff and weak, and when the boy was admitted into hospital, contracture of the right arm and leg was well marked, there being decided ankle clonus and exaggeration of the deep reflexes. The right sixth nerve was paralysed, and there was also paresis of the lower part of the face on the right side. Dr. Suckling considered that the growth was probably started by the injury to the head, and that it was probably a glioma seated in or near the cortical motor centres, the paralysis of the sixth nerve being a distinct symptom. The percussion note over the temples was almost tympanitic in character; Dr. Suckling had noticed the same note in another case in which there was a cerebellar growth with distension of the ventricles.

Congenital Cataract.—Mr. EALES showed a man, aged 62, on whose right eye he had quite recently operated for the removal of cataract. The patient had been afflicted with double cataract from birth, and had never in his memory had more than perception of shadows, being for all practical purposes blind. The cataract was hard, and of a dirty canary colour. Surgically the success of the operation was complete. The visual result was also very gratifying, for the patient was found to have excellent perception of colours and large objects, while the perimeter showed a full field for white; but central vision was very imperfect ($V = \frac{2}{60}$ Sn.) and the temporal side of the optic disc was pale and atrophic, showing a condition like that often seen in tobacco amblyopia, only much more marked. He had had slight nystagmus from his birth.

Gall-stones.—Dr. RICKARDS showed a woman, aged 37, who had passed five gall-stones by the bowel. The gall-bladder still contained some calculi.

Arrest of Growth of Radius.—Mr. HASLAM showed a girl, aged 17, who three years before had sustained a fracture at the lower end of the radius. This had arrested the growth of the bone, and the hand was being gradually pushed to the radial side by the increase in length of the ulna.

Tumours of Breast.—Mr. JORDAN LLOYD read a paper on Fifty Operations for the Relief of Breast Tumours.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

THURSDAY, DECEMBER 6TH, 1888.

JAMES MURPHY, M.D., President, in the Chair.

New Members.—The following gentlemen were elected members of the Society; Drs. Fitzgerald and Leech and Mr. C. S. Redmond.

Cases of Trephining.—Dr. ARNISON exhibited a boy trephined for injury, who had made a good recovery, but was still blind in the right eye; also a policeman who had been struck on the head with a stick, and in whom a small acutely depressed fracture had been detected. A disc of bone had been removed, and the fragment raised.—Dr. HUME exhibited a lad upon whom secondary trephining had been performed for the result of injury. There was depression. Unconsciousness had lasted seven days. Operation was followed by paralysis of the right arm. Ultimately the patient recovered.—Dr. DRUMMOND raised the question as to trephining in epilepsy in the absence of organic brain disease, and related the case of a man whose left hand would be suddenly seized with cramp; then pain extended up the arm; this was followed by flexion of the arm, and afterwards by unconsciousness and epileptic convulsions. Dr. Hume had trephined over the motor area, but without good result.—Dr. CHARLTON BASTIAN drew attention to epilepsy dependent upon organic brain disease and simply perverted function in motor areas. He would not recommend trephining unless there was evidence of the epilepsy being due to organic disease, and such conditions present, for example, as optic neuritis, fixed pain, etc. He subsequently dealt with the question of the physiology of the cortical motor areas, expressing himself in favour of these being sensory as well as motor.—Dr. OLIVER thought there was something in this sensori-motor function claimed by Dr. Bastian for these so-called motor areas, and alluded to the good result which was still maintained in his case of traumatic epilepsy treated nearly two years before by trephining.—Dr. GOWANS joined in the discussion, to which Drs. ARNISON and HUME replied.

Excision of Astragalus.—A boy whose astragalus had been excised for accident was exhibited by Dr. HUME. The patient had now a healthy and useful foot.

Subclavian Aneurysm.—Dr. OLIVER exhibited a man the subject of subclavian aneurysm. The right arm was completely paralysed, and was rapidly emaciating. Above the right clavicle was a pulsating tumour the size of a hen's egg, which was the seat of *bruit*. Iodide of potassium had relieved pain. Amputation at the shoulder-joint he thought out of the question, and he was resolved to treat it by galvano-puncture.—Professor ANNANDALE recommended amputation, division of the clavicle, and tying the two ends of the vessel.—Mr. WILLIAMSON, who had previously examined the case in the wards, discouraged such severe surgical measures.—Dr. BASTIAN supported treatment by galvano-puncture.—Drs. ANDERSON, ARNISON, and GIBSON made remarks.

Hysterical Pyrexia.—In the absence of the patient, Dr. DRUMMOND exhibited the temperature chart, the highest temperature recorded being 108° F. on one side of the body and 98° on the other.—Professor PHILIPSON reminded the Society of his case, where the temperature was 117°.—Dr. GIBSON thought most of these cases were high temperature *plus* hysteria. In such, he thought, as the result of derangement of the generative organs nutritive changes in the nervous system were induced, a congestion, for example, which might become permanent.—Drs. MANTLE and MURPHY also spoke.

Specimens.—The Heart, Brain, Spleen, and Kidneys, from a case of Multiple Embolism, were exhibited by Professor PHILIPSON. The patient was a woman, aged 34, who had aborted four months before. There was endocarditis, also left hemiplegia. The right Sylvian artery was found blocked.—Sarcomatous Tumours of both Ovaries, removed from a girl, aged 16, were exhibited by Dr. MURPHY; also the Stomach and Œsophagus removed from a case of Gastrostomy. The patient had lived 402 days after the operation. Death was due to ulceration of the aorta by the cancerous mass.—Scirrhus of Breast, in a girl, aged 13, and Fibrous Tumour of Jaw were exhibited by Dr. GOWANS.—Aneurysm of Thoracic Aorta was exhibited by Dr. DUGGAN. There was no history of syphilis. In addition to thrill and dulness over the chest, a loud whistling murmur could be heard two yards away from the man.

Intubation of the Larynx.—Professor ANNANDALE read a paper on intubation of the larynx and air-passages. He dealt with the subject under four heads: (1) as an aid to or substitution for certain operations; (2) as a means of restoring respiration in sudden obstruction; (3) in acute inflammatory affections, for example, croup, diphtheria; (4) in stenosis of larynx. He also exhibited O'Dwyer's apparatus, and detailed the advantages claimed for and the disadvantages raised against the operation.—Dr. MURPHY having proposed a vote of thanks to the reader of the paper, which was cordially awarded, invited discussion.—Mr. MORGAN expressed himself as still in favour of tracheotomy.—Mr. PAGE, as his experience of tracheotomy on young children had not been encouraging, welcomed the new line of treatment.—The discussion was continued by Drs. LYON, HUME, ANDERSON, GIBSON, and the PRESIDENT.

Urticaria.—Dr. MANTLE read a paper entitled Is Urticaria a Symptom or a Disease? in which he related a few cases, and regarded the disturbed innervation of the skin dependent upon deranged vasomotor action as a reflex result from stomachic, intestinal, hepatic, etc., irritation.—Dr. OLIVER asked if pericardial friction had ever been detected as a transitory phenomenon by Dr. Mantle in any of his cases.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

THURSDAY, DECEMBER 6TH, 1888.

J. W. MARTIN, M.D., President, in the Chair.

Reports of Pathological Committee. — The Pathological Committee presented reports on Dr. Hargreaves's specimen of sarcoma of the breast, Mr. Lyth's cancer of the cæcum, and Mr. Favell's

bony foreign body removed from the side of the knee (JOURNAL, p. 1166). They reported that this latter had a bony nucleus, and was surrounded by a cartilaginous matrix, with bony centres interspersed. They thought it was a cancellous exostosis which had become detached.

Miners' Nystagmus.—Mr. W. MAKEIG JONES introduced a man, aged 37, who, with the exception of a few months twelve years ago, although working in a mine, had never worked as a collier. He mentioned three other cases which got better whilst working with open lights. He also called attention to the contraction of the orbicularis, and the peculiar carriage of the head met with in these cases.—Mr. SNELL thought the case differed from the form commonly met with in miners. In his experience it occurred solely in men whose work necessitated the head being placed on one side, and giving an obliquely upward direction to the eyes. Change of the kind of pit work alone sufficed in some cases to effect a cure.—Remarks were also made by Dr. S. ROBERTS, Mr. GARRARD, Mr. STANIFORTH, Mr. RECKLESS, and Mr. JAMES.

Spontaneous Reduction of Dislocation of Shoulder.—Mr. MAKEIG JONES related particulars of a case occurring in a man. Reduction took place on removing a sling from the forearm.

Rupture of Aortic Valve.—Mr. LYTH showed the heart from a man, aged 59, who had died suddenly from syncope whilst standing and attempting to micturate on the fourth day of treatment for an old stricture of urethra. He described the *'post-mortem* conditions. The kidneys were congested but otherwise normal. The left side of the heart was much hypertrophied, and the mitral valve thickened. There was an old perforation of one of the aortic valves about one-eighth of an inch in diameter; all three were thickened.

Aneurysm of Aorta.—Dr. SIDNEY ROBERTS showed a patient, aged 36, suffering from aneurysm of the transverse portion of the aortic arch, which pointed in the third left intercostal space near the nipple line, pressing upon the left pulmonary artery, and altering the left carotid and radial pulses. There were no other internal pressure signs. The man had syphilis fourteen years ago, and was subject to strain. The swelling was first noticed in August, 1887.—Remarks were made by Mr. WRENCH and Dr. LAW.

Perichondritis of Larynx.—Mr. PYE-SMITH showed a larynx affected with perichondritis. E. R., a mason, aged 48, had had hoarseness for six months, and attacks of dyspnœa for four days. On laryngoscopic examination there was great swelling of the right ary-epiglottic fold, the cornicula laryngis being pushed to the left. Tracheotomy was performed, and in a fortnight the swelling had so much subsided that the tube was removed. The wound healed, and the patient breathed well for three or four weeks, when dyspnœa returned. Dropsy, with albuminuria, then appeared. Tracheotomy was again performed, but was rendered difficult by the scar tissue and the depth of the trachea (2¼ inches from the surface), making a specially long tube necessary. The dropsy and nephritis continued, bronchitis followed, then right pleurisy, and, finally, pericarditis, proving fatal on the eighteenth day after the second operation. *Post-mortem* examination: Three ulcers were found in the larynx, one above and two below the right cord, all communicating with a cavity which laid bare part of the internal surface of the ossified cricoid cartilage. There was no history of syphilis. The kidneys, pericardium, and right pleura were inflamed.—Remarks were made by Dr. BURGESS, Dr. KEELING, and Mr. CROPLEY.

The Scarlatinal Kidney.—Dr. C. H. WILLEY read a contribution to the morbid anatomy of the scarlatinal kidney, and remarked that he had been fortunate in securing specimens, which formed a series exhibiting progressive stages of tissue change from the fourth to the fortieth day. One which proved fatal on the eighteenth day showed considerable inflammatory action, without being associated with albuminuria. It had been too much taken for granted that in scarlet fever convalescence nephritis was closely indicated by albuminuria, and conversely that the presence of albumen meant nephritis. Both were wrong, especially the latter. The usual way of demonstrating what was called "scarlatinal kidney" had been not broadly by investigating all kidneys, whether associated with albuminuria or not, but to narrow the view to a specimen from a case of undoubted nephritis. It had been isolated from its clinical surroundings, and treated purely from a pathological standpoint. He showed microscopic specimens from cases fatal on the fourth, eleventh, and eighteenth days, all associated with albuminuria; also from a case fatal on the fortieth day from undoubted nephritis, albumen had existed for thirty days. The first sign of interstitial affection appeared on the eleventh day by small-cell infiltration of the fine connective tissue in connection with the vascular structures in the cortex, the afferent arterioles and Malpighian bodies. Specimens from the case fatal on the eighteenth day showed changes more active and advanced, with the addition of thickening of the walls of the arterioles, due, he thought, to swelling of the middle coat, but, according to Greenfield, thickening of the intima. Specimen from the case fatal on the fortieth day showed changes described by Klein and Greenfield as glomerular nephritis, but, in addition, the fine connective tissue among the capillary bundles of the glomerular tuft had also proliferated, and split the tuft into sections, each of which was destroyed by the subsequent contraction of the new tissue. Mr. Willey believed that the majority of cases of albuminuria after scarlet fever were not associated with an actual inflammation of kidney, that is, that albuminuria did not necessarily show that the kidney was the seat of the mischief. Glomerular nephritis was a rare and fatal disease, and it was only one form of organic kidney disease accompanying scarlet fever.—The paper was discussed by Mr. JACKSON, Dr. WHITE, Dr. KEELING, and Dr. BURGESS.

STAFFORDSHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

FRIDAY NOVEMBER 30TH, 1888.

F. BOLDERO, M.R.C.S., President, in the Chair.

Specimens.—Mr. FOLEER exhibited a Thumb that had been forcibly removed with the flexor and extensor tendons attached.—Dr. MCALDOWIE exhibited a case of Left Homonymous Hemiopia, with impaired mental powers and loss of memory, resulting from disease of the right occipital lobe and angular gyrus.—Mr. SPANTON showed a large Subperitoneal Myoma of the Uterus from a patient, aged 37, removed by abdominal section, the base being secured by two silk ligatures. The patient made a good recovery.—Mr. VINCENT JACKSON showed an example of Fibroma of Right Great Toe, for which a portion of the right great toe had been amputated. The patient was a man, aged 45. The growth, which sprang from the inner side of the nail, had been growing for the last eight years; lately the skin on its upper surface had ulcerated from pressure of the boot. Mr. Eve reported that "the tumour of toe is a fibroma probably springing from the periosteum or matrix of the nail. The section shows parallel bands of well-developed fibrous tissue, somewhat thickly studded with oval nuclei." A microscopic specimen was exhibited.—Mr. VINCENT JACKSON exhibited a Wrought-iron Enamelled Splint. He referred to the suitability of such splints for general use, as they were light, clean, non-absorbent, and the slightest stain could be easily washed away. The manufacturers were T. and C. Clark and Co., Shakespeare Foundry, Wolverhampton.—Mr. VINCENT JACKSON exhibited a Glass Syringe designed for the application of medicated solutions to the male urethra. The nozzle, which was wedge-shaped, when introduced, plugged the meatus; but, on account of being grooved, the injected fluid, instead of passing too far down the urethra, slowly trickled back again, and, to prevent the syringe when in use slipping, the top end of the barrel was lipped.

Large Tumour of the Neck.—Mr. SPANTON related the case of a working man, aged 71, who had noticed twenty-seven years before a small growth below the right angle of the lower jaw, which had slowly increased to form a large nodular tumour occupying the whole of the right side of the neck, and pushing the larynx and trachea two inches beyond the middle line, causing considerable dyspnœa. There had been sharp hæmorrhage from an ulcerated spot. The circumference of the tumour was 16 inches, transverse diameter 12 inches, vertical diameter 10 inches. It was clearly adenomatous. It was excised by two elliptical incisions, and rapid recovery took place. The tumour weighed 28½ ozs., and consisted of cystic gland structure, very dense in some parts, broken down in others, without any trace of malignant elements in it. Mr. Spanton advocated the removal of all such growths where they did not yield to treatment—except in certain tuberculous cases where it seemed not to be invariably safe or desirable.

Abscess in the Groin, containing a Vermiform Appendix.—Mr. SPANTON read a paper on this subject, which will be published in the JOURNAL.

Resection of Clavicle for Faulty Union.—Mr. FOLKER read a paper on this subject. The patient was a collier, aged 25. The case was one of two months' standing, and union was firm.

Owing to malposition the movements of the arm were much impaired. The man supinated his hand with difficulty, and could not touch the back of his head, and had had to give up his work. On February 11th, the risks of the operation having been explained, an incision was made and the union broken down. The ends of the bone were refreshed, adjusted, and brought together by wire, the arm being bandaged in proper position. Everything went well till the 20th, when the fragments were displaced owing to the patient disregarding orders as to rest. The entire operation was repeated, and the patient kept bandaged and at rest till April 10th, when the wire sutures were removed. On April 25th he was discharged. This patient was exhibited at the meeting, and presented little or no evidence of the injury; he had excellent movements of the limb.

Spinal Hæmorrhage with Pyrexia.—Dr. ARLIDGE related a case of hæmorrhage within the sheath of the spinal cord attended with high temperature. The patient was a well-built and well-nourished man, but of drunken habits, aged 44. He was admitted into the North Staffordshire Infirmary on September 19th last, having four days previously been suddenly seized with complete loss of power over his legs. The attack was preceded for a day or two by a slight feeling of *malaise*, but he had never been laid up with serious illness, and never had syphilis or rheumatism, nor had he suffered any hurt to the spinal column. There was complete motor paralysis of the legs, and some weakness in the arms, where too formication and numbness were experienced. Sensation was normal, and the legs were painless and their reflexes abolished. His only complaint was of dorsal pain. The bladder was distended, and, prior to admission, had been emptied by the catheter, but there was no dribbling of urine. Some rhonchus was noted in the upper part of the left lung; heart healthy; bowels confined for four days; the cerebrum undisturbed. The first temperature taken was 103.6°, but the next day it fluctuated between 105° and 106°, and rose to 107.4° the day preceding his death, on September 26th, and was accompanied by some delirium. A *post-mortem* examination revealed a copious hæmorrhage within the meninges of the spinal cord, extending downwards from the last cervical vertebra for about six inches. The blood was coagulated. No ruptured vessel was found in the cord itself, and no cerebral disease, although the dura mater was very adherent to the skull. There was no fracture of the spine, and no caries of any vertebra. Dr. Arlidge called attention to the suddenness of the onset of the paralysis and the high temperature, the former phenomenon being characteristic of spinal hæmorrhage, whilst the latter was an altogether exceptional occurrence. Other points of interest were the stillness of the paralysed limbs, their freedom from spasm, and likewise from hyperæsthesia and anæsthesia alike; and, lastly, the absence of any physical injury, or of evident antecedent spinal lesion, to account for the production of the hæmorrhage.

MANCHESTER MEDICAL SOCIETY.

WEDNESDAY, DECEMBER 5TH, 1888.

JULIUS DRESCHFELD, M.D., F.R.C.P., President, in the Chair.

Cerebral Abscess.—Dr. GEORGE THOMSON showed a boy aged 11 years whom he had trephined for cerebral abscess. The patient was struck on the right side of the forehead by a cricket bat in 1887, and suffered frequently from frontal headache, especially on stooping. A severe attack on July 20th, 1888, became gradually intensified, and ended on July 26th in aphasia, followed by loss of consciousness with slow pulse. Primary abscess was diagnosed, and trephining performed at the site of the blow. Pus was not found at the operation, but reached the surface sixty hours later. A good recovery followed, and the boy showed no trace of injury to the brain.

Cerebellar Abscess.—Dr. EDGE related a case of cerebellar abscess, secondary to suppuration in the middle ear. The patient had died suddenly one hour before the time fixed for trephining. The operation which had been proposed was that suggested by Dr. McBride. The points which had been supposed to contra-indicate a cerebellar abscess were: (1) the fact of the headache being frontal, and not occipital; (2) the almost complete absence of vomiting; (3) the absence of retraction of the head. On the other hand, in favour of the abscess being situated in the cerebellum, were: (1) history of a loss of balancing power at the onset of the cerebral symptoms, this important fact being, however, not known until after death; (2) mydriasis; (3) tonic spasms more marked in the limbs on the side of the lesion than in those of the opposite side.

Cure of Hernia.—Mr. BISHOP showed a case of radical cure of hernia by Macewen's method.

Raynaud's Disease.—Dr. MORGAN made some remarks on a case of this affection.

Nitrite of Ethyl.—Dr. LEECH read a paper on Nitrite of Ethyl as a remedial agent.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.

FRIDAY, DECEMBER 7TH, 1888.

PETER HORROCKS, M.D., President, in the Chair.

Cases.—Dr. PITT, Assistant-Physician to Guy's Hospital, showed a child, aged 16 months, with Facial Paralysis after Otorrhœa.—Mr. JOHN POLAND, Guy's Hospital, showed (1) an infant, aged 9 months, upon whom he had operated, twelve hours after birth, for Imperforate Anus. The rectum opened into the membranous portion of the urethra, and fæces had passed through an opening immediately in front of the scrotum. Hypospadias was also present. The rectum was easily found, brought down, and united to the skin. The motions now passed through the anus. (2) Mr. Poland showed a Severe Comminuted Fracture of the Patella, treated by wiring. A drayman, aged 32, had fallen thirty feet, breaking his fall by striking his knee. The patella, which was found to be much comminuted, was brought together by pure silver wire, and the joint syringed out with a strong solution of carbolic acid. The patient made a rapid recovery, and was now, at the end of five months, able to walk without the aid of a stick or support, and to flex his knee to some extent. The wire still remained *in situ*. (3) Mr. Poland also showed a girl, aged 16, with a Supernumerary Nipple on the Left Side, in the usual position. The areola and nipple were well formed, but there was no sign as yet of gland tissue. The patient had been operated on three years previously for a large hæmatoma situated over the right costo-coracoid membrane.—Dr. HORROCKS gave clinical notes of a Difficult Case of Labour, with specimen. He also showed a Dicephalous Monster.

GLASGOW SOUTHERN MEDICAL SOCIETY.

THURSDAY, DECEMBER 6TH, 1888.

T. F. GILMOUR, L.R.C.P.ED., in the Chair.

Historical Sketch of the Society, by John Dougall, M.D.—The CHAIRMAN announced that copies of the History of the Society, which Dr. Dougall had been commissioned to prepare, were now ready for distribution among the members. It contained a photograph of the late Dr. James Stewart, the first President, and a copy of the quaint original seal of the Society. The historical sketch was mainly compiled from the minute books, which recorded the chief items of the transactions of the Society since its origin in the year 1844. The minutes of the original Secretary, Dr. Leech, who usually signed himself "Hirudo Officinalis," showed that he was a man of humour, and did not confine himself to the usual style of business records. Dr. Dougall gave notices of the most prominent past members, and referred to the principal papers read on medical subjects, and also to the part which the Society had taken on various occasions in relation to important questions affecting both the public and the profession. Among other amusing items, the booklet contained a description in verse, by one of the members, of a picnic of the Society, entitled, "A Medical Holiday." A list of the present office-bearers formed an appendix, the total number on the roll being 156.

Medical Characters in Fiction.—Dr. JAMES ERSKINE, M.A., read a paper on this subject. As representing the extent to which bleeding was carried on in olden times, Dr. Sangrado in *Gil Blas* was selected. The medical men in Scott's works were passed under review, especially Dr. Quackleton in *St. Ronan's Well*, and reference was made to the two doctors in Thackeray's writings—namely, the admirable and kind-hearted Dr. Goodenough, and the pretentious fraud, Dr. Firmin. Mr. Lydgate, in George Eliot's *Middlemarch* was noted as a man whose noble and unselfish nature was repressed and spoiled by a wife who cared only for material prosperity and luxury. R. L. Stevenson's *Strange Case of Dr. Jekyll and Mr. Hyde* was referred to. The medical characters of Shakespeare's *Macbeth, Cymbeline, King Lear*, etc., received special comment. Sterne's Dr. Slop and Smollett's *Roderick Random* were referred to, as also Trollope's Dr. Thorne; Dr. Day in Miss Young's *Daisy Chain*; Mr. Woodcourt, poor Joe's friend, in Dickens's *Bleak House*, and the medical personages in

Charles Reade's *Hard Cash*, Wilkie Collins's *Heart and Science*, Mrs. Henry Wood's *Oswald Cray*, James Payn's *Thicker than Water*, Hawthorne's *Mosses from an Old Manse*, and Cable's *Dr. Servier*. Rebecca, in Scott's *Ivanhoe*, was regarded as the prototype of the modern medical woman; and *Dr. Breen's Practice*, by W. D. Howells, furnished an illustration of the lady practitioner of the present day. The nurses in fiction were discussed. Sairey Gamp and Betsy Prig in *Martin Chuzzlewit* were alluded to as an exaggerated caricature of the evils of nursing in bygone times, while the "Little Sister," in Thackeray's *Philip*, was considered as a splendid type of the modern trained nurse: and the two nurses in *An Open Verdict*, by Miss Braddon, and Sabine Zembra, in William Black's novel of that name, were mentioned as examples of the kind of women introduced into the modern novel for the purposes of carrying out the love plot of the story.

PATHOLOGICAL SOCIETY OF MANCHESTER.

WEDNESDAY, DECEMBER 12TH, 1888.

A. H. YOUNG, F.R.C.S., President, in the Chair.

Extra-Uterine Pregnancy.—Dr. PRINCE STALLARD showed a uterus, with its appendages, from a woman, aged 26, who died from internal hæmorrhage, resulting from a rent in the sac, formed by a distension of the left Fallopian tube, from which a four months' fœtus, surrounded by its membranes, had escaped. The placenta was seen attached to the wall of the sac. The uterus was enlarged and lined by a thick red membrane. The case was interesting medico-legally, as one hour previous to the onset of the symptoms—which consisted of collapse and severe pain suddenly felt in the left iliac fossa—she accidentally received a severe blow in the abdomen.

Comparative Pathology.—Mr. A. H. YOUNG and Mr. A. ROBINSON showed specimens illustrative of comparative pathology. They included the lungs, heart, pericardium and spleen of a monkey affected with tuberculosis. Two specimens of hypertrophy of the teeth occurring in the rat and the hare. A simple cyst from the omentum of a monkey; microscopical sections of sarcoma of the intestine of the common fowl; sarcoma of the liver of *Arctictis*: tubercle of the liver of *Cœlogenys Paca*, and nodular epithelial growths of the inner surface of the amnion of a cow.

Malformation of External Genitals.—Mr. JOSEPH COLLIER described a case of malformation of the external genitals.

REVIEWS AND NOTICES.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By H. C. WOOD, M.D., LL.D. The Seventh Edition of a Treatise on Therapeutics, rearranged, rewritten, and revised. London: Smith, Elder, and Co. 1888.

As a rule, the seventh edition of a book requires little more than a brief notice from the reviewer. In this edition, however, Dr. WOOD has taken the opportunity of largely rearranging the plan and scope of his well-known work on therapeutics. Many parts have been rewritten, a new classification of drugs has been adopted, and the book has been renamed. Under these circumstances it is, perhaps, advisable to give a more detailed criticism than we should otherwise have done. At the outset, we may say that the work fully maintains its high character as a textbook and reference-book of pharmacology and therapeutics. The description of each individual drug is vigorously written, the most important original researches are usually quoted, the opinions of different investigators weighed, and, as a final result, there is generally placed before the reader a clear and logical statement of the present position of our knowledge regarding the actions and uses of the substance under consideration. Dr. Wood's accurate and scientific method of exposition has commended the book to thoughtful readers ever since the appearance of the first edition, an attempt being made all through to explain the therapeutical applications of drugs in a rational manner. The present edition has, generally speaking, been brought well up to date—a very difficult task when one considers how many new medicines are being introduced into practice, and how many contributions are being made to pharmacological literature.

There are short accounts given of such substances as ichthyol, amylene hydrate, betol, papain, etc., the brevity being atoned for in every case by references to the original papers, so that those who wish for further information may readily obtain it. Among the newer remedies, however, lipanin is omitted.

With regard to the alterations made in this edition, the book is now divided into two parts, the first treating of "Remedies, Remedial Measures, and Remedial Methods which are not Drugs." Under this heading are included electricity, massage, feeding of the sick, foods, metallo-therapy, and the treatment of systemic states. The addition is without doubt an improvement, but we would suggest that the chapter on the treatment of exhaustion and neurasthenic conditions, corpulence and lithiasis, is somewhat out of place in a treatise of this kind, being suitable rather for a textbook on the practice of medicine.

The second part of the book is devoted to drugs, and here we have presented to us a new and elaborate classification of medicines, which we are afraid can hardly be considered an advance, on some, at least of the present methods of classification. Among the innovations are several examples of new nomenclature, such as "somnifacients" and "cardiants." Whether the basis of the new arrangement is therapeutical, pharmacological, or toxicological is difficult to make out, as there is throughout some confusion in this respect. Therapeutical applications, however, seem to play the leading part in most instances, in determining to what division a body has been assigned. But there are many exceptions to this, as, for instance, when we find antimony salts and citric acid classed together as cardiac depressants, and cocaine along with atropine as "delirifacients." The term "delirifacients" is also, we think, unsuitable for a therapeutical system of classification, delirium being a toxic phenomenon, and being besides one of the very last conditions which we would wish to induce by the administration of a drug. Somnifacients are defined as "drugs which, when taken in sufficient doses, produce deep sleep without delirium," and under this "family" are included morphine, thebaine, and chloral hydrate, among others. The bringing together of three such differently acting substances under one heading shows clearly a grave defect in the classification adopted, as it is admitted on all hands that morphine and chloral hydrate differ essentially in their actions and applications, while thebaine is closely allied to strychnine in its effects. The repeated mention of one drug under several headings, as oil of turpentine under diuretics, rubefacients, and anthelmintics (while it is omitted under expectorants), is surely a more cumbersome method than to give in one place a full description of the action and uses of a substance.

Such confusion and such anomalies confront us throughout the entire system, and it would probably have been better if Dr. Wood, in the present transition state of our knowledge, had been content to retain for some time longer his older and more simple classification.

With regard to the individual descriptions of drugs, many of these are extremely well done, the articles on caffein, atropine, digitalis, and quinine being specially commendable. But in such an undertaking it is impossible to avoid errors both of commission and omission, and a few of these we may take at random. Thus, in the account of the nitrites, very little notice has been taken of their powerful action as muscle poisons, while the dose of nitrite of amyl which is quoted from Hoffmann as sufficient to cause glycosuria in rabbits is much too small. Hoffmann expressly states so in his paper, and advises a dose four to six times larger than the one given by Dr. Wood.

Under morphine (as in some other cases) too little stress is, we think, laid on recent investigations, the very able and important results of Witkowski and von Schröder not being even mentioned. The summary of the action of morphine on frogs is surely incorrect in several particulars, while morphine-glycosuria is totally neglected.

Under opium alkaloids "porphyroxine" has a place, in spite of the fact that it was shown many years ago that this body is a mixture of several other named alkaloids.

In discussing iron the very original and able researches of Professor Bunge are wholly omitted, while under ergot Kobert's researches are merely mentioned in a footnote, and not incorporated in the text, as from their importance they ought to be. The number of new heart tonics mentioned is rather meagre, considering how many are now known, while it was Pélikan and not Fraser who first investigated the action of a strophanthus extract.

In describing the results of Alms's experiments with cocaine Dr. Wood, if we mistake not, states the direct contrary of the con-

clusions arrived at, an error which has arisen no doubt from too hasty perusal of the original paper.

The consideration of essential oils is taken up in a very disconnected manner. Our knowledge regarding them is surely now sufficiently wide to enable a general description of their action to be given.

The article on squill seems to us to want clearness, and nowhere do we find a clear statement of the digitalis-like character of its action. Such faults are perhaps hardly avoidable in so large a book, yet in a seventh edition, and in a book so widely used, their number should be much smaller than it is.

In the model prescriptions given on p. 108, there are (in the footnote) some specimens of by no means "model" Latin—*misce et fiat massa in pilulas viginti dividendus* and *misce et fiat pulveres sex*. Surely greater care might have been exercised here. In spite of many such defects, which will no doubt be remedied in future editions, the book deservedly takes rank as one of the best which we possess on the subject of pharmacology and therapeutics.

THE PRINCIPLES AND PRACTICE OF MEDICINE. Edited and completed from the manuscript of the late Charles Hilton Fagge, M.D., F.R.C.P., Physician to and Lecturer on Pathology in Guy's Hospital, Examiner in Medicine in the University of London, by PHILIP HENRY PYE-SMITH, M.D., F.R.S., F.R.C.P., Physician to and Lecturer on Medicine in Guy's Hospital. Second Edition. Vols. I and II. London: J. and A. Churchill. 1888.

IT is said that the late Sir William Stirling Maxwell, when he was preparing his *magnum opus*, the life of Don John of Austria, had the first draft of the book put into type and twelve copies struck off, the type being then distributed; for several years more he worked on these proofs, adding, polishing, condensing, and correcting until the work seemed, even to his fastidious taste, ready once more to be sent to the printer for publication. The author, unable or unwilling to lavish so freely money and time on the first edition of a big book, finds himself, when the sale of the first edition begins to show that a second will soon be called for, in a position almost as satisfactory as that which Sir William Stirling Maxwell made for himself. Dr. PYE-SMITH has not failed to take full advantage of his opportunity, and fine as was the first edition of Fagge's *Medicine*, this new edition is better. Its bulk is slightly greater, but this is amply compensated for by the use of a better paper and a larger type, to which, indeed, the increase in size is mainly due.

The arrangement of the book, that is to say, the classification of diseases adopted, has been improved in several particulars; Dr. Pye-Smith has some very pertinent remarks on this subject, and he is probably technically right when he says that "no system of nosology can produce a useful, a scientific, or even a practical result." A uniform classification founded on etiology is as yet impossible, while the stage of development in which morbid anatomy could even be suggested as an adequate guide has been passed; on the whole, pathology promises the surest basis, and upon it Dr. Pye-Smith is, as we gather, disposed mainly to rest. He is willing to regard the specific, contagious, and "general" diseases as forming "the most, perhaps the only, natural scientific group of diseases, each separate and definable, and yet agreeing with one another and differing from the rest." The claims of acute pneumonia to be admitted to this class are admitted, but those of leprosy are not, though a very good case might be made out for it. Syphilis is reckoned one of the specific infectious diseases according to the now universally recognised custom, and so also is tuberculosis. As Dr. Pye-Smith has given so much attention to this question of classification, it may be worth while to observe that the section on "Functional Disorders of the Respiratory Tract" contains a most curious collocation of dissimilar diseases. The following are the subheadings: Coryza or nasal catarrh; influenza or epidemic catarrh; ozæna; epistaxis; hay fever or summer catarrh; whooping-cough; asthma. Are any of these, with the exception of asthma, to be properly called functional diseases at all? Is nasal catarrh or ozæna a functional disease? Are not influenza and whooping-cough acute specific diseases? Is not the first named in fact the type disease of the class? Dr. Pye-Smith admits that the arrangement is defective, but defends it on the ground of practical convenience. A disputant who was disposed to take the opposite view, however, might justly reply that in a work possessing indexes so full and so carefully prepared as those which delight the reader at the end of Volume II, convenience need hardly be further considered.

The new edition contains chapters on febricula and vaccinia, subjects formerly omitted, and a short account of actinomycosis has been added, while the pages on the etiology and communicable nature of enteric fever have been condensed. Some additions have been made to the section on diseases of the heart, and statistics prepared by Dr. L. E. Shaw, the Medical Registrar of Guy's Hospital, and others by pupils there, have been incorporated in the text, both in this section and in later parts of the book.

The terms used in physical diagnosis, in the section on diseases of the lungs, have been revised, and French and German equivalents have been inserted, a very useful addition. The section on diseases of the nervous system has been revised; considerable additions have been made to the chapters on insular sclerosis and on tumours of the brain, and new articles written on peripheral neuritis, Friedreich's disease, and Thomsen's disease.

Dr. Savage has contributed a thoroughly practical chapter on insanity; he sketches out a classification, based on pathological considerations, briefly describes the more important types of mental disorder, and concludes this part of the subject by giving very precise directions as to the legal steps to be taken for the confinement of insane patients.

The other alterations effected in the new edition are mainly, if we may borrow a word from histology, interstitial, and serve to render the text more accurate and complete. The work is the best monument which could have been erected to the memory of Dr. Hilton Fagge; it reflects the highest honour on the industry and good judgment of Dr. Pye-Smith, who has presented the English-speaking members of the medical profession with one of the most complete clinical and pathological manuals of medicine which has ever been penned in any language.

SECTION OF CONTRACTURED TISSUES ESSENTIAL BEFORE MECHANICAL TREATMENT CAN BE EFFECTUAL. By LEWIS A. SAYRE, M.D. New York.

ON THE DELETERIOUS RESULTS OF A NARROW PREPUCE AND PREPUTIAL ADHESIONS. By LEWIS A. SAYRE, M.D.

THESE two pamphlets contain papers reprinted from the *Transactions of the Ninth International Medical Congress*. In the first, which deals chiefly with the treatment of club-foot, it is laid down that distortion or deformities which are the result of contractured, as distinguished from simply contracted, tissue can only be removed by forcible rupture, or by cutting before traction is applied. Dr. SAYRE also advocates the treatment of congenital talipes immediately after birth, and considers that if prompt treatment were the rule, section of tendons would rarely be required. But when a cutting operation is necessary, the parts are to be placed in the normal position immediately after the operation has been performed.

In the second pamphlet Dr. Sayre refers to previous papers by himself on partial paralysis, etc., from reflex irritation caused by abnormal conditions of the prepuce, and gives details of cases of nervous disturbance due to similar causes reported to him by various surgeons, and cured by operation.

NOTES ON BOOKS.

DIARIES.

MESSRS. CHARLES LETTS and Co., Royal Exchange, send us an excellent series of diaries. Their *Office Diary and Note-book*, in imperial 8vo, contains ample space for general and medical notes of the day. Their *Improved Two Shilling Diary*, interleaved with blotting paper (73 B.), with a week on each page, is thoroughly serviceable; and the diary which they call *The Royal Blue Diary*, cloth bound and interleaved with blotting paper, is a wonderful shilling's-worth, and is probably correctly described as "the cheapest diary in the world." They publish an extensive series, and those who are looking for diaries will find it well worth their while to send for their list. Their one shilling *Tablet Diary* gives a page to every week, with Sunday lessons and moon's phases, saints' days, etc., and is one of the best we have ever seen.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS,
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

KOLA NUT AND KOLA CHOCOLATE.

THE observation has already frequently been made, but it will bear repetition, that those plants (although of very different botanical origin, and of widely different geographical distribution), which contain caffeine, theine, or guaranine, or the closely allied alkaloid, theobromine, have been selected, apparently by instinct, as the bases for common beverages. Thus *maté*, or Paraguay tea, largely used in South America, is derived from ilex Paraguayensis, an aquifoliaceous plant. Tea itself is derived from species of camellia or thea (nat. ord. Ternstrœmiaceæ), and is a native of China and Assam. Guarana is derived from the seeds of paullinia sorbilis, a sapindaceous plant, and is a native of Brazil. Common coffee consists of the seeds of coffea Arabica, Rubiaceæ. All the above contain the alkaloid indifferently named theine, caffeine, or guaranine.

The seeds of the cocoa plant, theobroma cacao, Sterculiaceæ, contain theobromine, while those of sterculia acuminata (kola nut), another sterculiaceous plant growing in Western Africa, contain both caffeine and theobromine.

Messrs. Thomas Christy and Co., of Lime Street, E.C., have recently called attention to the fact that, owing to the great demand which has arisen for kola nut, many of the parcels sent over contain a considerable quantity of spurious seeds, introduced either accidentally or of set purpose. Mr. Christy has forwarded specimens of these. Among them we find the seeds of sterculia cordifolia, a species yielding no caffeine; those of garcinia kola (Heckel); "male kola," or "bitter kola," and some seeds which, Mr. Christy states, are even toxic in character.

The improved processes proposed by Paul and Cownley for the estimation of caffeine in tea and coffee show that the figures given in the earlier analyses of these substance are unreliable; but kola nut contains, besides theobromine, a relatively high percentage of caffeine.

Kola chocolate is a preparation by Christy and Co. from selected seeds of the kola. It is palatable, and resembles in flavour French chocolate. The true kola and the male or bitter kola are described and well figured in Christy's *New Commercial Plants and Drugs*, No. 8.

THE REMOVAL OF NICOTINE.

MANY and various means have from time to time been adopted by inventors with a view to remove from the tobacco pipe the deleterious effects of the nicotine and poisonous smoke (which have so largely condemned it), but hitherto with but slight success. In the "Fumaperpurgans" Tobacco Pipe a method is adopted of dealing with tobacco smoke by mechanism and absorption. The pipe is made in three sections, the bowl, the barrel, and the mouthpiece. The mechanism for purifying the smoke consists first of a spiral or volute fixed into the mouthpiece, and secondly, a specially prepared tube placed over the spiral and adjusted by the assistance of a screw top; the whole is then placed within the barrel and screwed up ready for use. The tube, when fitted on the spiral, is fixed immediately by the moisture in the smoke, and forms one complete cylinder. When the pipe is in use, the smoke travels a circuitous path through an aperture or channel which is voluted in its course, and during which it impinges or beats with sufficient force on the faces or flanges forming the spiral or volute to cause a deposition of its contained moisture and impurities, which are further taken up and absorbed into the surrounding tube. The smoke enters from the bowl into the cylinder in a crude state, passing from thence into the mouth dry, cool, and free from the impurities which would otherwise accompany it. When the tube is fully charged with the impurities, it will no longer operate; it is then simply removed and replaced by a fresh one, a box of tubes being supplied with each pipe. Being made in three sections, it admits of any sediment which might accumulate at the entrance of either of the channels being cleared away. The inventors are Messrs. Joseph Bennett Brothers, 22 and 23, Great Tower Street.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st; and notice is hereby given, in accordance with by-law 5, that Branch Secretaries' subscription-accounts close on October 31st, and all unpaid subscriptions must be forwarded, after that date, to the General Secretary, 429, Strand, London. Post Office Orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, DECEMBER 22ND, 1888.

DENTAL QUACKERY AND FALSE PERSONATION.

MR. TURNER, in his excellent address to the past and present students of the Dental Hospital, remarked that our poor and our quacks will be always with us, and the truism admits of absolutely general application. But the presence of the latter class of persons, though incapable of total exclusion from the ranks of the dental profession, may yet be, in a considerable degree, brought under control by the judicious exercise of powers placed in our hands by the Legislature. Of these powers foremost stands the issue from schools and colleges of a supply of adequately educated practitioners capable of rendering to the public the full and complete service of dental surgery. The provisions of the Dentists' Act have rendered such a supply of practitioners practicable by placing educational control in the hands of the surgical colleges, and the supervision of the education, with the qualifying registration, in the hands solely of the Medical Council. Under these stable powers the dental student is now, and for some time past has been, required, before entering upon his professional studies, to pass a prescribed examination in the subjects of general education in common with the medical student, the educational equipment at starting being alike in the dental and medical student, and the course of professional studies for a time proceeding on similar lines But, in order that the dental student may acquire an adequate amount of manipulative skill, an acquisition attainable in youth only, save in exceptional instances of exceptional aptitude, it is necessary that he should devote a fair share of his time from the outset to dental operations under competent instructors. The fingers must grow to their work, a condition necessary to the attainment of a high degree of excellence in many callings equally with dentistry, but not more necessary in any of them than in the latter.

It may be justly said that the dental student, when he has honestly conformed to the existing education, and gained by examination a place for his name in the *Dentists' Register*, enters upon practice more fully educated than any other professional man; for he has through a period of four years been almost daily engaged in performing under competent instructors all the operations embraced in dental surgery. Professional education cannot go further, and if this point is not reached the Medical Council, as the supervisor, is at fault primarily, and the Colleges are in a scarcely less degree blameable.

It is within the reach of these powerful bodies—trustees they may be called of the dental profession, on behalf of the public and of the profession itself—to abate, if not wholly to suspend, the mischief and scandal of dental quackery; and there are unmistakable signs that the quack is now obliged, for profit's sake, to shift his ground, and try the effect of collective in the place of the failing personal puffs. Dental dispensaries, and institutions where marvels are said to be achieved by a body of selected operators, send forth their invitations to the public.

A second power of abatement lies in the effective power of successful prosecution of unregistered persons who proclaim themselves dentists, etc. The many cases undertaken by the British Dental Association have invariably led to conviction and the attendant fines. In this matter the Dentists' Act, in its penal clauses, is quite free from the baneful ambiguity of the Medical Act, and in this respect needs no further amendment. False personation by unregistered persons could, there is little doubt, be dealt with by the Association as a matter of fine, but the registered cover is beyond its reach.

The third great power—the power of professional life or death, by the removal of a name from the *Register*—lies solely in the Medical Council, and there is no appeal against its decision if the provisions of the Act are strictly followed. A permanent Dental Committee is provided, and its findings as to the facts of a case submitted for its investigation are final, and the Council must act upon these facts. It is not allowed to accept the findings of any other body, although that body has within its powers removed the name of a licentiate from its register. For instance, the Irish College of Surgeons grants its Licenciateship in Dental Surgery on a condition signed by the receiver that the qualification shall be forfeited if he attracts business by means of public advertisements. A case of breach of contract occurred, the name was struck off the College register, and was ultimately erased from the *Dentists' Register* on the finding of the Dental Committee that the breach of contract with the circumstances attendant thereon was, in the words of the Act, disgraceful in a professional respect.

But the converse of this position does not in the Dentists' Act hold good. For if the Medical Council erases the name of a Licentiate from the *Dentist's Register*, the name must also be erased from the list of the College from which he obtained his Licentiateship, and must be again restored to such list, if the Council directs its restoration to the *Dentists' Register*.

The minutes of the recent meeting of the Medical Council contain an account of the powers of erasure of names from their lists of members, etc., possessed by the several medical authorities. Some appear to have ample powers, in others the power is less clearly defined, and some bodies have no power of erasure. Some would like to have the power, others require the power to be better defined, while others on the contrary do not desire to possess the power of erasure, considering that the Medical Council, as the body at the head of and representing all the authorities, should undertake the investigation of cases of misconduct, for it alone can remove a name from the *Medical Register*, and those who render themselves liable to erasure from a College list would care little for its removal therefrom, so long as it is allowed to remain on the *Medical Register*. The framers of the Dentists' Act took this view of the case, and much may be said in its favour. One argument against the Medical Council taking the initiative in the investigation of professional misconduct is based on the great pecuniary cost that attends every action of the Council. Still, if need be, this excessive cost may be very greatly reduced. It is believed that a guinea is the usual fee of members for the attendance at meetings of Councils of the medical corporations. Yet the office is attended with so much honour and influence that the place is eagerly sought by distinguished members of the profession. The honour and influence that go with a seat on the Medical Council are far greater than that attendant upon the corresponding office in a medical corporation.

The medical authorities and Medical Council have done much, are doing much, and can do much more by means they already possess towards the gradual abatement of quackery. By punishing disgraceful conduct by erasure, and by rendering an adequate education compulsory, they can render quackery profitless unless action is checked by the exhaustion of funds brought about by the excessive cost of their meetings. In the minutes already referred to, the President states that "a recent (medical) case, for example, cost for sittings of the Council £294; it would have been £326 had all the members been present."

It is a good sign that attention to excess of cost is brought before the Council by its President, and in other respects the minutes of the last meeting give promise that better times in the general regulation of the profession, regarded as a whole, are coming.

FLUSHING THE PERITONEUM.

The practice of washing out the peritoneal cavity in abdominal sections where much blood, serum, or other fluid or semifluid matter has been effused, is a most important innovation in modern surgery. Certain well-known and distinguished British specialists are zealous advocates of this system of flushing the peritoneum, which they have practised with great success. A full stream of water at blood-heat, poured into the peritoneal cavity, detaches clots, etc., which sponges may fail to remove, counteracts the effects of chill caused by the opening up of the great serous cavity, and likewise acts as a hæmostatic. The advocates of flushing insist on the necessity of subsequent drainage.

The good results of flushing the peritoneum, according to the testimony of experts, have tempted others to try the practice, not always with similar success. Indeed, a distinguished French surgeon recently read before the Paris Obstetrical Society an important paper on the danger of flushing the peritoneum during abdominal section. In one case the patient was placed in great peril. In a second case death occurred. A patient, whose age is not stated in the report published in the *Journal de Médecine de Paris*, suffered from suppurating oöphoritis on the left side, and double salpingitis. At the operation the appendages could not be removed until intimate adhesions had been broken down. The peritoneum was flushed with "hot distilled water," and during the process profound syncope, with suspension of respiration, took place. Artificial respiration was carried on at first in vain, and a tracheotomy wound was made in the integuments of the neck,

when immediately spontaneous inspirations occurred, and the patient thenceforward did well. In the fatal case the patient was a single woman, aged 28. She took chloroform badly, the excited stage was long, and she readily came to, though plenty of chloroform, out of "a new bottle," was administered on a piece of lint. A large cyst had to be shelled out of the broad ligament. As much blood was effused, M. Polaillon determined to flush the peritoneum. He employed distilled water, previously boiled, and containing one part of carbolic acid to a hundred. The water was poured into the pelvic cavity through a wide glass cannula, at a temperature of about 99° F. After the flushing had been carried on for about three minutes, respiration became rapid, then grew feeble and ceased; the face became blue. The heart continued to beat regularly. The alarming symptoms began at a quarter past ten o'clock. Artificial respiration was continued till eleven. Then a few feeble inspirations began, and continued for a quarter of an hour; the pupils were then half contracted. The heart beat regularly and quickly. The patient continued unconscious. M. Polaillon immediately closed the abdominal wound, fixing the broad pseudo-pedicle outside. Notwithstanding inhalations of pure oxygen, friction, injections of ether, electricity applied to the level of the attachments of the diaphragm, and other stimulant measures, spontaneous respiration could not be permanently maintained. Once more artificial respiration was tried. Phlebotomy only resulted in the escape of a few drops of very dark blood from the left arm. Gradually the heart's action became more and more feeble, the face grew pale, flatus escaped from the anus, and the pupils dilated. A few minutes before noon the patient was evidently dead. The patient had been thirty-five minutes under chloroform. About one ounce and a half of the anæsthetic was used up, but not nearly that amount could have been actually inhaled.

M. Polaillon observed that this death was not only caused by chloroform; the flushing of the peritoneum must also bear part of the blame. He noted severe syncope in two cases at the moment when he injected very hot water into the abdominal cavity in order to wash coils of intestine and the peritoneum in general. Respiration was maintained in both these cases. In the instance above described at length the coincidence of the flushing with the cessation of respiration was equally marked. He specified that he at first poured about half a gallon of hot carbolised water into the pelvis, and, as the water came out strongly blood-stained to the last, he poured in more water, accidentally hotter than the first supply. The pelvis being full, the water reached the upper part of the abdominal cavity. It was at this moment that respiration ceased. M. Polaillon believed that the stimulus of the hot water touching the diaphragm or the solar plexus caused, by reflex action, the arrest of respiration and syncope. He likened the accident to the effects of a contusion in the epigastric region. This arrest of respiration was liable, as in this case, to remain permanent in a subject under chloroform, which already weakened the respiratory influence of the medulla. He advocated the placing of the lower part of the patient in a lower position than the upper, so as to prevent the water used in flushing from running towards the diaphragm. M. Polaillon also maintained that the water should never be over 99°. Some authorities may think that the presence of carbolic acid increases the danger of flushing. M. Polaillon's case decidedly deserves the serious consideration of all operators, now that the practice of flushing is becoming more and more general.

THE ARMY MEDICAL SERVICE.

The Medical Staff of the Army has, during the year 1888, been undergoing a process of steady reduction. If we except the operations for the relief of Suakin, England has not had any "little wars" on hand. This has enabled the War Office to reduce the strength of the Medical Staff by the simple process of not filling up vacancies caused by death and retirement. No examinations have taken place during the past year, and there will not be one in February, 1889. It is expected that by August the service will have been brought sufficiently low to warrant a call for candidates in that month. Meanwhile, measures are being taken to form a reserve of medical officers from the volunteer medical service, with a view to the future contingency of war. It is hoped, so at least we understand, that this reserve will enable the War Office to dispense with an increase of the regular medical staff of the army by its employment for home service, thus releasing the regulars for field service. It is believed, with what truth we cannot say, that the economical reformers in the House of Commons favour the scheme of a permanent reduction of the Medical Staff of the army by placing the medical charge of troops at home under the care of civil practitioners at "contract rates," and employing the regulars solely on foreign service.

How far this scheme is approved by the War Office and Horse Guards authorities we do not know. If it comes into operation it means for the medical officers of the army almost continuous Indian service, as, with the exception of Gibraltar and Malta, the number of foreign stations requiring more than a very few medical officers is very small. It remains to be seen also whether civil practitioners, of a class deemed competent for such duties, are likely to accept the "contract rates" for the discharge of the multifarious duties army medical officers are called upon daily to perform. There is another consideration. Candidates for the Medical Staff of the army are not accepted for military duty without previous special examination by an independent board of London examiners; secondly, without a course of instruction in the Army Medical School, with another examination at the end of it; and they cannot attain to the higher grades of the service without showing by yet another examination that they have kept pace with the science and practical knowledge of the day. Is all this to be demanded of civil practitioners at "contract rates?" If not, why is it deemed necessary for the permanent Medical Staff of the army? We are unable to answer this question, which will surely be very seriously asked in many quarters if this notable scheme is ever brought forward.

It is well known that if the state of public business had allowed the Army estimates to be brought forward at an earlier part of the session, a determined attack was to have been made on the constitution, pay, privileges, and retirement of the Medical Staff of the army, under the leadership of Mr. H. Fowler, supported by that free lance Lord Randolph

Churchill, and the senior member for Northampton. This, with many other battles on other branches of the military service, is postponed until next session. We observe also that a new assailant in the person of Colonel Blundell has announced his intention of attacking the Medical Staff of the army, on the ground of *inefficiency*. Who this gallant officer is we do not know, nor what means he has enjoyed for forming an opinion on the efficiency of the service. We trust and do not doubt that at the time of debate efficient defence of the service will be forthcoming. Medical officers will do well to help us by communicating the fact to individual members of Parliament willing to give their aid, and communicating their names to the chairman of the Parliamentary Bills Committee of the British Medical Association.

At a meeting of the Imperial Royal Society of Physicians of Vienna held on Friday, December 7th, Professor Billroth was elected President of the Society in succession to the late Professor Bamberger, by 137 votes out of 140.

The death is announced of Professor Roser, the eminent surgeon, and for many years one of the leading members of the medical faculty at Marburg University. The deceased, who was 71 years of age, died from the effects of an apoplectic seizure.

We have received a full report of the important debate on the Army Medical Department in the House of Commons, which we hoped to have published this week; but, owing to the extreme pressure on our space, the publication of this and much other important business is necessarily postponed.

PATHOLOGICAL SOCIETY.

We are asked to draw attention to the fact that the Council of the Pathological Society have determined not to hold the next meeting on January 1st, but on January 15th. This will be the annual meeting of the Society, and after the election of officers, the adjourned debate on the pathology of chronic alcoholism will be continued.

PHOTOGRAPHY OF THE MALE BLADDER.

We hear that Mr. Hurry Fenwick, and Mr. Pearson Cooper of the London Camera Club, have been working for some considerable time at photography of the human bladder. Various obstacles were in turn recognised and overcome, and they have now so far perfected their vesical camera and method as to obtain good negatives of the interior of "dummy" and dead bladders. They hope before very long to describe a method of recording the appearances and progress of diseases of the living bladder. The negatives are taken *per urethram* through a tube of 23 French calibre (11 or 12 English).

GUY'S HOSPITAL.

The debated question whether Thomas Guy, the illustrious founder of Guy's Hospital, was a mere vendor of secondhand and old books, or whether he held the more dignified position of a publisher of new ones, at his house at Lucky Corner, the apex of the turning between Cornhill and Lombard Street, may be considered to be now set at rest by Mr. Butterworth, F.S.A., who has picked up at a sale a small quarto volume of poems, bearing the imprint: "Printed for Thomas Guy, over against Lumber Street, 1739." The volume in question has been presented by Mr. Butterworth to the authorities of Guy's Hospital.

LIVERPOOL MEDICAL INSTITUTION.

The first annual dinner of the Medical Institution was held at the Adelphi Hotel on December 15th, a hundred and sixty members and visitors being present. Dr. Wm. Carter, President, was in the chair, and the visitors included Mr. John Hughes, J.P., formerly Mayor, Mr. Clarke Aspinall, City Coroner, and several medical men representing various medical societies in Lancashire and Cheshire. A Latin grace was sung, and after dinner an excellent musical programme was rendered by Drs. Grossmann, Crozier, and others. A most enjoyable evening was spent. Although the institution has been in existence fifty years, the practice of holding an annual dinner has not been adopted before, but the success that has attended its inauguration gives reason to predict for it a great amount of popularity in the future.

THE MEDICAL SERVICE R.N.

Some dissatisfaction is, we believe, felt in the Naval Medical Service at the proposed curtailment of shore appointments to hospitals and divisions of the Royal Marines. The duration of these appointments will, it is stated, be reduced to one year, whereas it was formerly three and then two. The alleged object is to provide in this way appointments for a greater number of officers. The reduction of the term of appointment to one year will, however, it is thought, prove particularly inconvenient to many, especially to married officers; while it is considered by many that so short a duration of the appointment will interfere with efficiency, inasmuch as each officer will have ceased to hold the appointment almost as soon as he has become accustomed to, and experienced in, its duties. We do not know how far these objections will ultimately weigh with the authorities, but they seem to deserve consideration.

DISINFECTION OF SURGEONS' HANDS.

A great deal has recently been said about surgeons' nails and nail-brushes in hospital wards. Bacteriologists have come to the conclusion that the usual washing of the hands with weak antiseptics is quite efficacious in killing pyogenic and specific germs on the hands, but does not destroy micro-organisms which lodge under the nails. Dr. Fürbringer, of Berlin, believes in washing the hands with soap, then in alcohol at 80° F., then in a sublimate solution. The alcohol is said to soak well into the nails. Drs. Roux and Reynès have tried experiments with alcohol on nails purposely infected. In 40 cases where the infection was experimental, and carried on in a laboratory, asepsis was proved in 33. In 8 cases, where infection was clinical, the hands being washed in the usual manner after touching infected fluids in wards, only 4 were proved aseptic after the above elaborate system of washing. Drs. Roux and Reynès nevertheless advocate this antiseptic ablution, noting that the nails are seldom so thoroughly rubbed after every operation as when an experienced physiologist cleans them after some special experiment. In all cases of enforced sanitary measures routine practices and habits must be taken into account.

PUBLIC HYGIENE AND SOCIAL ECONOMY.

A Social Economy Committee has been formed in connection with the Mansion House Committee for the British Section of the Paris Exhibition, 1889, for the purpose of obtaining a due illustration of the subject of social economy. The Committee includes the names of Mr. Ernest Hart (Chairman), Sir V. Kennett-Barrington, Sir Sydney Waterlow, Sir Joseph Fayrer, Sir Douglas Galton, Sir Henry Roscoe, Sir Philip Magnus, Messrs. W. Woodall, M.P., W. H. Pannell. J. Dredge, A. Carpenter, M.D., C. J. Radley, J. G. Fitch, J. Furley, C. S. Loch, H. Trueman Wood, and Louis Parkes, M.D. (Honorary Secretary). The subjects to be illustrated are chiefly as follows: industrial villages, trades unions, technical

education, friendly societies, life assurance companies, savings banks, co-operative stores, industrial dwellings, working men's clubs, temperance societies, coffee and vegetarian restaurants, protection of infant life, Factory Acts, baths and washhouses, domestic hygiene, open spaces, hygiene of factories and workshops, *employés* funds, home industries, labour, and emigration and immigration. Promises of assistance have been received from the Corporation of London, the City Commission of Sewers, and other public bodies, as well as from the leading authorities in the respective subjects named above. Models, plans, drawings, and literature will be included in the exhibit, which the Committee desire to be of national significance. Offers of assistance from individuals or societies connected with any of the above subjects will be cordially received by the Secretary at 2, Walbrook, E.C.

EXECUTION BY ELECTRICITY.

Some further experiments have recently been made in Mr. Edison's laboratory in Orange, by Mr. Harold P. Brown, an electrical engineer, with the object of allaying the fears of those who doubted whether the electric current could be so applied as to cause instant death, whatever the weight of the living being operated on. The experiments were made in the presence of Mr. Gerry, the author of the law enacting that the death penalty shall in future be inflicted by electricity, Mr. Edison, and the Committee of the Medico-Legal Society. The first victim was a calf, weighing 124½ pounds. The hair was cut on the forehead, and on the spine behind the forelegs; and sponge-covered plates, moistened with a solution of sulphate of zinc, were fastened in place. The resistance of the animal was 3,200 ohms. An alternating current of 700 volts was applied for thirty seconds. The animal, however, was killed instantly. It was at once dissected by Drs. Ingram and Bleyer, but the brain, heart, and lungs were found to be in a normal condition, and the meat was pronounced fit for food. One metal plate carrying the current touched the hair of the forehead, and slightly burned it, but otherwise there were no external indications of injury. A second calf weighed 145 pounds, and had a resistance of 1,300 ohms. The deadly alternating current at 700 volts pressure was applied for five seconds, and produced instant death. To settle permanently the weight question, adds the *New York Medical Record*, a horse weighing 1,220 pounds was next killed by passing the alternating current at 700 volts from one foreleg to the other. The resistance of this animal was 11,000 ohms.

PROPOSED NATIONAL CONTRIBUTION TO THE PASTEUR INSTITUTE.

It is well-known that at the Pasteur Institute in Paris patients of all nations are received free of charge. The Governments of several countries, the inhabitants of which have availed themselves of his care and treatment, have offered pecuniary assistance to the Institute. On Monday, December 17th, Sir H. Roscoe, referring to this circumstance and to the fact that during the past two years no less than 178 British subjects had been treated gratuitously by M. Pasteur, asked Her Majesty's Government whether they would consider the propriety of joining in the international subscription. The Chancellor of the Exchequer, with an eye to the main chance, observed that as many of these persons possessed ample means, it would be clearly their duty in the first instance, although it was a free institute, to contribute. That is a very timely reminder, but it hardly meets all the circumstances of the case. It is also a certain fact that a large number of British subjects who availed themselves of the gratuitous services of M. Pasteur and of this public institute of France were without means, and the shabbiness of the individuals who availed themselves of such a public institute without contributing to it hardly affords a reason for a like shabbiness on the part of our Government.

JUDGES AND MEDICAL WITNESSES.

The *Dundee Advertiser* calls attention to some absurdly severe observations by Lord Fraser upon medical witnesses in an action for damages arising out of an accident which recently came before him. The medical witnesses appear to have irritated his lordship extremely, and he attacked not only those before him, but medical evidence in general. "Medical men," he said, "can be got to maintain the most opposite theories with 'amazing audacity;'" and of one witness, whom he described as "a highly respected friend," he said, "I have often heard him as a witness, but I never heard him express a doubt about anything in his life—never; he is quite clear and sure upon everything, even as to prophecy." Another medical witness he described as the "sleuth-hound of the company;" but the *obiter dicta* of judges on the evidence of skilled witnesses of all sorts are often not worth very much. The legal mind is habitually unscientific; it can neither appreciate the doubts nor the certainties of scientific men. It is rarely, however, that a judge commits himself to observations which we must venture to describe as so ill-mannered as these of Lord Fraser. If medical men were more often on the Bench as assessors, and able to deliver their opinions on legal methods of argument and debate, it is possible we should hear sometimes complaints against legal experts quite as trenchant and certainly not less well founded. Judges who sneer at the opposite theses defended by men of science in dealing with biological phenomena, open to the most various interpretations, and full of elements of doubt, forget that in every law case opposite opinions have, in the first instance, probably been given by the legal authorities advising, and that when the matter comes to judicial decision, in a very large percentage of cases on appeal, the judgment is reversed. In matters of law, however, the questions at issue are of a relative simple kind, and the data are known, and are not complicated by the imperfectly understood actions of the functions of life and disease in a machine so complicated as the human frame. Lawyers, who are so often in error on mere points of law, should be less trenchant in their criticism on physicians and biologists, who deal with problems far less easy, and, indeed, often incapable of decision, except as a matter of opinion, and on the balance of probabilities.

THE NEW OPHTHALMIC HOSPITALS IN GERMANY.

Professor von Zehender, of Rostock, has presented to the Ophthalmological Society a very handsome volume, containing a full description of the eight ophthalmic hospitals in connection with German universities, which have been opened since 1876. The plans of each institution are most carefully drawn, and full details are given as to the arrangements for ventilation and warming, the number of resident and visiting officers, lay and medical, etc. Professor von Zehender is not unfamiliar with our English hospitals, and speaks with high approval of the plan adopted in most, of having "day-rooms" for such patients as are not confined to bed. Leipzig appears to be the only hospital that has such, although in most there are rooms that can be used for this purpose during certain times of the day. This work will be especially valuable to all who are interested in the construction and management of special hospitals, but we doubt whether the arrangements for the reception of out-patients that exist in most of the institutions described would be found adequate in our large towns. On the other hand, in the arrangement of the wards and operating theatre, and in the facilities afforded for scientific investigation there is much that might with advantage be introduced into our hospitals. Professor von Zehender has evidently spared no pains or expense in compiling this book, and the result is the production of a really artistic work. It is published by Engelmann, of Leipzig.

PROFESSOR VON BERGMANN ON CEREBRAL SURGERY.

THE number of cases in which a cerebral abscess has been successfully treated by incision and drainage is somewhat slowly increasing. The most recent addition is that of a patient shown to the Berlin Medical Society on December 5th by Professor von Bergmann[1]. The patient, a workman, aged 29, had suffered from otorrhœa for eleven years. For six years he had been ailing, and, after admission, it was found that there was some fever, with evening exacerbations and shivering. Evidence of the intracranial mischief was afforded by the onset of headache and by a remarkable slowing of the pulse to fifty-three per minute. Finally, right facial paresis, with partial left hemianæsthesia and hemiparesis ensued, symptoms which confirmed the probability of a lesion of the left hemisphere affecting the sensory centres; the diagnosis of abscess of the temporo-sphenoidal lobe was made. The skull was freely opened, the dura mater incised, and the pulsating brain exposed. Having in two previous cases missed an abscess with the trochar, Professor von Bergmann now prefers to incise the brain. In the present case pus, which was extremely green and foul, was reached only on the third incision; the finger could be introduced into a smooth-walled cavity. A drainage tube was introduced, and the wound dressed with iodoform gauze. The subsequent progress of the case was very satisfactory, the drainage tube was gradually shortened, and in three weeks the abscess cavity was entirely closed. The patient was shown to the Society six weeks after the operation; he was then free from fever, and the facial paresis and other nervous symptoms had disappeared; a considerable portion of the bone removed at the operation had been reproduced, but the otorrhœa persisted, though in diminished quantity, in spite of local treatment by scraping away the granulations with the sharp spoon. Professor von Bergmann commented on the danger attending the indiscriminate use of injections and irrigations.

THE CHEMISTRY AND PHARMACOLOGY OF THE ORGANIC NITRITES.

A MORE complete pharmacological investigation of the organic nitrites would, without doubt, furnish therapeutics with results of the highest importance. Although two preparations are at present official that are supposed to depend for their therapeutic value upon the presence of such compounds—the spiritus ætheris nitrosi, *B.P.*, and amyl nitris, *B.P.*—considerable obscurity exists as to their mode of action, consequent upon the want of uniformity in the results obtained by their use. Both preparations are, in fact, known to be more or less varying mixtures of the characteristic nitrites with other bodies, and it must be evident that exact conclusions as to the physiological action of their respective constituents cannot be arrived at until these have been separated in a chemically pure state and made the subject of careful experiment. The chemical portion of this work has been commenced in the newly-established Research Laboratory of the Pharmaceutical Society, and a few months since the director, Professor Dunstan, in conjunction with Mr. Dymond, described a convenient process for the preparation of pure ethyl nitrite, and of a fairly stable solution of the same. A comparison of the action of this pure solution of ethyl nitrite with that of the heterogeneous solution known as spiritus ætheris nitrosi was undertaken by Professor Leech, of Manchester, who reported his results to the Pharmaceutical Society at the evening meeting on Thursday, December 13th. He stated that he had found no evidence that the two preparations differ at all in their therapeutic effects, provided the doses given contain an equivalent amount of ethyl nitrite; and it did not appear that the other constituents of spirit of nitrous ether have any therapeutic importance. Professor Leech is, therefore, of opinion that, since a fairly stable solution of pure ethyl nitrite is now available, the formula for its preparation should be included in the *Pharmacopœia*, and that the time-honoured spiritus ætheris nitrosi should disappear from the list of official remedies. "Amyl nitris, *B.P.*," is at present the subject of a similar investigation, and some of the results were reported on the same occasion. Although the physiological experiments have not yet been completed, enough is known to warrant saying that they will probably affect the future of this preparation as an official remedy. The amyl nitrite of the *Pharmacopœia* is prepared by the action of "nitric or nitrous acid on amylic alcohol, which volatilises between 262° and 270° F." As the fraction distilling between these limits of temperature might contain constituents of the crude fusel oil used other than pure amylic alcohol, and these would also be acted upon by the acid, there are evidently the conditions present for an admixture of other nitrites. Moreover, if nitric acid were used there would also be a formation of oxidation products. In fact, previous workers had reported the presence, besides unaltered amylic alcohol, of valeric aldehyde, valeric acid, and amyl valerate. Professor Dunstan and his co-workers, Messrs. Woolley and Williams, have also recognised in good commercial samples of "amyl nitrite" the presence of isobutyl nitrite, α-amyl nitrite and β-amyl nitrite, and in an inferior sample there were also propyl nitrite and ethyl nitrite present. It was therefore determined to prepare specimens of these nitrites in a pure state and hand them over to competent workers for comparative experiments as to their physiological action. Pure isobutyl nitrite was prepared and a comparison of its action with that of α- and β-amyl nitrites was undertaken by Professor Cash, of Aberdeen. This investigation is still in progress; but, so far as it has gone at present, the results point to the unexpected conclusion that the isobutyl nitrite is the most active constituent of the official "amyl nitris," or, at any rate, that it is more prompt in its action on the blood-pressure, pulse-rate, and respiration in small animals than a mixture of the two amyl nitrites. The probability of this conclusion is also confirmed by some results obtained by Dr. Lauder Brunton, who, in comparing the action of amyl nitris, *B.P.* with that of a mixture of the amyl nitrites, found that the official preparation, which would have contained some isobutyl nitrite, produced the more marked effect on the human pulse-rate. It is evident that this combination of chemical with physiological research is full of promise for the future. Speaking on behalf of physiologists, Professor Michael Foster recognised the service that chemists might render by supplying them with "clean" drugs for their investigations. Just as it is known that the presence of a minute quantity of one metal in a very large quantity of another will affect the properties of the whole mass, so, he pointed out, the presence of even small impurities in a drug might vitiate all the results obtained from its use. Professor Burdon Sanderson also testified to the importance of this line of work, and expressed the hope that the research laboratory now established for the chemical side of pharmacological investigation by the Pharmaceutical Society might soon have its complement in a physiological laboratory established under the auspices of the great medical corporations.

CÆSAREAN SECTION IN ST. PETERSBURG.

BETWEEN October, 1885, and January 1st, 1888, Dr. Krassowsky performed Cæsarean section seven times, with one death. Five children were born alive and were reported as still living; in the two remaining cases the children were not only long dead, but macerated. Porro's operation was performed five times, with extraperitoneal treatment of the pedicle; the conservative Cæsarean

[1] *Deutsche Med. Zeitung*, ix, 100 p. 1194.

operation, on Sanger's principle, twice. In one case, the operation was performed for a very hard tumour of the pelvic cavity; also once for complete rupture of the uterus during birth; and for carcinoma of the cervix (this was a "Porro," and also the sole case fatal to the mother). Four of the operations were for contracted pelvis. In the first, the pelvis was rachitic, flattened, and irregularly contracted. In the second, the pelvis was of similar character; the diagonal conjugate was just over 4 inches. The operation was performed thirty hours after the beginning of labour pains and eighteen after the escape of the waters. In the third case of this kind, the pelvis was described as of the pseudo-malacosteon type; the narrowest part of its rostrum was scarcely two fingers' breadth in width. The pelvis was flattened and universally contracted in the fourth case, the diagonal conjugate about $3\frac{1}{4}$ inches. The operation was performed forty-four hours after rupture of the membranes. Precise details on the above interesting cases will be found in Dr. Krassowsky's original article in the *Archiv für Gynäkologie*, vol. xxxii., part 2. For his antiseptic medium he employed red iodide of mercury.

SPIRITUALISM AND INSANITY.

Is belief in spiritualism ever evidence of insanity *per se?* Such was the title of a paper read at a late meeting of the New York Medical Society by Dr. Matthew Field. He believes that there are three classes of spiritualists—namely, first those who make it a business to delude and mystify, the so-called mediums; secondly, those who attend *séances* and are deluded and mystified, being caused to see curious things, as hands and faces of the dead, or hear rappings and voices, or receive written communications in some mysterious manner, or are told things that they supposed nobody knew but themselves. They are so astonished by these things, and so incapable of comprehending how they could be accomplished, except by supernatural agency, that they believe; this class never receive these manifestations except through the instrumentality of members of the first class. In the third class he places those who actually believe they see the dead and those at a distance, face to face in the material form, and that they communicate with them, hearing their voices clearly and distinctly. The second class embraces a large number who are of weak mind; those who are superstitious and of unstable and neurotic organisation, who require but a slight cause to make them insane: yet many persons of fine intelligence and brilliant mind are found in this class. All who belong to the third class are insane. It is often difficult to determine whether a person belongs to the first or third class. The third class do not require the intervention of any medium or second person; they are the victims of well-defined sensory hallucinations, and as they actually believe in the reality of their sensations, it is evident that they do not correct their false perceptions by other senses or by their intelligence, but rather build up a distinct false belief. The medical members of the Society who took part in the discussion all expressed their practical concurrence in Dr. Field's views.

DETERMINATION OF ALBUMEN IN URINE.

Dr. H. Schauman, in the *Zeitschrift für Analytische Chemie*, vol. xxvii, part 5, proposes a modification of the gravimetric method for the determination of albumen in urine. Instead of the ordinary paper filter, he uses a plug of cotton-wool freed from fatty matter, and pressed firmly into a glass tube drawn out to a narrow point. For this purpose a filter tube is adapted, as introduced by Allihn for the determination of sugar. This tube, with its cotton plug, is dried at 110°, and weighed. It is then fixed firmly, by means of a cork, in a filter support, which is, in turn, connected with a filter pump. The albumen in a weighed quantity of urine is precipitated in a beaker by the addition of a small quantity of acetic acid, and heating for half an hour on the water bath. The clear supernatant liquid is first poured into the tube. The coagulum, which adheres rather firmly to the bottom of the beaker, is repeatedly washed with hot water, and the washings carefully poured upon the cotton before the precipitated albumen is introduced. This is then washed with hot water, with the aid of a filter pump, until the liquid, running out no longer, gives a chlorine reaction with silver nitrate. The tube is then closed at the wider end with a cork, perforated to admit a glass tube. It is then placed in a small rectangular drying box of sheet iron, provided on each of its two opposite sides with a circular aperture, into which the filter tube is inserted. The end having the perforated cork is connected with a calcium chloride tube and a washing bottle charged with sulphuric acid, whilst the drawn-out end is connected with an aspirator. For an hour a moderately rapid stream of dried air is drawn through the filter tube. The temperature in the drying box is gradually raised to 100°, and, after heating to this point for an hour, it is raised further to 110°, dried air being still drawn through in a moderately strong current. After heating for two hours at 110°, the tube is weighed and reweighed every half hour, until the weight is constant.

EARLY TWIN EMBRYOS.

Twin pregnancies are of great interest both to the obstetrician and to the embryologist. True twins are developed from one yelk, and it has long been known that the embryonic appendages of one embryo may cut off those of the other from the placenta, and thus give rise to remarkable malformations. The placenta is common in all one-yelk twins. The simultaneous development of twins from two ova is also an interesting subject. At a meeting of the Berlin Obstetrical and Gynæcological Society Dr. Gottschalk exhibited a pair of twins aborted at the second month. They showed very marked differences in their degrees of development. The mother was thirty-one years old, weakly and anæmic; her youngest and second child was two years old. She aborted eight weeks after the cessation of the catamenia, from no particular cause. The larger ovum was expelled into the vagina without aid; the lesser had to be detached from the fundus with the finger. Both ova were fresh and uninjured. The bigger was just under two inches broad and over three long; the smaller an inch long and four-fifths of an inch broad. The extremities of the larger embryo were completely developed, those of the smaller formed mere buds. The relative sizes of the placentæ corresponded to the development of the ova. Dr. Gottschalk did not consider that he had to do with a case of superfœtation. He traced the lesser ovum to the same period of ovulation as its brother, considering, however, that it was fertilised somewhat later.

THE MEDICAL PROFESSION IN RUSSIA.

The general state of the medical profession in Russia appears to be very unfortunate. Dr. C. Yaroshevski, in the *Russkaya Meditsina*, states that, though the number of doctors in proportion to the population is very much less than in other European countries, yet the destitution amongst them is alarming. Of late there have been numbers of suicides of medical men who were without the bare necessaries of life. The fees for medical attendance are very low. There are, he says, 18,000 doctors for a population of one hundred millions, or one medical man to every 6,500 persons. In Odessa 40 per cent. of the whole population, and 94 per cent. of the very poor, are stated to have died without having had medical attendance. A similar state of affairs exists at Kostrome. Dr. Yaroshevski attributes this deplorable condition of things to the ignorance of the Russian people, who prefer to consult soothsayers and magicians, to the monopoly enjoyed by the pharmacists, and to the large number of Feldshers who are allowed to practise. The Feldshers are generally men who have served in

the Ambulance Corps or have been hospital attendants, and on the strength of this slight knowledge they are licensed to practise.

SCOTLAND.

EXTENSION OF UNIVERSITY TEACHING.

HAMILTON has followed the example of Paisley and Greenock by holding a public meeting to promote the extension of university teaching. The meeting was attended by Professor E. Caird, who explained the scheme, and an influential committee was formed to promote its adoption.

QUEEN MARGARET COLLEGE.

HER MAJESTY THE QUEEN, who recently visited Queen Margaret College, has been graciously pleased to send a donation of £50 to the endowment fund of the college. The building and grounds, at present in use for college purposes, were purchased by Mrs. Elder for £12,000, and she has offered to convey the property as a gift on condition that, in order to ensure the permanence of the institution, a sum of £20,000 should be received by way of endowment. Towards this fund there has been contributed already a sum of nearly £12,000, mainly through the efforts of Mrs. Campbell, of Tullichewan. There is still a large sum required, and a public meeting was held on November 5th under the presidency of the Lord Provost, when a proposal to complete the fund was cordially recommended to the public, and a committee formed to obtain subscriptions.

EDINBURGH MEDICAL STUDENTS AND THE CLASS DISTURBANCES.

THE senior students of medicine of Edinburgh University held a meeting this week, at which a resolution was passed declaring disapproval of the recent discourteous conduct towards the professors by a section of the students in the medical classes. A second resolution was carried protesting against the misleading and unwarrantable exaggerations contained in the press notices of the recent disturbances. Both resolutions were challenged, but ultimately carried by a majority.

EDINBURGH FEVER HOSPITAL AND CLINICAL TEACHING.

THE Edinburgh Fever Hospital has, on the application of the city authorities, been placed on the list of institutions authorised to grant certificates of attendance on fever cases, as required of candidates for the diploma of the King and Queen's College of Physicians, Ireland. At a meeting of the Edinburgh Town Council on Tuesday, it was stated by Baillie Russell, convener of the Public Health Committee, that the number of patients in hospital that day was 106, and during the course of the winter they had had from 120 to 150 students' names on their list. The list is confined to fourth year students, and so far as Edinburgh is concerned, the attendance is purely voluntary. The Council gave strong expression to the feeling that Edinburgh should take some action whereby attendance on fever cases was made compulsory.

GLASGOW UNIVERSITY CLUB.

THE University Club entertained the Gifford Lecturer, Professor Max Müller, to dinner in the Grand Hotel, Glasgow, on December 12th. The Rev. David Hunter, B.D., occupied the chair, and the croupiers were Mr. Cleland Burns and Mr. Smart. Principal Caird, Professors Sir William Thomson, Jack, Ramsay, McKendrick, Young, Ferguson, and Drs. Coats, Napier, Mackay, and Bruce Young were among those present. In replying to the toast of his health, Professor Max Müller expressed his gratitude for the true Scotch heartiness with which he had been received during his stay in Glasgow. He had anticipated audiences of forty or fifty hard-working students. Had he given the course of lectures in his own University, most likely they would have shared the fate of the lectures of Dr. Stubbs, who said that they were attended by a few elderly ladies and by one or two gentlemen. But when he found himself in the Bute Hall, faced by a large assembly, when he saw at almost every lecture the thoughtful face of their honoured Principal and most of the professors, besides a number of well-known ministers, then again the eager faces of the young students, and then that large background of ladies and gentlemen, he confessed he felt no doubt pleased, but also very much perplexed. He well remembered Niebuhr saying to a deputation of Bonn students who went to thank him: "Gentlemen, do not thank me. I have to thank you. You have given me, an old man, new life. You have been my wings in my old age." In responding to the toast of "The University," the Principal took occasion to express his satisfaction that at last there were signs that the controversy that had ranged men in opposing phalanxes for so many years was coming to an end. They had all come to the conclusion that a great accession ought to be made to their teaching power, whether by new intra-mural arrangements or by availing themselves of the educational resources which had grown up outside the walls of the old universities, and were now prepared to unite their energies on the great object of making the Scottish University of the future, even more than it had been in the past, the highest source of the intellectual life and work of the country.

ASIATIC CHOLERA.

A COMMUNICATION of considerable importance on the subject of Asiatic cholera was made to the Royal Society of Edinburgh on Monday, December 17th. The paper, the joint work of Dr. Neil Macleod, Edinburgh, and Mr. Walter J. Miles, F.R.C.S., was read to the Society by Dr. G. Sims Woodhead. The work was in part carried out in Shanghai and in part at the Royal College of Physicians' Laboratory, Edinburgh. It had for its object more especially the testing of Koch's statements regarding the comma bacillus. It was found possible to demonstrate the bacillus in forty out of forty-four cases of cholera, of which thirty had terminated fatally. The conclusions reached by the observers are as follows: 1. The comma bacillus of Koch is invariably present and associated with certain changes in the small intestine in cases of Asiatic cholera. 2. There is no evidence to show that it is a normal inhabitant of the human alimentary canal, and therefore no proof of the assertion that it is a result of the disease. 3. The means used to introduce the comma bacillus into, and those used to lessen the peristalsis of the small intestine of the guinea-pig, cannot be regarded as causing appearances like those of Asiatic cholera, or as causing the death of the animal, far less a mortality of over 60 per cent. 4. Pure cultivation of the comma bacillus introduced into the stomach under certain precautions described are pathogenic to the guinea-pig. 5. Injected with similar precautions, the contents of the ileum from these animals killed by injection of pure cultivation of the bacilli act in the same manner as pure cultivations of that organism. 6. The organism multiplies in the small intestine of the animal, and there are associated therewith changes similar to those in man in Asiatic cholera. 7. As there are conditions which favour the passage alive of the bacillus through the stomach of the guinea-pig, and also conditions which favour its multiplication in the small intestine of that animal, so in man there cannot be a doubt that the organism finds conditions favourable to its entrance alive, through, in all probability, the mouth and the stomach. 8. There is strong evi-

dence, therefore, for regarding the comma bacillus of Koch as the cause of Asiatic cholera.

AMBULANCE INSTRUCTION FOR BOYS.

REMARKABLE success has attended the experiment of giving ambulance instruction to boys. The experiment was begun in Glasgow in one of the companies of the Boys' Brigade (the 9th Glasgow Company), and the course of instruction was followed so eagerly by the boys, that a large number of other companies applied for instruction. The Glasgow Executive of the Brigade appointed an Ambulance Committee to direct the movement, on which the medical profession was duly represented. Last winter ten classes were formed, with an aggregate of 258 boys. The lectures were willingly given by some of the younger medical graduates of the University; and the course followed adhered closely to that of the St. Andrews Ambulance Association, which appointed examiners to the various classes. The value of the instruction may be estimated by the fact that 217 boys passed the examination, and that the examiners, without exception, expressed their surprise at the amount of information possessed by the boys, and particularly at the skill which they displayed in the practice of "First Aid." Already there are several authentic cases of invaluable aid being rendered in the public thoroughfares by boys who had gone through the course of training, one boy successfully applying an improvised tourniquet, and arresting a serious hæmorrhage from the arm of a workman, wounded by the smashing of a plate-glass window, and another applying temporary splints to the fractured leg of a companion. This winter a much larger number of boys are receiving instruction; and the possibility of adding some elementary instruction in the subject of food and hygiene is being seriously considered. This seems a promising way of getting information bearing on the conditions of health carried to the homes of the poor, and we trust our younger medical brethren will continue to render to the movement that help which they have already so willingly and successfully given. The convener of the Committee in charge of the arrangements, and the gentleman to whom the credit of the initiation is due, is Mr. Wm. Kidston, jun., of the 9th Glasgow Company of the Brigade.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

AT the eighth meeting of this Society, held on December 14th, a very interesting communication was read by Dr. David Lindsay, Hamilton, concerning a case of intra-laryngeal tumour. The tumour was attached by a very narrow pedicle to the ary-epiglottic fold, was of the size and appearance of a rabbit's kidney, and seemed of a perfectly simple nature. Its presence was discovered in July, and it was removed by snare in September, the patient not permitting it to be removed sooner. At the time of removal there was observed a very slight enlargement of cervical glands. Since removal the glands of the neck have undergone enlargement and infiltration with great rapidity. The mediastinal glands are also deeply involved, symptoms due to backward pressure on the gullet being very marked, and the patient is evidently dying of malignant disease. The report of the microscopical examination was that the tumour was an ordinary papilloma which had undergone malignant change, apparently recently, and malignant change of an acute character. The remarkable fact is that the larynx is perfectly normal, and shows no recurrence of the growth. An interesting discussion followed the reading of the paper, in which Professor M'Call Anderson, Dr. McIntyre, Dr. Stirton, and Dr. Newman took part. Dr. S. G. Campbell read notes of a case of multiple osseous tumour; and Dr. George Buchan read notes of a case of cerebellar abscess, and also of a case of dilated cerebral ventricles.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.

THE first extra meeting of this Society for the display of dermatological specimens was held on December 17th, Professor W. T. Gairdner in the chair. Dr. Finlayson showed a specimen of Scleroderma associated with Symmetrical Gangrene of the Extremities (Raynaud's disease). Professor McCall Anderson showed (1) a case of Xeroderma Pigmentosum in a boy. The disease chiefly affected the face and left eyeball, and was marked by pigmented spots, telangiectasis, atrophic patches, and small nodules. Microscopic examination of the nodules showed that they were epitheliomatous. (2) A case of Molluscum Contagiosum, with microscopic specimens, and to contrast a case of molluscum fibrosum. (3) A woman, aged 29, with a Linear Eruption of twenty-five years' duration in the region of distribution of the right ulnar nerve, probably scrofuloderma. (4) A man with Extensive Superficial Syphilitic Ulceration of Chin and Front of Neck. Dr. Frank Shearar (Paisley) showed a man with a Continuous Band of Scrofuloderma extending from Buttock to Root of Fifth Toe in the course of the small sciatic and short saphenous nerves, and of five and a half years' duration. Professor Gairdner showed a patient with Gout. Tophi were seen in the skin of the legs, where there were discharging ulcers, but not in relation to the joints. The joints of the fingers were distorted, as in rheumatoid arthritis. Tophi were also seen beneath the skin of the pinnæ. Dr. Lindsay Steven showed (1) a boy with Herpes Zoster of the Cheek in the Region of the Supra-maxillary Nerve, characterised by recurrence every two months in exactly the same spot; (2) a boy with a Mild Form of Ichthyosis associated with Bronchial Asthma. Dr. Allan Jamieson (Edinburgh) showed a number of beautiful drawings of rare forms of skin disease: (1) of a case showing the combination of Lichen Pilaris, Verrucosus, and Planus; (2) Varicella Gangrenosa; (3) Paraffin Ichthyosis; (4) Tinea Circinata Vesiculosa; (5) Eczema-Lupus of Hutchinson; (6) Ichthyosis Plantaris; (7) Extreme Pigmentation of Skin in Pediculosis Corporis.

IRELAND.

THE date for the beginning of the new scheme of examination for the Fellowship of the Royal College of Surgeons has been changed to January 1st, 1889.

SCIENTIFIC ASSOCIATION.

THIS society, connected with the school of the College of Surgeons, held its opening meeting on Monday, December 17th Professor Thornley Stoker in the chair. There was a large attendance, including several lady students. Professor Fraser, the new president, read his address on the structure of the body, and several speeches were delivered by visitors. The medals were awarded to Mr. McMunn and Miss Church.

QUEEN'S COLLEGE, CORK.

A MEETING of graduates of the Queen's College was held recently for the purpose of making certain representations to the governing body relative to the selection of the professors and officers of the College. Mr. Keogh, who presided, said that he disclaimed on the part of the meeting any intention on the part of those taking a part in it to dictate to those who were empowered to appoint the officers of the College. The following resolution was proposed by Dr. Dimlea, LL.D., and seconded by Mr. Welpy, A.B.: "That we, the graduates and undergraduates of the Queen's College, Cork, in meeting assembled, desire respectfully to impress on the authorities who have the power of filling its vacant chairs and offices, the justice and importance of giving the preference, *ceteris paribus*, to candidates who have pursued their studies in the College." Mr. Eames proposed to substitute for the words

"*ceteris paribus*" the words "provided that, should one of the candidates be far superior to the others, the fact of his not being educated at the College should be no bar to the appointment." The resolution, however, was carried on a division, and the proceedings terminated.

THE ENTRIES AT DUBLIN.

THE number of students entered for dissections at the various medical schools are as follow: Trinity College, 245; Ledwich, 198; College of Surgeons, 124; Carmichael, 107; Catholic University School, 100; or a total of 774. Trinity College School has gone up 26, and the Catholic University 10, but there is a slight falling off in the other schools. These numbers do not include the students of the fourth year, who do not require anatomy, so that the Dublin school probably numbers about 900.

TYPHOID FEVER IN DUBLIN.

THE death from typhoid fever of Lieutenant-Colonel Blayney Codrington, R.E., commanding the Ordnance Survey in Ireland, again calls attention to the condition of the military barracks in Dublin. The latest information we have is to the effect that the disease in the case of Colonel Codrington was contracted in England, and that it developed three days after his return to Dublin. Mountjoy Barracks, Phœnix Park, is exceptionally well equipped in its sanitary arrangements. It is the only barrack under the charge of the Board of Works, and no case of typhoid fever has ever occurred in it. An officer of the Black Watch has also lately fallen under the effects of typhoid contracted at the now notorious Royal Barracks. The subject of typhoid fever in Dublin was recently brought before the Royal Academy of Medicine by Dr. Grimshaw, Registrar-General, and Sir Charles Cameron, Superintendent Medical Officer of Health for Dublin. On a comparison of death-rates from typhoid from 1876 to 1885 inclusive, it appears that the average for England and Wales was 0.25 per 10,000; for Ireland, 0.17; for London, 0.23; for Dublin, 0.47, or nearly three times the average rate for Ireland, and more than double the rate of London, for the same period. The authors believe that the disease, when it invaded the city, found a favourable soil in the general insanitary state of the city, and more especially in the peculiar geological formation of the district. It appears that the city rests in great part on a gravel bed, superimposed on a stratum of clay. The gravel beds are waterlogged for a great portion of the way, because the main sewers, which discharge into the river, close automatically as the tide rises. The paper is one of great interest and importance. It does not quite appear how the gravel bed is to be got rid of, but the waterlogging could be prevented by a system of intercepting sewers, which would prevent the necessity of having outlets into the river.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS FOR 1889. ELECTION OF MEMBERS.

MEETINGS of the Council will be held on January 16th, April 17th, July 10th, and October 16th, 1889. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting, namely, December 27th, 1888, March 28th, June 20th, and September 26th, 1889.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member *by the Council* or by any recognised *Branch Council*.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No member can be elected by a Branch Council unless his name has been inserted in the circular summoning the meeting at which he seeks election.

FRANCIS FOWKE, *General Secretary*.

COLLECTIVE INVESTIGATION OF DISEASE.

REPORTS upon the two remaining inquiries, namely, that into DIPHTHERIA, and that into the GEOGRAPHICAL DISTRIBUTION OF CERTAIN DISEASES, are in preparation, and will be published as soon as ready.

The following inquiry only of the first series remains open, namely, that on the ETIOLOGY OF PHTHISIS.

A fresh inquiry into the ORIGIN AND MODE OF PROPAGATION OF EPIDEMICS OF DIPHTHERIA has been issued.

Memoranda upon these subjects, and forms for recording observations, may be had on application to the Secretary of the Collective Investigation Committee, 429, Strand, W.C.

BRANCH MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.—The next meeting will be held in the Town Hall, Walthamstow, on Thursday, January 19th, at 8.45 P.M. A paper on Diphtheria, with special reference to Treatment, will be read by A. Ernest Sansom, M.D.—J. W. HUNT, Honorary Secretary, 101, Queen's Road, Dalston.

OXFORD AND DISTRICT BRANCH.—The next meeting of the Branch will be held on Friday, January 25th, at the Radcliffe Infirmary, at 3 o'clock. Gentlemen intending to read papers or show cases are requested to communicate with the Secretary, W. Lewis Morgan, 42, Broad Street, Oxford, on or before January 11th.—S. D. DARBISHIRE and W. LEWIS MORGAN, Honorary Secretaries.

SOUTH-EASTERN BRANCH: WEST KENT DISTRICT.

A MEETING of this district was held at the West Kent Hospital, Maidstone, on December 13th, Dr. SHAW in the chair.

Next Meeting.—It was unanimously resolved that the next meeting take place at Gravesend, in the spring of 1889, and that Dr. Gramshaw be requested to preside.

Communications.—The following papers were read and exhaustively discussed: 1. Dr. BOYCE: A Case of Acute Lepto-Meningitis Spinalis. 2. Dr. WHITTINGDALE: A Case of Eclampsia occurring during Pregnancy; Induction of Premature Labour; Recovery. 3. Dr. HOAR: Notes of a Case of Obscure Heart Disease; this patient was brought before the meeting and examined by the members present.

Dinner.—Ten members and visitors subsequently dined at the Star Hotel.

SYDNEY AND NEW SOUTH WALES BRANCH.

THE seventy-fifth general meeting of this Branch was held in the Royal Society's Room, Sydney, on Friday, October 5th, 1888. Dr. CHAMBERS, the President, occupied the chair, and twenty members were present.

Communications.—Dr. QUAIFE, of Woollahra, read some notes on a case of syphilitic periostitis, and exhibited the patient.—Dr. KENDALL, of College Street, Sydney, read a paper on Antipyretics.—Drs. CRAGO, JENKINS, HANKINS, KNAGGS, SCOT SKIRVING, CHAMBERS, and QUAIFE took part in the discussion.

The Administration of Anæsthetics.—Dr. KNAGGS moved: "That in the opinion of this meeting, it is advisable to form a committee to formulate suggestions with regard to the administration of anæsthetics. The committee to consist of Drs. Shewen, Murray, Oram, Professor Stuart, Drs. Scot Skirving, A. W. Munro, Fisher, Clark, Kendall, Muskett, Sir Alfred Roberts, Drs. Sydney Jones, Wm. Chisholm, Quaife, W. W. J. O'Reilly, and the mover, with power to add to their number."—Seconded by Mr. G. T. HANKINS, and carried.

A Case of Destitution.—Dr. KNAGGS brought under the notice of the members the case of the widow of the late Dr. Browne, of Mimnie, who had been left destitute.

SUCCESSFUL VACCINATION.—Mr. Shirley Woolmer Arundell has received the Government grant for successful vaccination in the eleventh and twelfth districts of the Wisbech Union.—Mr. W. H. Kerby, M.R.C.S., public vaccinator to the No. 5 District, Bridport Union, has received the Government grant for efficient vaccination.

SIR MORELL MACKENZIE AND THE ROYAL COLLEGE OF PHYSICIANS.

WE have been asked to publish the following correspondence:—

Royal College of Physicians, London, S.W., November 20th, 1888.

DEAR SIR,—It has been said in my hearing that you are no longer a Member of this College. As I have not received any official notice that you have surrendered your membership, I should feel obliged by your informing me whether there is or is not any ground for the statement?—I am, yours faithfully, (Signed) HENRY A. PITMAN, Registrar.

Sir Morell Mackenzie, M.D.

Royal College of Physicians, London, S.W., November 22nd, 1888.

DEAR SIR,—On the 20th inst. I addressed a letter to you, and fearing it may have miscarried I enclose you a copy. As it is important that I should be accurately informed on the question put in that letter, may I request the favour of an early answer?—I am, yours faithfully,

(Signed) HENRY A. PITMAN, Registrar.

19, Harley Street, Cavendish Square, W., November 23rd, 1888.

DEAR SIR,—I received your letter dated November 20th, and also your second letter, November 22nd, enclosing a copy of the previous one. I am sorry to have given you the trouble of writing twice, but I did not recognise the urgency of your first note, and at present I am so busy that my correspondence occasionally gets behind hand.

I am not surprised at it having been said in your hearing that I am "no longer a Member of" the College, as, for the last fifteen years, I have, as far as possible, suppressed my connection with your institution. I only became a Member because that qualification is necessary for the medical staff of the London Hospital; and I should have resigned my connection with the College when my private engagements necessitated my giving up my hospital appointment had I known that I could do so by a simple notice. As I gather from your letter, however, that this method is recognised, I shall be much obliged if you will be good enough to omit my name from the future lists of Members.—I am, yours faithfully, (Signed) MORELL MACKENZIE.

To Sir Henry Pitman, M.D., Registrar, Royal College of Physicians, Pall Mall East, S.W.

Royal College of Physicians, Pall Mall East, November 26th, 1888.

DEAR SIR,—Let me thank you for your reply of the 23rd inst. to my letters of the 20th and 23rd, and to express my regret that you should have been put to any trouble in the matter. Let me add that it is the custom when a Member resigns his membership to return his diploma to the College.—Believe me, yours faithfully, (Signed) HENRY A. PITMAN, Registrar.

Sir Morell Mackenzie, M.D.

19, Harley Street, Cavendish Square, W., November 28th, 1888.

DEAR SIR,—I regret to say that I do not recollect having seen my diploma since I sent it to the Secretary of the London Hospital twenty-two years ago. I suppose that he forgot to return it to me after my election. I have written to the Registrar of the General Medical Council requesting him to remove my name, if indeed the title was ever registered, of which I am by no means sure. Perhaps, however, it it would not be troubling you too much, you would be good enough to give notice yourself to the Registrar of my resignation.—I am, dear Sir, yours faithfully (Signed) MORELL MACKENZIE.

Royal College of Physicians, London, S.W., November 26th, 1888.

DEAR SIR,—I thank you for your letter of the 28th inst. I have notified in accordance with your wish your resignation as a Member of this College to the Registrar of the General Medical Council.—Yours faithfully,

(Signed) HENRY A. PITMAN, Registrar.

AMALGAMATED SANITARY SOCIETIES.

SIR DOUGLAS GALTON in a recent lecture on this subject delivered before the Sanitary Institute of Great Britain, referred to the increasing population occupying every piece of spare land in this small country; in our colonies sites abounded which, through carelessness and ignorance, had produced and might produce disease and death; the mortality in India during the last ten years was 38,000,000 persons from preventable disease; such facts showed the wide field open to them to labour in. Hecatombs of infants were yearly sacrificed to mismanagement. The deaths of infants in October last (according to the Registrar-General) averaged 164 per 1,000 born, and in the provinces the mortality was greater. He trusted that the new County Council for London would take the matter in hand and give an impulse to the movement for improving and regulating the dwellings of the labouring classes, such as had produced useful results in the self-governed towns of Glasgow, Newcastle, and elsewhere. In the matter of education, it was becoming a burning question how to compel the attendance of the poorer children at Board schools, and insure that they should have an adequate meal before they commenced their brain work. In Paris the question had been solved. Education was free, and boots and clothing were found for the children gratuitously where the parents were too poor to provide them. The same method was pursued with regard to the *cantines scolaires*, the school kitchens, which had also been established in connection with some of the schools to provide meals for the children. Having reviewed the past work of the Institute, he said they hoped soon to extend their work, and to arrange for local examinations in all the chief centres of England, on the same lines as those in London. He was desirous that the courses should include lectures available for students entering the Indian Civil Service, for the sanitation of India was in a deplorable condition. In conclusion Sir Douglas Galton said that the results already obtained by the two separate societies were evidence that the founders of the combined society possessed the knowledge, the capacity, and the will which were necessary for carrying on the further development of the Institute as a means of sanitary education, and he trusted that they might obtain such a measure of public support that their desire to supply what was undoubtedly a great public want might be realised.

SPECIAL CORRESPONDENCE.

PARIS.

[FROM OUR OWN CORRESPONDENT.]

Sulphonal.—Passage of Coins through the Alimentary Canal.—Treatment of Uterine Fibroma by Electrolysis.—Injections of Lemon-juice in Epistaxis.—Bacteria in the Urine.—Salol in Children's Diseases.

SULPHONAL is an insipid substance, slightly soluble, which was first obtained by Baumann by combining ethylmercaptan with acetone. Kast, after ascertaining that human beings can take three or four grammes of sulphonal with impunity, administered it to sixty patients, mostly of neurotic temperament, who suffered from nervous insomnia. The following results were obtained: From half an hour to two hours after taking the remedy (2 to 3 grammes in powder, administered in water, milk, or wafers of azymous bread), the patient fell into a peaceful sleep lasting from five to eight hours. The pulse and respiration were slightly modified during sleep. On waking the patient felt soothed, but occasionally experienced a sensation of slight fatigue. In no case did digestive disturbance follow. Spectroscopic and microscopic examination has proved that sulphonal, even when taken in toxic doses, does not deteriorate the constituent elements of the blood in animals.

Dr. Siotis reports the case of a patient who had swallowed fifteen sovereigns. He complained of severe pain in the epigastric region. Auscultation revealed the distinct clinking sound of the coins when the patient moved. Purgatives were useless. Pieces of opium and belladonna were then administered. The next day three gold pieces were found in the fæces, and a painful cylindrical tumour was detected in the rectum. On the following day four other pieces were expelled, and severe pain was felt in the right iliac fossa. When percussed this region gave a metallic sound. The remaining gold pieces were shortly afterwards expelled, and the patient completely recovered.

At a recent meeting of the Académie de Médecine, M. Delétang, of Nantes, stated that he had treated ninety-seven women suffering from interstitial uterine fibroma by intra-uterine electrolysis without puncture. The immediate results were: (*a*) spasmodic contraction of the uterus and the tumour; (*b*) persistent inflammation of all the organs comprised in the circuit which lasts several hours and is accompanied by colic; (*c*) the sudden cessation, in certain cases, of the pre-existing hæmorrhage. The following consecutive effects were observed: hæmorrhage, after temporarily increasing, stopped; the pain and functional disturbance were relieved; the whole affected part contracted, during which it presented two phases: (1) the peripheral inflammatory zone became absorbed, after which the morbid phenomena disappeared and the general condition improved; (2) the fibroma itself contracted, but this result was not invariable. Occasionally atresia of the cervical canal was observed, but this yielded to gradual dilatation. M. Delétang usually employed a current of 100 milliampères, during five minutes at a time, at intervals of five to six days. He considers that, used in this manner, intra-uterine electrolysis is perfectly safe. He employed it 1,100 times in ninety-seven patients; in one case only he observed phlegmasia, which was not followed by any serious results.

Dr. Geneuil has succeeded in checking epistaxis by means of injections of lemon-juice twelve or even fifteen hours after every

kind of hæmostatic has failed. He proceeds as follows: After washing the nostril with fresh water, with a glass urethral syringe he injects as much freshly-squeezed lemon-juice as the syringe will hold. In one or two minutes the blood ceases to flow. One injection is usually sufficient. Dr. Geneuil tried a concentrated solution of citric acid, but without effect. He does not, therefore, attribute the effects of the lemon-juice to the citric acid, but to the combined substances which the juice contains.

In a thesis recently presented, Dr. A. Berlioz gives the following results of observations and experiments as to the presence of bacteria in the urine. 1. In infectious diseases of human beings the pathogenic agent is rarely found in the urine. 2. When this happens, the bacteria pass into the kidney more easily when this organ is seriously affected. 3. Bacteria are usually the cause of the nephritis observed in these diseases. 4. The theory that the micro-organisms are eliminated by the urine in the critical stage of the affection is, generally speaking, erroneous. 5. If, in experimental diseases, microbes are sometimes detected in the urine of animals, this results from the artificial conditions in which the disease is produced. The presence of bacteria in the urine is insufficient; cultivations and injections should be made with this liquid.

M. Demme has lately published his experience of salol in children. He has used it in four cases of articular rheumatism, two of acute endocarditis, two of vesical catarrh, and also as an external application in two cases of burn. Two of the patients, aged 8 and 13, were suffering from acute rheumatic polyarthritis. Two and a half grammes of salol were administered in twenty-four hours, in doses of 0.75 centigramme. The doses were continued during five days in one case, and seven days in the other. When the temperature fell, the daily dose was reduced to 1½ gramme. The effects of the salol were not rapid, but there was no relapse, and the affection only lasted from fifteen to sixteen days. Three grammes and three-quarters of salol were administered at intervals to a little girl of 7, suffering from rheumatism. The temperature fell from 39.8° C. (102.9° F.) to 37.2° C. (98.8° F.) in forty-eight hours, and the pain and swelling in the feet, right knee, and left elbow were considerably diminished. In the case of another little patient of 9, the results were not so favourable. A dose of 0.75 centigramme, administered as an emollient or in a lozenge, caused vomiting in from ten to fifteen minutes. A double dose, administered in the yolk of an egg, produced general urticaria in eight or ten hours, without having any effect on the fever or the state of the articulations. Salicylate of soda was substituted, and some improvement followed, but the eruption returned. The patient recovered eight days afterwards, but had a relapse. 3.75 grammes of antipyrin were then administered for four days, at the end of which the patient was completely cured. In endocarditis, salol gave good results if the action of the pulse was modified by digitalin. In a case of cystitis caused by cantharides, salol also proved beneficial. Daily doses of one gramme to one and a-half soothed the pain, increased diuresis, and caused the alkaline reaction and the muco-pus in the urine to disappear. Towards the end of the treatment the urine assumed a greenish-brown hue, resembling that produced by carbolic acid.

LIVERPOOL.

[FROM OUR OWN CORRESPONDENT.]

Hypnotism.—Loss of Voluntary Movement in the Eyes.—Aphasia. Death during Anæsthesia.

At the Medical Institution, on December 6th, Dr. Karl Grossmann read a paper on hypnotism, and illustrated his remarks by means of hypnotised individuals. He said that his attention had been first drawn to the subject by seeing a friend, in whose judgment he had the greatest confidence, so far brought under the influence of the hypnotiser as to be unable to open his eyes or to remember his own name. In order to investigate the subject he went to Paris and witnessed M. Charcot's demonstrations at the Salpétrière. Charcot distinguishes three stages: (1) that of lethargy, produced by fixing a bright point with the eyes or by compression of the eyelids; (2) that of catalepsy, produced by lifting the eyelids of the subject while in the first stage, or directly by a sudden shock to the sensory nerves, as by a flash of light; in this stage every muscle retains the position in which it is placed, like a painter's lay figure; the third stage (3), that of somnambulism, is produced by gently rubbing the vertex in either of the foregoing states. Charcot also says that many susceptible persons have certain zones, "hypnogenetic points," stimulation of which produces lethargy. Dr. Grossmann saw all these phenomena demonstrated to perfection, but no explanation of them was offered at the Salpétrière. He therefore applied to Drs. Liébault and Bernheim, at Nancy, and from them received a ready explanation. Liébault's view is that the concentration of the mind on the sole idea of sleep soon leads to forgetfulness of the outer world, and produces a sleep in which suggestions are readily acted on. The hypnotic differs from the ordinary sleep, in that there exists a relation between the sleeper and the operator, whereas in ordinary sleep the sleeper is, so to speak, wrapped up in himself. He suggests sleep by placing the subject in a comfortable position, closing his eyes and talking to him in a quieting way. He distinguishes nine degrees of hypnotism, varying from a feeling of local warmth and decrease of pain by suggestion, up to a condition of complete somnambulism, in which hypnotic and post-hypnotic hallucinations are realised and are completely forgotten on awakening. Dr. Grossmann then stated at length the views of the school of Nancy, and the points in which they differ from those of the school of the Salpétrière. The most important are that lethargy, catalepsy, and somnambulism do not exist as independent stages, but can be produced at any time by the suggestion of the operator; that hysteria is not a good field for the study of hypnotism owing to the intervention of symptoms of purely emotional origin; that the hypnotic state is purely physiological, can be produced in many subjects during their normal sleep, and is not peculiar to neuropathic patients; that suggestion is the key of all hypnotic phenomena, and that hypnogenetic zones do not exist unless suggested. Bernheim shows that the suggested effects exist only in the idea of the subject; for example, if it is suggested that he cannot see a certain object in the room, he continues to see it as before, but he imagines he does not, and acts accordingly. Dr. Grossmann described how he had seen Bernheim hypnotise one patient after another in his wards until not one of them was left awake. Some remarkable effects on the vasomotor system were then referred to; for instance, the production of a blister by the application of a postage stamp, which it was suggested would act as a vesicant; and the opinion was advanced that in this way the occasional success of homœopathy and faith-healing might be explained. The principal field for hypnotism would be in the treatment of nervous disorders, and it might be especially useful in epilepsy, in which any new remedy was usually for a time followed by improvement. In the demonstration that followed some striking effects were produced. The subjects manifested the most complete hallucinations; sneezing and retching were produced by appropriate suggestions; on the cataleptic state being suggested to him, one of them remained rigidly extended between two chairs, his head resting on one and his heels on the other.

At the same meeting Dr. Grossmann showed a woman with a remarkable form of ophthalmoplegia. She had lost the power of voluntarily raising or lowering the eyes from the horizontal line, though the lateral movements were preserved. If, however, her face was passively turned upwards or downwards the eyeballs did not share in the movements, but continued to be directed horizontally, showing that there was no paralysis of the muscles. The patient was in a very apathetic state, and there was probably some central lesion in the brain.

Dr. Bradshaw showed two cases of aphasia, one sensory, the other motor. The sensory case was very complete. The patient did not understand the simplest verbal directions. When given a book to read he glibly uttered a succession of meaningless vocal sounds, and was apparently unaware of his mistakes. It was manifest he did not comprehend the sense of what he read, as, when he was given a book in a language he did not know, he showed no surprise, and attempted to read it in the same way. In the case of motor aphasia the patient stumbled over a few words, and then, conscious of his mistakes, gave up the attempt to read.

A death has occurred at the Royal Infirmary during the administration of an anæsthetic. The patient, a woman aged 48, extremely corpulent, was about to undergo the removal of a scirrhous tumour of the left breast. She felt great alarm at the prospect of the operation, and expected it would be fatal, and she begged one of the dressers to put the instruments out of sight. She was placed on the table and the heart was auscultated. There was nothing in its sounds to create suspicion, and the pulse was regular. Chloroform was given gradually on an open inhaler for two or three minutes, and was then replaced by ether in an Ormsby's inhaler. The pulse was at this time regular, conjunctival

reflex was active, and the patient breathed regularly, inflating the bag at each expiration. The surgeon who was about to operate showed the breast to a colleague who was present. When the ether had been inhaled for about a minute, a slight change of colour was noticed by the administrator, who removed the bag; the patient became blue in the face, and the pulse ceased to be perceptible, though respiration went on regularly for a minute or more. The patient was inverted, mechanical stimulation of the heart, galvanism, and the injection of ether were tried, and artificial respiration was persevered in for three quarters of an hour. There were, however, no signs of reviving. The necropsy revealed marked fatty degeneration of the heart and granular degeneration of the kidneys.

Miss Lucy Craddock, L.K.Q.C.P., has been elected a member of the Medical Institution.

CORRESPONDENCE.

INCREASING MORTALITY FROM CANCER.

SIR,—In your leading article of December 15th on this subject, the following remark occurs: "The correspondence between the Collective Investigation Committee of the British Medical Association and the Registrar-General will not be forgotten, and its importance was fully acknowledged by Sir Spencer Wells."

As the question of the increase of cancer in the United Kingdom is beginning to excite great interest, not only in the profession, but amongst laymen, and has already been introduced into Parliament, I venture to ask you to allow me to state briefly the steps which have been taken by the Association in connection with it.

So far as I am aware, no correspondence has ever passed between the Collective Investigation Committee and the Registrar-General, but very important communications have passed between the Council of the Association and the Registrar-General. They have been published in the *Proceedings of Council*, but as they appear in very small type and as a part of the *Proceedings*, without separate index and without special comment in other parts of the JOURNAL, they have attracted very little attention—so little indeed, that Sir Spencer Wells was obliged (before the Morton Lecture) to write and ask me whether anything of the kind had taken place, and if so, where it could be found.

The whole of the correspondence will be found in the JOURNAL, 1887, vol. ii, page 1070; 1888, vol. i, pages 267 and 979. The history of the correspondence is as follows: Some three or four years ago, I was asked by Professor Humphry to speak at Cambridge at a combined meeting of several Branches of the Association on the Investigation on Cancer of the Breast. In considering the matter of my address, the question of the increase of cancer occupied me very much. There seemed to be a great difficulty in deciding how far this increase (which appeared in the returns of the Registrar-General) was real or apparent, and how much of it might be due to the greater care with which the returns of death were made by medical men in all parts of the kingdom. It occurred to me that one of the surest methods of eliciting the truth would be a careful comparison of the deaths from cancer of certain parts of the body, the breast, the tongue, the lower lip particularly; for people rarely die of tumours of these parts which are not cancerous (that is, sarcomatous or carcinomatous). Errors due to faulty diagnosis would be in great measure avoided if the mortality from the malignant diseases of such parts were compared through a series of years, and if the cancers of internal parts of the body were left out of the consideration.

I fully expected to find the cancers of many parts of the body tabulated in the returns of the Registrar-General, and was greatly disappointed when I did not find them. I then wrote to Dr. William Ogle, asking whether there were other more detailed returns, or whether there was any material from which it might be possible to draw up detailed tables. Dr. Ogle replied very courteously, and I learned not only that no information on the subject could be obtained for the years that have passed, but that there was no probability of the Government issuing more detailed information in the future.

Seeing that there was small prospect of being able myself alone to move the Government to take more active measures, I brought the question before the various Committees of Investigation of the Association, and by them it was referred to the Council of the Association, by whom Mr. Sibley and I were entrusted with the duty of drawing up a letter to the Registrar-General. The whole of the correspondence is summed up in three letters from the Council to the Registrar-General and two letters from Dr. William Ogle, on behalf of the Registrar-General, in reply. I think the substance of these letters may be of use to all those who are interested in the matter.

In any future action which is taken in regard to this very important subject, it is only just that the Council of the Association should have the credit of having been the first body to draw the attention of the Government officials to it, and to beg for more detailed information regarding the increasing mortality from cancer.—I am, etc.,

HENRY T. BUTLIN.

82, Harley Street, W., December 15th.

ARTERIES IN PILES.

SIR,—As editor of my father's book on diseases of the rectum, I feel I am to some extent responsible for what appears in the fifth edition. In reply to Mr. Whitehead's letter published in the JOURNAL of December 8th, in which he asserts that we state that piles consist entirely of arteries, that is not our opinion for one moment; but for practical purposes we maintain that the divisions into capillary, venous, and arterial hæmorrhoids are facts, and of practical importance in treatment.

To quote from our book (p. 94), the capillary piles are "small florid raspberry-looking tumours, or rather vascular areas upon the mucous membrane, having a granular spongy surface, and bleeding on the slightest touch." Arterial piles (p. 94). "These may be described as tumours, varying in size, sessile, or somewhat pedunculated, attaining very considerable dimensions, glistening or slightly villous on the surface, slippery to the touch, hard and vascular, with an artery often as large as the radial, entering their upper part. On dissecting one of these tumours you will find it consists of numerous arteries and *veins*, freely anastomosing, tortuous, and sometimes dilated into pouches, and of a stroma of cell growth and connective tissue, the latter most abounding. These advanced hæmorrhoids are certainly not as some have described them, merely dilated vessels with a little cellular tissue, or sacs, or cells with fluid contents which can be emptied on squeezing." Venous piles (p. 95). "The venous internal hæmorrhoid, and in this the venous system predominates. The tumours are often very large. They are bluish and livid in colour, the surface may be smooth and slimy, or pseudo-cutaneous."

I have now many times excised the pile area (in those cases in which it existed), and in all the operations many arteries were divided in excising that area. What becomes of the arteries if they do not go into the piles, and help, in some cases more, some less, to make the hæmorrhoidal tumour?—I am, etc.,

HERBERT W. ALLINGHAM.

25, Grosvenor Street, W.

VENESECTION IN PUERPERAL ECLAMPSIA.

SIR,—The two "Obstetric Memoranda," published in the JOURNAL of November 10th, are interesting, because they prove the value of an old but now much neglected remedy. In the first (Mr. Maitland Thompson's case) the convulsions came on the day after a natural labour. He gave the patient bromide of potassium and chloral hydrate, 20 grains of each, but this did not arrest the fits. He then placed her under chloroform, but the attacks recurred, until "the patient had had seventeen fits in twelve hours, and had been continuously unconscious for the last four hours." Mr. Thompson then gave her a strong purge, and bled her to 14 ounces. "After this she had only one fit, and became conscious in six hours," and in short from this time gradually recovered.

In the second case (Mr. Edward Buxton's) the convulsions came on about a quarter of an hour after the end of a perfectly normal labour. Chloroform "was administered at intervals," but did not arrest, although it moderated, the convulsions. "Altogether, the patient was unconscious thirty-six hours, and had upwards of sixteen eclamptic seizures." Mr. Buxton bled her to 12 ounces. "After the venesection, the convulsions moderated greatly, and finally ceased within an hour." She also made a good recovery.

In neither of these cases was the amount of albumen in the urine large. In the first it was about one-third, and in the second about one-sixth. There was also no *post-partum* hæmorrhage in

either case. But in both there was very great tension of the vascular system. In No. 1 "the pulse was 120, full; carotids visibly throbbing, face flushed, pupils contracted." In No. 2, "the venous system was intensely engorged, there being little or no discharge from the uterus." Undoubtedly in these cases bleeding was specially indicated, and, as the result proves, was highly beneficial. Had *post-partum* hæmorrhage occurred in these cases, it might have obviated the necessity of resorting to venesection; but then this natural mode of relief has this great disadvantage, that we cannot regulate the amount of blood lost as we can in venesection.

In a paper which I read at the Annual Meeting at Edinburgh, of the British Medical Association, in 1875, I stated that the conclusion to which I had arrived from twenty-six cases in my own private practice, was that "in the treatment of puerperal convulsions, the three most important remedies" (in the order of importance) "are bleeding, anæsthetics, and delivery." I also stated that "the relief afforded by bleeding is most marked and striking in convulsions which commence after delivery," as in the two cases to which I have just called attention. Since 1875 I have met with eight additional cases in private practice, which still further confirm the opinion I had then formed of the great value of this old and nearly discarded remedy in the treatment of puerperal eclampsia.—I am, etc., JOSEPH GRIFFITHS SWAYNE.

Clifton, November 12th.

THE DISCUSSION ON CATARACT.

SIR,—*A propos* to the discussion on cataract, will you allow me to put in a plea for what I may term normal extraction?—a method which I have adopted in certain cases for years, and which has become increasingly frequent in my practice. I separate the lids with a light speculum, fix the eye with sharp forceps, and make the incision with a very narrow knife which is entered in front of the corneo-sclerotic junction, just above the horizontal meridian, and brought out at a counter-puncture similarly placed, I then cut rapidly upwards, so as to get in front of the iris (which would otherwise fold over the edge of the blade), and having got in front of the iris, deliberately complete the section close to the vascular limbus of the cornea, so as to conceal the site of the wound and obviate subsequent astigmatism; the capsule is then incised and the lens delivered through the natural pupil in the usual way. It has been urged by Mr. Tweedy that glaucoma is apt to follow this simple procedure, but glaucoma following extraction is, according to my experience, so rare an accident that I think we may, in accordance with the doctrine of surgical probabilities, afford to ignore it, and that it is not prevented by iridectomy is evidenced by some cases of glaucoma following extraction reported in the January number of the *Ophthalmic Hospital Reports* for this year, by Mr. E. Treacher Collins, the senior house-surgeon to that institution, who is evidently of opinion that it was the iridectomy that had blocked the angle of the chamber and thus caused all the symptoms. It has also been objected to this procedure that prolapse of the iris is apt to occur, that iritis follows simple extraction, and that patients see better when a portion of the iris has been removed. But when eserine is used, prolapse after normal extraction is much rarer than one would suppose, and when it does occur the ultimate result is about the same as if iridectomy had been done. Certainly iritis to some slight extent is almost inevitable after all forms of extraction, but it is not prevented by iridectomy, and, if judiciously treated, it does not, as a rule, interfere materially with the result of the case.

As to subsequent vision, it is certainly much better when the pupil is untouched and free in the anterior chamber. One patient writes after double extraction, "My sight was never so good as now; my distant vision is like a field-glass, and all type is alike legible to me. I read and write for hours with no disagreeable feeling in my eyes; they are in all respects as serviceable as in my youth."

Another, who, when travelling, consulted some other surgeons, was assured that she must be mistaken as to the nature of the operation she had undergone, and one patient, who, with some others, was introduced to the Clinical Society of London in 1879, saw to read without glasses, having been before extraction very myopic. No doubt patients see very well after extraction combined with iridectomy, but it is not high art, and they don't see so well and they don't look so well as they would with a central and movable pupil, which evidently plays an important part before, and a specially important part after, extraction, regulating the amount of light admitted to the eye, correcting the aberration occasioned by sphericity of the cornea, diminishing irregular circles of diffusion, contributing to the clearness of eccentric vision, supplementing accommodation, and thus compensating largely for the absence of the lens.—Yours, etc.,

CHARLES BELL TAYLOR, F.R.C.S. and M.D.Edin.,
Surgeon, Nottingham, and Midland Eye Infirmary.

THE REGISTRATION OF MIDWIVES.

SIR,—I feel sure that no medical man who has been thrown into contact with the poorer classes can be anything but disgusted and horrified at the amount of misery, temporary and permanent, inflicted on the mothers of the very poor by the gross ignorance of many of the self-styled "midwives." I will illustrate my remarks by an enumeration of some of the cases which have occurred in my practice.

(1) Primipara. Forty hours in labour. Head fixed in narrow pelvis. Delivery by forceps. Child dead. Exhaustion of mother extreme.

(2) Third child. Puerperal fever fifth day. I was called in on the ninth day only, partly because the midwife wished to get her fee before so doing, and partly because the nature of the case was not recognised. The patient was in great danger for some days.

(3) Primipara. About sixty hours in labour. Delivery by forceps. Patient had become exhausted in getting the head through a small pelvis. When I was called it was nearly through, and there was not much difficulty in completing the labour. A profuse flow of yellow purulent fluid had been going on for some hours previous to my being sent for. There was severe *post-partum* hæmorrhage, due to the extreme exhaustion. Child dead. The whole vaginal mucous membrane sloughed. Only constant douching saved the patient from septic fever. She also suffered from an attack of puerperal mania after the labour.

(4) Multipara. Eleven hours in labour. Membranes unruptured. The midwife did not know anything about the matter, apparently. The child was readily delivered after this had been done.

(5) Multipara. Labour natural. Placenta completely adherent. The midwife had torn the cord off at its insertion into the placenta in her attempts at delivering it. If it had not been adherent low down, inversion of the uterus would most likely have been the result.

These instances of maltreatment by midwives could not have possibly occurred if the women in question had not been grossly ignorant of the duties they had called upon themselves to perform. One of the women above alluded to had a very large connection. It would be interesting to know how many lives are lost through her ignorance and carelessness each year. In one of her cases death ensued from *post-partum* hæmorrhage, a large piece of placenta being found loosely attached to the placental site at the *post-mortem* examination.

I have only given a few instances from my own experience; I am sure there would be no difficulty in quoting any number of parallel instances from all parts of London. In face of all this unnecessary disease and loss of life, I asked a lady midwife one day if any steps could be taken to prevent such people practising, and was told there was no possibility of so doing in the present state of the law, but that there was a Bill, which only required pushing to pass, which would at once remedy the state of things by compelling registration, preceded by a proper course of instruction.

In the present state of things we permit any woman who can gull enough people into supporting her by their custom to take upon herself duties which she is too often quite unequal to perform, yet at every confinement two lives are placed at her mercy. Midwives should be thoroughly qualified for their work, since they, more than any other people, have to combat the extremes of poverty and disease.

You will see how urgently necessary the rectification of the law is; and, since midwives are and have always been a necessity, they should be thoroughly-qualified women. If they were encouraged, after passing the required examination, by appointments or other means, I am sure that we should hear much less of the sort of cases I have mentioned, let alone the chronic hospital obstetric out-patients, whom it really makes one miserable to see.—I am, etc., F. R. HUMPHREYS.

79, Queen's Crescent, N.W.

A MUSEUM OF INSTRUMENTS.

SIR,—Believing, with Mr. Jonathan Hutchinson, "that in the future the development of special museums, and of special departments in general museums, will receive greater attention," I wish to add to his remarks upon the collection of surgical instruments a few thoughts which have long occupied my mind, and which have received amplification and confirmation as my knowledge and experience of the subject have increased. It is quite certain that this important department of the museum of the College of Surgeons has not hitherto received sufficient attention; and as it appears further museum space will soon be available, it cannot be too strongly urged upon the Council that it should devote adequate room for the arrangement and display of instruments, ancient and modern.

Historically, a museum of instruments is most desirable. For want of a home, many of the interesting mechanical contrivances used by early surgeons are lost or destroyed. If they could be collected and preserved, we should have the means of observing the progress of surgery as exemplified by the development of the instruments employed in various operations. There seems to be little reverence for, or appreciation of, the inventive genius and mechanical triumphs of our surgical forefathers. Who would not like to see the *armamentarium* of Harvey which he left to the College of Physicians, and which was unfortunately destroyed by fire? Who can gaze with indifference on the obstetrical instruments of the Chamberlens, now happily in possession of, and carefully preserved by, the Royal Medical and Chirurgical Society? But, apart from sentiment, a collection of old instruments, as far as possible bearing the names of their inventors and the dates of their invention, would settle many disputes as to priority of invention, and prevent many surgeons claiming as their own contrivances which had been invented long ago.

There are, however, other cogent practical reasons for establishing a museum of instruments besides those of historical and objective instruction. It is necessary for the purpose of protecting the reputations of surgeons and the lives of patients; public safety demands its existence. My experience enables me to support this statement. I have invented several instruments, and in the shops of instrument makers and at exhibitions I have often seen these instruments so altered as not only to be useless, but dangerous. The changes are usually made by manufacturers who, not knowing the method of using the instruments, make alterations which they suppose to be improvements. Now the result of selling an imperfect or dangerous instrument, informing the buyer that it is the invention of a special surgeon, is to seriously damage the reputation of that surgeon, for he who bought it must, if he detect its worthlessness, think badly of the person who has the credit of having invented it; and if the discovery of its faulty construction be not made, the patient may receive great injury. At present there is no remedy for this dangerous practice of altering instruments. By patenting perhaps some check might be effected, but this plan is not likely to be adopted by the members of a liberal profession. A question, however, might arise whether it could not be proved to be penal to alter the construction of an instrument in such a way as to injure the reputation of its inventor, and render its use dangerous to the patient for whose relief it might be employed.

An authoritative collection of instruments and appliances is the only remedy for the evils here pointed out. To this surgeons and instrument-makers might refer, and any doubt as to the proper form of an instrument might at once be satisfied. To this museum every new instrument should be sent, as every new book finds its way to the British Museum. Properly classified, the object sought might easily be found; and if a surgeon failed to send a specimen of his invention, he would have no just cause of complaint, should he meet with variations of it he does not approve.

Everyone must be pleased that Mr. Hutchinson has so ably brought this subject to the front at the College of Surgeons, and all will, I believe, re-echo his concluding words: "I cannot admit that the institution in which we are now assembled will have done all that it can for the perfecting of the art of surgery, until it has within its walls a collection, easily arranged for inspection and comparison, well labelled and catalogued, of all instruments and appliances, concerning the merits of which the practitioner may desire information."—I am, etc., JAMES H. AVELING.

Upper Wimpole Street, W., December 10th.

THE ANTISEPTIC VAULTS AT ST. MICHAN'S.

SIR,—I have not seen Mr. Vicars's book, but I gather from its title and from the absence of reference to a curious fact in your interesting notice, that a very important omission has been made. I have long been interested in the curious phenomena of these vaults, and have rarely visited Dublin without going to see their contents, so that, for the last twenty-four years, I have visited them at intervals never very long apart. I have examined closely the facts presented in the light of all the theories which have been suggested, and they seem to me to be wholly inconsistent with any explanation yet offered. Certainly they are wholly inconsistent with the use of the word "antiseptic," and, to my mind, the facts of the vaults illustrate very well the utter nonsense of the "antiseptic craze," for these reasons—as the folding-doors which guard the vaults are raised, you are generally made distinctly aware that there is a gentle steady movement of air. As you pass along the corridor you find vaults on each side, some with doors, but most of them without. In one of the vaults on the left side the "exhibition mummies" are laid in coffins more or less dilapidated. One of the mummies is said (by the attendant) to be a nun of the twelfth century, and the fingers of that body are perfectly pliable, so that mere desiccation does not account for the peculiar preservation of the bodies. But as you pass on the right you come into a vault where putrefaction is in full swing, and where it is clear nothing is or can be preserved. Masses of fungous growth can be seen enveloping the decaying coffins. These being laid on one another, go flat, and are, according to the story of our custodian, sometimes burst open by the process of decomposition. The same informant gave me once an absurd explanation (I have forgotten what it was—the burial of some cholera patient, or something like that) of the presence of fungus in that particular vault. However it may be, it is a fact which anyone can verify for himself, that decomposition takes place in one of these vaults, whilst in others, freely communicating with the former, it does not. There are the three elements you mention found in all the vaults alike—oxygen, microzymes, and moisture—and yet there is decomposition in one vault only.

It is clear, even from such a rough uncomplicated experiment as this, that the germ theory does not cover all the facts of the mere decomposition of dead meat. How much more insufficient it is to cover the complicated processes of disease in living tissue I have had abundant opportunity of proving.—I am, etc.,

Birmingham, December 8th, 1888. LAWSON TAIT.

NAVAL AND MILITARY MEDICAL SERVICES.

CHANGES OF STATION.

THE following changes of station among the officers of the Medical Staff of the Army have been officially notified as having taken place during the past month:—

		From		To
Surgeon-General	J. Sinclair, M.D.	Malta		Dublin.
Deputy-Surgeon-General	J. Warren	Gibraltar		Woolwich.
Brigade-Surgeon	T. Walsh	Bengal		Dublin.
,,	J. A. Scott	,,		Aldershot.
Surgeon-Major	R. C. Eaton	Colchester		Sierra Leone.
,,	E. Townsend, M.D.	Bengal		Ballincollig.
,,	G. Corry	Salford		Bengal.
,,	M. D. O'Connell, M.D.	Dublin		,,
,,	H. J. W. Barrow	Newport		Bombay.
Surgeon	I. B. Emerson	Weedon		York.
,,	E. A. Roche	Portsmouth		Bengal.
,,	N. Leader	Ballincollig		Cork.
,,	K. S. Wallis	Northampton		Warwick.
,,	E. F. Smith	Limerick		Fermoy.
,,	J. L. Hall	Home District		Ceylon.
,,	F. B. Maclean	Horfield		Madras.
,,	J. O. G. Sandiford, M.D.	Ballincollig		Mitchelstown.
,,	A. Peterkin, M.B.	Netley		Bombay.
,,	F. P. Nichols, M.B.	Hounslow		Alderney.
,,	F. J. Jencken, M.B.	Limerick		Bengal.
,,	H. E. R. James	—		Dublin.
,,	J. M'D. Stewart	Jersey		Bombay.
,,	G. B. Russell, M.B.	Cork		Limerick.
,,	C. Birt	Chester		York.
,,	H. N. Thompson, M.B.	—		Limerick.
,,	C. C. Reilly	Gosport		Bengal.
,,	F. J. W. Stoney	Fermoy		Dublin.
,,	J. V. Salvage, M.B.	Woolwich		Ceylon.
,,	C. H. Hale	Glasgow		Ayr.
,,	J. W. Bullen, M.D.	Roscrea		Limerick.
,,	R. J. Copeland, M.B.	Alderney		Guernsey.

THE NAVY.

THE following appointments have been made at the Admiralty: Deputy Inspector-General ALEXANDER TURNBULL, M.D., to the Admiralty for temporary service, to date January 1st, 1889; EDWARD MEADE, Fleet-surgeon, to the *Asia*, for charge of medical duties of Portsmouth Dockyard of *Asia* and ships of Steam Reserve; THOMAS BOLSTER, Fleet-surgeon, to the *Nankin*, for charge of medical duties of Pembroke Dockyard, of *Nankin*, and ships of Steam Reserve; WILLIAM B. FLETCHER, Fleet-surgeon, to the *Duncan*, for charge of medical duties of Sheerness Yard, Naval Barracks, *Duncan*, and ships of Steam Reserve, HENRY S. LAUDER, Fleet-surgeon, to the *Indus*, for charge of medical duties of Devonport and Keyham Yards, *Indus*, and ships of Steam Reserve, all to date December 17th; and CHARLES S. WOODWRIGHT, Surgeon, to the *Asia*, for duty in Portsmouth Yard, etc., to date January 1st, 1889; RICHARD S. P. GRIFFITHS, Fleet-surgeon, to the *Pembroke*, for charge of medical duties of Chatham Dockyard and Pembroke, and ships of the Steam Reserve; SAMUEL BAMFIELD, Fleet-surgeon, to the *Serapis*; GEORGE WILSON, Surgeon, to the *Pembroke*; JAMES M. FRANCE, Surgeon, to the *Raleigh*, additional; PAUL W. FRASER, surgeon, to the *Shannon*—all to date December 15th.

THE MEDICAL STAFF.

Deputy-Surgeon-General E. M. SINCLAIR, M.D., is granted retired pay. His commissions are as follows:—Assistant-Surgeon, March 24th, 1854; Surgeon, June 28th, 1864; Surgeon-Major, March 1st, 1873; Brigade-Surgeon, November 27th, 1879; and Deputy-Surgeon-General, November 13th, 1881. He was principal Medical Officer at Belfast, having been so appointed in the spring of 1886. He served with the 97th Regiment in the Crimea from November 20th, 1854, including the siege and fall of Sebastopol) medal with clasp and Turkish medal); in Bengal, also in the 97th, in suppressing the mutiny in 1857-58, with the Jounpore Field Force in the actions of Chanda, Ummeerpore and Sultanpore; afterwards at the siege and capture of Lucknow, and in the operations in Bundelcund in 1859 (medal with clasp). He also served in the Boer war of 1881 as Principal Medical Officer Lines of Communication and Base (mentioned in despatches).

Surgeons C. E. FAUNCE, serving in the Bengal Command, has passed the examination in Hindustani by the higher standard.

Surgeon F. A. SAW, M.B., and W. DOWMAN, also serving in Bengal, have passed the lower standard examination in Hindustani.

The *Morning Post*, speaking of the medical arrangements for the engagement imminent at Suakin, says that the medical staff is under Surgeon-Major J. Godfrey Rogers, M.B., D.S.O., chief medical officer of the army of occupation. The transport steamer *Shibeen* will be fitted up as a hospital ship for the British troops, and placed under the charge of Surgeon N. M'Creery, whilst the permanent military hospital on Quarantine Island will serve to accommodate the wounded Egyptians and Soudanese, who will be looked after by Surgeon-Major Galbraith and Surgeon Keatinge. Surgeon A. E. Hayes will be with the bearer company in the field, and Surgeon H. H. Pinching will be attached to the 1st Brigade, Surgeon G. D. Hunter to the 2nd Brigade, and Surgeon R. P. Bond to the cavalry.

INDIAN MEDICAL SERVICE.

THE retirement of Brigade-Surgeon J. M'D. HOUSTON, of the Madras Establishment, which was announced in the JOURNAL of December 17th, has received the approval of the Queen.

Surgeon-Major W. C. Kiernander, of the Bombay Establishment, has also retired from the service, which he entered as Assistant-Surgeon, October 1st, 1868, his commission as Surgeon-Major dating from November 16th, 1880. He was at Suakin during the campaign in the Eastern Soudan in 1885.

Surgeon U. N. MUKERJI, M.D., Bengal Establishment, has passed the examination in Persian by the lower standard, and Surgeon F. P. MAYNARD, also of the Bengal Establishment, has passed the lower standard examination in Hindustani.

Surgeon-Major E. F. JOHNSON, Bengal Establishment, Secretary to the Surgeon-General Her Majesty's Forces, Bengal, has leave of absence for one year on medical certificate.

Surgeon-Major S. O'B. BANKS, Bombay Establishment, is appointed Presidency Surgeon 3rd district, with attached duties, *vice* Brigade-Surgeon G. Y. Hunter, retired.

Surgeon W. E. JENNINGS, Bombay Establishment, is appointed to the officiating medical charge of the 7th Native Cavalry, during the absence of Surgeon H. W. Stevenson, on furlough or till further orders.

THE VOLUNTEERS.

ACTING-SURGEON H. A. HODSON, 1st Volunteer Brigade Cinque Ports Division Royal Artillery (late the 1st Sussex Artillery), has resigned his appointment, which dates from August 27th, 1857.

Surgeon R. F. FRAZER, 1st Volunteer Battalion Royal Fusiliers (late the 10th Middlesex), has also resigned his commission, which bore date January 7th, 1876; he is permitted to retain his rank and uniform.

ECONOMY.

A FURTHER reduction is, the *Broad Arrow* says, imminent in the staff of the Royal Naval Hospital, Great Yarmouth. The surgeons were originally assisted by a dispenser and storekeeper, both of whom have been discharged; and a saving has also been effected by employing a second medical officer of lower rank than was formerly considered necessary for the important duties of the asylum.

THE nursing sisters, Cannell and Russell, have arrived at Suakin for service in the British hospital ship.

DEPUTY SURGEON-GENERAL E. M. SINCLAIR, who is now the senior of his rank, was nominated for the appointment of the principal medical officer of the Bombay Presidency; but, having lost the sight of one eye in South Africa in 1884, prefers retirement to foreign service.

MEDICO-LEGAL AND MEDICO-ETHICAL.

GENERAL PRACTITIONERS AND SPECIALISTS.

C. asks for advice under the following circumstances. A general practitioner in a neighbouring city also practises as a "throat," "lung," and "general debility" specialist. In some of these capacities C. hears of him occasionally as treating those who are usually his patients, but in no case does he ever communicate with him. Does the specialist act correctly?

*** The statement of "C." is not sufficiently detailed to enable us to give a definite reply to his question, for he leaves us in doubt as to whether the patients alluded to were, at the time of consulting the "specialist," under treatment by himself; in the latter case, if the fact was known to him, it would constitute a breach of professional custom. We may refer our correspondent to the following rule (10) extracted from the *Code of Medical Ethics*, page 71, as bearing on the subject:—

"When a practitioner is consulted at his own residence, it is not necessary for him to inquire if the patient is under the care of another. It is better, however, that he should make the inquiry, and propose a consultation or communication with the practitioner (if there be any) under whose care the patient has previously been."

MEDICAL EXAMINATION OF CHILDREN.

INQUIRENS writes: A few evenings ago a man, dressed in a kind of uniform, who said that he was an officer of the "Society for the Protection of Young Children," called and asked me to examine two female children, aged about 3 and 5 years respectively, whom he had outside with their mother. He stated that, from information he had received, they either lived at, or had been taken to, a disorderly house, where they had been "tampered" with, and he wished me to examine and give a certificate. Should I have been justified in acceding to his request? Nothing was said about the mother's consent; but, supposing the mother had given her consent, would that have been sufficient? As it was, I declined to move in the matter.

*** It is much safer to decline to interfere in such cases. Such an examination, if made without the consent of the person examined, would amount in law to an assault, and expose the examiner to an action for damages. In the case of a young child, the mother could give the necessary consent, but the officer of a self-constituted society certainly could not. Medical practitioners would do well to obtain a written authority in such cases.

RECOVERY OF CHARGES FOR DRUGS.

W. W. T. writes: Referring to your reply to "Bruntfield" in the JOURNAL of December 8th, p. 1313, "a registered medical practitioner is entitled to recover ..... any fees ..... except F.R.C.P.'s." A friend of mine, a M.B.Lond. and F.R.C.S.Eng., is legally informed he cannot recover several guinea fees for consultations of half to an hour's duration, including applications and prescriptions, such fees, unless paid at the time, being irrecoverable. He would be glad to hear he has been misinformed.

*** The Medical Act, 1886, says that a registered medical practitioner may recover his fees in a court of law, and only excepts Fellows of the College of Physicians, who are prohibited by their own by-laws from suing for their fees. We do not know of any authority for saying that other practitioners are disabled from recovering their fees; and, unless there are some special circumstances to override the ordinary rule, cannot agree with the statement that the fees in question are not recoverable.

DUTIES OF CONSULTANTS.

METIS writes: Z., fully qualified, is the junior medical practitioner in a town. A. is the senior medical man in the same town, and is occasionally called in by Z. to see his patients in consultation. The majority of the other practitioners consider that they have reason to complain of Z. taking their patients from them in an unprofessional manner, and, consequently, refuse to meet him. Some of them intimate to A. that if he continues to meet Z. they will refuse to meet him. A. has no personal quarrel with Z.—in fact, declines to have quarrels about patients with anybody—but does not deny that his brother practitioners may have good reason for dissatisfaction with Z. He has, however, neither time nor inclination to undertake such an investigation as would entitle him to decide the rights and wrongs of each person's complaints. What ought A. to do? He does not wish to be in the slightest degree influenced by merely pecuniary considerations.

*** If A. is really cognisant of the reputed fact that his brother practitioners have good reason for dissatisfaction with Z.'s professional conduct, it would seem to be the duty of A. to so far investigate the matter as to satisfy himself of the justice, or otherwise, of the allegation in question, and to act in strict accord with the conclusion arrived at, whether it be in favour of, or adverse to, Z.

STUDENTS AND PRACTITIONERS.

A STUDENT writes: During a few weeks' residence with an uncle, living two miles out of a provincial town, I had a slight attack of rheumatic fever. Throughout my illness I was attended by his medical adviser. Would you kindly advise as to what my father, who is a member of the British Medical Association, should do in such a case, as regards remuneration?

*** In referring "A Student" to the following rule (1) laid down in the *Code of Medical Ethics*, page 53, we would suggest that he himself should write to the practitioner in question, and courteously express a wish to know what he is indebted for the professional attendance upon him at ——.

"All legitimate practitioners of medicine, their wives, and children while

under the paternal care, are entitled (not as a matter of right, but by professional courtesy) to the reasonable and gratuitous services, railway and like expenses excepted, of the faculty resident in the immediate or near neighbourhood, whose assistance may be desired. In the case, also, of near relatives who are more or less dependent upon a professional brother (other than wealthy), it will likewise be well, at his request, to forego or to modify the usual fee. On the other hand, a son or daughter altogether independent of the father, or the widow and children of a practitioner left in affluent or well-to-do circumstances, should be charged as ordinary patients, unless feelings of friendship, or other special reasons, render the attendant practitioner averse to professional remuneration. In such cases, the rule need not apply. Moreover, if a wealthy member of the faculty seeks professional advice, and courteously urges the acceptance of a fee, it should not be declined, for no pecuniary obligation ought to be imposed on the debtor which the debtee himself would not wish to incur."

PRACTICE ABROAD.

M.R.C.P. asks: Is there any legal remedy against one who, possessing only the diploma of the College of Surgeons, practises in a foreign health-resort medically, there being no surgery, and who causes himself to be announced in the local list with the prefix "Dr." to his name?

*** We think it scarcely necessary to discuss whether there is a legal remedy against a person who practises medically abroad having only a diploma of the College of Surgeons, as the Society of Apothecaries has never sanctioned a prosecution against anyone holding a registered diploma, even if exceeding the limits of what that diploma entitled him to practise.

LIABILITY FOR FEES.

DR. MACKENZIE (Glossop).—In order to make anyone responsible for a debt incurred by another person, it is always necessary to show that that person was his agent authorised to give the order on his behalf. The fact of a man being in the police force is of itself no evidence that he is authorised to pledge the credit of his superiors in that force. Unless it can be shown that the man in question requested the doctor's attendance in pursuance of the instructions of his superiors, we do not see how they can be compelled to pay the fee. Probably the policeman and the patient are the only persons liable.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.—Tuesday, December 18th.

Public Health Acts Amendment (Buildings in Streets) Bill.—This Bill was read a third time and passed.

HOUSE OF COMMONS.—Thursday, December 13th.

Sale of Horse-flesh as Beef.—Sir M. HICKS-BEACH, in reply to Mr. KNOWLES, said his attention had been called by deputation to the subject. The Government would be prepared next session to appoint a committee to consider the sale of articles of food under circumstances calculated to mislead the purchaser as to their real nature.

Friday, December 14th.

Extension of Infant Life Protection.—Mr. C. S. KENNY called attention to the recommendation of the coroner and jury at an inquest held on an infant at Tooting, that the Infant Life Protection Act should be extended in the manner suggested by the Metropolitan Board of Works in their report of 1881 and in other years. He asked whether it was the intention of the Government to introduce any legislation next session to amend the Act so as to render it more effective in the suppression of the practice of baby-farming.—Mr. STUART-WORTLEY said the attention of the Secretary of State had been called to this matter. He had now under consideration proposals for remedying the existing law, so strikingly exemplified by the fact brought to light at the inquest referred to, and he had invited the local authorities of certain large towns of England and Scotland and of Dublin to favour him with any observations and suggestions which their experience of the operation of the Act might be able to afford, and which might assist in framing a measure on the subject.—Mr. BAUMANN asked the First Lord of the Treasury whether his attention had been called to the evidence given by the Chief Registrar of Friendly Societies before a Select Committee of that House during the present session, in which it was stated that the practice of insuring infant lives "does tend and must tend to increase infant mortality;" and whether the Government would consider the expediency of introducing a Bill next session to prevent the insurance of infant lives.—Mr. W. H. SMITH said his attention had been called to the matter, which was of great importance, and was also extremely difficult to deal with. The question was receiving the serious consideration of the Government.

The Army Medical Staff.—On the vote for medical establishments (£304,900), Mr. H. FOWLER suggested that, in view of the lateness of the session, the Government should give an undertaking to afford facilities for a discussion of the recommendations of the Select Committee on Army Estimates early next session.—Dr. FARQUHARSON expressed disappointment that discussion should be deferred. He wished to know why it was that relative rank was abolished; he had never seen any reason why this abolition should ever have been sanctioned at all.—Dr. TANNER, at some length, complained of the treatment of army medical officers, and insisted that they were entitled to relative rank in the service.—Sir W. ROBERTSON hoped that at the beginning of next session the Secretary for War would undertake to examine this question carefully, and that the medical officers in the army would receive that consideration to which they were really entitled.—Mr. E. STANHOPE said he should be glad to have from the member for Mid Cork his exact scheme in writing. The member for Portsmouth suggested that these medical officers should have an opportunity of refreshing their knowledge in civil hospitals, so as to make them more competent for the duties they had to do. He would be able to consider that point, which had not recently been brought before him, although a similar question—namely, the desirability of allowing medical officers to go back to Netley—had been brought before him. The hon. member for Aberdeenshire had raised the question of the relative rank of soldiers and medical officers. Some time ago he received a deputation of medical men on this subject, to whom he was obliged to say that he failed to see where the grievance lay. He did not disparage the grievance because it was a sentimental one, as sentiment had to be reckoned with. But in reality the main purpose was not so much to obtain substantive rank as to have the additional titles on medical officers of surgeon-captain and surgeon-colonel. He was not disposed to go far from the attitude he then took up. With reference to the examination for brigade-surgeon, surgeon-majors who had failed to pass would be qualified by obtaining the Fellowship of any of the medical colleges or the equivalent of a university degree.—Dr. FARQUHARSON asked whether this order would be retrospective.—Mr. E. STANHOPE was not at the moment prepared to say. Important suggestions had been made which were under consideration.—Colonel NOLAN thought that the susceptibilities of medical officers might easily be consulted in the matter of rank. The system of pensions, however, wanted revision. Medical officers were pensioned at much too early an age, and it was certainly an anomaly that a surgeon-major with £450 a year should retire with a pension of £500 as surgeon-major-general. At least £10,000 a year might be saved by deferring the period of pension, and probably the doctors themselves would not object, as they rarely got much practice after retirement.—Dr. TANNER called attention to the inferior quality of drugs sometimes supplied to the medical staff abroad.—Mr. E. STANHOPE said he should be glad to be informed of the cases known to the hon. member in which inferior drugs were supplied.—The vote was agreed to.

Carbolic Acid Poisoning.—Mr. PICTON asked the Under Secretary of State for the Home Department whether his attention had been called to the numerous cases of poisoning by carbolic acid, the number being 62 in the latest annual report of the Registrar-General, inclusive of 42 suicides, 12 cases having been reported in the newspapers during September and part of October this year; whether the Pharmaceutical Society had expressed an opinion that carbolic acid ought to be placed among poisons within the purview of the Pharmacy Act; whether the Town Clerk of Liverpool, by order of the municipal authorities, addressed a memorial to the Privy Council, urging the desirability of restricting the sale of carbolic acid; and whether the Government intended to take any action in the matter.—Mr. STUART WORTLEY said the answer to the first three paragraphs was in the affirmative. The resolution passed by the Pharmaceutical Society had been submitted to the Privy Council Office for approval, and was now under consideration; but there were difficulties in the way of approving the resolution. Skilled opinion was not altogether favourable to the views expressed by the Society, and the question was one that required great consideration.

Monday, December 17th.

Pasteur's Treatment for Hydrophobia.—Sir H. ROSCOE asked the Chancellor of the Exchequer whether in view of the fact that no fewer than 178 of Her Majesty's subjects had been treated gratuitously during the past two years in Paris, by M. Pasteur, for the cure of rabies or hydrophobia, and in view of the further fact that, even if the cases coming too late were counted, the mortality

among his English patients was only 3.3 per cent., whereas if they had not been so treated the mortality would have been 15 to 16 per cent., Her Majesty's Government would consider the propriety of affording, as other Governments had done, pecuniary assistance to the Pasteur Institute, where the treatment was now given to English patients free of charge.—The CHANCELLOR of the EXCHEQUER said he was not acquainted with what had been done by foreign Governments. But it would clearly be necessary to inquire into the circumstances of the 178 persons to whom the hon. member's question referred, as, if many of them were persons of means, it would clearly be for them, though they might have been treated gratuitously, to contribute to the funds of the institute.

Weybridge Sewerage Scheme.—Mr. RITCHIE, in answer to Mr. BYRON REED, said the Local Government Board had received the report of their inspector on the inquiry as to the proposed Weybridge sewerage scheme. It was now under the consideration of the Board, and he expected that the decision would be communicated to the sanitary authority in the course of the present week.

The Initiation of Action under the Public Health Act.—Sir L. PLAYFAIR asked the President of the Local Government Board, in relation to the sanitary condition of Cradley, whether, as the 299th clause of the Public Health Act, 1875, uses the word "complaint," without limitation to ratepayers, he could revert to the old practice under the Local Government branch of the Home Office, which acted upon the complaint of a Government medical inspector; and whether, if the President of the Local Government Board had lost this initiative by disuse, it was competent for him to proceed by a writ of *mandamus* to enforce statutory obligations for securing the health of communities when it was endangered by the ignorance or apathy of local authorities.—Mr. RITCHIE said the view which the Local Government Board had always adopted had been that section 299 of the Public Health Act contemplated that the complaint therein referred to should be from some external and independent source, and that a report of one of the inspectors of the Board is not such a "complaint" contemplated by that section. That view seemed to him to be the right one, and he was not prepared to advise its being altered. The section provided that where complaint was made that a sanitary authority had made default in providing their district with sufficient sewers, etc., the Board, if satisfied after due inquiry that the authority had been guilty of the alleged default, might make an order limiting a time for the performance of their duty, and that, if the duty was not performed within the time limited in the order, the order might be enforced by writ of *mandamus*. There had been instances in which authorities had failed to comply with orders under the section, and in those cases the Board had obtained a *mandamus* to enforce the order. But, looking to the terms of the section referred to, he doubted whether an application for a *mandamus* would be successful if the proceedings prescribed by the Act had not previously been taken, and he should not be prepared in any case to direct an application to the High Court where the preliminary conditions which the statute prescribed had not been fulfilled.

Tuesday, December 18th.

The Lincolnshire County Asylum.—Mr. MATTHEWS, in answer to Dr. TANNER, said he was informed by the Lunacy Commissioners that the causes of the outbreak of typhoid fever in the Lincolnshire County Asylum had been investigated by the asylum authorities. It had been traced to defects in the system of drainage, which was supposed to have been put into complete order in 1881. The asylum had now been placed in a satisfactory sanitary condition.

Enteric Fever at Gibraltar.—Mr. E. STANHOPE, in reply to Mr. MURDOCH, said that enteric fever had been prevalent this year at Gibraltar, though the admissions to the hospitals, while considerably in excess of last year, had only just exceeded and the deaths had been less than the average of the three preceding years. Steps were being taken to ascertain the cause; but the difficulty of the case was increased by the presence of a crowded civil population under somewhat unfavourable sanitary conditions.

The Chair of Physiology at Edinburgh.—On the report of Supply, Mr. HALDANE challenged the vote for the salary of the Professor of the Institutes of Medicine in the University of Edinburgh, and referred to the circumstances of the recent inquiry, stating that the result had been, in his opinion, prejudicial to the discipline of the class and of the University.—Dr. FARQUHARSON defended the conclusions arrived at. He thought the House could not do better than leave the matter in the hands of the University authorities. —The SOLICITOR-GENERAL for SCOTLAND, as a member of the Court which decided the case, desired to state that the determination of the Court was unanimous.—Mr. HALDANE withdrew his motion for a reduction of the vote, and the resolution was agreed to.

Medical Officers on Foreign Service.—Colonel NOLAN asked the Secretary of State for War whether, under the recent regulations extending the time of foreign service for medical officers, those men who were serving abroad would come under those altered rules; and whether those ordered abroad before April 1st, 1889, would come under such rules.—Mr. E. STANHOPE said all medical officers of the executive grades who might be serving abroad on April 1st next, or who might be subsequently ordered abroad, would come under the new rules as to foreign service, subject to possible modifications in regard to officers required to accompany troops returning home.

Universities (Scotland) Bill.—This Bill was withdrawn.

Wednesday, December 19th.

The Case of Professor Pye.—On the vote for the Queens' Colleges (Irish Estimates), Mr. CLANCY called attention to the hardship suffered by Dr. Pye in consequence of the establishment of the Royal University. The Act failed to provide compensation for persons who were partially injured. Dr. Pye brought a petition of right, but the Court, though admitting the grievance, was unable to provide a remedy. Dr. Redfern, who had been similarly injured, was able to obtain satisfactory settlement.—The SOLICITOR-GENERAL said the Government would inquire into the case of Dr. Pye, and do their best to remedy the grievance under which he suffered.

OBITUARY.

PROFESSOR JOSEF LENHOSSÉK, M.D., Budapesth.

ONE of the most famous scientific investigators of Hungary, Dr. Josef Lenhossék, Ordinary Professor of Descriptive and Topographical Anatomy in the Medical Faculty of Budapesth, died in that town on December 2nd, at the age of 71. In 1850 Dr. Lenhossék became Privatdocent of topographical anatomy, and thus founded the chair for this branch in Hungary. In 1854 he became Ordinary Professor of Anatomy in the University of Klausenburg, and in 1859 he was called in the same capacity to the University of Budapesth, a position which he held with the highest distinction until his death. His discoveries in anatomy and his anatomical preparations made his name honourably known to the whole scientific world. His sections of the brain were considered by all competent judges as of the very highest value, and he was looked upon as one of the first authorities on the histology of the brain and the central nervous system. His works on the central nervous system were rewarded by the Academical Committee of Paris with the Monthyon Prize, and his collection of anatomical specimens was acquired for the Hunterian Museum of London.

Among the works of Professor Lenhossék the following are the most important: *On the Microscopical Structure of the Spinal Cord; New Investigations on the Microscopical Structure of the Central Nervous System; Contributions to the Explanation of the Histological Conditions of the Central Nervous System; The Artificial Deformities of the Skull; Etudes du Système Nerveux Central*; *Craniology of Man; Contributions to the Pathological Anatomy of the Spinal Cord; On Sixteen Skulls of Criminals; New Investigations on the Structure of the Kidney and its Nervous System*; etc.

Professor Lenhossék was the recipient of several distinctions. He was a Royal Hungarian Counsellor, and had the Order of the Iron Crown (third class). He was a member of the Royal Academy of Sciences of Hungary; a member of the Société Anatomique, the Société Biologique, and the Société Anthropologique, of Paris; a member of the Société Royale des Sciences Médicales of Brussels, the Societas Anthropologica of Munich, the Society for Anthropology and Ethnography of Berlin, etc. Professor Lenhossék, moreover, was distinguished by several foreign Orders (Spanish, Portuguese, Swedish, Italian, etc.).

THE Empress Frederick of Germany paid a visit on Monday last to the Children's Hospital, Great Ormond Street.

HOSPITAL AND DISPENSARY MANAGEMENT.

HOW TO MEET THE ANNUAL DEFICIT OF LONDON HOSPITALS.

MR. ALGERNON COOTE, Secretary of the London Lock Hospital and Asylum, seeking a means of supplying the £100,000 annual deficit of our London hospitals, suggests that one out of ten of the London population of 5,000,000 should regularly contribute one penny a week, and asks, "Is it Utopian to suggest that the 500,000 pence per week may be obtained?" He refers to the practice among workers in some of the large Scotch towns of contributing regularly one penny per week, and is of opinion that the workshop collections in connection with the London Hospital Saturday Fund might be largely increased. If the 750,000 "working people" of London were wisely approached, a very large proportion of them would contribute. The contributions from the "working classes" might, he suggests, be supplemented by collections in "Red Cross" one-penny-a-week collecting boxes, for which many would be glad to apply. The 500,000 pence would, he observes, give the hospitals £105,000, and still leave more than 3 per cent. (if required) for the working expenses of the effort. No doubt this is true; the difficulty is to carry out the necessary organisation. Such organisations are worked out with success in some of the provinces, and probably the machinery of the St. John's Association might with advantage be brought into play, or the Saturday Hospital Fund (as suggested) might take it up.

HULL ROYAL INFIRMARY.

FOR some time past there has been some friction between the Board of Management of the Hull Royal Infirmary and the working men, consequent upon a wish on the part of the Board to limit the number of working-men life governors, these having been made in large numbers consequent upon the contributions by working men and the trade and friendly societies. The matter was brought to a definite issue at a meeting held last week, when the proposed alteration in the rules was adopted by a large majority. Instead of life governors there will be one annual governor for every subscription of 20 guineas, three for not less than 50 guineas, and four for a subscription of not less than 100 guineas. It was not proposed to interfere with life governors already appointed.

THE QUEEN VICTORIA NURSES' INSTITUTE: SCOTTISH BRANCH.

A LARGE and enthusiastic meeting was held on Monday last in the Queen Street Hall, Edinburgh, under the presidency of Lord Provost Boyd, in connection with the inauguration of the Scottish Branch of the Queen Victoria Nurses' Institute. The first resolution was moved by Sir Douglas Maclagan, and seconded by Professor Annandale, to the effect "that the meeting hails with satisfaction the establishment of the Scottish Branch of the Queen Victoria Nurses' Institute to provide highly qualified nurses for the sick poor in their own homes throughout the country. A second resolution, pledging the meeting to support and to recommend the claims of the Institute, was moved by the Hon. Lord Trayner, and seconded by the Rev. Dr. MacGregor.

GLASGOW VICTORIA INFIRMARY.

THE recently-elected governors of this infirmary have now appointed office-bearers and committees. Mr. W. Renny Watson has been appointed Chairman, and Mr. W. Lorimer Vice-Chairman, Mr. W. B. Crawford Honorary Secretary, Ex-Bailie Laing Honorary Treasurer, and Secretary Mr. F. Bisset. A building and furnishing committee, with Mr. Laing as convener, and a finance committee, with Mr. Crawford as convener, have also been appointed.

GLASGOW EAST PARK HOME FOR INFIRM CHILDREN.

THE sum of £1,524 has been realised in aid of the above home by a bazaar held in Glasgow last week. The Home was founded in 1874 with thirty beds for boys. To this twenty beds for girls were added in 1882. The necessity of an extension of the home has become urgent, and the addition now made provides other thirty beds, as well as a schoolroom and playroom. The sale has realised £500 more than had been hoped.

CARDIFF INFIRMARY.

AT a recent meeting of the General Purposes Committee of the Cardiff and District Infirmary it was decided to endeavour to raise sufficient money to add a new wing to the present institution. Mr. C. M. Thompson, who presided, offered £500 towards the object.

BRISTOL HOSPITAL FOR SICK WOMEN AND CHILDREN.

AN appeal is being made to defray the expense of converting the old building into suitable apartments for the working staff of the Bristol Hospital for Sick Women and Children. Accommodation will thus be provided for eight additional in-patients.

UNIVERSITY INTELLIGENCE.

CAMBRIDGE.

THE following lists have been issued of candidates examined and approved in the various examinations for medical and surgical degrees.

First M.B. Examination: Chemistry and Physics.—Allen, Christ's; Appleyard; Emman; Bird, Emman; Bond; Borcherds, Caius; F. W. Burton, Joh.; L. P. Cayley, Trin.; Christopherson, Caius; Colby; Cowie, Joh.; Cuff, Joh.; H. J. Davis, Trin.; Day, Caius; Eichholz, Emman; Fothergill, Queens'; Gardner, Caius; F. B. Glover, Joh.; Guinness, Caius; L. N. Harding, H. Selw.; Harris, Caius; T. L. Harrison, Joh.; Hedges, Sidney; Heppell, Caius; Hewitt, Cla.; Hunter, H. Cav.; Hyde, Cla.; Kent, Trin.; Latham, Caius; Moysey, Caius; Nachbar, Cla.; Noble, Caius; Norbury, Trin.; Nowell, Cath.; Richards, Christ's; Roughton, Joh.; Russell, H. Selw.; Samways, Joh.; Sell, Caius; Slater, Caius; H. Smith, Trin.; G. G. Smith, H. Cav.; Tatham, Caius; G. C. Taylor, Christ's; C. Todd, Cla.; Trethewy, Caius; Verdon, Jesus; Weaver, Trin.; J. C. Webb, Cla; Webster, Caius; Windsor; Woodrooffe, Caius; Woodward, H. Selw.

Elementary Biology.—Alston, Cla.; Appleyard, Emman; P. F. Barton, Joh.; Beauchamp, Joh.; Blumfeld, Caius; Bowes, Caius; Bradshaw, Christ's; F. W. Burton, Joh.; Christopherson, Caius; Cuff, Joh.; Davis, Caius; Dawes, Christ's; Duncan, Down; Fenoulhet, Corpus; Fletcher, H. Cav.; Harratt, Jesus; Harris, Caius; H. S. Holt, Cla.; Hunter, H. Cav.; Irving, Caius; Kingdon, Caius; R. E. Nix, Caius; Norbury, Trin.; Nowell, Cath.; Ormerod, Trin.; Peatling, Magd.; Ray, Joh.; Rogers, Caius; Rollason, Caius; Samways, Joh.; A. Shillitoe, Trin. H., H. Smith, Trin.; Stephens, Caius; Still, Caius; Sworder, King's; Thorman, Caius; Trevellick, Caius; C. C. Webb, Cla.; J. C. Webb, Cla.; Wicks, Caius; H. F. B. Williams, Caius; Woodrooffe, Caius.

Second M.B. Examination: Pharmaceutical Chemistry.—Ansorge, Pemb.; Atkinson, Clare; Beedham, Christ's; Beggs, Sidney; Carver, Christ's; Collis, H. Selw.; Cregeen, Caius; H. J. Davis, Trin.; Dumbleton, Pet.; Eichholz, Emman.; T. H. Evans, Joh.; Fenton, Caius; G. H. Field, Clare; Garratt, Trin.; Gooding, Caius; Grove, Sidney; W. J. Harris, Christ's; Hollis, Sidney; Hunter, H. Cav.; T. H. Kellock, Emman.; Kirby, Trin; C. E. M. Lewis, Joh.; W. F. Lloyd, Clare; G. M. Macdonald, Christ's; Macdonald, Emman.; Major, Trin.; Master, Caius; H. T. Maw, Christ's; Maxwell, Joh.; Newstead, Christ's; Peck, Trin.; Pellew, Trin.; Penny, Pet.; Ransome, Clare; H. J. Robinson, Down; Roper, Clare; Shuter, H. Cav.; G. G. Smith, H. Cav.; Stewart, Christ's; Swainson, Christ's; Tatham, Caius; G. C. Taylor, Christ's; G. W. Thompson, Christ's; Treadgold, Down; W. W. Walker, Trin.; Whichello, Sidney; H. S. Willson, Emman.

Human Anatomy and Physiology.—Abram, Caius; J. Attlee, Joh.; E. Baines, Caius; Barclay-Smith, Down; P. C. Bardsley, Caius; Bennetts, Caius; Buss, Sidney; Coulson, Emman.; Craig, Caius; Drake, Clare; Durham, King's; Eccles, Down; Fisher, Caius; Fisher, H. Cav.; Frith, Trin.; Gardner, Emman.; Gillett, Sidney; L. G. Glover, Joh.; Grimsdale-Caius; Herbert, Caius; Hulbert, Trin.; T. H. Kellock, Emman.; R. Langdon-Down, Trin.; Latter, Pemb.; S. Lewis, Joh.; Manby, Christ's; Mercer, Caius; Ord, Caius; E. S. Peck, Christ's; Phear, Trin.; Pryce, Pemb.; Remfry, Christ's; Roberts, H. Cav.; Senior, Queens'; A. A. Shillitoe, Trin. H.; H. Simpson, Joh.; Stack, Pemb.; C. N. Thomas, Trin.; Tickell, Trin.; Treadgold, Down; F. M. Turner, Trin.; Vigurs, H. Cav.; Wallace; H. Williams, Trin.; Young, Caius.

Third M.B. Examination: Part I.—Arkwright, Trin.; Baker, Trin.; Boxall, Down.; Cooper-Pattin, Jesus; Copeland, King's; Court, H. Cav.; Crosse, H. Cav.; Carwen, Joh.; W. P. de Jersey, Pemb.; Dickson, Caius; W. L. Dickinson, Caius; Drabble, Caius; Drysdale, Joh.; Duigan, Christ's; Edgeworth, Caius; F. P. Evans, Joh.; A. J. Hall, Caius; Kelsey, Trin.; Lambert, Pemb.; Olive, Joh.; T. W. Scott, Caius; E. L. Sortain, Christ's; Stabb, Caius; Stephens, H. Selw.; W. G. G. Stokes, Pemb.; Street, Down.; Wadeson, Joh.; Wait, Joh.; Welsford, Caius; Wessels, King's.

Part II.—Adami, Christ's; Blaikie, Caius; Bowen, King's; Boxall, Down.; Castle, Pemb.; Chaplin, Joh.; Cocksedge, Caius; Courtney, Pemb.; W. L. Dickinson, Caius; Dickinson, Down.; Douty, King's; Fox, Trin.; Gervis, Trin.; F. P. Haviland, Pemb.; Hawkins, Caius; Hewer; Holden, Caius; Lazarus-Barlow, Down.; Lipscomb, Caius; McConkey, Caius; H. W. Maclure, Pemb.; Mitchell, Trin.; Musson, King's; Nuttall, Trin.; Roberts; Rutherford, Sidney; B. V. Sortain, Caius; Stevenson, Christ's; Street, Down; Veale, Christ's; Weber, Trin.; R. G. Wilde, Clare.

B.C. Examination.—Niven, Queens'.

CAVENDISH COLLEGE.—A scholarship of the value of £30 a year for three years will be awarded by the results of the local examination held in December, 1888. Candidates should communicate with the Master immediately after the publication of the class list in March, 1889. The award will be confined to senior students who are placed in the first class, or in case of special merit in some important subject in the second class of honours.

LONDON.

M.D. EXAMINATION.

S. R. Alexander, Guy's Hospital; C. F. Bailey, St. Bartholomew's Hospital; F. H. Barendt, Royal Infirmary and University College, Liverpool; I. Blore, Owens College; *H. H. Brown, B.S., University College; E. Deanesly, B.Sc., University College; E. L. De Chazal, University College; L. C. T. Dobson, St. Bartholomew's Hospital; J. Elliott, B.S., B.Sc., St. Bartholomew's Hospital; W. A. Evans, Owens College and Manchester Royal Infirmary; P. Flemming, B.S., University College; *H. W. Gardner, St. Bartholomew's Hospital; E. Goodall, B.S., Guy's Hospital; S. E. Holder, B.S., University College; C. W. Jecks, University College; S. C. Jones, B.S., University College; *O. J. Kauffmann, Owens College, Manchester Royal Infirmary, and St. Mary's; H. T. Kelsall, B.S., London Hospital; W. Permewan, University College; G. E. Rennie, B.A.Syd., (Gold Medal), University College; W. H. R. Rivers, St. Bartholomew's Hospital; C. F. Routh, B.S., Guy's Hospital; F. Rushworth, St. Bartholomew's Hospital; Mary Ann D. Scharlieb, B.S., London School of Medicine for Women; R. Sisley, St. George's Hospital; D. J. Slater, St. Bartholomew's Hospital; J. A. Smith, St. Bartholomew's Hospital; F. O. Stedman, B.S., Charing Cross Hospital; E. S. Tait, St. Bartholomew's Hospital; F. H. Taylor, B.S., London Hospital; St. C. Thomson, King's College; F. S. Toogood, University College; J. O. Tunstall, University College; H. E. Vincent, B.S., Guy's Hospital; A. F. Voelcker, B.S., University College; H. D. Waugh, B.A., B.Sc., University College; F. J. Wethered, London Hospital; S. W. Wheaton, St. Thomas's Hospital; R. M. Williams, St. Thomas's Hospital; W. E. Wynter, B.S., Middlesex and St. Bartholomew's Hospitals; C. W. F. Young, St. Bartholomew's Hospital.

* Obtained the number of marks qualifying for the Gold Medal.

EXAMINATION IN SUBJECTS RELATING TO PUBLIC HEALTH.

J. H. E. Brock, M.D., B.S., University College.

DURHAM.

FACULTY OF MEDICINE.—At the final examination for the degrees in medicine and surgery at the University of Durham, held during the week commencing December 3rd, Alfred John Gregory, M.B., B.S., M.R.C.S., L.S.A., London Hospital, was awarded Second Class Honours, being the only candidate placed in the honours list. John Peere Williams-Freeman, M.D., M.B., M.R.C.S., L.S.A., was awarded the gold medal for the best essay presented during the year 1888, for the degree of Doctor in Medicine.

INDIA AND THE COLONIES.

INDIA.

LADY DUFFERIN.—On the occasion of the laying of the foundation stone of the lying-in hospital at Agra by the Marchioness of Dufferin and Ava, Sir Aukcland Colvin, in a long speech, referred to the very excellent work done by the Marchioness of Dufferin in promoting female medical aid in the North West Provinces. Previous to her departure from Calcutta, Lady Dufferin laid the foundation stone of the Dufferin Zenana Hospital, and received at the Government House 700 native ladies, who presented an address.

THE visit of the Viceroy to Dacca is to be substantially commemorated by the construction of an additional female ward, to be called the "Lady Dufferin Ward," to the Nutford Hospital; the maintenance of a female doctor, and the foundation of scholarships for female medical students. The Nawah Ahsanullah gave 50,000 rupees, and Rajah Rajendro Narrainroy 10,000 rupees.

AUSTRALIA.

ON the occasion of his recent visit to Melbourne, Dr. Simpson, the health officer of Calcutta, was asked to examine the sanitary arrangements of that town, and to give evidence before the Royal Sanitary Commission which was sitting there.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.—During the week ending Saturday, December 15th, 5,304 births and 3,397 deaths were registered in the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons. The annual rate of mortality per 1,000 persons living in these towns, which had been 17.8 and 18.6 in the two preceding weeks, further rose to 18.9 during the week under notice. The rates in the several towns ranged from 11.7 in Halifax, 13.9 in Brighton, 14.2 in Hull, and 15.2 in Bristol to 24.0 in Liverpool, 24.1 in Manchester, 25.0 in Cardiff, and 32.4 in Blackburn. The mean death-rate in the twenty-seven provincial towns was 19.8 per 1,000, and exceeded by 2.1 the rate recorded in London, which was only 17.7 per 1,000. The 3,397 deaths registered during the week under notice in the twenty-eight towns included 539 which were referred to the principal zymotic diseases, against 526 in each of the two preceding weeks; of these, 274 resulted from measles, 73 from whooping-cough, 53 from scarlet fever, 53 from diphtheria, 47 from "fever" (principally enteric), 37 from diarrhœa, and 2 from small-pox. These 539 deaths were equal to an annual rate of 3.0 per 1,000; in London the zymotic death-rate was 3.1, while in the twenty-seven provincial towns it averaged 2.9 per 1,000, and ranged from 0.3 in Hull, 0.4 in Brighton, and 0.7 in Plymouth, Halifax, and Newcastle-upon-Tyne to 5.1 in Liverpool, 5.8 in Salford, 7.2 in Cardiff, and 8.8 in Blackburn. Measles caused the highest proportional fatality in London, Salford, Leeds, Portsmouth, Oldham, Liverpool, Cardiff, and Blackburn; scarlet fever in Derby and Blackburn; whooping-cough in Bradford, Birmingham, Leeds, Blackburn, and Cardiff; and "fever" in Salford. The 53 deaths from diphtheria registered in the twenty-eight towns during the week under notice included 39 in London, 6 in Manchester, 3 in Liverpool, 2 in Salford, and 2 in Portsmouth. Small-pox caused 1 death in Hull, and 1 in Cardiff, but not one in London or in any of the twenty-five other great towns. No small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals on Saturday, December 15th; these hospitals contained, however, 820 scarlet fever patients on the same date, against numbers declining from 901 to 848 at the end of the four preceding weeks; there were 71 admissions during the week, against 85 and 71 in the two previous weeks. The death-rate from diseases of the respiratory organs in London during the week under notice was equal to 4.0 per 1,000, and was considerably below the average.

HEALTH OF SCOTCH TOWNS.—In the eight principal Scotch towns 784 births and 488 deaths were registered during the week ending Saturday, December 15th. The annual rate of mortality in these towns, which had increased in the three preceding weeks from 17.8 to 19.3 per 1,000, was again to 19.3 during the week under notice, and exceeded by 0.4 per 1,000 the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Leith and Edinburgh, and the highest in Aberdeen and Paisley. The 448 deaths in these Scotch towns during the week under notice included 49 which were referred to the principal zymotic diseases, equal to an annual rate of 1.9 per 1,000, which was 1.1 below the mean zymotic death-rate during the same period in the twenty-eight large English towns. The highest zymotic death-rates were recorded in Greenock and Paisley. The 211 deaths registered during the week in Glasgow included 4 from measles, 4 from diphtheria, 3 from scarlet fever, 3 from diarrhœa, 2 from whooping-cough, and 2 from "fever." Six fatal cases of measles were recorded in Paisley, and 4 in Greenock. The death-rate from diseases of the respiratory organs in these towns was equal to 4.1 per 1,000, against 4.0 in London.

HEALTH OF IRISH TOWNS.—During the week ending Saturday, December 15th, the deaths registered in the sixteen principal town districts of Ireland were equal to an annual rate of 22.7 per 1,000. The lowest rates were recorded in Drogheda and Wexford, and the highest in Sligo and Lisburn. The death-rate from the principal zymotic diseases in these towns averaged 1.9 per 1,000. The 180 deaths registered in Dublin during the week under notice were equal to an annual rate of 26.6 per 1,000, against 22.9 and 27.0 in the two preceding weeks. These 180 deaths included 19 which resulted from the principal zymotic diseases (equal to an annual rate of 2.8 per 1,000), of which 8 were referred to "fever," 4 to measles, 3 to scarlet fever, 2 to whooping-cough, 1 to diphtheria, and 1 to diarrhœa.

THE METROPOLITAN ASYLUMS BOARD.

THE last fortnightly returns of this Board showed an entire absence of small-pox in London. During the previous fortnight 194 fever patients had been admitted, 44 died, and 185 discharged recovered. Of the 936 cases remaining under treatment, 815 were scarlet fever cases, 34 diphtheria, and 79 enteric fever cases. A proposal of the Ambulance Committee to send all cases of scarlet fever and diphtheria arising in the parishes allocated to the North-Western Hospital to the Western Hospital, did not

meet with approval, it being pointed out that the result would be that some patients would have to be carried a distance of seven miles over the London stones. The matter was referred back to the committee for consideration. Referring to a recent case of diphtheria at St. Thomas's Hospital, in which the patient died in the Board's ambulance, Mr. Scovell stated there was a serious delay on the part of the medical officers at the hospital arising from their want of knowledge of the proper steps to be taken.

VACCINATION AND PNEUMONIA.

THE father of a child, having been summoned before Mr. Bushby, the magistrate at the Bethnal Green Police Court, for neglecting to have his child vaccinated, pleaded, as "reasonable excuse" under the Act, that his other children had been born healthy, but, after vaccination, had fallen into very bad health. The vaccinations had taken place at 3 months of age, and one died at the age of 2 years and 4 months, another at 16 months from broncho-pneumonia, a third (aged 3½ years) still lived, but was ailing and weak. Mr. Bushby, without any medical evidence, came to the conclusion that this was sufficient evidence for dismissing the summons. That vaccination was concerned in producing ill-health, or that broncho-pneumonia could, after so long an interval, have been due to the operation, there is not the least evidence to show.

CLUBS AND THE PAYMENT OF POOR LAW MEDICAL OFFICERS.

A "VILLAGE" APOTHECARY writes: "The letter of Dr. Herbert P. Taylor in your issue of December 8th brings to notice a very important matter, and one of great interest to our profession, namely, the medical attendance upon clubs, which is gradually reducing our incomes to that of a mechanic without any corresponding advantages as to our social position. By those practitioners who reside in agricultural districts the effects of clubs are heavily felt, for, as a rule, nearly all the tradesmen, their sons, and small farmers belong to one. This position of affairs is, of course, brought about by discreditable envy, a want of true, honourable principle between man and man. We cannot, perhaps, avoid feeling for the moment annoyed when patients flit hither and thither, but, as it is within their legitimate right to do so, an unfriendly feeling ought not to be shown or felt. Every practitioner, high or low, is subjected to this in turn. The present competitive system puts the club and parish doctor in the position of a slave to the public. From some long experience as a parish doctor, I do not think the return of payment per case (as advised by Dr. Taylor) would be advisable. A reasonable fixed salary removes many annoyances with "benevolent" boards of guardians.

MEDICAL NEWS.

MEDICAL VACANCIES.

The following Vacancies are announced:

BALLYMENA UNION.—Medical Officer for Ballymena Dispensary. Salary, £120 per annum, and fees. Applications to Mr. James Mallaghan, J.P., Honorary Secretary. Election on January 3rd.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park.—Resident Clinical Assistant. Applications by January 10th to the Secretary.

CONSUMPTION HOSPITAL, Brompton.—House-Physicians. Applications by January 19th to the Secretary.

DERBYSHIRE GENERAL INFIRMARY.—Resident Assistant House-Surgeon. Board and washing, and bonus of £10 for six months. Applications by January 5th to the House-Surgeon.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge Road.—Registrar and Chloroformist. Salary, £30. Personal application to Resident Medical Officer.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge Road.—Physician to Out-Patients. Applications by December 29th, to the Committee of Management.

GENERAL HOSPITAL, Birmingham, Assistant House-Surgeon. Board, lodging and washing. Applications by December 29th to the House Governor.

HOLLOWAY AND NORTH ISLINGTON DISPENSARY, Rupert Road Branch.—Honorary Surgeon. Applications to C. W. Sawbridge, Esq., Honorary Secretary, 68, Aldermanbury, E.C.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street.—House-Surgeon. Salary, £50 per annum, with board and residence. Applications by January 8th to the Secretary.

LEICESTER UNITED FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Non-Resident Medical Officer. Salary, £200 per annum, with unfurnished house, cab and other fees. Applications by December 26th to the Secretary. 114, High Cross Street, Leicester.

LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary, £30 per annum, with board and residence. Applications by January 25th to the Secretary, Leith Offices, Moorfields, Liverpool.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon. Salary, £180 per annum, with furnished apartments, etc. Applications by January 7th to the Secretary.

SALFORD ROYAL HOSPITAL, Manchester.—Pendleton Branch Dispensary, Medical Officer. Applications by January 7th to the Secretary.

MEDICAL APPOINTMENTS.

CLARK, F. W., M.R.C.S., L.R.C.P., appointed Medical Officer to the Luton Friendly Society's Medical Institute.

GUTHRIE, Leonard G., M.B., B.S., appointed Physician to the Out-Patient Department of the Hospital for Epilepsy and Paralysis, Regent's Park.

HERRINGHAM, W. P., M.D., M.R.C.P., appointed Honorary Physician to the Out-Patient Department of the Paddington Green Children's Hospital, *vice* G. L. Laycock, M.B., resigned.

JOHNSTON, R., F.R.C.S., appointed Medical Officer of Health, Wisbech Port.

LESLIE, W. Murray, M.B.Edin. and C.M., appointed Medical Officer to the Poplar Union, *vice* Dr. Donald, M.P., resigned.

NEWSHOLME, Arthur, M.D.Lond., appointed Medical Officer to the Borough Hospital.

POWELL, J. J., M.R.C.S.Eng., L.R.C.P.Lond., L.S.A.Lond., appointed Medical Officer and Public Vaccinator to the Second District Chertsey Union, *vice* G. J. Scaly, M.D., resigned.

RAW, Nathan, M.B., B.S.Dunelm, Assistant Medical Officer to the Kent County Asylum, Maidstone, appointed Assistant Medical Officer to the Portsmouth Borough Asylum.

READ, Henry, G., M.R.C.S., L.R.C.P.Lond., L.S.A., L.D.S.Eng., appointed Assistant Dental Surgeon to St. Bartholomew's Hospital.

WARD, T. Hamilton, M.B., C.M.Edin., appointed Assistant House-Surgeon to the Royal Albert Hospital, Devonport.

WIGLESWORTH, Joseph, M.D.Lond., M.R.C.P., appointed Medical Superintendent to the Rainhill County Asylum, *vice* T. L. Rogers, M.D., M.R.C.P., resigned.

FORMATION OF AN OXFORD MEDICAL SCHOOL ASSOCIATION.—A dinner, at which a number of the junior members of the Oxford Medical School were present, was held at the Holborn Restaurant on Thursday, December 13th, Dr. Buchanan (Magdalen College), Lecturer on Physiology at St. George's Hospital, in the chair. It was resolved that the annual dinner be held on the day of the inter-university sports, with the object of maintaining a bond of union among the old Oxford students. At the suggestion of Dr. Smith, the name of the "Oxford Medical School Association" was adopted. Dr. F. J. Smith, medical registrar of the London Hospital, was elected President for the next year, and Messrs. H. E. Cartwright (Guy's) and G. E. C. Pritchard (Hertford College, Oxford), Secretaries.

POST-GRADUATE CLASSES IN BERLIN.—The arrangements for the next course of lectures to practitioners in Berlin were published last week. The course comprises twelve Sections: Anatomy and Histology, normal and pathological; Materia Medica and Toxicology; Medicine; Mental and Cerebral Diseases; Nervous Diseases and Electrotherapy; Surgery; Ophthalmology; Otology; Laryngology and Rhinology: Obstetrics and Gynæcology; Dermatology and Syphilis; State Medicine and Hygiene. Each Section consists of from one to fourteen classes. Further particulars may be obtained from Herr Anders, Dorotheenstrasse 33 I. The course begins on March 11th, 1889, and will last about six weeks.

THE SANITARY INSTITUTE.—At a meeting of council held on Wednesday, December 12th, Sir Douglas Galton, K.C.B., F.R.S., in the chair, it was decided to hold three examinations next year, one for surveyors in July, and two for inspectors of nuisances in May and November. Special courses of lectures and demonstrations for sanitary officers were decided upon, and a course of lectures on Domestic Hygiene for ladies. Fifty-nine members and associates were added to the register, and forty-three applications read for election at the next meeting.

THE NATIONAL PENSION FUND FOR NURSES.—This fund, it is satisfactory to learn, is still progressing rapidly. At a meeting of the council held on Monday, Mr. Walter H. Burns in the chair, the honorary manager reported that the number of applications for pensions and sick pay up to date was 574, of whom 418 had paid their contributions, amounting to £6,145, of which £2,018 had been received during the month of November. Sixty-five applications had been received since the last meeting of the council, and seventy-two were accepted at the present meeting. It was reported that the funds invested amounted to upwards of £30,000.

HOLIDAYS AT SEA—Mr. W. J. Loftie, the well-known and able author of *A History of London*, has re-edited the *Orient Line Guide*, with chapters for travellers by sea and land, copiously illustrated and with convenient maps. It is the best guide we have yet seen for the extensive series of tours which this line of steamers opens up to invalids and holiday seekers. It is a most excellent book, thoroughly well written, and issued for the managers of the line at a nominal price. It is published by Messrs. Sampson Low and Co.

GLASGOW UNIVERSITY CLUB.—Lord Watson presided at the recent dinner of the Glasgow University Club at the Holborn Restaurant. After dinner short speeches were made in connection with toasts by Lord Watson, the Lord Advocate, Mr. Justice Stirling, Sir William Thomson, F.R.S., Mr. Craik, C.B., Mr. J. A. Campbell, M.P., the Rev. H. C. Wilson, and Mr. Maclymont. Some of the members of the Club contributed songs and recitations to the evening's entertainment. The Honorary Secretaries of the club are Dr. Heron and Mr. MacIlraith.

DENTISTRY AT GUY'S HOSPITAL.—We understand that the Governors at their last meeting decided to establish a complete dental school as a special department of the hospital. Should the scheme receive the recognition of the Royal College of Surgeons, the dental student will be able to obtain his whole professional education at Guy's Hospital, including the special and general lectures and practice required for the diploma of L.D.S. Eng.

GLASGOW SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.—During November this Society dealt with 80 cases, involving the welfare of 100 children, 68 of whom were sheltered, 29 clothed, and 20 placed in industrial schools or training homes, while 357 meals had been given. Six parents were brought before the criminal courts, and three were punished.

LECTURES TO WORKING WOMEN.—Dr. Gunn, parochial medical officer, of Peebles, has given a course of lectures to the wives of working men, which was attended by about 150, who exhibited great regularity and attention. Abstracts of the lectures were printed and circulated, including tables of pregnancy, infant foods, etc., which are intended to act as a future reference to the subject discussed.

WE are very sorry to see quasi-medical paragraphs in the newspapers recommending the use of hashish. Hashish is a form of Indian hemp in which the native narcotic principle is present, and inebriation by hashish leads to one of the most dangerous forms of narcotic poisoning. It is much to be regretted that any European physician should be found to speak lightly of it.

DR. F. F. SUTTON, medical officer of health for Streatham and Tooting, contradicts the report of the prevalence of diphtheria in that district. During the fortnight ended December 8th there was only one death from diphtheria, and no case of the disease was sent into hospital.

PROFESSOR WILLIAMSON.—A portrait of Dr. A. W. Williamson, F.R.S., who for forty years was teacher and professor of chemistry in University College, London, was recently presented to the College by Sir Henry Roscoe, M.P., on behalf of the subscribers.

THE second of the course of biological lectures arranged by the Glasgow Natural History Society was delivered in the Philosophical Society Rooms on December 11th by Professor Bayley Balfour, who discoursed on "Some Plant Parasites."

AT a meeting of the Kyrle Society held on Saturday last to further the project for securing the Lawn, Lambeth, as a public park, it was stated that £7,000 was still required to complete the purchase.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

NORMAN.—At Havant, December 16th, the wife of Alexander Stewart Norman, M.R.C.S., L.R.C.P.Lond., of a son.

WHITE.—On December 17th, at Monkhams Hall, Waltham Abbey, Essex, the wife of John Berry White, Esq., of a daughter.

MARRIAGES.

PEDLEY—BOWDAGE.—On November 19th, at the Pro-Cathedral, Rangoon, by the Rev. Dr. Marks, George Aston Pedley, M.R.C.S.Eng., L.R.C.P.Lond., L.S.A.Lond., of Mandalay, Upper Burmah, son of George Pedley, of Railway Approach, London Bridge, and Camberwell, to Emily Sophia, daughter of Henry Bowdage, of Camberwell.

RATCLIFF-GAYLARD—WATT.—On December 17th, at Aberdeen, by the Rev. J. Mitford Mitchell, B.D., Chaplain in Ordinary to Her Majesty, James Ratcliff-Gaylard, L.R.C.P., L.M., L.R.C.S.E., etc., to Jeannie, eldest daughter of Alexander Watt, Esq., Aberdeen.

DEATH.

BARLOW.—On December 16th, suddenly, at Archer's Lodge, Harpurhey, Manchester, William Henry Barlow, M.D., aged 51.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour *us with Duplicate Copies.*

QUERIES.

TELL asks what is the greatest fall of rain recorded for twenty-four hours at home or abroad.

ANTISEPTIC QUALITIES OF SEA WATER.

B.SC.LOND. writes: I am most anxious to have information as to the action of salt water upon sewage matter, and whether the salts held in solution in the sea are really excellent disinfectants.

IS THE ODOUR FROM A STABLE UNHEALTHY?

C.B., who was recently asked this question, replied that the odours were due to hippuric acid and ammonia from the urine, which, although unpleasant, were not unhealthy. The questioner, however, asked another medical man, who says that they are unhealthy, the result being that he feels uncomfortable, and in danger of getting some illness, and that C.B. feels his reputation at stake.

ANSWERS.

W. W. T.—The quotation is from Longfellow's *Hyperion.*

MR. W. J. RICHARDSON.—A good book on domestic medicine is *A Dictionary of Domestic Medicine and Surgery*, published by Charles Griffin and Co.

LUMAS.—It is difficult to guess what the course of events may be, and, therefore, our correspondent would be wise in taking a definite course for himself. The report of the Commission is not yet issued, and no date is fixed.

"TITLE OF DOCTOR."

M.R.C.S.ENG. writes: As you say in the JOURNAL of December 1st that a L.R.C.P. has no legal right to affix "Dr." before his name, while at the same time no breach of professional etiquette is involved so long as he does not write M.D. after his name; does not the same rule apply to other registered medical qualifications? Has not a L.S.A.Lond. quite as much right to put the prefix of "Dr." to his name as the L.R.C.P. has to put it to his?

*** The same rule applies to other registered medical qualifications, and, therefore, a L.S.A. has the same right to put the prefix "Dr." to his name as a L.R.C.P. has to put such prefix to his. At any rate, he cannot be interfered with for doing so.

"DOCTORS AND QUACK REMEDIES."

M.D.—It would be necessary to obtain the proofs of the precise facts, and submit them to the proper authorities.

WORK ON BACTERIOLOGY.

BIOLOGIST asks for a book giving a popular account of elementary bacteriology, plentifully illustrated, dealing especially with flask experiments, etc:

*** Probably the most suitable book would be Professor Crookshank's *Manual of Bacteriology*, second edition, 8vo, price 21s., published by H. K. Lewis, 136, Gower Street.

ASYLUM APPOINTMENTS.

J. D. M. writes: Having lately noticed several inquiries under this heading, I have thought that some information on the subject may be of service, especially as there is amongst "outsiders" a good deal of misapprehension in regard to the position and prospects of asylum medical officers. There are in public asylums:—

1. Medical superintendents, salaries in most cases £500 to £800 a year, with house, fuel, garden produce, etc.

2. Assistant medical officers. Salaries begin, as a rule, at £120, with furnished rooms, full board, etc. The rate of increase and the maximum pay vary. In a few large asylums the senior of three or four assistants gets £200 to £250.

It must be remembered that, in all but a few asylums, there are two or more assistants, so that some years may be spent before the position of a senior is attained, and that, in future, the proportion of assistants to superintendents may be further increased by the enlargement of existing asylums. A large number of superintendents of English asylums have been appointed during the last ten years, and are men of 35 to 40 years of age, likely to stay where they are for twenty years to come. When a vacancy does occur, the

senior assistant in that asylum is generally, but not always, promoted. In other cases, the local committees are more or less guided in their election by considerations other than length of service or professional distinction. Even if county magistrates and town councillors cared to estimate the relative value of diplomas, it can hardly be denied that, under the present system, it is of more importance that a superintendent should be a "good man of business" than that he should possess exceptional scientific abilities. Besides, for every vacancy there are so many candidates who can show good records, that some "influence" is essential to turn the scale.

The post of an assistant medical officer has its advantages in the way of a leisurely life, and an assured, if modest, income; and there can be no question as to the value in any line of practice of a knowledge of insanity, such as can only be gained by residence in an asylum. Unless, however, he is unusually lucky, a newly appointed man will have to wait an indefinite number of years as an assistant, and a bachelor, before he becomes a superintendent, if, indeed, he ever arrives at that position.

THE CREMATION SOCIETY.

W. B. D. AND U. R. N.—The honorary secretary of the Cremation Society is J. C. Swinburne-Hanham, Esq., Devonshire Club, London, who will, we think, be able to give you all the information desired. On and after January 1st next, the offices of the Society will be 8, New Cavendish Street, Portland Place, W., where all letters and communications should be addressed.

NOTES, LETTERS, ETC.

THE VAULTS OF ST. MICHAN'S.

MR. R. GLASGOW PATTESON, M.B. (6, Hume Street, Dublin) writes: Your reviewer, in his interesting notice of Mr. Vicars's work on *The Antiseptic Vaults of St. Michan's Church, Dublin*, alludes to the stealing of the head of John Shears, and refers his readers to an account of the trial of the two brothers in *Curran and His Contemporaries*. Perhaps the account given by Lady Wilde ("Speranza") in her pathetic and spirited poem, "The Brothers," is also unknown to many. The poem, which originally appeared in *The Nation*, will be found reprinted in *Irish Minstrelsy*, and in the series of *Canterbury Poets*, Walter Scott, 1887. The closing stanza, with a little poetic licence, refers to this peculiar property of preservation from decay which these vaults possess.

"Years have passed since that fatal scene of dying,
Yet life-like to this day
In their coffins still those severed heads are lying,
Kept by angels from decay.
O! they preach to us, those still and pallid features;
Those pale lips yet implore us from their graves
To strive for our birthright as God's creatures,
Or die, if we can but live as slaves."

The brothers were beheaded on July 14th, 1798.

OBLITERATED SCALE OF CLINICAL THERMOMETERS.

MANY students and practitioners are inconvenienced by the scale on their clinical thermometers becoming obliterated. The *Physician and Surgeon* finds it a good way to renovate them with the American copying pencils so much used by students. To use them the scale is to be first moistened, then the pencil is to be well rubbed in. When it has become dry the superfluous colouring matter may be removed by a soft cloth, when the roughened markings of the scale will be found to retain the colour.

AN APPEAL.

DR. R. ROSS (Barvas, N.B.) writes: In addition to the sums acknowledged in the JOURNALS of March 31st and October 23rd last, the further sum of £2 from Dr. H. Coupland Taylor (Todmorden Hall, Lancashire), Funchal, Madeira, towards the fund in aid of the late Dr. James McDonald's widow and orphans is hereby gratefully acknowledged.

GLYCERINE SUPPOSITORIES.

DR. GEORGE GREWCOCK (Brighton) writes: The injection of glycerine as a remedy for habitual constipation, has not been, as your correspondent states, sufficiently tried and adopted. I found out quite accidentally a novel method of applying it, which I have found equally as efficacious as the clyster, and simpler than Dr. Kræll's method of enclosing the glycerine in cocoa butter. If a piece of cotton wool alone, the size of a nut, is well saturated with glycerine, and inserted as a suppository, in a short time a copious motion is produced. How is it that the application of glycerine can produce this action? It is most astonishing, and it must be a very valuable addition to the remedies for habitual constipation.

PARTIAL REMOVAL OF GOITRE.

MR. LENNOX BROWNE writes:—In my remarks at the Medical Society, on November 26th, I am reported to have said "that the hæmorrhage in these operations is much greater than anatomists would lead them to suppose." This is somewhat misleading. What I did say was, that an endeavour to secure each separate vessel advocated by Mr. Berry as easy to one who knew his anatomy would demonstrate that, with increased growth there was increased vascularity to such an extent as to bring to light many more vessels than were dreamed of in the philosophy of the anatomist; but that, with the method which I practise of transfixing with a double ligature, and tying the two separate halves, I had had but very little hæmorrhage.

THE FIRST USE OF ANTISEPTICS IN MIDWIFERY.

DR. JOHN BARR STEVENS (Renfrew) writes: During the discussion of Dr. W. R. Smith's paper on the Etiology of Puerperal Fever, Dr. Routh mentioned that he was the first Englishman to suggest the use of antiseptics in midwifery. A quotation from an old book, from the library of my late grandfather, Dr. Stevens, of Ardrossan, may interest Dr. Routh and others. The book is entitled *Annals of Medicine for the Year 1798*. Case of Laceration of the Vagina during Parturition, communicated by Dr. James Carmichael, of Port Glasgow. The case occurred at Hamburg on July 1st, 1875. The paragraph is copied *verbatim et literatim*. "Putrescency of the fluids discharged into the cavity of the abdomen, with its consequencies, fever, and colliquative diarrhoea were apprehended; for which reason a large syrringe, mild antiseptic injections, also a flexible canula of wire, covered with plaster were kept in readiness."

COMMUNICATIONS, LETTERS, etc., have been received from:

Mr. G. Foy, Dublin; Dr. T. P. Harvey, St. Leonard's-on-Sea; Dr. Heron, London; Mr. W. W. Pike, Curragh Camp; Catopaxi; Dr. W. Charnley, Shrewsbury; Mr. M. Thomson, Bradford-on-Avon; Dr. C. J. Nixon, Dublin; The Secretary of the New South Wales Branch, Sydney; Surgeon-Major E. J. Curran, Dublin; Dr. Railton, Manchester; Mr. A. W. Nankivell, Chatham; Dr. W. Fraser, Salford; Dr. J. A. Campbell, Carlisle; Dr. Jacob, Leeds; W. G. Galletly, M.B., Bolton; Dr. G. Bardet, Paris; Dr. J. Ramsay, York; Mr. Adams Frost, London; Dr. J. T. Arlidge, Stoke-on-Trent; Dr. Maguire, London; A. R. Lundy, M.B., London; Mr. H. T. Butlin, London; Mr. H. W. Allingham, London; Mr. J. Tate, Bradford; Surgeon W. Heffernan, Cawnpore; Dr. W. W. Anderson, Glasgow; Mr. L. Lewis, Moneybroom; Mr. F. H. Vertue, Southwold; Mr. T. G. Parrott, Aylesbury; Mr. Cartwright, London; Dr. J. C. Watson, Sunderland; Mr. E. Morison, Hull; Mr. Shirley Murphy, London; Mr. M. Lamb, Sandakan; The Secretary of the Sanitary Institute, London; Dr. J. Watson, Hull; Dr. H. T. Griffiths, London; Mr. G. Preston, Saltash; Messrs. Roberts and Co., London; Dr. D. A. Shehan, London; Mr. T. H. Williams, Oswestry; Mr. W. Watson Cheyne, London; Mr. B. H. Dale, Devizes; The Secretary of the University of London; Dr. Clark Bell, New York; Mr. W. W. Chamberlane, Halifax; J. M. Barbour, M.B., London; Dr. Dutch, Crewe; Dr. A. M. Edge, Manchester; Lumas; Dr. Tatham, Salford; Dr. Edwardes, London; Dr. J. F. W. Silk, London; Mr. R. Banks, Blackpool; Mr. J. Griffin, Dublin; Mr. T. H. Graham, Lamberhurst; Dr. J. Giusani, Cork; Mr. A. Pearce, Salcombe; Mr. S. Spokes, London; Dr. H. Renney, Sunderland; Mr. J. Ratcliff Gaylard, Aberdeen; Dr. Barclay, Bacup; Mr. J. J. Powell, Weybridge; Mr. T. H. T. Mudge, Paignton; Mr. G. M. Smith, Clifton, Bristol; Mr. F. Passmore, London; Dr. Fletcher Beach, Dartford; Mr. H. H. Sturge, New Eltham; Mr. W. L. Morgan, Oxford; A. Shadwell, M.B., Leamington; Mr. W. H. Kerbey, Charmouth; Mr. W. Williams, Oswestry; Dr. C. R. Illingworth, Accrington; Dr. J. W. Allen, Glasgow; Messrs. Burroughs, Wellcome and Co., London; Mr. C. J. Radley, London; Mr. W. C. Lloyd, London; J. Dalgleish, M.B., Sittingbourne; Mr. A. H. Benson, Dublin; Mr. R. C. Bedford, London; Mr. F. B. Jessett, London; The Honorary Secretaries of the Nottingham Medico-Chirurgical Society, Nottingham; Mr. W. P. Tivy, Winchester; X. Y. Z.; Mr. T. S. Ellis, Gloucester; Mr. A. Broster, Weston-super-Mare; Dr. J. Wiglesworth, Rainhill; Mr. C. E. S. Fleming, Freshford; Mr. R. W. Forsyth, Glasgow; Dr. Charles Williams, Port Isaac; Mr. H. Fox, Durham; Dr. J. Roche, Kingstown; E. C. Maddox, M.B., Crieff; Mr. W. P. Bridges, Dealali, Bombay; Mr. E. T. Clifford, London; Dr. S. Sloan, Glasgow; Mr. W. H. Pearce, London; Mr. S. Plowman, London; Dr. C. J. R. McLean, Yeadon; Dr. J. Wallace, Greenock; Dr. Maxwell, Woolwich; Dr. W. Sykes, Mexborough; Mr. W. Leigh, London; Mr. E. Gaylor, Belper; Our Berlin Correspondent; Mr. S. A. Arundel, Wisbech; Dr. J. Oliver, London; Mr. J. H. Bond, Brighton; Mr. R. Greene, Stratford-on-Avon; Dr. R. J. H. Scott, Bath; Mr. H. Morris, London; Surgeon P. Mulvany, Elizabeth Castle; Mr. John Arthur, Llandaff; Dr. J. Wallace, Liverpool; E. E. P.; Dr. Gunn, Peebles; Dr. H. Payne, Ashton-under-Lyne; Mr. J. M. Pierce, Deansgate, Manchester; Mr. R. Johnston, Sutton Bridge; Mr. F. Horsfall, Bedale; N. Raw, M.B., London; Mr. H. Williams, London; Dr. Willoughby, London; Mr. S. A. Tidey, London; Dr. Burney Yeo, London; Mr. H. G. Read, London; Dr. Mallins, Watton; Dr. L. Weigert, Berlin; Mr. J. R. Hill, Peterborough; Dr. Farquharson, M.P., London; Our Vienna Correspondent; Dr. Buzzard, London; etc.

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RETROSPECT: 1888.

In accordance with established custom, this, the last number of the year, is devoted to a review of the events, observations, and discoveries of the past year in medicine, surgery, midwifery, and public health. The articles which follow are specially contributed by writers chosen for their known competence to treat of the advance which has taken place in each department of activity.

THE BRITISH MEDICAL ASSOCIATION.

Its Scientific Work.

Progress of the Association.—The Annual Meeting.—The next Annual Meeting.—Trust Funds.—Scientific Grants Committee.—Collective Investigation Committee.—Branches.—Distant Branches.—Corresponding Secretaries.

Progress of the Association.—The British Medical Association has a larger membership than any other professional association in the world; it has grown so large, and continues to grow, because it meets some of the most urgent needs of a profession which, by reason of the exacting nature of the onerous duties which each individual who belongs to it has to undertake, and of the fact that these individual practitioners owing to the nature of their calling are scattered throughout the length and breadth of every land, feels the want of some connecting bond which shall sit lightly on the shoulders of busy men. The annual meeting of the Association and the meetings of the Branches afford invaluable opportunities of personal intercourse, and for the cultivation of that good fellowship and pride in our profession which the wear and tear of the daily round and the clash of personal interests sometimes seem to endanger. The British Medical Journal also affords a means of intercommunication between the members of the Association, in which every topic of medical interest can be discussed; moreover, no pains have been spared in the past, and no pains will be spared in the future, to render it of high value to the busy practitioner by affording to him a reflex of the most important work done in other countries, as well as in our own, for the advancement of the science and art of medicine. The Chairman of the Council of the Association was able to announce at the annual meeting in Glasgow that the Association then numbered 12,425 members, and the adhesions since then have far out-numbered the losses by death or resignation. On the same occasion the Treasurer (Dr. C. Holman) showed that the financial position of the Association was most satisfactory, the actual balance to its credit amounting to over thirty-one thousand pounds. This satisfactory financial position is the most eloquent tribute to the unexampled success of the Journal and the wisdom with which successive Honorary Treasurers, aided by the continuous experience of the General Secretary, Mr. Francis Fowke, have managed the business of the Association.

The Annual Meeting.—The fifty-sixth annual meeting of the British Medical Association, held in Glasgow on August 7th, 8th, 9th, and 10th, 1888, was very largely attended, and was most successful, both in respect of the scientific work accomplished and of the social opportunities which such gatherings can alone afford. The Association had only met twice before in Scotland, in 1855 and 1875, and both times in Edinburgh; it was, therefore, only proper that for its third visit it should select the great commercial city of the country. The ancient University of Glasgow, newly housed in a fine building on a prominent site at the western side of the city, extended a hearty welcome, and lent a President to the meeting and to the Association in the person of its accomplished Professor of Medicine, Dr. W. T. Gairdner, who delivered a suggestive address on The Physician as a Naturalist; Dr. Clifford Allbutt, F.R.S., gave an admirable address in Medicine on the Classification of Diseases by means of Comparative Nosology, and both these philosophic addresses will have been read with interest by those who were not fortunate enough to hear them delivered in the great hall of the University. There were two addresses in Surgery, the one, retrospective, by Sir George Macleod, Regius Professor of Surgery in the University, the other by Dr. William Macewen, a remarkable record of brilliant original work in clinical surgery. In his address in Physiology, on the Gaseous Constituents of the Blood in relation to Respiration, Professor McKendrick, F.R.S., showed how a most abstruse department of the higher physiology might be made interesting to an audience of practical physicians and surgeons. The work of the annual meeting was also carried on in no less than twelve Sections, and many of the papers read were not only interesting in themselves, but led to important discussions.

The next Annual Meeting.—The invitation of the medical profession in Leeds and the neighbouring part of Yorkshire, cordially given, has been as cordially accepted. The Association will consequently meet in Leeds on July 30th and 31st and August 1st and 2nd, 1889, under the presidency of Mr. Claudius Galen Wheelhouse, F.R.C.S., Consulting Surgeon of the Leeds General Infirmary, and Member by direct election of the General Medical Council. An address in Medicine will be delivered by Dr. Hughlings Jackson; an address in Surgery by Mr. Pridgin Teale; and an address in Psychology by Sir James Crichton Browne. The ten Sections, in accordance with the practice which has been found to work well at the two last annual meetings, will meet at 10 A.M. each day and rise at 2 P.M. The annual sermon will be preached by the eloquent Dr. Boyd Carpenter, Bishop of Ripon. In the matter of entertainments our Yorkshire friends will certainly not fall behind their friendly rivals of former years, and the beautiful scenery of Yorkshire will afford many charming excursions.

Trust Funds.—Certain trust funds are held by the Association. The proceeds are devoted to the advancement of medical science in accordance with the provisions of the trusts. The "Stewart Fund" is a sum of £579 bequeathed by the late Dr. A. P. Stewart, and invested at 4 per cent. Every third year the accumulated interest is presented to some person who has performed important work or instituted valuable researches with reference to the origin, spread, or prevention of epidemic disease; Dr. Stewart himself, it may be remembered, made many important contributions to our knowledge of the continued fevers of Great Britain, and in particular had a large share in describing the specific differences between typhus and enteric fever. This prize was presented in 1886 to Dr. Robert Cory; the next award will be made next year, 1889.—The Middlemore Fund is a sum of £500 given by Mr. Richard Middlemore, F.R.C.S., Consulting Surgeon to the Birmingham Eye Hospital. Every third year the accumulated interest is offered as a prize for the best essay on the scientific and practical value of improvements in ophthalmic medicine and surgery made or published during the three years. On the last occasion (1886) when the prize was awarded, it was divided between Mr. W. Adams Frost and Mr. James Berry.

Scientific Grants Committee.—The Association has instituted two research scholarships each of the annual value of £150. In addition, annual grants of the total value of £300 are made in aid of scientific researches in medicine and the allied sciences. During the past year, reports from some of the recipients of scientific grants have been published. These include a report by Dr. C. E. Beevor and Professor Victor Horsley on the motor functions of the fifth, seventh, ninth, tenth, eleventh, and twelfth cranial nerves, and of the three first cervical nerves; a report on cultivation experiments with bacillus lepræ, by Dr. Beaven Rake, of Trinidad; a report on morphological changes observed in human blood during coagulation, by Professor Berry Haycraft and Dr. Carlier. Dr. T. G. Nasmyth reported the results of his examination of the air of coal mines, and Dr. Robert Kirk presented a further report on alcaptonuria. Interim reports have also been published:—From Messrs. Shattock and Ballance, on the pathology of cancer founded on histological studies; from Dr. H. H. Ashdown, on the functions of the renal epithelium; from Dr. Hadden and Mr. Ballance, on the representation of movement in the cerebral hemisphere; from Dr. J. S. Haldane, on the relation of variations of surrounding temperature to heat production and metabolism in animals.

Collective Investigation Committee.—The Collective Investigation Committee has issued four reports in the course of the year, which have been published in the Journal: one on Acute Rheumatism, prepared by Dr. Whipham; one on The Maladies of Old People, and one on Aged Persons, prepared by Professor Humphry; and one on The Connection of Disease with Habits of Intemperance, prepared by Dr. Isambard Owen. It may certainly be said that every one of these reports marks an important advance in the subject of which it treats. That on Intemperance, as might be expected, attracted the largest share of attention, and, as most of our readers are aware, was curiously misconstrued by a number of writers in the lay press, as well as, we must add, by one of our medical contemporaries. The committee has also completed a eport on the Geographical Distribution of Rickets, Acute Rheu-

matism, Chorea, Cancer, and Urinary Calculus, which will shortly be made public; and has entered on a fresh inquiry—into the origin and mode of propagation of epidemics of diphtheria.

Branches.

The British Medical Association now consists of 44 Branches, and contains also a considerable number of members (about 4,000) unattached to any Branch. The large majority, however, are members respectively of the Branch which embraces the neighbourhood in which they reside, and those who fail to take advantage of this phase of the work of the Association lose certain of the advantages which it offers to members.

Home Branches.—The Branch organisation of Scotland will be rendered complete when to the Perthshire Branch, already officially recognised by the Council, has been added the Stirling Branch now in course of formation, with the help of Dr. Gowans and others. There is good reason to expect that the South of Ireland Branch will shortly be reorganised.

Distant Branches.—In moving, at the annual meeting, the adoption of the report of the Council, its President, Dr. Bridgwater, of Harrow, was able to state that two new colonial Branches, Ceylon and Nova Scotia, had completed their organisation, and had been officially recognised since the previous annual meeting. The Association is much indebted to Dr. Kynsey and Dr. Keegel, the first President and Honorary Secretary respectively, for their efforts and the great interest they have shown in founding the Ceylon Branch, and to Dr. Tobin, whose energy has assisted so much in making the Nova Scotia Branch a success, the thanks of the Association are also due; by the annual reports of this Branch it will be found much important work has already been successfully taken in hand, and a Committee of the Branch has been appointed to confer with the Government upon the Medical Act for the colony. Since that statement was made the Mediterranean Branch of the Association has been completely organised, and its first meeting was held on November 19th, at the Station Hospital, Valletta, Malta, under the Presidency of Surgeon-General A. C. Fraser, M.S., P.M.O.; the Vice-Presidents are Deputy Inspector-General A. B. Messer, R.N., and Dr. Pisani, Chief Government Medical Officer. This new branch owes much to the energy of Dr. Manché, Surgeon-Major of the Royal Malta Fencible Artillery, who, with Surgeon Gipps, R.N., discharges the duties of Secretary and Treasurer. The first Branch to be organised in South Africa is the Griqualand West Branch, with the combined help of Dr. A. Fuller and Dr. G. H. Hollander, but a Branch is also in course of formation in Cape Town. Other Branches are in course of formation in Mauritius, in Barbadoes, in Gibraltar, in Ontario, in India, two—Bombay and Rajputana, in Australasia, two—Tasmania and Christchurch in New Zealand.

Corresponding Secretaries.—In remote parts of the world, where the number of English-speaking practitioners, or their isolation by distance, forbade, at any rate for the present, the formation of Branches, the Council of the Association, adopting a suggestion made by Surgeon Lamprey, have considered it advisable to appoint, as circumstances arise to warrant such appointments, honorary corresponding secretaries. Surgeon Lamprey has been appointed Corresponding Secretary for the Gold Coast; other appointments will follow for districts where medical men are so scattered and distances so great that Branches cannot be formed.

PARLIAMENTARY WORK OF THE ASSOCIATION.

Army Medical Staff.

Relative Rank.—This subject the Parliamentary Bills Committee has kept prominently before the attention of the Government and Parliament, and the answers given by Mr. Stanhope to the numerous questions which have been put to him at the instance of the chairman of this Committee have latterly been of a more conciliatory and promising character. It is satisfactory to note that, when the subject was again discussed in Parliament on December 14th, on the Medical Vote, Mr. Stanhope gave a pledge to afford an early opportunity for again bringing the subject forward in the next session. It is important to observe that since the Committee have been prominently bringing the matter before the attention of the authorities the War Office have adopted the plan of notifying in the official *Army List* with a medical officer's name the words "ranking with" (that is, Major, Lieutenant-Colonel, Major-General, as the case may be). The influence of the Association is thus making itself felt in obtaining redress for what is still considered to be a real and serious grievance by the army medical officers, though often described only as a sentimental grievance; those, however, who know the importance of questions of rank in military organisation will consider that such questions cannot be disposed of otherwise than by a very serious consideration of all the surrounding circumstances and influences. Throughout the year letters have continued to be received from medical officers stationed throughout the kingdom and in the various colonies and dependencies, expressing their high appreciation of the value of the assistance thus rendered to them by the action of the Parliamentary Bills Committee of the British Medical Association in bringing prominently under the notice of the authorities at the War Office and of Parliament the nature of their claims and the serious difficulties and disabilities of the position in which they at present find themselves.

Further Proposals.—The Secretary of State for War, in his place in the House of Commons, this month expressed his opinion that the great majority of the medical officers of the Army Medical Service would not be satisfied until some modification was made in their medical titles, which, by adding to them a distinct indication of their corresponding rank in the military service, would be a substantive expression of title and position. This conclusion he has probably arrived at from the data submitted to him by the Parliamentary Bills Committee, and it is no doubt a well-founded and correct appreciation of the facts. It is to be hoped that at an early period next session Mr. Stanhope may acquiesce in the view, for which, as many speakers in the recent debate indicated to him, there is a very substantial basis, and to meet which would not be a matter of any considerable difficulty. If the Government should see fit to make the necessary concessions in this direction, we might look forward once more to a period of contentment and of tranquillity in the service, of which it has been robbed by recent events.

Other Grievances.—Other substantial grievances of the service which have been brought forward in a similar manner through the agency of the Parliamentary Bills Committee, the Association, and the Journal, are, it is satisfactory to note, under consideration at the War Office, and some slight concessions have been made with the view of meeting them. It would, however, be premature to say that these timid and half-hearted measures will suffice for the object in view. The whole matter will need to be kept carefully under consideration, and the claims of the Army Medical Service will need to be urged with discretion and temperance, but with due firmness. A unanimous vote of thanks was accorded by the Committee to the Chairman for the personal services which he has rendered in this direction; numerous letters of a like character from representative officers afford evidence of the satisfaction with which these services have been regarded, and of the necessity of continuing them, with the view to a decisive and satisfactory settlement of the questions at issue on behalf of a large body of men whose mouths are closed by the necessarily severe and rigid official rules which prevent them from acting on their own behalf.

Sanitary Legislation.

The Local Government Act, 1888.—The Local Government Act received the careful attention of the Parliamentary Bills Committee throughout its progress. The memorandums of Dr. Rumsey, Sir Henry Acland, and others on the subject of sanitary government which have been presented and accepted by the Association in past years were reprinted for the information of the Government and of the members of the House of Commons; and, acting in concert with the Society of Medical Officers of Health, some suggestions were made for increasing the general efficiency of local sanitary administration; many of these, however, related to clauses which, under the exigencies of public business, were dropped. On the whole, it cannot be doubted that the general action of the County Councils will be to favour sound local administration of sanitary affairs. It was mainly by the exertions of the Parliamentary Bills Committee that a clause was introduced creating a class of county medical officers to be specially appointed to aid the County Councils in considering the sanitary conditions of their whole area.

Tax upon Horses.—The intention of the Chancellor of the Exchequer to include in his proposed tax upon horses those used by medical men was vigorously opposed. During the recess of the Committee a communication was addressed to Mr. Goschen on the subject by the Chairman and, in response to a request published by

him in the JOURNAL a large number of the Branches of the Association made representations to Government through their parliamentary representatives with the view of lightening the impost.

Notification of Infectious Disease.—The Public Health Prevention of Infectious Disease (Hastings) Bill, the object of which was to enforce compulsory notification by what is known as the dual clause, was considered and discussed, and a subcommittee was appointed—consisting of the Chairman, Dr. Bridgwater, Dr. Alfred Carpenter, Dr. Langdon Down, and Dr. Grigg—to draw up reasons for opposing the compulsory notification of infectious diseases by the medical attendant. These were published in the JOURNAL of May 5th, and copies forwarded to the President of the Local Government Board, to members of the Sanitary and Police Committee, and to members of Parliament.

PHARMACY BILL.

The Pharmacy Acts Amendment Bill of 1888, it is satisfactory to be able to state, has been modified in accordance with the suggested amendments contained in the communication addressed by the Chairman of the Committee to the General Medical Council and to the Privy Council with a view of expressing more clearly the intentions of the Act so as to preclude the possibility of any misunderstanding as to the acquirement, in virtue of the Act, of any right to give any part of medical education to chemists or to examine them in any part of the art of medicine or therapeutics.

THE CORONERS BILL.

In the consideration of this Bill the Committee entertained a strong opinion that the proposal of the Lords to place the nomination in the hands of the Lord Chancellor was an objectionable one, and resolutions were passed favouring the election of coroners in the future by the County Councils. By a recent legislative provision, this recommendation has been adopted, and thus a salutary reform has been effected in the heavy expenses and great exertions attendant upon a general canvass and election by open contest; while the preponderance of legal influence which might have been implied by placing the patronage in the hands of the Lord Chancellor has been avoided.

The influence of the British Medical Association on behalf of professional interests could hardly have been more usefully exerted than in quietly securing these important concessions during the past year. These valuable and important effects pass with little notice, but they are none the less noteworthy and deserving of permanent record and recollection by those on whose behalf they have been successfully made.

LUNACY LEGISLATION.

Lunacy Acts Amendment Bill, 1888.—Of the two subjects in connection with lunacy law which engaged the attention of the Parliamentary Bills Committee and Subcommittee during the year, the more important was the Bill above named, inasmuch as it was before the Houses of Parliament, and not unlikely to become law; but the heavy work on the Local Government Bill stopped the Lunacy Bill in the Commons. The Bill, being almost the same as the Bill of the preceding year, the provisions of which had been fully considered by the Committee and Subcommittee, and with respect to which several recommendations had been made by the same, these recommendations were readopted during the present year, with slight modification and addition, and with omission of those now no longer applicable, owing to changes in the Bill. Briefly expressed, the recommendations of the Committee with regard to the Bill in its present (latent) form are: 1. That the clauses which, in their conjoint operation, would place medical men who sign certificates of insanity, or who receive certified lunatics, in a position provocative of misunderstanding and unfairly open to attack, should be altered (the suggestion that the justice should see the alleged lunatic does not apply to "urgency" cases). 2. That, in certain circumstances, medical officers of workhouses should be remunerated for certificates, and that the penalties they may incur under the Bill should be lightened. 3. That the provisions of the Bill as to the periodical special reports demanded of asylum medical officers and others, and as to the letters written by patients, should be modified. 4. That special disabilities with regard to "single patients" under which medical men may be placed, according to one interpretation of the Bill, should be omitted. 5. That the provisions relating to the examination and discharge of lunatics on the initiative action of any and every person should be modified or omitted. 6. That the provisions relating to registered lunatic hospitals should be modified. It was also suggested that medical officers of county and borough asylums should receive pensions as a right after sufficient length of service with good conduct, and that such pensions should be regulated on a scale similar to that of the first class in the Civil Service.

Irish Lunacy Laws.—The second subject under this head that came before the Committee, but not in relation to any special Bill before the houses of Parliament, was that of Irish lunacy law. The conclusions arrived at and reported were: 1. That it is desirable to have in Ireland either a modification and expansion of the first mode of admission to asylums described in the report[1] adopted by the Committee, or else such changes as will, as nearly as possible, make the modes of admission the same as they are or will be in Great Britain, or in one or other part thereof. 2. That the control of the medical officers over the asylum staffs is defective in Ireland, and should be strengthened. 3. That assistant medical officers should be appointed to some asylums which at present have no such officer on the staff.

THE GENERAL MEDICAL COUNCIL.

New Members.—Two new members attended the spring session of the Council; these were Dr. G. Y. Heath, who had been elected representative of the University of Durham, in December, 1887, and Dr. Hector C. Cameron, who had, after a contest in April, 1888, defeated Dr. McVail, who had previously represented the Faculty of Physicians and Surgeons of Glasgow for a short period. The number of Crown nominees was reduced owing to the vacancy caused by the expiration of Dr. Matthews Duncan's tenure of office not being filled up; by this change a Crown representative is replaced by a direct representative.

Unqualified Assistants and "Covering."—In March, a memorandum for the information of medical practitioners in regard to the employment of unqualified assistants was issued; it stated specifically that any registered practitioner who employed an unqualified assistant, either in complete substitution of his own services, or under circumstances in which due personal control and supervision were or could not be exercised, would render himself liable to the censure of the Council. The procedure known as "covering," was defined in this memorandum to be any course of conduct which enabled an unqualified person to practise as though he were qualified. It was clearly indicated that the condemnation of the employment of unqualified assistants was not intended to apply to the case of the genuine use, whether of pupils or others whose services might be employed under proper supervision in treating the sick or injured. On May 24th, a registered practitioner who, after his case had been investigated at some length, admitted that he had erred by acting as cover for an unregistered practitioner, and apologised, was publicly admonished by the President. The warnings given on this and a previous occasion being considered apparently inadequate, the Council, at its session in November, removed from the *Register* the names of two registered practitioners severally proved to have acted as "covers" to unqualified practitioners.

Disciplinary Powers.—Impelled mainly by the great cost of these investigations, the Council has had under consideration the possibility of revising its mode of procedure. Under the present system a case, having been investigated by the solicitor, is brought before the full Council. In this way the investigation of a single case may cost the Council, as in a recent instance, six or seven hundred pounds. At the present time the disciplinary powers possessed by qualifying bodies are very unequal, and some possess no such powers. A name and titles might be erased from the *Register*, but the individual might continue to hold a university medical degree, since most of the universities possess no power to deprive a graduate of his degree. Legislation is proposed to empower any qualifying body to deprive a person of a degree or diploma conferred by it if the same has been removed from the *Medical Register*, and on the other hand, if a degree or diploma be withdrawn by a qualifying body to empower the Council to erase the name without further investigation. In cases of the first class, which includes for instance charges of covering, it is proposed to depute the investigation to a special committee consist- of a quorum of the Council or to the Executive Committee, which would subsequently report to the whole Council.

Sanitary Diplomas.—The Medical Act, 1886, entitled persons whose names were already on the *Register*, and who also possessed a diploma in Public Health to have the latter added to their other qualifications entered on the *Register*, if in the opinion

[1] JOURNAL, May 12th, p. 1025.

of the Council the diploma was granted after an adequate examination. The Local Government Act, 1888, enacted that in future the medical officers of health of large and populous districts should possess this diploma (interests of present incumbents being reserved). The increased importance thus given to the diploma, led to the Council discussing the advisability of appointing an inspector of public health examinations. No decision was come to, the subject being referred to the Committee on Education for report, but the debate disclosed a strong feeling in favour of the proposal, which will be brought up again at the meeting in May.

Inspection of Examinations.—The Council received the first reports of the inspectors of qualifying examinations in medicine, surgery and midwifery at its November meeting. The Inspectors reported that all the examinations inspected were sufficient, but the inspector in surgery called attention to the absence from the examinations of the majority of the qualifying bodies of any test in operative skill by the performance of operations on the dead body. A resolution was adopted, "earnestly recommending the qualifying bodies which have not already done so to institute an examination in operative surgery."

The Practical Element in Medical Education.—An important discussion on the report of the Standing Committee on Education occupied most of the time of the May session; a series of recommendations to the qualifying bodies were adopted. The *first* would require every student to have been for six months a pupil (*a*) of a registered practitioner; (*b*) of a public dispensary, including home-visitation of patients; or (*c*) of "the outdoor practice of a recognised hospital." Most students, it may be observed, already fulfil the third alternative. The *second* recommendation was to the effect that students should be required to study "fevers" for not less than three months under recognised clinical instructors. The *third* recommendation was that the minimum requirement in practical midwifery should be presence at twelve labours, three being conducted personally, or attendance for three months at the indoor practice of a lying-in hospital. The *fourth* recommendation was addressed to certain qualifying bodies which, both in curriculum and examination, give too little attention to pathology. The *fifth* recommendation was intended to encourage the study of insanity by students. The *sixth* recommendation was directed against the extreme subdivision of examinations favoured especially by the University of Cambridge. The desirability of recommending the curtailment of systematic lectures in order to afford more time for clinical work was referred back to the Education Committee for further consideration and report.

UNIVERSITIES, COLLEGES, AND MEDICAL SCHOOLS IN ENGLAND.

UNIVERSITY OF OXFORD.

Chemical Department.—Lectures have been delivered on organic chemistry by Professor Odling and Mr. J. Watts. Lectures and demonstrations on inorganic chemistry, especially intended for those reading for the preliminary examination in chemistry, have been given by Mr. W. Fisher. Mr. V. H. Veley has given a course of instruction on physical chemistry. The average number of students attending in this department during the past year was fifty. Thirty-three candidates presented themselves for examination in chemistry to enable them to proceed to a Final Honour Science School, and six candidates took up chemistry as a subject for the B.A. degree. Under the new statutes which have been recently passed, the Preliminary Honour School in Chemistry, and that qualifying a student for part of his B.A. degree have been united, and in future the same examination will be held for both. The number of candidates who offered chemistry as their subject in the Final Science Schools was ten. The number of students attending the chemical department is increasing, and this is a direct indication of the growth of the Medical School, as all medical students must pass through this department.

Morphological Department.—Owing to the continued illness of Professor Moseley, the work of this department has been carried on by Dr. S. Hickson, of Cambridge. Classes have been held in the subjects of the Preliminary and Final Honour Schools. Three candidates offered morphology as their final subject in the Science Honour School. As Professor Moseley is not likely to be able to resume his work during the coming year, Mr. W. H. Jackson has been appointed Deputy-Professor for a year.

Botanical Department.—Professor Vines, of Cambridge, has been elected to the professorship, in succession to Professor Balfour, now of Edinburgh.

Physiological Department.—Lectures and demonstrations in general physiology have been given by Professor Burdon Sanderson. Instruction in histology and chemical physiology has been given by Mr. F. A. Dixey and Mr. J. S. Haldane respectively. Mr. F. Gotch has held classes in practical physiology, especially intended for students taking up the higher branches of physiological research. The number of students attending this department is steadily increasing. At the last examination for honours in the Science Schools thirteen candidates presented themselves for examination in physiology—a larger number than has been known in former years.

Anatomical Department.—Lectures and practical instruction in human anatomy have been given by Mr. A. Thomson. The number of students attending during the past year has not shown any material increase. This is largely due to the fact that under the present regulations students are recommended to take honours in the Science School before entering on the subjects of the examinations in medicine, and as the time allowed for this is short, they not infrequently find themselves unable to take up human anatomy whilst reading for an Honour School. After finishing their Honour School they enter at the London hospitals, and are hence lost to this department of the University. Were students recommended to pass the examination in human anatomy and physiology whilst reading for their Science School, they would proceed to this school well grounded in a subject directly bearing on their school, and at the same time would not require to return to Oxford after an interval to pass the subjects of their first examination in medicine. During the past term a grant of £150 has been made to enable the University Lecturer in Anatomy to supply microscopes, models, etc., requisite for the efficiency of the department.

Department of Materia Medica.—During the past year this department has been instituted by the medical faculty, and Professor Dunstan has given theoretical and practical instruction during the summer term.

Department of Medicine.—The teaching of medicine and surgery at the Radcliffe Infirmary has been systematised, and the hours adapted to fit in with the teaching at the museum. Dr. Tyrrell Brooks has given practical instruction in elementary medicine, and Mr. H. Symonds in elementary surgery. Ward work has been shown to the students by the medical and surgical staff. Important alterations have been made in the buildings of the infirmary, several of the wards having been lengthened and otherwise improved. Owing to illness, the Regius Professor of Medicine has been absent from Oxford during a considerable portion of the past year. The number of students attending the practice of the infirmary has increased during the past year. It is not possible for junior students to attend hospital practice to any considerable extent during term, as the work at the museum occupies the greater part of the morning. The Lichfield lectures on medicine and surgery, however, which are intended to give students an introduction to clinical work, have been arranged so that they do not clash with work at the museum, and during the vacations students have ample opportunity of working at practical medicine and surgery in the infirmary.

UNIVERSITY OF CAMBRIDGE.

Progress of the School.—The past year has been one of steady progress rather than of striking change. The evidences of progress are manifold; the students increase, and the instruction provided for them becomes more abundant and more varied. The medical sciences gain a hearing in quarters heretofore closed to all but the older learning, and medical men vindicate their claim to be not only in the University, but of it, by aspiring to and winning the most coveted positions. Dr. Guillemard has been appointed Lecturer in Geography, and Dr. Browne Lecturer in Persian. The election of Dr. Hill, Demonstrator of Anatomy, to the Mastership of Downing College; of Mr. Melsome, Junior Demonstrator, to a Fellowship at Queens; and of Dr. Macalister, Professor of Anatomy, to a seat on the Council of the Senate, prove that individual members of the Anatomy School, at least, have recommended it to the resident members of the University. The award to Dr. Gaskell of the Marshall Hall Prize by the Royal Medical and Chirurgical Society, and the appointments of Dr. Latham, Dr. D. MacAlister, and Dr. Hunter to important lectureships at the Royal Colleges of Physicians and Surgeons,

show that in other branches the medical teachers have not failed of recognition outside the University.

New Buildings.—The completion of the new chemical laboratory has not only relieved the great pressure in the department presided over by Professors Liveing and Dewar, but it has opened the way for the provision of suitable accommodation for the department of pathology under Professor Roy, and of new buildings for human anatomy and physiology. The scheme for the Sedgwick Memorial Museum of Geology, which long blocked the way of other more pressing needs, seems now to be laid aside for an indefinite time.

Changes in the Teaching Staff.—As regards the staff, the chief changes are due to the promotion of Dr. Vines to the Chair of Botany at Oxford, and of Dr. Hill to the Mastership of Downing. Mr. Francis Darwin, whose biography of his father has made him widely known, has succeeded Dr. Vines, both in his Readership and in his Fellowship at Christ's, and will superintend the very important classes in elementary biology for medical students. Dr. Hill has been made a Lecturer on Advanced Anatomy, and the work of demonstration is now divided among three junior graduates. Professor Humphry has secured an excellent assistant and the hospital a very competent pathologist in Mr Joseph Griffiths. Four or five new teachers have been recognised for the purposes of the medical regulations, and Dr. Cory has arranged to furnish in Cambridge a long-needed course of instruction in vaccination. No important alterations have been made in the regulations, except those which deal with the appointment and remuneration of examiners. Greater elasticity in the selection of suitable persons has been obtained by placing more power in the hands of the Special Board for Medicine; while the stipends assigned, though still below those offered by other bodies, are made somewhat more commensurate with the increased work thrown on the examiners.

Examinations.—During the year the Report of the Inspectors of Final Examinations appointed by the General Medical Council has been printed. As it is not yet fully available, we cannot say more than that it confirms the impression conveyed by the report of the visitors two years ago. The examinations for M.B. and B.C. of the University guarantee that persons possessing these degrees have been well trained and thoroughly tested. It is noteworthy that this University shares with Glasgow the distinction of being the only academic bodies in Great Britain who demand a practical knowledge of operative surgery. It is singular that the inspectors, like the visitors, remark on the possible hardship to a competent candidate of having to present and defend in public an original thesis for the M.B. degree. Inasmuch as the University regards the degree as something more than a licence to practise, and as such independent and original work as a thesis requires is an excellent test of fitness for what is, in fact, an "honours" qualification, it is not likely that the present rule will be changed. Certainly the increasingly higher standard required for a Cambridge degree has not as yet produced any diminution in the numbers who aspire to it. No less than 124 freshmen have entered this term as medical students. The Diploma in Public Health is likewise becoming more desired than ever, perhaps in consequence of certain provisions of the new Local Government Act. The number of candidates this year was about doubled as compared with 1887.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

New Charter.—In January an extraordinary meeting of the Council was held to consider the President's and Vice-Presidents' report on a letter from the Privy Council which included a statement on the Association of Fellows' supplementary charter. The Council agreed to draw up a reply, but the matter dragged through an ordinary and a second extraordinary meeting, when the reply was finally ordered to be sent up to the Lord President. At the ordinary January meeting, Mr. Ernest Hart's statement, as spokesman of the deputation of the Association of Members to the Lord President, on the subject of the application for a supplementary charter, was read. The upshot of the labours of the Members' Association was discouraging, the Honorary Secretary receiving, as late as June 7th, a letter from the Clerk to the Privy Council informing the Association that, as no legal question was involved (that is, in the petition signed by 4,665 Members, "together with all other petitions on the subject"), their lordships did not think it necessary to hear counsel on the subject of the proposed supplemental charter. This supercilious treatment of the petitioners excited great irritation.

Business of the Council.—In March a letter was read from the legal adviser of the College, stating that the authorities at Somerset House had decided that the College diplomas are not liable to stamp duty. More money was granted for extension of the College premises, and official notice was taken in the usual manner of the death of Mr. Curling. The Privy Council sent to the College a copy of a letter from the French Ambassador announcing that a Congress of Surgeons would take place at Paris from March 12th to 17th. In June the Council resolved, on the recommendation of the Museum Committee, that the Catalogue of the series illustrating the morphology of the lower classes of the vertebrata be completed by competent authorities. The annual election of members of Council took place on July 5th, and excited very little interest. Mr. Cadge, Mr. Bryant, and Sir Joseph Lister having sat on the Council for eight years, retired, but Sir Joseph Lister declined to offer himself for re-election. His two retiring colleagues went to the poll and were re-elected. Mr. Pick was elected to fill the third vacancy. At the Council meeting in July Mr. Savory was re-elected for a fourth term as President, Messrs. Hulke and Heath being elected Vice-Presidents. A communication was read from the Home Office announcing the preparation of Letters Patent under the Great Seal for the grant of the supplemental charter, which was forwarded and laid before the Council in August. A motion proposed by Mr. Sibley that a Finance Committee be appointed, to report twice a year to the Council, was carried. Notwithstanding the recent recommendations of the Medical Council, it was not considered desirable that candidates for the membership should be examined in operative surgery on the dead body.

The Fellows' and Members' Associations.—We will pass over much that it is now of little use to notice in detail, such as the further proceedings of the Council in respect to the Associations of Fellows and Members. The "rejoinder" of the Fellows met with the same fate as the Members' petition. The annual meeting was held on November 1st. Mr. Tweedy, on behalf of the Fellows, moved a resolution which was seconded by Mr. Wickham Barnes, recognising the value of the new charter, but regretting that the Fellows and Members were not invested with a larger share in the management of the College. The Members, through Dr. Danford Thomas, Sir Guyer Hunter, M.P., and Mr. Dickinson, moved resolutions in favour of a further supplemental charter according substantial rights to the Members; in deprecation of expenditure for museum purposes; and in favour of facilities for meetings of Fellows and Members in the College premises. The debate was of considerable interest, Mr. Christopher Heath, a Vice-President of the College, vigorously defended the action of the Council, and expressed his opinion that the supposed advantages which would be gained by the Members were their requests granted would prove chimerical. It was also urged, on the experience of a speaker, that museum affairs are best conducted by the Museum Committee, a skilled body of men who understand the management and arrangement of pathological and biological collections; the rule of the museum by the entire body of licentiates would, on the other hand, prove impracticable. Although the requests of the Fellows and Members for more direct share in purely medico-political matters affecting the College were moderate and reasonable, they were officially set aside at the next Council meeting.

Laboratories.—The new laboratories are already in working order, and have been freely utilised by the permanent staff of the museum. They stand high above the museum and library buildings, and may be reached by a lift which saves a tedious ascent by a steep dark staircase. For light, at least, the laboratories leave nothing to be desired; unfortunately their large circular windows greatly damage the architectural beauty of the College. A portion of the new museum buildings will, we understand, be devoted to drawings illustrating pathology and morbid anatomy. Already a considerable number of drawings have been presented, among them being a fine series of coloured sketches, chiefly by the late Mr. Godart, illustrating Dr. Matthews Duncan's cases of lupus and allied diseases of the female external organs. Drawings of live patients and of specimens exhibited before societies are particularly desired for this collection, and we call the attention of our readers to this important desideratum. In February Mr. Targett was appointed Assistant in the Pathological Department in the Museum. At the December meeting the Council received recommendations from the Museum Committee that a pathological artist be appointed for the purposes of the museum, and that it was not expedient that experiments on animals be performed on the College premises.

Lectures.—The Morton lecture on Cancer and Cancerous Diseases was delivered by Sir Spencer Wells last month, and has recently been published in the Journal. The Bradshaw lecture was given by Mr. Hutchinson, who chose for his subject "Museums in their relation to Medical Education, and the Progress of Knowledge." It has also appeared in our pages.

Prizes.—The Jacksonian Prize was awarded in April to Mr. Hurry Fenwick for his essay on "The Pathology, Diagnosis, and Treatment of Tumours of the Bladder." Special mention was made of Mr. F. A. Southam's essay; the subject for the Jacksonian Prize for 1889 is "The Pathology, Diagnosis, and Surgical Treatment of Intracranial Abscess and Tumour."

ROYAL COLLEGE OF PHYSICIANS.

On March 26th, Sir William Jenner, who had been President of the Royal College of Physicians for seven years, was succeeded by Sir Andrew Clark. Owing apparently to the multiplication in recent years of journals "professing to supply medical knowledge to the general public," the College, after a prolonged and animated debate, passed a resolution (February 2nd) declaring it to be undesirable for any Fellow, Member, or Licentiate to contribute articles on professional subjects to, or to permit himself to be advertised in, such journals. Regulations for the Moxon Medal were adopted on May 14th; the medal, which will be of the value of £30, will be presented every third year to some person who shall be deemed by the President and Council, subject to the approval of the College, to have especially distinguished himself by observation and research in clinical medicine, regard being had to discovery and originality in research rather than to personal reputation. The award is not to be restricted to British subjects.

THE SOCIETY OF APOTHECARIES OF LONDON.

This ancient body, which received its charter in 1616, has apparently, owing to recent events, received a new lease of life. The Society and the Examiners in Surgery have exhibited a praiseworthy willingness frankly to accept the recommendations of the Inspector in Surgery for the improvement of the examination. The Society had not granted its licence to any lady since 1865; certain restrictions then imposed having been removed, ladies have become eligible, and the first candidate obtained her licence last April. The Society, in fulfilling its duty to the profession and to the public undertook the prosecution of two unqualified practitioners during the past year, and was successful in both cases.

SCIENTIFIC PAPERS PUBLISHED IN THE *BRITISH MEDICAL JOURNAL.*

THE complete analytical subject catalogue of the original scientific papers appearing in the JOURNAL during the year, which has been published in the Retrospect of former years, was found, owing to the increase in the bulk of the weekly issues, to make serious calls on time and space which could ill be spared. In its place there is subjoined a classification of some of the more striking or important scientific papers which have appeared during the year 1888. The list does not profess to make mention of the very numerous shorter articles, memoranda, and hospital reports, often containing clinical, pathological, therapeutical, or toxicological observations of the highest value. Neither does the list contain any reference to the very considerable number of articles on ophthalmology, laryngology, and other special departments which yet have been fairly represented.

Anatomy and Physiology.—An address by Dr. Augustus Waller on the electromotive properties of the human heart was published, with illustrations of the curious and ingenious experiments which he had devised to elucidate its subject. Our readers were made acquainted with the present state of knowledge with regard to the development of the organs of circulation and respiration by the abstracts prepared by the author, and copiously illustrated by diagrammatic drawings of Mr. C. B. Lockwood's lectures at the Royal College of Surgeons. The mode of fixation of the scapula, and the bearing of the observations upon fracture of the coracoid process has been discussed by Mr. Arbuthnot Lane. Professor Melville Paterson has contributed papers on congenital diaphragmatic hernia, and on the innervation and development of the mammalian limbs in relation to position. A paper has been published by Dr. Benjamin Howard, of New York, on the mechanism by which the epiglottis is raised by complete extension of the neck.

Medicine.—In his Lumleian Lectures on the tongue as an indication of disease, Dr. W. H. Dickinson proved once more how much novelty may be evolved from the careful and systematic study of a subject which at first blush might seem to have been worn threadbare. Dr. J. S. Bristowe's address on pernicious anæmia and cases simulating it was a valuable contribution to the clinical study of an obscure type of disease. Dr. George Johnson, F.R.S., in a thoughtful lecture suggested that albuminuria was frequently the result of sewage-poisoning. An address by Dr. Hughlings Jackson on the diagnosis and treatment of diseases of the brain was a masterly exposition of a wide subject. Special departments of the same subject have been discussed in Dr. McCall Anderson's presidential address in the Section of Medicine on the diagnosis and treatment of syphilitic affection of the nervous system, and Mr. Swanzy's Bowman Lecture on the value of eye-symptoms on the localisation of cerebral disease. Aphasia occurring as a puerperal symptom has been described by Dr. Bateman, and sensory aphasia has been the subject of a clinical lecture by Dr. Hughes Bennett. Remarkable cases of symmetrical gangrene have been described and figured by Drs. Smith-Shand and Affleck. Dr. J. S. Bristowe has contributed a very interesting commentary on a series of cases of acute myelitis. The Goulstonian lectures by Dr. W. J. Mickle dealt with a subject new to most readers—the relation of insanity to cardiac and aortic disease and to phthisis. Drs. Byrom Bramwell and Milne Murray detailed and figured an ingenious method of graphically recording the exact time relations of cardiac sounds and murmurs. Dr. W. H. Broadbent has written on the prognostic significance of the blood-pressure in acute renal disease. Dr. Blaikie Smith reported the occurrence of the pulsus paradoxicus in a case of pericardial effusion.

Surgery.—The remarkable address delivered by Dr. Macewen at the meeting of the Association in Glasgow on the surgery of the brain and spinal cord will be fresh in the memory of our readers. Cases of cerebral suppuration associated with otitis media diagnosed, localised, and successfully treated by trephining and evacuation have been published by Professors David Ferrier and Victor Horsley, Mr. Arthur E. Barker, and Mr. Damer Harrisson. The surgical treatment of abscess of the lung was the subject of a discussion introduced by Mr. Teale at the Glasgow meeting. Dr. D. W. Finlay contributed a case of bronchiectasis treated by incision and drainage; Dr. Blaikie Smith, on the other hand, advocated the treatment of recent pleuritic effusion by saline cathartics. A paper fully describing the method of performing intubation of the larynx has been published by Dr. Waxham of Chicago. An interesting discussion on the origin and structure of loose bodies in the knee-joint was conducted by Professor Humphry, F.R.S., Mr. Pridgin Teale, F.R.S., Mr. Howard Marsh, Mr. Marmaduke Sheild and other surgeons. Mr. Herbert Allingham described a case in which he had sutured a partially detached semilunar cartilage to the head of the tibia. The Hunterian Lectures at the Royal College of Surgeons by Mr. Arthur Barker, which were published at the time of their delivery, reviewed, in the light of recent pathological researches, the treatment of tubercular joint disease by operation. Mr. J. W. Taylor has recorded a successful case of cholecystotomy for gallstones. The indications for laparotomy in gunshot wounds of the abdomen were discussed by Mr. A. E. Barker, who gave a tabulated summary of the published cases, and Professors McCall Anderson and George Buchanan described a case of cancer of the pylorus, in which pylorectomy was performed. Dr. Sinclair of Belfast has recorded a successful case of jejunal enterectomy. Among contributions to the surgery of the genito-urinary organs, mention may be made of Mr. Reginald Harrison's Lettsomian Lectures on some points in the surgery of the urinary organs; to Sir Henry Thompson's lecture on tumours of the bladder, and to a clinical lecture by Mr. Berkeley Hill on hæmaturia. The latest novelty in this department of practice—the electric illumination of the bladder—has been described and illustrated in several articles by Mr. E. Hurry Fenwick and Sir Henry Thompson. The Harveian Lectures on lupus, by Mr. Jonathan Hutchinson, F.R.S., were published in full and illustrated by lithographic drawings.

Obstetrics and Gynæcology.—An unusual type of introductory address was the able review of the arguments in favour of regarding puerperal fever as a disease susceptible of complete extinction, published by Dr. Cullingworth. Cases in which abdominal section had been successfully performed for extra-uterine pregnancy have been reported by Drs. W. J. Sinclair, J. McNaught, Mr. Lawson Tait, and Dr. G. E. Herman. Mr. Lawson Tait has reported the clinical and statistical results of his second series of one thousand

consecutive case of abdominal section. Dr. Granville Bantock has reported a series of eighty-two ovariotomies performed successively in the Samaritan Free Hospital without a death. The treatment of fibroid tumours and other diseases of the uterus has been the subject of papers by Sir Spencer Wells, Dr. W. E. Steavenson, Dr. Apostoli, and Dr. Tivy; and Dr. John Phillips has contributed an elaborate statistical paper on the management of fibro-myomata complicating pregnancy and labour. The present state of knowledge with regard to placenta prævia was summarised by Dr. Robert Barnes in an illustrated paper, and Dr. Murdoch Cameron contributed an article, illustrated by drawings of specimens, on the pathology of abortion in relation to treatment.

Pathology.—One of the most important papers published during the year has been Professor Roy's account of an experimental investigation, conducted with the assistance of Mr. Adami, into heart failure produced by overstrain. Dr. Payne's address, introductory to a discussion at the Pathological Society, on the pathology and morbid anatomy of alcoholism, will have been read with interest. Dr. C. A. MacMunn has contributed two important papers on the functions of the suprarenal bodies, and their relation to Addison's disease; the other on the excretion of reduction products of hæmatin in disease. Dr. William Carter's Bradshaw Lecture on uræmia was a valuable review of an intricate subject. Mr. Arbuthnot Lane has discussed the result produced upon the muscles, bones, and ligaments by the habitual exercise of excessive strain. A series of lectures, delivered by Mr. Watson Cheyne at the Royal College of Surgeons, gave a systematic account of the present state of knowledge with regard to suppuration and septic diseases. The results of a research into the pathogenic properties of the chemical products of the phthisical processes were reported by Dr. R. W. Philip. The discussion of the relation of cow disease to scarlatina, and on various forms of eruptive disease of the udder in cows has been continued in several papers by Professor Crookshank. A suggestive address by Dr. Byrom Bramwell on the process of compensation pointed out its bearings on prognosis and treatment. The etiology and classification of the anæmia of puberty were discussed in a thoughtful paper by Dr. Macdowel Cosgrave. Professor A. G. Bourne, of Madras, has recorded the observation for the first time of a male filaria sanguinis hominis. A case of so-called "spontaneous combustion" has been reported by Dr. Mackenzie Booth; and Dr. R. M. Simon has described the metallic intoxication observed in men engaged in the manufacture and casting of brass.

Therapeutics.—Professor Theodore Cash's address on carbolic acid and its allies, including antipyrin and antifebrin, contained a valuable summary of existing knowledge of these remedies. The Croonian Lectures by Dr. Donald MacAlister, who dealt fully and systematically with the whole subject of the action of antipyretics, were represented in our pages by abstracts prepared by the author. The treatment of hydrophobia by the so-called Bouisson method (hot-air bath) was the subject of an elaborate paper by Professor Victor Horsley, who concluded from experiment that the method was useless, or worse. Codeine has been strongly recommended by Dr. Lauder Brunton for the relief of pain in abdominal disease. Mr. John Duncan has discussed the value of electrolysis in angioma and goitre. Mr. Jonathan Hutchinson's paper on the so-called abortive treatment of syphilis attracted great attention both at home and abroad. The value of inhalation in the treatment of lung disease was the subject of an excellent clinical paper by Dr. Theodore Williams. A note on methylene and other anæsthetics has been contributed by Sir Spencer Wells. A valuable note on the clinical incompatibility of certain antiseptic agents in common use has been contributed by Dr. Boxall. Mr. Herbert Page, Mr. Rushton Parker, and Sir Peter Eade have written strongly in favour of the method of treating carbuncle by scraping.

SOCIETIES.

Royal Medical and Chirurgical Society.—If we look back over the past year's work in the *Proceedings* as well as the *Transactions* of the Royal Medical and Chirurgical Society, we can hardly fail to be struck with the marked preponderance of surgical papers and discussions over medical. There were thirteen purely surgical essays to six purely medical; two to which both a physician's and surgeon's name are prefixed (Dr. Cheadle and Mr. T. Smith, on tracheotomy for the removal of a metal pencil cap occluding the left bronchus; and Dr. Gowers and Mr. Victor Horsley, on a case of a tumour of the spinal cord; removal; recovery); and two others on anatomical and pathological points not strictly confined to either branch of the profession. The surgical papers have somewhat preponderated in all the years of this decade, but not by nearly so much since 1881, and they certainly afforded during the past year much the most important matter and the longest discussions. The reports of the discussions, which are to be found in the *Proceedings*, and not in the *Transactions*, have been continued, and contain much matter that is well worth publishing; but as they are only published three times in the year, and contain of the main essay only the skeleton analysis which the author has drawn up for distribution before the meeting, along with the debate at the meeting, it would seem to us that they can do very little towards taking the place of the weekly journals in supplying the immediate information of the debate, and that they would be more useful if they were printed in smaller type, on a page of the same size as that of the yearly *Transactions*, so that they could be bound in as an appendix to that well-known volume. In this position they would furnish some expressions of current opinion, handy at least to anyone who was reading the original papers, and so avoid being, as a rule, quite dissociated from them, as the present plan of publication as separate small pamphlets entails. If we consider the surgical papers of the year, the first we come to is Mr. W. H. Bennett's, on tubercular disease of the testis as a local affection, in which an early treatment by castration is in some cases advocated, after the careful proof that general tuberculosis may originate from this focus during "the dangerous period" of breaking down and disintegration of the original tubercular material. The spreading of the tuberculosis to the spinal column was clearly brought out, and in one case the remarkable improvement after castration was evident, a point of considerable value in the modern study of the methods of progress and arrest of tubercle. Mr. Walsham contributes the account of the saving of a man's life in a somewhat desperate case, in whom there had been intraperitoneal rupture of the bladder, and who was treated, about twelve hours after the accident, by abdominal section and suture of the large rupture in the walls of the bladder. Previous history showed 11 instances of similar intraperitoneal rupture treated by abdominal incision and suture, of which 6 had died. They belonged to a class of cases which were considered, not so very long ago, as necessarily fatal. The serious annoyances in the form of relapsing typhlitis which arise from that "organic anachronism," the appendix cæci, were shown by Mr. Treves to be also best remedied by abdominal section. Mr. Henry Morris read a long paper, which contained an elaborate and valuable study of the comparative value of incision, excision, and injection in the radical cure of hydrocele. His chief point was to insist that any fashion of treatment occasionally failed, and that nobody could deny. A neglected case in which the shoulder had been left out of joint for three months, and great and painful pressure was exercised on the nerves and artery, was shown by Mr. Sheild to have been capable of excellent recovery after the head of the humerus had been skilfully excised through the anatomical neck. A good case of operation ending in recovery from extroversion of the bladder in a child, aged 5, was related by Mr. G. H. Makins; the successful treatment of a traumatic varicose aneurysm of the femoral artery and vein with ligature above and below by Mr. Walsham. A very complicated case of double nephro-lithotomy, in which lateral and median lithotomy had been previously performed, afforded Mr. H. W. Page the subject for a very interesting paper on the possibilities of dangers and difficulties of surgical treatment of renal calculi in both kidneys, and the care that must be taken to estimate if possible the sympathy between the kidneys, a point about which there is still much to be learnt. A very remarkable case of successful splenectomy was related by Sir Spencer Wells, calling to mind an equally successful case described by Mr. Knowsley Thornton last year, but differing in several important particulars, and needing careful study in conjunction with the eight other successful and six unsuccessful operations in Europe and America since Mr. Thornton's. Sir William Dalby read a short paper on the method of removing bony tumours of ivory hardness from the external auditory canal by using an electric drilling machine, perfected by the help of Mr. Winterbottom, which revolved at a speed of 5,000 turns per minute, and with which they could be easily cut and ordinary exostoses removed with astonishing readiness. The very delicate and powerful instruments were shown. After the recess Mr. Meredith laid before the Society a careful historical review of some series of ovariotomies performed since

1872 by Sir Spencer Wells, Mr. Knowsley Thornton, and himself, with a view to show the gradual lessening of the danger of death from septicæmia, which had decreased from 1 in 10 to 1 in 52, and the various improvements in method were discussed. The advantages of erasion or thorough scraping away of the diseased tissues in pulpy disease of the joints were brought forward by Mr. Edmund Owen, not as novel, but as deserving of wider use, and his opinion was confirmed by the majority of those who joined in the debate. At the last meeting of the year Mr. A. E. Barker and Mr. Bilton Pollard advocated an earlier treatment by excision of tubercular disease of the hip-joint, and supported their arguments by showing four cases in which there had been primary union of an anterior incision without drainage. Among the medical papers of this year, the first was one by Dr. A. E. Garrod, in further support of the hypothesis of the nervous origin of rheumatoid arthritis which he had advocated last year. The conclusion was drawn that the ordinary muscular atrophy of rheumatoid arthritis is, as Dr. Charcot believes, a secondary phenomenon, and as such affords no evidence as to the origin of the primary disease; but the increase in the knee-jerk usually found was taken to point to nervous origin. The subject was too complicated to receive adequate discussion. Dr. C. Theodore Williams introduced the subject of treatment of pulmonary consumption by residence at high altitudes; chiefly in the Alps, but also in Colorado and the South African Highlands. Much modern experience could be cited by himself and other speakers in favour of this method of treatment, and the elimination of cases unfitted, for it was becoming much more possible, and the observation of the complete immunity of the inhabitants of these high districts, had strengthened the other arguments in their favour. A discussion of some importance was elicited from many speakers who had practical experience. A very careful and valuable paper was contributed by Dr. Percy Kidd, and Mr. H. H. Taylor, on the value of the tubercle bacillus in clinical diagnosis; the result arrived at, after much patient trial, was that in the doubtful cases, where the pulmonary signs cannot lead to any definite conclusion, the examination for the bacillus frequently enables the observer to come to a positive conclusion, which is of great practical importance, as it decides the presence of tubercle, but can give little or no help in prognosis afterwards. In this conclusion almost all who had taken up the investigation agreed, and there was no dissentient to be heard to the invariable accompaniment of tubercle by the bacillus. Dr. Alfred Sangster and Dr. F. W. Mott gave a short description of a very unusual case of extensive pemphigoid eruption in an old woman within twenty days of her death from renal disease, and in whom very extensive degeneration of the peripheral nerves was to be found, and was possibly the cause. Some progress towards the proof of the origin of puerperal fever in a special streptococcus was shown to have been made by Dr. W. R. Smith from special researches at the Brown Institute; but up to the date of the paper only two cases had been thoroughly examined. Dr. Samuel West contributed a very skilful series of experiments in pathological chemistry to show that the condition of diabetic coma was not caused by acetone, and did not deserve the name acetonuria, but was the result of some acute intoxicant whose nature we do not at present exactly know. Dr. Haig had previously contributed a paper in pathological chemistry pointing out that the value of salicylates in uric acid diseases is due to their preventing acids from causing a retention of uric acid. Of the papers in which the skill of the physician and surgeon were most closely united, was one by Dr. W. B. Cheadle and Mr. T. Smith, in which a girl, aged 9, had accidentally drawn a metallic pencil-cap into her lung, which blocked up the lower end of the left bronchus. Its position was very carefully determined by the conditions of the breath-sound, etc., and Mr. Thomas Smith, after tracheotomy, succeeded in very skilfully seizing and withdrawing the obstructive body with a curved pair of forceps introduced through the opening in the trachea. A fortnight later there was complete recovery as far as the breath-sounds could indicate it. The most important case of all was one in which both physician and surgeon played important parts. A naval officer was brought under Dr. Gowers's notice who had suffered, with slight variations, the most acute pain possible for nearly three years between the shoulders, and who gradually lost all power of movement in the legs and all sensation as high as the ensiform cartilage. There was no indication of caries from irregularity of the spines of the vertebræ or local dorsal tenderness, and the conclusion was arrived at that there was probably tumour within the spinal canal either from the membranes or vertebræ. No improvement followed the administration of large doses of potassium iodide; the long duration of severe localised symptoms made carcinoma improbable. After careful consideration, Mr. Victor Horsley undertook the exposure and opening of the spinal column to search for any intradural tumour. The level of anæsthesia pointed to the fifth or sixth dorsal vertebra as the most probable position of the tumour, if there was any. The laminal arches of the fourth, fifth, and sixth vertebræ were cleared away, the dura mater exposed, and nothing found on opening it; Mr. Horsley went a step further, and removed the third and seventh laminæ, and could then find nothing abnormal. However, after the laminæ of the second dorsal vertebra had also been removed, an almond-shaped fibro-myxoma was found within the spinal canal, jammed between the dura mater and the left side of the spinal cord. This was removed from its deep bed in the cord, and the wound dressed with boracic acid, and two drainage tubes left in, by which the cerebro-spinal fluid, along with other discharges, escaped. At first there was but little diminution of the previous intense pain, but it gradually lessened, the motor power was slowly regained, and when Mr. Horsley showed the patient to the Society, about six months after the operation, he was nearly well, and since then the recovery has been completed. A very full table of fifty-eight intra- and extra-dural growths is appended, showing this to be a unique case—the first case of operation, the first of recovery from a growth from the spinal dura mater, a case, therefore, not easily to be forgotten.

Clinical Society.—The papers contributed to this society during the year have again been of a high order of merit, and have served in many ways to advance the treatment of several diseases formerly considered to be beyond the art of the physician or surgeon. The second year of Dr. Broadbent's presidency has been signalised, too, by the presentation, in May last, and subsequent publication, of the report of the committee which for nearly four years had been considering the subject of myxœdema. This important achievement was completed by a strong committee, acting throughout under the chairmanship of Dr. Ord, and is considered to be among the best, if not the best, of the work hitherto accomplished by the Society. The excellent plan has recently been adopted of grouping papers, so that those of a similar nature, whether contributed by physicians or surgeons, are discussed together; papers on identical maladies have been contributed sometimes by the former, sometimes by the latter. At the first meeting in January last, Dr. Maclagan read notes of two cases in which obstruction of the bowels was caused by large gall-stones; and Mr. Clutton described a case of the kind for which laparotomy was performed in a woman aged 70. Dr. Angel Money described a case of so-called idiopathic dilatation of the colon without organic stricture; in the discussion thereon several speakers mentioned other cases of the kind which had come under their notice. Sir Dyce Duckworth described a case of tricuspid and mitral stenosis in which physical signs of pulmonary arterial reflux were present. Mr. Mayo Robson, of Leeds, read a paper on the diagnosis and treatment of ruptured intestine without external wound, in which he dwelt upon the necessity of an early diagnosis, an exploratory incision if there was doubt as to the diagnosis, and an early operation; and Mr. Page read a paper on two cases. Mr. W. H. Bennett detailed a rare case of intestinal obstruction in an elderly gentleman, in which the colon gave way outside the peritoneum, so that, upon colotomy being attempted, a large quantity of gas and fæces, which had been pent up in a space behind the gut, escaped therefrom. Mr. Walsham related the case of a man suffering from intestinal obstruction, upon whom Nélaton's operation was performed. Death resulted, and a volvulus of the cæcum was then discovered, together with malposition of the ascending colon. Mr. Croft described the case of a man suffering from dislocated semilunar cartilage, which he successfully removed, the patient subsequently being able to follow with comfort his daily avocation. Prof. Annandale (Edinburgh) also described five operations of the kind which he had done, with a perfect result: and Mr. Davies-Colley mentioned another case upon which he had operated. Dr. Hadden read a paper on "dry mouth," or suppression of the salivary and buccal secretion; Mr. Hutchinson subsequently read another paper on the same subject, christening the disease "persistent aptyalism." Mr. Butlin, Dr. Crocker, and Dr. Broadbent mentioned other cases of the same rare malady, all the patients being women. Cases of hyperpyrexia treated by the ice-pack or cold bath were read by Dr. Ord and Dr. C. J. Arkle, and led to a lengthy discus-

sion, in which Dr. Maclagan, Dr. Coupland, Dr. Broadbent, Dr. B. Morison, Dr. Angel Money, and Dr. Barlow took part. Mr. Godlee described a typical case of acromegaly; and Dr. Hadden and Mr. Ballance brought forward another case. In the discussion which followed, Dr. Wilks mentioned yet another case, and dwelt upon the possible connection between this disease and the enlargement of the pituitary body which had been noticed in some cases. Dr. S. West read a paper on acute periosteal swellings noticed in several young infants of the same family, and suggested that they were probably rickety in nature. But this hypothesis was combated by Dr. Barlow, Dr. Dickinson, Mr. Parker, and other speakers. Mr. Wainewright described the case of a boy, aged 3, which illustrated the advantage of early incision with drainage, as opposed to excision of joints. The result was allowed by subsequent speakers to be exceedingly good, but it was considered that "early incision with drainage and scraping" would have better described the nature of the operative interference. Dr. de Havilland Hall read notes of three cases of acute parenchymatous tonsillitis, or quinsy, which were treated and rapidly cured by local applications of cocaine. In the discussion thereon, speakers mentioned untoward symptoms which had resulted in various cases from a too lavish application of the drug. Mr. R. W. Parker related particulars of two fatal cases of acute intussusception occurring in infants aged 3 and 4 months respectively; Dr. Fordyce Barker (New York) joined in the discussion. Mr. Herbert Page described two cases of rupture of intestine without external wound. Mr. Croft mentioned another case, and strongly advocated early exploratory laparotomy, with resection, if necessary. Dr. Ward Cousins (Southsea) described a case in which lithotomy was performed twice within two months. A committee was nominated to report upon the case. Dr. S. Mackenzie described a peculiar skin disease, possibly a form of lupus, consisting of nodules or tubercles and erythena, leaving scars. Dr. H. Handford (Nottingham) read notes of a case of empyema, with loss of vision, hemiplegia, and death, associated with cerebral softening, involving especially the angular gyri and occipital lobes. The frequent occurrence of cerebral abscess in cases of empyema was commented upon in the discussion, in which Drs. Money, Hadden, de Havilland Hall, Barlow and others took part. Mr. E. H. Fenwick read notes of a case of encysted stone treated by suprapubic cystotomy, and successfully removed by means of chisel and mallet. Mr. Buckston Browne read an account of a case of encysted calculus successfully removed by suprapubic lithotomy. Mr. Clutton related another case, and Mr. C. Heath enlarged on the difficulties often encountered in sounding for stone. Dr. Bristowe and Mr. Horsley contributed an interesting paper on a case of paralytic rabies treated unsuccessfully by inoculation by M. Pasteur. The similarity between this disease and cases of Landry's paralysis was commented on in the discussion. Dr. Dickinson related a case of purulent pericarditis successfully treated by aspiration and drainage, Mr. Rouse being the surgeon who had operated. Mr. Parker described a case of purulent pericarditis associated with osteo-myelitis, which was treated, but unsuccessfully, by free incision. Dr. Goodhart, Dr. S. West, and other speakers also related cases, and the discussion of the question occupied the whole of one meeting.

The Pathological Society of London.—This Society has continued to have the advantage of holding its meetings under the presidency of Sir James Paget. The character of its work is similar to that done in former years—namely, the inspection of, and discussion of papers on, various morbid specimens. Early in the year the discussion on the relation of the Hendon cow disease to scarlet fever was continued from the special meeting held for the purpose at the end of 1887, but although the ground was very carefully gone over, no conclusion was arrived at. New growths have attracted a large share of the Society's attention, concerning which the following important papers were read: by Dr. Crocker on a case of "Paget's" disease, involving the penis and scrotum; by Mr. Hurry Fenwick on the production of carcinoma by contact: in the discussion which followed many examples were alluded to very strongly supporting this idea. Of rare forms of new growths, Dr. G. Griffiths read a paper on a case of tumour of the internal jugular vein, which was determined by a Morbid Growths Committee of the Society to be a unique example of sarcoma entirely within the vascular system. Another point of great interest in this case was that the patient was found to have suffered also from carcinoma of the right lung. Dr. Norman Moore showed two very rare specimens of epithelioma originating in the common bile duct. Of the other papers brought before the Society, only the following require mentioning here: two by Mr. Jonathan Hutchinson, jun., and by Mr. Lockwood, on the anatomy and pathology of some rarer kinds of hernias; one by Mr. Shattock on a peculiar foreign body removed from a knee-joint, which led to a general discussion on foreign bodies in knee-joints, the interest centering round the question of what pathological processes were concerned in the separation of portions of the semilunar cartilages. The two last meetings of the year have been devoted to a discussion on the various material changes produced in the organs and tissues of the body by alcohol.

The Obstetrical Society of London has, it may justly be said, increased during the past year its already high reputation. Several papers, of a character particularly adapted for debate at a society of obstetricians, attracted full audiences and excited discussion, in which some of the most authoritative and the most experienced took part. Amongst these papers we must note a remarkable monograph on the value of pilocarpine in pregnancy, labour, and the lying-in state, by Dr. John Phillips, for the author's conclusion to his reply to the discussion which followed the reading of the paper deserves special notice. He was sorry that all his evidence pointed to the fact that pilocarpine was not desirable as an ecbolic remedy, and that no positive evidence of its value could be adduced. In short, the author had taken great pains to prepare an honest report on the effects of the drug, and not to glorify a new remedy. Clinical and therapeutical essays too often follow the bad practice of historians of the old school, the author making a hero of his drug or new mode of treatment, putting forward ostentatiously all evidence in its favour, and omitting or explaining away evidence of a contrary tendency. Dr. Phillips has avoided this bad principle. Of great interest were two exhaustive productions from the pen of Dr. Robert Boxall. The first was entitled Scarlatina during Pregnancy and in the Puerperal State; the second related to the conditions which favour mercurialism in lying-in women, with suggestions for its prevention. The monograph on scarlatina took up three meetings, and every point of scientific and clinical interest in relation to the subject was thoroughly discussed. A fair summary of the principal conclusions of this essay, however brief, would occupy more space than we can afford, but further notice of Dr. Boxall's writings will be found under "Obstetric Medicine." The most important disputed points were the questions of the degree of severity of scarlatina after delivery, and its relation to puerperal septicæmia. Dr. Boxall's monograph on mercurialism in lying-in women tended to prove that poisoning from sublimate injections was rare, and that the chemical agent in question was the best of its kind, superior to iodine and other antiseptics. All danger might be avoided by precautions in the application of sublimate douches, and by a careful observation of the state of the kidneys, and the promotion of a free action of the bowels. A good practical essay on the effect of ergot on the involution of the uterus was read in February by Drs. Herman and Fowler. After careful observation of over a hundred patients, the decreasing bulk of the uterus being specially noted, they found that in the cases treated by the continuous administration of ergot, the uterus diminished more rapidly in size than in other cases where one dose only was given after delivery. On the other hand, the drug had no appreciable effect on the duration of the lochial discharge. Of extreme interest was the reading of four contributions on the principles and practice of electrolysis as applied to gynæcology, by Drs. Steavenson, Lovell Drage, R. A. Gibbons, and J. Shaw. A memorable discussion followed on June 21st, when a meeting extraordinary in more than the technical sense was held. Dr. Playfair declared that his clinical experience proved that electrolysis was an agent occasionally capable of doing much good. Dr. Bantock expressed profound scepticism as to the merits of the new system. The President indicated his own opinion that the Frenchmen who had introduced the system proved by their writings that they did not possess a sound knowledge of the elementary principles of obstetrics and gynæcology. The diminution in bulk of uterine fibroids subjected to electrolysis did not exceed the decrease known to occur as a part of the cyclical changes of those tumours. In December, a good discussion followed the reading of Dr. Cullingworth's paper on a case of successful secondary operation for extra-uterine pregnancy. Among the more clinical contributions we may note Dr. Matthews Duncan's and Mr. Meredith's papers on the locking of uterine fibroids in the pelvis. Dr. Lewers read a case of extirpation of the uterus for primary carcinoma of the body. The patient enjoyed ten months of health and comfort after the uterus was

removed, dying from recurrence sixteen months after the operation. Extirpation is, however, a very serious proceeding. Dr. Cullingworth read a case of uterine cyst of uncertain nature, believed to be hydatid. Dr. Champneys's highly scientific theses on pelvic anatomy and deformities have long been familiar to Fellows of the Society and readers of its *Transactions*. During the past year Dr. Champneys made a practical contribution by relating the history of a case where he undertook the repair of that troublesome complication, vesico-uterine fistula. He dissected off from the cervix the anterior vaginal wall to beyond the limits of the fistula. After this dissection a hole was left in the bladder, and another in the cervix; each was closed, and the vaginal wall repaired with complete success. An instructive discussion on the proper material for sutures in plastic surgery followed the reading of this case. Dr. Herman read, in December, a scientific clinical paper on the effects of glycerine on secretions poured into the vagina. Amongst the more essentially scientific essays read before the Society we must mention Mr. Bland Sutton's monograph. That anatomist endeavoured to prove that the rugæ or plicæ of the Fallopian tube were practically glandular diverticula. Their secretion nourished the ovum during its passage through the tubal canal. Mr. Sutton's theory represents a more accurate version of a doctrine previously enunciated by Hennig; it is evident that the tube is more than a mere duct. Mr. Doran read a communication on fibro-myoma of the ovary and allied solid ovarian tumours. This contribution turned on the distinction between connective tissue cells and smooth muscular fibre, and was accompanied by the exhibition of a large series of microscopic sections. Mr. Lockwood read in December a paper on obliteration of the central canal of the spinal cord in the early human embryo. The subject is related to the question of the effects of disease early in fœtal life. Inflammatory changes in the undeveloped cerebro-spinal system may account for many congenital diseases, and also for several varieties of monsters and malformations. Besides the above papers, and others which will be found reported in our columns, we must notice the pathological specimens which were brought forward during the first half hour at each meeting. They were all essentially scientific and pathological, and not mere evidences of operative prowess or teratological unloveliness. Amongst the most instructive were specimens illustrating extra-uterine gestation; one of these, exhibited by Mr. Sidney Harvey, was an example of that rare condition—interstitial or tubo-uterine pregnancy.

British Gynæcological Society.—The inaugural address of Dr. Edis, the president, on the relations of gynæcology to general therapeutics appeared in the JOURNAL in February. Good discussions followed two important papers on electrolysis, one by Dr. Aveling on the diagnosis and electrical treatment of early extra-uterine gestation, and the second by Dr. Parsons on the action of the constant current in fibroid tumours. Extra-uterine pregnancy seems to be of especial interest to members of all societies of the character of that which we are now reviewing, and it is satisfactory to find that the condition in question is no longer treated as a pathological curiosity of clinical import only on account of its hopelessness. Dr. Bantock read a case where a tubal pregnancy ruptured, yet he was able to treat the case with full deliberation in hospital, performing abdominal section, and removing the tube and ovum with perfect success. Mr. Lawson Tait read a case in which ruptured tubal pregnancy occurred twice in the same patient. Some clinical papers deserving perusal in their printed form in the Society's *Journal*, were read in the course of the year. Amongst them we may note Dr. R. T. Smith's on cystic disease of the cervix and endometrium, Dr. Parsons's on vicarious menstruation (a very disputed subject), and Dr. Rutherfoord's on the use of hydrastis for the arrest of bleeding from fibroids. Dr. Bell read a communication on intra-uterine medication; Dr. Savage discussed operative measures in cases of purulent peritonitis. Dr. Fancourt Barnes brought forward two cases of hermaphrodites; one was in a young adult who was exhibited; photographs of this curious case are published in the *Journal* of the Society. Another paper of interest, by Dr. Alexander, described a new method of treating incontinence of urine. A considerable number of specimens illustrating operative gynæcology and pathology were brought forward; Mr. Sutton's observations on the nature of dermoid cysts, a subject once thought to be almost transcendental, were of high interest.

Medical Society of London.—The weekly meetings of this Society have been uniformly well attended throughout the year; and the "clinical evenings," when a rich store of valuable material is generally available, have been particularly appreciated. Mr. Reginald Harrison delivered the Lettsomian Lectures on some points in the surgery of the urinary organs, dealing more particularly with the circumstances under which febrile symptoms were met with in connection with lesions involving the urinary tract. Mr. Treves called attention to a method of arresting hæmorrhage from the carotid artery by passing a loop of catgut beneath the artery and then drawing on the loop. Mr. Hurry Fenwick demonstrated the Leiter apparatus for examining the interior of the urethra and bladder. Dr. Churton, of Leeds, read a very exhaustive paper on empyema and its treatment, and his paper was followed by others on the same subject by Mr. Gould, Dr. Hall, and Mr. Bloxam. A paper of unusual interest was read by Dr. Donald Hood on the use of salicylates in rheumatism. His conclusions were based on an analysis of over 2,000 cases, and constitute a formidable indictment of this so-called "specific" treatment. Mr. Jonathan Hutchinson discussed the proper period for commencing the treatment of syphilis. He claimed that, if commenced early enough, the secondary period was practically abolished, and the tertiary symptoms to some extent obviated. At the general meeting of the Society Sir William Mac Cormac was chosen President. Mr. Adams read a paper on the cure of hammer-toe by the subcutaneous division of the lateral ligaments. In the course of the discussion which followed, Mr. Walsham pointed out that though the lateral ligaments contributed to the deformity, the glenoid ligament was also involved. After the Easter recess, Dr. Ord contributed the notes of an interesting case of ulcerative endocarditis in a girl aged 16. The late Dr. Milner Fothergill read his last contribution to the Society, on small and moderate valvular affections, pointing out the absence of proportion between the loudness of the murmurs and the severity of the cardiac lesion. The session 1888-89 was opened on October 15th by the President's address, the subject being the old surgery and the new. Mr. Edmund Owen afterwards read the notes of a successful operation for the relief of intestinal obstruction, and remarks were made on the subject by Mr. K. Thornton, Dr. Hall, and others. On November 5th, Dr. Bull, of New York, read a very interesting paper on the surgical aspects of typhlitis and perityphlitis, based on a large number of cases. Mr. Frederick Treves argued against the existence of perityphlitis *per se*, and Dr. Weir, of New York, Mr. Knowsley Thornton, and others, added the results of their experience to that of the author of the paper. The Society fully discussed Dr. Howard's plan of raising the epiglottis by forced extension of the neck. Mr. Bryant and Dr. Sansom endorsed the author's views, which were disputed by Dr. Hewitt. The President, Mr. Lennox Browne, and others also spoke on the subject. Dr. B. W. Richardson read a paper on the absolute signs of death, in which he reviewed the subject, and compared the practical value of the various tests. Dr. Althaus urged the value of the electrical reaction of muscles for this purpose.

The Epidemiological Society has well sustained its reputation during the year for communications of high scientific interest. Dr. Donovan, of Malta, contributed a paper on yellow fever, giving a summary of Professor Freire's work on the microbian doctrine of yellow fever and its preventive inoculations. Inspector-General Donnet, in an exhaustive paper, treated of the specific nature of the various malarial diseases, and gave a full description of the etiology, behaviour, and geographical distribution of yellow fever. Dr. Whitelegge read a very valuable paper on age, sex, and season in relation to scarlet fever. The experience of 6,000 notified cases showed that the liability to scarlet fever was slight in infancy, reached its maximum in the fourth or fifth year, and diminished every year afterwards. The severity of the attack, however, was greatest in the first two years of age, and lessened year by year throughout childhood and adolescence. The maximum of cases and deaths occurred in October and the minimum in April. Dr. Arthur Downes contributed a paper on diphtheria, in which the relationship of this disease to croup and to minor throat illnesses was carefully considered. Dr. Robert Cory brought before the Society some statistics as to vaccination and small-pox scars, derived from observation of 150 persons scarred by small-pox; and papers have been read on scarlatina in its relation to cow's milk at Wimbledon and Merton by Mr. Cooper, and the sanitary administration of dairy farms by Mr. Shirley Murphy.

The Society of Medical Officers of Health.—During the past session the Society has devoted much time to the consideration of the clauses of the Local Government Bill which had relation to sanitary administration, and its deliberations led to the appoint-

ment of a committee to co-operate with the Parliamentary Bills Committee of the British Medical Association in endeavouring to introduce a clause which should give the County Councils the power to appoint a medical officer of health. Papers have been read before the Society on port sanitary administration on the Tyne, by Mr. H. E. Armstrong; the powerlessness of the Public Health Act for the closure of contaminated wells, by Mr. F. J. Lloyd; verification and certification of death, by Dr. J. F. J. Sykes; epidemic pneumonia, by Mr. C. H. Watts Parkinson; some aspects of mortality statistics, by Dr. Louis Parkes; the Local Government Act in its sanitary aspects, by Dr. Francis Bond; sewer gas and sore throat, by Dr. J. F. J. Sykes; and the administration of Torrens's Act, by Dr. Louis Parkes. In his presidential address, Dr. Corfield gave a clear and concise history of sewage disposal inquiries, and the lessons that may be derived from them. The proceedings of the Society are now embodied in a journal entitled *Public Health*, which is very ably edited by Mr. Wynter Blyth.

Royal Academy of Medicine (Ireland).—The report of the Royal Academy of Medicine in Ireland shows that the numbers of Fellows and Members is still maintained, and that the finances are in a sound condition. The Council have been able to invest £491 16s. 9d. in Consols. The new President is Dr. Samuel Gordon, who has been appointed for three years. The papers in the Medical Section during the session 1887-88 which were of most interest were: notes on silver staining, Dr. A. W. Foot; a case of cerebral cyst, Dr. K. Franks; congenital spastic paralysis and ataxic paraplegia, Dr. C. J. Nixon; a case of gastric epilepsy, Dr. A. W. Foot; the etiology and classification of the anæmia of puberty, Dr. E. McD. Cosgrave; the fever of over-exertion, Dr. J. F. Knott; case of lymphadenoma, Dr. W. M. Wright; a rare form of mental disease, Dr. Conolly Norman; note of the relief of migrainous headache, Dr. James Little; note on the power of saccharin in preventing ammoniacal change in the urine in chronic cystitis, Dr. James Little; notes of a case of foreign body in the œsophagus, Mr. Paul Dillon; heredity in purpura hæmorrhagica Dr. J. F. Knott. In the other Sections the following papers were read: Section of Surgery:—Trephining in mastoid and tympanic disease, Mr. J. Dallas Pratt; serious brain symptoms following pyæmia, Mr. Nathaniel Mayne; penetrating wound of the stomach and transverse meso-colon successfully treated by abdominal section, Dr. Charles Ball; two fatal cases of foreign bodies in the œsophagus, Mr. William Thomson; on the treatment of advanced conditions of equino-varus, Mr. R. L. Swan; surgery of the thyroid gland, Mr. George Foy; on a case of epidural hæmorrhage treated by secondary trephining, Mr. W. Thornley Stoker; on traumatic subdural abscess of the brain, Sir William Stokes; case of traumatic aphasia successfully treated by the removal of a blood-clot from the interior of the cerebrum, Dr. Charles B. Ball; on suprapubic lithotomy and vesical suture, Mr. Kendal Franks; suprapubic lithotomy, Mr. F. Alcock Nixon; vesical tumour removed by suprapubic cystotomy, Dr. Francis Heuston; [penetrating wound of the abdomen, Dr. Thomas Donnelly; enterectomy and enterorrhaphy, Mr. J. S. M'Ardle. Section of Obstetrics:—Pudendal hæmatocele, Dr. Richard D. Purefoy; on proofs of virginity, Dr. R. J. Kinkead; case of vaginal extirpation of the uterus, in which both ureters were tied, Dr. Arthur V. Macan; removal of an enlarged fibroid uterus, Dr. W. K. M'Mordie; report of the gynæcological department of the Rotunda Lying-in Hospital for the year ending November 3rd, 1887, Dr. Alfred J. Smith; on the treatment of obstructive dysmenorrhœa and sterility, Dr. T. More Madden; notes on some cases of abdominal section, Dr. Robert O'Callaghan; new operation for repair of lacerated perineum, Dr. Alexander Duke; the management of the perineum during delivery, Dr. J. R. Kirkpatrick; removal of the right uterine appendages, Dr. R. D. Purefoy; case of pelvic hæmatocele cured by operation, Dr. John A. Byrne; on myxoma of the chorionic villi or vesicular mole, Dr. T. More Madden. Section of Pathology: Case of epispadias, Mr. J. V. Lentaigne; case of phlegmasia alba dolens, Dr. E. H. Bennett; case of dysentery, followed by gangrene of the foot, Dr. Walter G. Smith; dysenteric ulcers in the rectum with gangrenous ulcers of the stomach, Dr. James Little; dysentery—cases observed in Richmond (Dublin District) Asylum, Mr. Conolly Norman; on the etiology of dysentery, Mr. Conolly Norman; insular sclerosis, Dr. Walter Bernard; suicidal wound of the heart with a pin, Mr. William Thomson; multiple (pyæmic) abscesses of liver and lungs, Dr. J. Magee Finny; case of hydatid tumour of the deltoid muscle, Dr. Charles B. Ball; rupture of the trachea, with fracture of the sternum and ribs, Dr. E. H. Bennett; ulcerative endocarditis, Dr. James Little; a comparison of the pathological changes in intra-uterine amputations with those produced by ordinary amputation, Dr. E. H. Bennett; carcinoma of liver and gall-bladder, Dr. Walter G. Smith; chronic Bright's disease, Dr. James Little; cerebral hæmorrhage, Dr. James Little; corneal fibroma (?), Mr. J. Alfred Scott and Mr. J. B. Story; specimens of unreduced dislocation backwards of the bones of the forearm, Dr. E. H. Bennett; case of acute lobar pneumonia and chronic Bright's disease, Dr. James Little; secondary cancer of the lung, Dr. G. P. L'E. Nugent; pulmonary artery with two valves, Dr. A. W. Foot; perforative peritonitis, Mr. J. S. M'Ardle; pyæmia of dental origin, Dr. A. W. W. Baker; locomotor ataxy, Dr. J. Magee Finny; separation of the coracoid epiphysis of the scapula, Dr. E. H. Bennett; a case of cirrhosis of the liver, with thrombosis of the portal vein, Dr. Henry T. Bewley. Section of State Medicine:—The medico-legal aspects of the Coachford poisoning case, Dr. C. Y. Pearson; the distribution of enteric fever in the city of Dublin, Dr. T. W. Grimshaw and Sir C. A. Cameron; Glengariff as a winter health resort, Mr. D. Edgar Flinn. Section of Anatomy and Physiology:—Notes on some nerve anomalies, Dr. Ambrose Birmingham; interosseous muscle, Dr. St. John Brooks; on the distribution of the cutaneous nerves on the dorsum of the human hand, Dr. St. John Brooks; on the homology and innervation of the Achselbogen and pectoralis quartus, and the nature of the lateral cutaneous nerve of the thorax, Dr. Ambrose Birmingham.

Conclusion.—In addition to the Societies mentioned above, reports supplied by Honorary Secretaries have been furnished from many of the Branches of the British Medical Association, and from a large number of metropolitan and provincial medical societies, namely: the Anatomical Society of Great Britain and Ireland, the Harveian Society of London, the Medical Society of Cambridge, the Clinical Society of Manchester, the Hunterian Society, the Manchester Medical Society, the Midland Medical Society, the Northumberland and Durham Medical Society, the Plymouth and Devonport Medical Society, the Sunderland and North Durham Medical Society, the Sheffield Medico-Chirurgical Society, the South-East Hants Medical Society, the Brighton and Sussex Medico-Chirurgical Society, the Bradford Medico-Chirurgical Society, the Liverpool Medical Institute, the Leeds and West Riding Medico-Chirurgical Society, the Leicester Medical Society, the Medico-Chirurgical Society of Nottingham, the West London Medico-Chirurgical Society, the Manchester Pathological Society. The proceedings of the Glasgow Pathological and Clinical Society and the Medico-Chirurgical Society of Edinburgh have also been reported with regularity.

ANATOMY.

Anatomy at the Glasgow Meeting.—Vascular System.—Nervous System. — Embryology. — Miscellaneous Notes. — Books. — The Anatomical Society.

Anatomy at the Glasgow Meeting.—Anatomy has made steady progress during the past year, and English anatomists have not been behindhand. The new Professorship at Dundee has been filled, and our own columns have already evidenced the energy of the recipient, Professor A. M. Paterson, whose paper on abnormalities of the diaphragm is clear, and gives a good account of the present position of a difficult subject. This paper was read in the Physiological and Anatomical Section of the British Medical Association during the recent Glasgow meeting, and was one of a number of meritorious contributions; indeed, the Section was more than usually well provided. Professor Cleland gave a very interesting and scholarly address, which we have already published; and he also gave a lucid and interesting account and explanation of the occurrence of twin monsters, and of congenital sacral tumours. Dr. St. John Brooks also furnished a further instalment of his extensive labours upon the limb muscles, and on this occasion discussed the morphology of that interesting muscle the epitrochleo-anconeus. Dr. Macdonald Brown, in his paper on the cardiac ventricle, showed very satisfactorily that the moderator band is more constant in the human heart than is usually thought. Dr. Anderson also added to our knowledge of the pelvic epiphyses of mammals. The vascular system has also been investigated by other observers.

Vascular System.—In the earlier part of the year, Dr. Yule Mackay's monograph on the development of the branchial arterial arches in birds, with special reference to the origin of the subclavians and carotids, was published in the *Philosophical Transac-*

tions of the Royal Society of London. It would be out of place to enter into the details of this work, but after its perusal we feel that doubt has been cast upon that which used to seem sure and well established. *Philosophical Transactions* also contain Mr. Lockwood's monograph upon the Early Development of the Pericardium, Diaphragm, and Great Veins. We have already commented upon this work, and an abstract of it has appeared in our columns; the numerous and well-executed illustrations which accompany it in its present form tend to render easier an understanding of this abstruse and difficult subject. The same anatomist has also rendered his Hunterian Lectures on the Development and Transition of the Testicle more available by publishing them at length in the *Journal of Anatomy* and in a separate volume. The vascular system has also been treated by Boas, who has investigated the arterial arches of mammals,[1] and Rüdinger has written an interesting paper upon the various cerebral arteries;[2] and Bimar has elucidated the distribution of the spermatic arteries with considerable industry, and with especial reference to their terminal branches.[3]

Nervous System.—In the *Transactions of the Royal Irish Academy* Professors Cunningham and Bennett have given a detailed account of the brain and eyeball of a human cyclopean monster, which is a distinct addition to our knowledge of this rare anomaly. We also note that Professor Cunningham has issued a part of his series of models showing the topography of the human brain. These models are beautifully executed, and equal, if they do not surpass, the work of the best foreign anatomists. The impulse which von Graefe gave to the study of the pineal body, and which Spencer so ably extended, has by no means died away, as is witnessed by a paper by Beard on the Parietal Eye of Cyclostome Fishes,[4] and in which valuable additions are made to our knowledge of this question. In the same journal this observer has a beautifully illustrated contribution upon the development of the peripheral nervous system. Indeed, the plates in this admirable journal are a complete answer to those who say that we, in our illustrations, are unable to compete in beauty of design and execution with our Continental rivals. The pineal body has, we may add, been considered by Peytoureau, Granel, and Cionini. Neighbouring structures, namely, the grey commissure and the corpus striatum and the optic thalamus have been further considered by Viller and Marchi respectively, and Drobnik has written an exhaustive paper on the cervical sympathetic.[5] Jegorow has also written upon the ophthalmic ganglion. His descriptions are in accord with that usually given, and, as might be expected, he finds that the sensory and motor roots are constant, whilst the sympathetic varies.[6]

Embryology.—Embryology has become such an indispensable part of the equipment of every anatomist and, it will be allowed, of every pathologist, that it naturally holds a foremost place. Therefore, before proceeding with that which has been done in pure anatomy, we would refer as briefly as possible to other labours in that direction. Janosik has extended his excellent researches on the development of the testicle to the ovary, and gives valuable information upon the vexed problem of the origin of the follicular epithelium.[7] A. B. Griffiths has studied the renal organs of the invertebrata, and concludes that some types possess true kidneys. Tourneux has also written upon the organ of Rosenmuller.[8] Hertwig, in his book on *Human and Comparative Embryology* (Jena, 1888), gives an excellent account of the development of the various organs from the comparative embryology point of view; and Duval (Paris, 1888) has also produced a very elaborate atlas of the embryology of the chick. These plates are very elaborate, but we cannot help regretting that they are not drawn from mammalian embryos. Before concluding this branch, Professor Sir William Turner's essay on the Allantois may be noted,[9] and Bonnet's upon the same subject. His has made a further addition to the development of the human lungs, and Streckeisen has written a valuable memoir on the Thymus Gland.[10] Although so much is said of the development of the temporary teeth, our information as regards the permanent is less precise. Abarran has recognised this, and his paper on the subject fills a distinct void. This summary includes but a tithe of what has been done in this field, but we have mentioned enough to show that our workers have not been inactive.

[1] *Morph. Jahrbuch*, xiii.
[2] *Archiv für Anatom. und Phys.*
[3] *Comptes Rendus Acad. des Sci.*
[4] *Quart. J. Micros. Sci.*
[5] *Archiv für A. and P.*
[6] *Archiv Slaves de Biol.*
[7] *M. T. Natur. Gesell. Bern.*
[8] *Jour. de l'Anat. et de la Phys.*
[9] *Proc. Royal. Soc.*
[10] *Archiv für Anat. und Phys.*

Miscellaneous Notes.—Recently Professor Flower gave a minute and learned account of the skeletons of Akkas or African pigmy race,[11] and Rosthorn has, by means of suitable injections, examined the synovial sheaths of the flexor tendons of the hand. The variations which he has found fully account for the different statements given in our best textbooks.

Books.—During the year we have noticed elsewhere the appearance of standard anatomical works. New editions of Holden's *Landmarks* and Treves's *Surgical Applied Anatomy* have appeared. Professor Marshall and Mr. Hurst have produced a *Junior Course of Practical Zoology*, which we have favourably noticed, and the same may be said of McFadyean's work upon *Comparative Anatomy*. Lastly, we would mention an admirable reissue of one of the earliest English works on anatomy—namely, *The Anatomy of ye Bodie of Man*, by Vicary. This has been done by the Early English Text Society, under the editorship of Dr. Furnivall, and of his son, Percy Furnivall. It is an interesting and praiseworthy memento of one who garnered in fields where we have gleaned.

The Anatomical Society.—In conclusion, we may refer to some of the excellent work which has been placed before the Anatomical Society of Great Britain and Ireland. Dr. Mott's paper on Clark's column tended to throw doubt upon some recent work, and we particularly note the excellent microphotos with which it is illustrated in the *Journal of Anatomy and Physiology*, the organ of the Society. Mr. Sutton also continued his researches upon the nature of ligaments in two contributions, the last dealing with the vocal cords. Dr. Johnson Symington, by means of frozen sections, threw fresh light upon the anatomy of the rectum and anus; and Professor Howes, at the last meeting, discussed the intranarial position of the epiglottis, and Dr. R. W. Reid gave an account of an elaborate series of observations on the relation of the spinal nerves to the spinal processes of the vertebræ. Recent advances in the surgery of the spine render these particularly welcome. Finally, the President, Professor Humphry, made a vigorous onslaught upon the time-honoured superstition that the angle of the neck of the femur tends to a right angle as age advances. This essay was very elaborate and very convincing.

REPORT ON PHYSIOLOGY.

Nervous System.—The Cerebral Hemispheres.—The Occipital Lobe in the Monkey.—Circulation.—Special Senses.—Muscle.

Nervous System.—Kowalewsky has published a paper on the action of methylene blue on mammalian animals. Ehrlich has shown that this aniline dye colours living nerves, and has utilised it for studying the distribution of nerves. The physiological action on the general system of this substance ought, therefore, to be carefully studied. Kowalewsky's experiments were made with dogs and cats, and if necessary these were curarised. The methylene blue was used in a 0.2 solution, and after warming was injected into the jugular or saphenous vein. The animals bore this strength of solution well. Kymographic measurements showed that methylene blue has no important influence on the circulation. A small dose caused only a slight rise of blood-pressure, which with a renewed dose, sank again to normal with a following slight rise. Similar results were obtained with curarised animals. The heart-beat was slowed after each injection, but soon returned to the normal. Methylene blue can be detected in the blood ten minutes after the injection of twelve cubic centimètres of the solution; but in nineteen minutes no trace could be found. It is easily excreted by the bile and the urine, and the stomach contents are always coloured. It may be found in the lachrymal secretion and in the saliva, but not in the pericardium or the aqueous humour. The excretion of the substance in the bile and urine is associated with an increase of both fluids, especially of the urine. The secretion of saliva is slightly increased. The quantity of methylene blue excreted in the secretions is much less than that injected, so that decomposition of the substance must occur in the body. When, after the injection of methylene blue, the animal is rapidly killed by bleeding from the carotid, a thin coloration is observed in the pancreas, the hypophysis cerebri, often in the lymphatic glands, in the stomach, the intestine, the kidneys, the

[11] *Jour. Anthropolog. Inst.*

liver, in the submaxillary and sublingual glands, and in the muscles. The kidneys, maxillary lymphatic glands, and the sublingual gland and the cerebral hemispheres become blue only on exposure to the air, especially if sections of these organs be made. In the brain the grey substance is chiefly coloured. These results show that a great part of the colouring matter exists in the organs in the form of a colourless substance, and this change is no doubt connected with the conditions of oxidation in the organ; deoxidised methylene blue becomes white, and blue again on oxidation.

The Cerebral Hemispheres.—Goltz has investigated the condition of a dog from which the left half of the cerebrum was removed; the observations continued for over a year. The animal could move all its muscles voluntarily in walking, jumping, and running. It took bones between its two front paws like a normal animal, but used only the right paw as a "hand," and raised only the right hind leg on passing urine. The whole right side of the body showed diminution of sensibility both as regards ordinary sensation and the sensation of temperature. There was no lasting effect on the muscular sense. There was hemiamblyopia (right) and also a diminished central vision, as the animal took no notice of threatening motions with the hand or whip. The hearing was also less acute, and there was distinct loss of intelligence, the former playfulness and liveliness being lost. The same results were obtained in animals in which the cortex alone in great part was removed by washing away. Goltz concludes that each half of the brain is connected with all the muscles and with all sensory parts of the body. The second part of the paper is occupied with the sequence of removal of large symmetrical portions of the frontal lobes. There is a great loss of power of motion. The animal does not attempt to run or jump, and all locomotive movements are very clumsily performed. No food is voluntarily taken; but when placed in the mouth it is chewed and swallowed. The fore-paws are not used as hands; but no muscle is really paralysed. Sensation is everywhere present, but diminished. After removing both posterior portions of the hemispheres, Goltz has found the functions of sight preserved, since the anima avoided obstacles with safety; but the brain-power is weakened. There is a general deficiency in correctly performing movements. The animal can find its own way. The animal also becomes quite mild in disposition, even if it were bad-tempered previous to the operation.

The Occipital Lobe in the Monkey.—From electrical stimulation of this part of the brain, Ferrier was unable to obtain any movement. Excitation of the angular gyrus produced conjugate deviation of both eyes to the opposite side, with occasional upward or downward movements; these latter movements were not obtained by Luciani and Tamburini in their experiments. Schäfer has reinvestigated the subject, and in a paper published in the *Proceedings of the Royal Society* states his conclusions as follows: Electrical stimulation of the posterior limb of the angular gyrus, of the upper and of the middle temporal gyrus, of the whole cortex of the occipital lobe (including its mesial and under aspects), and of the quadrate lobule, produces conjugate deviation of the eyes to the opposite side. The movement is not simply a lateral deviation, but is accompanied with an upward or downward inclination. The area of brain stimulated is divided by Schäfer into three zones, a superior, an inferior, and an intermediate zone, for the exact positions of the cortex included in these zones, the original paper must be consulted. Excitation of the superior zone causes, besides the lateral deviation, a downward inclination of the visual axes, which is sometimes greatly marked. Excitation of the inferior zone causes an upward as well as a lateral deviation, while stimulation of the intermediate zone produces only a lateral movement. The upward and downward inclination of the eyes is often accompanied by a movement of the eyelids in the same direction. Simultaneous stimulation of corresponding points on the two hemispheres produces a struggle between the muscles causing the lateral movement, so that the eyes simply quiver. The movements occurring on excitation of this part of the brain Schäfer considers as the result of the production of subjective visual sensations, and if this is the case, the following conclusions may be drawn: First, that there is a connection of the whole visual area of each hemisphere with the corresponding half of each retina. Secondly, that there is a connection between the superior zone and the superior part of the corresponding lateral half of each retina; thirdly, a similar connection between the inferior zone and the inferior part of the corresponding lateral half of each retina; and lastly, that the intermediate zone is connected with the middle part of the corresponding lateral half of each retina. In another paper, Schäfer states that conjugate deviation of the eyes to the opposite side may be produced by excitation of six different parts of the cerebral cortex as follows: an area in the frontal region of the hemisphere (included in the motor zone); the superior temporal gyrus; the upper end of the middle temporal gyrus; the posterior limb of the angular gyrus; the whole cortex of the occipital lobe, including its mesial and under surfaces; and lastly, the quadrate lobule. These areas, however, are not all functionally similar; there is this important difference between the frontal area and all the rest, namely, that if it be removed paralysis of the ocular muscles producing the movement specified results. This frontal area may then be considered as *directly* influencing the centre of origin of the nerves to the eye-muscles, while the other regions, stimulation of which, produces ocular movement, are to be considered as causing this movement only by producing subjective sensations of vision. Now if there is this great difference of function between the two areas mentioned, the period of latency, that is, the time elapsing between the moment of stimulation and the resulting movement, would be greater in the areas in the occipital lobe than they would be in the frontal area, because of the extra nerve-centre or centres through which the stimulus must pass. Schäfer has discovered the important fact that the period of latency is longer in stimulation of the occipital lobe by several hundredths of a second than that of stimulation of the frontal area, thus confirming the conjecture as to the different functions of these areas. Into the other important papers published on the physiology of the brain there is not space here to enter. This is the branch of the subject in which progress is being rapidly made, especially in England. For papers other than those mentioned, we would refer to Horsley and Schäfer's work on the "Functions of the Cerebral Cortex," and to Horsley and Beevor's "Analysis of the Motor-area Centres," both of which researches have been published in the *Philosophical Transactions*.

Circulation.—If the motor nerve be cut, or if the nerve-cells in the anterior cornu of the spinal cord be damaged, nutritive changes occur in the muscle which the nerve supplies. The muscle fibres atrophy, and there is an increase of interstitial connective tissue. The influence of nervous over involuntary muscle is not accurately known; and the question of a similar influence over the heart muscle, which in structure and function may be considered as intermediate between voluntary and involuntary muscle fibre, is one of great importance. This subject has been investigated by Fantino in the Pathological Laboratory of Turin. Eichhorst had previously found that in pigeons the section of both vagi caused an acute fatty degeneration of the heart muscle, so that the animal died from the cardiac disease. Eichhorst thought this a trophic action; but, although Zander obtained the same results, he placed a different construction on them, interpreting the accompanying loss of body-weight as a result of section of the nerves, and as a direct cause of death. Fantino used rabbits and guinea-pigs in his experiments, selecting only young and healthy animals who were not with young, operating under strict antiseptic precautions, and cutting out a piece of the nerve, so that no reunion could take place. Section of both vagi in mammals causes, as is well known, inflammatory conditions in the lungs with fever, the animal soon dying; so that, for the purpose of physiological experiment, only one vagus can be divided, thus obviating the access of lung-changes and of fever. In this case the operation does not affect the health of the animals after the initial stage is over. They were killed at times varying from two to thirty days after the section. In forty-eight hours after section of one vagus, changes are noticed in the myocardium. There are whitish-yellow spots of varying size on both sides of the ventricular septum, in the musculi papillares and on the outer surface of the heart, along the grooves occupied by the coronary arteries. Microscopically, the striation of the muscle fibres is less than normal, and the fibres have irregular borders, are swollen, and are filled with numerous albuminoid granules. Many fibres have no nucleus, and many nuclei are rich in chromatin, and are irregularly shrunken. Between the fibres are collections of round cells, especially near the vessels. If the animal has been allowed to live till the sixth to the tenth day, this interstitial round-celled infiltration is more marked, and progresses to the formation of patches of dense connective tissue, which may be seen with the naked eye. In fact there is fibrosis of the heart. *Pari passu* with this fibroid change, there is a degeneration of the muscle fibres, which lose their nuclei and become atrophied, either simply or with fatty degeneration. These changes, as will be seen, are precisely similar to those occurring in voluntary muscles after section of the motor nerve; and, as they are not accompanied by any ap-pa-

rent ill-health of the animal (no loss of weight), Fantino concludes that the vagus exercises a trophic influence over the cardiac muscle. Section of the other cardiac nerves in the rabbit, the sympathetic and the depressor, does not produce any change in the heart muscle, so far confirming the conclusion arrived at. Tigerstedt and Strömberg have investigated the venous sinus of the frog's heart by isolating it, and passing a current of diluted blood through it by means of the frog-heart manometer. The medium frequence of the sinus is forty to forty-nine a minute, just like that of the whole heart, though it is much greater than that of the isolated auricle, which Lovèn found to be only fifteen a minute. Raising the temperature to 31° C. makes the pulsation so rapid and small that it cannot be counted. Tetanising the sinus causes great acceleration, up to 493 per cent. of the normal. A single stimulation right through the sinus is without effect if made during the systole; but at the commencement of the diastole it causes an extra pulsation, so that the pulsation becomes dicrotic. On the whole, the results obtained with the sinus are similar to those already published by others on the complete frog's heart. MacWilliam has investigated the rhythm of the mammalian heart, and among his conclusions the following may be mentioned. The minimal stimulation of the quiescent cardiac muscle (of the cat, dog, rabbit, rat, hedgehog, and guinea-pig) is at the same time maximal; that is, a stimulus which is strong enough to excite contraction at all, excites a maximal contraction. This point was tested on the excised heart, which though not beating, was still artificially excitable; on the intact heart made quiet by vagus stimulation; and on the heart rendered slow by cooling it. Moreover, the condition of fibrillar contraction, or heart-delirium as it may be called, induced by the application of interrupted currents to the ventricle, may be recovered from even after three-quarters of an hour; the means used for restoration being artificial respiration, rhythmical compression of the ventricles, and the administration of pilocarpine. An interesting fact brought out in these experiments is that "when the excitability of the cardiac muscle has been much depressed (by pilocarpine, etc.), the application of interrupted currents does not induce fibrillar contraction, but merely a series of rhythmic beats in the case of a quiescent organ, or an acceleration of the rhythm already present in a heart which is beating spontaneously." MacWilliam has also published experiments on the effect of increased arterial pressure on the mammalian heart. The rise of pressure was produced by clamping the last part of the thoracic aorta for a period of four to eight seconds. If the clamping be continued longer, convulsions occur. The results obtained are divided into two classes: the effect of the rise of pressure on the heart when the medullary cardio-inhibitory mechanism is intact, and when the vagi are divided so that the medulla has no effect in inhibiting the heart. In the first case, as Marey has shown, the cardiac beat becomes slow; MacWilliam confirms this, and further shows that the strength of the beat is increased, and afterwards that the auricular contraction becomes strikingly less, and does not recover till some time after the blood-pressure has fallen to the normal. Thus the effect on the ventricle does not run parallel with that on the auricle; the ventricular systole is strong when the auricular has become weakened. These changes are brought about by the cardio-inhibitory centre in the medulla and by the vagus nerves, for if the latter be cut, the effects observed on a rise of blood-pressure are totally different. The heart's rhythm is not altered, except perhaps slightly accelerated; there are none of the changes above described in the strength of contraction. If the heart is vigorous, the force of the beat is increased; but if weak, the ventricle is in a state of partial tonic contraction, being unable to completely empty itself. These changes seem to depend on the properties of the heart itself.

Special Senses.—Aronsohn has published a third paper on the electrical stimulation of the olfactory nerve. His earlier papers will be found in Dubois-Reymond's *Archiv* for 1884 and 1886. He stimulates the Schneiderian membrane electrically, after filling the nostril with a neutral medium, such as normal saline solution (0.75 per cent.), and confirms his previous results by renewed experiments. Nearly all the persons with normal mellon whom he experimented perceived during the stimulation a peculiar odour, which even continued from time to time for some days after the experiment. This odour, as might be expected, was variously described. To some it was like turpentine, to others like a weak solution of ammonia, to others like pepper, while to several it resembled the sensations produced by stimulating the organs of taste.

Muscle.—Kühne has published an interesting research on the secondary excitation from muscle to muscle—a subject which formed part of the Croonian Lecture delivered by him before the Royal Society this year. If the two sartorius muscles of a curarised frog be placed end to end, so that they overlap slightly, and if these ends are closely pressed together (by a pressure of about 300 grammes), the two muscles practically become one physiologically. Thus a stimulus, electrical, mechanical, or chemical, applied to one muscle causes a contraction in the other, and a tetanus is conveyed just as readily from one to the other. Not only two but many muscles may be used, so that a chain may be formed, the excitation of the end muscle of which causes contraction in all. The experiment may also be performed in another way by dividing a single sartorius down the middle, leaving a portion joining the two parts. If a tight ligature be placed round the undivided part, so as to compress the attached portions of both divisions of the muscles, a stimulus applied to one division causes a contraction in the other. This spread of contraction is caused, according to Kühne, by the current of action of the excited fibres. It is not a mechanical action, because the secondary contraction occurs even if the first muscle is prevented from altering its form after excitation.

MEDICAL CHEMISTRY.

ALBUMINS—*Chemical Formation of—Nuclein from Yeast—Preparation of Peptone and Palm's Theory as to its Constitution—Mucin; its Preparation and Constitution—Nutritive Value of Vegetable Proteids—Coagulation of Albumins by Salts—Colour Reactions of Proteids—Ready Detection of Albumins and Peptones.* CARBOHYDRATES—*Animal Gum.* BLOOD—*Coagulation—Spectroscopic Examination—Peptones in—Hæmoglobin in Different Animals; its ready Crystallisation in Certain Diseases; Differences in its Decomposibility in Different Animals—Rationale of the Action of Iron in Chlorosis.* MUSCLE—*Effect of Exercise in Production of Kreatin and Kreatinin.* MILK—*Percentage of Fat and Solids—Origin of Milk Sugar.* DIGESTION—*Changes in Carbohydrates—Formation of Lactic Acid from Animal Gum in Mucus, and subsequent Decomposition of Sodic Chloride with Formation of Hydrochloric Acid—Percentage of Acid and of Peptones, and extent of Proteid Digestion—Action of Acids and Alkalis on Gastric Functional Activity—Hindering Action of certain Inorganic Salts on Tryptic Digestion — Accelerating Action of Bile Acids on Amylolytic Activity of Pancreatic Juice—Digestion and Absorption of Fats—Method of Accelerating Filtration — Ferment Action in Large Intestine — Fate of Lecithin during Digestion.* LIVER—*Quantitative Estimation of Glycogen, and its distribution in the body—Formation of Sugar—Production of Lactic Acid—Causation of Pettenkofer's Reaction—Secretion of the Gall-bladder.* URINE—*Urea and Nitrogen excreted Hourly—Estimation of Uric Acid—Kreatinin—Pigments, artificial and otherwise; probable Source in Humous Substances—Ferments—Aromatic Organic Sulphates—Chlorides and Phosphates—Detection of Proteids, and their Densimetric Estimation—Estimation and Detection of Traces of Sugar.* TISSUE METABOLISM, OXIDATION, ETC.—*Influence of Diet—Effect of Sleep and Narcotics on Gases Respired—Influence of some Organic and Inorganic Substances on Gas Metabolism—Energy-producing Power of Starch as compared with Fat—Factors regulating the Excretion of Chlorides—Absorption of Carbonic Oxide by the Blood—Volatile Bases in the Breath—Ptomaïnes.*

ALBUMINS—*Chemical Formation of Albumin.*—Keratin, when purified by the action of pepsin and trypsin, and heated with water in a sealed tube, dissolves with the formation of an alkaline liquid smelling strongly of hydric sulphide, keratinose, a non-dialysable substance, making its appearance. This body is precipitated by ammonic sulphate, and resembles hemialbumose in its reactions, although it does not respond to the hydrochloric acid test. Pepsin and hydrochloric acid convert it into keratin-peptone, not precipitable by ammonic sulphate (Krukenberg).

Liebermann's results show that the *nucleins* are composed of albu-

mins and metaphosphoric acid. When the nuclein of yeast is extracted by dilute nitric acid, metaphosphoric acid goes into solution, but the residue no longer gives the characteristic reactions of nuclein. The precipitate also that is obtained by the addition of metaphosphoric acid to a solution of egg albumin appears to be identical in reaction and composition with nuclein.

Peptone.—When chopped meat (20 grammes) is mixed with water (30 grammes) containing 0.5 gramme sulphuric acid, and heated in sealed tubes at 180° F. for six hours, a slightly brown liquid is obtained, which, after filtration and evaporation, yields a residue readily soluble in water. This solution is unaffected by boiling, hydrochloric, nitric, or acetic acids, but is precipitated by four volumes of alcohol (90 per cent.), or by tannic acid or mercuric chloride. The meat yielded one-fifth its weight of peptone. When the experiment is repeated with water alone syntonin is formed.

Palm is of opinion that peptone is a solution of protein in an acid. A solution of peptone, neutralised with ammonia, is coagulable by heat, and gives all the reactions of an albumin solution; it also reduces Fehling's solution, and as cow's milk sometimes contains as much as 1.5 per cent. of peptone, this should be borne in mind in the determination of sugar in milk by Fehling's process. Peptone solutions are likewise precipitated by potassic xanthate, but albumin not until an acid has been added.

Mucin is thus prepared by Hammarsten: A clear watery extract is first made of submaxillary gland, which is acidified with hydrochloric acid till the percentage present reaches 0.1 to 0.15; the mucin first precipitated redissolves. Five times its bulk of distilled water is next added, by which means the mucin is precipitated, and nucleo-albumin left in solution. This process is repeated several times. The mucin is obtained in sticky, yellowish strings, differing from the flocculent precipitate that is thrown down from an alkaline solution by acetic acid. On analysis, it yielded: C, 48.84; H, 6.8; N, 12.32; S, 0.843; Ash, 0.35. Its reaction is acid. A neutral solution in 8 per cent. sodic chloride solution does not coagulate on heating, and only becomes slightly cloudy on the addition of acetic acid. It is precipitated by alcohol, mineral acids in small amount, cupric sulphate, ferric and mercuric chlorides, lead acetate, potash alum, and tannic acid; also by saturation with magnesic sulphate or sodic chloride, but not by potassio-mercuric iodide.

Landwehr has pointed out that the *slimy substance in bile is not true mucin*, but a mixture of globulin with bile salts. Paijkull, on the other hand, now regards it as a nucleo-albumin, small quantities, however, of true mucin derived from the walls of the gall-bladder being frequently present. He prepared it, not by means of acetic acid, but by the addition to the bile of five times its volume of absolute alcohol, the precipitate being afterwards rapidly separated from the alcohol by centrifugalising.

The nutritive value of vegetable as compared with animal proteids has been investigated by Rutgers. His conclusion is that vegetable proteids containing an equivalent amount of nitrogen might be substituted for the animal proteids previously used, without the nitrogenous balance of the body being disturbed. While meat and rice do not load the intestines, this occurs with beans and peas, both on account of their solid constituents, and in consequence of the gases given off by them. An exclusively vegetable diet is undesirable, but under such a diet the acidity of the stomach and urine is diminished.

The coagulating power of salts on solutions of albumin is dependent on the nature of the acid and base contained therein, the maximum effect being produced by ammonium, the mean by sodium, and the minimum by potassium salts. Of the salts of ammonium, the sulphate is more efficient than the nitrate; and of the potassium salts, the sulphate than the chloride.

In a very interesting paper, Salkowski discusses the *colour reactions of proteids*. Part of the proteid molecule belongs to the aromatic series, and the colour reactions given depend on the presence of these aromatic radicles. Aromatic substances belonging to three groups are formed when proteids undergo putrefaction: (1) the phenol group, including phenol, kresol, and tyrosine; (2) the phenyl group, comprising phenyl-acetic and phenyl-propionic acids; and (3) the indole group, including indole and skatole, etc. Either the proteid molecule contains these three groups preformed, or there is only one aromatic group present from which the others are derived by decomposition. *Millon's reaction* is given only by bodies of the first group. Gelatin also responds faintly, but even pure gelatin yields traces of phenol. The *xantho-proteic reaction* depends on the formation of nitro-derivatives. The first and third groups give this reaction well, but indole requires the use of strongly fuming nitric acid; the second group does not give it at all, or only faintly. The xantho-proteic reaction can be used to make an approximate determination of peptone or even of albumin. The *Adamkiewicz reaction*—or the violet blue slightly fluorescent solution obtained when strong sulphuric acid is added to the glacial acetic acid solution of any albuminoid—is not given by gelatin or its peptones, and only with concentrated solutions in the case of albumoses and peptones. This reaction is limited to the third group. The colour is intensified by the addition of a little potassic nitrite. *Strong hydrochloric acid* dissolves albumin at a gentle heat; a blue, violet, and lastly a brown coloration being produced. This reaction, however, is not given with any of the aromatic bodies in the above groups.

Albumin, propeptone, or peptone may be readily detected by rendering the liquid containing them alkaline, and then pouring gently upon its surface a solution of cupric sulphate so dilute as to be nearly colourless; peptone in the cold, and albumin after heating, giving a reddish violet ring at the line of contact.

Carbohydrates—*Animal Gum* resembles vegetable gum in yielding oxalic acid when treated with nitric acid. It can readily be obtained from mucin, chondrin, metalbumin, and paralbumin, and is found in small quantity in the red corpuscles, brain, and other organs; but is present in greater abundance in fœtal than in extra-uterine life. Wharton's jelly contains it, and it is present in excess in the connective tissues, including temporary cartilage; but none is yielded by true proteids. Its quantitative investigation is at present impossible. The precipitants of the proteids precipitate animal gum at least partially. When a sodic carbonate (1 per cent.) extract of submaxillary gland is precipitated with acetic acid, the precipitate washed with dilute acetic acid, dissolved up in weak hydrochloric acid with the aid of heat, and then neutralised with soda, a white flocculent precipitate is obtained, which is increased in amount by the addition of sodic sulphate and boiling. The precipitate, when collected and freed from salt by dialysis, consists of an ordinary proteid, while the filtrate contains animal gum; and the same body can be obtained from tendon mucin, synovia, and from colloid cysts and the mucin of snail's mantle. When chondrin is boiled for a long time with water, it splits into gelatin, animal gum, and some unknown substance.

Blood.—As to the *coagulation* of this fluid, Halliburton draws the following conclusions;—(1) Lymph cells yield a globulin (cell-globulin) as one of their disintegration products. This has the properties ascribed to fibrin ferment. (2) The fibrin ferment extracted from the dried alcoholic precipitate of blood serum, or extracted by saline solutions from washed blood clot is a globulin identical with cell-globulin. (3) Serum globulin (plasma-globulin), as prepared from hydrocele fluid, has no fibrino-plastic properties, while that prepared from serum and derived from the disintegration of the white corpuscles possesses marked fibrino-plastic properties. (4) The cause of the coagulation of the blood is primarily the disintegration of the white corpuscles. As to Wooldridge's theory of coagulation, Halliburton points out that lecithin causes a hastening of no other plasma than peptone plasma—an objectionable plasma to use on account of the presence of numerous proteids, such as albumoses and peptones, foreign to blood plasma; and, further, that the elaborate hypothesis of the transference of lecithin from one so-called fibrinogen to another in order to form fibrin is a pure assumption.

See Haycraft and Carlier in this Journal (p. 229, 1888) for an account of how a drop of blood, received directly into viscid castor oil, remains uncoagulated for an hour or more.

Spectroscopic Examination.—Linossier finds that the most sensitive spectroscopic reaction of blood is that given by reduced hæmatin. The blood-stain is dissolved in water, and examined for the spectrum of oxyhæmoglobin. A drop of freshly prepared sodic hyposulphite is now added, when the spectrum of reduced hæmoglobin appears at once; finally, a couple of drops of concentrated solution of soda are added, which decomposes the hæmoglobin into globulin and reduced hæmatin, the spectrum of the latter consisting of two bands between D and *b*, the left one lying midway between D and E, and being well marked; indeed, this intense band is the only one to be distinctly observed in dilute solutions, and it ought to disappear if the liquid is heated to 50° without agitation and reappear on cooling; it ought further to disappear when shaken in the air, and reappear on the addition of a drop of sodic hyposulphite. This test applies even to putrid

blood. Should the blood-stain have become insoluble in water, dissolve it in ammonia, and reduce by adding one or two drops of a solution of ferrous sulphate and tartaric acid.

Peptones in Blood.—Different views have been held as to the fate of the digestion-products of proteids. Schmidt-Mülheim thought that their products were absorbed as such, and became rapidly transformed into albumin in the blood. Hofmeister found that when peptone was injected into the circulating blood it rapidly disappeared, and was excreted in the urine. Neumeister, who has recently studied this subject, considers that the means hitherto adopted for the recognition of peptones are untrustworthy. This is the method he recommends: the liquid is precipitated by alcohol, and the proteid precipitate allowed to remain under absolute alcohol for some weeks, so as to render all the proteids except the albumoses and peptones insoluble; these are then extracted with water, and identified in the usual way. Peptones and deutero-albumose could be detected in the blood by allowing this fluid to flow into a solution of ammonic sulphate to prevent coagulation, then adding ether to dissolve the corpuscles, removing the ether, saturating with ammonic sulphate, and filtering, the filtrate containing peptone and deutero-albumose, if present. Neumeister could never find peptones or albumoses in the blood or lymph; and when they were injected into the circulation they disappeared therefrom into the urine within ten minutes, disappearing even when the ureters were tied.

Hæmoglobin.—When a drop of normal human blood, drawn from the finger, is covered on a slide, no crystallisation occurs, but if a drop of putrid serum be added this shows itself in twenty-four to forty-eight hours. The blood of patients suffering from septic poisoning crystallises spontaneously without the addition of serum: in pyæmia the tendency is less marked; in erysipelas this tendency does not manifest itself except in the blood drawn from the red erysipelatous patch; and the same thing is to be noted in *cancrum oris*, but not in the common zymotic diseases. In pernicious anæmia the blood crystallises readily,[1] but in ordinary anæmia, and often even in pernicious anæmia, the crystalline tendency is absent; but in Addison's disease and leucocythæmia it is well marked, in the latter disease being evidently connected with the excess of the white corpuscles, or of some product of their decomposition.

Körber found that the hæmoglobin of different animals differs not only in its solubility, but also in its crystalline form, and the readiness with which it is decomposed by such reagents as acetic acid and caustic soda. Kruger has tested this matter still farther, and he concludes that Körber's statement as to the greater readiness with which dogs' hæmoglobin is decomposed than horses' is perfectly correct; that this difference is due to a difference in the chemical composition of the hæmoglobin itself; and that the difference between the two forms examined increases with the amount of the reagent employed, sodic hydroxide, however, having a more powerful action in this direction than acetic acid.

Chlorosis is a form of anæmia apparently limited to females about puberty. Iron in this disease causes a great increase in the hæmoglobin, but as Hamburger and others have shown, very little of the iron is absorbed from the alimentary canal, it being taken up solely in the form of organic compounds, such, for example, as are formed in the processes of plant life. Further, that the total iron in the body amounts only to about three grammes, an amount which is taken many times over during treatment. Possibly, as Bunge suggests, the iron is here of use by removing the excess of sulphur from the body; for in chlorosis due to excessive fermentation processes in the alimentary canal hydric sulphide is generated in large amount, and destroys the organic compounds of iron that go to form hæmoglobin. The presence of iron in the alimentary canal prevents this destruction going on. Landwehr, however, taking into consideration the limitation of chlorosis to the female sex, and to the period of puberty, is inclined to doubt this explanation. He is disposed, on the contrary, to regard the disease as one caused by an excessive development at this period of the substances containing animal gum required for the after nourishment of the embryo, and which act injuriously on the hæmoglobin molecule. Iron precipitates this animal gum in the alimentary canal, and thus excess of it leaves the body in the fæces.

Muscle.—Monari has continued his researches upon the *variation of the chemical composition of muscle as induced by exercise*. Full-grown dogs were killed after repose and after continued exertion, and their muscles examined. He concludes that the proportion of kreatin, as well as of kreatinin, is increased by fatigue, under certain conditions the proportion of the latter exceeding that of the kreatin by one-half; but in some cases the kreatin in the worked muscle is less than in the state of rest. The kreatinin is derived from the kreatin, xanthokreatin being also produced, in a proportion about 1-10th of the kreatin.

Milk.—The analysis of 12,633 samples of milk direct from the railway cans showed an average of 3.82 per cent. of fat, and 12.94 per cent. of total solids (Vieth).

Origin of the Milk Sugar.—According to Thierfelden a fermentation process occurs in the mammary gland in which milk sugar is formed from a mother substance he considers to be animal gum. A watery extract was made of a rabbit's milk glands, this freed from proteids by heat, and from milk sugar by dialysing it for two days; after evaporation to a small bulk it was saturated with sodic sulphate and filtered. In the filtrate animal gum was present, giving the characteristic blue flocculi with cupric hydrate. It is probable, Landwehr supposes, that just in the same way as starch is hydrated to form sugar in the intestines, and again dehydrated in the liver to form glycogen, so the lactose may undergo similar changes, being inverted into galactose in the intestine, absorbed as such, then dehydrated in the body and stored up as animal gum. If this is the case, carbohydrates should not be taken as food by patients suffering from chlorosis.

Digestion.—*Changes in Carbohydrates.*—The carbohydrates most used as food are cane-sugar and starch. The cane-sugar undergoes inversion in the stomach, while the starch is changed into erythro-dextrin in the stomach, and sugar identical with maltose formed from it in the intestine by the pancreatic and intestinal juices. Seegen has fed animals for some days on cane-sugar, and then killed them; and he has found that the stomach inverts cane-sugar; that the small intestine contained no cane-sugar, only invert sugar being present; and that twenty-four hours after death no sugar is to be met with in the stomach, and only traces in the intestine, the sugar having been changed into lactic acid. Cane-sugar is not absorbed as such, or only in very small quantities. In experiments with starch, erythro-dextrin was discovered in the stomach, but only traces of sugar (formed probably by the saliva); dextrin was also present in the small intestine. It is possible that starch is converted into maltose by the pancreatic secretion, and then, by the further action of the intestinal juice, into dextrose. Absorption, however, takes place so rapidly that the digestive products are only to be obtained in small quantities.

According to Landwehr, this is what occurs in the stomach: The gastric tubules are filled with mucus, and in this a ferment makes its appearance on stimulation of the mucous membrane; lactic acid is thus formed from the animal gum present in the mucus, and by its action on the sodic chloride present forms sodic lactate and sets hydrochloric acid free, the lactate being absorbed, and the acid poured into the stomach. During digestion the sarcolactic acid in the blood is increased from 0.02 to 0.1 per cent. This animal gum seems also to aid the process of emulsification in the intestine, and likewise the absorption of fats. It is interesting to note that parotid saliva, which contains no mucin, but in which free animal gum is present, will emulsify fats.

In experiments with dogs the amount of hydrochloric acid was found to vary from 0.1 to 0.13 per cent., but after three hours it may rise to 0.39; and peptone may be present to the extent of 2.2 per cent. after one, and of 2.86 per cent. after two hours. After three hours but little undissolved flesh could be found. Accordingly, Cahn and Mering consider that the greater part of the albuminoids are peptonised in the stomach of a healthy animal before passing to the duodenum.

These are some of the results of Jaworski's investigations upon the *action of hydrochloric, lactic, and acetic acids on the functional activity of the human stomach*: The mucus is precipitated; an increased biuret action appears, particularly after hydrochloric acid; an influx of bile usually follows large doses of acid; the secretion of pepsin is materially assisted, while that of the hydrochloric acid is but slightly influenced; 200 cubic centimètres of normal acid disappear from the stomach in seventy-five to ninety minutes; and long-continued administration of acids checks the normal secretion of hydrochloric acid. The action of alkalies on the digestive function appears to be to dissolve the mucus and hinder secretion of pepsin, whereas the acids precipitate the mucus and induce pepsin secretion. An increased secretion of hydrochloric acid, however, succeeds the disappearance of alkalies from the stomach. The prolonged use of either acids or alkalies in large quantities may lessen or even stop the secretion of hydro-

[1] See Copeman, *St. Thomas' Hospital Reports*, vol. xvi, p. 15.

chloric acid; but carbonic acid, both as a gas and when dissolved in water, favours the secretion of both hydrochloric acid and pepsin, and consequently increases the digestive power of the stomach as well as its mechanical activity.

Certain inorganic salts, such as the potassic, sodic, and ammonic sulphates, and the potassic and sodic phosphates, markedly hinder tryptic digestion, especially the potassic phosphate.

In artificial-digestion experiments it was found (Martin and Williams) that the presence of bile acids accelerated the amylolytic action of the pancreatic juice.

In the digestion of fats, bile alone is insufficient, and in rabbits the same has been found to hold good as to the pancreatic juice (Dastre). It would follow, therefore, that the simultaneous action of both juices is essential, bile promoting the absorption of fats, and pancreatic juice being the active agent in their decomposition.

In artificial-digestion experiments it is often very difficult to get clear filtration, owing to the presence of very finely divided matter in suspension. By vigorously shaking the fluid, however, with fibrous asbestos, the subsidence of the solid particles may be greatly assisted.

Ferments capable of converting starch into sugar, and of inverting cane-sugar, have been found in the healthy fæces of children and adults, and their presence probably shows that some action more important than the mere absorption of water occurs in the large intestine.

Fate of Lecithin in the Body.—Lecithin, which is largely contained in eggs, meat, and in leguminous and other seeds, is split up by the action of pancreatic juice into a fatty acid, choline or neurine, and glycero-phosphoric acid (Bokay). Hasebrock has investigated the disposal of these decomposition products. The fatty acid is partly saponified and separated from the body as calcium compounds, and partly absorbed and oxidised in the body so as to form carbonic anhydride and water. The glycero-phosphoric acid is probably absorbed as such, and sometimes may be found unaltered in the urine. Choline, as Brieger has shown, is a type of the poisonous alkaloids obtained on the putrefaction of organic substances, in which it is probably derived from lecithin, a body widely distributed throughout the animal kingdom; and putrefaction, we know, plays an important part in the alimentary canal. If a similar decomposition occurs inside the intestine as outside the body, it may be concluded that carbonic anhydride, marsh gas, and ammonia are formed there from choline. Marsh gas, it is known, is also derived in the intestines from cellulose and from acetates.

LIVER.—For the *quantitative estimation of glycogen* two methods have been employed, one of which consists in prolonged extraction of the liver with hot water, and the other with hot potash: from the solutions thus obtained, the proteids being precipitated by hydrochloric acid and potassio-mercuric-iodide, and then the glycogen by alcohol. Külz finds that the potash method is quicker than, and gives as good results as, the water method with liver, and better results with muscle. In the case of artificial mixtures, however, the potash method leads to erroneous results. Cramer, adopting the potash method, finds that the glycogen is equally distributed throughout the liver, but unequally in the heart; different groups of muscles also vary in the amount of glycogen they contain. Pure glycogen can be obtained from the skin of the human fœtus, or from fœtal cartilage. Practically, the glycogen exists chiefly in the liver and muscles, very little being present elsewhere in the body.

As to the *material from which the liver forms its sugar*, there is still a difference of opinion. Seegen still maintains that peptone is one substance used by the liver for this purpose. The blood of the hepatic vein, he states, contains twice as much sugar as the portal blood, whether carbohydrates are present or not in the food; fat and proteid being the substances, according to him, from which, under normal conditions, the liver forms sugar. Maltose is the sugar generated from glycogen by diastatic ferments, whereas it is dextrose that is to be formed in the hepatic venous blood. Seegen criticises Chittenden and Lambert's work, these authorities maintaining that although the total carbohydrates are increased by peptone, but little increase occurs in the sugar; and that the sugar is really formed from the glycogen, in accordance with the view generally held. They further state that the sugar leaving the liver is a mixture of maltose and dextrose.

Lactic acid is produced during artificial circulation of blood through the liver (Wissokowitsch), and not infrequently it is doubled in amount. The liver appears to be more active in the production of this acid than either muscle, kidneys, or lung. The presence of the blood-corpuscles is unnecessary.

Pettenkofer's Reaction.—As to the cause of the blood-red colour produced when cane sugar and sulphuric acid are added to cholic acid, nothing is yet definitely known. Some suppose that the reaction depends on the presence of the hydroxyl group. The sugar can be replaced by furfur-aldehyde, or by the distillate of sugar with dilute sulphuric acid. Many of the alcohols (such as isobutyl, allyl, and amyl), oleic acid, and petroleum give the same reaction; but ethyl, propyl, and capryl alcohol, acetic and isobutyric acids, and benzene do not. As Mylius remarks, the substances which give the reaction are seen in general to be unsaturated compounds, or those which become unsaturated by the removal of water: and he thinks it is not improbable that the reaction depends on some hydrocarbon produced from any of the preceding compounds when they are dehydrated by the action of sulphuric acid.

Secretion from the Gall-bladder.—In two cases in which cholecystotomy had been performed, and in which a fistula remained, the biliary ducts being completely shut off from the gall-bladder, and the fluid escaping (about 30 cubic centimètres in the day) being secreted by the gall-bladder alone, this fluid was analysed by Birch and Spong. No biliary constituents were present. The reaction was alkaline, it was sometimes clear, at other times slightly opalescent; it was viscid, and its specific gravity varied from 1011 to 1012, and 20 per cent. of solids was present, of which 12 consisted of mucin and a trace of proteid. The inorganic constituents were: chlorine (3.84), sodium combined with chlorine (2.5), soda combined with carbonic anhydride (0.41), potash salts and phosphates (2.17), and carbonic acid gas (0.29). The fluid possessed slight diastatic powers, and did not putrefy readily.

URINE.—*Urea and Nitrogen Excreted Hourly.*—Gley and Richet have made hourly determinations of the quantity of urine, and the percentage of urea, extractives, and the total nitrogen contained in it for four days in succession. They conclude (1) that water is eliminated most largely about an hour, and urea about three to four hours, after a meal; (2) that the excretion of water and nitrogen is much less during the night than the day; (3) that with the same diet two individuals, differing in body weight, excrete about the same amount of nitrogen; (4) that the ratio between the excretion of urea, extractives, and total nitrogen remains almost constant throughout the twenty-four hours; and (5) that the ratio of nitrogen, in the form of urea, to the total nitrogen is about 4 to 5.

Of every 100 grammes of nitrogen obtained from urine, 90 on an average are derived from urea and ammonia, and the remaining 10 from the nitrogenous extractives. Camerer, however, finds that for every 100 grammes of nitrogen generated in Hüfner's hypobromite process, a mean of 13.6 must be added to obtain the total nitrogen, very good practical results being thus obtained.

Czapek has proposed a modification of Haycraft's *method for estimating uric acid in urine*, which is very good for clinical purposes. A known quantity of ammoniacal solution is added to the urine, the uric acid being thus precipitated as silver urate, which is filtered off and the silver estimated, not as in Haycraft's method in the precipitate, but in a certain measured proportion of the filtrate. The amount of silver residue is thus obtained, from which we can easily calculate the amount of silver and uric acid in the precipitate. The use of the filter pump is thus rendered unnecessary, and the troublesome washing of the precipitated urate avoided. The estimation of the silver in the filtrate is effected by warming and titrating with potassic or sodic sulphide solution, the browning of lead paper being taken as the indicator of the terminal reaction. Several titrations, however, are necessary.

Kreatinin.—Sodic acetate (sat. sol.) is added to fresh urine to the extent of one-twentieth its volume, and then one-fourth its volume of saturated mercuride chloride. The precipitate of mercuric urate is filtered off and the filtrate left for forty-eight hours, when a granular precipitate makes its appearance [$4(C_4H_7N_3O, HCl, HgO)\,3HgCl_2$], which is soluble in hydrochloric but insoluble in acetic acid, and is blackened when moistened by potash with the evolution of much "compound ammonia." The free base, kreatinin ($C_4H_7N_3O$), crystallises out when the above compound is decomposed with hydric sulphide, and the resulting hydrochloride with plumbic hydroxide. The aqueous solution of the base is strongly alkaline, bitter to the taste, and gives crystalline precipitates with zinc and mercuric chlorides or picric acid, but not with silver nitrate. Cupric oxide also is reduced by it. 1.7 to 2.1 grammes, equivalent in reducing power to 1.5 to 1.75 gramme

glucose, is the average weight passed in twenty-four hours (G. S. Johnson).

Pigments.—Of these a great many have been described. By the action of oxidising reagents indigo-blue, etc., can be obtained from normal urine, and in most cases urobilin is also present. In addition to these, however, other pigments have been described as being obtained by boiling the urine with mineral acids, and derived probably from the splitting up of certain urinary chromogens. When normal urine is treated with dilute hydrochloric acid and extracted with amyl alcohol, a brownish-black amorphous residue is left on evaporating the alcoholic extract. The body thus prepared by this ordinarily-received method has received the name of "uromelanin;" but Udránsky finds that a similar body is obtained when the experiment is repeated with distilled water instead of urine. Avoiding the use of amyl alcohol as a reagent, Udránsky evaporates the urine to one-sixth its volume at 60°, adds 10 per cent. hydrochloric acid, filters in forty-eight hours, boils the filtrate for eighteen hours, filters again, and to the filtrate adds calcic carbonate and sodic phosphate. The precipitate thus obtained is washed with water, alcohol, and ether, dissolved in dilute caustic soda, and precipitated with water, alcohol, and ether, dissolved in dilute caustic soda, and precipitated with sulphuric acid, the process being three times repeated; bright brownish-black plates separate. These are easily soluble in amyl alcohol or the caustic alkalies, and can be heated to 115° without decomposing. The average quantity in urine is 0.03 per cent. It has this percentage composition: C, 66.26; H, 3.9; O, 33.84.

Humous substances, when heated with potash, yield pyrocatechuic acid, volatile fatty acids, and a non-nitrogenous acid—products identical with those derived from the urinary pigment. The non-nitrogenous residue from the humous substance prepared from normal or diabetic urine, or from a mixture of urea and glucose, has the same composition; and Udránsky accordingly concludes that the dark colour which appears in urine, when treated with mineral acids, is due to a formation of such substances. They result from the decomposition of the reducing substance present in normal urine, and their quantity is proportional to its reducing power. A complete separation of these humous substances, with a consequent loss of reducing power, can be effected by boiling the urine for at least eighteen hours with hydrochloric acid. Humous substances containing nitrogen can be formed from carbohydrates in the presence of nascent ammonia. It is very probable that Proust's fallow resin, Scharling's omichyml oxide, Heller's urrhodine, Schunk's indirubin, Scherer's pigment, Harley's urohæmatin, Marcet's immediate principle, Thudichum's uropittin, uromelanin, and omicholic acid, Heller's urophaein, etc., are all merely decomposition products of the normal yellow pigment of urine by acids or ferments under the influence of air or heat. It is further probable that the mother substance of these artificial pigments is the reducing substance of urine, and that the normal yellow colour of urine is due to the change beginning inside the body of carbohydrates into humous substances.

Ferments.—Pepsin is constantly present in normal urine, but there is much difference of opinion with regard to trypsin, Grützner and others affirming its presence and Leo its absence; but Stadelmann's recent investigations support those of Leo.

Ether-hydrogen Sulphates.—Incomplete or increased absorption of the normal digestion products, as occurs in peritonitis or tubercular intestinal diseases, causes an increase of the sulphates in the urine owing to putrefactive changes, the products of which are absorbed from the intestine. No such increase occurs in simple constipation, or in typhoid fever. Diseases of the stomach, in which the food is retained in that viscus for a long time and there undergoes fermentative changes, also putrefactive changes occurring outside the alimentary canal, putrid abscesses, septic peritonitis—all lead to a constant increase in these organic sulphates proportional to the severity of the putrefaction, being increased by the retention and diminished by the discharge of putrid matter, as, for example, when an abscess is opened. If, however, the other putrefaction products are increased at the same time, the amount of the organic sulphates may remain unaltered.

A rich secretion of gastric juice induces a transitory diminution of the *chlorides* in urine. The hourly secretion of chlorine gradually and progressively increases after the chief meal, and diminishes slowly again after six to seven hours, a marked diminution occurring towards night.

Vanni and Pons are of opinion that, as a general rule, the amount of phosphate excreted diminishes in cerebral and spinal diseases, and frequently also in cases of neurosis.

Detection of Proteids.—The proteids in urine may be albumins, globulins, albumoses, and peptones. All these, with the exception of the peptones, are precipitated by saturation with ammonic sulphate. The peptones remaining in solution may be identified by picric acid, the precipitate with which is soluble in boiling water, so that if the boiling solution is thrown on a filter, the filtrate on cooling will become cloudy. It may also be identified by the xantho-proteic and biuret reactions. The ammonic sulphate precipitate should be well washed with saturated solution of the sulphate, and then redissolved in water. If a portion when heated to about 73° coagulates, and gives no precipitate when saturated with magnesic sulphate, then an albumin is present, egg albumin being coagulated by ether, serum albumin not. If serum globulin is present it will be precipitated by saturation with magnesic sulphate, and coagulation will occur about 75°. The albumose most frequently present is hetero-albumose, which is precipitated by heating to 43° to 50°, without the addition of any free acid, the precipitate disappearing when a few drops of weak acid are added. It also yields a precipitate with acetic acid and potassic ferrocyanide, and this is soluble at the higher temperature, but precipitates on cooling; further, it is precipitated by saturation with magnesic sulphate (see Martin's paper in this JOURNAL.[1]

By Tanret's reagent (potassic-mercuric iodide), albumin, peptone, and alkaloids are precipitated from urine in the cold. When heated the precipitated peptone and alkaloid dissolve, leaving the albumin insoluble; and the alkaloidal precipitate can be easily separated from the peptone precipitate by means of ether. No other insoluble combinations occur except with bile salts, this precipitate also, however, being soluble in ether.

Densimetric Estimation of Albumin in Urine.—Theoretically there is much to be urged against the accuracy of this process, but from its simplicity and approximative accuracy it is to be recommended for clinical purposes. It is first necessary to ascertain how much acetic acid will be required to effect complete coagulation of the albumin on boiling. This is done with a small portion of the urine in a test-tube, the filtrate from the coagulum of which should not be rendered cloudy on the addition of potassic ferrocyanide. A quantity of the filtered urine is then mixed with the estimated proportion of acetic acid and boiled for some time, which is best effected by immersing it for ten or fifteen minutes in a large water bath kept boiling; it is next filtered into a flask. The urine and the filtrate respectively are now placed in glass cylinders, which are immersed in a large vessel of water having a temperature of about 17.5° F., and their relative densities determined by a good araeometer, or a pycnometer, if more accuracy is required. The difference between the two specific gravities, multiplied by 400, will give the number of grammes of albumin in 100 cubic centimètres of urine.

In *estimating small quantities of sugar in urine* the reaction with Fehling's solution is rendered sharper and clearer if the urine is first shaken with good animal charcoal (prepared with hydrochloric acid) and filtered. A very delicate control test is phenyl-hydrazine, which is thus readily applied: add two pinches of phenyl-hydrazin hydrochlorate and four of acetate of soda to a small beaker half filled with water, and warm it gently over a flame. Add a little of the reagent thus prepared to an equal volume of the urine contained in a test-tube, and insert the latter in a boiling water bath for twenty minutes; then take it out and place it in cold water. In case the urine is rich in sugar, a crystalline precipitate appears after a few minutes, which may be seen with the microscope to be in the form of yellow needles (phenylglucosan). When only traces of sugar are present we must wait some hours before examining the sediment.

TISSUE METABOLISM—OXIDATION, RESPIRATION, ETC.—*Influence of Diet.*—Respiration is increased in frequency and amount by taking food, but the effect is produced by the carbohydrates, and not by the nitrogenous and fatty foods (Hanriot and Richet). Amylaceous food raises the volume of the respired air and the amount of oxygen absorbed, but the increased production of carbonic anhydride is the effect most strongly marked. The percentage proportion of oxygen absorbed and carbonic anhydride produced varies but slightly during repose. A healthy adult respires 8 litres of air per hour for each kilogramme of body weight, 0.5 gramme CO_2 being formed, and 0.45 gramme O absorbed; while the volume of

[1] JOURNAL, p. 842, 1888.

inspired air increases to 9 litres during digestion, with the production of 0.6 gramme CO_2, and the absorption of 0.5 gramme O.

Effect of Sleep and Narcotics on Gases Respired.—Saint Martin's experiments with doves show that, independently of the effect produced by fasting, the quantity of carbonic anhydride exhaled is reduced during natural sleep by about one-fifth, and the oxygen absorbed by about one-tenth. During the sleep induced in dogs by morphine, the CO_2 falls to one-half its normal excretion, and when induced by chloral or chloroform it falls to one-third. Long continued anæsthesia impoverishes the blood in oxygen, and charges it with an abnormal excess of CO_2.

The *influence of some organic and inorganic substances on gas metabolism* has been carefully studied by Chittenden and Cummins. Rabbits deprived of food for three days were employed, and no food was given during the experiment, the substance under investigation being administered in small and frequent doses. These are some of the results: Copper sulphate lowers the temperature, and diminishes the production of carbonic anhydride. Arsenious oxide and tartar emetic also lessen the excretion of carbonic anhydride, probably by affecting the metabolic activity of the tissue cells. Morphine sulphate produces little effect other than what must be attributed to the somnolence induced. Very slight depressing influence is exercised on the generation of heat or carbonic anhydrides by sulphate of quinine: cinchonidine sulphate, however, causes a slight rise of temperature, and a gradual diminution in the amount of carbonic anhydride excreted. Antipyrin only caused a fall of temperature just before death.

Kellner concludes from his experiments with horses that the energy-producing power of 1 part of fat is equal to that of 2.6 parts of starch.

According to Forster, the *automatic regulation of the discharge of chlorides* is dependent on the decomposition of proteids, the "circulating proteids," which are in combination with much salt, being decomposed before the "tissue proteids," with which a much smaller proportion of salt is associated. Kast's researches modify this theory somewhat. He believes that there are two distinct factors concerned in regulating or altering the chlorides in the urine: proteid metabolism in the first place, the discharge of chlorides being usually inversely proportional to this; and, secondly, disintegration of the red corpuscles, to which it stands in a direct ratio; and that when these two processes occur at the same time, the final result will depend on one or other preponderating.

The blood absorbs carbonic oxide from an atmosphere containing only 0.02 per cent. If 0.1 per cent. is present, half the hæmoglobin of the blood will combine with it. 100 cubic centimètres of the blood of a dog poisoned by an atmosphere containing 0.1 per cent. contained 14.2 cubic centimètres O, instead of 27 cubic centimètres, and when treated with acetic acid at 100°, it evolved 14.4 cubic centimètres carbonic oxide. The analysis of the gases of the blood is, therefore, of great value in supposed cases of fatal poisoning by this gas.

Volatile Bases in the Breath.—By passing the expired air into oxalic acid solution (1 per cent.) for some time, then neutralising the liquid with calcic carbonate, adding a few drops of lime water, filtering, exactly neutralising with hydrochloric acid and evaporating *in vacuo*, ammonic chloride was found to be the chief product, mixed with it, however, being the hydrochloride of an organic base, which is precipitated by potassio-mercuric iodide, and forms a soluble aurochloride, and a soluble platinochloride crystallising in short needles.

Ptomaïnes.—From the flesh of cuttle-fish allowed to putrefy, Conninck has obtained several of Brieger's ptomaïnes, and two others having the composition $C_8 H_{11} N$ and $C_{10} H_5 N$. The former is a yellowish, strongly-smelling liquid, soluble in water, alcohol, and ether; its hydrochloride forms whitish or yellowish deliquescent radiating masses, very soluble in water, the hydrobromide being somewhat similar, while the platino-chloride is deep yellow, and almost insoluble in cold water. So as to exclude the objection made with regard to these bases, that they do not pre-exist, but arise from the action of the acid, alcohol, etc., employed for their extraction, Guareschi has succeeded in obtaining from putrid fibrin the base $C_{10} H_{13} N$ (previously described by him), by making the mass alkaline with baryta in the cold, and extracting with ether and chloroform. From the chloroform extract another amido-acid compound, $C_{11} H_{20} N_2 O_4$ was obtained. Amthor has twice obtained an alkaloid with strychnine-like properties from parts of a corpse eight days old, but it is not so poisonous as strychnine, is more soluble in amyl alcohol, and is less bitter to the taste; it also gives amorphous precipitates with potassic ferrocyanide, ferricyanide, and chromate, those with strychnine being crystalline; the blue colour also with potassic chromate and sulphuric acid is less persistent and less pure in tint than that formed with strychnine.

PATHOLOGY.

Tuberculosis.—Scarlet Fever.—Suppuration.—Puerperal Fever.—Leprosy.—Hydrophobia.—Tetanus.—Asiatic Cholera.—Malaria.—Farcy of the Ox.—Symptomatic Anthrax.—Anthrax.—Fowl Cholera.—Strangles.—Abdominal Diseases.

Tuberculosis.—The year has been marked by the publication of a large amount of material in connection with this subject. We have had Dr. Woodhead's Lectures, the Report of the Commission to inquire into Pleuro-pneumonia and Tuberculosis, the Congress at Paris, and the discussion at the annual meeting of the Association. Dr. Woodhead's researches related especially to infection by milk. In conjunction with Professor McFadyean he examined 600 cows in the Edinburgh dairies, and in six cases, or 1 per cent., he was able to demonstrate the presence of tubercle bacilli in the milk. Dr. Woodhead states that he found as great differences in size between the bacilli under the same cover-glass, from sputum of a phthisical patient, as he had found between bacilli taken from a cow and from a human subject, and he concluded that any difference there might be between the size, mode of growth, or position in the tissues of human and bovine tubercle bacilli was not sufficient to constitute a specific difference. Bacilli were also found in vast numbers in sections of tubercular udders. The presence of the bacilli in the milk, and the feeding experiments recorded by other observers, went far to prove, according to Dr. Woodhead, that milk is a source of tubercular infection, especially to young children. In the report of the Commission the possibility of the transmission of tuberculosis to the human being by means of milk containing bacilli was admitted, and legislative measures have been suggested with a view to the prevention and extirpation of the disease among cattle. At the Paris Congress, many original communications were read. M. Cornil gave the details of a number of experiments by which it was shown that intact mucous membranes may absorb the tubercular virus. M. Nocard brought forward the question of the consumption of tubercular milk, and insisted that the sale of milk from tubercular cows ought to be absolutely interdicted, and in the case of any doubt as to the origin of the milk the precaution of boiling should be adopted. M. Malvoz, in discussing heredity in tuberculosis, expressed the opinion that the tubercle bacillus was only transmitted to the fœtus when there was a tubercular lesion of the placenta, and as this was but rarely encountered it would explain why so few cases of congenital tuberculosis had been recorded. M. Tscherning related two cases in which local tuberculosis had resulted from accidental inoculation; in one case from a wound with a fragment of a vessel containing phthisical sputum, and in the other from a wound in making the *post-mortem* examination of a tubercular cow. In both cases the tubercle bacillus was detected. MM. Strauss and Wurtz had experimented upon the action of the gastric juice on tubercular bacilli, and found that the bacilli and their spores offered the greatest resistance, even when a cultivation was mixed with pure gastric juice from a gastric fistula in a dog. They concluded that tubercle bacilli were not destroyed by the gastric juice if they were ingested by the human subject. At the annual meeting of the Association an important discussion on tuberculosis was opened by Professor Walley, and the question of infection by milk was again brought forward. Professor Crookshank had found tubercle bacilli in two cases of udder tuberculosis, and milk containing the bacilli produced tuberculosis in rabbits both by feeding and by subcutaneous injection. Another important communication on the tubercle bacillus was published by Pawlowsky in the *Annales de l'Institut Pasteur*. Pawlowsky states that he has succeeded in cultivating the tubercle bacillus on potato. Small slices of potato were introduced into a test tube and sterilised by exposure for thirty minutes to 115° C. The surface of the potato was inoculated from a culture or from tubercular tissue, and the tubes were hermetically sealed and placed in the incubator. At the end of five or six weeks little greyish white granules were observed which proved to be colonies of bacilli. If glycerine were added to the potato the results were still more satisfactory. The nature of the growth was determined by inoculation of suitable animals.

Scarlet Fever.—It will be recollected that the Report of the Me-

dical Officer of the Local Government Board, published towards the end of last year, contained details of further pathological researches in support of the hypothesis formulated by Mr. Power, that there had existed at Hendon a hitherto unrecognised disease, scarlatina in bovines, and that this disease produced scarlet fever among consumers of the milk. During the past two years this hypothesis has been subjected to an additional inquiry by the Agricultural Department of the Privy Council, and a report has been issued by Professor Brown on the eruptive diseases of the udders of cows, in their relation to scarlet fever. The report, which was recently noticed in these columns, embodies the results obtained by a number of independent investigators, and the evidence it contains is in favour of the contention that Mr. Power's conclusions were based upon erroneous premises. We cannot in this retrospect refer to the whole of the inquiry; but, as we previously stated in our columns, the acceptance of the hypothesis on the ground of Dr. Klein's evidence involved the acceptance of the discovery of the nature and origin of the contagium of scarlet fever. Professor Crookshank investigated an outbreak of cow-pox in Wiltshire, and concluded that the results obtained in the Hendon investigation admitted of another interpretation when examined in the light of his researches. The existence of bovine scarlatina at Hendon had been maintained, pathologically, on the following grounds: 1. That the Hendon cow-disease was a disease in which the *post-mortem* appearances resembled scarlatina. 2. That the disease was associated with a streptococcus, which produced, by inoculation in calves, a disease with *post-mortem* appearances similar to those of the Hendon cows. 3. That a streptococcus, regarded as identical with the one above mentioned, was found in certain cases of scarlatina in man, which, when inoculated in calves, produced *post-mortem* appearances similar to the *post-mortem* appearances in the original Hendon cows, and in certain cases of scarlatina in man. Professor Crookshank maintained that the organic lesions observed in the Hendon cows were not lesions peculiar to scarlet fever, but were present in many diseases; he considered, for instance, that the microscopical appearances of the kidney of a Wiltshire cow were identical with those appearances which were regarded as indicating scarlatina in a Hendon cow. But the Wiltshire cow-pox could not be regarded as connected with scarlet fever, as the milk had been freely consumed without any scarlet fever being produced. Professor Crookshank considered that the *post-mortem* appearances in the Hendon cows not only did not necessarily indicate scarlatina, but that they were not of primary importance; the description of the naked-eye appearances only suggesting coincident pleurisy, or pleurisy with pneumonia. A careful examination, however, of the *post-mortem* appearances of calves inoculated with a scraping of an ulcer of a Hendon cow, or with cultivations of the streptococcus from "certain" cases of scarlatina, brought to light more striking visceral changes which were not to be distinguished from the *post-mortem* appearances in a calf inoculated with scrapings from the ulcers of a Wiltshire cow. Professor Crookshank admits that visceral lesions of similar character may be produced in calves, whether they are inoculated with scrapings from ulcers or with streptococci from certain cases of scarlet fever, but he contends that they are the result of septic poisoning. It appears, therefore, that the pathological data which lent support to the theory that the vesicular disease of the teats of cows at Hendon was scarlatina in the cow admit of an entirely different interpretation. Professor Crookshank contributed a further report on the streptococcus isolated by Dr. Klein from cases of scarlet fever. In support of the theory that the Hendon cow disease was scarlatina in the cow, it was alleged that a similar microbe was discovered in human scarlet fever, which produced on inoculation in calves lesions which were interpreted as the Hendon cow disease, and as similar to scarlet fever in man. This streptococcus had been found by Dr. Klein in five out of eleven cases, twice in association with certain other micro-organisms and three times alone. Those cases from which the organism was obtained were all cases with ulcerated throat. In one case, a child who died of pyæmia, the streptococcus was found in association with staphylococcus aureus and a liquefying micrococcus. Rosenbach found a streptococcus which he regarded as streptococcus pyogenes in five out of six cases of metastatic pyæmia, and Baumgarten found what he regarded as streptococcus pyogenes in the internal organs in pyæmic cases; Eiselsberg found streptococcus pyogenes in company with staphylococcus pyogenes aureus in the blood in cases of septicæmia. Fränkel and Freudenberg, who have especially investigated the etiology of scarlet fever, found a streptococcus which they regarded as identical with streptococcus pyogenes, and identical also with the streptococcus which A. Fränkel had repeatedly cultivated from puerperal affections. They concluded that the streptococcus did not stand in causal relation to scarlet fever, but was due to a secondary infection. Professor Crookshank also isolated from a pyæmic abscess a streptococcus identical with the streptococcus found in infective fevers complicated with pyæmia. He concludes that in any disease accompanied by a lesion of the skin or mucous membrane, in which the blood and tissues are profoundly affected by the virus of that disease, micro-organisms gain an entrance into the circulation, and may not only escape destruction, but gain the upper hand, and may themselves set up destructive processes. The occurrence of streptococci in certain cases of diphtheria, scarlet fever, vaccinia, variola, measles, typhoid fever, would on this theory be regarded as a secondary result associated with suppuration or with septic or pyæmic complication. Dr. Klein had also regarded it as an important piece of evidence bearing upon the question of the etiology of scarlet fever, that in a certain brand of condensed milk under suspicion of producing scarlatina, a streptococcus was found which had a "striking resemblance" to the streptococcus of scarlatina; and further, in a monkey supposed to have died of scarlet fever, a similar micro-organism was found; but it must be remembered that in numerous diseases and conditions streptococci are found which have been proved to be strikingly similar to the streptococcus which has been found in scarlatina in man. Professor McFadyean investigated an outbreak of eruptive disease on the teats of cows in Lanarkshire, and another outbreak near Edinburgh. Calves inoculated with morbid products taken from the udder sores, or with micro-organisms isolated from such products, became ill, and were found after death to have extensive lesions of the lung and other important organs. But neither the symptoms nor the lesions warranted the conclusion that the original disease in the cows had been reproduced in the calves. But those researches of Professor McFadyean which had most bearing upon the etiology of scarlet fever were attempts to transmit scarlatina from man to bovine animals, and the inoculation of calves with Dr. Klein's streptococcus. Inoculation of blood from scarlatinal patients, and feeding experiments with desquamated epithelium, were entirely negative. Inoculation of the streptococcus failed to produce any eruptive affection.

Suppuration.—At the Royal College of Surgeons Mr. Watson Cheyne gave a series of lectures on suppuration and septic diseases. Pyogenic bacteria were regarded as essential factors, but the results depended upon such conditions as dose, general and local depression of vitality, and seat of inoculation. Depressed vitality might be general, as the result of acute fevers, or local, from cold, injury, or chemical substances. Much depended on the character of the soil, as illustrated by the varying results obtained according to the seat of inoculation and the anatomical arrangement of the parts, but the bacteria themselves constituted the only certain factor. The only instance of suppuration in man without micro-organisms occurred as the result of the new alembroth dressings. Pustules are apt to occur when the discharge is at all free, and the contents consist of a sticky semipurulent material without any micro-organisms.

Puerperal Fever.—Eisenberg does not regard puerperal fever as a specific disease, but the same process as surgical phlegmon, pyæmia, or septicæmia, and associated with both streptococcus and staphylococcus. Pfannestiel investigated four cases of puerperal septicæmia with diphtheritic endometritis and purulent peritonitis. From bacteriological investigation he concluded that a puerperal streptococcus could not be differentiated. The streptococci of phlegmon, of erysipelas, and of diphtheritic affections of the pharynx were all capable of producing puerperal septicæmia. Olshausen found streptococcus pyogenes in puerperal mastitis; and Dr. W. R. Smith isolated streptococci, which he regarded as specific, in two cases of puerperal fever.

Leprosy.—Bordone-Uffreduzzi succeeded in cultivating the bacillus of leprosy in glycerine-agar-agar. Beaven Rake failed on ordinary nutrient media. Inoculation experiments on the lower animals gave negative results. There was no local growth or general dissemination of the bacillus after inoculation, whether beneath the skin, in the abdominal cavity, or in the anterior chamber of the eye. Feeding experiments with leprous tissue were also without result. Arning inoculated a criminal under sentence of death in Oahu gaol, Honolulu, and produced tubercular leprosy.

Hydrophobia.—Contributions to the subject of rabies have

been very numerous during the past year. Principally they consist of reports of the numerous antirabic institutions where M. Pasteur's treatment is carried out. M. Roux inoculated with virus prepared from the nerves in bitten animals, and concluded that on both the healthy and the infected side the nerves contained the virus of rabies. Roux also found that a latent virus resides in the nervous centres, for the medulla and spinal cord taken two days before the symptoms of rabies were due proved on inoculation to be virulent. The existence of a specific micrococcus in rabies has not been confirmed. M. Pasteur is of opinion that the virus is a microbe which has hitherto eluded detection.

Tetanus.—M. Rietsch has confirmed the experiments of Nicolaier and Blumer. Tetanus was produced by inoculating guinea-pigs with hay-dust. The only lesion at the *post-mortem* examination was pus at the seat of inoculation. Guinea-pigs inoculated with the pus also died of tetanus. Cultivations on serum produced a mixed growth, including the tetanus bacillus. From one of these mixed cultivations an ass was inoculated subcutaneously in the thigh. On the fifteenth day there was rigidity of the hind limbs and well-marked trismus. Later, all the muscles of the vertebral column were involved, and death resulted on the twenty-second day after inoculation. The pus from the seat of inoculation contained the bacilli, and rabbits inoculated with the pus died of tetanus.

Asiatic Cholera. — M. Gamaleia states that he has been able to render the comma-bacillus of Koch extremely virulent, and also to prepare a virus for protective inoculation. By passing the microbe through a guinea-pig, and then through a pigeon, the virus is so intensified that the blood of the pigeon, which is found to contain the microbe, is always fatal to fresh pigeons. By inoculating a pigeon with a non-virulent culture, immunity is afforded against the intensified virus. If the virus is cultivated in bouillon, and heated to 120° for twenty minutes, the microbes are killed, but a toxic substance remains. This toxic substance or vaccin, administered in small doses, renders pigeons refractory to the virulent virus. M. Gamaleia proposes to introduce this vaccin for protection of the human subject from cholera.

Malaria.—The hæmatozoa of malaria first described by Laveran have been studied by Marchiafava and Celli and Golgi and others in Italy, by Councilman and Osler in America. Dr. James states that he has found the organisms in twenty-four out of twenty-five cases of malaria, and he has never observed anything the least resembling them in the blood of a vast number of patients who were free from malaria. Dr. Vandyke Carter, in India, has fully confirmed the existence of the hæmatozoa in ague.

Farcy of the Ox.—M. Nocard describes in this disease a slender bacillus, forming felted masses. The central portion is opaque, and excessively fine and frequently ramified filaments radiate outwards. Tubercle-like nodules are found in the lungs, liver, spleen, and glands, and contain masses of the bacilli. The bacillus was cultivated in meat-gelatine, gelose, gelatinised serum, in broth, milk, and on potato. On solid media the bacillus forms thick, yellowish-white colonies, which develop into patches like a lichen, and ultimately form a continuous membrane. In bouillon the bacillus forms whitish masses, which for the most part subside to the bottom of the flask, but it also forms rounded and lenticular pellicles, dirty-grey in colour, and powdery in appearance, and having some resemblance to soup in which the fat-drops have solidified by cooling. The bacillus is inoculable, and the guinea-pig is employed by preference: rabbits, dogs, cats, and equines are refractory. Intraperitoneal and intravenous injections produce a condition like miliary tuberculosis. The peritoneum and viscera of the abdomen are studded with pseudo-tubercles. Positive results were also produced in cows and sheep.

Symptomatic Anthrax.—Roux has succeeded in conferring immunity from symptomatic anthrax by injection of large quantities of cultivations which have been freed from living bacilli by heating to 115°, or by filtration through porcelain. It is stated that liquid cultures filtered through porcelain acted better than those treated thermally.

Anthrax.—Owing to the conflicting opinions of bacteriologists and practical veterinarians as to the occurrence of anthrax in swine, Professor Crookshank made an exhaustive series of experiments to settle the question. The results and conclusions were as follow: (*a*) Anthrax was produced in swine by feeding them with anthrax offal. (*b*) Anthrax was communicated to swine by injection of the blood of a bullock which died of the disease. (*c*) Anthrax was passed through the guinea-pig and transmitted to swine by injection of blood from the spleen. (*d*) Anthrax was produced in swine by injection of a pure cultivation of the anthrax bacillus. (*e*) From anthrax accidentally induced in pigs on a farm, the anthrax bacillus was isolated, and anthrax reproduced in guinea-pigs and mice by inoculation with blood from the spleen. (*f*) Anthrax is communicable to swine both young and old. From the point of entrance of the virus, there extends a jelly-like œdema of the subcutaneous areolar tissue. If the disease is induced by ingestion, the tonsils are ulcerated and there is an enormous and characteristic swelling around the throat.

Fowl Cholera.—M. Pasteur carried out a series of experiments in the laboratory to demonstrate the virulence of the microbe of chicken cholera to rabbits. An experiment on a large scale was made on Madame Pommery's estate, which was infested with rabbits. Pasteur sent a commission to Australia to apply this treatment for the extermination of the rabbit pest, and the practical value of the proposed remedy is at present being tested. M. Gamaleia finds that the microbe of fowl cholera is constantly present in the intestinal canal of doves and other birds. He regards fowl cholera as avian septicæmia.

Strangles.—Strangles is a disease of the horse, associated with abscesses in the lymphatic glands of the head. Schutz has isolated a streptococcus from the pus which he regards as specific. In pyæmia, which often occurs in the course of strangles, the streptococcus, which appears at the seat of infection and in the lymphatic glands, is also to be found in the blood and in the metastatic abscesses. In mice inoculated with pus, varying results were obtained, Dr. Schutz concluded that the same streptococcus which causes suppuration in the wound can lead in one case to septicæmia, in another to pyæmia, and in still another, through continued fever and interference with nutrition, to wasting of the body and loss of vigour.

Abdominal Diseases.—Sänger and Fürst have published some observations on tumours of the abdominal wall. The muscular aponeuroses are the chief seats of origin of these tumours, which are usually fibromata, with more than a trace of plain muscular fibre. Tumours of the abdominal wall are rarely malignant, and, when sarcomatous, they generally assume the less malignant types of sarcoma. Dr. Korn read before a Dresden society, in May, an interesting case of deficiency of the diaphragm in an infant. In April some specimens of intestine from three cases of diphtheria, exhibited by Mr. Colman before the Pathological Society, turned the attention of the members to an important subject. As Dr. Wilks explained, the enlargement of Peyer's patches and the solitary glands showed how much there was in common in the various specific fevers. If these glands were so commonly affected in many specific diseases, it would tend to negative the theory that in typhoid fever the virus first established itself in the intestinal glands, and thence infected the whole organism. Dr. Lubarsch published a valuable paper in the February number of Virchow's *Archiv* on primary cancer of the ileum, and observations on the simultaneous presence of cancer and tuberculosis. An interesting case of a large intestinal diverticulum filled with 14 litres of thin fæces and gas, so as to form a big tumour, was operated upon in the spring by Dr. Maas, of Würzburg. The patient was a boy, aged 14. The operation was exploratory, and unfortunately proved fatal. A cyst of the pancreas in a woman was described in a German medical paper by Dr. Wölfler, of Graz; it was laid open and drained; the patient recovered. The fluid in the cyst was rich in albumen and cholesterine; it could convert starch into sugar, but did not emulsify fat. Dr. Lindner has endeavoured to prove that movable kidney is as frequent as hernia, at least in women, and, if properly looked for, may often be discovered. This condition rarely endangers the patient's life, though it undoubtedly gives rise to nervous symptoms.

MEDICINE.

Auto-intoxication. — Addison's Disease. — Summer Diarrhœa. — Chronic Diseases of the Heart. — Acute Pneumonia. — Tuberculosis. — Acute Bright's Disease. — Rickets. — Nervous Sequelæ of Whooping-cough. — Neurological Literature. — The Muscular Sense. — Heat Centres in Man. — Primitive Progressive Myopathy. — Trophic Lesions. — Neurasthenia. — Concussion of the Spine. — Aphasia. — Locomotor Ataxy. — Some Recent Nerve Remedies. — Dermatology.

Auto-intoxication.—The experiments of Gautier and others on the animal alkaloids formed in the body in health or in apparent

health are being continually applied more and more widely in medicine. One of the most recent writers on the subject, Maly, insists very strongly on the importance of pancreatic digestion as the main agency for the production of these poisonous substances. Among the toxic substances developed, the most important are guanin, xanthin, kreatinin, indol, skatol, and the ptomaines; the latter are the most toxic, and they may produce a variety of symptoms, and in Maly's opinion may in time, by their continual presence, bring about death. Brieger demonstrated to the German Surgical Congress three ptomaines, cadaverin, neurin, and mytilotoxin, which are among the products of putrefaction; they all produced convulsions, followed by paralysis and diarrhœa, and other gastro-intestinal disturbances. It is argued that as pancreatic digestion is accompanied by putrefaction, these or other allied ptomaines are probably produced during its course. Putrefaction, however, can only occur when pancreatic digestion is unduly prolonged, unless by "pancreatic digestion" is to be understood the whole process of digestion in the intestines. In this connection it may be observed that Brown-Séquard has recently ascertained that expired air contains toxic principles which are not destroyed by a temperature of 100° C. The experiments were made with the fluid obtained by condensation; this was injected into the vascular system (artery or vein), or hypodermically; death was very rapidly produced, probably through an action on the medulla. It may be added that the late Professor de Chaumont, of Netley, proved that the peculiar odorous principles familarly recognised in the air of crowded rooms stood in direct ratio with the amount of carbonic acid in excess of the normal. (See also p. 1443.)

Addison's Disease.—One of the most luminous articles on a difficult subject which has been published during the year was Dr. MacMunn's paper on Addison's disease and the functions of the suprarenal bodies, which appeared in this JOURNAL. The paper was extrinsically interesting as an example of the valuable help which a conscientious study of a by-way of physiology may give to the understanding of pathological problems, and as affording a proof, if such were needed, that the exigencies of practice and the absence of the laboratory facilities which an official position gives does not forbid the production of work of first-rate scientific value. A consideration of the chemical constituents of the adrenals leads to the conclusion that a very active downward metabolism takes place in them. Dr. MacMunn's spectroscopic observations tend to prove that one of these downward metabolisms concerns worn out pigments—hæmoglobins and histo-hæmatins—and that, in fact, the main function of the adrenals is to pick out of the circulation effete pigments (with their accompanying proteids). Now Foa and Pellacani have found that the adrenals contain a very active poison, and Dr. MacMunn suggests that this may be the proteid part of the pigment molecule which it is the duty of the adrenals to pick out and metamorphose into a harmless body. When the adrenals are diseased, these effete pigments and effete proteids circulate in the blood; the former, or their incomplete metabolites, producing pigmentation of skin and mucous membrane, and appearing often in the urine as uro-hæmato-porphyrin; the latter producing toxic effects, and leading to further deterioration of the blood, with its consequences.

Summer Diarrhœa.—The very large mortality which occurs nearly every summer from diarrhœa among children in temperate climates, and the enormous death-rate from various forms of bowel complaint during certain seasons of the year in tropical and subtropical climates appear to prove some causal connection between a high temperature of the air and acute derangements of the intestinal canal. In India the term "bowel complaints" is used in official returns owing apparently to the difficulty of more precisely classifying the cases according to their etiology or symptoms, and in this country the number of names applied to the fatal summer diarrhœa of infants probably indicates that we are not dealing in all cases with one and the same morbid process. However this may be, the cases have a strong family likeness, and a point which may turn out to be of great importance has been independently worked out by two independent observers, Dr. Siebert of New York, and with greater precision by Dr. Tomkins of Leicester. Dr. Siebert, from a statistical study of the meteorology and vital statistics of New York City, arrived at the conclusion that it was not the maximal temperatures which have to be considered, very hot days and cold nights are not favourable to the outbreak of summer diarrhœa, but that warm weather, either dry or moist, showing minimum daily temperatures of not less than 66° F., invariably brought on the epidemic. Dr. Tomkins found that the disease appeared annually in Leicester soon after the earth temperature, which he chose as a more stable factor than the air temperature, had reached 59° to 62° F. These temperatures were taken at a depth of one foot. Heat alone cannot be the only essential factor, since the summer temperature in this country does not vary appreciably in adjacent towns, which yet show very different mortalities from summer diarrhœa. Dr. Tomkins finds evidence for believing that diarrhœa did not formerly—fifty years ago or less—produce the mortality it now does, and he thinks that the change may be traced to the greatly increased and continuous pollution of the soil. A bacteriological examination of the air by Hesse's method showed that in those parts of Leicester where the diarrhœa most prevailed, the air contained a much larger number of micro-organisms, and especially bacterial forms, than in other parts of the town where the diarrhœa was less prevalent. The micro-organisms were chiefly large micrococci, and, when cultivated in gelatine and ingested, produced acute diarrhœa.

Chronic Disease of the Heart.—Oertel has further elaborated his method of treating chronic disease of the myocardium, without, however, adding any new principle. He divides his treatment into the dietetic and mechanical. The key-note of the dietetic treatment is the diminution of fat-yielding substances and fluids and the increase of albuminoids, and is applicable mainly to cases where obesity is more or less well marked. A modification of the principle carried to an extreme has been advocated by Dr. Towers-Smith in papers published in this JOURNAL for the treatment of great obesity. Oertel's mechanical treatment is carried out principally by regulated exercise taken in walking up hill. This causes increased heart action, and facilitates the return of venous blood to the right side of the heart. The intra-arterial blood-pressure is at first increased, but is rapidly followed by dilatation of the arteries, with a diminished tension of their walls. The exit of blood from the left ventricle is facilitated, the quantity of arterial blood is increased, and of venous blood diminished. The respiratory apparatus is likewise active in restoring the disordered circulation.

Acute Pneumonia.—Liebermeister, in the course of a paper on a series of cases of acute croupous pneumonia, has expressed the view that death is generally due to pulmonary œdema of the non-infiltrated portions of the organ; this œdema he attributes to cardiac failure. The fever, he says, tends to produce degeneration of the heart muscle and functional insufficiency, while the heart has to act against an increased resistance, due to compression of the blood vessels by the infiltrated lung; the right heart, acting under these unfavourable circumstances, fails, and the first symptom of its failure is the pulmonary œdema above mentioned. Whether in cases which recover from the acute disease, without complete absorption, the caseation and excavation which may occur are always due to a tubercular process, and accompanied by the presence of tubercular bacilli, has never been satisfactorily determined. The subject of the epidemic prevalence of pneumonia is referred to in another place.

Tuberculosis.—An interesting proof of the widespread acceptance of the view of the nature of tuberculosis first forcibly maintained by Villemin, and recently so strongly confirmed by Dr. Koch's discovery of a specific bacillus, is afforded by the fact that in the new edition of Fagge's *Medicine*, Dr. Pye-Smith has classified tuberculosis among "specific infectious diseases," between syphilis and pneumonia. One consequence of this general acceptance has been the growth of a more hopeful feeling with regard to the prognosis of tuberculosis. Kurlow has conducted some experiments which have a direct bearing on the solution of this question. It is well known that it is by no means uncommon to find *post-mortem* evidence of cured tuberculosis of the lungs. Twenty-six cases of apical affections of the lungs found at the necropsies of persons dying of some affections other than tuberculosis were tested with the following results: 1. Inoculations made with material obtained from three simple cirrhotic patches in the apices, gave negative results. 2. Inoculations made with material obtained from four cirrhotic patches infiltrated with calcareous matter were likewise negative. 3. Inoculations made with material obtained from twelve capsulated caseous patches on twenty-six animals resulted in the development of tuberculosis in twenty of the animals. The experimental results show that in twenty-six suspected cases of tuberculosis of the pulmonary apices, seven only, 27 per cent., were non-infectious. Bollinger, in common with other observers whose results are noted elsewhere, found that the milk of cows suffering from local or general tuberculosis may be infectious, but that the infective power is very

greatly diminished by dilution. The meat, that is to say the muscles, of tubercular cows was not, according to his experiments, infective.

Acute Bright's Disease.—It must be admitted that the etiology of acute Bright's disease, if exception be made of cases of scarlatinal nephritis, is still mysterious; a paper by Dr. George Johnson published in these columns suggesting that the determining cause is sometimes sewage poisoning is therefore very valuable. It finds unexpected support in the observation of Lustgarten and Mannaberg that the urine in this disease, at any rate in the majority of cases, contains during the acute stage enormous quantities of streptococci; apparently the more severe the case the larger the number of streptococci. When the quantity of urine increased their number diminished, and with convalescence they entirely disappeared; in the urine of cases of chronic renal disease they were not present. Cultivations in gelatine produced abscesses when injected hypodermically; when injected into a vein, blood, casts and streptococci appeared in the urine in three or four days. The organism was obtained from the kidneys by cultivation in a few cases only. It is nearly allied to, but according to Mannaberg not identical with, streptococcus pyogenes. It may be added that some months before these observations of Mannaberg, a limited epidemic of nephritis, affecting children between 3 and 10 years of age, had been described by Mircoli. He observed fourteen cases in a town of 3,000 inhabitants; in one of the fatal cases he observed cocci in the kidney, most abundantly in the cortex. In two other fatal cases no micro-organisms were found in the kidney.

Rickets.—The interesting discussion on rickets in the Section of Diseases of Children at Glasgow shows that we are yet far from finality in our knowledge of this disease; the theory advocated by the late Professor Parrot, of Paris, that it is always dependent on syphilis, is a proof that the observer may easily be led into error by regarding one set of conditions only, even if these are found to apply over a wide field of observation such as was open to him. In connection with the question of etiology great interest attaches to some statistics collected by Schwarz in Vienna. He examined 500 newly-born children, and based the diagnosis upon the presence of craniotabes and swelling of the heads of the ribs, the cases being divided into five classes: 1, those in which the ribs, from the fifth downward, were enlarged, and the skull softened, either in the vicinity of the sagittal suture or everywhere; 2, those in which the ribs alone were diseased; 3, those in which the skull alone was diseased; 4, those in which there was enlargement at the borders of the costal cartilage; 5, normal cases. Of the 500 cases, 37.6 per cent. belonged to the first class, 31.0 to the second, 7.2 to the third, 4.8 to the fourth; that is, only 19.4 of the cases were free from more or fewer evidences of rachitic diseases. Investigation into the surroundings of the mothers showed that almost all of them lived under very unfavourable conditions. Of the premature children in this series, 93.3 per cent. of those who were born at the seventh month were rachitic, 81.0 of those at the eighth month, and 80.6 of those at the ninth. There were eleven deaths previous to the age of nine days, and microscopical examination confirmed the diagnosis made during life.

Nervous Sequelæ of Whooping-Cough.—The number of cases of hemiplegia recorded as occurring during the course of whooping-cough is small, but enough to show that the occurrence is not a mere coincidence. Alexander has reported a case of blindness coming on suddenly, one he attributed to œdema of the corpora quadrigemina and adjacent parts; in the second case due to optic neuritis; he diagnosed descending neuritis resulting from meningitis; the neuritis ended in optic atrophy. Möbius has reported a curious case of ascending paralysis in a child coming on gradually in the sixth week, when the whooping was subsiding; the child completely recovered in less than three months, and it is not clear that the diagnosis of multiple neuritis was justified.

Neurological Literature.—Among the important events of this year, from the medico-literary point of view, is the publication of the first yearly instalment of the *Annual of the Universal Medical Sciences*. This "report of the progress of the general sanitary sciences throughout the world" is an American enterprise like the *Index Medicus*, and the stupendous *Index Catalogue*, to which modern medical writers owe such a debt of gratitude. The *Annual*, edited by Dr. Sajous, and a body of 270 assistant editors and correspondents, published by the firm of F. Davis, of Philadelphia and London, comprises five volumes of over 500 pages, and is illustrated with chromos, woodcuts, and maps. The opening chapter, due to the pen of Dr. Seguin, of New York, gives a full and critical account of the literature of the preceding twelve months on the subject of the diseases of the brain and spinal cord, whilst Drs. C. K. Mills and J. H. Lloyd, of Philadelphia, deal, in the second, of the peripheral nervous diseases and general neuroses.

The Muscular Sense.—Though an "annual" is hardly expected to contain much original matter, several of the criticisms contained in the 180 pages occupied by the above subjects deserve special attention; and the sharp criticism by Dr. Seguin of the discussion on the localisation of the "muscular sense" by the Neurological Society of London,[1] deserves to attract the attention of our British neurologists. The question was mainly whether the activity of the "motor" areas of the human brain was accompanied by consciousness. After giving an account of the papers read by Nothnagel and by Naunyn to the Sixth German Medical Congress at Wiesbaden,[2] and showing that lesions of the inferior parietal lobule produce loss of muscular sense with little or no paralysis or analgesia, he blames the British contributors for having failed to adhere to a strict inductive method. Although frequent reference, Dr. Seguin says, is made by them to physiological experiments (mostly English), the whole form of the discussion is unscientific and abstract; entire series of known facts are left out of consideration, which, while they do not fully settle the question under debate, yet to a certain extent simplify it, and point out the way for further *post-mortem* study. Reference is especially made to the fact that in cases of destructive lesions of the motor gyri, or parts of them, the muscular sense is not lost; to the fact that, when the lesion affecting the motor zone extends caudad, so as to involve the parietal lobules (the inferior particularly), the muscular sense is lost; to the few but most valuable facts that, when a lesion destroys the inferior parietal lobule alone, or not much besides, there is loss of muscular sense in the opposite limbs, with paresis or without. The impairment of the muscular sense, or the loss of remembrance of residua of muscular movement, is shown by coarse inco-ordination, not true ataxia; and by the testimony of the patient in response to tests by passive movements, weights, and attempted movements without the aid of vision. Other series of facts bearing upon the question whether the grey substance of the motor area is really motor are barely referred to, for example, the fact that descending degeneration follows the removal of the motor cortex, and that refaradisation of the fasciculi underlying and connecting with the motor cortex produces movements in the limbs on the opposite side. Such are the American critic's strictures; it may be doubted whether he has quite appreciated Dr. Bastian's position as to the true nature of the "kinæsthetic" function of the so-called "motor" region. His remarks deserve to be given a prominent place, however, as likely to lead to clearer thoughts upon a very important though involved problem.

Heat Centres in Man.—Dr. Isaac Ott has summarised views mainly based upon original experimental researches as follows:[3] There have been localised in the lower animals six centres whose injury causes increased temperature. The cruciate about the Rolandic fissure, the Sylvian at the junction of the supra and post-Sylvian fissure, the caudate nucleus, the tissues about the corpus striatum, a point between the optic thalamus near the median line, and the antero inner end of the optic thalamus. These centres have their own laws, which serve to distinguish one from the other. Dr. W. Hale White has published a paper containing a number of collected cases bearing on this subject, and Dr. Ott has mainly used them to support the theory of localised heat centres in man. Dr. White has ruled out all cases where the cause is not purely nervous. In support of a heat centre about the Rolandic fissure, there are two cases of injury in this region, which were followed by a temperature of 104° F. There is also a case of softening of the brain in the neighbourhood of the Rolandic fissure, with a temperature of 105° F. reported. There are recorded two cases, one of degeneration of the corpus striatum, another of echinococcus-cysts in it which caused an elevation of temperature. These cases are very clear, and undoubtedly seem to show the corpus striatum to be a thermic centre. There has been recorded, by Dr. Farnham, of Cambridge, a case of typhoid whose preceding high temperature was succeeded by a fall to 95.4° F. In experiments upon the heat centres it was found that the elevated temperature was succeeded

[1] *Brain*, 1887.
[2] *Klin. Centrabl.*, 1887.
[3] *Amer. Neurol. Assoc.*, 1888.

by a fall below normal, and heat production also corresponded to it. In the convulsive affections Dr. Isaac Ott has shown that tetanus mainly causes heat through the stimulation of thermic centres, and not by muscular movement. In chorea Professor Osler, from an analysis of 410 cases, arrived at the conclusion that fever takes place when rheumatism sets in, when endocarditis becomes severe, and in some cases of chorea insaniens. There may be the most intense and violent movements without any rise of temperature, and a great majority of cases remain afebrile throughout. In epilepsy, according to Lemoine, in nearly 200 observations of isolated attacks, the average rise was 1.2° F. Tumours and lesions of the spinal cord, medulla oblongata, and pons Varolii are usually followed by a high temperature due to a removal of the influence of the thermotaxic centre, permitting the spinal thermogenesis to become exaggerated. Low temperatures are due to the excitation of the thermotaxic centres, or their fibres, or to affection of the thermolytic apparatus. If the symptoms point to a lesion of the pons, high temperature will be an important aid to diagnosis. If the symptoms indicate a lesion about the corpus striatum, then high temperature with general muscular wasting will be strong corroboration of the diagnosis.

Primitive Progressive Myopathy.—An instance of muscular atrophy of the infantile facial type of Landouzy and Déjérine was reported by Spillmann and Haushalter.[4] At the age of ten years the patient began to suffer from atrophy of the orbicular muscle of the lips, then of the muscles of the face, at thirteen, of the shoulder and arm, at eighteen, of the forearm and thigh. The muscles of the calf and the flexors of the forearm were spared. The face was expressionless, immobile, with the eyes and lips protruding. The patient stood or walked with body bent far backward; the hands were held semi-flexed. The atrophy attacked the muscles from the outset without a period of hypertrophy; and in a portion from a muscle in which the process was far advanced, removed for microscopical examination, there was found to be simple atrophy without destruction of the striation or of the structure. There was no fibrillary contraction; the electrical contractility was quantitatively diminished in proportion to the degree of atrophy, but there was no reaction of degeneration. The plantar and patellar reflexes were abolished—a rare feature in this type of progressive muscular paralysis, though it may occur when the atrophy is extreme. Although there was wanting in this case one of the most important symptoms of the affection, namely, an inheritance of the disease, the authors do not deem this sufficient reason to exclude so well-marked an example from the class of myopathies belonging to the facio-scapulo-humeral (infantine facial) type. Erb[5] says that in 1883 he proposed the division of "progressive muscular atrophy" into a spinal form (amyotrophia spinalis progressiva) and a form which was probably myopathic (dystrophia muscularis progressiva). In this last division he includes juvenile muscular atrophy (Erb), the pseudo-hypertrophy of children, and the hereditary muscular atrophy (Leyden), and the infantile progressive muscular atrophy with involvement of the face (Duchenne). He maintains the clinical unity of the last four forms as regards localisation of the hypertrophy and atrophy, the state of the muscles on inspection, palpation and electrical examination, the fibrillary twitchings, etc. A still stronger proof is the existence of transitional forms and the numerous cases in which different forms have been observed in the same family. Observations on portions of diseased muscle would indicate that the anatomical process is the same, and that the first step is the hypertrophy of the muscle-fibres. There is found, besides this, all stages of transition to atrophy, the formation of vacuoles, fissuring, increase of the nuclei, growth of connective tissue and lipomatosis. The author reserves the discussion of the succession in the anatomical progress for another occasion.

Trophic Lesions.—Dr. E. C. Seguin read before the American Neurological Association, 1888, a valuable paper in which he summarises our present knowledge of the trophic changes in nerve-lesions. The question he asked himself was: What are the lesions which may be supposed to be directly produced by disease of the nervous system (brain, spinal cord, and nerves); and what is the essential causal relation between the two factors? He suggested the following mode of classification of the data to facilitate discussion: 1. "Trophic lesions" occurring in parts whose sensibility is more or less reduced by the nervous disease, and which are exposed to the action of traumatic and infectious influences. This class includes by far the largest number of the data, such as cutaneous ulcerations, fall of nails and hair, altered appearance of skin and nails, articular changes (arthropathies), fractures of bones, deep eschars, necrosis of digits, and most of the lesions observed in the hollow viscera lined by epithelia. To put it in another way, this class includes the various lesions observed in the course of posterior spinal sclerosis, injuries of the spinal cord, forms of "myelitis" so-called, and injuries to nerve-trunks. 2. Trophic lesions occurring in deeper parts, not exposed to bacterial infection, and upon which traumatic influences cannot be demonstrated to act; in other words, the apparently spontaneous trophic lesions. This class is made up of the muscular atrophies occurring in the course of nervous diseases, and of a limited number of cutaneous lesions. Possibly some alterations in glandular function, due to nerve-lesion, may belong to this class. Clinically these lesions are met with after nerve-section, in the course of neuritis, and of disease affecting primarily, or at least chiefly, the anterior cornua of the spinal cord and their homologues in the cephalic prolongation of the spinal axis. With respect to the first class of so-called trophic lesions, he considered it doubtful whether they could rightly be considered as direct results of suppressed or perverted nervous action. Other observers, however, claim that the real or efficient causes of the lesions are trauma and infection acting upon parts which have lost their automatic defence through anæsthesia, and whose circulation and general nutrition are lowered, but not specifically altered, by disease and inertia. This second view seems to be supported by negative evidence, experimental and clinical. (*a*) Ulceration of the cornea and even panophthalmitis are results of experimental and pathological injury to the trigeminus nerve, more especially of its ophthalmic branch and of the Gasserian ganglion. H. Snellen and M. Schiff demonstrated by the simple experiment of sealing the eye that ulceration of the cornea could be prevented after section of the trigeminus. Gudden proved the same thing by taking newly-born rabbits, and producing perfect closure of the eyelids by an operation. He then cut the trigeminus nerve. Upon opening the eyelids from eight to fifteen days after the nerve-section, he invariably found the cornea normal. (*b*) Section and other injuries of nerve-trunks have long been known to be followed by so-called trophic lesions in the distal parts supplied by the injured nerve. Changes in the skin and hairs, falling of the nails, ulceration, and even extensive necrosis or gangrene, have been elaborately described in animals and in man. Brown-Séquard showed that (in animals) if the parts supplied by the injured nerve be kept perfectly clean and protected, ulcerations, etc., did not ensue. He also demonstrated that wounds made in parts supplied by an injured nerve-trunk healed as well as wounds made elsewhere. Such experiments show that the nerve injury in such experiments or cases is not the true efficient cause of the ulcerations, etc., and also, what is fully as important, that the nutritive functions which go to repair wounds are fully active in anæsthetic and paralysed parts. In human cases of section of sensory nerves, while certain quantitative changes in the anæsthetic area are apparently inevitable, actual histological lesions appear to be indefinitely prevented by guarding against traumatic influences. (*c.*) It is a remarkable fact that such lesions as perforating ulcer, arthropathies, and fractures which occur in the course of posterior spinal sclerosis and other nervous affections, are extremely rare in patients whose circumstances enable them to avoid over-exertion in the later stages of the disease. (*d.*) Cystitis was, until a comparatively recent time, considered one of the symptoms of myelitis and of injury to the spinal cord, though it is now shown to be a complication preventable by the use of aseptic catheterism. The fact that the greatest number of the most formidable of the so-called trophic lesions of the first class are preventable and curable shows that the efficient cause of these lesions is not a neurotic perversion. Consequently we must refuse the name of trophic lesions to the phenomena embraced in the first class of data. It is in the study of the second class of "trophic lesions," those in which extraneous or traumatic causes cannot be shown to act; that the problem of the relation between the nervous disease and the lesion can be best approached. The most typical lesions of the second class are muscular atrophy with degeneration, and the cutaneous affection known as herpes or zona. Probably other so-called skin diseases belong to this group. (*a.*) The natural history of neuro-muscular atrophic degeneration is well-known. The electrical "reaction of degeneration" is the outward test of the changes occurring in the deep tissues. In adult animals, after

[4] *Revue de Medecine*, 1888, viii., 451.
[5] *Münchener Med. Wochenschr.*, 1888, xxxv. 443.

certain lesions, an extreme degree of atrophy is established and persists. The important facts are that we have to deal with qualitative or histological changes in nerves and muscles, which occur with fatal necessity when the cause has acted, and which are demonstrable by microscopic examination and by electrical tests; further, that these lesions are unpreventable, and in one sense incurable. No traumatic or infectious influence can be traced in their genesis, and no amount of care or any form of treatment will prevent the appearance or thwart the evolution of the changes. (*b*) The so-called herpetic lesions of the skin. The vesiculo-pustular affection appears all at once or in successive crops upon areas of skin supplied by one or more of the cerebro-spinal nerves, the distribution of the primary eruption and of the subsequent scars corresponding exactly with nerve territories. Necropsies have shown, beyond room for doubt, that in such cases the nerve trunk supplying the affected cutaneous area, and especially the ganglion upon its dorsal root, are the seat of inflammatory and degenerative processes. Here again we have to deal with an evidently non-traumatic and non-infectious lesion (the skin lesion), revealed by regular and constant symptoms, unpreventable by mechanical means. To these two varieties of lesions, embraced in the second of the classes, the term trophic lesions applies in the true sense of the word—that is, they are histological alterations set up directly and fatally by the nerve disease, without the intervention of accidental or extraneous causes. As to the mechanism or physiology of these trophic lesions, the existence of a special class of nerve fibres, derangement of which should explain them, is no longer admissible. Dr. Seguin concludes with an attempt to advance towards the solution of the problem. Having rejected from the category of trophic lesions all vasomotor, calorific, and metabolic phenomena, as well as all mere quantitative reductions in tissues and organs, he reserves the name for such alterations as are characterised by demonstrable histological changes. This will doubtless be objected to, as in a certain sense the excluded phenomena have much to do with nutrition, and the word "trophic" leads the mind inevitably to think of changes in nutrition; but this is far too vague a conception to be of help. Besides, a sort of antagonism has been revealed by recent physiology between mere vasomotor variations and the activity of the cellular life (salivary secretions, etc.). In the second place, he shows that histological lesions apparently due to nervous disease may be divided into two classes; one in which the morbid nervous influence is of doubtful causal value, while the active or efficient causes of the lesions are extraneous; whereas in the second class, by far the smaller at present, the efficient cause of the lesions is a morbid state of the nervous system. The phenomena which make up the first class he holds to be mere complications having a complex etiology, while those of the second class are really trophic lesions due to diseases of the nervous system. Lesions of the second class may, however, co-exist with others of the first class in paralysed parts; for example, atrophic or herpetiform lesions in paraplegia, and arthropathies may not always belong to the first class of lesions. The mechanism of the third class of alterations lies or is embraced in a law of interdependent life in continuous tissues. As regards the neuro-muscular changes of our second class, the operation of such a law seems highly probable. Anatomically and physiologically the neuro-muscular apparatus from the ganglion cells of the anterior cornua of the spinal cord to the striated muscular substance is a unity or becomes one before the completion of fœtal life. Whether the ultimate nerve fibrillæ and other prolongations of neural substance which lie under the sarcolemma actually blend with the sarcous substance is an unsettled point; but their coaptation and physiological continuity are established. Besides, in lower animal forms true neuro-muscular structures do exist. With reference to the neuro-cutaneous apparatus, the weight of evidence is in favour of the existence of continuity between sensory nerves and some of the elements of the skin. The same statement may be made with reference to the relation existing between the glandular nerves and the epithelia of gland. The general conclusion of this critical survey is that disease of the nervous system produces true trophic lesions when it interferes with the associated or interdependent life of continuous tissues.

Neurasthenia.—Dr. Gray[6] recognises three forms: reflex, lithæmic, simple. In the latter alone there is true nervous prostration. It is difficult always to distinguish neurasthenia from symptoms of true insanity or melancholia, or of certain organic affections, including the newly-described symptom complex, to which Dr. Hughes Bennett has given the name of "muscular hypertonicity," and which formed the subject of a discussion at the Neurological Society of London.[7] Here the neurasthenic symptoms assume the appearance of true lateral sclerosis, the two conditions being mainly distinguished by the usual spontaneous cure in the one, and the progressive nature of the other. The treatment of the reflex form must be chiefly causal. The lithæmic form requires acids, laxatives, rest. Starchy and nitrogenous food must be much diminished. True neurasthenia does well under the Weir-Mitchell treatment, with large doses of malt and iron. Patients, however, often are disappointed at the loss of their muscular strength upon first getting out of bed, and much care must then be taken to prevent a relapse. Galvanism is always of great use when the patient is not kept to his bed. It must be applied with large sponges to neck and loins—5 to 15 milliampères for three to five minutes daily. Massage often irritates, and is then of doubtful value.

Concussion of the Spine.—Dr. Knapp[8] has studied the question of so-called "concussion of the spine," which, in its strict sense, namely, concussion of the *spinal cord* by mere violent shaking of the organ in its bony canal, he thinks "although probable, still a matter of doubt." He admits, however, among other factors of the clinical type described under that name, that muscular strain, spinal irritation, and peripheral neuritis are not uncommon complications; that injury may give rise, not only to gross mechanical lesions of the central nervous system, with symptoms coming on soon after the accident, but also to typical chronic degenerative processes of insidious onset; likewise to various cerebro-spinal "functional" complications. He thinks that neurasthenia is often a result of injury, but that true hysteria does not often so arise; but that both may coexist with some organic alteration, the symptoms of which they complicate. Dr. Knapp mentions "a fairly typical symptom-complex, with psychical disturbances, paræsthesia, anæsthesia, slow and feeble movements, exaggerated reflexes, etc., which are not uncommon, and probably due to organic disease. The prognosis of such conditions is, according to the author, grave; improvement, though not uncommon, rarely proceeds to complete recovery.

Aphasia.—Starr[9] gives a summary of the recent physio-psychological principles held (especially by Charcot and his followers) as to the mechanism of aphasia considered as partial losses of the special memories which underlie the so-called "faculty of language." After Broca, who described aphasia as the loss of the motor power of speech (third frontal convolution), Wernicke, who extended this loss to heard language (first temporal convolution), Charcot, starting from newly-described facts of agraphia and alexia, insisted upon the sensory nature of the so-called motor aphasias (namely, aphemia and agraphia), describing them, or some cases of them, as due to a loss of the motor images or sensations upon which our power to govern the acts of speaking and writing are based. All these memories, being localised in different cortical areas, may be lost singly, hence the variety of aphasic phenomena. As is well known, even singing is independent of speaking, and thus must depend upon the action of an independent area. Another important fact connected with these views is the mutual independence of thought and language—at least, up to a certain point. Our minds are stocked with memories of forms, sounds, etc., which persist independently of the name of their outward objects. In certain cases of so-called *apraxy* the sight of the latter fails to awake the idea of their use and nature, a condition occasionally bound up with aphasia. The localisations of Broca and Wernicke are well known. Agraphia has been supposed by Exner to derive from a lesion of the second frontal convolution; alexia, of the parietal lobe (supra-marginal and angular gyrus). Apraxia seems to accompany lesions in or beneath the angular gyrus. The various commissural bundles connecting all these centres must also be intact in order to allow for normal language — a point hinted at rather than fully described by Lichtheim in a well-known article in *Brain*. Laquer[10] adds another to the list of twenty cases already collected in which "sensory aphasia" was caused by a lesion of the left first temporal gyrus. The patient, aged 74, had an apoplectiform attack, followed with verbal deafness and choreiform par-

[6] *Medical Record*, November, 1888.

[7] *Brain*, 1887.

[8] *Boston Med. Surg. Jour.*, November, 1888.

[9] *Wiener Med. Woch.*, No. 42, 1888.

[10] *Neur. Centralb.*, vii, 12.

aphasia. Some right paresis at first existed, but during ten weeks apraxy persisted, the patient having lost the conception of the use of the very simplest things, though no loss of intellect could be detected. *Post mortem* there was found softening of the anterior and of the posterior extremities of the first temporal gyrus superficially, with a deep lesion uniting the other two, involving the claustrum, fibres of the island, and lower temporal lobules. A small focus existed between the angular and occipital gyri. The author thinks that the two latter lesions explain the existence of alexia and apraxia.

Locomotor Ataxy.—Professor Déjérine[11] describes a case of ataxia of the arms without implication of the legs. There were ocular symptoms. Muscular sense absent; sense of pain much retarded in the arms. The knee-jerk was lost, but sensation in legs remained normal. *Post mortem*, degeneration of the posterior cervical and upper dorsal roots, sclerosis of Burdach's and Goll's columns (hardly visible in the lumbar region) were found. The interesting feature is that though in the cervical region the posterior tracts and horns were deeply altered, superficial and deep sensation was preserved in the legs, which appears to show that the grey matter around the central canal acts as a sort of indifferent conducting medium for sensations in the absence of any preformed paths in the cord.

Some Recent Nerve-Remedies.—Sulphonal. A large number of contributions have recently been published here and abroad on the value of sulphonal as a hypnotic. For adults 15 to 50 grains, for children 4 to 8 grains, are the usual doses required. There is a general consensus as to the safety of the remedy, even in the case of prolonged use. *Cocaine* in the treatment of morphinomania has been recommended by many observers. Thus, Obersteiner[12] uses the drug when morphine has been entirely withheld and the symptoms are at their highest pitch of severity (second day). He gives it in solution (not hypodermically), and frequently, not going beyond 8 grains a day. By the third day he rapidly diminishes the doses, and withholds it after about five days. He, of course, never gives the drug if any toxic symptoms thereby arise.

Dermatology.—During the year the progress of dermatology has consisted rather in the record of fresh cases of some of the rarer diseases whose identity has recently been established than in the discovery of any new principles or pathological doctrines. In the *Journal of Cutaneous and Genito-Urinary Diseases*, Dr. Brocq, of Paris, has explained in detail the methods by which M. Vidal treats with success a variety of skin affections by quadrilateral and linear scarification. Not only lupus, but sycosis, keloid, and cicatrices, chronic eczema, and rebellious pruritus, it is alleged, are greatly benefited by this treatment. In the same journal an interesting case of iodoform eruption is reported by Dr. Jennings, purpuric spots having appeared on the feet and leg of a patient to whom one grain of iodoform in capsule had been administered after each meal. A discussion has taken place in the French Academy of Medicine on the question of contagion of alopecia areata, with special reference to the desirability of children affected with this disease being allowed to attend school. M Lailler believes that, as there are incontestable examples of transmission to a number of children in educational establishments, it is more prudent to exclude those who are attacked. Ollier and Cornil do not believe in the contagion. Hardy supported the contagious theory by citing several striking examples. In a French regiment which received two recruits who had this disease, before the end of the year 120 soldiers had contracted it, all the soldiers having had their hair cut by the same cutting-machine. Besnier referred to other recorded cases of contagion. Dr. Taylor, before the New York Academy of Medicine, related the history of seven cases of xeroderma pigmentosum, bringing up the literature of the subject to 41 recorded cases. At the Pathological Society of London Mr. Hutchinson has raised the important question as to whether the administration of arsenic may lead to the development of cancer, and quoted 5 cases in support of his proposition. The fact that the administration of arsenic may be attended by marked pigmentation of the skin was illustrated by a case reported to the Clinical Society by Dr. Handford, the observation being confirmed by cases reported by other members. The important question of the transmissibility of leprosy from an affected to a healthy person was also raised in a discussion before the French Academy. As a result of this discussion it appeared that, although many physicians practising in the countries where this disease is common deny that it is contagious, yet that a large number of cases have been recorded in which the disease appears to have been undoubtedly communicated. In a critical *résumé* of the discussion by Dr. Brocq in the *Journal of Cutaneous and Genito-Urinary Diseases* (No. 73) these cases are referred to in groups of "isolated contagion," "slight isolated epidemics," "grand insular epidemics," and finally "evolution of great epidemics" of leprosy. The most striking fact recorded in this connection is the statement referred to in a recent number of the JOURNAL, by which it appears that the convict inoculated at Honolulu by Dr. Arning is now in a state of fully developed tubercular leprosy, with changes in the skin at the seat of inoculation of a nature to show that the poison had taken effect at that spot. Dr. Unna's designation of eczema seborrhœicum seems to be pretty generally adopted as a convenient designation for a certain group of cases which, as regards treatment, are chiefly benefited by stimulating applications. In the March number of the *Viertelj. f. Derm. und Syph.*, Liebermann, a Berlin chemist, introduced into the profession a new remedy named anthrarobin, and Dr. Behrend in the same number published a report of a number of cases of psoriasis treated with this remedy. Anthrarobin acts in psoriasis in a similar manner to chrysarobin and pyrogallic acid, producing less inflammation than chrysarobin, and, unlike pyrogallic acid, not being attended with danger from absorption. These results have been confirmed by Dr. Bronson in a paper in the *Journal of Cutaneous and Genito-Urinary Diseases* (No. 74). The identity or non-identity of lichen ruber and lichen planus was fully discussed by the members of the American Dermatological Association at Washington, and it was unanimously agreed that the diseases were different.

[11] *Arch. de Phys.*, 3, 1888.
[12] *Wiener Med. Woch.*, No. 19, 1888.

SURGERY.

Cerebral Surgery.—Removal of Tumours of the Spinal Cord.—Thoracic Surgery.—Abdominal Surgery.—Hepatic Surgery.—Splenectomy.—Surgery of Joints.—Laryngeal Cancer and Bronchocel.—Cancer of the Breast.—Surgery of the Urinary Organs.—Cancer of the Rectum.

Cerebral Surgery.—In reviewing the progress of surgery during the year 1888, one of the first points to which attention must be attracted is the decided advance that has been made in this recent development of surgical practice, and the extent of the additions that have been made to our knowledge and experience in matters relating to the operative treatment of affections of the central nervous system. In connection with this advance, it is satisfactory to note that, whilst there has been an increase in the number of workers in this department, and a consequent increase in the number of operations, there has at the same time been a greater tendency to submit surgical interference to the strict control of the results of scientific and clinical observation. As indications of the widespread and influential interest that has been taken in the study of cerebral surgery, and also of the advance that has been made in the application of its methods, we would refer to the important address delivered by Dr. Macewen, of Glasgow, at the annual meeting of the Association, to elaborate papers on the diagnosis and surgical treatment of Cerebral Tumours, by Drs. Weir and Seguin, of New York, and to a recent contribution to the *Archiv für Klinische Chirurgie*, by no less an authority than Professor von Bergmann, of Berlin. In the last-mentioned paper the distinguished author, after urging the importance of an acquisition by the surgeon of a full knowledge of the symptoms and diagnosis of diseases of the brain, discusses at full length and very lucidly the prospects of operative treatment in the several cases of cerebral abscess, cerebral tumour, and traumatic epilepsy. Dr. Macewen, in his remarkable address, established a claim to having been the leader of this advance in surgical art by the description of a lengthy series of valuable and successful cases, many of which had been under his treatment between the years 1876 and 1883. Both the British and German surgeon, whilst expressing full confidence in the prospects of cerebral surgery, insist on caution in future, and much study and experience on the part of enterprising operators. To these recommendations the perusal of some contributions from other quarters would lead us to add that of a clearer and more detailed record of the remote results of the operative treatment of brain disease, especially of epileptic conditions. As valuable additions to the literature of this new departure in practical surgery mention

must be made of the Cavendish Lecture, by Sir William Stokes;[1] a series of cases by Dr. Keen, of Pennsylvania;[2] a report by Dr. Ferrier, also published in the JOURNAL, of a case of cerebral abscess, in which a successful operation was performed by Professor Victor Horsley; and the address delivered at the opening of the Section of Otology at the annual meeting, by Dr. T. Barr.

Removal of Tumours of the Spinal Cord.—As a striking instance of a still further development of the art of surgery in the treatment of disease of the central nervous system, we have to mention a case reported by Dr. Gowers and Professor Horsley to the Royal Medical and Chirurgical Society, in which a fibro-myoma situated in the dorsal portion of the cord was removed with complete success, the patient having been relieved of all pain and paralysis and restored to a condition of good health and full vigour. Drs. Lloyd and Deaver, of Philadelphia, have recently put on record a case in which the cord was exposed in the cervical region for the removal of a tumour. In this case the disease was found to be of such a nature as rendered it incapable of complete removal, and death resulted in consequence of respiratory disturbances, probably through interference with the phrenic nerve.

Thoracic Surgery.—Very little has been done in the course of the year to bring into favour any operative interference in cases of pulmonary disease. In a discussion at the Clinical Society, on a case reported by Dr. Pasteur, references were made to the results of clinical experience, which seemed to indicate much doubt of the utility of incision and drainage in cases of gangrene of the lung. At a recent meeting of the same Society, the subject of the surgical treatment of purulent pericarditis was brought under notice by Dr. Dickinson and Mr. R. W. Parker, and two cases were reported in which this affection had been treated by incision and drainage. The results of such treatment in these cases were very unsatisfactory, and our present experience seems to lead to the conclusion that although purulent effusion into the pericardium usually proves fatal if left unrelieved, there are many difficulties in the way of surgical interference. The affection, in most instances, is of pyæmic origin, its symptoms are very obscure, and much uncertainty still exists as to a suitable place in the thoracic wall for making a safe and efficient opening, Mr. Parker recommending the fourth intercostal space on the left side, whilst Dr. Barlow has been led by the results of experiments to consider that the right-sided puncture had been unnecessarily discarded. The result of one of the reported cases shows that injection of fluid into the sac in pyopericarditis is attended with very serious risks, and may cause sudden death.

Abdominal Surgery.—It is impossible, in a brief retrospect of recent surgical progress, to give more than a general report of the results that have at home and abroad attended the application of surgical measures to the treatment of numerous forms of abdominal injury and disease. In the course of the year the range of laparotomy has been still more extended, and the increased success which has attended its performance—which success, as was pointed out by Mr. Meredith at a recent meeting of the Royal Medical and Chirurgical Society, is to be attributed to the prevention of septic infection—has led to increased boldness in operators, justified in general by the nature of the results. Among many instances of successful laparotomy for serious injury may be mentioned a case reported by Dr. H. C. Dalton, of St. Louis, of recovery after gunshot wound both of the stomach and liver. To the numerous cases of laparotomy for gunshot wounds of the abdomen, reported for the most part by American surgeons, two further instances—one successful, the other fatal—were added in March in a contribution to the JOURNAL by Mr. Barker. As a help to diagnosis in cases of gunshot or punctured wounds of the gastro-intestinal canal, Dr. Senn, well known for his experimental researches on abdominal surgery, has advocated the insufflation of the alimentary canal by hydrogen gas, which, it is stated, will enable the surgeon to determine positively the existence of a visceral lesion without the risks and medico-legal responsibilities incident to exploratory laparotomy. The very frequent association of diseased appendix vermiformis with typhlitis, and the tendency to relapse of inflammatory swellings in the region of the cæcum, have been pointed out by Mr. Treves in this country and by Drs. Sands and Richardson and other American surgeons. Dr. Morton, of Philadelphia, has also pointed out that pericæcal disease may in most cases be regarded as disease of the appendix vermiformis, and that in every case of ileo-cæcal abscess an inflammatory or ulcerative condition of this process should be suspected and an attempt be made to expose, and if it be found inflamed or perforated, to remove it. Mr. Treves, impressed by the clinical fact that typhlitis is so very apt to recur, advocates surgical intervention after the second attack and removal of the appendix, insisting on the application of a continuous suture to the cut edges of the stump, and objecting with much force to the simple use of the ligature.

Hepatic Surgery.—In this as in other sub-departments of abdominal surgery much activity has lately been shown, and many instances have been recorded of successful operation, both for injuries and for certain forms of disease of the liver. In the JOURNAL of June 16th mention was made of a case in which Professor Postempski, of Rome, opened the abdomen, and stitched up a recent wound two inches and three-quarters in length, on the left lobe of the liver. The patient was able to get up on the eighteenth day, and made a complete recovery. At the beginning of the year Langenbuch, of Berlin, put on record a case in which he had removed, with success, a constricted portion of the liver, weighing about a pound. At a meeting of the Medical Society on December 3rd, Mr. Knowsley Thornton gave brief notes of six cases, three of cholecystectomy, two of cholecystotomy, and one of hepatotomy for hydatids, in all of which the operative treatment had been attended with success. Mr. Lawson Tait has also published, in addition to a previously recorded series of thirty cases of operation on the gall-bladder, eleven cases of cholecystectomy; of these forty-one cases, two were fatal. Other successful cases of cholecystotomy have been recorded in the JOURNAL by Mr. Taylor, of Birmingham, and Dr. Morison, of Newcastle. Zielewicz objects both to simple incision of the gall-bladder and to cholecystectomy, and advocates a combination of cholecystotomy with ligature of the cystic duct. The gall-bladder, when closely adherent to the liver, is thus rendered more movable, and can be readily drawn to the margins of the abdominal wound, and fixed there by sutures. Amongst the most recent contributions on this subject is the record by Dr. Vincent of Lyons, of a remarkable case in which cholecystotomy was performed on a child, aged 8 years.

Splenectomy.—On April 10th Sir Spencer Wells reported a successful case of removal of the spleen, and, in discussing the prospects of this operation, stated that its results have gone on improving during the last thirty years, and extended experience and more attention to the manner of securing blood-vessels may be expected to lead to still greater success. A still more optimist view is taken by Dr. Severeanu, of Bucharest, who in his comments on a successful case of splenectomy treated by himself, states that the operation for removal of an enlarged spleen is in itself very simple, and not more difficult than other abdominal operations. Other successful cases of splenectomy have during the year been treated by Casini of Naples, Fehleisen, and Fritsch.

Surgery of Joints.—A satisfactory feature in our retrospect of recent surgical literature is the increase in the number of contributions dealing with the operative treatment of joint-diseases, particularly those of tubercular origin. Amongst the most important of these may be placed the three lectures on tubercular joint-disease and its treatment, delivered at the Royal College of Surgeons in June, by Mr. Arthur Barker.[3] In these lectures the indications and prospects of the modifications in joint-surgery which we owe to the teaching of Volkmann, Koenig, and other German surgeons, were brought fully and clearly under the notice of the profession in this country. The discovery of the parasitic nature of tubercular disease, and the general acceptance of the aseptic method in practical surgery, together with the use of the bloodless method of operating, have led to a substitution in the place of resection, especially in cases of tubercular disease of the knee and hip, of the proceedure of free exploration and restricted excision known as arthrectomy. The real value of this new treatment still remains to be determined, and its claims to favour as compared with those of less conservative measures on the one hand, and those of expectant treatment on the other, have yet to be made good. Arthrectomy, though somewhat reluctantly recognised by British surgeons at first, has of late been practised more frequently, and its results, we have good reasons to believe, will be fairly and carefully considered. Mr. Wright, who has had a somewhat extended experience of the operation, seems inclined to regard it in an application to a restricted range of cases with much favour. The subject was brought before the Royal Medical

[1] JOURNAL, June 9th.
[2] *Annals of Surgery.*
[3] JOURNAL, June 9th, 16th, 23rd.

and Chirurgical Society on November 13th, by Mr. Edmund Owen, and still more recently before the Harveian Society by Mr. Page. Early in the year Mr. Clutton published an able paper on the operation of arthrectomy, and his colleague, Mr. B. Pitts, has since reported favourably of its results in cases of disease of the elbow-joint. As a proof that present views concerning the treatment of tubercular arthritis are still very unsettled, we would allude to a very recent discussion on this subject at the Royal Medical and Chirurgical Society, in the course of which Mr. Makins of St. Thomas's Hospital stated that Volkmann had in 1887 given up operating in cases of early tubercular disease of the hip-joint in consequence of the unsatisfactory character of the ultimate results of such practice.

Laryngeal Cancer and Bronchocele.—Although so much attention has in 1888 been unfortunately directed to the treatment of malignant disease of the larynx, no contribution of strictly professional value has been made on this subject in the course of the year. In September Dr. Hahn published a brief and tabular return of the results of operations performed by himself in such cases. Of six cases of unilateral resection of the cancerous larynx, two ended fatally very soon after the operation, and one after temporary relief followed by relapse. Of eleven patients who had undergone the operation for total removal of the organ, seven died in consequence of this treatment, and two after a speedy return of the disease. One patient was reported as well after an interval of eight years, and the last was suffering from relapse. Billroth has recently advocated the old practice of simultaneous ligature of all the thyroid arteries with the object of bringing about arrest of growth and also some degree of atrophy of the gland in cases of bronchocele. Removal of the whole thyroid body is objected to by this surgeon on the grounds of the frequent occurrence of tetanus after the operation, the difficulty in avoiding section of the recurrent nerve, and the risks of the subsequent occurrence of the so-called cachexia strumipriva.

Cancer of the Breast.—In the recently-delivered Morton Lecture on cancer and cancerous diseases,[4] Sir Spencer Wells declared himself in favour of the entire removal of the breast in every case of cancer, except where the growths are small and close to the margin of the gland, or only affect outlying portions of the gland. An interesting description was given in this lecture of certain tumours met with near the outer border of one or both breasts, which it is thought originate in the irregularly-scattered sweat-glands of this region, first made out by Dr. Creighton. Notwithstanding the very radical methods now practised by most surgeons in the removal of mammary cancer, the prognosis of this disease is still regarded by many authorities as very unfavourable. Professor Gross, in a paper published in March, expresses this view, but at the same time maintains that the course of the disease is retarded by removal to such an extent, that a comparison instituted between the cases in which the disease runs its own course and those subjected to operation shows an addition of ten months to the life of the patient.[5] Kœnig, whilst doubting the probability of any absolute cure of the disease by operation, stated at the last German Congress of Surgery that 30 per cent. of his patients remained quite well for three years after removal of the disease.

Surgery of the Urinary Organs.—Since the beginning of the year two cases have been reported; the one by Mr. W. J. Walsham, the other by Dr. Blum, of Paris, of intra-peritoneal rupture of the bladder treated successfully by abdominal section and closure by suture of the vesical wound. Exploration of the bladder by the aid of electric illumination seems to be coming into some favour as a means of diagnosis. In the JOURNAL of April 14th there is a report of a clinical lecture by Sir Henry Thompson on the use of Leiter's endoscope in cases of vesical disease, in which this instrument is regarded as one likely to render essential service in the diagnosis of papilloma and some other obscure conditions though ineffectual as a substitute for other and ordinary resources. Mr. Hurry Fenwick has directed attention to an improved form of electric cystoscope which promises to be of much service, not only in cases of foreign body, calculus, and vesical growths, when other means of investigation have failed, but also in the differential diagnosis of hæmaturia and pyuria, and in determining, in cases of purulent disease of the kidney, whether one or both organs are affected. Dr. Otis has also written in favour of this instrument from which, it is held, much service is to be anticipated in the diagnosis of vesical and impacted calculi.

[4] JOURNAL, December 1st, 1888.
[5] *The American Journal of the Medical Sciences.*

Cancer of the Rectum.—Extirpation of malignant disease, which is so strongly advocated by Esmarch, Bardenheuer, and many other German surgeons, has of late been unfavourably reviewed by Kœnig, of Gottingen; and Dr. Heldebrand, in some comments on a series of cases treated by this last-mentioned surgeon, states that the mortality of the radical treatment of rectal cancer is high, that it seldom results in a definite cure, and that the patient's condition after the operation is often very bad in consequence of the loss of function of the rectum and anus.

PHARMACOLOGY AND THERAPEUTICS.

Directions in which Progress has been made.—Antipyrin.—Salicylic Acid.—Alcohol, Chloroform, Aldehyde.—Cocaine.—Hypnotics.—Strophanthus.—Cholagogues.—Ergotin.—Alkaloids from Pomegranate Bark.—Lupulin.—Veratrum.—Potassium Iodide.

Directions in which Progress has been made.—It is most difficult in a short report to give anything like a complete account of the progress made during the year in this subject. The papers published annually are innumerable, and though the majority are of no great interest, there are many which are worthy of consideration, and which indicate the direction in which pharmacology and therapeutics are progressing. In pharmacology proper, the chief direction of research has been in the domain of organic compounds—antiseptics and antipyretics belonging to the aromatic series receiving a large share of attention, and the new hypnotics, belonging to the alcoholic series of organic compounds, have also received investigation. Therapeutics itself is still widely separated from pharmacology, being an almost completely empirical study. In the future this will no doubt be remedied, but for the present there seems a wide gap between the physiological action of drugs and their use in the treatment of disease. In the following report, some of the chief papers published during the last twelve months are considered, and an attempt has been made to group the results so as to indicate the direction of the progress made.

Antipyrin.—Antipyrin is one of the few bodies belonging to the organic series of compounds recently introduced into medicine which has not only held its place but has gone on increasing in utility. The almost universal opinion is that it is one of the safest antipyretics; and besides this, that it has a sedative action on the central and peripheral nervous systems, which is extremely useful in many cases. Sawadowski,[1] under the direction of Professor Botkin, has made numerous experiments into the physiological action of antipyrin, with a view of clearing up many doubtful points which have hitherto remained unsolved. He investigated the effect on the circulation, respiration, on the digestion, and nervous system; on the nitrogenous change, the temperature, and on decomposition and fermentation. With regard to the circulation, he found that in dogs 0.018 to 0.3 gramme per kilogramme of body-weight caused acceleration of the pulse, while the blood-pressure showed a slight initial fall, and then a rise which was 30 per cent. of the normal. The acceleration of the pulse was due to excitation of the excito-motor ganglia of the heart as it occurs after division of the vagus nerves and of the spinal cord. The rise of blood-pressure was due to increased cardiac activity, and not to any effect on the peripheral arteries; in fact, the passing of blood or serum containing a certain portion of antipyrin through living vessels causes a dilatation of the vessels. The same effect on the circulation is noticed in dogs that had fever, and in those whose temperature is quite normal. The influence of antipyrin on chemical changes in the blood was investigated by Sawadowski, and is extremely interesting. He found that oxyhæmoglobin solution, when mixed with 5 per cent. of antipyrin, remained unchanged for twelve hours. In blood, however, 2 per cent. antipyrin produces destruction of the red corpuscles in two or three hours, while 3 to 5 per cent. produces a laky condition of the blood in one and a half to two hours. Antipyrin has no effect on the oxygen change in the blood, because a solution of oxyhæmoglobin, when it has been exposed to the action of antipyrin, can be reduced and reoxydised by the usual methods, showing that the hæmoglobin is practically unchanged. On the nitrogenous change, Sawadowski found that antipyrin had no effect in afebrile conditions, but that it produced an increase in the amount of nitrogenous excretion in febrile dogs. We may mention here, in discussing the influence of antipyrin on nutrition,

[1] *Centralb f. die Medicin. Wissensch*, 1888, Nos. 8, 9, and 10.

that Lépine and Porteret[2] have investigated its effect on the amount of glycogen in the body. They found that when guinea-pigs were given doses of antipyrin of 0.1 to 0.2 gramme per kilogramme of body-weight, the liver contained one-fifth more glycogen per kilogramme than in a similar series of animals untreated by antipyrin, and that the amount of sugar in the first series of animals was also proportionately less. Similar results were obtained with acetanilide (antifebrin) quinine, and sodium salicylate. Hence they conclude that antipyretics appear completely to stop, or at any rate to hinder, the change of glycogen into sugar in the liver, and that this is so was rendered more evident by the following experiment. Two portions of fresh liver were placed, one in water alone, the other in water containing antipyrin. They were allowed to remain for four hours, when it was found that there was less sugar and more glycogen in the liver soaked in the antipyrin solution than in the other. By a similar method of experimentation the same observers have found that a dose of 0.59 gramme antipyrin per kilogramme of body-weight in guinea-pigs, or of 0.3 gramme of antifebrin, increased the amount of glycogen in the muscles, so that, comparing a series of animals treated with antipyrin with a similar series untreated, it was found that the proportion of glycogen in the muscles of the former to that of the latter was as 0.3 to 0.235 per cent., and in the case of antifebrin 0.197 to 0.164 per cent. These results are extremely interesting, but the doses given are much greater than those used. The therapeutic dose of antipyrin in man, expressed in similar terms to those used above, is about 0.03 gramme per kilogramme of body-weight, but it may be that repeated doses may produce the same effect as a single large dose in a guinea-pig. Sawadowski found that 2 per cent. antipyrin inhibits putrefactive decomposition, but not completely; it requires 4 to 5 per cent. solution to do this. He found no effect on the secretion of gastric juice, or on the digestion in the stomach, if the drug were given in therapeutic doses; but a 2 per cent. solution inhibits gastric digestion. On the nervous system he found antipyrin acted as a sedative, and in large doses produced convulsions. He found no effect on the sensory or motor nerves; but, on the other hand, Blumenau has shown that tactile sensibility is greatly increased by the local action of the drug, whereas the sense of pain is diminished; and this, as will be seen, is what has been found clinically with the drug; but the vomiting caused by antipyrin is, according to Sawadowski, central in origin. As regards the effect on the temperature, Maragliano and Bettelheim stated that the fall of internal temperature went *pari passu* with the rise of the skin temperature, which is due to the dilatation of the cutaneous vessels. According to Sawadowski, however, the fall of internal temperature may occur without dilatation of the skin-vessels. Many experiments were done relative to the action of the drug on the heat-centres of the brain. For the details of these the original papers must be consulted. It is enough to say that the conclusion arrived at was that antipyrin acted as an antipyretic, first by increasing the loss of heat and acting on the vasomotive thermic centre, which lies in the front part of the corpus striatum; and that it also acts on the trophic centre in the posterior part of the corpus striatum. Antipyrin has, from its known action on the nervous system, been utilised in many nervous diseases. For pain it is recommended hypodermically by Germain Sée[3]. His results have been more or less confirmed by subsequent observers. He recommended seven grains and a half to be given two or three times a day, and to be supplemented by administration by the mouth. The injection causes a local feeling of tension and actual pain, but it relieves all kinds of pain, and the action is free from giddiness, vomiting, or any unfavourable condition, and is better than that of morphine. Sée described cases of rheumatism cured by two or three injections, while the pains of chronic gout and rheumatism were relieved, as well as those in locomotor ataxy. Facial neuralgia was cured in a few hours; also lumbago and migraine; while the same method was found useful in gall-stones and renal calculi. The dyspnœa and feeling of oppression of asthmatic and rheumatic people were likewise relieved. Subsequent observers do not completely confirm the glowing account given by Sée, but antipyrin is now a recognised remedy for many forms of functional headache and neuralgia. It is usually in this country given in ten-grain doses by the mouth, and in some cases, as in locomotor ataxy, its place is taken by antifebrin. Antipyrin has been used by many in chorea, and Legroux and Dupré found that cases in which three grammes (forty-five grains) were given daily for five or six days were greatly relieved, the improvement continuing for some time. In many cases of epilepsy Lemoine found antipyrin inactive, but in some cases, such as those in which the convulsions were associated with menstruation, and also in migraine following epilepsy, antipyrin gave great relief. It was found better than bromide of potassium, and the dose was two grammes (thirty grains), given for a long time. Antipyrin was recommended by Sonnenberger for whooping-cough, and Griffith found excellent results in nine cases. It must be given in the earlier stage of the disease. In one case of polyuria (diabetes insipidus) antipyrin was found of great use. The case was that of a boy aged 8, to whom 1.5 to 5 grammes (23 to 75 grains) of antipyrin were given, the urine being reduced two litres a day, the original quantity passed being six to ten litres. As a rule, antipyrin has no serious drawbacks to its administration, but two cases among others published during the last year show that great care must be taken in prescribing it. The one case, recorded by Bernouilli, was that of a woman, aged 52, suffering from subacute and afebrile articular rheumatism, who had an attack of fever after taking antipyrin. A small dose produced pain in the chest and abdomen, rise of temperature, shivering, quickening of pulse, vomiting, turgescence of the face, injection of the conjunctiva, and a rash. The second case was that of a young man suffering from typhoid fever, who took nine grammes (two drachms and a quarter) of antipyrin. In the course of a week this produced a universal rash, which was like measles and scarlet fever over the body, but resembled urticaria on the face. The epidermis peeled off in flakes, leaving a raw surface. Both cases recovered after stopping the medicine.

Salicylic Acid.—Huber[4] has investigated the diuretic action of salicylic acid in various diseases, and has come to the conclusion that it is one of the safest and most important diuretics that we possess. The greatest increase in the amount of urine occurred in rheumatic fever and serous pleurisy, whether the temperature was raised or not. There was less increase in typhoid fever and in phthisis; the amount of perspiration and watery vapour in the expired air was diminished in nine cases and increased in five cases, but in all cases the total loss of water by the skin and lungs and urine was increased. The solids of the latter were also increased. In ordinary pleurisy, and in four cases of heart-dropsy, the drug was found to act well. Ehring[5] has used a preparation of bismuth salicylate made by Merck, and containing 63 per cent. of the oxide, but no free salicylic acid. In disorders of the stomach and intestines in children he recommends the drug on account of its astringent and antiseptic properties, and also from its being free from unpleasant accompanying effects, and from the great ease with which it may be administered. It may be given with glycerine and water in a 5 per cent. mixture, of which from a tea to a dessert spoonful is given every two hours. The powder is not to be recommended, from its local irritant effect on the walls of the stomach and intestines. For the same purpose Widowitz has recommended naphthalin in children, given in doses of three-quarters of a grain to four grains and a half every three hours, and finds it of service in all intestinal affections, except in dyspepsia with vomiting and curdy motions. The urine is often dark-coloured during the administration, and there is a reddening of the orifice of the urethra.

Alcohol, Chloroform, Aldehyde.—Förster[6] has investigated the effect of alcohol in fasting men on the excretion of phosphoric acid by the urine. The alcohol used was absolute, and of the strength of 30 to 50 per cent. It was found that the amount of phosphoric acid excreted was greater after alcohol, and this was the greater the more pronounced were the symptoms produced by the alcohol (*malaise*, nausea, mental depression, etc.). Thus, in twenty-four to thirty hours in one case, the phosphoric acid was 0.43 gramme; after alcohol, in the same period of time, it was increased to 0.8 gramme. Förster thinks that these results hold good for the sick as well as the healthy. Salkowski[7] has accurately tested the action of chloroform as an antiseptic. He finds that five cubic centimètres dissolve completely in one litre of water at the temperature of the room, and that this strength of solution is antiseptic and disinfectant, preventing the growth of bacteria. Milk will thus keep for three months, urine and pathological effusions for a long time. It has no influence on organic ferments, such as those of digestion; but

[2] *Comptes Rendus*, No. cvi., p. 1023; *ibid.*, cviii., p. 416.
[3] *Comptes Rendus*, No. cv., No. 2, p. 103.
[4] *Deutsch. Arch. f. Klin. Med.*, xii, p. 120.
[5] *Arch. f. Kinderheilk.*, ix, p. 90.
[6] *Münch. Med. Wochenschrift*, 1887, p. 562.
[7] *Deutsch. Med. Wochenschrift*, No. xvi. 1888.

the bacillus anthracis is killed in one hour and a half (although the spores are unaffected), and the cholera bacilli are killed in one minute. Salkowski recommends chloroform for keeping urine, organic solutions, and museum specimens. Albertoni and Pisenti[8] have investigated the action of aldehyde. They had previously shown that aldehyde is passed out of the body unchanged in the breath and in the urine, whereas in the case of alcohol none of this can be found in the excretions. The effect of aldehyde was investigated by giving a dose of one or two cubic centimètres to rabbits, or allowing the animals to breathe it for some time. It produces in the vessels of the different organs a condition of arterio-sclerosis, the internal coat of the arteries being slightly and the external coat being greatly thickened. Varying degrees of fibrosis are produced. There is also an interstitial growth of fibrous tissue in the liver with an infiltration of round-cells. This is a true commencing cirrhosis. The changes in the mucous membrane of the stomach are slight, and the kidneys are sometimes slightly, sometimes greatly affected, the glomeruli being filled with blood. This research is interesting in view of the fact that aldehyde differs from alcohol in containing two atoms less of hydrogen, whereas the physiological effect and pathological changes produced seem practically the same.

Cocaine.—U. Mosso[9] has investigated the action of cocaine, and has supplied many gaps which existed in our knowledge of the effects of this alkaloid. As regards the action of cocaine on the nervous system of cold-blooded animals, Von Anrep had found that cocaine paralysed, in the first place, the sensory nerve-endings, and then the sensory nerves themselves. The excitability of the motor nerves was also diminished, but the spinal cord was not paralysed. On the other hand, Mosso has found that cocaine in large doses paralyses the spinal cord at a time when the motor and sensory nerves are still intact in their peripheral parts. The conductivity as well as the reflex-excitability of the spinal cord is completely destroyed, and it is only in the last stage of poisoning by large doses that there is any loss of irritability of the motor nerves. As a consequence of the spinal cord being paralysed, there is a standstill of the lymph-hearts. While cocaine causes paralysis in cold-blooded animals, it produces convulsions in the warm-blooded. Only if the doses are very great do these animals die without convulsions and with paralysis. The convulsions occur periodically at fairly regular intervals. They are central in origin, and come from the excitation of the spinal cord, as experiments following the section of the cervical spinal cord show. The convulsions are not, like those of strychnine, of reflex nature, because they are not produced by any external influence. The stimulant, according to Mosso, has its seat in the nerve-centres themselves, and depends, probably, on variations in nutrition. On the frog's heart cocaine in small doses acts as a stimulant, increasing the strength and frequency of the heart-beat; in large doses it causes the heart to become more and more tonically contracted till it stops finally in systole. Fresh blood, however, passed through the heart causes it to begin beating again. During convulsions from medium doses the blood-pressure rises, although the heart-frequency is not altered. Cocaine acts on the vagus, diminishing its excitability, but this effect is not complete and lasts only a short time. Mosso cannot confirm Von Anrep's observation that the pulse is rendered slower by large doses; but he agrees with the same observer and Laborde that medium doses cause a prolonged rise of blood-pressure, and large doses a fall. Cocaine acts directly on the blood-vessels and on the body temperature. Mosso has found that cocaine causes a rise of temperature, which, he says, is quicker in appearance and more pronounced than that of any known substance. The rise of temperature occurs even after section of the cervical spinal cord, from which he concludes that besides the thermic centre in the brain, there are centres in the spinal cord which preside over heat-production. Cocaine causes an increase in the frequency of respirations, and it is curious to note that the usual effect of section of the vagi on respiration does not occur after cocaine has been previously given. The increase in the frequency of respiration is a direct consequence of excitation of the respiratory centre. In small doses this increase of respiration does not occur before or after the convulsions. With larger doses it occurs before the convulsions, and with poisonous doses there is tetanus of the diaphragm. Death is in most cases due to respiratory convulsions following standstill of respiration. Artificial respiration is thus the best agent for prolonging life. The heart beats for a long time after the animal has ceased breathing. Mosso, in discussing the therapeutic aspects of his researches, recommends cocaine as one of the best stimulants both in ordinary conditions and in narcosis from poisons. Cocaine and chloral-hydrate are antagonistic, but the fall of temperature produced by choral poisoning is not influenced by the alkaloid. Ether and chloroform are also antagonists to cocaine, so that in acute cocaine poisoning these may be given as inhalations to prevent the tetanus of the respiratory muscles. When the first danger is over, the administration of chloral-hydrate is necessary. If the breathing stops completely, artificial respiration must be performed. It may be mentioned here that Fleischer[10] found that nitrite of amyl was of no use as an antagonist to cocaine, and that cocaine in healthy as well as fasting dogs decreases the amount of urea and phosphoric acid excreted in the urine, and also the amount of sugar in artificial diabetes.

Hypnotics.—An account of the physiological action of methylal was given in the report on therapeutics in this JOURNAL last year; since then it has been tried as a hypnotic in various diseases. Thus Mairet and Combemale[11], giving it in doses of seventy-five grains to two drachms, found that it produced sleep in chronic excitable conditions, senile dementia, and progressive paralysis; that it was useless in mental excitement due to alcohol, and in recent mental disease. The drug is easily soluble, and has no unpleasant taste or other defects, but patients soon become accustomed to it, so that after five or six days the drug has to be omitted for two or three days. Lemoine, on the other hand, has found that two cubic centimètres subcutaneously injected not only produce no sleep, but no disposition to it. There was an increase of pulse-frequency with a diminution of arterial pressure, a slight increase and frequency of respirations and a fall of temperature. In insane people he gave up to three grammes (45 grains) without any hypnotic effect. The dose used by him, as will be noticed, is much less than that used by the previous observers. Fröhner[12] has shown that paraldehyde produces by prolonged use effects similar to those of alcohol. It also causes in horses methæmoglobinæmia and methæmoglobinuria. In dogs, poisonous doses produce a profound change in the blood and albuminuria. Amylene hydrate has been recommended as a hypnotic. Its physiological action has been investigated by Von Mering.[13] It is tertiary amyl alcohol or dimethy-ethylcarbinol, $C_5H_{12}O$; is soluble in eight parts of water, and mixes in two proportions with alcohol. In frogs 0.06 to 0.1 gramme causes paralysis and unconsciousness. There is complete anæsthesia and loss of reflexes. The animals recovered after some hours. Rabbits and dogs sleep deeply for six to eighteen hours after a dose of two to three grammes (thirty to forty-five grains). The drug has no influence on the circulation, though the respirations are slightly less frequent. Death occurs from the cessation of the respiration. Medium doses act on the brain; larger ones on the spinal cord and medulla. The drug was found of service in producing sleep in nervousness, excitability, paralysis, delirium tremens, senile decay, convalescence, anæmia, phthisis, and in febrile patients. There were sixty cases in all, to whom three hundred and fifty doses were given. The dose varied from three to five grammes (forty-five to seventy-five grains), and produced sleep for six to twelve hours within half an hour. In sleeplessness caused by pain, the drug is of no use as a hypnotic. Amylene hydrate stands between chloral and paraldehyde; thus, fifteen grains of chloral is equal to thirty grains of amylene hydrate, or forty-five grains of paraldehyde. Gurtl[14] found the drug very useful in seven cases of chronic alcoholism and two cases of morphinism; in two cases of encephalomalacia, and in seven of phthisis. Contrary to Von Mering, he found it had good results in sleeplessness through pain; and in one case of epilepsy the drug acted well. The dose for children is one and a half to four and a half grains up to ten years of age. Lehmann has also had good results in giving the drug to twenty-six insane patients. Cramer has given sulphonal 407 times to forty-nine insane patients. He found it useless in $7\frac{1}{2}$ per cent. of the cases; but in 92 per cent., in doses of thirty grains, it produced sleep for five or more hours within a quarter to half an hour, though the effect was delayed sometimes two hours, or even to five or eight hours. In melancholics he gave the drug with good effect in daily divided doses up to forty-five grains in a day; and

[8] *Centralb. f. die. Med. Wissen.*, xxi. 1888.
[9] *Archiv. f. Exp. Pathol.*, xxiii, p. 153.
[10] *Deutsch. Arch. f. Klin. Med.*, lxii, p. 82.
[11] *Progrès Méd.*, 1887, No., xxxvii.
[12] *Berl. Klin. Wochen.* 1887, No. xxxvii.
[13] *Therap. Monats.*, 1887, No. vii.
[14] *Berl. Klin. Wochen.*, 1888, No. vi.

he found a useful sedative effect in periodic mania. There were no bad symptoms. In one case of angina pectoris in a man aged 71, Schmey found that thirty grains of sulphonal produced only slight sleep, but greatly aggravated the general condition.

Strophanthus.—Rothziegel and Kowalewski[15] have published an important paper on the action of tincture of strophanthus, and of strophanthin. The latter was a preparation of Merck's, and was a white amorphous powder of bitter taste, soluble in water and in alcohol. Strophanthus has an effect on the heart-muscle in five to ten minutes; also an effect on the pulse, which is strengthened and becomes slow a little later. The regulation of arhythmia by strophanthus follows later than that by digitalis. Dyspnœa disappears before palpitation; but with nervous palpitation no lasting good effect from the drug was observed. Diuresis, contrary to what has been stated by Huchard, occurs often after long use of the drug, and is not so sudden or profuse as that caused by digitalis. There is no direct action on the nervous system. The sedative effect observed in cases of heart-disease are due to action on the heart, regulating the circulation of the blood. That strophanthus, however, does act on the nervous system, has been proved by Langaard. Disagreeable effects, such as *malaise*, vomiting, and burning in the œsophagus occurred less frequently with strophanthin than after the tincture, and the observers concluded that strophanthin as a rule has a weaker action than that of the tincture. The individual doses of strophanthin given were three to five decimilligrammes, about 1-200th to 1-130th of a grain, while the daily dose did not exceed one-thirteenth of a grain.

Cholagogues.—Ehrenberger and Baum[16] have investigated the action of numerous drugs on the cell-activity of the liver. They have shown that there is a great difference between liver-cells when at rest and when in activity. The drugs were given to horses subcutaneously or by the mouth, and after a certain interval the animal was killed, and portions of the fresh liver were hardened in alcohol, corrosive sublimate, or osmic acid. For the details of the experiments and the actual changes occurring, the original must be referred to. The conclusions arrived at were that, as great excitants of liver activity, pilocarpine, muscarine, and aloes took the first place, though in large doses, the first two named stop the action of the liver, the hepatic cells presenting a condition like that of complete rest. As weaker choligogues may be mentioned salicylate of sodium, benzoate of sodium, and rhubarb; and among those that diminish liver activity there are atropine (which is the most powerful), magnesium sulphate, sal ammoniac, acetate of lead, calomel, and sulphate of copper. Lead and copper salts cause a shrinking of the liver-cells followed by a degeneration of the protoplasm. In this effect copper is more active than lead.

Ergotin.—Rosenbach[17] recommends ergot in the treatment of heart-disease; to increase the activity of the walls of the blood-vessels, and to augment the pressure in the arterial system. He has found it useful in aortic regurgitation in "idiopathic" dilatation, and in cases of arterio-sclerosis. Ergot regulates the pulse, diminishes dyspnœa and palpitation, but has no effect on the œdema. It may be given in small doses every two or three hours. Tuczek[18] has described the progress of twenty-nine cases of ergotism observed by him in 1882. Of these nine died, and the twenty who recovered were observed during a period of seven years. They all relapsed and had convulsions, and two still had these after the lapse of seven years. Most of the cases showed a defective intellect. Three only were quite well mentally, and in them the knee-jerk returned, while in the remainder Westphal's phenomenon was present. Many complained of headache and of paræthesia. Microscopic examination of the spinal cord of four cases that died showed degeneration of the posterior column. One case showed in Clarke's column a loss of nerve-fibres, and degeneration of the posterior root-bundle. There was no degeneration of the posterior horn.

Alkaloids from Pomegranate-bark.—Recognising the uncertainty of the action of pomegranate-bark in the treatment of tape-worm, Stoeder was led to investigate the proportional amount of alkaloids present in various specimens of the drug. He reckoned all the alkaloids as pelletierine, and found that both the stem- and the root-barks of commerce have a very varying amount of alkaloids; and that the stem-bark has less than the root. The root-bark from Java is the best that was examined, although a specimen of bark from Southern Europe was also rich in alkaloids. These alkaloids ought always to be estimated before a specimen of the drug is prescribed, and a spirituous extract is the best form in which to give the medicine. Bettelheim has used a modification of the ordinary tape-worm cure by combining filix-mas and pomegranate-bark in the same mixture. He prescribes 10 grammes each of extractum filicis-maris and of extractum punici granati, with three grammes of pulvis jalapæ, to make seventy keratin-coated pills. Of these fifteen to twenty are to be taken during the first day of fasting, and the remainder at intervals of two or three hours on the next day. The object of coating the pills with keratin is to prevent their solution till they get into the small intestine, so that the vomiting which sometimes follows the administration of the drugs is prevented.

Lupulin.—Dreser[19] has tested the physiological action of lupulic acid which was extracted by Bungener from lupulin. It may be called the bitter acid of hops, and has a formula $C_{25}H_{35}O_4$; it is a resinous yellow mass, and is readily oxidisable. Dreser's experiments were made with the sodium salt. It was found to be poisonous to frogs in doses of 0.0025 gramme (about one-twenty-seventh of a grain); and that rabbits were killed by the intravenous injection of 0.02 to 0.025 gramme (three-tenths to three-eighths of a grain). It was also poisonous when given by the mouth. In frogs, there was stoppage of the respiration, and a complete paralysis of the central nervous system, sensibility lasting longer than mobility. The paralysis was preceded by irritability, with swelling and vomiting movements, short spasms, and increased reflex action. The frequency and strength of the cardiac beat was diminished, the heart being finally completely paralysed. In warm-blooded animals, the medulla oblongata is affected, the respiratory centre being excited, so that there is increased frequency and depth of the respirations. Slowing of the pulse occurs, and death follows from palsy of the respiratory centre. Considering the extremely toxic action of this bitter acid, it was important to determine whether it existed in beer. Dreser has found that beer does not contain it, only its oxidation products, and that these have no poisonous action.

Veratrum.—Lissauer[20] has reinvestigated the action of the alkaloids of veratrum. He used crystallised veratrine (cevadine), and states that the amorphous commercial veratrine is a mixture of crystalline cevadine and of amorphous veratridine. He obtained the same results on frogs as other observers have done—results which are now well known. In warm-blooded animals, besides the direct action on the muscles, there is a central excitation of the motor centres, causing convulsions. As regards the action on the circulation, von Bezold and Hirt had previously found that there was a parallel effect on the frequency of the heart-beat and on the blood-pressure, that the pulse was slowed by an excitation of the central origin of the vagus nerves, and that succeeding this there was an effect on the automatic cardiac ganglia. The blood-pressure falls as a consequence of the slowing of the heart-beat, and also of the depression and paralysis of the vasomotor centre. Lissauer, on the other hand, considers that the fall of blood-pressure is due to universal vasomotor paralysis, which is probably central in origin, but may possibly also be due to peripheral effect. The effect on the heart is due to a direct action on the cardiac ganglia. The respiration is at first made slower, and becomes slightly dyspnœitic. Death occurs from paralysis of the respiratory centre.

Potassium Iodide.—Haslund[21] has published his results as to the treatment of psoriasis with large doses of iodide of potassium. He at first prescribes a 5 per cent. solution, of which half an ounce is taken four times daily. In two days another half ounce is added to the dose until six ounces daily are taken. The strength of the solution is then increased to 6 per cent.; to the daily dose are added thirty grains. Small children begin with a $2\frac{1}{2}$ per cent. solution, and then advance to the minimum dose for the adult. After a dose of ten drachms daily, great care in watching the effect of the drug is necessary. Fifty cases altogether were treated. Of these, forty (of which thirteen were between 6 and 15 years of age) were completely cured, four were improved, and in six there was no result. The duration of treatment was between two and a half and fifteen weeks, on the average seven weeks, but the cure did not commence till from four to five weeks after the commencement of the treatment. The dose used during the course of the treatment was between 40 and 280 drachms. The large doses

[15] *Wien. Med. Bältter*, No. xvi. 1888.
[16] *Arch. f. Wissenschaft. und Prakt. Tierheilk.* No xiii., page 257.
[17] *Berl. Klin. Wochen.* 1887. No. xxxiv.
[18] *Arch. f. Psych.* xviii. No. ii., p. 329.
[19] *Arch. f. Exper. Path.*, etc., xxiii., p. 129.
[20] *Arch. f. Exper. Path.* xxiii, p. 36.
[21] *Vierteljahrs. f. Dermatol. u. Syph.*, 1887, p. 667.

were well borne, and there was not much iodism, and only one case of idiosyncrasy. The patients increased in weight under the treatment. There was no influence on the number and size of the blood-corpuscles. The pulse was greatly increased in frequency, up to 100, 130, and even 140. There was no increase of the urea, though the urine was greater in quantity. Contrary to what has been usually found, there was no diminution of the amount of fat, and no atrophy of glands—of the mammæ or the testes. The appetite and bowels were normal. There were two cases of slight albuminuria, and six cases of recurrence of the skin eruption.

OPHTHALMOLOGY.

The Ophthalmological Congress.—Treatment of Cataract.—Detachment of the Retina.—Sympathetic Ophthalmitis.—Refraction and Schoolwork.—Ophthalmo-photography.—Ophthalmology in Relation to Cerebral Disease.—Literature.—Obituary.

The Ophthalmological Congress.—The year 1888, in the ophthalmological world, will chiefly be remembered as the date of the meeting of the Ophthalmological Congress in Heidelberg. This, the seventh meeting of the congress, was of especial interest as commemorating the 25th anniversary of the foundation of the Heidelberg Ophthalmological Society. It was well attended and was a brilliant success, of the 247 members present, 12 were from this country and 20 from America. For a record of the work done we must refer our readers to the official report.

Treatment of Cataract.—The annual meeting of the British Medical Association at Glasgow took place at about the same time; the most prominent feature of the Ophthalmological Section was the discussion on cataract, which was opened by Mr. Brudenell Carter, in a most able paper, which together with the discussion will be found in the JOURNAL, vol. ii, p. 1152. The real question at issue was of course whether iridectomy should in ordinary cases form part of the operation of extraction or not, and a similar discussion took place at Heidelberg. We should say that in this country the majority of experienced operators are in favour of iridectomy, and for the reasons stated in Mr. Carter's paper. The minority, however, contains some good names, and has gained adherents. Dr. Knapp's pamphlet on 100 cataract extractions without iridectomy, should be read in connection with this subject. While upon the subject of cataract, we would call attention to a statistical paper by Mr. Drake-Brockman which deals with a total number of cases amounting to 3,400. Statistics of this colossal magnitude cannot fail to be of use, but the conditions under which the operations were performed are hardly comparable with those which obtain in this country. To take only one instance, whatever the form of cataract it is by preference removed at a single operation, for it appears that no amount of reasoning will prevent a native considering an operation as having failed if it does not directly restore his sight. Moreover, in all tropical climates there is a reason for avoiding an iridectomy when possible.

Detachment of the Retina.—Among the literary productions of the year the palm must unquestionably be given to Dr. Nordenson's work on *Detachment of the Retina*. It is a most beautifully illustrated quarto, and will certainly prove for many years the standard work on this subject. A very good abstract of the chief points in the book will be found in the *Ophthalmic Review* for February and March; we will only say here that the author's theory is that in most instances detachment is due not to an effusion of fluid beneath the retina, but to a primary shrinking of the vitreous, analogous to sclerosis in other tissues, the vitreous in consequence becomes separated from the retina posteriorly by a space which fills with fluid. Anteriorly, since the vitreous adheres more closely to the retina, a certain amount of traction upon the latter takes place; if this leads to a tear in the retina, fluid immediately finds its way beneath it and floats it up. In several instances the author states that he has recognised the rent in the retina; in this way the suddenness of the detachment is explained; indeed, it is difficult to explain the variations that sometimes occur in the position of the detached portion, unless we assume that there is a free communication between the fluid on its two surfaces

Sympathetic Ophthalmitis.—The subject of sympathetic ophthalmitis has received a certain amount of attention. Deutschmann's theory of transmission of a septic inflammation along the optic nerves and chiasma, which has received a very general sanction, having been somewhat vehemently assailed by Dr. Randolph, of Baltimore, U.S.A., we recently called attention to the chief points in dispute,[1] and as Professor Deutschmann has just published a monograph containing his view on this subject, we shall shortly return to it.

Refraction and Schoolwork.—Stilling having published a monograph[2] developing his theory that myopia is caused by the pressure of the obliqui upon the globe during the period of growth, and that this pressure depends upon the form of the orbit,[3] we recently took occasion, in calling attention to this subject, to point out that, since identical conditions proved injurious to some children and harmless to others, there must be present in the former some conditions which render them unfitted for the ordinary school course. We trust that before long this will be recognised by the authorities, and that means will be taken to ascertain the condition of the eyes of every child on entering a Board school.

Ophthalmo-photography.—Satisfactory ophthalmo-photography still remains a thing of the future, although the photographs of the fundus by Dr. Howe, exhibited at the Heidelberg meeting, show a distinct advance upon anything previously achieved. It is not improbable that the investigations of Cohn and Dubois-Reymond[4] on instantaneous photography of the iris will pave the way for further advance, which will doubtless be further facilitated by the recent invention by Professor Reuss of a "diaphanoscope," by which the fundus is illuminated by light passed through the tunics of the eye, all difficulty arising from the corneal reflex being thus abolished. Another difficulty, however, arises from the amount of yellow light reflected by the fundus, and if the entering rays are to be passed through the vascular choroid the difficulty arising from the nature of the light will be increased. The illumination is obtained from a small but brilliant electric lamp, which is kept cool by a constant stream of water passing over it in a closed tube, the lamp is laid on the sclera beneath the upper lid. The cumbersome nature of the necessary apparatus, and the discomfort to the patient of having a foreign body introduced beneath the lid, will prevent the use of the instrument becoming general, but for the special purpose just indicated it may prove useful, and it is not impossible that "transtunical" illumination might be of diagnostic value in other cases, as, for instance, in distinguishing between different varieties of detached retina.

Ophthalmology in Relation to Cerebral Disease.—More attention than usual has been directed to the connection between cerebral affections and eye-symptoms. In Dr. Swanzy's Bowman Lecture[5] will be found a very able summary of our present knowledge on this subject, and in connection with this should be read Dr. Mackay's paper on hemianopsia and hemichromatopsia, which will be found published in full in the JOURNAL, vol. ii, p. 1033. Especial prominence has been given to this subject in the recent edition of Dr. Swanzy's *Handbook of Diseases of the Eye*, and in the same connection we may mention Dr. Byrom Bramwell's book on *Intracranial Tumours* and the second volume of Gowers's *Manual*.

Literature.—Among other literary productions of the year we may mention Longmore's *Optical Manual*, which we hope shortly to review; a third edition of Mr. Hartridge's book on *Refraction*; the papers on Affections of the Ocular Muscles in Knapp's *Archives* by Stevens; Higgens's *Ophthalmic Practice*; and Mr. Jessop's lectures at the College of Surgeons on *The Pupil and Accommodation*. The *Ophthalmic Hospital Reports* have contained some good papers, to which we have from time to time called attention; among these we may specially mention the papers by Messrs. Lang and Barrett on concomitant strabismus, and by Mr. Gunn on the organs of light perception and colour perception.

Obituary.—In Dr. Agnew and Dr. Loring we have lost two of our American *confrères* who are among those best known to English ophthalmologists. It is to be hoped that there are materials with which to complete Dr. Loring's *Textbook of Ophthalmology*, the first volume of which was so well received.

[1] JOURNAL, vol. ii. p. 1173.
[2] *Schädelbau und Kurzsichtigkeit.*
[3] JOURNAL, vol. ii. p. 892.
[4] *Centralbl. für Prakt. Augenheil.*, 1888.
[5] JOURNAL, vol. ii, p. 1089.

SUCCESSFUL VACCINATION.—Dr. Charles Williams, medical officer of the First District of the Bodmin Union has just received the Government grant for successful vaccination.

OBSTETRIC MEDICINE.

Introductory.—Puerperal Mortality.—The Etiology of Puerperal Fever.—Scarlatina and Puerperal Fever.—Puerperal Peritonitis.—The Third Stage of Labour.—Compression of the Fœtal Skull.—Pregnancy and Fibro-myomata.—Obstetric Therapeutics. —Miscellaneous Notes.

Introductory.—During the past year there has been no lack of earnest workers in obstetric medicine, and the progress made, if not so great or startling as that obtained in gynæcology, has nevertheless been sufficiently marked to justify the most sanguine hopes for the future. That a healthy state of activity exists amongst investigators in obstetrics is undeniable, and is proved by the many excellent papers contributed by workers of every age and professional standing to this important branch of medical science. In addition to much original research carried on by those well able to undertake such work, there have been reports of rare or abnormal obstetrical cases, many of them by men engaged in the arduous and multifarious duties entailed upon most practitioners.

Puerperal Mortality.—During recent years the mortality attending childbirth has shown a steady decrease, so that the maternal death-rate has fallen from the ten to fifteen per cent. of some years ago, to almost *nil* at the present day. Puerperal septicæmia, once the dread of the practitioner, is now gradually but surely being stamped out, and in the not distant future we may hope to see the mortality from this class of case reckoned, not by the fraction per cent., but by the fraction per thousand. The introduction of antiseptics into midwifery was indeed a very great stride, but it is to the more effectual carrying out of this system, and to its more perfect elaboration, that further and more brilliant results are to be looked for in the future. Epidemic outbursts of puerperal septicæmia have been greatly diminished, owing to improved hygienic surroundings and the introduction of antiseptics; whilst, if septicæmia should occur, our improved methods of treatment render the disease more tractable and less to be feared. Amongst the more valuable papers dealing with puerperal septicæmia, its prevention and treatment, we must note articles by Dr. Boxall and Dr. Cullingworth. Dr. Boxall's paper, entitled "The Conditions which favour Mercurialism in Lying-in Women, with Suggestions for its Prevention," is in reality an addendum to a paper on the same subject, read before the Obstetrical Society in 1886. This paper is founded upon observations made in 200 cases of women undergoing sublimate irrigation, and contains a tabulated series of eleven cases in which symptoms of mercurialism supervened. Sublimate solutions for irrigating the parturient uterus or vagina are unquestionably extremely valuable, and have been the means of cutting short many threatened attacks of puerperal mischief, nevertheless, we deem it only right to warn our readers against the use of too frequent or too powerful solutions.

The Etiology of Puerperal Fever.—Dr. W. R. Smith has recently published an account based on work carried out at the Brown Institution, of a streptococcus observed in puerperal fever. Experiments made so far confirm the observations made by Pasteur, Noeggerath, and others, in that all the observers have found a micro-organism in connection with puerperal fever; but it leaves undecided the question, whether all forms of this disease are caused by germs, or whether some cases may not arise from autogenetic causes. We must note, however, that the conclusions arrived at in this paper are not in keeping with those reached by Pfannestiel, who has also studied the subject. From the bacteriological study of several cases, he finds that the microbes of puerperal fever, phlegmon, erysipelas, and tonsillar angina cannot be differentiated from each other; and that a germ of angina, transplanted upon the genital passages of a parturient woman, will cause puerperal fever. In any case the experiments are valuable, and convince us of the importance of adopting strict antiseptic measures in every case of parturition.

Scarlatina and Puerperal Fever.—Dr. Boxall also read during the year another very valuable paper, entitled, "Scarlatina During Pregnancy and the Puerperal State." The subject is ably discussed in seven separate sections, and the conclusions arrived at are shortly stated. The labour involved in the article is great, the deductions fairly drawn, and the author is to be congratulated on producing a work, which is a distinct advance upon preceding contributions to this subject by Braxton Hicks, Wells, and Olshausen. As a work of reference it will be found invaluable for a long time to come. This subject has received attention not only in England, but also in Scotland; and Dr. Mackness has published a paper on some scarlatiniform rashes occurring during the puerperium. We have noticed under "Societies" how Dr Boxall's papers were made the subject of active discussion.

Puerperal Peritonitis.—The question as to the desirability of operative interference in cases of puerperal peritonitis with effusion into the peritoneal cavity is, as yet, in its infancy, and remains undecided. The advocates of this operation are hopeful, and can claim a certain amount of success; but, unfortunately, the mortality attending these operations is exceedingly great. That this high death-rate will in the near future be reduced we have great hopes; but much care will be necessary in selecting suitable cases, and in operating sufficiently early. Up to the present the disease has been allowed to run its course too long, and the surgeon only called in when the patient is *in extremis*.

The Third Stage of Labour.—Turning next to the mechanism of labour, we find earnest workers vying with each other in healthy rivalry in their endeavours to place the phenomena of labour on a firmer basis. This remark is especially applicable to the mechanism of the third stage of labour, which has been carefully studied by Drs. Freeland Barbour, Berry Hart, and Caldwell Smith. *The Third Stage of Labour*, by Dr. Freeland Barbour, is, as the author says, a criticism of papers by Professor Cohn and Drs. Champneys and Hart, who have all of them, within recent times, brought their views and observations before the notice of the profession. Dr. Berry Hart, in an article entitled "An Improved Method of Managing the Third Stage of Labour," insists on the importance of adopting a "watching treatment" in delivery of the placenta, and only employing manual compression of the uterus if the third stage be unduly prolonged, or if there be profuse hæmorrhage. We have no hesitation in saying that this is as it should be. Too frequently forcible compression of the uterus is employed the moment the child is born, and the placenta expelled in too short a space of time after the delivery of the fœtus. The efficacy of Credé's method for expulsion of the placenta is undoubted, but, in the large majority of cases, it is brought into play far earlier than is either necessary or right. Another contribution on mitral stenosis and the third stage of labour, by the same author, advances our knowledge of the treatment in these dangerous, but fortunately rare, cases. According to the late Dr. Angus MacDonald, the mortality attending these cases is 64.4 per cent., a death-rate which proves the seriousness of the complication. Hart, by adopting his method of treatment, which is opposed in many important points to that advocated by Spiegelberg and others, has reduced this mortality to between 33 and 34 per cent. Little attention has been paid in this country to cases of dystocia due to shortness of the umbilical cord. In America the subject has been discussed, and in Scotland Dr. Felkin has brought it before the profession in a paper on two cases of labour complicated by shortness of the cord.

Compression of the Fœtal Skull.—The effects of compression of the fœtal skull, with special reference to delivery in minor degrees of flat pelvis, has been studied by Dr. Milne Murray, who concluded that the fœtal skull is compressible in an antero-posterior direction: that this compression does not lead to an appreciable increase in the transverse diameter; and that the antero-posterior shortening is compensated by an elongation of the fœtal head in a vertical direction. Our knowledge on the obstetrics of dicephalous monsters is further advanced by an interesting memoir by Dr. John Phillips.

Pregnancy and Fibro-myomata.—Dr. J. Phillips has also contributed a paper on the management of fibro-myomata complicating pregnancy and labour. The Cæsarean section, Porro's operation, and Müller's ablation are ably discussed in this paper. Into the relative dangers or advantages of the Cæsarean section and Porro's operation we cannot here enter. Both operations have their advocates and their detractors. The important question for the obstetrician is, whether by either of these operations embryotomy can be avoided, and two valuable lives saved. It may not yet be desirable to go so far as to declare that embryotomy is justifiable only when there is a dead fœtus *in utero*; the results obtained by the improved methods of Cæsarean section, or by Porro's operation, perhaps hardly justify that conclusion; but we must mark the tendency there exists in that direction; and it will be generally admitted that if by either of these operations a live child can be brought into the world, and the valuable life of a mother saved, one of these two operations should be undertaken in preference to embryotomy.

Obstetric Therapeutics.—The effect of ergot in involution of the

uterus has been studied by Herman, and the results appear to us to demonstrate that the continued use of ergot during the process of involution of the uterus is to be deprecated. Blanc, a French physician, from the observations of the use of this drug in 200 cases of parturition, arrived at practically no conclusion; if anything, his investigations led him to believe that involution was retarded. Pilocarpine in labour receives attention, but the conclusions arrived at and the deductions drawn are hardly such as to encourage the use of the drug in any of the stages of labour. Cocaine, for the relief of pain in the earlier stages of labour, has been tried, but does not meet with general approbation; and the same may be said of antipyrin, though we are inclined to believe that further trial of this last drug will prove it to be of some service. Silico-fluoride of soda, or "salufer," as an antiseptic for intra-uterine or vaginal douches, is highly spoken of, and said to be most efficient. It has the advantage of being "a nearly perfect antiseptic agent," and, unlike the perchloride of mercury solutions, it does not roughen the hands, spoil instruments, or set up poisonous symptoms; while at the same time it is a very powerful germicide, and, according to Mayo Robson, a solution of "0.61 per cent. possesses greater antiseptic power for animal tissue than 1 in 500 perchloride of mercury solutions."

Miscellaneous Notes.—Electro-therapeutics in obstetric practice has not received the same attention in this country that has been paid to it in America, and deservedly so, though we do not doubt that it will find a useful, though limited, sphere in gynæcology. Other interesting articles which merit notice are, paralysis after delivery, puerperal aphasia intra-uterine amputations, the cause of head-downward presentations and of the first cranial position. Our knowledge of extra-uterine gestation has during the past year advanced considerably, though there still remains much to be learned, especially as regards its etiology and pathology. The treatment of this class of cases has passed from the hands of the obstetric physician to the abdominal surgeon, and will, therefore, be better discussed by the gynæcologist. The pathology of intra-uterine death and its preventive treatment was brought before the profession by Professor Simpson, at the annual meeting of the British Medical Association, held last August. The Dublin Medical School, this year as in the past, still maintains its high prestige for thoroughly sound obstetric work. Attention is drawn by Macan to the use and abuse of the forceps in midwifery practice, and More Madden, in a paper on myxoma of the chorionic villi, supports the views held by Spiegelberg and others as regards the pathology of this condition, but still remains undecided whether a vesicular mole can occur in a virgin uterus; indeed, he is inclined to reject the very generally expressed opinion, and to believe that it is possible for such a condition to occur in the unimpregnated organ.

GYNÆCOLOGY.

Compound Gonorrhœal Infection.—Emphysematous Vaginitis.—Sarcoma of Vagina in Children.—Prolapse of Ureters.—Treatment of Vesico-Vaginal Fistulæ.—Uterine Tumours.—Electrolysis in Uterine Disease.—Tubal Disease.—Laparotomy.—Mammary Atrophy.—Double Monsters.

In the passages of this annual retrospect which refer to the societies, much has been already said of gynæcological work. We have also made note of the contributions on abdominal section by Dr. Bantock, Mr. Tait, and others, which have recently appeared in the Journal. The year 1888 has been distinguished for much valuable clinical and pathological work.

Compound Gonorrhœal Infection.—As Professor Bumm's researches on compound gonorrhœal infection were not published in a collected form until December, 1887, they must reckon practically as new matter in our retrospect. Dr. Japp Sinclair has also written a work explaining the widespread nature of chronic gonorrhœa in woman. Nevertheless, many textbooks on surgery, recognising the grave sequelæ of that disease in the male, still refer to its appearance in woman as a relatively trifling affair.

Emphysematous Vaginitis.—Piering and Eisenlohr have specially studied emphysematous vaginitis. The latter claims to have discovered gas-producing bacteria.[1] Chiari's and Breisky's opinion that the rare affection in question is a disease originating in the lymphatic system of the vagina appears more comprehensible, but Eisenlohr's may also be true.

Sarcoma of Vagina in Children.—Dr. Schuchardt has described two cases of round-celled sarcoma of the vagina in childhood, and has collected seven previously recorded instances of that disease.

Prolapse of Ureters.—Dr. Caillé has written the history of a case of prolapse of the inverted lower extremity of the right ureter through the urethra of a female infant. A small tumour obstructed the ureter, and the pressure of urine as well as its own weight had forced the growth downwards, and caused the prolapse.

Treatment of Vesico-Vaginal Fistulæ.—The mention of the ureter reminds us of Dr. Bozeman's singular innovations. In cases of large vesico-vaginal fistulæ, he found that failure in plastic operations was due to the diseased state of the parts and the morbid condition of the kidney. Hence he arranged contrivances which kept the vagina from irritation by urine, and boldly washed out the kidney through the ureter. When the kidney and the vagina were made as healthy as possible, Dr. Bozeman repaired the fistula by a plastic operation. He now treats pyelitis and allied urinary diseases by making an artificial vesico-vaginal fistula, washing out the kidney through the ureter until the urine appears healthy, and then repairing the fistula. A new method of treating vesico-uterine fistula, devised by Dr. Champneys, is described in the paragraphs relating to the Obstetrical Society. Dr. Bantock, in a new edition of his work on *Ruptured Perineum*, declares, after long experience, that cases fare best when alcohol and opiates in any form are entirely discarded in after-treatment.

Uterine Tumours.—In respect to uterine affections, we must notice a case of true sarcoma of the fundus uteri, carefully described by Dr. Vignard. The attention of gynæcologists and obstetricians should be turned to Dr. Pernice's remarkable myo-sarcoma stric-cellulare uteri, which forms a racemose mass projecting from the os like a hydatid chorion. It is largely made up of cells resembling fœtal striated muscular tissue, and is essentially and excessively malignant. Several similar cases have recently been described. Dr. John Williams's Harveian Lectures for 1886 on *Cancer of the Uterus* have been published this year with a fine series of microscopical illustrations. The author still advocates supravaginal amputation of the cervix, excepting in primary cancer of the body, where he admits that total extirpation of the uterus alone offers hope of a radical cure. Dr. Williams also proves that the old "abrasion" or "ulceration" represents the replacement of the stratified epithelium of the outer part of the cervix by a structure resembling in its epithelial investment the mucous membrane of the cervical canal. Dr. Secheyron has written an exhaustive work on hysterectomy.

Electrolysis in Uterine Disease.—The question of electrolysis in uterine disease was the subject of animated debate at several societies. The method still has its faithful advocates.

Tubal Disease.—Turning to tubal disease, we must note Mr. Lawson Tait's work on *Ectopic Gestation*, which is, however, rather obstetrical than gynæcological. It should be carefully studied by all who take an intelligent interest in diseases of the female organs. Orthmann and Doran described last summer, almost simultaneously, cases of primary cancer of the Fallopian tube. The disease is characterised by the appearance of a sanious uterine discharge, with unilateral pelvic swelling. The latter observer has also noted a case in Dr. Bantock's practice of general papillomatous cystic degeneration of the tubes and ovaries, apparently a distant result of chronic inflammation of those structures. Dr. Chiari has carefully studied the pathology of chronic catarrh of the Fallopian tube. He substantiates Martin and Orthmann's classification of the different varieties of salpingitis. Dr. Chiari lays stress on certain nodules, sometimes attaining the size of a bean, which may obstruct the uterine end of the tube, and even cause tubal gestation. These nodules are not mucous or fibroid polypi, but products of inflammation.

Laparotomy.—We have already alluded to work during the past year in relation to abdominal section. Irrigation, or rather flushing, of the peritoneum with warm water and drainage are gaining over the spray and carbolic acid. Dr. Dunlap, of Ohio, has successfully performed abdominal section for the radical cure of hernia of the intestines from the duodenum to the sigmoid flexure in a child not an hour old. In January, Dr. Homans, of Boston, removed a multilocular ovarian cyst from a woman, aged 82. She made a good recovery. These appear to be the oldest and youngest authentic cases where abdominal section has been performed. Dr. Miner's case, where the patient is described in many textbooks as "aged 82," was, in reality, aged 32. The error was detected this year by the literary exertions of Drs. Billings and

[1] *Beiträge zur Pathol. Anat.*, vol. iii, part 1.

Lorini. Drs. Bantock and Holmes of Chicago, have both operated this year on rare cases of solid tumours of the broad ligament, which they have described. Poupinel and Bland Sutton have endeavoured to prove that the common multilocular and the dermoid ovarian cystic tumour differ only in that the cysts are lined in the former by mucous membrane, bearing more or less of the glands found in that tissue, in the latter by true skin with epidermic appendages. Mr. Sutton looks upon a Graafian follicle as a kind of mucous crypt. Mr. Thornton has written observations of fifty-seven cases of rotation of the ovarian pedicle in his own practice. Professor Schatz, of Rostock, operated a few years ago on Schröder's principle of leaving the sound part of the ovary behind, whenever possible, in ovariotomy. A large cystic tumour of the left ovary was removed entire, with the greater part of the tube. The right ovary was the size of a walnut, and showed signs of cystic degeneration. Three silk threads were passed between it and the broad ligament. The ovary was then cut away, a piece of ovarian tissue about two millimètres broad being left on the proximal side of the ligature. The Fallopian tube was left intact. There was great local pain during convalescence. Five years later the patient was delivered of a child at term. Many British operators will hold that this case must undoubtedly interest the physiologist, but will hardly feel inclined to imitate Schröder's practice.

Mammary Atrophy.—Amongst matters of detail relating to the special physiology of the female sex, we may mention Dr. Altmann's researches, which appear to show that the practice of bringing up children by hand, when locally universal, causes atrophy of the mammary gland to be extremely frequent amongst mothers. Dr. Auvard's paper on milk in relics of amputated breast, show that when a mamma is imperfectly removed, the patient may be put to great suffering should she ever bear a child after the operation.

Double Monsters.—We will conclude by noticing an extraordinary case in the practice of Dr. Whaley, of Alabama, where a a married woman, aged 19, whose body was completely double below the waist, bore a child in her left uterus. The right pelvic organs were well formed, and discharged all their functions. A good life-history of the case has been published, and photographs of the woman in childhood and adult life have been submitted to our inspection.

PUBLIC MEDICINE.

The Local Government Act, 1888.—Compulsory Notification of Infectious Disease.—Scarlet Fever.—Measles.—Enteric Fever.—Diphtheria.—Epidemic Pneumonia.—Tuberculosis.—Leprosy.—Epidemic Jaundice.—Albuminuria.—Industrial Diseases.—Water-Supplies.—Disposal of Sewage.—Vital Statistics.—"Back-to-back" Houses.—Sanitary Condition of London Districts.—Cholera.—Yellow Fever.—Small-pox and Vaccination.—Epidemics.—Spontaneous Cow-pox.—Revaccination.

The Local Government Act, 1888.—In considering the legislation of the past year, the most prominent position must be given to the "Act to amend the laws relating to local government in England and Wales, and for other purposes connected therewith." By that Act, to the discussion of which the greater part of the time of Parliament between March and August was devoted, and for the preparation of which Mr. Ritchie, as President of the Local Government Board, is responsible, a complete revolution is effected in our present complicated and unsatisfactory system of local government. The Act, as it received the Royal assent, is not so decentralising in its immediate effects as would have been the proposals contained in the original Bill. Its principal effect is to extend to the country at large the provisions of the Municipal Corporations Act of 1882, and to establish in each administrative county a council, elected on the "burgess" franchise, for the management of the administrative and financial business of the county. The judicial affairs of the county will still remain in the hands of the magistrates. Each County Council is empowered to appoint one or more medical officers of health, who shall be debarred from private practice, except with the express written consent of the Council, but whose services it will be open to the local sanitary authorities also to employ. Another clause provides that after January 1st, 1892, every medical officer of health must (with certain specified exceptions) produce before appointment a diploma in sanitary science (public health, or State medicine). The clauses in the Act which provide for the appointment of medical officers of health by the County Councils, and for the qualifications of medical officers of health for districts with populations exceeding 50,000, have given, and will give, to an even greater extent, that stimulus to the public health service which was so urgently needed. The circumstances attending the removal from office of Dr. Hime (Bradford), Dr. Lloyd-Roberts (Ruthin), and Dr. Bond (Gloucester), were sufficiently suggestive of the unequal bargain by which medical men in return for the most devoted service often obtain treatment which would be barely justified if they were defaulters or misdemeanants. There is now some prospect of the public health service of the country being placed on a more satisfactory footing, and of the services of its officers being better understood and appreciated by the public. The new Councils will have wide powers for readjusting the various areas of local government within their respective jurisdictions, and thus the greatest flaws in our present system, arising out of the multitude of overlapping areas, may, if intelligent and able men be elected to the Councils, be ere long remedied, and our local administration eventually put on a rational footing. London required, of necessity, some special treatment. The Metropolitan Board of Works will cease to exist on April 1st, 1889, and a new County Council, elected directly by the ratepayers, with jurisdiction over the same area, but having somewhat larger powers than the present Board, will take its place as County Council of London. Medical officers of health in the metropolis will be affected by the Act, inasmuch as the provisions of Section 191 of the Public Health Act, 1875, as to the appointment of such officers, are made to apply to the metropolis and the various vestries and district boards within it. The Metropolitan Asylums Board remains unaffected by the Act. The Coroners' Bill, by which the election of coroners will be vested in the County Councils, has become law; but other Bills bearing upon sanitary matters were deferred until the autumn session, and there is now no prospect of their passing.

Compulsory Notification of Infectious Disease.—The announced intention of the Local Government Board to introduce this session a Bill dealing with compulsory notification generally throughout the country has not been fulfilled. The Kingston Improvement Bill, which contained a clause for notification by the medical man, was strongly opposed, but the clause was ultimately approved by the Select Committee of the House of Commons, and the Bill was passed. Dr. D. Biddle, Acting Statist to the General Medical Council, has published statistics[1] to show that in certain towns where dual notification has been introduced, the death-rates from zymotic disease have risen in the period following the introduction; but it is evident that the number of years examined is too small to justify any positive conclusions on this head; and Mr. Armstrong and Dr. Mumby have shown[2] that, as regards the notifiable diseases, the death-rates have actually fallen in certain towns since the introduction of dual notification. No argument can be adduced either way from the figures presented, and the general question of dual or single (householders') notification remains untouched, and must eventually be decided on the broader grounds of general and professional expediency. The preferable plan is to throw the responsibility on the head of the household, leaving to the medical attendant the position of certifying expert. In France, the Comité Consultatif d'Hygiène Publique have approved the principle of compulsory notification, and have recommended the preparation of a Bill for this object. The list of notifiable diseases includes "infectious puerperal" and "septic diseases," and the duty of notifying is to be laid upon the medical attendant.

Scarlet Fever.—The scarlet fever epidemic in London (which reached its maximum in November, 1887) has continued uniformly to subside, and there has been no fresh outburst during the present autumn. Consequently, the strain upon the Metropolitan Asylums Boards' hospitals has been relieved, and the question of providing further accommodation has been shelved until another epidemic wave bursts upon the metropolis. In the country generally scarlet fever fatality continues to exhibit a steady decrease.

Measles.—A severe outbreak of measles has quite recently occurred in the Potteries; a correspondent gave an interesting account of it in the JOURNAL of November 24th, page 1180. At Hanley, Fenton, Burslem, and other places the epidemic appears to have been attended with a somewhat unusual fatality (10 per cent. of the cases attacked proving fatal at Hanley). Although this severity does not justify the exaggerated accounts

[1] JOURNAL, May 26th, p. 1141, July 21st, p. 160.

[2] JOURNAL, September 1st, p. 515.

which appeared in the public press, it is decidedly unusual in recent epidemics. A large proportion of the deaths resulted from the usual secondary complications of measles, and may be attributed, in all probability, largely to the poverty and the carelessness as regards infant life in general and this disease in particular which characterises the poor populations in manufacturing districts. In some instances defective sanitation of the houses appeared to have given the disease a truly malignant type. An epidemic of measles of a severe nature also occurred at Paisley during the latter end of the summer and the autumn. Here again the fatal cases occurred almost exclusively among the poor and ill-housed, who may be said to occupy the worst houses to be found in any of the large towns of Scotland.

Enteric Fever.—Enteric fever has been endemic in the Royal Barracks, Dublin, for the last ten years. Sir Charles Cameron and Dr. T. W. Grimshaw have presented a report to Parliament upon the condition of these barracks, and quite recently Mr. Rogers Field has been instructed to present an independent report. It seems to be admitted by the authorities that the barracks are insanitary and unfitted for their purpose, and that little short of demolition and reconstruction will meet the necessities of the case. Dr. Parsons has reported to the Local Government Board on an epidemic of enteric fever at Buckingham, which was traced to the entrance into the main water-pipe of a relatively minute quantity of the specific poison of the disease. The outbreak is therefore to be classed with those occurring at Caterham and Bangor, where a water, pure at its origin, became contaminated with small amounts of organic filth before distribution to the consumers, the amount of pollution being, in all probability, too small to be rendered evident by analysis. But other sanitary defects, such as defective drains and sewers, foul privies, houses unfit for habitation, were found at Buckingham, which probably play an important part in propagating the disease once introduced, and prevent the town from ever becoming quite rid of the scourge. An outbreak of enteric fever, occurring in 1887, is reported from Carlisle, and was traced by the medical officer of health to the milk-supply from a particular dairy. It was ascertained that a febrile disorder, having a very striking resemblance in its symptoms to human typhoid, had existed among the cows at the infected dairy on several occasions previous to the outbreak among the human inmates, and the last case of febrile disorder among the cows occurred just when the first death was reported as having taken place. The evidence as to the milk having been infected before leaving the cows is by no means conclusive; but any evidence as to the relation of cow maladies to human disease is deserving of the most exact study and the most careful record.

Diphtheria.—This disease has assumed serious proportions in the metropolis during the past autumn. Since the close of September there have been from twenty-five to forty deaths registered weekly. The disease has been especially prevalent in Fulham, Hammersmith, Bethnal Green and St. Pancras; but few London districts have altogether escaped. By the removal of the interdict of the Local Government Board, the Metropolitan Asylums Board have been able to make provision for the reception of diphtheria patients in their infectious disease hospitals. The Local Government Board still adheres to its opinion that the Metropolitan Asylums Board cannot legally admit such cases, this opinion being founded on the judgment of the late President of the College of Physicians that the term "fever" did not legally include diphtheria; but the Board has formally undertaken to sanction any expenditure the Asylums Board may incur in admitting cases of diphtheria into their hospitals. The difficulty being thus solved, the managers of the Asylums Board at once made arrangements for the admission of diphtheria cases under the same restrictions as apply to cases of fever and small-pox. The death-rate from diphtheria has been steadily increasing throughout the metropolitan and suburban districts. A notable instance has been brought to light by the report of Dr. Airey on an epidemic at Walthamstow.[3] In the West Ham registration district, with a population of 300,000, the death-rate from diphtheria has risen in fifteen years from 0.02 per 1,000 to 0.42 per 1,000—a more than twenty-fold increase. Some of this increase may be due to greater precision in diagnosis; but making even a large allowance for this factor, the facts are sufficient to justify a searching inquiry for the detection and removal of the causes of the increasing fatality of an eminently preventable disease. Outbreaks of diphtheria have been reported during the year at Enfield, Chelmsford Grammar School, Shooter's Hill, Walthamstow, Sandhurst, Camberley, and at Haileybury College, where reason was given for believing that the college well was liable to receive the soakage of surface pollutions. Official inquiries into outbreaks have been made by the Medical Department of the Local Government Board at Enfield, Walthamstow, Uckfield, Wincanton, Exmouth, St. Austell, Stratton, Midsomer Norton, Monmouth, Ashbourne, and other places. Obscurity as to the cause of the disease characterised each of these outbreaks, but school attendance and the intercommunication of children from infected houses with healthy children were in each case found to have conduced to the spread of the malady. Dr. Turner and Dr. Bruce Low have recorded cases where the infection was, in all probability, imparted by cats and other domestic animals suffering from diphtheria or an allied disease; and Dr. E. Barnes, in a very able paper,[4] has discussed the connection of diphtheria with insanitary surroundings, dampness of site of houses, and pre-existing cases of apparently non-specific sore throat.

Epidemic Pneumonia.—A large number of deaths from pneumonia at Middlesbrough during the early part of June attracted attention, and Dr. Ballard was directed to make inquiry for the Local Government Board. His report is not yet issued. A peculiar outbreak of febrile disease in St. Mary's Roman Catholic Industrial School for Boys at Glasgow was investigated by Dr. Russell. A number of these cases proved rapidly fatal, and the *post-mortem* appearances pointed to a specific poison allied to that of enteric fever, but with especial tendency to invade the lungs, producing a low form of pneumonia. The school was reported to be in a most insanitary condition as regards internal sanitary arrangements, overcrowding, and deficient external air space; an overcrowded graveyard also being in the close vicinity of the school. There was strong evidence that the disease arose from, and was propagated by, the aërial contamination which resulted from this combination of defects.

Tuberculosis.—The connection between human and bovine tuberculosis has been further elicited during the year. Dr. Sims Woodhead's research for the Grocers' Company Sanitary Scholarship, published in abstract in the JOURNAL of July 14th, tends to clear up much that was vague and unsatisfactory. The presence of tubercle bacilli in the milk of tubercular cows, and the extraordinary liability of stall-fed cows to suffer from this disease, are facts which warrant an effort being made to bring the disease under the operation of the Contagious Diseases (Animals) Act, with a view to prevent as far as possible the sale of infected milk. The French people have already set the example. The President of the French Republic has signed a decree providing that all animals of the bovine species suffering from tuberculosis are to be isolated. The meat is to be condemned if the tubercular lesions are generalised, and the sale of the milk of tubercular cows is absolutely prohibited.[5] A Congress for the study of tuberculosis assembled in Paris this year, and passed resolutions having for their object the condemnation of all meat derived from tubercular animals, and the enforcement of a special system of inspection of dairies. There can be no doubt that in this as in other matters this country will lose its position as a leader in sanitary reform unless it approaches such questions with the single desire for the public benefit.

Leprosy.—The question of the inoculability of the contagion of leprosy has been elucidated by the publication of the case of the condemned prisoner Keanu, who was inoculated on November 5th, 1885, in Honolulu. The President of the Board of Health and the Government physician of Honolulu certify that the man has become leprous, and there is every reason to believe that the disease is the result of the inoculation. Leprosy is reported to be slowly but steadily increasing in the city of New Orleans, and in the Baltic provinces in Russia, and if all the facts were known such would probably be found to be the case in many other parts of the world.

Epidemic Jaundice.—Eleven cases of what is called "epidemic jaundice" occurred in June and July in five families living in Parkhead, Glasgow. Two of these cases proved fatal. The disease, of which jaundice is the prominent symptom, appears to have been to a large extent due to faulty drainage, and adds another to the gradually lengthening list of diseases ascribed to this cause.

Albuminuria.—Dr. George Johnson has contributed two very important papers on albuminuria a frequent result of sewage

[3] JOURNAL, November 17th, page 1140.

[4] JOURNAL, July 28th, page 167.

[5] JOURNAL, September 29th, p. 725.

poisoning.[6] The cases cited go to show that albuminuria and destructive kidney disease may result from long-continued exposure to drain and sewer emanations, the morbid process being set in action by the efforts of the kidneys to excrete the poison and purify the system of the deleterious matters circulating in the blood.

Industrial Diseases.—An interesting paper on brassworkers' diseases has been contributed by Dr. R. M. Simon in the JOURNAL of April 28th, 1887. Dr. Simon shows that brassworker's ague is not ague at all, and is not in any way allied to malarial poisoning. The symptoms which caused Dr. Greenhow to designate the disease brassworker's ague are shown to be caused by the ingestion of a quantity of an irritant metal (copper and zinc) sufficiently large to cause vomiting and its attendant depression. The illness only occurs in those who are new to the work, or who resume work after an absence of a month or even a fortnight, and there are no hot or sweating stages as in true ague. The men who suffer in this way drink freely of milk and promote vomiting, the best treatment that could be devised for copper or zinc poisoning. Chronic copper poisoning is common amongst brassworkers, and bronchitis from inhalation of dust.

Water-supplies.—The prolonged drought of 1887, which threatened a serious water-famine in Manchester, Liverpool, and other northern towns, has been succeeded by an unusually wet summer in 1888, with the result of refilling the reservoirs, and rendering no longer necessary the reduced water-supplies which obtained during the early part of the year. Another evil result of last year's drought has been experienced in Sheffield, Bacup, and Chesterfield. A portion of the water supplied to these towns normally contains small quantities of vegetable acid derived from the oxidation of peat, but owing to the drought and the consequent insufficient dilution, the acids became sufficiently concentrated to give the water a highly solvent action on the lead communication pipes to the houses. Samples of water drawn from these pipes were found to contain lead in considerable quantities, and its injurious action has been evidenced by the extreme prevalence of lead-poisoning amongst the consumers. The remedies suggested are the filtration of the water through beds of limestone and flint to neutralise the acidity and to enable the water to dissolve those traces of silica which are believed to render inert the lead-dissolving action of such waters. The addition of quicklime to the water has been recommended to neutralise the acid, also the substitution of iron, tin-lined, or glass-lined pipes for the leaden communication pipes, and the filtration of the water by the consumer through domestic filters which are known to remove lead. Considerable alarm has been experienced at Belfast as to the condition of the water-supply, but the results of analysis tend to show that the organic matter present in the water is not derived from sewage impurities, but from vegetable peat, which is considered to be harmless. The metropolitan water-supply is still in a most unsatisfactory state, and the increasing demand for water, owing to the extension of the suburbs, is also a matter for serious attention. General Scott, the official water examiner, recently reported that in 1892 there will, at the present rate of increase of the demand, be a very narrow margin indeed between the quantity required for the metropolis and the quantity obtainable for that purpose from the Thames. Unfortunately the Bill which the Grand Junction Company introduced into Parliament early in the past session for powers to resort to the gravel beds near Windsor, summarily rejected by the House of Commons, was not referred to a Parliamentary Committee with a view to careful investigation and examination of skilled witnesses. By a recent legal decision the Staines local authority are still empowered to discharge sewage into the Thames within a few miles of the London water companies' intakes, or, rather, it has been decided that the defaulting sewers are not under the control of the sanitary authority, and that it is powerless to prevent the pollution. The cesspool soakage from the town of Staines goes on as before, and the Wey is still polluted with the sewage of Guildford. The Grand Junction Water Company's Bill for supplementing its supply from the pure water in the gravel and chalk at Dorney, between Windsor and Bray, has been rejected by the House of Commons, apparently on the supposition that tapping the sources of water flowing into the Thames at this spot would tend to unduly diminish the volume of the river. This company has been equally unfortunate in its endeavour to intercept the pure spring water in the gravel beds at Hampton, these sources being threatened with pollution by the erection of houses in the vicinity draining into cesspools. The power to close polluted wells has been seriously interfered with by the decision of the Birmingham bench of magistrates, who have construed the letter of the 70th Section of the Public Health Act rather than had regard to the whole spirit of the Act. They dismissed a case brought before them on the ground that actual injury to health from the use of a well water had not been proved, although the analyst's evidence showed that the well water was polluted with sewage, and therefore likely to be injurious to health. There is every reason to expect that if this decision is brought before the superior courts it will be reversed. If such should not be the case an alteration in the law is clearly necessary.

The Disposal of Sewage.—The precipitation works for the metropolitan sewage at Barking and Crossness are in active progress. These works will be left as a legacy to the new County Council, who may safely be excused for regarding the huge and costly scheme on which the Metropolitan Board of Works has embarked with some misgiving. Sir Henry Roscoe has been asked by the Metropolitan Board to advise them in the matter. His opinion, that the recommendations of Lord Bramwell's Commission will have to be adopted, and that the sewage, whether previously clarified or not, must either be filtered through land or discharged into the estuary at a point not higher than Sea Reach, was probably little relished by the Board. The Manchester City Council is pressing forward a scheme for the interception of the sewage of the city and its purification by chemical treatment outside the town. A somewhat novel and striking feature of the scheme is the proposal to relieve the outfall sewer by an overflow into the ship canal, which could pass the entire sewage if necessary. The effluent is to be made of a character satisfactory to the Canal Company, but will it be altogether so satisfactory to the dwellers on the banks of this tideless basin? A scheme is being mooted at Glasgow for the disposal of the sewage of that city by irrigation on a sewage farm.

Vital Statistics.—There can be but little doubt that in the seventh year from the census enumeration the populations on which birth- and death-rates are estimated must in many cases exhibit a considerable deviation from the actual truth. The Council of the Statistical Society has presented a very cogent memorial to the Local Government Board in favour of a quinquennial census, which deserves the most careful consideration of the Government. The death-rates for the present year in the case of the large towns must be accepted with a certain amount of reserve. For the first three quarters of the present year in the twenty-eight large towns of the Registrar-General, the birth-rate was 31.4 per 1,000, the death-rate 19.0 per 1,000, and the zymotic death-rate 2.27 per 1,000. In London the birth-rate was 30.8, the death-rate 18.4, and the zymotic death-rate 2.43. The death-rate of Manchester for the period in question was higher than that of any other large town, namely, 26.0 per 1,000, its zymotic death-rate being 3.18 per 1,000. The continued high death-rate of this city has attracted a considerable amount of attention; its rate of mortality is more than 50 per cent. in excess of that of the whole country. During the first quarter of the year, whooping-cough was very prevalent, and caused a large number of deaths, the rate of mortality being 1 per 1,000 in the provincial towns and 1.52 per 1,000 in London. The death-rate from scarlet fever in the twenty-eight towns was equal to 0.37 per 1,000, and 0.39 per 1,000 in London. Small-pox caused 393 deaths in the large towns, of which number Sheffield contributed 318. In the second quarter whooping-cough, scarlet fever, measles, and the different forms of fever showed a decreased fatality. Small-pox caused 152 deaths; of these 84 occurred in Sheffield. In the third quarter the fatal cases of diarrhœa in the twenty-eight towns were equal to an annual rate of 1.49 per 1,000, which was only half the average rate in the corresponding periods of the five preceding years, a decrease to be attributed to the cold, wet summer. The highest rates are recorded in Leicester (3.31 per 1,000) and Preston (3.89 per 1,000). The death-rate from fever was only 0.17 per 1,000, and was below that recorded in the corresponding period of any previous year. During the quarter 46 fatal cases of small-pox were recorded in the twenty-eight towns; of these, 23 occurred in Preston and only 5 in Sheffield. During the whole period under review, the diphtheria mortality has been in excess of that recorded in recent years. This has been especially the case in London, where the deaths have been equal to an annual rate of 0.26 per 1,000 against a rate of 0.18 per 1,000 in the twenty-eight towns. The average death-rate for the ten years 1871-80 in London was only 0.12 per 1,000, which was equal to the rate for the whole country. Small-

[6] JOURNAL, March 3rd, p. 451; July 14th, p. 71.

pox caused 7 deaths in London during the three quarters, and 67 persons only were admitted for this disease into the Metropolitan Asylums Hospitals.

Back-to-Back Houses.—A very interesting and useful investigation of this subject was recently made by Dr. Barry and Mr. P. G. Smith for the Local Government Board. Speaking comprehensively these inspectors reported that the practice of building houses back-to-back is common in many Yorkshire towns (for example, Dewsbury, Keighley, Morley, etc.); that the difference in cost between a house built on the "through" system and one built on the "back-to-back" system is very slight; whilst the adoption of the latter system gives rise to increased mortality from pulmonary disease, phthisis, and diarrhœa.

Sanitary Condition of London Districts.—As a result of philanthropic efforts of the Mansion House Council on the Dwellings of the People, the condition of Bethnal Green and Rotherhithe has been inquired into during the year by inspectors appointed by the Home Office. Increased sanitary supervision was found to be necessary in the former district, and seems to be needed also in the latter.

Cholera.—This disease has caused but little anxiety during the past year, except in Chili, where the mortality was very heavy during the earlier months. In India it has, of course, maintained itself in certain localities, the official returns showing that, up to the beginning of December, 1,600 deaths had occurred in Calcutta, 340 in Bombay, and 480 in Madras. Europe has been free from the disease.

Yellow Fever.—A terrible epidemic of this disease has recently prevailed in Jacksonville, Florida, U.S.A. The disease is supposed to have been lurking in the locality in the early months of the year, without becoming generally recognised; but it was not until 7th August that the first real case was admitted to exist in the town. For a few days the outbreak did not assume serious proportions, but by the 23rd of August it became evident that a serious epidemic had set in. Refuge camps were formed, strict quarantine measures imposed, fumigation and disinfection practised, but still the scourge rapidly increased. Up to December 1st cases continued to occur, but at this latter date the epidemic was practically at an end. Between August 7th and December 1st, 4,692 cases, and some 400 deaths, are reported to have occurred in Jacksonville. Cases of yellow fever also occurred at Hayti, and on November 14th the disease was officially reported to exist at Santa Cruz, on the island of La Palma, in the Canaries. This latter outbreak was, however, not serious, and only resulted in three or four deaths.

SMALL-POX AND VACCINATION.

Epidemics.—It will be remembered, that towards the end of 1887, cases of small-pox had arisen in many of the manufacturing towns in the north of England, the number of cases increased rapidly until they culminated in what is looked upon in the present day as an epidemic, but what in pre-vaccination times would have been considered as merely the normal amount of small-pox. In consequence of this outbreak, an inquiry into the special prevalence at Sheffield was instituted by the Local Government Board, under the direction of Dr. Barry, which, from the few figures given to the public by the President, promises to afford material for a very interesting report. It is to be regretted that, owing partly to the extended nature of the inquiry, and partly to the deficient number of the staff of the Board, the report will certainly not be presented to Parliament till after Christmas. The epidemic will have been productive of beneficial results if it shows how utterly unprepared were many of the large northern towns as regards hospital accommodation for infectious cases, and how the neglect to isolate the earliest cases caused an epidemic which might have been avoided had proper accommodation been available. Owing to an epidemic of small-pox, the authorities in Hong Kong have passed a law to enforce the vaccination of infants, and it also appears that the people themselves are strongly in favour of the practice of vaccination. In Milan, where no compulsory law exists, we learn that small-pox has not been absent from the city for some years, and in July last the disease had become epidemic to such an extent, that out of a population of 380,000, there were at least 1,000 cases known to the authorities. As usual in times of panic, the people were being vaccinated in large numbers, and now when the epidemic has to a great extent subsided, a central depôt for the supply of vaccine lymph is to be opened. This of course is very good as far as it goes, but it is a matter of experience that where there is no compulsory law a large number of persons will never be influenced by anything else except panic.

Spontaneous Cow-pox.—An interesting point bearing on vaccination, was raised by Professor Crookshank, who in his investigations into the relation of cow maladies and milk scarlet fever, arrived at the conclusion that the Hendon cow disease, which gave rise to the well-known outbreak of scarlatina in Marylebone, was in reality Jennerian cow-pox. It will be remembered that last year Professor Crookshank discovered on a farm in Wiltshire some cows having an eruption which was communicated to the milkers, and which in some respects resembled cow-pox as described by Jenner and Ceely. Calves were experimentally inoculated with this disease, one of which was exhibited at the Pathological Society. However, subsequent inoculation of these calves with the vaccine in use at the Government station proved that they had not been rendered immune to cow-pox, and the exact nature of the Wiltshire disease was therefore left in some obscurity. Professor Crookshank also attempted to show that the micro-organisms found in the Wiltshire disease and in the Hendon disease were identical, and he based upon this the opinion that they were septic in their nature.

Revaccination.—In view of the fact that of late years it has become more and more evident that even an efficient primary vaccination has a tendency to lose much of its protective power before the age of puberty, the Local Government Board issued in February last an order which modifies the previous one of 1868, in that now revaccination by a public vaccinator may be performed under ordinary circumstances at the age of 12 years, and in case of immediate danger from small-pox at 10 years. Another very important point is that the recent order enables the vaccinator of a workhouse to revaccinate the children at any age below that specified, if he considers their primary vaccination to be inadequate. Considering the large amount of inefficient private vaccination, this order will, we hope, afford the public vaccinators the opportunity of giving children proper protection at an earlier age than was previously allowed.

NAVAL AND MILITARY MEDICAL SERVICES.

THE MEDICAL SERVICE OF THE ROYAL NAVY:—*Rumours of Change.—Curtailment of Shore Appointments.—Strength.* THE ARMY MEDICAL STAFF:—*Relative or Substantive Rank.—Extension of Period of Foreign Service.—Diminution of the Active List.—Army Medical Reserve.—Brigade-Surgeons.—Obituary.* THE INDIAN MEDICAL SERVICE:—*The Strength of the Establishment.—The Netley Medical School.*

THE MEDICAL SERVICE OF THE ROYAL NAVY.

Rumours of Change.—In last year's Retrospect it was noted as a subject of congratulation that there were few facts worthy of the chronicler connected with the naval medical service. This year is almost equally barren of topics of interest, not but that there have been rumours of organic changes and reductions, as in the army, all of which, however, have as yet led to little.

Curtailment of Shore Appointments.—One of the most important changes announced, which we believe will be carried out, is the further curtailment of shore appointments, such as to hospitals and divisions of the Royal Marines. Formerly these appointments were for three years, then for two, and they are now to be cut down to one year only, the object being to spread them over a greater number of officers. We fear, however, that in the desire to attain this, by itself, reasonable object, the curtailment has been carried too far. Naval medical officers urge that two years should be the minimum, because the officer will hardly have had time to know his duties and his patients when he will be off again, and because such appointments will be practically worthless, especially to married men, who could not afford to set up a family establishment for one short year. We trust these apparently valid objections will meet with consideration.

Strength: Director-General.—Death has claimed a certain number of victims both in the retired and active lists; but, unlike the army, the total numbers have been fairly maintained by the admission of young officers during the year. During the early part of the year, Inspector-General Dick, C.B., succeeded Sir John Watt Reid, K.C.B., as Director-General. The latter carried with him into private life, not only the esteem of his colleagues, but of a large circle of friends, who recognised in Sir John one of the most kindly and urbane of men.

THE ARMY MEDICAL STAFF.

Relative or Substantive Rank.—Unlike the naval, much could be written on current topics connected with the military medical services. Again and again has rumour threatened the Medical Staff with changes, almost revolutionary, which, even if partially foreshadowed, have not yet come about. The commotion of 1887 on the abolition of "relative rank" extended into 1888, but soon, in a measure, died down; not, indeed, because a final settlement of the difficulty had been found, but rather because the War Minister, having already been placed in possession of many important facts, was known to be seriously considering the question, and it was felt would doubtless bring an impartial and judicious mind to bear on the subject. Mr. Stanhope has recently said that he had not yet decided what should be done, and defers any statement until the next financial year. He says he considers the grievances of medical officers more sentimental than substantial, but will not ignore sentiment. This is right; sentiment is the very life of an army. What is *esprit de corps* but sentiment? As no one knows where the shoe pinches but the wearer, we trust he will bring himself into full touch with the younger part of the executive of the Medical Department before coming to any fixed conclusions. A concession in itself good has been made by stating the relative military rank of medical officers on their names appearing in the *Gazette*. This is no doubt, for official purposes, of value, but it does not touch the civil and social aspects of the meaning conveyed by military titles. It still remains, as we have hitherto maintained, that medical officers require military titles—be they simple or compound—which shall clearly show, both in army and civil life, the military status of the bearer. This demand is very reasonable, and, if granted, would go very far to entirely obviate the false positions in which medical officers constantly find themselves through anomalous and misleading departmental titles.

Extension of Period of Foreign Service.—The period of foreign service for members of the Medical Staff has been extended one year, and is now four and six years at various stations. We have never been able to see what good this will do, and it remains to be seen whether it will work well or ill.

Diminution of the Active List.—The entry of candidates for the Medical Staff has been entirely stopped during the year, consequently there has been a steady, if not rapid, diminution of numbers on the active list. This has chiefly arisen from retirements of Brigade-Surgeons and senior Surgeons-Major, many of whom have apparently cleared out in case the talked-of "reasonable time" of service in a rank before the pension thereof could be claimed, should in some cases place a practical veto on voluntary retirement. As the active list has become depleted, so more retired officers are appointed to various half-pay billets at home.

Army Medical Reserve.—In view of these reductions of the active list, we are curious to see what provision will be proposed for the sudden mobilisation of one or two army corps. Probably in this connection some scheme for the employment of the recently instituted Army Medical Reserve, formed from quasi-civilian surgeons of militia and volunteer regiments, will be instituted. We have hitherto objected to the very crude way in which this reserve has been formed. There is no innate objection to this reserve in itself, but we maintain, in justice both to the regular and auxiliary forces, the medical officers composing it should be either altogether disassociated from or made supernumerary in their corps; otherwise the reserve must be held to be a merely paper one, because its members are counted twice over, and cannot by any arrangement be available in "national emergency" in two places at once. Furthermore, it is mainly made up of men in private practice, surrounded by civil obligations, and the difficult and delicate question remains unsolved, how far and in what manner these reservists can be compulsorily held to service.

Brigade Surgeons.—The continued ignoring, in a financial sense, of the rank of brigade-surgeon in India seems quite indefensible, as the claims of these officers have been freely admitted by all the Indian authorities individually, although as yet unredressed collectively.

Obituary.—The mortality in the active and retired lists of the Medical Staff has been moderate. Among the old officers who have passed away we note Inspector-General Hume, Deputy-Inspectors Bradford, Baxter, Bacot, and Fraser; Surgeons-General Crocker, Huntley, Gordon, and Stewart; Deputy Surgeon-General Chapple; Brigade-Surgeon Sir Samuel Rowe; Surgeon-Major De Chaumont. Sir Samuel Rowe was for many years Governor of several of the West Coast settlements, and proved himself a man of much administrative ability; he succumbed during his final tour in these unhealthy regions. Of Professor De Chaumont, whose early death was much deplored, it may be said he was a man of commanding intellect; he was many-sided, and gave his mind to nothing he did not or could not adorn; not only great in his own particular functions, his friends knew him as a first-rate mathematician, an excellent linguist, and a good musician; he was also a man of brilliant conversational powers, and of a most kindly, sociable nature.

THE INDIAN MEDICAL SERVICE.

The Strength of the Establishment.—The Medical Service of the Indian Army has been pared down to the quick, and on the score of economy has, during the past year, been kept even more short-handed than usual.

The Netley Medical School—The most important matter touching this service is the threatened action of the Government of India in withdrawing the young medical officers from the course of special instruction in the Army Medical School, and sending them out to India as raw material, direct from the civil schools, to pick up as best they can all the specialities of their calling. We have in the course of the past year more than once referred to this important question, and criticised the action of the Surgeon-General of the Bengal Army in regard to it. In so doing, some expressions were used which gave pain to this officer's friends and brother-officers, which we regret. Nothing is more certain than that a cause, however good, is not advanced by the use of epithets. We feel as strongly as ever that the Surgeon-General, in tendering the advice he gave to his Government on this subject, struck a heavy blow at the status and efficiency of his service, but, all the same, we regret the use of some expressions needlessly offensive to him. The *Times* published a letter under the signature of "Civis," in which the writer, in the name of some unknown authorities in India, made an attack on the utility of the Netley teaching, and advised the Secretary of State to send the young medical officers for Her Majesty's Indian Army direct to India without any special instruction at all, on the ground that this could be better given in that country in the Presidency medical schools, which are simply civil schools, in no respect differing from those in which the young medical officers received their purely civil medical education. It is an open secret that the attack of "Civis" was followed up, or preceded, by a communication from a retired Bengal medical officer, addressed to the Secretary of State, in which the same advice was given. It is, we understand, a fact that the Professors of the Army Medical School were not favoured by this gentleman with any information as to the nature of the attack made on their teaching. Happily, judgment on this question has not been allowed to go by default. Retired officers of the Indian Medical Service no sooner saw the letter of "Civis" than they hastened to inform Lord Cross and the members of his Council that if the advice of that anonymous writer were followed, it would be fatal to the efficiency and prestige of an old and honourable service. We believe that when the matter comes up for final settlement, the judgment of Cornish, Waring, Partridge, Fayrer, Alexander Grant, Maclean, Birch, and others who have addressed Lord Cross on the subject, supported by the opinion of some of the leading members of the profession, will more than outweigh that of "Civis" and his coadjutor, the retired Bengal medical officer referred to, who, it is well known, never did a day's military duty in the course of his service, which was purely civil from first to last, and confined to Calcutta, and that reason and common sense will prevail. The *Times of India*, the most influential newspaper in the west of India, has a powerfully written article on this question, in which the writer denies that "Civis" has any right to speak in the name of India, and deprecates the proposal made by that writer as one fatal to the best interests of the service. It is probable that the matter will have been settled, one way or the other, before this article appears.

An exhibition of the culinary arts has been opened at Brussels by the Countess of Flanders, and will remain open till the beginning of next month.

Security of Life from Fire.—The Metropolitan Board of Works is in communication with the Chief Commissioner of Police with a view to permitting light ladders and fire-escapes to be kept at each police station.

MEDICAL EVENTS OF THE YEAR IN SCOTLAND.

EDINBURGH.

The Scotch Universities Bill.—Public Health.—The University of Edinburgh.—The Royal Colleges of Physicians and Surgeons of Edinburgh.—Edinburgh Medical Schools.—The Societies.—Nursing of the Sick Poor.

The Scotch Universities Bill.—Early in the year a Scotch Universities Bill was introduced into the House of Lords, apparently under the happiest auspices. Never did a Bill succeed as well in winning the united sympathy of the many factors which constitute the University body politic. It outlived the ample criticism of friends and foes, and after full discussion in public and *in camerâ*, safely passed the Upper House. But during these second six months, this luckless follower of many abortive efforts has made less evident progress, and the present state of Scotch parliamentary business gives slender encouragement as to its ultimate destiny.

Public Health.—Questions of hygiene have been prominently before the profession during the past year. The Scottish Branch of the Society for the Registration of Plumbers has done its best to ensure that the sanitary condition of dwelling houses is provided for. A large proportion of the plumbers of Edinburgh are certified by the society. An outbreak of epidemic sore throat, especially in connection with one of the leading public schools, concentrated attention afresh on the relation alleged to exist between scarlatinal and other varieties of sore throat and the ingestion of infected milk. As in the case of the scarlet fever epidemic, the evidence was rather presumptive than actual. But the inquiry ventilated the subject anew, and afforded opportunity of again stimulating the authorities in the direction of a more rigid supervision of dairies and milkshops.—The question of the relation of bovine tuberculosis to consumption in man was under discussion by the Medico-Chirurgical Society of Edinburgh. While there was considerable difference of opinion in matters of detail, the general conclusions reached were similar to those arrived at by the Congress on Tuberculosis at Paris. The leading proposition of practical moment was, that it seemed to the Society desirable that tuberculosis should be included in the list of contagious diseases in animals. To give effect to this finding, the Society resolved to memorialise the Privy Council on the subject, with the result that the President of the Royal College of Physicians of Edinburgh and the city medical officers were cited to give evidence in support of the views of the Society. These views have now received the favourable consideration of the Privy Council. The Society also had under consideration the advisability of bringing the matter more cogently under the notice of the city authorities, with a view to obtaining a system of strict inspection of cowhouses and dairies.—The Social and Sanitary Association has instituted a more or less searching inquiry into the state of the houses of the poor, and has made suggestions of a practical nature, whereby these may be improved. The necessity for diligence in this department has been further impressed on the authorities by an outbreak of typhus fever, which for many years has been rather a stranger in Edinburgh.

University of Edinburgh.—The number of matriculated students of medicine attending the University of Edinburgh has this year shown a further increase. The only change in the professoriate has occurred in the department of Botany, where the vacancy caused by the sudden and lamented death of Professor Dickson has been filled by the appointment of Professor J. B. Balfour, Sherardian Professor of Botany at Oxford, and formerly Assistant in the Edinburgh University. In the Parliamentary representation a vacancy was caused by the promotion of the Right Hon. J. H. A. Macdonald, Lord Advocate, to the office of Lord Justice Clerk. By a unanimous vote of the Council, Mr. T. M. Stormonth Darling, Solicitor-General for Scotland, was returned to Parliament in his room. The University buildings have still further progressed. The old buildings have been much enriched by the erection of a classic dome, surmounted by a colossal statue of Youth bearing the torch of Learning and Science, which completes the original design. The new buildings are also advancing towards completion, and earnest preparations have been made for the commencement of the new academic hall, the munificent gift of Mr. McEwan, M.P. Already the great row of unsightly houses in Park Place has been levelled, and the foundation of the hall will shortly be laid.—The Students' Union, a quaintly pretty block by Mr. Sydney Mitchell, architect, has been completed, and only waits for available working funds. The Edinburgh students are playing a much more important part in the University polity than formerly. Through their Representative Council they have asserted a position never dreamt of before. No University regulation is left unrevised, and every department has been reminded of their powerful censorship. So far it is freely admitted that the inauguration of student representation, happily suggested by the late honoured Principal of the University, has been eminently successful. The position thus successfully attained will be kept if the Council is sufficiently alive to the danger of interfering with matters which do not concern it. It has undoubtedly produced a healthier *esprit de corps* than existed in Edinburgh formerly. This has given effective aid in times of difficulty towards maintaining academic discipline and order. As an outcome of the Council's deliberations, important reforms in the medical curriculum have been initiated. The limitation of the term of study allotted to the preliminary scientific subjects has been a great gain, and there is reason to believe that this gain will be further augmented. The present scope and possibilities of clinical teaching have been the subject of a Special Commission, as proposed by the Council. This Commission has made a number of suggestions whereby the large amount of available material may, by better distribution, be more fully utilised.

The Royal Colleges of Physicians and Surgeons of Edinburgh.—The Royal Colleges of Edinburgh, while expressing the opinion that there was no sufficient cause for the movement inaugurated by the Royal Colleges of England in favour of the bestowing on those Colleges of the right of granting the degree of M.D., have memorialised the Queen in Council in favour of the powers being accorded to the Edinburgh Colleges as may be given to the sister Colleges in England. An attack has been made on the exclusive right which attaches to Fellows of the two Edinburgh Colleges of holding infirmary and similar posts in the city. It has been moved in the University Council that, in respect of the public charities, no preference should be given to the Fellows of the Colleges which is not likewise accorded to Doctors of Medicine of the University. The matter has been referred to the governing bodies of the institutions.—The Research Laboratory of the Royal College of Physicians, of which a full description was published in the JOURNAL, has more than justified its existence. The number of workers is remarkable, and the results already published abundantly prove that the spirit of research has not departed from Edinburgh. The liberality of the College, the enlightenment of the Laboratory Committee, and the enthusiasm and energy of the superintendent have secured for Edinburgh a working laboratory second to none in the kingdom.

Edinburgh Medical Schools.—The Edinburgh Medical School has continued to increase in importance. During the last twelve months several new lecturers have been added to the staff, and the number of students has shown no tendency to diminish. An important feature of progress in the school has been the institution of special courses on particular branches of medicine. These have been much appreciated, and are tending undoubtedly to detain Edinburgh graduates and licentiates around their own school, with a view to the higher professional training, to a degree that was never attained before. The post-graduate classes have had a similar effect, and their success has grown from year to year. It is to be regretted that the course is so limited in point of time. Such classes should run more or less throughout the entire year, and graduates of Edinburgh should be made to understand that their own University is prepared to offer as great advantages as any other for the further prosecution of their studies.—The Edinburgh School of Medicine for Women has now a fairly complete curriculum. The students have been sufficiently numerous to afford its promoters encouragement for the future. The Leith Hospital has again been at their disposal for clinical work.—The Dental Hospital has resolved to extend its boundaries. A fresh building has been obtained in close proximity to the Royal Infirmary. It is expected that this move will bring the two departments of the profession into closer relations, and that medical students, in greater numbers, will avail themselves of the unusually good opportunities which the Edinburgh Dental Hospital affords. Arrangements have been made whereby the students of the infirmary shall in future have more ready access to the work of the hospital.—The Royal Infirmary and the Edinburgh Medical School have sustained a great loss by the removal to London of Dr. Thomas Keith. The special and unique post which he held in the Royal Infirmary, which attracted a larger circle of foreign visitors than any other, has ceased to be, and

Edinburgh realises more fully than before what an ornament Thomas Keith was to its medical school.

The Societies.—The various societies have all been doing good work. The Medico-Chirurgical has had several important discussions, notably that on bovine tuberculosis in relation to consumption in man, to which reference has already been made. Many papers of interest have been read, and an effort has been made to awaken fresh life by the encouragement of greater freedom in discussion. The Obstetrical Society has been similarly rich in excellent papers. It is now celebrating its jubilee year. The Royal Society has given indication of greater interest in biological questions than previous sessions have witnessed. The colder problems of mathematics and physics have been pleasingly relieved by papers of a physiological character. The Pathological Club has increased its membership from twenty-five to thirty, and there has been keen competition for a place in the ranks. During the last few months another society has been projected in Edinburgh, to be called the Microscopical Society of Scotland. The membership has already reached over 100. The list includes most of the eminent men of science from the various centres in Scotland. The regular meetings of the Society, it is expected, will commence early next year.

Nursing of the Sick Poor.—The Scottish Branch of the Queen Victoria Nurses' Institute has inaugurated its work. An influential Committee has been formed and a lady superintendent has been selected. Large funds are necessary before the actual work of nursing can be undertaken to any great extent. Meanwhile, Edinburgh is well provided with able and zealous nurses, who, supported by private aid or charitable organisation, are ministering to the poor with praiseworthy devotion.

GLASGOW.

The Annual Meeting of the British Medical Association.—The University.—The Extra-Mural Schools.—Queen Margaret College.—The Infirmaries.—The Extension of University Teaching.—Public Health.—Ambulance.—Burial Reform.—Learned Societies.—Lunacy in Scotland.—Paisley, Dundee, Aberdeen.—Obituary.

The Annual Meeting of the British Medical Association was the great medical event of the year in Glasgow and the west of Scotland. Many circumstances contributed to make it a most successful meeting. The university authorities, the civic authorities, the Faculty of Physicians and Surgeons, all exerted themselves, and vied with one another for the comfort and entertainment of the Association. The International Exhibition, then being held in Glasgow, was situated in the West End Park, which is crowned by the University buildings, where the Association met. The Exhibition Executive also lent their aid to make the meetings successful from the point of view of pleasure, and so members, tired of papers and discussions, had always a pleasant place of retreat open to them. The annual meeting afforded a fitting opportunity for pausing to take note of the rate and direction for advance, and for taking a general survey of the situation. Many look forward to such meetings for aid in this effort, and probably many will associate the Glasgow meeting, in its medical aspects, with clearer views of the surgery of the central nervous system which the address of Dr. Macewen guided them towards. In all the sections an enormous amount of work was done of a solid and enduring kind. The Senate of the University paid its tribute of respect to the Association by conferring the degree of Doctor of Laws on Sir William Aitken, Dr. Clifford Allbutt, Professor Ball (Paris), Dr. J. T. Banks, Dr. Fordyce Barker, Dr. Moritz Benedikt (Vienna), Dr. Thomas Bridgwater, Dr. John McIntyre, whose generosity presented to the University the buildings for a Students' Union, Dr. Wm. Campbell Maclean, C.B., Dr. Morton (President of the Glasgow Faculty), Dr. Pavy, Sir G. H. Porter (Dublin), and Dr. David Yellowless (Glasgow).

The University.—Prosperity still attends the Glasgow University, and peace and felicity within and without her borders have been hers. The classes are still overflowing, though the total number of matriculated students is somewhat lower this year than last. This is usually the case when the tide of commercial prosperity begins to flow after a period of ebb. Business Glasgow is everywhere in congratulation over an improved appearance of trade, and so the number of students is, as usual, somewhat diminished. The diminution, so far as it affects the medical faculty, is experienced only in the first year classes, the senior classes being all very large. The Universities Bill, each time it has been presented to Parliament, has been an advance on its predecessor. The recognition of affiliation, the enlargement of the University Court, the making of it a more thoroughly representative body, the withdrawal of financial control from the Senate and giving it up to the reformed court,—these concessions have so pleased the reformers, that they are now content to wait the appointment of a Commission to realise their ideals still more. The University authorities have made their concessions, on the whole, gracefully. So the reformers without the walls wait for the Bill, and the reformers within the University also wait for the Bill, and thus there is no advance to be chronicled in the foundation of new chairs, in the enlargement of the teaching staff, or in the addition of laboratories or other aids to more practical work. Pathology, bacteriology, hygiene, and many other modern extensions of scientific medicine are still untaught within the walls. In accordance with the bequest of the late Lord Gifford, a lecturer on natural religion has been appointed. The choice fell upon Professor Max Müller, whose lectures have drawn large and interested audiences, not confined to students.

The Extra-Mural Schools also wait the issue of the University Commission. Meanwhile, they continue to carry on their work quietly and steadily. The endeavour to make a college of the Royal Infirmary Medical School is being pushed forward. An application has been made to have it incorporated under the Companies Act as St. Mungo's College, whose principal objects shall be the teaching of science, literature, art, and learning of every description, and to establish laboratories, museums, and libraries to support or to amalgamate, wholly or partially, with similar institutions, or to become affiliated with any Scottish university. A vigorous effort is to be made to raise endowments. Anderson's College Medical School must move westwards within another year to leave the buildings it at present partly inhabits free for the Technical College. Its site, at the foot of the University hill, and in the immediate neighbourhood of the Western Infirmary, is an excellent one for the purpose, and the new buildings, scarcely yet begun, must be open for occupation next November. In the chair of materia medica and therapeutics, Dr. Alexander Napier succeeds Dr. James Morton, resigned.

Queen Margaret College.—The effort to endow this college for women has, during the past year, made some progress. Over £12,000 of the £20,000 required have already been raised. This winter a special effort to complete the endowment is being made, as it is plain a greater measure of success can hardly be looked for in the work or the College till it is put on a permanent footing. The accomplishment of the endowment scheme would enable a full curriculum in arts to be established, which would justify affiliation with the University for degree-granting purposes.

The Infirmaries.—The Royal Infirmary records the completion of its Nurses' Home, which liberates for the use of patients 40 beds. The Sick Children's Hospital has also undergone great extension, which raises the available number of its beds to 70, and a large and well equipped dispensary in connection with it has now been opened. The new southern hospital, the Victoria Infirmary, makes rapid progress. Governors have now been appointed, and in a year it is hoped that it will be opened with accommodation for 80 beds. It ought to be recorded that, in in April, Dr. M. Cameron performed at the Maternity Hospital the Cæsarean section, saving both mother and child, the first completely successful case in Glasgow.

The Extension of University Teaching has made distinct, if not rapid, progress in Glasgow since last year. An extension board is now in existence, courses of instruction are offered under university recognition to towns in the neighbourhood of Glasgow, as well as to parts of the city at a distance from the University. Paisley and Greenock have been the first to take advantage of the facilities offered, which, by the way, also include a university certificate, after examination by duly appointed examiners, open to regular students of a course of lectures. The institution of courses of evening lectures at the University to both sexes, at a moderate fee, is, perhaps, the most noteworthy step in advance. Only three of such courses are to be held this session, but a large number is promised for next session should the present tentative series meet with any success. The subjects—astronomy, principles of structure of vertebrate animals, and political economy—are scarcely the best wherewith to test the probable success of such university evening classes; and it is urged by some that if the throwing open of the University to the people had

been accomplished in a more thorough and less niggardly fashion, a large measure of success would have been attained.

Public Health.—During the past year questions of public health have aroused more than usual interest. This has been the result of various circumstances. Chief of these was the outbreak early in March of a mysterious epidemic in a Roman Catholic industrial school for boys and girls in the east-end of Glasgow, the details of which have appeared in the JOURNAL. Three epidemics of scarlet fever have been clearly traced by the sanitary authorities to infected milk, one in Garnethill, one in the suburb of Pollokshields, and one in the neighbourhood of the West-end Park; of these, the first seemed undoubtedly associated with disease in the cow. In Paisley, early in the year, an outbreak of enteric fever occurred, causing in one week no less than fifteen deaths, and in the autumn measles prevailed to an extraordinary extent, and has brought into prominence the very high mortality of that town. The result of public discussion has been the bringing of the local authorities concerned to a deeper sense of their duties than seems to have characterised them hitherto. In Greenock prevalence of scarlet fever, largely due to concealment, has helped to show the necessity for compulsory notification of infectious disease. In the Glasgow epidemics the speed with which the extent of the disease was determined, and its origin traced out, and the publicity given to the facts, have done much to educate the public mind on the subject. To these causes of the deepening of the public interest in the question of public health must be added several lectures delivered by the medical officer of health, Dr. J. B. Russell, in connection with the Philosophical and other Societies, on the physical conditions in which the poor live. So startling have been the facts communicated time after time by Dr. Russell, and so convincing their method of presentation, that the subject has passed beyond philosophical and literary societies, and has become the topic of discussion in town council meetings, church courts, newspaper columns, and social gatherings. Sundry proposals, yet inchoate, have been offered as to how these conditions can be remedied, which, if acted on before public interest has had time to die down, may result in general amelioration of the circumstances of the poorest class. Small-pox, in isolated cases, has put in appearance at sundry times in different parts of Scotland, twice in Glasgow. In Inverkeithing in Fifeshire, a few sporadic cases occurred in March. In Kilmarnock, in June, one case occurred. Both this and one of those in Glasgow occurred in football players from Preston. In Port Glasgow also a case occurred in February. In Glasgow, the death-rate, in spite of sundry outbreaks of scarlet fever, typhus fever, and measles, has been kept at a satisfactorily low rate. The rate in 1887 was 23, the lowest recorded since the commencement of registration. The population of the city has since last year increased by 7,440 souls, and Dr. Russell now estimates the population (excluding suburbs) at 545,025 persons.

Ambulance.—The ambulance movement has, during the past year, undergone a new development. Ambulance instruction was, during last winter, given to the boys of one of the many companies of the Boys' Brigade now in Glasgow, and proved of such interest to the lads that it was quickly taken up by other companies, till a total of 258 boys were under instruction in separate classes of, on an average, 25 each. The St. Andrew Ambulance Association undertook the examination of these classes, and passed 217 of the 258. The instruction was willingly given by some of the younger medical men, all of whom have testified to the remarkable willingness and even eagerness of the boys to learn. It is intended in the near future to extend the instruction to some of the elementary facts and principles of hygiene. In two instances most valuable assistance has been rendered by lads so trained in cases of accident on the public street.

Burial Reform.—The attention directed to the methods of pit burial, in consequence of the overcrowding of some cemeteries in the neighbourhood of Glasgow, has led to the formation of an Association for Burial Reform. This association is at present considering the advisability of erecting a crematorium in Glasgow, and has remitted it to a committee to obtain all needful practical information.

Learned Societies.—All the Glasgow societies, medical and other, continue to maintain their standing and usefulness. No new departure has this season signalised any of them, except the Natural History Society, whose office-bearers have arranged a series of lectures by Professors Cossar Ewart, Bayley Balfour, Herdman, D'Arcy Thomson, and Bower. At Stirling and Perth medical associations have been formed this year.

Lunacy in Scotland.—The thirteenth annual report of the General Board of Commissioners in Lunacy for Scotland shows that during 1887 there was a total increase of 304 in the number of registered lunatics, of whom 172 were in asylums and 132 in private dwellings. The total number of lunatics under cognisance on January 1st, 1888, was 11,609, of whom 9,760 were maintained by the rates, 1,797 from private sources, and 52 at State expense.

Paisley.—The unenviable notoriety obtained by Paisley, largely due, it would appear, to the ineptitude of its sanitary authorities and those charged with safeguarding the public health, has already been referred to in a preceding paragraph. A new hospital for the sick poor of one of its parishes is being erected, at a cost of £10,000, and a small hospital for treatment of diseases of the eye has been opened.

Dundee.—The University College, Dundee, has had to surrender one of her most esteemed teachers to Aberdeen, Professor Carnelly, who succeeds to the chair vacant by the resignation of Professor Brazier. Dr. Percy F. Frankland, of South Kensington, has been appointed to the vacancy in Dundee. Two additions to the teaching staff fall to be recorded; Mr. Patrick Geddes, F.R.S.E., has been appointed to the newly created chair of botany, and Dr. A. M. Paterson, of Owens College, to that of anatomy. The Council have also in contemplation the establishment of a professorship of physiology.

Aberdeen.—The Government has offered a grant of £5,400 (under certain conditions) towards the extension of the university buildings. Dr. Matthew Hay was early in the year appointed to the vacant medical officership of health of the town. The university has lost the services of Professor Brazier, who had occupied the chair of chemistry for thirty-six years, and has now resigned on account of ill-health: but the university gains as a fresh recruit Professor Carnelly, who has already gained his laurels at Dundee. An opportunity is being afforded this session to welcome an old friend, Professor Wm. Stirling, of Owens College, who has been appointed as Thomson Lecturer for 1888-89, and who is to lecture on the physiology of nutrition.

MEDICAL EVENTS OF THE YEAR IN IRELAND.

The King and Queen's College of Physicians and the Apothecaries' Hall.—The Royal College of Surgeons in Ireland.—The Amalgamation of Irish Medical Schools.—Dublin Branch.—Portrait of the Queen at the Royal College of Surgeons.

The King and Queen's College of Physicians and the Apothecaries' Hall.—The combination entered into between the College of Surgeons and the Apothecaries' Hall led to a contest at law between the College of Physicians and the Apothecaries. The case was argued at great length before the Vice-Chancellor. The contention of the College of Physicians was that the Apothecaries' Hall was not a medical corporation capable of granting medical diplomas, or capable of entering into a combination with the College of Surgeons for such a purpose, and that the effect of allowing such a body to grant diplomas would be to lower the status of the profession. Physicians alone were entitled to practise medicine in Dublin and throughout the country, while the business of apothecaries, who were really given a monopoly, was simply to sell and compound medicines, and follow the prescriptions of the physicians. The claim of the Apothecaries, it was contended, was inconsistent with their Act of Parliament, and in contravention of the Medical Acts and of the rights of the College of Physicians. The decision of the Vice-Chancellor was favourable to the Apothecaries. He held that they were empowered to grant a diploma entitling the holder to registration as a medical practitioner, and to combine with the College of Surgeons to hold qualifying examinations in medicine, surgery and midwifery. The belief that the College of Physicians would appeal against the decision was not well founded. That body has accepted the ruling, and the combined examination is now in operation.

The Royal College of Surgeons in Ireland.—The annual meeting of the Royal College of Surgeons in Ireland was held on Saturday, June 2nd. The report showed that the invested funds amounted to £12,000, and that the total expenditure was £5,182 7s. 7d. The subject of the biennial presidency was again introduced by Mr. Thomson, who moved a resolution reaffirming a declaration of the College in favour of the change, fixing June, 1890, as the date from which the Fellow then elected President might hold office for two years, and recommending the Council to take such steps as might be necessary to give effect to the resolution. It was

suggested that the Council should be requested to submit a scheme to the College, and, this having been accepted, the motion passed unanimously. The Council has not, however, as yet taken the subject into consideration. The College has adopted an improved scheme of examination for the Fellowship. The period will now extend over four days. The course is a wide one; candidates will be examined only twice a year, except under special circumstances. The new rules will come into force on January 1st, 1889.

The Amalgamation of Irish Medical Schools.—This subject was before the College last year, when a motion in favour of the amalgamation of the Carmichael School of Medicine with the School of the College of Surgeons, submitted by Mr. W. Thomson, was defeated by two votes. On May 18th the matter was again introduced by Mr. Thomson at a special meeting of the College. The scope of the resolution was widened so as to bring in another proprietary school—the Ledwich; and after a warm debate the motion was carried by 39 to 16. The Council was requested to draw up a scheme, and to submit it to the Fellows as soon as possible. Accordingly a committee was appointed to consider the basis of union, and the Fellows met on October 23rd to consider the report. This came up in the form of a scheme providing for the union of the schools, and it was proposed by Mr. Thomson that it should be adopted subject to such title being shown by the Carmichael School and the Ledwich School as would be satisfactory to the legal advisers of the College. A long discussion followed, some of the professors of the College School and lecturers in the Carmichael School opposing the scheme as unfair, as being opposed to the interests of education, and as containing provisions contrary to the charter of the College. It was pointed out, however, that the motion distinctly provided that such alterations should be made as would bring it into accord with the charter and by-laws; and ultimately the motion was carried by a large majority. The scheme, however, has not gone any further. It appears that one of the proprietors of the Carmichael School refuses to give his assent, and legal opinion declares that until this opposition is overcome the amalgamation cannot take place. It is to be hoped, however, that some way of escape will be found from this difficulty, and that the much-needed reduction of the crowd of medical schools in Dublin will take place before the opening of next session.

Dublin Branch.—The annual meeting of the Dublin Branch was held on January 25th. The accounts showed an accession to the number of members, and a balance in bank to credit. The meeting was taken advantage of to present to the King and Queen's College of Physicians a portrait of Dr. J. T. Banks, in recognition of his services as President of the Association. Dr. Mapother, in a few graceful sentences, made the presentation, and Dr. Banks acknowledged the marked honour which had been done him. The annual dinner was well attended, and it passed off with great success.

Portrait of the Queen at the Royal College of Surgeons.—On May 22nd, the Marquis of Londonderry, Lord-Lieutenant of Ireland, unveiled a full-length portrait of Her Majesty in the Board Room of the Royal College of Surgeons. In the evening the President, Dr. Anthony H. Corley, entertained a large company at dinner, the guests including His Excellency the Lord-Lieutenant, the Lord Chancellor, the Lord Chief Justice, the President of the Royal Academy of Medicine (Dr. McDonnell), Sir West Ridgway, and others.

PROVIDENT AND BENEVOLENT INSTITUTIONS FOR THE BENEFIT OF THE MEDICAL PROFESSION.

Medical Sickness, Annuity, and Life Assurance Society.—During the year the general progress of this provident association has been exceedingly satisfactory, and must have fully satisfied the most sanguine hopes of its founder and promoters, to whose honorary efforts much of the success is to be attributed. While in all departments of its work the Society has had a good year, the special usefulness of its system of providing payments for the members during disablement from sickness or accident has been strikingly demonstrated. About 100 members have received payments on this account during the year, the disbursements reaching nearly £2,000; and in two cases these payments have been continued through the whole period. There have, too, been several claims on account of accidents (a risk which is included and paid for as sickness), two or three of them of a severe character; and £400 has been paid on account of two deaths. During the year the membership has increased by over 100, and now reaches an effective total of 940—more than 1,100 proposals having been sent in during the five years the Society has been established. The premium income at present exceeds £10,000 a year, and the accumulated reserves amount to more than £28,000—a sum of over £7,000 having been added during the year. Since the commencement more than £7,200 has been disbursed on account of sickness and death claims. The proportion of premium income expended for management continues to diminish, and is now less than 5 per cent. for the entire work of the Society. This is largely due to the honorary services rendered the Society by its officers, trustees, and committees. The result is that an unusually large proportion of the members' payments is preserved, and this is added to the general reserve for their own purposes and benefits. In fact, the Society is now being conducted with an economy that has no parallel in insurance work, and was at its establishment said to be impossible. The Secretary of the Society is Mr. C. J. Radley, and its office is at 26, Wynne Road, Brixton, London, S.W.

Royal Medical Benevolent College, Epsom.—This college was established in 1855 to provide an asylum and pensions for duly-qualified medical men and the widows of such in reduced circumstances, and a good school for boys. This last-mentioned and most important part of the scheme has in recent years made great progress. The number of boys in Michaelmas term was 210. The number of candidates for the entrance scholarship has considerably increased. The foundation is open to the sons of necessitous medical men or their widows. Non-foundationers are also received, and are eligible to all exhibitions and scholarships except otherwise specified. Boys on the foundation are boarded and educated free of all cost. Last term there were forty-six foundationers. The treasurer of the institution is Dr. Holman, of Reigate, the Treasurer of the British Medical Association. It is hoped that the members of the latter will, therefore, take a special interest in Epsom College, which is doing such good work for the profession, helping the aged and infirm, and clothing, feeding, and educating nearly fifty children of medical men in reduced circumstances. The sons of all members of the profession are received into the college at a very low cost.

British Medical Benevolent Fund.—This fund, one of the most useful and best managed of the medical charities, has existed for fifty-two years, and comprises two departments—the grant or immediate relief, and the annuity. In the former, grants varying from £5 to £20 are made by the committee at the monthly meetings after careful inquiry, and with the guarantee of a subscriber's signature. These grants are seldom given at once, but are distributed, mainly by means of the Cheque Bank, frequently through the honorary local secretaries, in monthly or weekly instalments, to the great advantage of the recipients. In this department £1,796 has been given during the year to 169 applicants, and the committee felt compelled to overdraw their account at the meeting held on December 18th, in view of the very distressing cases then before them. A sub-committee is annually appointed, whose duty consists in the selection of eligible candidates from a list, and recommending them to the committee for election to annuities of £10 or £20. The qualifications requisite are: Candidates must be upwards of 60, possessed of little or no means, and not in receipt of assistance from a sister charity. Twenty-one new annuitants have been elected during the year, which large increase has been rendered possible by the dividends from the Erasmus Wilson bequest. Two legacies have been received—one £100 free of legacy duty, from the estate of Miss McKellar, and one of £25, less legacy duty, left by Mr. Whitehead. One member of the committee has been removed by death, Mr. Dennis de Berdt Hovell. Mr. George Field, after six years of hard and successful work as Honorary Financial Secretary, has been compelled to resign, and his post has been taken by Dr. Sidney Phillips, 21, Upper Berkeley Street, Portman Square, W., to whom all subscriptions should be sent. The working of the fund is most economical, all the offices, with the exception of that of collector, being honorary.

Royal Medical Benevolent Fund Society of Ireland.—The object of this society is to relieve medical men under severe and urgent distress, occasioned by sickness, accident, or any other calamity. During the year 1887-8 grants amounting to £1 284 were made. Of this sum £95 was given to medical men, £1,098 to the widows of medical men, and £91 to their orphans. The total number of applicants during the year was ninety-seven, of which seventeen

were new, and five were refused as being unsuitable. Of this number six were medical men, eighty-three were widows of medical men, and eight were orphans. The committee in their annual report regretted that, owing to the large number of applicants and the small sum at their disposal for distribution, they were able to give but very inadequate relief in many cases of great urgency. A special "Jubilee Collection" was raised, and distributed at Christmas, 1887, *pro ratâ*, to the recipients at the previous annual distribution. The amount so distributed (£107 10s.) was not included in the figures given above. The Acting Secretary is Mr. Arthur H. Benson, F.R.C.S.I., 42, Fitzwilliam Square, Dublin.

OBITUARY FOR 1888.

England.

We have, happily, had to record during 1888 the deaths of comparatively few prominent members of the profession in England, and among these few the majority have been men ripe in years, who had, it may be fairly said, done their life's work, for they had retired from active practice. We may recall the names of two veteran physicians—Dr. E. H. Greenhow, long physician to the Middlesex Hospital, and Dr. Gream, physician-accoucheur to the Princess of Wales; and of two veteran surgeons—Mr T. B. Curling, the well-known surgeon to the London Hospital, and Mr. Samuel Hey, of Leeds, an eminent member of a family which has contributed many respected names to surgery. The deaths of Mr. Borlase Childs, Mr. de Berdt Hovell, and Dr. J. A. Lush, who long represented Salisbury in the House of Commons, have removed practitioners who had achieved considerable success, and had retired for several years from active work. Mr. Frederick Mason, of Bath, whose sterling qualities had endeared him to many members of the British Medical Association, in which he took a deep interest, having served on the Council for more than ten years; and Dr. J. Milner Fothergill, so well known for his writings on cardiac and nutritional diseases, have left vacant places which will not soon be filled. The death of Dr. Luke Armstrong has been a heavy loss to the Newcastle School of Medicine, in which he took a keen interest.

Scotland.

During the year it has fallen to our lot to record the deaths of a considerable number of medical men belonging to the West of Scotland, though this year has not been so fatal as was last. Among these are Dr. Hugh Miller, Dr. John White, Dr. John Wilson, and Dr. H. C. McEwen, of Glasgow, and Dr. David Taylor, of Paisley. One ought also to add the name of Mr. Robert Hillcoat, a young practitioner on the south side of Glasgow, who succumbed during the Pollokshields scarlet fever epidemic. The names of Dr. J. T. Boswell, of Balmullo, Fifeshire, and of Dr. Chas. Lindsay Wattie, Glenbucket, Aberdeenshire, have also appeared in our obituary column. In June Dumfries lost a much respected citizen in the person of Dr. James McCulloch, and in July we recorded the death of Dr. John Wight, of Aberdeen, and in September the death by accident of Dr. Donald Currie, of Mull, and Dr. Loggan, of Knoydart.

Ireland.

Dr. D. F. Brady, Inspector of Anatomy in Ireland, died in Dublin on January 16th, 1888. He had attained an advanced age, and he was highly esteemed by the profession.—Dr. Charles Croker King died on February 28th. He was Medical Commissioner of the Local Government Board, and he had filled this position for twelve years. He began his professional career as Demonstrator of Anatomy in Trinity College. He was appointed Professor of Anatomy and Physiology in Queen's College, Galway, in 1849, but he resigned that appointment to enter the poor-law service in 1863. His death resulted from gangrene of the foot, which followed the cutting of a corn. Dr. Croker King was very highly informed, a good administrator, and his death caused much regret to all who knew him.—A very well-known man, Robert Travers, Professor of Medical Jurisprudence in Trinity College, died on March 27th. He was a profound student, and his knowledge passed far beyond the limits of his professional work. Dr. Travers was remarkable for his power of quaint and forcible expression, and he was for many reasons greatly beloved by his pupils.—The death of Dr. James Ridley, surgeon of Tullamore Prison, by his own hand, is one of the saddest events in the year. Dr. Ridley had medical charge of the prison during the incarceration of Mr. John Mandeville, who died some six months after his release of an acute attack of cellulitis of the neck. An inquest was held, at which it was sought to prove that his death was the result of ill-treatment in prison. Dr. Ridley was summoned as a witness, but on the morning on which he was to be examined, he cut his throat. The unfortunate man had been soundly abused during the imprisonment of Mr. Mandeville and others; he complained that he was boycotted, and that his professional business was damaged in consequence, and it is supposed that his mind became unhinged. It was sworn, further, that he had broken the rules himself in the interest of the prisoners, and it is suggested that he was, therefore, afraid to face a public disclosure of his leniency. In either case, his fate is to be deplored. He was a much respected practitioner, and his tragic end, to which he was led by a series of political circumstances, with which he had nothing to do, has evoked the sympathy of the profession everywhere.—There has just been added to the list the name of Denis Charles O'Connor, LL.D.Cam., A.B., M.D.Dub., of Cork. He had held the office of Professor of Medicine in Queen's College, Cork, since 1849; and it will be remembered that during the visit of the Association to that town in 1879 he was elected to the position of President. Dr. O'Connor had reached the age of 80 years, and he continued in harness almost to the last. He was a very popular and successful physician, genial and warm-hearted, and he is deeply regretted by his many friends.

United States of America.

The medical profession in the United States of America has lost several well-known members. The first to be called away was Dr. Wesley Carpenter, of New York, who, though a comparatively young man, had long been honourably connected with the medical press in that city, and especially with the *Medical Record*. The death of Dr. Cornelius Rea Agnew removed a surgeon chiefly known as an ophthalmologist, but who had taken an active share in organising medical relief during the war. He was shortly followed to the grave by an ophthalmologist at one time associated with him in partnership, Dr. E. G. Loring, who died suddenly at the age of 51. In Dr. A. Y. P. Garnett, of Washington, ex-President of the American Medical Association, and one time Surgeon-General of the Confederate Army, death claimed a veteran; but the sudden death of Dr. Henry B. Sands has deprived New York of the services of a surgeon still in the prime of life, who had for some years held a leading place. Dr. F. R. S. Drake, Professor of Clinical Medicine at the University of New York, and an active member of numerous societies, also died suddenly at an early age, as did Dr. W. B. Goldsmith, Superintendent of the Butler Asylum, Providence, and Dr. Henry Rolando, of Baltimore. Mention ought also to be made of the deaths of Dr. Thomas Sabine, Professor of Anatomy in the College of Physicians and Surgeons, New York; Dr. Edward S. Dunster, Professor of Obstetrics at Ann Arbor University; Dr. A. O. Kellog; Dr. E. Williams, of Cincinnati; Dr. O. W. Wright, of Detroit; Professor J. S. Lynch, of Baltimore.

Austria-Hungary and Germany.

The following medical men have died in Austria-Hungary and Germany during the past year: Dr. David Winternitz; Professor Gustav Wertheim, of the Rudolf-Stiftung Hospital of Vienna; Dr. Heinrich Anton de Bary, Professor of Botany in the University of Strasburg—he practised medicine in his native city of Frankfort for some years; Dr. Tramberger, Docent in Medicine at Graz; Dr. Joachim Bruck, of Vienna; Dr. Ernst Wagner, Professor of Internal Medicine and Director of the Medical Clinique at Leipzig; Dr. Heinrich Bohn, Professor of Pædiatrics and Dermatology at Königsberg; Hofrath Dr. Franz Skoda, of Gries (Tyrol), brother of the celebrated Joseph Skoda; Dr. Emil Hamburger, of Franzensbad; Professor v. Gietl, Professor in the Medical Clinique and senior member of the Medical Faculty of Munich; Dr. Carl Hermann Schildbach, the well-known orthopædic surgeon of Leipzig; Generalarzt Dr. v. Steinberg-Skirbs, of Königsberg; Professor Dr. Wroblewski, of Krakau; Professor Politzer, specialist in children's diseases, of Vienna; Dr. Moritz Smoler, of Prague; Dr. Franz Torday, of Buda-Pesth; Dr. Victor Mihalyik, Comitats-Oberphysikus in Lipto-Sz.-Miklos, Hungary; Professor Rühle, Director of the Medical Clinique at Bonn; Dr. Ludwig Budge, Professor of Anatomy at Greifswald; Dr. Koloman Balogh, Professor of Pharmacology and Dean of the Medical Faculty of Buda-Pesth; Dr. T. Dlauhy, retired Professor of Forensic Medicine at Vienna; Hofrath Dr. Heinrich Bamberger, Professor of Clinical Medicine at Vienna;

Generalarzt Dr. Lorenz Tutschek, of Munich, private physician of King Ludwig I.

France.

In France the following members of the medical profession, among others, have died during the past year: Dr. Constantin James, well-known as an authority on hydrotherapeutics, and author of a most useful guide to health-resorts; Dr. Hippolyte Blot, secretary of the Association Générale des Médecins; Dr. Hannosset, Director of the Hôpital Beaujon and the Hôtel Dieu in Paris; Dr. Padieu, Professor in the Preparatory Medical School of Amiens; and Dr. Bourdel, Professor Agrégé in the Medical Faculty of Montpellier.

Italy.

Italy has to mourn the loss of an exceptional number of men of light and leading in the medical profession. Among others may be mentioned: Dr. Tito Vanzetti, of Padua, for many years the foremost surgeon in Italy; Dr. Salvatore Tommasi, of Naples, to whom more than to any other man the introduction of the modern scientific spirit into Italian medicine is due; Dr. Augusto Michelacci, of Florence, the principal authority on skin diseases in Italy; Dr. Fedele Fedeli, Professor of Clinical Medicine in the University of Pisa; Dr. Romolo Griffini, of Milan, editor of the *Annali Universali di Medicina*, and well known both for his philanthropic work in connection with foundlings and for his clinical knowledge of children's diseases; Dr. Salvioli, Professor of Internal Pathology in the University of Genoa; Dr. Mazzarini, of Bologna; the venerable Dr. Simone De Bello, of Trani, in Apulia; Dr. Giuseppe Tibaldi, of Torre del Mangano (Pavia); and, within the last few days, Dr. Silvestrini, Professor of Clinical Medicine in the University of Palermo, and formerly editor of the *Ateneo Parmense*, a medical journal published at Parma, where Dr. Silvestrini was for some time professor.

Russia.

In Russia the following members of the profession have gone over to the majority:—Dr. Alexander Zagorski, Emeritus Professor of Physiology at St. Petersburg; Dr. E. Bogdanovski, Professor of Clinical Surgery in the Military Medical Academy of the same city; Dr. Michael Weissberg, Privy Councillor, of St. Petersburg; Dr. C. H. Lobanoff, "Ordinator" of the City Alexander Hospital, St. Petersburg; Dr. J. Garfunkel, Physician to the Maria Lying-in Hospital, St. Petersburg; Dr. N. D. Monastyrski, Professor of Surgery in the Helene Pavlovna Clinical Institute at St. Petersburg; Dr. Leopold von Holst, for many years one of the editors of the *St. Petersburger Medicinische Wochenschrift*; Professor Nekrashevich, of St. Petersburg; Dr. Alex. Polunia, formerly Professor of Medicine in the University of Moscow; Dr. M. S. Toporoff, some time Professor of Therapeutics, and Dr. Nadedjin, Prosector, in the same seat of learning; Dr. S. P. Golubtseff, Chief Medical Officer of the Odessa Educational District; Dr. Mandelbaum, of Odessa; Dr. von Schmidt, Director of the Ophthalmic Hospital of the same city; Dr. F. A. von Haken, a well-known surgeon at Dorpat; and Dr. Hollander, of Riga.

Belgium.

The profession in Belgium has lost, among others: Dr. Gustave Boddaert, Professor of Surgery at Ghent; Dr. Poirier, Professor of Internal Pathology in the same University; Dr. Hyacinthe Sauveur, Emeritus Professor at Liège; Dr. Verhulst, of St. Gilles (Brussels); and Dr. F. Fraikin, of Herves, near Liège.

Spain.

Spain has lost, among others: Dr. Antonio Gomez Torres, Professor of Obstetrics and Gynæcology in the University of Madrid: Professor Pedro Blasco, Physician to the Hospital de Presbiteros, Madrid; Dr. Antonio Casares, Professor of Chemistry and Rector of the University of Santiago. In connection with Spain may also be mentioned the following medical men who have died in the course of the year at Havana: Dr. Gustavo Aragon y Muñoz, Surgeon to the Civil Hospital; Dr. José A. Periut, Lecturer on Anatomy; Dr. Francisco Royero y Zahonet, Medical Jurist to the Municipality; Dr. Serapio Arteaga, Professor of Clinical Medicine.

Portugal.

In Portugal the following, among others, have died; Dr. Francisco Lopes da Cunha Pessoa, Director of the Portuguese Military Hospital of Estrella, near Lisbon; Dr. Manuel Luiz Machado; and Dr. Van der Laun, who, though Dutch by birth and training, was for many years the leading oculist in Portugal, and may almost be said to have introduced scientific ophthalmology into that country.

Other Countries.

Norway has lost Professor Kierulf, of Christiania, and Dr. J. Heiberg, a distinguished ophthalmologist; Roumania, Dr. Fatnières, Professor of Ophthalmology at Bucharest; Brazil, Professor Ribeiro de Meredonca, of Rio de Janeiro, and Dr. Touchino, Professor of Pathology at Bahia; Colombia (South America), Dr. Pablo Emilio Molina Uribe, Professor of Clinical Medicine in the University of Bogota.

HEALTH OF ENGLISH TOWNS.—In the twenty-eight large English towns, including London, which have an estimated population of 9,398,273 persons, 5,677 births and 3,996 deaths were registered during the week ending Saturday, December 22nd. The annual rate of mortality in these towns, which had increased from 17.8 to 18.9 per 1,000 in the three preceding weeks, further rose to 22.2 during the week under notice. The rates in the several towns ranged from 13.6 in Derby, 15.0 in Halifax, 17.0 in Brighton, and 17.2 in Portsmouth to 26.5 in Cardiff, 28.9 in Blackburn, 32.2 in Cardiff, and 33.8 in Wolverhampton. In the twenty-seven provincial towns the mean death-rate was 22.4 per 1,000, and slightly exceeded the rate recorded in London, which was only 22.0 per 1,000. The 3,996 deaths registered during the week under notice in the twenty-eight towns included 316 which were referred to measles, 108 to whooping-cough, 62 to diphtheria, 57 to scarlet fever, 42 to "fever" (principally enteric), 36 to diarrhœa, and not one to small-pox; in all, 621 deaths resulted from the principal zymotic diseases, against 526 in each of the two preceding weeks. These 621 deaths were equal to an annual rate of 3.4 per 1,000; in London the zymotic death-rate was 3.7, while it averaged 3.2 per 1,000 in the twenty-seven provincial towns, and ranged from 0.0 in Halifax, 0.4 in Brighton, 0.5 in Hull, and 0.7 in Newcastle-upon-Tyne to 4.8 in Liverpool, 6.2 in Salford, 6.7 in Cardiff, and 8.8 in Blackburn. Measles caused the highest proportional fatality in Bristol, Manchester, London, Oldham, Liverpool, Salford, Blackburn, and Cardiff; scarlet fever in Derby, Sheffield, and Blackburn; whooping-cough in Norwich, Nottingham, Preston, Blackburn, Birmingham, and Cardiff; and "fever" in Birkenhead, Sunderland, and Plymouth. Of the 62 deaths from diphtheria recorded during the week under notice in the twenty-eight towns 39 occurred in London, 8 in Manchester, 4 in Salford, and 2 in Nottingham. No fatal case of small-pox was recorded during the week, either in London or in any of the twenty-seven provincial towns. No small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals on Saturday, December 22nd; these hospitals contained, however, 739 scarlet fever patients at the end of last week, against numbers declining from 907 to 820 at the end of the four preceding weeks; there were 43 admissions during the week, against 71 in each of two preceeding weeks. The death-rate from diseases of the respiratory organs in London during the week under notice was equal to 5.4 per 1,000, and was considerably below the average.

HEALTH OF SCOTCH TOWNS.—During the week ending Saturday, December 22nd, 775 births and 507 deaths were registered in the eight principal Scotch towns. The annual rate of mortality, which had been 19.3 per 1,000 in each of the two preceding weeks, rose to 20.1 during the week under notice, but was 2.1 per 1,000 below the mean rate during the same period in the twenty-eight large English towns. Among these Scotch towns the lowest rates were recorded in Leith and Edinburgh, and the highest in Glasgow and Paisley. The 507 deaths in these towns during the week included 47 which were referred to the principal zymotic diseases, equal to an annual rate of 1.9 per 1,000, which was 1.5 below the mean zymotic death-rate during the same period in the large English towns. The highest zymotic death-rates were recorded in Greenock and Paisley. The 229 deaths registered in Glasgow during the week included 9 from whooping-cough, 5 from measles, 4 from scarlet fever, 4 from diphtheria, 3 from diarrhœa, and 2 from "fever." Five fatal cases of measles were recorded in Greenock, and 4 in Paisley; and 2 deaths resulted from diphtheria in Dundee. The death-rate from diseases of the respiratory organs in these Scotch towns during the week under notice was equal to 4.8 per 1,000, against 5.4 in London.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1888.

SUBSCRIPTIONS to the Association for 1888 became due on January 1st; and notice is hereby given, in accordance with by-law 5, that Branch Secretaries' subscription-accounts close on October 31st, and all unpaid subscriptions must be forwarded, after that date, to the General Secretary, 429, Strand, London. Post Office Orders should be made payable at the West Central District Office, High Holborn.

The British Medical Journal.

SATURDAY, DECEMBER 29TH, 1888.

SCIENCE EXAMINATIONS FOR SCHOOL CHILDREN.

EXAMINATIONS in schools are apparently sometimes intended to demonstrate the breadth and depth of the educational course which they follow rather than simply to act as tests of mental capacity and as a means of increasing genuine mental work. When reading over school examination questions we often cannot but wonder who are the young prodigies of learning who answer them; yet, when we meet these learned young people, we are too often surprised to see that they lack mental power and learning.

A complete set of Christmas examination questions, given at a middle class school for a girl 10 years old, has been sent to us. Those in history, geography, Latin, and arithmetic we pass over; but we are interested in the paper on science, as the questions here set indicate some of the defects of science teaching in schools and a misapprehension of the objects of such classes. Thus: (1) "Give a list of the impurities of (*a*) air, (*b*) water." (5) "State what you know about (*a*) yeast, (*b*) bacteria, (*c*) stalactites, (*d*) salt, (*e*) snow." Both these questions suggest that they were abstracted direct from the science class book, each question corresponding to a certain paragraph in the book. What can a child of 10 years know about bacteria? Such questions may test memory, not mental training.

We like the following question better: (3) "Describe experiments which show the properties of hydrogen gas," but doubt if the candidate understood anything about what was meant in question (6) "In what three forms does water exist? Describe what takes place when ice is heated at 100° Centigrade." To understand the problems here suggested requires much knowledge, and an acquaintance with physics far above the general standard of mental capacity of the class as indicated by the set of papers before us. Similar complaints are often made as to examinations for small children. We can only repeat that the encouragement of mental training rather than learning is what is wanted in early days. The power to describe in words what has been seen is very useful, but very difficult at first.

It would be interesting to see the results of the holiday examination of school children conducted at the Anthropometric Institute, Queen's Gate, Albert Hall, where children and adults are examined as to build and power and delicacy of nerve and muscle. The measurements here taken include height standing and sitting, and distance from the top of the knee to the ground when sitting. The distance of outstretched arms from finger tip to finger tip is taken, and the separate joints of the left arm and hand. The power of squeeze of the right and left hand is tested. The only head measurement is the greatest length and width. The colour sight is tried by skeins of wool of different tints, and a "Galton whistle" gives record of the highest note heard. The right and left eye are tried with diamond type at fixed short distances, and "long-sight" by test type at 25 feet. Lung capacity and readiness of response to a sharp sound and to a flash of light are also taken.

This is a kind of examination very useful to parents who are intelligently interested in the development of their children, and desire further information concerning their progress than is contained in their school report.

DINNERS FOR SCHOOL CHILDREN.

MR. DIGGLE, Chairman of the London School Board, has addressed a letter to the papers showing that 2½ per cent. of their school population, or 15,000 children, are daily upon the verge of destitution. We recently commented upon the necessity for meeting this distress, and at this season of the year an appeal will not be made in vain.

ARMY MEDICAL STAFF: POSTPONEMENT OF EXAMINATIONS FOR ADMISSION.

IN our article on the Medical Staff of the Army in the JOURNAL of December 22nd, we expressed our belief that there would be an examination for admission to Netley in August, 1889. We have reason to believe that this is a mistake, and that there will not be a call for candidates for two years from the present time.

THE NEW ANTIPYRETIC, "PYRODIN:" A WARNING.

UNDER this name a new drug has been introduced, which has undoubted temperature-reducing properties of a high order, the practical application of which, however, is much interfered with by its toxic action. Pyrodin contains as its active agent acetylphenylhydrazin ($C_6H_5N_2H_1C_2H_3O$) a crystalline powder very sparingly soluble in water. According to the clinical and experimental observations of Dr. Dreschfeld, of Manchester, which have been confirmed by M. Lépine, of Lyons, pyrodin acts in the same manner as, but more powerfully than, antipyrin, antifebrin, and phenacetin; and it has also been used effectively in migraine and other forms of neuralgia, as in the lancinating pain occurring in locomotor ataxy (Lépine). Great caution, however, is required in its administration, as it is apt to produce jaundice, followed by anæmia and even more serious symptoms due to hæmoglobinæmia. Milder toxic symptoms have occasionally followed the administration of acetanilid or antifebrin, and also of phenacetin; but, as phenylhadrazin is a much more powerful poison than anilin, so also are the toxic properties of its acetyl compound much greater than those of acetanilid. In face of the poisonous qualities of pyrodin, we must warn the profession against the use of this drug generally. In exceptional cases, and where other antipyretics have failed, it may be useful, but great caution should be used. Small doses only should be given, and at sufficiently long intervals to enable one to watch any toxic effects, with the first appearances of which the drug should be stopped.

ASSOCIATION OF MEMBERS OF THE ROYAL COLLEGE OF SURGEONS.

THE general meeting of the Association of Members of the Royal College of Surgeons will be held on Thursday, January 31st, at 6 P.M., at the Holborn Restaurant. The chief business will be the

presentation of the fifth annual report, which contains a *résumé* of the work of the Association during the year, of the proceedings at the College meeting on November 1st, and of the proceedings in Parliament, full reports of which have already appeared in these columns. A resolution will, we are informed, be prepared pledging the Association to continued action, parliamentary and otherwise, until due representation on the Council of the College shall be obtained by the Members. It is also proposed to call upon the President of the College to convene a meeting of the corporation at an early date in order to discuss the course of parliamentary action to be taken by the Members of the College. All Members who believe that they are entitled to a fair share in the government of the corporation to which they belong should communicate without delay with one of the Honorary Secretaries —Dr. Warwick C. Steele, 1, Florence Terrace, Ealing. W.; and Dr. W. Ashton Ellis, 14, Grosvenor Road, S.W.

TESTIMONIAL TO MR. TIMOTHY HOLMES.

In these days, when some are inclined to grumble at the multiplication of testimonials, it is a pleasure to record one that has met with general appreciation from the limited body who were privileged to subscribe towards it. On Saturday, December 22nd, there met at 18, Great Cumberland Place, W., a number of gentlemen, including Mr. Manley Sims, Mr. Holdernesse, of Windsor, Mr. Dent, Mr. Bennett, Mr. F. C. Fisher (Treasurer), and several others, representing thirty of Mr. Holmes's former house-surgeons, who have combined to present him with a silver bowl as a mark of their affection and esteem. Mr. John H. Morgan, who has been mainly instrumental with Mr. Fisher in organising this tribute, addressed Mr. Holmes in a few words, which told how gladly all those who could be reached had welcomed the suggestion that they should show in some substantial form the very warm feelings which all who had enjoyed the pleasure and privilege of acting as his house-surgeons entertained towards their former chief. Besides the large and handsome silver bowl, he handed Mr. Holmes a beautifully bound illuminated address containing the names of the contributors. These formed a large proportion of those who had served their office during Mr. Holmes's surgeoncy at St. George's Hospital, and the absentees were accounted for by absence from the country or by deaths. In reply, Mr. Holmes, who was deeply touched, said that nothing in the whole course of his professional career had given him so much pleasure as their offering, and that he should prize as much, or even more than the silver bowl, the list of those who had contributed towards it.

MEDICAL VOLAPÜK.

Dr. Nicolas, a gentleman with evidently a strong faith in his cause, advocates, in the *Journal de Médecine de Paris*, the adoption of the international language for medical purposes. His sketch of Volapük is flattering to that tongue. The article is abolished, and, better still, there are no genders. We agree with Dr. Nicolas that the presence of a declension is an obstacle to the diffusion of the language. As the cases are said to cover indefinite shades of expression, as in German, we doubt that such an arrangement would be tolerated outside Germany, German Switzerland, German Austria, and the "Pennsylvania Dutch" speaking population of the United States. The lexicology of Volapük is especially important to medical writers who believe in the establishment of that language. The cutting down of consonants and vowels would play havoc with roots of Græco-Latin words, so abundant in medicine and so generally understood as to answer most of the objects of a universal language. Terminal syllables modify the sense of roots. After the roots have been learnt, however, the modifications must not only be learnt, but understood. Thus "eye" is *log* in Volapük. *El* being a "professional termination," *logel* means "oculist." The adjectival termination *ik* makes *logik*, "from whence '*logamikel*,' optician." Why "from whence?" How can *el* added to a simple root be universally understood to imply a professional man, and the same *el*, added to the adjectival modification of the root, be safely made to convey the idea of a tradesman? A Volapük paragraph on "Professional Etiquette," a fine familiar subject for the beginner, would be very interesting to study. Dr. Nicolas cannot see his way to forming from *log* words to express "ophthalmia," "cataract," or "blepharitis." We cannot help him. The building up of roots taking in tow a string of modifying terminals could alone settle the question on Volapük principles, and this arrangement would lead to endless confusion in medical literature. The literal translation of any word would be no guarantee of its true sense, just as *Beispiel*, the German for "example," has been rendered "by-play" by ignorant, yet too-philological, Britons. The use of prepositions, or of verbs which more or less obviate their use, would lead to inextricable confusion whenever a Frenchman attempted to explain a clinical history or pathological report to an Englishman or German. For precision is absolutely imperative in such reports. To ask for a pint bottle of claret or the way to the post-office can often be done by means of nouns, infinitives, and pantomimic action. Volapük might prove of real use, under similar circumstances, in Russia, Portugal, or Hungary. But for medical literature, and for learned society oratory, the new language would be, we believe, impracticable. The bulk of the profession in the British Empire and the States read few or no foreign works. On the other hand, there are plenty of doctors who make capital translations of French and German medical writings. Far easier and infinitely more profitable would it be for any medical man to learn the tongues of Voltaire and Goethe than to attempt to get up an artificial dialect, devoid of precedents, prestige, or poetry, and to learn how to express "eye," "oculist," "visual," "optician," and "ophthalmia" by a root and terminals in such a manner that a foreign Volapük-scholar may, by chance, understand him.

SCOTLAND.

GLASGOW PHILOSOPHICAL SOCIETY.

At the last meeting of this Society, on December 19th, the President, Dr. J. B. Russell, made reference to the death of Mr. J. J. Coleman, F.C.S., one of the vice-presidents of the Society. Mr Coleman was widely known by his invention of the Bell-Coleman refrigerating machine, which is a striking example of the practical working out of pure science. The invention is a most ingenious application of the laws of thermo-dynamics. Mr. Coleman, before being associated with Mr. Bell, had been advising chemist to the firm of the late Young, of Kelly, and had exhibited great practical ability in dealing with the chemical problems of the paraffin industry. Though in retirement for several years past, he carried on active private work, in spite of physical enfeeblement, and was lately associated with Professor McKendrick in an investigation on the action of extreme degrees of cold on micro-organisms. At the same meeting Professor Cleland, F.R.S., read a paper on the Anatomy of the Hand and Foot in relation to movements, Mr. Wm. Milne on the Rotifer as a Parasite and Tube Dweller, and Mr. Jas. Thomson on Mural Pores in Alvelotidæ.

SMALL-POX IN DUNDEE.

Small-pox has been introduced into Dundee by a barque arriving from a Mediterranean port, in which one seaman was found affected. He was removed to hospital. Since then, one of the sanitary staff who took part in the removal has been laid up. The remaining members have been revaccinated.

ASSOCIATION INTELLIGENCE.

THE MEMORIAL TO THE PRESIDENT AND COUNCIL OF THE BRITISH MEDICAL ASSOCIATION.

A MEETING of the signatories to the above memorial was held at the Marlborough Rooms on Wednesday, December 12th, under the presidency of Sir Joseph Lister, to consider the reply of the Council.

The following correspondence has since taken place:

12, Park Crescent, Portland Place, Dec. 13th, 1888.

DEAR DR. BRIDGWATER,—At a large and influential meeting held yesterday of signatories to the memorial recently presented to the President and Council of the British Medical Association two resolutions were passed which, as Chairman on the occasion, I was requested to forward to you for the consideration of the Council. They are as under: —

RESOLUTION 1.

"The memorialists assembled in this meeting have read with satisfaction the statement made by the Council of the Association in their reply that they strongly deprecate the publication of any details in violation of professional confidence, and regret that under any circumstances the document objected to in the memorial was published. The memorialists regret, however, that the reply does not, in their opinion, express sufficiently strongly a sense of the gravity of the offence or afford any guarantee against similar occurrences in the future."

This was passed with two dissentients, one on the ground that the resolution did not seem to him sufficiently strong, the other thinking that the reply of the Council should be accepted as satisfactory.

RESOLUTION 2.

2. The memorialists feel that some reparation is due to Professor von Bergmann for the injury he has received by the publication in question, and they urgently request the Council to tender him an adequate apology."

This was passed *nem. con.*

I was also requested to forward for the information of the Council a list of those who were present at the meeting. This I have accordingly appended.—Believe me, dear Dr. Bridgwater, sincerely yours, JOSEPH LISTER.

Sir Andrew Clark, Bart.
Sir Prescott Hewett, Bart.
Sir Joseph Lister, Bart.
Sir Risdon Bennett.
Sir Dyce Duckworth.
Sir Joseph Fayrer.
Sir Alfred Garrod.
Sir William Mac Cormac.
Dr. Theodore Acland.
Mr. C. A. Aikin.
Dr. Allchin.
Dr. Andrew.
Mr. Morrant Baker.
Mr. Ballance.
Dr. Barlow.
Mr. A. B. Barrow.
Dr. Beddoe.
Dr. Beevor.
Mr. W. H. Bennett.
Mr. Samuel Benton.
Dr. Black.
Dr. W. H. Brace.
Dr. Broadbent.
Mr. E. B. Brodhurst.
Mr. Thomas Bryant.
Mr. A. C. Butler-Smythe.
Mr. Brudenell Carter.
Mr. C. W. Chapman.
Mr. Davies-Colley.
Dr. Sydney Coupland.
Mr. Cowell.
Dr. Drage.
Dr. Matthews Duncan.
Dr. Easton.
Mr. Erichsen.
Dr. Hingston Fox.
Dr. A. E. Garrod.
Dr. Gervis.
Mr. Pearce Gould.
Dr. Mortimer Granville.
Dr. W. S. A. Griffith.
Dr. Hadden.
Mr. C. D. B. Hale.
Dr. de Havilland Hall.
Mr. Nelson Hardy.
Mr. Warrington Haward.
Dr. Francis Hawkins.
Mr. Christopher Heath.
Dr. Heron.
Dr. Herringham.
Mr. Berkeley Hill.
Dr. Hollings.
Dr. Donald Hood.
Mr. Victor Horsley.
Mr. Howse.
Mr. W. H. Jessop.
Dr. George Johnson.
Mr. Langton.
Dr. W. T. Law.
Mr. H. C. Lawrence.
Mr. Lewis Lewis.
Dr. Robert Liveing.
Dr. Maclagan.
Mr. Howard Marsh.
Dr. Hooper May.
Mr. Meredith.
Dr. Monro.
Dr. Ord.
Mr. Edmund Owen.
Mr. R. W. Parker.
Mr. Pickering Pick.
Mr. Pernard Pitts.
Dr. W. S. Playfair.
Dr. Potter.
Dr. Douglas Powell.
Dr. J. T. Powell.
Dr. Pye-Smith.
Dr. T. Read.
Dr. Russell Reynolds.
Mr George Rice.
Mr. Arnold Royle, C.B.
Mr. Henry Sewill.
Dr. Sharkey.
Dr. James E. Sinclair.
Mr. Henry Smith.
Mr. Thomas Smith.
Dr. T. Gilbart Smith.
Dr. Scanes Spicer.
Mr. W. R. H. Stewart.
Dr. E. S. Tait.
Mr. J. A. Tapson.
Mr. Edward Tegart.
Mr. Pugin Thornton.
Mr. W. J. Trentler.
Mr. Edgecombe Venning.
Dr. Hermann Weber.
Dr. Whipham.
Dr. Whistler.
Mr. Joseph White.
Dr. John Williams.
Dr. Wyatt.

December 17th, 1888,

British Medical Association,

General Secretary's Office, 429, Strand, London, W.C.

DEAR SIR JOSEPH LISTER,—Our Council meet on January 16th, when the resolutions of the memorialists will receive the most serious attention.

Having already summoned one special meeting of the Council, I assume you would hardly expect me to summon a second at such grave inconvenience and expense to your representatives, and as such little time really intervenes between this and the ordinary quarterly meeting. Meanwhile, each representative will receive a copy of the resolutions for his thoughtful consideration. —Believe me, dear Sir Joseph, very sincerely yours,

(Signed) THOMAS BRIDGWATER.

12, Park Crescent, Portland Place, December 21st, 1888.

DEAR DR. BRIDGWATER,—While I fully understand the difficulty you felt there would be in calling another special meeting of the Council, I cannot but be sorry for the delay; and one reason for my regret is that it will lead to the resolutions appearing in the Journals before they have been considered by the Council. In the hope of avoiding such an occurrence, it was decided at the meeting that a fortnight should be allowed to elapse before publication of the proceedings.—Believe me, dear Dr. Bridgwater, yours very sincerely, JOSEPH LISTER.

Previous to having received Sir Joseph Lister's second letter, the President of Council wrote on the 21st asking him to meet the Treasurer and himself to discuss the possibility of a conference between some of the memorialists and of the past and present executive officers of the Council. To this Sir Joseph Lister replied that he was unable to make an appointment in consequence of absence from town, and referred the President of the Council to Dr. John Williams, who was acting as secretary in the matter. After a conversation with Dr. Williams, the President and Treasurer forwarded the following communication:

British Medical Association,

429, Strand, December 24th, 1888.

DEAR DR. WILLIAMS,—In furtherance of your suggestion at our conference this afternoon, we hasten to send you the request which we discussed when together, namely, that a conference should take place between the leaders of the memorialists and some of the past and present officers of the Association, we feel that at this meeting we should not only agree to ratify what we discussed should be the action under present existing circumstances, but we further feel that such a meeting would tend much to strengthen the hands of the executive in the future general management of the Association. We would add what we further urged upon you this afternoon, that, having already summoned two special meetings of the Journal and Finance Committee and one of the General Council, at grave inconvenience and expense to the members, who come from all parts of the United Kingdom, we would suggest the afternoon of January 15th (the day preceding the meeting of the Council), at 429, Strand, as our place of meeting; and as we were so completely in unison on the main subjects of our conversation, we can conceive no difficulty at arriving at a conclusion satisfactory to all, and to the still further furtherance of the best objects of the Association.—We are, very sincerely yours,

(Signed) THOMAS BRIDGWATER.
C. HOLMAN.

To this Dr. John Williams replied as follows:—

11, Queen Anne Street, Cavendish Square, W.,
December 25th, 1888.

DEAR DR. BRIDGWATER,—Only four of the seven memorialists who had stars to their names are in town, and I have succeeded in seeing two of them only. I laid your proposal before them, and both are agreed that they have no authority to represent the memorialists in a conference such as you suggest.—Yours truly,

JOHN WILLIAMS.

Harrow, December 26th, 1888.

DEAR DR. WILLIAMS,—I am in receipt of your letter, and in reply regret exceedingly that a conference between us could not be arranged.—Believe me, very sincerely yours,

THOMAS BRIDGWATER.

The President of the Council will lay the foregoing resolutions of the memorialists and the subsequent correspondence before Council of the British Medical Association at its meeting on January 16th, 1888.

BRANCH MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.—The next meeting will be held in the Town Hall, Walthamstow, on Thursday, January 19th, at 8.45 P.M. A paper on Diphtheria, with special reference to Treatment, will be read by A. Ernest Sansom, M.D.—J. W. HUNT Honorary Secretary, 101, Queen's Road, Dalston.

OXFORD AND DISTRICT BRANCH.—The next meeting of the Branch will be held on Friday, January 25th, at the Radcliffe Infirmary, at 3 o'clock. Gentlemen intending to read papers or show cases are requested to communicate with the Secretary, W. Lewis Morgan, 42, Broad Street, Oxford, on or before January 11th.—S. D. DARBISHIRE and W. LEWIS MORGAN, Honorary Secretaries.

CORRESPONDENCE.

THE EDINBURGH STUDENTS AND CLASS DISTURBANCES.

SIR,—At a meeting of senior medical students of the University of Edinburgh held yesterday in the Oddfellows Hall, the following motions were put to the vote and carried:

1. "That this meeting desires to express its disapproval of the discourteous and undesirable disturbances which have recently been made by a small section of the students in the professorial classes."

2. "That this meeting also protests against the misleading accounts and unwarranted exaggerations of the disturbances that have been reported in the public press, and resolves that notices of these resolutions be communicated to the principal medical and other newspapers."

I am, etc.,

WM. LYON MACKENZIE, Chairman.

December 19th.

SPECIAL CORRESPONDENCE.

MEDICAL PARIS OF TO-DAY.

[LETTER FROM MR. ERNEST HART.]

I.

The Changes of a Quarter of a Century: the Men of 1850.—Nélaton: his Characteristics.—Colles's Fracture.—Alcohol Dressings.—Maisonneuve and Chassaignac.—The Écraseur and the Dividing Wire.—Trousseau, Ricord, and Demarquay.—The Old Era and the New.—The Medical Paris of To-day.

MR. ERNEST HART writes to us from Paris under date December 23rd, 1888:

A quarter of a century has passed since I first traversed the wards of the principal hospitals of Paris by the side of the leading physicians and surgeons of the day, and with their friendly aid and under their guidance learned to appreciate the admirable qualities and peculiar features of a series of institutions and a professional tradition which in many respects differ essentially from our own, but which are on that account perhaps all the more interesting and certainly none the less instructive. The studies which I then made of the *personnel*, the administration, and the scientific development of medical Paris represent a state of things and an order of men which have not escaped the reforming and the destructive hand of time. In profiting by a short sojourn to renew and revive those impressions, I am confronted by the recollections of men now passed away who were among the glories of France, but the memories of whose achievements and the traces of whose work will long survive. Among those who showed me then the warmest friendship, and pleased themselves with initiating a foreign but friendly critic into the arcana of French medical science and society, I recall sorrowfully many whose place knows them no more. Foremost among them was Nélaton—polished and clear in utterance, calm and courteous in manner, learned and copious in illustration, a finished operator, a surgeon of unfailing resource, minutely versed in anatomy, capable of quoting an authority for everything which he said, and a dozen precedents for all that he did; something of a courtier but always a man of science; reproached occasionally for a tendency to "Anglicise," and with a distinct prescience of the epoch of "surgical cleanliness" which was at that time confined to England, but which, passing through the phase of scientific and experimental antisepticism, has since flooded the Continent of Europe with its saving waters, sprays, and solutions, and has transformed Continental surgery. It was still the period of "charpie" and "cérat"—union by first intention was still regarded as the grand exception which only proved the rule—of dressing open wounds by stuffing scraped lint and yellow spermaceti between the yawning flaps or on the flabby granulations. The fable that "French flesh is not a surgical flesh" had been recently invented to cover and excuse the innumerable pyæmias, septicæmias, and secondary abscesses which retarded recovery from wounds and operations when they did not lead to fatal results. Nélaton had introduced dressings with alcohol, from which he showed me with fond pride many excellent results. Well disposed as he was to the brilliant results and unequalled statistics of British surgery under the influence of Liston and Fergusson, and well read in the works of the masters of our school, I remember hearing him give a brilliant clinical lecture on two cases of Colles's fracture of the wrist, remarkable as a masterpiece of logical exposition, an erudite review of anatomical and surgical considerations, and a practical study of the positions and apparatus suitable for all complications, but interesting to me also because in it there was no mention of Colles. Verneuil had recently made an admirable study of this fracture, and to Verneuil ("the young Verneuil, *homme de grand avenir*") were accorded all the honours of the day. In the evening I discreetly mentioned to him my impressions. "Mon ami," he said, with his most charming smile, "Je suis Français; et il faut être généreux aux jeunes compatriotes." By the side of Nélaton stood Trousseau, in green old age, active, erect, lively, obliging, with ever-flowing eloquence; finding a sermon in every fever, a treatise in every pleurisy; the idol of the student, the cynosure of strangers visiting the Paris cliniques; a firm believer in therapeutics; exhaustive in the details of clinical investigation; unwearying in diagnostic analysis, an admirer of the great Irish physician Graves, whose praises he often sounded to me, and from whose lectures he frequently quoted. Then there were Maisonneuve with his "cutting wire," and Chassaignac with his *écraseur;* the scenes in their wards it is difficult now to recall without a shudder. "Union by first intention" they had not only abandoned as hopeless, but they denounced the attempt to obtain it as impossible, unsurgical, fatal, cruel. Many and horrible were their contrivances for securing healing by granulation without secondary hæmorrhage or without pyæmia. It was necessary to "divide the tissues slowly;" to crush the tissues at the point of division; to seal the small vessels and the "tubes." For this purpose "osteoclasts" were devised for breaking the bones instead of sawing them; strong compressing wires and chain saws cut their way through the flesh and skin, in removing tumours or even in amputations, and, if I mistake not, in operating for hæmorrhoids, fistulas, and even for stone in the bladder. Another method of Maisonneuve's was to plant deeply into tumours a series of sharply-pointed and hardly-baked triangles of caustic paste, to compel these growths to slough away from the base. The sufferings of the patients were dreadful; the gaping wounds, the suppurating surfaces slow to heal, the hopeless-

ness and despair of quick and cleanly surgical proceedings which dictated these reactionary methods, all left a painful impression on my mind. But it was impossible not to admire the vigour, the energy, the learning, eloquence, and conviction with which each master defended his doctrines and elaborated his methods. Theirs was a passing phase of French surgery, but it was one which was highly significant of a decadence of principles and methods which were leading them to very fatal results in the French hospitals, and which, despite the talents, the high training, the industry, and the earnestness of many of the great men of that day, was tending to bring the French school into a lower position and less repute in Europe than it had formerly held. My expressions of horror amused and interested Nélaton, but he nevertheless was disposed to agree with me in regarding all this as a sign of reaction and decadence, which could only be transitory, and required to be counteracted.

At this date special departments did not exist in the French hospitals, and the leading specialists, such as Sichel, who was then touching the end of his reign as the leading ophthalmologist, Desmarres, Civiale, the lithotritist, were more or less distinguished outsiders. Civiale had a hospital service created for him. He had, when I first saw him, returned from King Leopold, having left the King uncured, and Thompson had scored his great success. I sat at table between Civiale and Rayer, both great men of the old school: Rayer an "*illustration*" of the *haute école*, and a splendid specimen of medical character. Civiale was very gracious, full of interest in the details of Thompson's achievement, and, for reasons which he explained to me, quite satisfied with his own. There was no word of disparagement or anger, and to the greetings which I brought him he returned messages of like amity and courtesy. It was a lesson of international and professional courtesy. Civiale was indefatigable in work, and loaded me with monographs, notes, and treatises. So too was Sichel. My first appointment with him was at half-past six in the morning. I found him sitting at his study-table writing letters, with piles of notes, clinical memoranda, and literary material at hand, preparing for his day's work, which began at half-past seven. I went with him several times to his clinique, which was very largely attended. He operated for cataract, sitting in front of his patient. To complete the list of those whose society I most enjoyed and whose cliniques I found most fruitful in material, I should add Ricord, full of force and fun, endless in anecdote, a model of intellectual and physical strength, creator of a school of syphilography, which he has partially survived, but which is still monumental in science and in history; his friend and companion Demarquay, demonstrative, prolific, audacious in operation, patriotic to the core, knowing no language and no literature but that of his own country, and beginning to lose his way between the old and new *régime*; but unconquerable in his vivacity and confidence in the genius and resource of his school and his country. I remember returning with him to Paris shortly after the reign of the Commune, and visiting the ambulances, of which I hold and value the gold medal for the small services which I was able to render to France during and after the war. His heart was bleeding as we passed through the streets in the neighbourhood of the ruins of the Tuileries and the Hôtel de Ville. But as his carriage rolled along the brilliant boulevards, full of life and activity, in the full whirl of renewed effort and indomitable vitality he turned to me frequently with expressions of admiration and love for his beloved city. "Que c'est beau! Quelle vie! quelle fortitude, quelle espérance!" From that moment, indeed, dated a new era of scientific activity and struggle. All France determined, by unceasing labour, by searching reconstruction, by sacrifice, by study, by research and self-denial, to win back a new glory in the fields of science and professional progress. The hospitals, the schools, the laboratories, the museums of the Faculty of Paris, as of other great cities of France, have undergone a transformation and development which are as remarkable as they are full of promise. Some of the veterans are still in their places, planning, guiding and working. But a new generation has also sprung up, ardent, open-minded, cosmopolitan, full of the new ideas and working for the glory of France and the advancement of science in a spirit of self-sacrifice and devotion which is worthy of all honour, and which cannot but inspire admiration, as well as sympathy. Besides Pasteur, Brown-Séquard, Charcot, Potain, Verneuil, Labbé, Bouchard, Ranvier, Terrier, Lannelongue, Dujardin-Beaumetz, and their compeers; there are Blum, Le Dentu, Bouilly, Monod, Berger, Terrillon, Strauss, Tarnier, Huchard, Mauriac, Lancereaux, Damaschino, Roux, Guyon, Lucas-Championnière, Déjerine, Budin, Chantemesse, and others; valiant workers whose methods and results are little known out of their own country. For the multitude of French medical journals and publications injures their publicity, and the current of attention in Europe, which had for half a century set almost exclusively towards Paris as a medical centre, has since been diverted elsewhere. I propose to make acquaintance during the next week or two with the current work of the most laborious French cliniques and laboratories; and I do not doubt that I shall find more interesting material for study and record than I can avail myself of in these hurried "vacation notes in the Paris hospitals."

NAVAL AND MILITARY MEDICAL SERVICES.

COLONEL BLUNDELL ON THE ARMY MEDICAL STAFF.

We are authorised to state that Colonel Blundell's attack on the Army Medical Department will imply no reflection on individual officers. He has always admired the zeal and efficiency with which the work has been done, and his desire now is to increase the popularity of the service and improve the comfort and the social prestige of its members by a partial return to the regimental system. He is of opinion that friction and confusion arise from the want of continuous relation between the doctors and their patients, and that officers as well as men are often driven to employ private practitioners by the uncertainty attending the arrangements for official professional aid. He will therefore move that medical officers shall be attached to battalions for a definite period during peace time, and we understand that he will receive the support of General Goldsworthy and others.

Passing to another subject, we may state that the concession lately made by Mr. Stanhope, with reference to the examination for promotion to brigade surgeon, will have retrospective action. The Director General, however, is now arranging the exact details, and we hope shortly to be in a position to state what they are.

THE NAVY.

The following appointments have been made at the Admiralty:—A. L. Christie, M.B., Surgeon to the *Cossack*, to date January 1st, 1889; Jonathan Shand, M.B., January 1st, 1889; T. M. Cann, to be Surgeon and Agent at Newhaven and Portobello; W. P. Morgan, to be Surgeon and Agent at Blatchington; Dr. J. P. M'Nabb, Surgeon, to the *Dart*, December 24th; Samuel Keays, Surgeon, to the *Banterer*, December 24th

THE MEDICAL STAFF.

Surgeon C. G. Woods, M.D., having returned from the Black Mountain Expedition, has been directed to proceed to Benares, and resume his substantive duties at that station.

Surgeon W. Heffernan, having reported his arrival in India from England, has been directed to remain in the Allahabad district, and has accordingly been attached to the Station Hospital at Cawnpore, for duty until further orders.

INDIAN MEDICAL SERVICE.

Surgeon S. H. Henderson, Bengal Establishment, is directed to take medical charge of the Bundelcund Political Agency.

Surgeon-Major E. Fawcett and Surgeon W. H. Karney, both of the Madras Establishment, have leave of absence for one year on medical certificate.

The promotion of the undermentioned Surgeons to be Surgeons-Major, announced some time since in this Journal, has received the approval of the Queen:—Bengal Establishment: J. Moorhead, M.D., C. W. Owen, C.M.G., C.I.E., and G. S. Griffiths. Madras Establishment: W. A. Lee and M. S. Eyre. Bombay Establishment: J. B. Eaton, O. H. Channer, E. W. Young, Hugh M'Calman, M.D., and D. R. Ross, M.D.

Surgeon-Major Wellington Gray, M.B., of the Bombay Establishment, is promoted to be Brigade-Surgeon. He entered the service as Assistant-Surgeon March 31st, 1866, and became Surgeon-Major twelve years thereafter. He is at present Senior Surgeon of the Jamsetjee Jejeebhoy Hospital at Bombay, and Principal of the Grant Medical College.

Surgeon-Major John Simon Morton, retired Madras Establishment, died at Bideford on December 19th, at the age of 57. He entered the service June 10th, 1854, and retired from it February 28th, 1875.

Surgeon-Major John Lucas, M.D., Bombay Establishment, died at Quetta on November 23rd last. His commission as surgeon was dated September 30th, 1874, and as Surgeon-Major September 30th, 1886. During the war in Afghanistan in 1880 he was engaged first with the Candahar Field Force and afterwards with the Southern Afghanistan Field Force. He received the medal granted for the campaign.

THE VOLUNTEERS.

Acting-Surgeon W. Williams, M.B., 1st Volunteer Battalion West Yorkshire Regiment (late the 1st West Riding of Yorkshire), has resigned his appointment, which bore date March 10th, 1888.

Surgeon R. F. Frazer, 1st Volunteer Battalion Royal Fusiliers (City of London Regiment) has resigned his commission; he is also granted the honorary rank of Surgeon-Major, and is permitted to continue to wear the uniform of the battalion. [Corrected notice.]

MEDICO-PARLIAMENTARY.

HOUSE OF COMMONS.—Thursday, December 20th.

Retired Medical Officers.—Mr. E. STANHOPE, in reply to Dr. TANNER, said fifty-nine retired medical officers were now employed. The saving on the pension list was rather nominal than real, as the officer still drew the amount of his retired pay. The real saving was on the effective list, where the payment was only £150 a year, instead of the full pay and allowances of an officer on the active list. This for fifty-nine officers could not be less than £8,100 a year. In the future there would be a non-effective saving consequent on a smaller number of officers passing through the effective list. An increase in the number of these appointments in the medical and other departments was about to be carried out.

The Insanitary State of the Royal Barracks, Dublin.—Mr. STANHOPE, in reply to Viscount WOLMER, said unless military reasons should imperatively demand it, no fresh troops would be moved for the present into the Royal Barracks, Dublin.

UNIVERSITY INTELLIGENCE.

LONDON.

B.S EXAMINATION.—Examination for Honours. Surgery.

First Class.—H. P. Dean, B.Sc. (scholarship and gold medal), University College; A. Parkin (gold medal), Guy's Hospital; E. H. Starling, Guy's Hospital; A. A. Kanthack, B.A., B.Sc., University College, Liverpool, and St. Bartholomew's; P. Ashworth, B.Sc., Owens College and Manchester Royal Infirmary.

Second Class.—H. E. Crook, Guy's Hospital, and J. E. Thompson, Owens College (equal); E. W. Goodall, M.D., Guy's Hospital.

DUBLIN.

AT the Winter Commencements, held in the Examination Hall of Trinity College, on Wednesday, December 19th, 1888, the following degrees in Medicine, Surgery, and Midwifery were conferred by the Right Hon. the Earl of Rosse, F.R.S., Chancellor of the University, in the presence of the Senate:

Baccalaureus in Arte Obstetriciâ.—L. Kidd.

Baccalaurei in Medicinâ.—S. M. Cox, L. Kidd.

Baccalaurei in Arte Obstetriciâ, Chirurgiâ, et Medicinâ.—A. E. Barrington, J. H. Clark, G. E. Crowe, J. J. Gerrard, J. B. Hopkins, W. A. Isaac, M. S. M'Intosh, C. M. M'Laughlin, J. A. Matson, W. A. Morton, A. Ogilvy, A. R. Parsons, N. A. Reid, H. F. N. Scott, T. W. Shaw, F. S. Swiney, A. Tuthill, J. G. Walker.

Doctores in Medicinâ.—J. H. Clark, M. J. Eustace, A. W. Fenton (*in absentiâ*), L. Kidd, H. F. Lawrenson, G. L. Mullins, T. Myles (*stip. cond.*), H. F. Phillips (*in absentiâ*), H. G. Smeeth.

OBITUARY.

SURGEON-GENERAL LUDOVICK CHARLES STEWART.

WE have to announce the death of Surgeon-General Ludovick Charles Stewart, who died on December 5th. The deceased was the second son of the late Major Ludovick Stewart, of Pittyvaick, Dufftown. He received his first commission in 1841, and served with the 29th Regiment throughout the Punjab campaign of 1848-49, including the passage of the Chenab and the battles of Chillianwallah and Goojerat. The deceased officer was an ardent botanist and ornithologist, and was enabled during a long residence in India to make several valuable collections of skins and birds, which he gave to various museums at home and abroad. He was a member of the Council of the Zoological Society of London from 1885 till his death.

MEDICAL NEWS.

MEDICAL VACANCIES.

The following Vacancies are announced:

BALLYMENA UNION.—Medical Officer for Ballymena Dispensary. Salary, £120 per annum, and fees. Applications to Mr. James Mallaghan, J.P., Honorary Secretary. Election on January 3rd.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park.—Resident Clinical Assistant. Applications by January 10th to the Secretary.

CONSUMPTION HOSPITAL, Brompton.—House-Physicians. Applications by January 19th to the Secretary.

DERBYSHIRE GENERAL INFIRMARY.—Resident Assistant House-Surgeon. Board and washing, and bonus of £10 for six months. Applications by January 5th to the House-Surgeon.

DURHAM COUNTY ASYLUM.—Second Assistant Medical Officer. Salary, £150, with board and apartments, etc. Application by January 8th to the Medical Superintendent, Dr. Smith.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge Road.—Registrar and Chloroformist. Salary, £30. Personal application to Resident Medical Officer.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge Road.—Physician to Out-Patients. Applications by December 29th, to the Committee of Management.

GENERAL HOSPITAL, Birmingham. Assistant House-Surgeon. Board, lodging and washing. Applications by December 29th to the House Governor.

GENERAL HOSPITAL FOR SICK CHILDREN, Pendlebury, Manchester.—Junior Resident Medical Officer. Salary, £80 per annum, with board and apartments. Applications by January 3rd to the Chairman of Medical Board.

HOLLOWAY AND NORTH ISLINGTON DISPENSARY, Rupert Road Branch.—Honorary Surgeon. Applications to C. W. Sawbridge, Esq., Honorary Secretary, 68, Aldermanbury, E.C.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street.—House-Surgeon. Salary, £50 per annum, with board and residence. Applications by January 8th to the Secretary.

LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary, £80 per annum, with board and residence. Applications by January 25th to the Secretary, Leith Offices, Moorfields, Liverpool.

METROPOLITAN ASYLUMS BOARD: DARENTH SCHOOLS FOR IMBECILE CHILDREN.—Assistant Medical Officer. Salary, £150, per annum, with board and lodgings, etc. Applications by January 14th, to W. F. Jebb, Esq., Norfolk House, Norfolk Street, Strand, W.C.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon. Salary, £180 per annum, with furnished apartments, etc. Applications by January 7th to the Secretary.

RADCLIFFE INFIRMARY, Oxford.—House-Surgeon. Salary, £80 per annum, with board, lodging, and washing. Applications by January 12th to the Secretary.

SALFORD ROYAL HOSPITAL, Manchester.—Pendleton Branch Dispensary. Medical Officer. Applications by January 7th to the Secretary.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM, Powick, near Worcester.—Third Assistant Medical Officer. Salary, £100 per annum, with board and lodgings, etc. Applications by January 4th, to Dr. Marriott Cooke, at the Asylum.

MEDICAL APPOINTMENTS.

BIDDLECOMBE, E. H., M.R.C.S., L.R.C.P., appointed Senior Resident Medical Officer to the Miller Hospital, Greenwich, *vice* E. H. Brock, M.B., B.S., resigned.

BROCK, E. H., M.R.C.S., L.R.C.P., M.B., B.S.Lond., appointed Junior House-Surgeon to the North-Eastern Hospital for Children, *vice* Mr. Blake, resigned.

CAUDWELL, E., M.R.C.S., L.R.C.P., appointed Registrar and Chloroformist to the London Temperance Hospital, *vice* W. W. Hall, M.B., resigned.

DE MESQUITA, S. B., M.R.C.S., L.R.C.P., appointed Junior Resident Medical Officer to the Miller Hospital, Greenwich, *vice* W. H. Hillyer, M.R.C.S., L.R.C.P., resigned.

HILL, H. Gardiner, M.R.C.S., L.S.A., appointed Medical Superintendent of the Surrey County Asylum, Wandsworth, *vice* J. Strange Biggs, M.D., M.R.C.P., resigned.

JOHNSTON, R., F.R.C.S., appointed Admiralty Surgeon and Agent to Sutton Bridge and Drove End.

LARCOMBE, S. S., M.R.C.S., L.R.C.P., appointed House-Physician to the Sunderland Infirmary, *vice* C. F. Seville, M.R.C.S., L.S.A., resigned.

LITTLE, Arthur N., M.B.Lond., M.R.C.S., appointed Senior Assistant Medical Officer to the Holloway Sanatorium Hospital for the Insane, Virginia Water.

LLOYD-WILLIAMS, Hugh, M.R.C.S., L.D.S., appointed Demonstrator of Mechanical Dentistry at the London Dental Hospital; and also Assistant Curator to the Odontological Society Museum, Leicester Square.

LOCKWOOD, W., M.B., C.M.Edin., appointed Resident Assistant to the Wolverhampton and Staffordshire General Hospital, *vice* E. P. W. Daniell, resigned.

RAW, N., M.B.Durh., appointed Assistant Medical Officer to the Portsmouth Lunatic Asylum, *vice* J. D. Mortimer, M.R.C.S., resigned.

SEVILLE, C. F., M.R.C.S., L.S.A., appointed House-Surgeon to the Sunderland Infirmary, *vice* A. E. L. Gray, M.B., C.M., resigned.

SQUARE, J. Elliot, F.R.C.S., L.R.C.P., appointed Surgeon to the Royal Eye Infirmary, Plymouth, *vice* J. H. Eccles, retired.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which should be forwarded in stamps with the announcement.

BIRTHS.

WHITTON.—At Aberchirder, Marnoch, N.B., on the 24th inst., the wife of A. B. Whitton, M.B.Edin., of a daughter.

WILKINSON.—At Holly House, Tynemouth, Northumberland, on Christmas Day, the wife of Auburn Wilkinson, Esq., M.D., of a daughter.

DEATH.

HORAN.—On the 18th inst., at 26, Bridge Street, Sunderland, aged 64 years, Dr. John Horan, R.I.P.

DIARY FOR NEXT WEEK.

TUESDAY.

SOCIETY FOR THE STUDY OF INEBRIETY, 11 Chandos Street, Cavendish Square, 4 P.M.—Dr. James Stewart: Inebriety Among the Higher and Educated Classes.

WEDNESDAY.

OBSTETRICAL SOCIETY OF LONDON, 8 P.M.—Specimens will be shown by Mr. Doran for Mr. Trestrail and others. Dr. Archibald Donald: Methods of Craniotomy. Dr. Stephenson: On the Relation between Chlorosis and Menstruation.

FRIDAY.

CLINICAL SOCIETY OF LONDON, 8.30 P.M.—Annual meeting. Mr. H. T. Butlin: 1. Sequel to Case of Epithelioma of Vocal Cords, for which Partial Excision of the Larynx was Performed. 2. Two Cases of Squamous-celled Carcinoma (Epithelioma) of the Larynx treated by Thyrotomy and Removal of the Disease. Dr. David Newman: One Case of Auto-inoculation in Laryngeal Carcinoma and Two Cases Illustrating the Dangers of Intra-Laryngeal Interference in Cancer of the Larynx. Dr. Felix Semon: Case of Laryngeal Cancer, in which Hæmorrhage, Perichondritis, and Exfoliation of the Greater Part of the Laryngeal Cartilages Occurred; subsequently Pleuritis and Gangrenous Pneumonia; Death: Necropsy.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN THE FIRST POST ON WEDNESDAY.

COMMUNICATIONS respecting editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the office of the JOURNAL, and not to his private house.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us *with Duplicate Copies.*

QUERIES.

SEASIDE INSTITUTE.

W.L. writes: On behalf of the widow of a medical man with a family of delicate children and very limited means, I beg to inquire whether any fellow member can mention a seaside institution where a grown up one could be received for a lengthened stay. Terms must be very moderate.

PAIN IN HEELS AFTER RHEUMATIC FEVER.

M.D. asks for advice in treatment of the following case. A male patient, aged 35, had rheumatic fever fourteen months ago; almost every joint was affected. Convalescence was very lingering, and after fourteen weeks in bed he was removed to Buxton, where six weeks' treatment put him right with the exception of the pain in both heels, which has prevented him from walking ever since. He is now quite free from pain anywhere except the heels; he cannot bear to have them pressed upon, nor can he stand up. Every rheumatic remedy has been tried, both internally and externally, without the slightest relief. His general health is excellent.

NOTES, LETTERS, ETC.

HYPERTROPHIED HYMEN.

DR. MULVILLE THOMSON (Bradford-on-Avon, Wilts) desires the publication of the following concluding paragraph, which was omitted from his note under the above heading, published on December 15th. The paragraph explains his object in making the communication:

"My only object in communicating these commonplace details is to demonstrate how easily we may be deceived in cases of this kind by a hysterical girl—as she proved to be—and how much annoyance and scandal caused by the simple omission to make a full examination before giving an opinion which may prove to be erroneous, thus giving unnecessary pain to the friends, and little credit to the surgeon."

COMMUNICATIONS, LETTERS, etc., have been received from: Mr. A. Warner, London; Dr. W. Whitehead, Manchester; Mr. G. Woods, Warrington; E. K. Campbell, M.B., London; G. H. J. Dinsmore, M.B., Coldstream, Berwick; Mr. C. S. Kilham, Crookemoor; Mr. F. W. Clark, Dartford; Mr. W. H. Anderson, Harleston; Mr. M. B. Lawrence, Hemel Hempstead; Dr. Willoughby, London; Mr. W. J. C. Braselt, London; Mr. E. G. Whittle, Brighton; Mr. Moodie, Stirling; Mr. N. McLiesh, Bolton; Mr. S. Robson, Durham; Mr. Doidge, Lifton; Surgeon W. H. E. Woodwright, Thelum, Punjaub; Mr. E. Bellamy, London; Mr. G. Fenton, Hastings; Dr. Farquharson, M.P., London; Mr. A. Wilkinson, Tynemouth; Dr. L. W. Morgan, Bath; Dr. R. J. Garden, Aberdeen; Dr. Brandt, Cannes; Surgeon-General Cornish, London; Mr. M. Hill Climo, Colchester; Dr. P. Rendall, British Gambia; Dr. R. Sanderson, jun., Edenderry; Mr. W. Young, London; Mr. S. Hamill, Westgate; Mr. T. H. Churton, Leeds; Mr. A. Shadwell, Leamington; Mr. H. W. Allingham, London; Dr. R. P. Smith, London; Dr. J. H. Thompson, Rome; Mr. W. C. Bland, Milton; Mr. G. S. Johnson, London; Mr. J. E. Brooks, Ludlow; The Registrar of the Royal College of Surgeons of Ireland, Dublin; Dr. C. J. Nixon, Dublin; Mr. W. W. Wagstaffe, Sevenoaks; Surgeon F. A. B. Daly, M.B., Belfast; Mr. S. Plowman, London; Dr. R. W. Savage, London; Mr. T. G. Lithgow, Farnborough; Mr. R. F. Fraser, London; Dr. J. Ward Cousins, Southsea; Surgeon-Major Curran, Dublin; Dr. R. Saundby, Birmingham; Dr. F. T. Heuston, Dublin; Mr. B. Hollander, London; Dr. E. J. Edwardes, London; The Secretary of the University of London; Dr. W. F. Haslam, Birmingham; Mr. C. H. Bishop, London; The Secretary of the New South Wales Branch, Sydney; Surgeon L. T. Nash, Ferozepore, India; The Master of Downing College, Cambridge; Dr. J. W. Moore, Dublin; Mr. E. C. Baber, Brighton; Mr. E. H. Cartwright, London; Dr. R. A. Jamieson, Shanghai; Dr. W. H. Wathen, Louisville; Mr. Adams Frost, London; Mr. W. T. Haywood, Norwood, South Australia; Dr. R. Barnes, London; Dr. Norman Kerr, London; Dr. E. Walford, Cardiff; Dr. Mickle, London; Mr. R. Harrison, Liverpool; Dr. R. Smith, Ferryhill; Dr. A. T. Schofield, London; Mr. J. Beckenham, Cambridge; Dr. B. Bramwell, Edinburgh; Dr. T. Whitelaw, Edinburgh; Mr. J. H. Morgan, London; Festina Lente; Dr. A. T. Brett, Watford; Dr. J. A. Shaw Mackenzie, London; Mr. W. A. Ellis, London; Dr. Reddie, Oudh; Dr. Sadler, Barnsley; Mr. J. McMardy, Banchory; Mr. H. G. Hill, Purley; R. C. Buist, M.B., Edinburgh; Rev. F. Lawrence, Westow; Dr. Dreschfeld, Manchester; Mr. J. Davison, Ballinakill; Mr. J. E. Squire, Plymouth; Mr. T. Lumsden, Gateshead; Dr. E. Carmichael, Edinburgh; Mr. R. Johnston, Sutton Bridge; Dr. J. Williams, London; Mr. Meredith, London; Dr. R. L. Bowles, Folkestone; Mr. R. F. Benham, London; Mr. H. Hutchinson, Turvey; Dr. W. Saul, Lancaster; Mr. W. F. Tronson, London; Mr. J. Webster, Bootle; Mr. E. F. S. Mackey, Dublin; Mr. W. A. Blake, London; Surgeon-Major W. H. Charlton, Athlone; Mr. A. O. Holbeche, Malvern Wells; Mr. A. Shadwell, Leamington; Mr. R. McBride, Gilford; Surgeon; *The Detroit Free Press*, London; Mr. J. H. Gibson, Aldershot; Messrs. J. Bennett, Brothers, London; E. Williams, M.B., Cardiff; Mr. R. Pollock, Tunbridge Wells; Our Swiss Correspondent; Mr. E. L. Robinson, Guernsey; Mr. W. L. Mackenzie, Edinburgh; F. Mackintosh, M.B., Tonbridge; The Secretary of the University of Cambridge; etc.

BOOKS, ETC., RECEIVED.

Rides and Studies in the Canary Islands. By Charles Edwards. London: T. Fisher Unwin.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. III. Session 1887-88. With List of Officers, Members, etc. London: J. and A. Churchill. 1888.

Hazell's Annual for 1889; a Cyclopædic Record of Men and Topics of the Day. Edited by E. D. Price, F.G.S. Fourth year of Issue. London: Hazell, Watson, and Viney, Limited. 1889.

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